



**4<sup>th</sup> Young Researchers Conference 2017**



# **Community Oriented Scientific Research**

**29-30 April 2017**

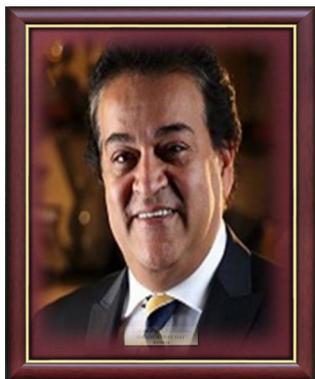
**4th YRC2017 Abstract Book**

**Organized by Young Researchers Committee**

**Suez Canal University**

<http://yrc2017.weebly.com>

*Under Auspices of*



**Prof. Khaled Abdel Ghafar**

Minister of Higher Education



**Prof. Mamdouh Ghorab**

Suez Canal University President

YRC Founder



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### *About Young Researchers Committee*

YRC was established in March 2012 upon a decree from Prof. Mamdouh Ghorab - Vice President for Postgraduate Studies and Research Affairs at that time, who sent an invitation to all the Suez Canal University faculties for all recently returned young researchers from abroad who was awarded their their Ph.D.

The young researchers were committed to the idea of helping in developing a good system for the scientific research sector in Suez Canal University, and their ultimate goal was to transfer the skills they acquired abroad to their university.

With time and with the success of the idea, members of the committee began to increase, where researchers from all faculties of the Suez Canal University joined the committee for volunteer work aiming



## *About the Conference*

YRC@SCU is an annual meeting that has continuously provided a venue for young researchers to demonstrate current research and developments in several research fields.

This conference aims to bring together young researchers as well as pioneers to share knowledge and gain insight and inspiration from each other. The main philosophy is that science is no longer divided into different disciplines but rather a mix of several tracks.

The theme of 4<sup>th</sup> YRC2017 is to promote the society oriented scientific research, which focus on solving existing problems and provide solutions with impact to the society.

The conference tracks are:

- Innovation & Technology
- Health Care & Drug Discovery
- Food, Energy & Resources
- Education, Humanities & Tourism



**4<sup>th</sup> YRC2017**

**Community Oriented Scientific Research**

**First Day**  
**Saturday 29 April 2017**

**Plenary Talks**



### P1: TECHNOLOGY TRANSFER FROM UNIVERSITY TO INDUSTRY

PROFESSOR MAMDOUH MOUSTAFA GHORAB

*Suez Canal University President, Ismailia, Egypt*

#### *Plenary 1*

#### **ABSTRACT**

Technology transfer is the process of commercialization — or of bringing technologies to the marketplace — from universities, as inventors of technologies, to companies, as users of them. The process typically includes; identifying new technologies, protecting technologies through patents and copyrights and forming development and commercialization strategies such as marketing and licensing to existing private sector companies or creating new start up companies based on the technology. Prof. Ghorab talk will reveal the current plan of Suez Canal University in its path to improve capabilities, qualifications, and efficiency of human resources working in the field of technology transfer and how its new policy is encouraging effective connection between scientific research and the needs of the Egyptian society.

#### **KEYWORDS**

Technology transfer,  
Commercialization,  
Start up companies



### P2: ARAB IMPACT FACTOR

PROFESSOR MAHMOUD ABDEL-ATY

*Suez Canal University president, Ismailia, Egypt*

#### *Plenary 2*

#### **ABSTRACT**

Classifying researchers according to the quality of their published work rather than the quantity is a curtail issue. We attempt to introduce a new formula of the percentage range to be used for evaluating qualitatively the researchers' production. The suggested equation depends on the number of the single-author published papers and their citations to be added as a new factor to the known h-index. These factors give an advantage and make a clear evidence of innovative authors and reduce the known h-index for authors who are gaining citations by adding their names to multi-author papers. It is shown that various dimensions of ethical integrity and originality will be effective in this new index. An important scenario arising from the analysis is shown in terms of examples. It refers to larger differences between the h- and the new index which comes from the whole work and the one comes from the single-author papers only, is shown.

#### **KEYWORDS**

Publishing,  
Paper indexing,  
Multi-author papers

**4<sup>th</sup> YRC2017**

**Community Oriented Scientific Research**

**First Day**  
**Saturday 29 April 2017**

**JSPS Alumni Session**



**SP-01: NATURAL MONOTERPENES: SMALL MOLECULES WITH ENORMOUS BIO-ACTIVITIES**

SAMIR A. M. ABDELGALEIL, MONA M. G. SAAD

*Department of Pesticide Chemistry and Technology, Faculty of Agriculture, 21545-El-Shatby, Alexandria University, Alexandria, Egypt***ABSTRACT**

**Introduction:** Monoterpenes, the major constituents of the plant essential oils, exert a wide spectrum of biological actions that are important in food chemistry, chemical ecology, pharmaceutical industry and pest control. **Objectives:** To evaluate the insecticidal, antifungal and herbicidal activities of twelve monoterpenes, namely camphene, (R)-camphor, (R)-carvone, 1,8-cineole, cuminaldehyde, (S)-fenchone, geraniol, (S)-limonene, (R)-linalool, (1R,2S,5R)-menthol, myrcene and thymol against agricultural and public health pests. **Methods:** The insecticidal activity of monoterpenes was evaluated by fumigant assay against the adults of *Sitophilus oryzae*, *Tribolium castaneum* and *Culex pipiens*, and the larvae of *S. littoralis*. In addition, the toxicity of monoterpenes against the larvae of *C. pipiens* and *S. littoralis* was tested by dipping and topical application assays, respectively. Moreover, the fungicidal and herbicidal activities of the tested monoterpenes were evaluated by radial growth inhibition and seedling growth inhibition techniques. **Results:** In contact toxicity assays, (R)-carvone, geraniol, and cuminaldehyde showed the highest toxicity against the adults of *Sitophilus oryzae*. In the case of *Tribolium castaneum*, (R)-carvone was the most toxic compound, followed by cuminaldehyde. In fumigant toxicity assay, 1,8-cineole revealed the highest insecticidal activity against *S. oryzae* and *T. castaneum*. Geraniol and cuminaldehyde were the most toxic monoterpenes to *C. pipiens* larvae after 24 h of treatment. In fumigant toxicity experiments, (R)-carvone and geraniol were the most toxic monoterpenes against the adults of *C. pipiens*. On the other hand, the results of antifungal potential indicated that thymol was the most potent antifungal compound against *Rhizoctonia solani*, *Fusarium oxysporum*, *Penicillium digitatum* and *Aspergillus niger*. When tested against *Echinochloa crus-galli*, geraniol and (R)-carvone caused greatest reduction of seed germination, root and shoot growth. **Conclusion:** Some of the tested monoterpenes, such as cuminaldehyde, geraniol, (R)-carvone, thymol and (S)-fenchone, exhibited remarkable pesticidal activities. Therefore, these monoterpenes could be useful as potential bio-pesticides and as lead structures for the development new pesticides.

**KEYWORDS**

Natural products Monoterpenes,

Pesticidal activity,

Agricultural pests,

Public health insects



**SP-02: IDENTITY AND PUBLIC HEALTH POTENTIAL OF CRYPTOSPORIDIUM SPP. IN FARM ANIMALS IN EGYPT**

AMER S.

*Department of Zoology, Faculty of Science, Kafr El Sheikh University, Egypt***ABSTRACT**

Very little is known about the diversity and public health significance of *Cryptosporidium* species in farm animals. We identified the distribution of *Cryptosporidium* spp. in farm animals including water buffalo, cattle and sheep of different ages from different delta provinces (Kafr El Sheikh, El Monofya, El Bohyra and Alexandria). Rectal fecal samples from 500 water buffalo, 1974 cattle, and 120 sheep were screened microscopically for *Cryptosporidium* oocysts using modified Ziehl-Neelsen (MZN) stain. *Cryptosporidium* spp. in microscopy-positive samples were genotyped by PCR-restriction fragment length polymorphism and DNA sequence analyses of the small-subunit (SSU) rRNA gene, and *Cryptosporidium parvum* subtyped by sequence analysis of the 60 kDa glycoprotein (gp60) gene. Microscopic results indicated that the overall infection rate in buffalo was 9.5%, with 8.5% in calves and 1.5% in adults. The overall infection rate in cattle was 13.6%. By age group, the infection rates were 12.5% in pre-weaned calves, 10.4% in post-weaned calves, 22.1% in heifers, and 10.7% in adults. In sheep occurrence of *Cryptosporidium* was 2.50% in sheep (4.4% in lambs versus 1.30% in adults). Molecular analyses indicated to occurrence of *Cryptosporidium parvum* in 53.9%, *C. ryanae* in 20.1%, *C. bovis* in 10.2% and *C. andersoni* in 8.6% of the positive samples. Mixed infection was observed in 7.2% of positives. Only *C. xiaoi* was found in sheep. Subtyping of *C. parvum* revealed occurrence of genotype IId and IIa with subtypes IIdA20G1, IIaA15G1R1 and the unique subtype IIaA14G1R1r1b. Finding of the genotypes IId and IIa of *C. parvum* in bovine and water buffalo calves indicates the likely cross-species transmission of some *Cryptosporidium* spp. among related animal species sharing the same habitats. Also, occurrence of these subtypes in Egypt suggests that calves can be potential reservoirs of zoonotic cryptosporidiosis.

**KEYWORDS**

*Cryptosporidium*,  
Farm animals,  
Zoonotic cryptosporidiosis



**SP-03: URINE CELL-FREE DNA ANALYSIS FOR NONINVASIVE MOLECULAR MARKER IN BLADDER CANCER DIAGNOSIS**

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*1 Zoology Dept., Faculty of Science, Al Azhar University, Assiut.**2 Urology Dept., Faculty of Medicine, Assiut University.***ABSTRACT**

**Introduction:** Several urinary biomarkers have been reported for use in bladder cancer diagnosis but these tests have high false-positive and false-negative rates. New biomarkers should be adopted to help screening, early detection and diagnosis of bladder cancer. Cell free DNA (cf-DNA) is present in small amounts in the plasma and other body fluids of healthy individuals. However, increased levels of cf-DNA have been reported in several clinical disorders and especially in cancer. **Objectives:** This study is proposed to evaluate cf-DNA in urine as a non-invasive, rapid and sensitive tool for molecular diagnosis and monitoring of bladder cancer. **Methods:** Urine samples were collected from confirmed diagnosed bladder cancer patients and a control group of matched healthy individuals. QI-Aamp DNA Blood Mini Kit (Qiagen, MD) was used to extract cf-DNA from the collected urine samples. Quantity of total DNA in each sample was measured using Nanodrop. We also analyzed RAPD PCR profiling in the urine using two different DNA template conditions with different RAPD primers. **Results:** Polymorphic pattern was generated and revealed differences between the fingerprints in question. Interestingly, profiling of urine cf-DNA revealed patient specific DNA fractions. Currently, more studies are conducted to detect their sequences and on which gene they are present in the human genome. **Conclusion:** This analysis may prove helpful in finding anticipatory future diagnostic marker of bladder cancer.

**KEYWORDS**

Urine  
Cell Free DNA  
Bladder Cancer  
Molecular Marker  
Cancer Diagnosis



**SP-04: ENHANCED WATER ELECTROLYSIS AT TAILOR-DESIGNED NICKEL OXIDE-BASED NANOCATALYSTS**

Sayed, D. M., El-Nagar, G. A., Sayed S. Y., El-Anadouli, B.E., eL-dEAB, M. S.\*

*Department of Chemistry, Faculty of Science, Cairo University, Cairo, Egypt***ABSTRACT**

This paper addresses the effect of temperature (T) on the electrocatalytic activity of nickel oxide nanostructured modified glassy carbon electrode (nano-NiOx/GC) towards the oxygen evolution reaction (OER). That is, increasing T results in a significant enhancement of the catalytic activity of nano-NiOx as probed by: (i) a favorable negative shift of the onset potential (Eonset) of the OER from 594 mV at 25°C down to 472 mV at 60°C, and (ii) an increase of the OER current at a particular potential. This enhancement may be explained by: (i) an increase of the amount of the active phase of NiOx participating in the OER, (ii) a decrease of the average particle size of nano-NiOx (reduced from ca. 150 nm at 25 °C to ca. 30 nm at 60°C) which results in a significant increase of the electroactive surface area, (iii) an observable decrease of the size of O<sub>2</sub> bubbles attached to the surface of nano-NiOx together with an increase of their rate of detachment, and (iv) a decrease of the ohmic potential drop due to increase the conductance of solution concurrently with a reduction of charge transfer resistance of the OER as evident from impedance measurements. Regeneration of the lost activity upon prolonged electrolysis at elevated temperatures could be achieved via cycling the potential of nano-NiOx/GC electrode several times between (-200 to 600 mV vs. SCE).

**KEYWORDS**

Urine  
Nanomaterials,  
OER,  
bubble size,  
deactivation,  
nano-NiOx



**SP-05: WATER HARVESTING AND FLASH FLOOD MITIGATION: WADI FEIRAN BASIN CASE STUDY, SOUTH SINAI, EGYPT**

Abu El Ella E.M.

*Geology Department, Faculty of Science, Assiut University, Egypt***ABSTRACT**

Water problems in arid and semi-arid regions stem primarily from rapidly rising water demands. These regions are highly vulnerable to drought and their sensitivity to this phenomenon increase with increasing aridity and it begins to face serious shortage, since the limited water resources could not meet the needs of the population in these regions. Egypt is experiencing water resource shortages which are expected to become more severe in the future. It is believed that rain water harvesting will be one of the solutions to overcome this problem. In this proposal rain water harvest modeling techniques and a watershed modeling system (WMS) will be applied to the Wadi Feiran area of Southwest Sinai. One of the major activities of the Egyptian government became establishing new communities in the desert and reclaiming its lands. In Sinai Peninsula, as a case – study, rainfall; flood water and natural springs may be the only source of water that can be assessed for almost every development activity. Under such circumstances in Sinai areas, management process should be tailored to their particular needs. Many wadi regions are the focus of potential conflicts over water scarcity and there is a need to develop strategies to support peace and security. Efficient water management has to link theory and practice, and plans with actions in order to produce realistic solutions to water chronic problems. Planning horizon consists mainly of short term, where available resources are considered, and long term where expectations are based on research results and technology advancements. For this purpose, various meteorological; hydrological; geological; and geophysical studies will be conducted to give a complete view about the whole conditions on the particular area, Wadi Feiran basin. An integrated management of surface and groundwater resources of wadi basins could reduce water intrusion and lead to a sustainable development. In order to provide an insight into the various problems that may occur, and to evaluate various water resources i.e. rainfall, runoff, and groundwater for optimal and sustainable utilization for the available water, water resources master plan will be required to translate the overall water targets into programs, and it is necessary to describe the supply and demand characteristics of the water management system in Fieran area. Further, the different watershed characteristics should be discussed in order to provide an insight into the various water management problems that may occur and to yield a solution for these problems. The management include assessment the various water resources and formulate strategy which enables practical management options to be identified and considered once the effects have been assessed.

**KEYWORDS**

Water Harvesting ,  
Flash flood Mitigation,  
Wadi Feiran



### SP-06: RELATIONSHIP BETWEEN THE DRILLING RATE INDEX AND PHYSIC-MECHANICAL ROCK PROPERTIES OF THE NATURAL LANDFORMS, FARFRA, EGYPT

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2 Geosphere Research Institute, Saitama University, Japan

#### ABSTRACT

Egypt has several naturally protected landforms with unique geometries presenting various grades and forms of weathering scales. Noticeable difference in weathering intensity has been recorded from one landform to the other and from one side to the other of the same landform. The drilling rate index (DRI) is an important parameter that influences the drillability as well as weathering profile and weathering depth of rocks. In turns, it reflects weathering intensity variation from one side to the other of the same landform. Consequently, the current study has been conducted to investigate the rock properties, rock's geographic orientation in the field and the environmental parameters that govern the DRI. The relationships between the DRI and some physic-mechanical rock properties were examined based on data achieved from experimental work and in situ studies performed for some of the investigated natural landforms. The study showed that the DRI decreases on increasing uni-axial compressive strength, point load strength. It was also concluded that the DRI increases with increasing apparent porosity, geographic orientation to the East direction rather than West direction, and wind-blown direction from the Eastern direction rotating as vortex at the Western direction of the same landform up to 1m. height from the base of the landform. DRI also is decreased for the forms located at higher elevations above sea level well defined by GPS.

#### KEYWORDS

Drilling rate index,  
Physic-mechanical rock properties,  
Geographic orientation



## SP-07: FLOTATION BEHAVIOR OF SOME EGYPTIAN BLACK SAND MINERALS

EL Salmawy M.S. \* and Gomaa E.

*Faculty of Petroleum & Mining Engineering, Suez University, Egypt;***ABSTRACT**

The main aim of this contribution is to study the amenability of concentrating black sand minerals by using froth flotation. Extensive research program and the flotation behavior of zircon, rutile and ilmenite has been conducted over wide pH range and using different (various reagent schemes). The study is consider an effort to characterize and to put forward same basic study related to surface chemistry of froth flotation of zircon and Ti-bearing minerals. First, study the flotation behaviors of a single pure zircon, ilmenite and rutile using Hallimond tube. The flotation response of the three minerals with different anionic, cationic and nonionic collector was studied. Different type of inorganic and organic resurfacing agents such as lignin sulfonate, polyoxyethylene glycol and polyvalent ions were employed to enhance the selectivity between zircon and Ti-bearing minerals (ilmenite and rutile). Selective flotation of zircon from Ti-bearing minerals was anticipated from single mineral experiments under different pH values, depressant and collector conditions. Effective separation can be achieved by selective flotation using sodium oleate and sodium lignin sulfonate in alkaline medium. A further flotation study on synthetic mixtures of pure zircon, pure ilmenite and pure rutile has been carried out. The aim of these experiments is to determine the efficiency of separation of these minerals by flotation independently of the proposed theoretical commentary of the data obtained, it should be conceived from the experiment data of this investigation that lignin sulfonate, sodium oleate, and / or polyoxyethylene glycol, sodium oleate reagent system open up new potential fields and challenge trends for flotation separation of zircon from Ti-bearing minerals.

**KEYWORDS**

Black Sand,  
Upgrading  
Flotation,  
Zircon: Ilmenite,  
Rutile

**4<sup>th</sup> YRC2017**

**Community Oriented Scientific Research**

**First Day**  
**Saturday 29 April 2017**

**Oral Session (H1)**  
**Health & Drug Discovery**  
**Genetics & Community Diseases**



**GOSH-2: RISK FACTORS OF CORONARY HEART DISEASES AND GENETIC POLYMORPHISM AMONG CORONARY HEART DISEASES PATIENTS IN ISMAILIA**

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*1 Suez Canal University, Faculty of Medicine, Community Medicine Department, Ismailia, Egypt**2 Suez Canal University, Faculty of Medicine, Clinical Pathology Department, Ismailia, Egypt**3 Suez Canal University, Faculty of Medicine, Cardiology Department, Ismailia, Egypt***ABSTRACT**

**Introduction:** The knowledge about coronary heart diseases is expanding every day. Many risk factors were defined for that spectrum of diseases. Those include, but are not limited to male gender, positive family history, smoking, hypertension and dyslipidaemia. Each factor is of different correlation to those diseases. In light of the genomic medicine, a factor of growing importance which is gene interaction and genetic polymorphism is coming into light. Some genes and their consecutive proteins may be of a crucial role in the pathogenesis of that wide spectrum of diseases. **Objectives:** Assessment of the traditional risk factors of CHDs and the genetic platelet glycoprotein (GPIIb/IIIa) polymorphism as a genetic risk factor in CHDs patients in Ismailia. **Methods:** Fifty cases and 50 controls undergone thorough history, detailed physical examination and laboratory investigations: complete blood count, liver and kidney functions, lipid profile, random blood sugar and glycosylated haemoglobin in addition to molecular assessment of glycoprotein IIb/IIIa of each case using polymerase chain reaction followed by gel electrophoresis of the product. **Results:** Hypertension, dyslipidaemia, diabetes mellitus and smoking all had odds ratio of more than 1. Three percent were homozygous for the PIA2 allele. The homozygous A1 allele individuals were 78% and those who were heterozygous were 19%. **Conclusion:** The traditional risk factors appear to be the major risk factors contributing to the development of CHDs. The genetic polymorphism of GPIIb/IIIa (A2 allele carriage) cannot be identified or established as a risk factor. It is neither reliable nor significant in the prediction of CHDs morbidity compared to their traditional risk factors.

**KEYWORDS**

PIA2 allele  
glycoprotein IIb/IIIa  
cardiovascular disease  
polymorphism  
prevention

**GOSH-88: STUDY OF THE ASSOCIATION OF THE rs2383207 SINGLE NUCLEOTIDE POLYMORPHISM ON CHROMOSOME 9p21 WITH CORONARY ARTERY DISEASE**

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*1 Suez Canal University, Faculty of Medicine, Department of Genetics, Ismailia, Egypt.  
2 Suez Canal University, Faculty of Medicine, Department of Cardiology, Ismailia, Egypt.***ABSTRACT**

**INTRODUCTION:** Coronary artery disease (CAD) is the leading cause of death worldwide, with an estimated annual mortality rate of 17.3 million deaths, expected to rise to 23.6 million by 2030. The burden of the disease is critically increasing in the Middle East and Egypt. Genetic factors account for 50% of CAD risk. The 9p21 locus has been recently identified as the chromosomal region most strongly associated with CAD. This locus is thought to mediate CAD through altering the expression of a long non-coding RNA named 'ANRIL', the exact mechanism of which remains unclear. **OBJECTIVES:** In this study, we investigated the association of genetic variants of the rs2383207 single nucleotide polymorphism (SNP) of the 9p21 locus (within the ANRIL gene) with the risk and prognosis of CAD in Egyptians. Furthermore, we performed an in silico (computer-based) analysis of the 9p21 locus to investigate the possible mechanisms by which this locus could mediate the disease. **METHODS:** 50 CAD patients and 50 age- and gender-matched controls were genotyped for the rs2383207 SNP using real-time polymerase chain reaction (RT-PCR). In silico analysis was carried out using the UCSC and Ensembl genome browsers, the Galaxy project, and the Genecards, GeneLoc and STRING browsers. **RESULTS:** The G allele of rs2383207 SNP was associated with an increased risk of CAD (OR=2.71). Furthermore, individuals with the GG genotype were found to have more severe CAD (OR=2.19). In silico analysis revealed that most genes in the 9p21 locus were involved in cell cycle control, cellular proliferation, and inflammatory and immune responses, all of which are known to be implicated in the pathogenesis of CAD. **CONCLUSION:** The rs2383207 SNP is associated with CAD risk and severity in the studied Egyptian population and may potentially be used as a risk and/or prognostic marker for CAD. In addition, in silico analysis of the locus suggests a role for ANRIL in the epigenetic regulation of many of the genes in the 9p21 locus.

**KEYWORDS**

Coronary Artery Disease,  
9p21,  
Rs2383207,  
Egyptians

**GOSH-116: DIFFERENTIATION OF WHARTON'S JELLY DERIVED MESENCHYMAL STEM CELLS INTO ISLET LIKE CELLS OF PANCREAS**

KHALED SH1. , TAG EL DEEN L1 . , BADRAN D1. &amp; ABD ELWAHAB M1.

*Suez Canal University , Faculty of Medicine ,Biochemistry Department***ABSTRACT**

**INTRODUCTION:** According to the latest edition of the Diabetes Atlas, an estimated 490,100 children below the age of 15 years are living with type 1 diabetes worldwide. Classical insulin regimen failed to provide effective cure, replacement of functional  $\beta$ -cells would be the only cure for patients with type 1 diabetes. Pancreas transplantation remains a difficult procedure with significant morbidity and mortality rate. Different sources of stem cells offered an appealing novel therapy for diabetic patients. Wharton jelly mesenchymal stem cells appear to be ideal source because of its non-invasive isolation procedure and immunomodulatory properties. **OBJECTIVES:** To investigate the differentiation potential of human Wharton's jelly derived mesenchymal stromal cells (WJMSCs) to insulin producing clusters (IPC) this study was conducted. **METHODS:** The umbilical cords samples were collected after normal delivery of full term baby and WJ-MSCS were cultured in low glucose DMEM supplemented with 10% fetal bovine serum (FBS) and antibiotics. Cell passaging continued for 21 days. After reaching 80% confluence, Cells were induced for differentiation by addition of acitivin A, Glucagon like peptide and nicotinamide to media. Then we assessed islet like cells gene expression by assessing PDX1 , PAX4 and Insulin genes using reverse transcription and real time PCR **RESULTS:** Isolated cells showed morphological characteristics of MSCs which are plastic adherence and fibroblastoid morphology. Cultured cells showed morphological changes after induction of differentiation with formation of clustered cell aggregates. Assessment of gene expression shown significant expression of PDX1, PAX4 and Insulin genes in differentiated cells compared to undifferentiated cells. **CONCLUSION:** Wharton jelly has proven to be a favorable source of MSCs and these cells are characterized by their ability to proliferate in culture with attached spindle shaped morphology and their successful differentiation into islet like insulin producing cells confirmed by presence of specific genes as markers.

**KEYWORDS**

Wharton jelly,  
Stem cells,  
Differentiation,  
Diabetes

## FOSH-118: ONCOMIR-196A2: THE HIDDEN MAESTRO IN CANCER PATHWAYS

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**Introduction:** MicroRNAs have been linked to cancer development and progression. De-regulated expression levels were observed in cancer. Gene variants may alter microRNA processing and maturation. **Objectives:** Thus we aimed to determine the expression profile of mature miR-196a2 along with three apoptotic-related targets in solid tumors and to analyze the impact of its polymorphism (rs11614913; C/T) on the expression levels and disease susceptibility. **Methods:** Tissue and circulatory miR-196a2 expression and SNP identification were performed in patients with 17 different solid tumors and 4 pre-cancer lesions and unrelated controls using Real-time Polymerase Chain Reaction analysis. In silico target gene prediction and network analysis was executed. Allelic discrimination of rs11614913 for more samples was carried out in renal cell carcinoma (RCC) and hepatocellular cancer (HCC). **Results:** Individuals with the miR-196a\*T variant were associated with cancer risk under all genetic association models, especially in colorectal, esophageal, skin, lung, thyroid, and renal cancer. Similar results were determined in the subsequent RCC and HCC cohorts. The SNP was associated with larger tumor size in RCC and advanced tumor stage in HCC. Overall and stratified analysis revealed up-regulated expression of miR-196a2 in tumor relative to their corresponding cancer-free samples. Correlation with the clinic-pathological features of cancer showed organ-specific effects. Gene enrichment analysis of predicted and validated targets speculated the putative role of miR-196a2 in cancer-associated biology. **Conclusion:** We highlighted cancer-type specific expression profiles of miR-196a2, which were correlated with the clinic-pathological features in various types of cancer. Taken together, our results suggest that the miR-1962 signature could have promising diagnostic and prognostic significance.

**KEYWORDS**

miR-196a2,  
Solid tumors,  
RT-PCR,  
GI tumors,  
RCC

**FOSH-156: 1,4-DISTRIBUTED AROMATIC PIPERAZINES WITH HIGH 5-HT<sub>2A</sub>/D<sub>2</sub> SELECTIVITY: QUANTITATIVE STRUCTURE SELECTIVITY INVESTIGATIONS, DOCKING, SYNTHESIS AND BIOLOGICAL EVALUATION**

Möllera D., Salama I.\*a,b, Kling R. a, Hübner H. a, Gmeiner P.\*a

*a*Department of Medicinal Chemistry, Emil Fischer Center, Friedrich-Alexander University, Schuhstraße 19, D-91052 Erlangen, Germany*b*Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Suez Canal University, 41522 Ismailia, Egypt**ABSTRACT**

**Introduction:** Simultaneous targeting of dopamine D<sub>2</sub> and 5-HT<sub>2A</sub> receptors for the treatment of schizophrenia is one key feature of typical and atypical antipsychotics. In most of the top-selling antipsychotic drugs like aripiprazole and risperidone, high affinity to both receptors can be attributed to the presence of 1,4-disubstituted aromatic piperazines or piperidines as primary receptor recognition elements. **Objectives:** Taking advantage of our in-house library of phenylpiperazine-derived dopamine receptor ligands and experimental data, we established highly significant CoMFA and CoMSIA models for the prediction of 5-HT<sub>2A</sub> over D<sub>2</sub> selectivity. **Methods:** We have designed a 3DQSSAR models using sybylx1.1, the models were applied to identify the selective candidates 55–57 from our newly synthesized library of GPCR ligands comprising a pyrazolo[1,5-a]pyridine head group and a 1,2,3-triazole based linker unit. **Results:** The test compound 57 showed subnanomolar a *K<sub>i</sub>* value (0.64 nM) for 5-HT<sub>2A</sub> and more than 10- and 30-fold selectivity over the dopamine receptor isoforms D<sub>2S</sub> and D<sub>2L</sub>, respectively. **Conclusion:** The 3D-QSSR analysis presented herein allows to relate chemical structures of ligands with their binding selectivity between different types of a target receptors (5-HT<sub>2A</sub> and D<sub>2</sub> receptors) when using the CoMFA or CoMSIA technique.

**KEYWORDS**

3D-QSAR,  
D<sub>2</sub> partial agonist,  
CoMFA, CoMSIA, GPCR,  
subtype selectivity,  
5-HT<sub>2A</sub>/D<sub>2</sub> selectivity,  
dopamine receptor,  
serotonin receptor,  
phenylpiperazine,  
1,4-DAP



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**Health & Drug Discovery**  
**Community Oriented Medical Research**



**GOSH-26: PREVALENCE OF ALCOHOL, TOBACCO AND DRUG ABUSE AMONG THE STUDENTS OF THE MEDICAL SECTOR COLLEGES IN SUEZ CANAL UNIVERSITY**

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**Background:** Substance abuse is a global health problem. College students are liable to substance use due to their young age and liberation from paternal supervision. Medical college students are particularly at risk of substance abuse due to stressful lifestyle, academic load and easy accessibility to drugs. This study aimed to determine the magnitude of the problem of substance abuse among the medical sector college students in Suez Canal University (SCU). **Objective:** To determine the prevalence and pattern of substance abuse among the Medical sector college students in Suez Canal University (SCU). **Methods:** A descriptive cross-sectional study was conducted on stratified random sample (N=810 students) from the medical sector faculties in SCU using a self-administered anonymous questionnaire adopted from the validated American Health College Association questionnaire. Descriptive statistics were used for data presentation. Comparative statistics were obtained using Chi Square tests. Bivariate analyses were used to assess the association between substance use and students' characteristic data. **Results:** The prevalence of tobacco use (cigarettes and shisha) was the highest with a percent of 22%, alcohol use represented 2% of the sample and other drugs abuse (sedatives, opiates, cannabinoids and anabolics) represented 19%. Substance abuse is significantly more prevalent among final grade students, males, urban residents, those living in parents' house and non-working students ( $p < 0.01$ ). The most prevalent drugs used were sedatives/hypnotics (11%), antidepressants (8%) and anabolic steroids (5%). **Conclusion:** Prevalence of substance abuse among the medical sector college students is considered high and does not much differ from the prevalence percentages reported by the fund for drug control and treatment of addiction in the last national survey of psychoactive substance addiction and abuse among the Egyptian population, in 2014. Substance abuse among the study group is significantly associated with the final academic grade, male gender, living in parents' house and non-working students.

**KEYWORDS**

Prevalence,  
Substance abuse,  
Medical students



**FOSH-91: INCIDENCE, RISK FACTORS AND OUTCOME OF INTRA-ABDOMINAL HYPERTENSION IN THE CRITICALLY ILL PATIENTS AT SUEZ CANAL UNIVERSITY HOSPITAL (SCUH)**

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*Suez Canal University, Faculty of Medicine, Department Of Anaesthesiology, Ismailia***ABSTRACT**

**INTRODUCTION:** Monitoring a patient's physiological parameters is an important part of the overall ICU management. Increased intra-abdominal pressure (IAP) is an underrecognized source of morbidity and mortality. However, it is seldom used as a standard element of monitoring. The IAP is the pressure within the abdominal cavity. Normal IAP is 5–7 mmHg in critically ill adults. Intra-abdominal hypertension (IAH) is a persistent IAP  $\geq 12$  mmHg that is recorded by a minimum of 3 measurements conducted 6 hrs apart. Some physicians didn't know how to measure IAP and how to manage IAH. This may lead to higher morbidity and mortality. **OBJECTIVES:** To measure the IAP to identify the incidence of IAH and analyse risk factors and its effect on patients' outcome. **METHODS:** The study was done on 116 patients over a year at the ICU of SCUH. The study included all adult patients, catheterized, admitted due to surgical, traumatic or medical causes and expected to stay in ICU  $\geq 48$  hrs. We excluded patients with any bladder disorder, abdominal mass, pneumothorax or status asthmaticus. On ICU admission, each patient was monitored and admission sheet was routinely filled. All measured variables were recorded on patient admission, every 24 hrs and at maximum IAP (IAPmax). Type of IAH (1ry or 2ry) was also recorded. Measurement of IAP was done by using the patient's Foley catheter. The zero reference was the mid-axillary line, while the patient was supine. The IAP in cmH<sub>2</sub>O was converted to mmHg. IAP was classified as normal ( $\leq 7$  mmHg), borderline ( $>7$  and  $<12$  mmHg) or IAH ( $\geq 12$  mmHg). **RESULTS:** on admission there were 12 patients with IAH and at the IAPmax throughout the ICU stay, 36 patients developed IAH. There are many predictors for IAH. The cutoff point of IAP for mortality prediction was at  $\geq 11.2$  mmHg. **CONCLUSION:** Measurement of IAP using water manometer is a simple, easy and safe. Follow up of patients allowed discovery of further cases who developed IAH. IAH can be one of mortality predictors for ICU patients.

**KEYWORDS**

Intra-abdominal pressure,  
 Intra-abdominal Hypertension,  
 Abdominal compartment syndrome



**GOSH-99: AROMATIC ABDOMINAL, BACK AND ARM MASSAGE FOR ALLEVIATING PERIMENOPAUSAL WOMEN'S COMPLAINS IN SUEZ CANAL UNIVERSITY**

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**Introduction:** Perimenopausal symptoms are sometimes severe enough to cause women unable to perform their normal daily activities. Aromatic abdominal, back and arm massage is one of non –pharmacological methods can help women copes with perimenopausal symptoms. **Objectives:** To investigate the effect of aromatic abdominal, back and arm massage by using lavender, clary sage, jasmine and rose dissolved in almond oil on alleviating perimenopausal symptoms comparing to control group without intervention. **Methods:** Single-blinded, randomized, controlled clinical trial (pre-post test design) was adopted. The study was conducted at Suez Canal University in Ismailia city. Purposive sample of 74 perimenopausal women having perimenopausal symptoms was recruited in this study. The sample divided randomly into aromatherapy and control group (37 women each). Tools of data collection:1) A structured interviewing questionnaire was used to collect the data from the perimenopausal women 2) Kupperman index was used to assess perimenopausal symptoms before and after intervention. **Results:** It revealed that the mean scores of kupperman index were lower in aromatherapy group than control group (after 8th, 16th sessions and after two weeks of intervention). All differences were statistically significant. Mean score in aromatherapy group was(28.32 before intervention,11 after 8 sessions,9.97 after 16 sessions and 12.45 after two weeks of intervention). Mean score in control group was (28.33 before intervention, 27.89 after 8 sessions, 27.35after 16 sessions and 28.72 after two weeks of intervention). **Conclusion:** Abdominal, back and arm massage with lavender, clary sage, jasmine and rose dissolved in almond oil was effective on alleviating perimenopausal symptoms comparing to control group.

**KEYWORDS**

Aromatherapy,  
Perimenopausal  
symptoms

## UOSH-150: Assessment of Quality of Life of Hepatitis c patients treated by Sovaldi Drug in Viral Hepatitis Treatment Center in Ismailia fever Hospital

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### ABSTRACT

**Introduction:** patients with chronic liver disease are suffering from fatigue, loss of self-esteem, inability to function at work, anxiety, depression, and other emotional problems that profoundly decrease their quality of life and well-being. **Objectives:** 1.To assess the quality of life of hepatitis C patients receiving Sovaldi drug. 2.To determine most common short-term side effects of Sovaldi medication. **Methods:** A descriptive cross sectional study was carried out in Viral Hepatitis Treatment Center Ismailia fever Hospital. Study population was Hepatitis c virus patients treated with regimen containing sovaldi. Simple random sampling was used to select the subjects included in the study Using sample size ready-made tables, 74 patients were selected to participate in this study where an SF-36 interviewing questionnaire used to collect the data. **Results:** About 49% of the patients noticed change in their mode to the worst ,and 5% felt depressed to the extent of suicide and about 61% of the patients were having difficulty with sleeping and concentrating. Most of the patients (50%) were having poor role-emotional . the most common short – term side effect were Headache which was the highest (53%) while others as (joint pain – increasing sexual function – increasing appetite) followed it. (35.2%) were having excellent social functioning during the period of treatment of sovaldi, whereas (about 56.8%) ranging from poor to fair social functioning. **Conclusion:** the study was carried on 74 patients and the results were controversial as regarding their lifestyle affection, some people got better and others got worse especially those experienced recurrence of the disease, so we recommend the following; 1- Increasing the awareness of the population about hepatitis c should be operated through mass media, posters and education sessions. 2- Sessions about advantages and disadvantages of deferent treatment of hepatitis c should be made to increase awareness of patients. 3- More studies should be carried on a larger population to get more significant results.

### KEYWORDS

Quality of Life,  
Hepatitis c,  
Sovaldi,  
Ismailia

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**First Day**  
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تطوير العملية التعليمية بالبحث العلمي



## معوقات تطبيق التفويض الإداري في المدارس الابتدائية من وجهة نظر مديري المدارس بإدارة فايد التعليمية: GOSE-34

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## ABSTRACT

تهدف الدراسة إلى معرفة معوقات تطبيق التفويض الإداري في المدارس الابتدائية من وجهة نظر مديري المدارس بإدارة فايد التعليمية . وذلك للتوصل إلى علاج لل صعوبات التي تعترض تطبيق التفويض الإداري، حيث ينطوي تفويض السلطة على قدر كبير من المخاطرة. وقد اتبع الباحث المنهج الوصفي في تحديد المعوقات التي تواجه مديري المدارس الابتدائية عند تطبيق التفويض الإداري في مدارسهم. قام الباحث بمقابلة فردية مع عدد من مديري المدارس والوكلاء والمعلمين وذلك للتعرف على المعوقات التي تواجههم عند تطبيق التفويض الإداري بالمدارس. توصلت نتائج الدراسة إلى عدة نتائج من أبرزها: التفويض الإداري لا يقلل من هيبة ومكانة المدير، فالمدير الناجح من يفوض المرؤوسين في تحمل المسؤولية، عدم قدرة المرؤوسين على إنجاز المهام الموكولة إليهم بشكل مرض، عدم الإلمام الكامل بطبيعة التفويض وما الذي يؤديه التفويض للإدارة المدرسية من مزايا، سوء استخدام السلطات الممنوحة من قبل المفوض إليهم، عدم تقبل المرؤوسين للشخص المفوض إليه لعدة أسباب مما يمثل عائقا في التفويض، عدم توافر الكوادر البشرية المدربة على التفويض الإداري. يوصي الباحث بضرورة وجود تناغم في السلطات فلا يتدخل الرئيس في الاختصاصات التي سبق وان فوضها للمفوض إليه، استخدام الذكاء الإداري مع المفوض إليهم فلا ينجز المفوض ما كلف به فقط بل ينجز مزيدا من الأعمال، عقد ورش عمل للمديرين لتغيير معتقداتهم عن التفويض وانه يحقق أهداف المنظمة، تشجيع المرؤوسين وغرس الثقة الكاملة بأنهم يستطيعون إنجاز الأعمال على أكمل وجه.

## KEYWORDS

معوقات،  
الإدارة المدرسية،  
التفويض الإداري،  
المدارس الابتدائية

## التربية الخلقية لطلاب المرحلة الثانوية وسبل تعزيزها (دراسة تحليلية): GOSE-17

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## ABSTRACT

يحتاج الإنسان إلى التربية على القيم الخلقية لا سيما في المراحل الهامة من حياته كالمرحلة الثانوية التي تتزامن مع مرحلة المراهقة، فالإنسان في هذه المرحلة في حاجة لأن تكون القيم الخلقية أكثر رسوخاً في عقله ووجدانه حتى يظهر أثر ذلك على سلوكه تجاه الآخرين. ونظراً لوجود مشكلات سلوكية لدى طلاب المدارس عامة، ولدى طلاب المرحلة الثانوية على وجه الخصوص، وإشارة بعض الدراسات إلى ضعف دور المؤسسات التعليمية في غرس القيم الخلقية لدى الطلاب؛ تبلورت مشكلة الدراسة الحالية وهدفت الدراسة إلى التعرف على طبيعة المرحلة الثانوية، وأهدافها، وأهميتها، وخصائصها ومشكلاتها ومتطلباتها التربوية؛ ذلك لأن معرفة طبيعة المرحلة التي يمر بها الفرد تساعد على توجيهه الوجهة السليمة لكي يصبح مواطناً صالحاً متكيفاً مع نفسه ومع المجتمع الذي يعيش فيه، كما هدفت الدراسة إلى التعرف على مفهوم القيم الخلقية، ومصادرها، ومبادئها، واتجاهاتها، ودور المدرسة في التربية الخلقية، كما استهدفت الدراسة التعرف على سبل تعزيز التربية الخلقية لدى طلاب المرحلة الثانوية. وقد استخدمت الدراسة (الاستبانة) كأداة تقدم لعينة من معلمي المرحلة الثانوية للتعرف على سبل تعزيز التربية الخلقية لدى طلاب هذه المرحلة. وتبرز أهمية الدراسة في تناولها لموضوع التربية الخلقية الذي يعد أمراً لا غنى عنه لطلاب المراحل المختلفة عامة، ولطلاب المرحلة الثانوية على وجه الخصوص. وقد استخدم الباحث المنهج الوصفي. ومن أبرز نتائج الدراسة: يحتاج الإنسان إلى التربية على القيم الخلقية لا سيما في المراحل الهامة من حياته كالمرحلة الثانوية التي تتزامن مع مرحلة المراهقة. المرحلة الثانوية مرحلة متميزة في حياة الطالب الدراسية فهي التي تعده لأن يكون فرداً صالحاً في مجتمعه، وإنساناً مستقيماً في سلوكه، واجتيازه لهذه المرحلة بسلام يعنى أنه سوف يمضي في حياته متزناً في تصرفاته وانفعالاته، ذا شخصية سوية، أما إذا تعثر الشاب في هذه المرحلة الحرجة فإن ذلك سينعكس على تكوينه النفسي وسلوكه الاجتماعي فيما بعد. للطلاب في المرحلة الثانوية حاجاتهم الأساسية التي ترتبط بخصائصهم مما يحتم على المهتمين بأمرهم التعرف عليها؛ ليكون التخطيط للنهوض بالطالب في هذه المرحلة متمشياً وتلك الخصائص والمتطلبات. إن الهدف الأسمى في التربية الإسلامية هو التربية الخلقية التي تعمل على تكوين رجال مهذبين ونساء مهذبات ذوي نفوس أبيية وإرادة قوية وأخلاق سامية. تلعب المدرسة دوراً هاماً في بناء أخلاق الطلاب، والتربية المدرسية الناجحة لا يقتصر دورها على تزويد الطالب بالمعارف والمعلومات فقط. التربية الخلقية في مدارسنا لا تحتل بحال من الأحوال المرتبة الأولى في الاهتمام. يجب أن تتوجه المناهج الدراسية نحو التربية الخلقية للعمل على صقل الشخصية الإنسانية وغرس القيم الأخلاقية في نفوس الطلاب. تحتاج التربية الأخلاقية إلى المعلم القدوة الذي يقوم بتربية النشء على القيم والمبادئ والآداب الرفيعة. ضرورة الجمع بين إيجابيات اتجاهات التربية الخلقية، وتلافي ما قد يعترضها من قصور والخروج بنظرية متكاملة تراعي خصوصية المجتمع الإسلامي في التربية الخلقية. الخلاصة: خلصت الدراسة الحالية إلى أن التربية الخلقية أمر لا غنى عنه لطلاب المراحل المختلفة عامة، ولطلاب المرحلة الثانوية على وجه الخصوص، ومع ذلك فالنظرية الخلقية في مدارسنا لا تحتل بحال من الأحوال المرتبة الأولى في الاهتمام، لذا فنحن بحاجة إلى أن تتوجه المناهج الدراسية نحو التربية الخلقية للعمل على صقل الشخصية الإنسانية وغرس القيم الأخلاقية في نفوس الطلاب، كما نحتاج إلى المعلم القدوة الذي يقوم بتربية النشء على القيم والمبادئ والآداب الرفيعة.

## KEYWORDS

التربية الخلقية،  
المرحلة الثانوية،  
المشكلات السلوكية

**GOSE-102: EFFECTIVENESS OF A STRATEGY BASED ON PEER TUTORING IN DEVELOPING ENGLISH WRITING PROCESSES OF PREPARATORY SCHOOLERS**

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**ABSTRACT**

**Introduction:** EFL writing has always been considered as an important skill in teaching and learning. In the past, there was a trend in teaching writing called the product approach. It focused only on the final product of writing. The writers were assumed to focus on grammatical accuracy. Recently, the process oriented approach is a new trend. It considers writing as a collaborative activity. The writers should move through certain processes namely prewriting, planning, drafting, editing and publishing in a recursive way. **Objectives:** 1. Identifying the English writing sub-processes required for the first year preparatory pupils. 2. Developing teaching activities adopting the strategy based on peer tutoring. 3. Measuring the effectiveness of the proposed strategy in developing English writing processes of the first year preparatory pupils. **Methods:** The one group pre and post tests design was used. Two tools were developed and used in the study: 1.A checklist to identify the English writing sub-processes that may be relevant for the target group. 2.A test for assessing the development that might happen in the writing skill. It was developed and used before and after applying the peer tutoring activities. Thus, 30 first year preparatory pupils participated in receiving the treatment which manipulated the strategy based on peer tutoring. **Results:** There were statistically significant differences between the means of the pre-post tests measuring the processes included in paragraph writing of the study participants in favor of post application of the test. There were statistically significant differences between the means of the pre-post tests measuring the processes included in e-mail writing of the study participants in favor of post application of the test. **Conclusion:** In the light of the previous results, it can be concluded that the activities manipulated the strategy based on peer tutoring were effective in developing the English writing processes.

**KEYWORDS**PEER TUTORING,  
Teaching activities,  
English writing

## تطوير أداء مديري المدارس الابتدائية بمصر في ضوء متطلبات القيادة الريادية: GOSE-145

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## ABSTRACT

**مقدمة:** تُعد وزارة التربية والتعليم إحدى الجهات المسؤولة عن تحقيق الأهداف العامة للدولة ولما كان أداء المدراء هو الأكثر أهمية من بين العوامل المؤثرة في التطوير التعليمي بالمدارس الابتدائية بمصر فأصبحت هناك حاجة ماسة لإعداد مديري المدارس الابتدائية في ضوء متطلبات القيادة والريادة ليكونوا قادرين على أداء أدوارهم المستقبلية التي فرضتها المتغيرات المتسارعة في الحياة المعاصرة ومن هنا نبعت فكرة هذه الدراسة للوقوف على متطلبات القيادة الريادية ومحاولة الاستفادة منها في تطوير أداء مديري المدارس الابتدائية بمصر. **المنهجية:** هدفت الدراسة إلى تحديد الأساس النظري والفكرى للقيادة الريادية في الأدبيات ورصد واقع أداء مديري المدارس الابتدائية بمصر ومن ثم التوصل إلى تصور مقترح من شأنه أن يساهم في تطوير أداء مديري المدارس الابتدائية. **مواد وأساليب:** استخدمت الدراسة المنهج الوصفي واستخدم الباحث استبيان متطلبات القيادة الريادية اللازمة لتطوير أداء مديري المدارس الابتدائية والذي هدف إلى تطوير رؤية مشتركة للمدرسة وبناء اتفاق جماعي لأهداف المدرسة. **النتائج:** لوحظ أن خصائص القيادة الريادية لدى مديري المدارس الابتدائية من وجهة نظر المعلمين والمديرين تتوافر بدرجة عالية حيث كانت غالبية استجابات عينة الدراسة موافقة علي الدرجة العالية لتوافر خصائص القيادة الريادية وقد توصلت الدراسة إلى وضع تصور مقترح يمكن أن يساهم في تطوير أداء مديري المدارس الابتدائية بمصر وذلك من خلال الاستفادة من متطلبات القيادة الريادية في هذا المجال وقد أبرز الباحث في تصوره معوقات هذا التصور وسبل التغلب عليها وقد أوصى الباحث بمعينات لتحقيق نجاح التصور ومن أهمها ما يلي: التأكيد على دور القيادة الريادية في التطوير الإداري لمديري المدارس الابتدائية بمصر وضرورة نشر فكرة القيادة الريادية وفلسفتها في المدارس الابتدائية والربط إيجابياً بين فلسفة القيادة الريادية وأداء المعلمين بالمدارس. **الخلاصة:** توصلت الدراسة إلى وضع تصور مقترح شأنه أن يساهم في تطوير أداء مديري المدارس الابتدائية بمصر في ضوء متطلبات القيادة الريادية واستخدمت الدراسة المنهج الوصفي وتم استخدام الاستبيان كأداة لتجميع البيانات ومن أبرز النتائج أنه لوحظ أن خصائص القيادة الريادية لدى مديري المدارس تتوافر بدرجة عالية وتوصلت الدراسة إلى وضع تصور مقترح يمكن أن يساهم في تطوير أداء مديري المدارس الابتدائية بمصر.

## KEYWORDS

مديرو المدارس  
الابتدائية،  
القيادة الريادية

4<sup>th</sup> YRC2017

Community Oriented Scientific Research

**First Day**  
**Saturday 29 April 2017**

**Oral Session (E2)**  
**Education, Humanities & Tourism**

استخدام الأساليب الحديثة في التعليم المصري



### GOSE-8: أثر استخدام الرحلات المعرفية في تنمية مهارات التفكير الإحصائي لدى طلاب كلية التربية بالإسماعيلية

Alaa nour El-din Mahmoud Sadek, Mahmoud Ali Mousa

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#### ABSTRACT

هدفت الدراسة إلى التعرف على أثر الرحلات المعرفية لتنمية مهارات التفكير الإحصائي لطلاب كلية التربية بالإسماعيلية للعام الجامعي 2016 / 2017. وانقسمت عينة الدراسة إلى قسمين هما: عينة استطلاعية استمدت بطريقة عشوائية بسيطة بلغت 220 من طلاب وطالبات كلية التربية بالإسماعيلية، وبلغت عينة الدراسة الأساسية وبلغت 40 طالب وطالبة انقسمت إلى مجموعتين أحدهما ضابطة (ن=20) والأخرى تجريبية (ن=20). وأعد الباحثان اختبار مهارات التفكير الإحصائي (وصف البيانات، تحليل البيانات، تفسير البيانات، تلخيص البيانات) وتم التحقق من ثبات الاختبار باستخدام معامل ألفا كرونباخ وبلغ قيمة ثبات الاختبار القيمة 0.732. واعتمدت الدراسة على المنهج شبه التجريبي، واستخدم الباحثان أسلوب ت للعينات المستقلة للتحقق من فروض الدراسة. وتوصلت الدراسة إلى وجود فروق ذات دلالة احصائية بين المجموعة الضابطة والتجريبية في متوسط درجات القياس البعدي لمهارات التفكير الإحصائي لصالح المجموعة التجريبية.

#### KEYWORDS

الرحلات المعرفية،  
التفكير الإحصائي

## فاعلية برنامج تدريبي في تنمية الطلاقة اللفظية لدى لطلاب المعلم: GOSE-113

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## ABSTRACT

**أهداف البحث:** التعرف على مستوى الطلاقة اللفظية لدى الطلبة المعلمين في كلية التربية بالاسماعيلية بمقياس الطلاقة اللفظية إعداد الباحث و وضع تصور مقترح لتنمية الطلاقة اللفظية للطلاب المعلم من خلال أنشطة والبرنامج التدريبي الذي اشتملت على 15 جلسة واستمر لمدة خمسة أسابيع متواصلة. تسعى الدراسة التحقق من الفروض التالية: 1- وجود فروق ذات دلالة أحصائية بين المجموعة الضابطة والتجريبية في متوسط درجات القياس البعدى فى الطلاقة اللفظية للطلاب المعلمين. 2- وجود فروق ذات دلالة أحصائية فى تنمية الطلاقة اللفظية للمجموعة التجريبية فى القياس البعدى والقبلى فى الطلاقة اللفظية للطلاب المعلمين. **المنهج:** تم إستخدام التصميم التجريبي ذى المجموعتين، وكانت عينة الدراسة الاستطلاعية 50 طالب من الفرقة الثالثة بكلية التربية بالاسماعيلية، فى حين بلغت عينة الدراسة الأساسية 300 طالب من الفرقة الثالثة والرابعة فى العام الجامعي 2016/ 2017م بكلية التربية جامعة قناة السويس بمتوسط عمر 20 عام، تم إعداد الباحث مقياس الطلاقة اللفظية وتبين من الدراسة الاستطلاعية درجة الثبات المقياس باستخدام ألفا كرونباخ فكانت قيمة معامل ثبات (0.854). **النتائج:** عند تطبيق البرنامج التدريبي يتم التوصل إلى عدة نتائج منها فعالية البرنامج التدريبي فى تنمية الطلاقة اللفظية للطلاب المعلمين وإثراء الطلاقة اللفظية للطلاب المعلمين. **الخلاصة:** عنيت هذه الدراسة بشكل مباشر بإثراء الطلاقة اللفظية للطلاب المعلمين باستخدام برنامج تدريبي، بسبب التأثير المباشر من المعلم للتلاميذ، وفى ضوء النتائج توصل الباحث إلى التوصية بإقامة دورات تدريبية مستمرة لإثراء الطلاقة اللفظية للطلاب المعلمين.

## KEYWORDS

الطلاقة اللفظية،  
برنامج تدريبي

### GOSE-132: A PROPOSED PROGRAM FOR MERGING AND DEVELOPING THE MUSICAL AND THE KINEKIC INTELLIGENCES FOR PRE-CONCEPTUAL STAGE (2-4 YEARS)

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#### ABSTRACT

**Introduction:** The pre-conceptual child performs musical elements and skills spontaneously. He croons melodies he hears, trying to imitate sounds and sways with tunes. He is also extremely affected by hearing music. These are some features of the musical intelligence which need development. This age is characterized by hyperactivity such as much walking, running and jumping. We have to guide the child's activity; this includes translating musical melodies and rhythms into physical movements. Accordingly, the merging process occurs among the musical and kinetic intelligences. This can be done through suggesting a program incorporating a group of training activities using child songs and Orff's method.

**Objectives:** Developing the musical intelligence and the kinetic intelligence then merging them systematically at pre-conceptual stage. **Methods:** This study adopts the semi-experimental method which is based on manipulating child songs and Orff's method, and developing a performance test which is applied before and after the treatment. **Results:** It is expected, after developing and applying the program, that there will be differences between the mean scores of children in favour of the post-test. **Conclusion:** The merge between the two types of intelligences in this age is necessary for developing the musical sense and the kinetic synergy. It is also found that the proposed program is effective.

#### KEYWORDS

Pre-conceptions children,

Musical intelligence,

Kinetic intelligence

### GOSE-138: A Proposed Teaching Model Based on Cybernetics in Improving Students'/ Teachers' Cognitive Motivation in the course of "Methodologies and Research Design"

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2 Suez Canal University, Faculty Of Education, Department of Educational Psychology, Ismailia, Egypt.

#### ABSTRACT

**Introduction:** This study proposes a teaching model aiming at improving and fostering cognitive motivation and motivates students to learn the course of "Research Methodologies" using some applied techniques based on Cybernetics. Moreover, this proposed teaching model matches with the students' research purposes. A very limited number of academic journal articles on Cybernetics have been written. Furthermore, the study relied on some journal articles on "Research Methodologies" that provide models and examples for main parts of any research study, and provide a written feedback about the content of the course and hence reformatting students' schema. **Objectives:** The study aims at investigating the impact of a teaching model based on Cybernetics on improving students' cognitive motivation in the Methodology and Research Design course. **Methods:** The study has applied an intended sample of third grade students at Ismailia College of Education in Psychology Department (N=35). The study applied quasi experimental design to validate the impact of the proposed teaching model. The researchers proposed a teaching model based on Cybernetics and prepared cognitive motivation scale. **Results:** The study revealed statistical differences between the averages of students' scores in pre and post measures for the cognitive motivation scale in favor of the post measure. **Conclusion:** A number of recommendations and suggestions have been proposed based on the results of the study. One of these recommendations is to present teaching strategies and methods based on Cybernetics to improve teaching and learning of other subjects.

#### KEYWORDS

Cybernetics,  
Cognitive Motivation,  
Teaching Model

## GOSE-139: MOOCs as a tool for teachers' CPD in Egypt: Opportunities and Challenges

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**ABSTRACT**

**Introduction:** Massive Open Online Courses (MOOCs) are considered as one of the latest disruptive and innovative technologies which are becoming increasingly and rapidly popular in Education. They are viewed in many recent studies as promising technology for life-long learning. However, little is known about how the use of MOOCs will be effective for teachers' Continued Professional Development (CPD). **Objectives:** The study purposes utilizing MOOCs for the Egyptian Professional Academy of Teachers as criteria or a requirement for career hiring or promotion. In this study, literature related to MOOCs and the philosophy or theory underpinning its use in education is reviewed and its relation to teachers' CPD. Opportunities and challenges of using MOOCs in teachers' CPD will also be highlighted. **Methods:** The study applied analytical descriptive design in reviewing the literature related to MOOCs, Distance and Online Learning Platforms, and Continuing Professional Development. Furthermore, teachers' readiness scale towards using MOOCs in training has been applied. A random sample of Egyptian teachers in different majors has been drawn (N=60). **Results:** The results revealed that teachers have a very little knowledge about MOOCs and their need to use such online learning platforms in training and continuing professional development. The results also showed statistical significance for teachers' readiness towards using MOOCs in CPD. **Conclusion:** A number of suggestions and recommendations are provided in the conclusion; one of these suggestions is to design a MOOC platform by the Egyptian Professional Academy of Teachers and to use MOOCs in training. Utilizing MOOCs as a requirement for career hiring or promotion is also extremely recommended.

**KEYWORDS**

Massive Open Online Courses (MOOCs),

Continued Professional Development (CPD),

Connectivism

**First Day**  
**Saturday 29 April 2017**

**Poster Session (S1)**



**GPSF-13: SYNTHESIS, CHARACTERIZATION AND NEW APPLICATIONS OF SOME SCHIFF BASES AND THEIR COMPLEXES**

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The Schiff bases HA ((E)-N'-[2-hydroxybenzylidene]benzohydrazide) and H2B (N,N'-bis (salicylaldehyde)-o-phenylenediamine) were prepared and characterized by elemental analysis, FTIR, uv-vis, <sup>1</sup>HNMR and mass spectra. The reactions of the obtained ligands with some transition metal ions were evaluated. The structures of the formed complexes were discussed according to the thermal, elemental, FTIR, uv-vis, magnetic and conductivity measurements. Generally the obtained complexes has the molecular formula [MA<sub>2</sub>(H<sub>2</sub>O)<sub>x</sub>]. yH<sub>2</sub>O and [MB(H<sub>2</sub>O)<sub>x</sub>]. yH<sub>2</sub>O. The obtained conductivity revealed the non-electrolytic behavior of the obtained complexes. The magnetic susceptibility and uv-vis spectra indicated the octahedral structure of the complexes under consideration. The interaction of the formed compounds with the FM-DNA was tested. The evaluation of the binding constant (K<sub>b</sub>) using Bensi-Hildebrand plot, revealed the moderate interaction with electrostatic behavior. The biological activity of the synthesized compounds was tested against some gram positive, gram negative and fungi. Generally the obtained inhibition zone indicted the moderate activity of the compounds towards the target microorganism, which enhanced when carrying on some nanoparticles (Ag and ZnO). The interaction of the synthesized compounds with the E.coli protein (FabH, PDB code: 1HNJ) was tested and evaluated using the docking operation with aid of some computational chemistry software. The obtained results go well with the experimental work.

**KEYWORDS**

DNA,  
Nanoparticles,  
Biological activity,  
Docking, Complexes,  
Schiff bases



## GPSF-14: LIFE TABLE PARAMETERS OF THE WHITE MANGO SCALE INSECT AULACASPIS TUBERCULARIS Newstead (Coccoidea: Diaspididae) And Its Predator Cybocephalus rufifrons flaviceps Reitter (Coleoptera: Cybocephalidae)

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### ABSTRACT

**Introduction:** The white mango scale insect, *Aulacaspis tubercularis* Newstead (Coccoidea: Diaspididae) was a serious pest on mango trees. In recent years, insecticides do not provide an effective control against scale insects. The present work was carried out to estimate the effective of the predator *Cybocephalus rufifrons flaviceps*, to control the white scale insect, *A. tubercularis* on mango by used some biological aspects and life table parameters for each of the predator and the prey. **Objectives:** Reduce the use of insecticides in integrated pest management programs, because it's bad effect on human healthy also the resistance of some species to many pesticides. So, the life table parameters of *A. tubercularis* were determined and compared with two host plants, mango (*Mangifera indica*) and potato (*Solanum tuberosum*) leaves under three degrees of constant temperature 20, 25 and 35°C. Also, the development of its predator *Cybocephalus rufifrons flaviceps* Reitter on mango seedling infested with the *A. tubercularis* was estimated at constant temperature  $25 \pm 1^\circ\text{C}$ . **Methods:** Mass rearing of scale insect and its predator cultures carried out at plant protection Department of Ismailia Agricultural research station. The initial population of *A. tubercularis* was started as (500 eggs/ two seedling) of each host plant (mango, *Mangifera indica* and potato, *Solanum tuberosum*). Firstly, biological studies on the white scale insect *A. tubercularis* was carried out under three degrees of constant temperatures 20°, 25° and 35°C / two different host plant. On other hand pairs of male and female adults predator *C. rufifrons flaviceps* were isolated and provided with preys (the white scale insect, *A. tubercularis* under 25° C. Analysis for life table parameters were recorded. **Results:** The gross reproductive rate (GRR), net reproductive rate (R<sub>0</sub>), intrinsic rate of increase (r<sub>m</sub>), finite rate of increase (λ) of *A. tubercularis* were higher when reared on mango than potato leaves at the previous three temperature degrees. On other hand, the life table data of the predator, *C. rufifrons flaviceps* including R<sub>0</sub>, mean (T), (r<sub>m</sub>), (λ), and doubling time were recorded as 236.69 female off springs per female, 49.58 days, 0.11/day, 1.116 female offsprings / female and 7.9 days respectively. **Conclusion:** These findings indicated that the mango leaves are more suitable hosts than potato leaves for *A. tubercularis*. These results can be useful for using the predator, *C. rufifrons flaviceps* as a biocontrol agent against the white mango scale insect, *A. tubercularis*.

### KEYWORDS

DNA,  
Nanoparticles,  
Biological activity,  
Docking, Complexes,  
Schiff bases

## GPSF-15: COMPARATIVE STUDY OF THE MOSS FLORA OF ISMAILIA GOVERNORATE WITH OTHER TERRITORIES OF EGYPT

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**Introduction:** Bryological work in Egypt has been concerned mainly with the enumeration and description of moss species encountered during excursions of researchers in different territories of the country. All the previous studies until 2015 showed that the total number of mosses taxa from Egypt is 181; classified into 56 genera, 17 families and 10 orders.

**Objectives:** The current study aims to held comparisons between moss flora of Ismailia governorate and the different territories in Egypt. This will help to draw conclusions about the various factors which affect the distribution of mosses across Egypt. **Methods:** The number of samples which were gathered is 310 through 15 excursions from different habitats in Ismailia governorate. Samples were examined, sectioned and described. Identification carried out by using the available moss flora books and papers either in Egypt or from around the world and international data bases. Statistical analysis of moss flora of Ismailia in comparison with other territories conducted by using SPSS. **Results:** The updated species list of the moss flora of Ismailia includes 29 species. The highest species similarity was found between the study area and this of Sinai (21 species) and then Nile Delta (17 species). On the other hand, both Nile Nubia and Gebel Elba showed the lowest species similarity (5 species & 2 species) respectively in comparison with the study area. **Conclusion:** Environmental factors governing the geographical distribution of moss flora in Egypt are climatic and edaphic factors. Sinai and Ismailia fall in the same biogeographical region (Saharo-Arabian deserts), therefore affected by the same environmental factors. This explains the highest degree of floral similarity between the two regions. In contrast; Nile Nubia and Gebel Elba regions fall in the Sudano-Saharan biogeographical region. Thereby, those two regions showed less similarity in comparison with the study area.

**KEYWORDS**

Moss,  
Flora,  
Species

**GPSH-16: MOLECULAR DOCKING AND CYTOTOXIC EFFICACY OF SOME HETEROCYCLIC ANDROSTANE DERIVATIVES AS CHEMOTHERAPEUTIC ANTI-LUNG CANCER AGENTS**

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**INTRODUCTION:** Steroids are a class of important polycyclic compounds, which exhibit diverse biological activities. They are biosynthetic from cholesterol through a series of enzyme-mediated transformations, so they are highly lipophilic and readily enter most cells to access their intracellular receptors. Incorporation of a heterocyclic moiety to the steroid nucleus to form new effective anticancer agents which combine two biologically active compounds in one such as steroidal heterocyclic derivatives attain both hormone and cytotoxic effects on cancer cells, and might increase the selectivity and minimizing the side effects. **OBJECTIVES:** The aim of the present study is to evaluate the anti-lung cancer activity of some heterocyclic androstane derivatives. **METHODS:** Series of heterocyclic (Benzoylpyrazolo, Thioxopyrido, Pyrimidino, Aminopyrazolo, Benzimidazolo, and Benzimidazolopyrido) androstane derivatives were synthesized. Preliminary anti-cancer screening of these compounds was done by molecular docking and structure activity relationship (SAR) studies using Molecular Operating Environment (MOE 2014-0901 Chemical Computing Group, Canada) as the computational software. Moreover, their anticancer activities were tested in vitro by MTT assay against the human adenocarcinoma lung cancer cell line (A549). 5-FU were used as a reference drug. **RESULTS:** The compounds were evaluated based on their binding affinity, cluster size, and overall interaction with the receptor active site. The tested compounds showed promising cytotoxic activity against A549. It was found that compound 2 was more potent than 5-FU itself for inhibition of cancer cell growth. **CONCLUSION:** Future work will focus on the detailed mechanisms of inhibiting proliferation of the lung cancer cell line to be developed as novel cancer chemotherapeutic agents.

**KEYWORDS**

Heterocyclic androstane,

Molecular docking,

Cytotoxicity,

Lung cancer



**GPSF-18: AN EFFICIENT SYNTHESIS OF 1, 2, 4-TRIAZINE DERIVATIVES AS POTENTIAL ANTICANCER AGENTS**

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*Chemistry Department, Faculty of Science, Suez Canal University, Ismailia, Egypt.***ABSTRACT**

**INTRODUCTION:** 1, 2, 4- Triazine derivatives are an important class of heterocyclic compounds containing amide and thioamide groups. It has been reported that 1, 2, 4- triazine ring skeleton possess a broad spectrum of biological and pharmaceutical activities. **OBJECTIVES:** the aim of the work is to synthesis newly 1,2,4-triazine derivatives and determine the anticancer activity of these derivatives. **METHODS:** series of 1,2,4-triazine derivatives were newly synthesized. Preliminary the structure of these derivatives was confirmed by spectroscopic analysis and also had been evaluated on human cancer cell line by the method of masmann and vijayen et al. **RESULTS:** the newly synthesized triazine derivatives showed activity toward liver cancer. It was found that compounds 3 and 5 showed antitumor drug against Hepg-2 but compounds 2a and 2b have less activity. **CONCLUSION:** A series of 1,2,4-triazine derivatives (2-5) containing cinammylidene group were prepared. The structure of these compounds were confirmed by spectral data and elemental analysis. Antitumor activities of prepared 1,2,4-triazine derivatives were studied on liver cancer cell lines. As a result of the cell line culture studies, all of the 1,2,4- triazines derivatives (2 and 3) have shown anticancer activity for liver cancer cell. In conclusion some 1,2,4-triazine derivatives might be potentially useful in the field of cancer treatment, finally compounds 3 and 5 can be suggested as potent candidates for liver cancer drug.

**KEYWORDS**

Heterocyclic compounds,  
Synthesis,  
Biological activity,  
triazine



**GPSF-19: IN VITRO ANTITUMOR EVALUATION OF SOME SYNTHESIZED DISUBSTITUTED-1,3-THIAZOLES**

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**ABSTRACT**

**Introduction:** thiazoles displayed broading of biological activities and found in many potent biologically active molecules such as sulfathiazole (antimicrobial drug), Ritonavir (antiretroviral drug), Abafungin (antifungal drug), and Tiazofurin (antineoplastic drug). **Objectives:** the aim of the work is to synthesis newly thiazoles derivatives with anticancer activity. **Methods:** series of thiazoles derivatives were synthesized and the structure of them confirmed by spectroscopic analysis method and also had been evaluated on human cancer cell line by mosmann and scudiero et al. **Results:** the newly synthesized thiazoles derivatives is confirmed by mass, <sup>1</sup>HNMR, <sup>13</sup>CNMR and IR spectroscopic methods. Also they showed activity toward liver cancer. **Conclusion:** A series of thiazoles derivatives (2-7) were prepared. The structure of these compounds were confirmed by spectral data and elemental analysis. Antitumor activities of prepared thiazoles derivatives were studied on liver cancer cell lines. As a result of the cell line culture studies, all of the thiazoles (2 and 7) have shown anticancer activity for liver cancer cell. **In conclusion** some thiazoles derivatives might be potentially useful in the field of cancer treatment,

**KEYWORDS**

Synthesis,  
Biological activity,  
Thiazoles derivatives

**GPSH-20: NEW THREE-FINGER TOXIN ISOLATED FROM THE SNAKE VENOM OF NAJA NUBIAE INDUCED DNA DOUBLE-STRAND BREAKS OF OVARIAN CANCER CELLS**

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**ABSTRACT**

**INTRODUCTION:** Double-strand breaks (DSBs) are the DNA lesions that may have severe consequences for cell survival. Cell responds to DNA damage by complex molecular pathways to detect and repair DNA lesions. **OBJECTIVES:** The formation of DSBs triggers activation of many factors, including phosphorylation of histone variant H2AX, producing phosphorylated-H2AX. Evaluation of phospo-H2AX expression levels can be used to detect the efficiency of anticancer treatment, and predict the tumor cell sensitivity to DNA damaging therapeutic agent. **METHODS:** Western blotting analysis was performed using specific primary antibody (Anti-phospho-Histon H2AX, Ser139). And Cellular uptake was assayed using molecular probe of Alexa Fluor® 488 Microscale Protein Labeling kit, Phalloidin, Dylight™ 554 Conjugated red fluorescent stain, and the blue-fluorescent DAPI (4',6-Diamidino-2-Phenylindole, Dihydrochloride) nucleic acid stain. **RESULTS:** Using an *in vitro* approach, a new three-finger cytotoxin (CTX) was isolated from the Egyptian spitting cobra; *Naja nubiae* snake venom which induced DSBs in human ovarian cancer cell line. Western blot analysis revealed that CTX significantly upregulated the expression of phospo-H2AX expression in cancer cells. Our data was confirmed using labelled CTX which revealed nuclear accumulation of CTX in treated cells. **CONCLUSION:** Taken together, CTX induced strong DNA damage in cancer cells and can be developed into potential therapeutic agent for ovarian carcinoma.

**KEYWORDS**

DNA damage,  
Anticancer treatment,  
Cytotoxin,  
Labelled,  
Ovarian carcinoma



## GPSH-21: MECHANISM OF ACTION NAJA NUBIAE SNAKE VENOM TOXIN AGAINST OVARIAN CARCINOMA DRUG RESISTANCE

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### ABSTRACT

**INTRODUCTION:** Multidrug resistance (MDR) is the ability of cancer cells to acquire resistance to various structurally and functionally different anticancer agents. MDR represents a major obstacle to ovarian cancer therapy. **OBJECTIVES:** Drug resistant mechanisms need further understand for solving cancer clinical problems. Therefore, it is crucial to establish lower resistant ovarian cancer cell lines and enhance therapeutic drugs. Dose-dependently analysis of an isolated snake venom toxin (SVT) from the Egyptian spitting cobra (*Naja nubiae*) has been investigated on the resistant form of human ovarian cancer cells. **METHODS:** Fluorescence-activated cell sorting (FACS) flow cytometry was to detect cell cycle alterations. Transmission electron microscopy (TEM) was to examine internal ultrastructural characteristics. **RESULTS:** FACS showed the genotoxic effect of *Naja nubiae*' SVT on ovarian cancer cell cycle stages that activated apoptosis by the blockage of the cell cycle at S-phase. Also, TEM examination revealed that the treated ovarian cancer cells' resistance identified in obvious features as microvesicles shedding and nuclear concave deformation. The treated cells couldn't evade the apoptotic effect of SVT, and the membrane blebbing as well as the nuclear chromatin condensation were features of apoptosis execution. **CONCLUSION:** In conclusion, our findings were clear markers for *Naja nubiae*' SVT efficacy in leading ovarian cancer cells to undergo apoptosis, and may be used to overcome the problem of resistance towards antitumoral pharmaceutical approach.

### KEYWORDS

Multidrug resistance,  
Cancer therapy,  
Snake venom,  
Microvesicles,  
Apoptosis



**GPSF-23: POLYSULFONE NANOCOMPOSITE MEMBRANES: PREPARATION AND APPLICATION IN WATER DESALINATION VIA MEMBRANE DISTILLATION TECHNIQUE**

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**ABSTRACT**

Different Polysulfone (PSf) flat sheet nanocomposite membranes were prepared by the wet phase inversion technique. The polymer concentration was 15 wt. % doped with different nanomaterials in dimethylformamide (DMF). These nanomaterials included TiO<sub>2</sub>, ZnO, SiO<sub>2</sub> and Multiwallcarbon nanotubes (MW-CNTs). The SEM confirmed morphology change from spongy to fingure like structure, TGA showed that PSF/MW-CNTs membrane was the most stable membrane, the PSf hydrophobicity changed according nanomaterials nature and chemical structure was proven by FT-IR. All used nanomaterials reinforced from ion exchange rate in gelation bath, porisity and increasing of membrane surface. The membrane distillation results showed the salt rejection of all synthetic modified membranes using the different nanomaterials was 99.99%. On the other hand, the permeate flux was obtained in the order of : MW-CNTs > SiO<sub>2</sub> > TiO<sub>2</sub> > ZnO using the concentrations of 1, 0.5, 0.75, 0.5 wt. % of polymer, with the highest permeate flux values of 41.85, 38.84, 35.6, 34.42 L/m<sup>2</sup>.hr, respectively. The optimum operation conditions included feed and permeate temperatures 60oC, 20oC respectively, synthetic NaCl feed water with salinity 10,000 ppm.

**KEYWORDS**

Polysulfone,  
nanomaterials,  
membrane distillation,  
water desalination.



## GPSF-29: EFFECT OF ARILS OR JUICE INCUBATION TEMPERATURE ON PHYSIO-CHEMICAL AND SENSORY EVALUATION OF POMEGRANATE JUICE DURING STORAGE PERIOD

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### ABSTRACT

**Introduction:** Pomegranate is consumed as fresh fruit, juice and in desserts. Besides it is known with its health beneficial effects of the derived products that are rich in polyphenols, anthocyanin and glucosides. It also contains citric and ascorbic acids. Unfortunately, the bioactive compounds are quickly affected by extrinsic factors such as oxygen, light and especially temperature. Thus, there is a real need to minimize the degradation of the active compounds during extraction process, pasteurization process and storage time of pomegranate juice. **Objectives:** To obtain pomegranate juice with higher polyphenol, anthocyanin content, antioxidant activity, nutritional properties and quality in fresh and stored pomegranate juice. **Methods:** Pomegranate arils were crushed manually to squeeze juice out. Both arils and juice were subjected to the following: Sample arils kept in incubator for 30 min at room temperature (~27), 35, 40 and 45 °C, and then arils were crushed manually to squeeze juice out after treatment. While, fresh sample juice kept in incubator for 30 min at room temperature (~27), 35, 40 °C. Ascorbic acid, total phenols, anthocyanin, turbidity, color index, other physiochemical and sensory analytes were assessed both in fresh status and during storage of 3 months. **Results:** Acidity, total soluble solids, turbidity and color index of pomegranate juice increased with rising of incubation temperatures. But, pH, total phenols, anthocyanin content of pomegranate juice exhibited the opposite trend. Moreover, it was demonstrated that incubation of arils during juice extraction permit obtaining pomegranate juice with higher polyphenol, anthocyanin content and antioxidant activity, hence with higher nutritional properties as compared to juice incubation at different temperature. During storage, bioactive compounds as ascorbic acid, total phenols, anthocyanin content and antioxidant percentage of pomegranate juice decreased significantly. **Conclusion:** Generally, the arils' treatment had higher color index value, total phenolic and anthocyanin contents in comparison with pomegranate incubated juice sample at initial time and during storage of 3 months. Moreover, it was also noted that there is a positive association between antioxidant activity with total phenols and anthocyanin values among all treatments either fresh or stored samples.

### KEYWORDS

Pomegranate Juice,

Turbidity,

Antioxidants,

Ascorbate

**GPSH-30: CHARACTERIZATION OF POTENTIAL ANTICANCER PEPTIDES FROM THE VENOM OF EGYPTIAN SCORPION, SCORPIO MAURUS PALMATUS**

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*1Zoology Department, Faculty of Science, Suez Canal University, Ismailia 41522, Egypt.**2Biomedical Research Centre, Biosciences Division, City Campus, Sheffield Hallam University, Howard Street, Sheffield, S1 1WB.***ABSTRACT**

**Introduction:** Smp43 and Smp24 are novel cationic antimicrobial peptides (AMPs) which were identified from the venom gland of the Egyptian scorpion *Scorpio maurus palmatus*. Smp43 and Smp24 showed potent activity against both Gram-positive and Gram-negative bacteria as well as fungi. **Objectives:** In this study, we investigated the effects of synthetic Smp43 and Smp24 (0-128 µg/ml) on lymphoid (CCRF-CEM) and myeloid (KG-1a) leukaemia cells as well as a normal haematopoietic cell line (CD34+) using various biochemical and imaging approaches. **Methods:** ATP luminescent assay, Hoechst 33342 and propidium iodide (PI) staining assay, lactate dehydrogenase (LDH) assay, cell cycle analysis, scanning electron microscopy (SEM) and transmission electron microscopy (TEM) techniques were used in this study. **Results:** Using a luciferase-based assay, ATP luminescent assay, Hoechst 33342 and PI staining assay, treatment with both peptides significantly decreased the viability of all cell lines and caused appearance of necrotic cells in a dose-dependent manner. Our results have been confirmed through using cell membrane leakage assay as evidenced by the release of LDH and SEM which showed the formation of necrotic cell membrane blebs and pore formation. Flow cytometry experiments using cells stained with PI provided evidence that both peptides arrest cells in different phases of cell cycle depending on cell type. TEM studies showed mitochondrial swelling and degeneration, aggregation of glycogen granules and appearance of lipid droplets and Lysosomes in the cytoplasm. **Conclusion:** In conclusion, both venom peptides (Smp43 and Smp24) showed promising anticancer potential but a broad sample of cell lines need to be screened due to evidence of non-tumour cytotoxicity.

**KEYWORDS**

Scorpion venom,  
 Scorpio maurus Palmatus,  
 AMPs,  
 Leukaemia,  
 anticancer

**GPSH-31: CYTOTOXIC EFFECTS OF NOVEL ANTIMICROBIAL PEPTIDES FROM THE EGYPTIAN SNAKE VENOM, NAJA NUBIAE, ON ACUTE LEUKAEMIA CELL LINES**

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**Introduction:** Within the last decade, several peptides have been discovered on the basis of their ability to inhibit the growth of potential microbial pathogens. These antimicrobial peptides (AMPS) participate in the innate immune response by providing a rapid first-line defense against infection. Seven fractions (F1-F7) have been purified from *Naja nubiae* snake venom by gel filtration/ion exchange chromatography and tested for their antimicrobial activity. All fractions showed potent activity against both Gram-positive and Gram-negative bacteria. **Objectives:** In this study, we investigated the effects of these fractions on lymphoid (CCRF-CEM) and myeloid (KG-1a) acute leukaemia cell lines, as well as a normal haematopoietic cell line (CD34+), Human Embryonic Kidney cells (HEK293) and Human skin Keratinocyte (HaCaT). **Methods:** ATP luminescent assay, Hoechst 33342 and propidium iodide (PI) staining assay, lactate dehydrogenase assay, Caspase-8 and caspase-9 assays were used in this study. **Results:** The results showed that the venom fractions F1, F2, F5 and F6 had no significant effect on cellular proliferation of all cell lines while, fraction F3 and F7 displayed a highly significant decrease in cellular ATP content of all studied cells compared to their controls. Interestingly fraction F4 induced a significant reduction in cellular ATP levels of CD34+, CCRF-CEM, KG1a cell lines only. Moreover, the fluorescence microscopy studies of CD34+, CCRF-CEM, KG1a cells treated with F4 and stained with Hoechst33342 and propidium iodide (PI) dyes showed high rates of PI uptake suggesting pore formation on the cell membrane of the necrotic cell. These results were confirmed by the elevated release of Lactate dehydrogenase to culture media while no changes noted in HaCaT and HEK293 cell lines. **Conclusion:** *Naja nubiae* F4 showed anticancer activity against both acute leukaemia cell lines with less cytotoxic effects on normal cells but further investigations are urgently needed to purify anti-leukaemia peptides and develop them into therapeutic agents.

**KEYWORDS**

snake venom,  
AMPs,  
Cytotoxicity,  
Leukaemia,  
anticancer

## GPSF-32: EFFECT OF COMMERCIAL PECTIC ENZYME ON PHYSICOCHEMICAL AND SENSORY EVALUATION OF CARROT JUICE DURING STORAGE PERIOD

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### ABSTRACT

**Introduction:** Carrot is an important vegetable crop. Carrot juice cloudy stability is of great concern because carrot drinks are a cloudy juice so it is important to prevent loss of cloudiness in the juice. Mash treatment with pectolytic enzymes are now essential in juice industry in order to get high yield of juice with high aromatic quality in a short processing time, and to increase the carotenoids content with reduction of waste pomace amount. **Objectives:** To obtain carrot juice with higher cloud stability, carotenoid, flavonoid, antioxidant activity, nutritional properties and quality in fresh and stored carrot juice. **Methods:** Carrot pulp were subjected to the following: Control pulp (without treatment; no enzymes) kept at room temperature (~27 °C). All samples treated with commercial pectin enzymes 0.08% and kept in incubator for (60, 90, 120 and 150 min) at (50 °C). Carotenoid, flavonoid, 5-hydroxymethylfurfural (HMF), total phenols, anthocyanin, cloud stability, color index, other physicochemical and sensory analytes were assessed both in fresh status and during storage of 3 months. **Results:** Samples treated with commercial pectin enzymes (0.08) exhibited an increase of total soluble solids (TSS), HMF, acidity content, total phenols and antioxidant levels as compared to control. On the contrary, pH, carotenoids, flavonoid, color index and cloud stability of treated samples showed a significant decline in treated fresh samples. During storage period, HMF and acidity values had an increasing trend as opposed to pH, TSS, carotenoids, flavonoids, total phenols, antioxidants and organoleptic properties which had a decreasing trend in all samples tested. Organoleptic properties of juice improved with increasing incubation time of the samples. **Conclusion:** Overall, treatments using pectin enzymes at different incubation periods come in favor of the sample with the largest incubation time particularly (Sample pulp kept in incubator (50 °C) for 150 min). Besides this sample had the more intense physical properties beside a pronounced flavor being agreeable to the palate and preferred by the judging partners as compared to the other samples.

### KEYWORDS

snake venom,  
AMPs,  
Cytotoxicity,  
Leukaemia,  
anticancer

## FPXF-33: METAGENOMICS OF MICROBIAL COMMUNITIES IN SODA LAKES OF WADI AL-NATRUN, EGYPT

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### ABSTRACT

**Introduction:** Shotgun metagenomic DNA sequencing is a comparatively new and powerful environmental sequencing approach that provides insight into community Biodiversity and function. But this analysis of metagenomic sequences is complicated due to the complex structure of the data. Fortunately, new tools and data resources have been developed in circumvent these complexities and allow researchers to distinguish which microbes are present in the community and what they might be doing. **Objectives:** This study aimed to detect microbial community structure and functional analysis in water sample of Ga,ar lake, Wadi Natrun, Egypt. **Methods:** For Library construction, DNA is extracted from a water sample. The sequencing Library is prepared by Radom Fragmentation of the cDNA sample, followed by 5' and 3' adapter ligation. Adapter-ligated fragments are then PCR amplified and gel purified. High-throughput sequence community DNA was performed on illumina Hiseq2000 system. **Results:** Metagenome consisted of 32,149,168 reads represent total numbers of reads in illumina paired-end sequencing with an average length of 101bps, 3,247,065,968bps (3.2 G bp), and (61.5%) G+C content. A wide array of Archaea, Euryarchaeota, Halobacteriaceae was detected, Halorubrum is the most dominant species representing 32% of archaeal species. While Eubacteria comprised only 2% of microbial community; Bacteroidetes (1.19%), Proteobacteria (0.28%), Firmicutes (0.09%), Chloroflexi (0.01%) and Actinobacteria (0.01%). And only 17% were unassigned. Metagenome sequence information is available at EBI under EBI Metagenomic database with an accession number PRJEEB18746. **Conclusion:** This is the first report on the metagenomic approach for microbial diversity in Soda Lakes of Wadi Al-Natrun, Egypt. The results indicated that this lake is prosperous with extremophilic diversity.

### KEYWORDS

Metagenome,  
Shotgun sequencing,  
Biodiversity,  
Wadi Al-Natrun- Egypt



## GPSH-38: STUDIES ON SALMONELLA INFECTION IN CHICKENS

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### KEYWORDS

Salmonellae,  
Virulence genes,  
Antibiotic resistance,  
genes Class 1 integron

### ABSTRACT

**INTRODUCTION:** salmonella consider one of the most threaten bacterial pathogen to the poultry industry with health risk impact on human health. The pathogen causes sever economics loss in poultry farms. Salmonella recently develop multi drug resistant (MDR) against several antimicrobial agents, which have potential risk on human health as much as the pathogen can infect human. **OBJECTIVES:** The work aimed to molecular and biochemical typing of salmonella isolate species and then evaluate the isolate sensitivity to different antimicrobial agent using disc diffusion antimicrobial sensitivity test. Then molecular detecting to the presence of the different MDR genes from resistant isolates. **METHODS:** Samples (liver, heart blood, lungs and spleen) collected from 300 diseased and freshly dead broiler & layer chickens. Salmonellae isolation and identification were conducted according to **ISO 6579 (2002)** procedure. Molecular detecting of resistant genes (*bla<sub>TEM</sub>*, *ere-A*, *mph-A*, *dfrA1*, *sul1*, *aad-B*, Tet-A, *aac-6*, *Ib-cr*) and virulence genes (*invA*, *SopB*, *stn*) done by PCR for all salmonella isolates, using specific primer for each gene and Emerald Amp GT PCR master mix (Takara Bio, japan) according to manufacture instruction. **RESULTS:** Salmonellae was detected in 5.6% examined samples and identified as salmonella Fillmore, salmonella Hindmarsh, salmonella lagos, salmonella Birkenhead, salmonella dublin and non-typed strains (11.7%, 5.8%, 5.8%, 5.8%, 5.8%, 5.8%) respectively. Highest antibiotic resistant and virulence genes were: 8/ (%100) 8salmonella isolates harboured *invA* gene while *bla<sub>TEM</sub>* gene, tetA and virulence genes (*sopB* and *stn*) were detected with percentage 50% in each. All salmonella serovars in this study showed highest resistance to Erythromycin and Ciprofloxacin. Analysis Class 1 integron was detected in 65 % of Salmonella serovars. **CONCLUSION:** the salmonella isolates in chicken developed multi drug resistant patterns which may have severe risk on poultry industry and human health and we need to develop more protocols to control salmonella either by developing new antimicrobial agents, vaccines and hygienic measures. Further investigation to the mutation in the gene sequence needed to understand the causes of resistant development in the isolates.

**GPSH-39: ENDOTHELIAL NITRIC OXIDE SYNTHASE (eNOS) GENE POLYMORPHISM (G894T) IN TYPE 2 DIABETIC PATIENTS ATTENDING SUEZ CANAL UNIVERSITY HOSPITAL IN ISMAILIA CITY**Jaaman M.A.,<sup>1</sup> AbdelMoneim S.M.,<sup>1</sup> Sabek N.A.,<sup>1</sup> El-Abaseri T.B.,<sup>1</sup> and Omar S.A.<sup>2</sup><sup>1</sup> Suez Canal University, Faculty of Medicine, Medical Biochemistry Dpartements. Round Road, Ismailia 41111, Egypt<sup>2</sup> Suez Canal University, Faculty of Medicine, Internal Medicine Department. Round Road, Ismailia 41111, Egypt**ABSTRACT**

**INTRODUCTION:** Over 515 million people live with type 2 diabetes mellitus (T2DM) across the world and 7 million of those people live in Egypt in the year 2015. The factors driving this pandemic are not only related to environment and lifestyle; genetic factors influence people's risk of developing T2DM. Increasing interest has been detected toward the role of endothelial nitric oxide synthase (eNOS) gene polymorphism in the pathogenesis of T2DM. eNOS gene polymorphisms have been reported as a significant T2DM risk factor. eNOS gene knock out mice have also provided evidence for the role of the eNOS gene in T2DM with eNOS knockout mice reported to become insulin resistant and have reduced (40%) insulin stimulated uptake of glucose. **OBJECTIVES:** 1. To asses the frequency of endothelial nitric oxide synthase (eNOS) G894T gene polymorphism in patients with Type 2 diabetes resident in Ismailia city. 2. To determine the association between endothelial nitric oxide synthase (eNOS) G894T gene polymorphism and T2D risk factors. **METHODS:** Case control study was conducted on seventy six Egyptian patients with T2DM and on seventy six age and gender-matched non diabetic control subjects in Ismailia City. Genotyping and allele frequencies were determined by PCR-RFLP. Fasting blood glucose and lipid profile levels were determined spectrophotometrically, Serum insulin and Nitric oxide concentrations were determined by ELISA. **RESULTS:** Among the 152 subjects, the lowest serum nitrate was observed in the patients with T2DM compared with the control group. The T allele of SNP (G894T) in the endothelial nitric oxide synthase gene was found to be associated with T2DM (odds ratio = 1.77; 95% CI: 1.0583 – 2.9526; P = 0.020). The significant association of T allele (GT+TT) of this SNP with higher insulin resistance, fasting blood glucose and triacylglycerol levels and lower  $\beta$ -cell of Langerhans activity, nitrate levels was confirmed in diabetic patients in comparison with healthy controls. **CONCLUSION:** In conclusion, the present study indicates that, G894T SNP in endothelial nitric oxide synthase (eNOS) gene is associated with T2DM. It also demonstrates that eNOS (T) allele increase the risk of developing T2DM.

**KEYWORDS**

T2DM,  
eNOS,  
Gene Polymorphism

## GPSH-41: ISOLATION, IDENTIFICATION AND ANTIBIOTIC RESISTANCE OF AVIAN PATHOGENIC ESCHERCHIA COLI IN BROILER AND LAYER CHICKEN AT ISMAILIA GOVERNEORATE

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### ABSTRACT

**Introduction:** Avian pathogenic E.coli infection is responsible for great economic losses to poultry industry, so the study was conducted to isolate and identify E. coli from broilers and layers from different chicken flocks and antimicrobial susceptibility of these isolates. **Objectives:** Investigate the prevalence and incidence of APEC from different broiler and layers chicken diseased flocks ,serotyping and antibiogram of these isolates. **Methods:** Sample collected from (61) broiler flocks and (11) layer flocks moribund and/ freshly dead from different farms in Ismailia Provinces between July 2014and september 2016 from different organs (liver, heart, lung, air sac, spleen, yolk sac) and cloacal swabs according to lesion. All cases were subjected to post-mortem, bacteriological examination , biochemical and some of them to serological and antimicrobial susceptibility analysis by disc diffusion method using multiple antibiotic discs. **Results:** Escherichia coli isolated from colibacillosis diseased Flocks( broiler (307) and layer ( 104)) from different organs, bird suffering from Fever ,greenish diarrhea, ruffled feather, respiratory sound and at post-mortem examination Casiated material on air sac, liver, and heart, congestion lung, Inflamed kidney engorged with urates .Increased mortality rate and drop egg production at farm suffered from colibacillosis. E.coli isolates (10 ) were characterized for O sero-groups into O125(4),O1 (2),O148(2) and finally untyped(2).Isolates displayed resistant to streptomycin (85%),Ampicillin(80%),Gentamycin(77.5%),Tetracyclin(72.5%)and Sulpha methoxazole-trimethoprim(72.5%),although sensitive to Colistin sulphate (87.5%),Ciprofloxacin (62.5%) and Doxicillin(60%). **Conclusion:** The present study highlights the prevalence of avian pathogenic E.coli among broiler and layer diseased flocks which cause higher economic losses among theses flocks ,also provide evidence for significant antimicrobial resistance of E. coli isolates due to miss usage of antibiotics.

### KEYWORDS

E.coli,  
Antibiotic resistance,  
Serotype,  
chicken

## GPSF-42: CHEMICAL AND BIOLOGICAL STUDIES ON SOME 1,2,4-TRIAZOLE DERIVATIVES

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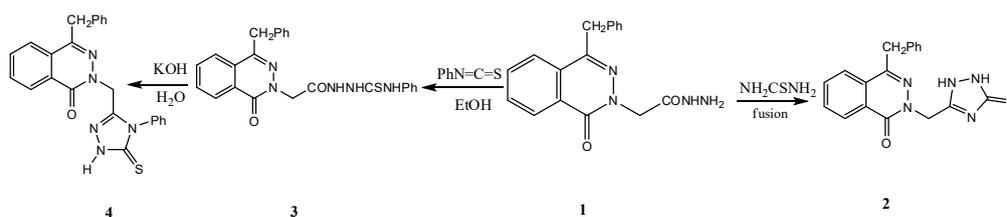
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## ABSTRACT

**INTRODUCTION:** 1,2,4-triazole derivatives are regarded as a promising class of bioactive heterocyclic compounds that exhibit a range of biological activities like anti-microbial, anti-viral, anti-diabetic, anti-cancer activity, anti-oxidant, anti-proliferative, anti-HIV, anti-convulsant, anti-inflammatory, etc. **OBJECTIVES:** Synthesis of new 1,2,4-triazole derivatives and evaluation their activity towards tumor cells. **METHODS:** Hydrazone **1** was cyclized to dihydro-1,2,4-triazole-3-thione **2** by fusion with thiourea. Stirring of hydrazone **1** with phenyl isothiocyanate in absolute ethanol led to formation of 4-phenyl-thiosemicarbazide **3** which was cyclized to 4-phenyl-1,2,4-triazol-3-thione **4** by treating with aq. KOH. The chemical structures were confirmed by spectroscopic analysis and evaluated for anticancer activity on human cancer cell line. **RESULTS:** The structures were confirmed by spectral analysis which showed the characteristic signals. 4-phenyl-thiosemicarbazide **3** and 4-phenyl-1,2,4-triazol-3-thione **4** showed a significant antitumor activity against HEPG-2 liver cancer cells.

## KEYWORDS

Anti-cancer  
 Triazole derivatives  
 Biological activity



**CONCLUSION:** In conclusion, 4-phenyl-thiosemicarbazide **3** and 4-phenyl-1,2,4-triazol-3-thione **4** showed strong activity towards the HEPG-2 liver cancer cells which make them a promising leads and possible drugs with further investigations.

## GPSF-43: SYNTHESIS OF NEW GALACTOSIDES WITH POTENTIAL ANTICANCER ACTIVITY

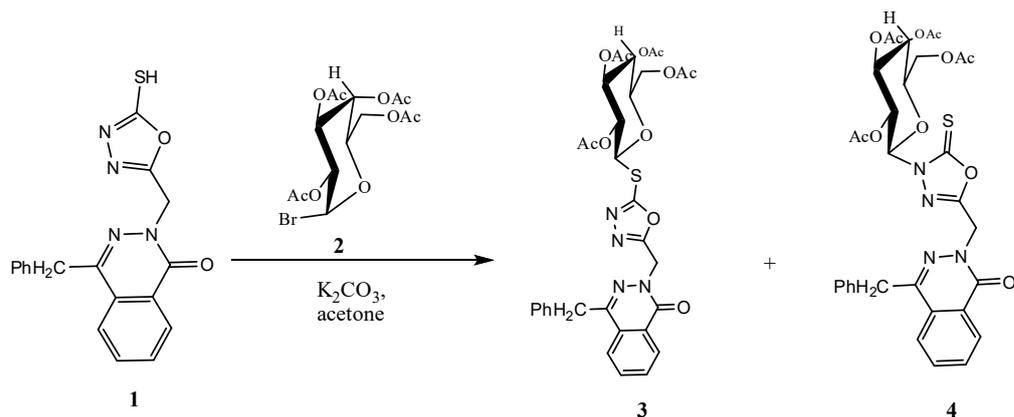
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## ABSTRACT

**INTRODUCTION:** 1,3,4-Oxadiazole glycosides have attracted wide attention due to their useful biological properties including anti-bacterial, anti-viral, anti-fungal, anti-cancer, anti-tumor, anti-inflammatory, anti-hypertensive, anti-convulsant and anti-diabetic properties. **OBJECTIVES:** Synthesis of new oxadiazole galactosides and evaluation their activity towards tumor cells. **METHODS:** Acetobromogalactose **2** (1.1 mmol) was added to a well stirred mixture of 1,3,4-oxadiazolethione **1** (1.0 mmol) and  $K_2CO_3$  (1.1 mmol) in acetone for 24 hrs. the formed galactosides were separated using column chromatography. The chemical structures were confirmed by spectroscopic analysis and evaluated for anti-cancer activity on human cancer cell line. **RESULTS:** Galactosylation of the oxadiazolethione was done in the presence of  $K_2CO_3$  as a base to afford a mixture of *S*- and *N*-galactosides. the structures were confirmed by NMR spectra which showed the characteristic signals. The galactosides **3** and **4** showed a significant antitumor activity against HEPG-2 liver cancer cells.

## KEYWORDS

Galactosides,  
Anti-cancer,  
Oxadiazole

**CONCLUSION:** In conclusion, the two galactosides **3** and **4** showed strong activity towards the HEPG-2 liver cancer cells which make them a promising leads and possible drugs with further investigations.

## GPSF-45: NEW FLUORESCENT PROBE FOR DETECTION OF GLUTATHIONE

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**ABSTRACT**

**Introduction:** The ubiquitous tri-peptide glutathione (GSH) occurs in most plants and bacteria as well as in animals in concentrations ranging from 0.1 - 10mM. Many studies have shown that glutathione plays a crucial role in the function of the immune system and the severity of many diseases, including cystic fibrosis, influenza and AIDS. The level of glutathione in the body can be decreased in the presence of free radicals. Depletion of GSH is associated with rheumatoid arthritis, Werner syndrome, muscular dystrophy and crohn's disease. Glutathione seems to prevent many of the detrimental effects of such conditions as tuberculosis, HIV, and cancers. **Objectives:** To assess the concentration of glutathione (GSH) using relatively rapid, reliable, sensitive and simple method. **Methods:** Using fluorescent dye by measuring the variation in the intensity of the fluorescence of the dye with the concentration of the studied analyte (GSH) using visible and emission spectra. **Results:** The interaction of  $10^{-4}$  mol/L-1 of fluorescein with glutathione (GSH) in aqueous medium in the concentration range from  $2 \times 10^{-4}$  to  $5.20 \times 10^{-4}$  mol L<sup>-1</sup>, and in Tris-HCl buffer (pH =7.4) keeping the concentration of GSH in the range  $8.4 \times 10^{-4}$  to  $1.23 \times 10^{-3}$  mol L<sup>-1</sup>. The data are fitted in stern-Volmer equation where the quenching constant values are  $7.08 \times 10^3$  and  $6.93 \times 10^3$  mol<sup>-1</sup>L respectively. The limit of detection of GSH are calculated from the slope the calibration straight line ( $3\sigma/\text{slope}$ ), where they are  $1.01 \times 10^{-5}$  and  $1.59 \times 10^{-4}$  mol<sup>-1</sup>L in aqueous medium and in Tris-HCl buffer (pH =7.4) respectively. The binding constant values between GSH and fluorescein dye are calculated using Line Weaver-Burk equation and they are found to be  $1.68 \times 10^9$ . **Conclusion:** Fluorescein dye can be used as fluorescent probe for detection of GSH, where the interaction of GSH with the probe is accompanied by quenching of the fluorescence intensity of the dye. The probe can detect very low concentrations of the analyte (GSH) around the order of  $10^{-5}$  mol L<sup>-1</sup>.

**KEYWORDS**

Glutathione,  
Fluorescence-,  
UV/Vis.,  
Fluorescent dye

**GPSH-46: CARBAPENEM-RESISTENT GREM-NEGATIVE PATHOGENS HARBOR KLEBSIELLA PNEUMONIAE CARBAPENEMASE (KPC)**

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**INTRODUCTION:** The potent antibiotic Carbapenem considered as the last line treatment of nosocomial infections. Increasing resistance to this class of  $\beta$ -Lactam leaves health care units with less effective antibiotics choices, leading to significant morbidity and mortality. Gram-negative rods are becoming a serious hazard in hospitals and long-term care facilities. The recent worldwide emergence of resistance to carbapenem in Enterobacteriaceae launches increasing public health threat. **OBJECTIVES:** This study aims to investigate emergence and characterization of Carbapenem resistant pathogens in healthcare-associated infections in Egypt. **METHODS:** A total of 208 clinical isolates were isolated from various clinical samples (blood, urine, pus, sputum, stool, wound, endotracheal tube, cerebrospinal fluid) from patients admitted in Ain Shams university specialized and Wadi El-Neel hospitals, between a period from November 2015 to November 2016. These isolates were screened for carbapenem resistance by culturing on MacConkey agar supplemented with 2 $\mu$ g/ml of Imipenem. species were identified by biochemical tests and confirmed by 16S rDNA gene sequencing. The antimicrobial susceptibility tests performed by disk diffusion method and the MIC breakpoints were determined. Resistant isolates were screened for carbapenemases production using the Modified Hodge Test (MHT) and for metallo- $\beta$ -lactamase (MBL) production by the EDTA combined disk test (CDT). Genotypic detection of the bla KPC and bla GES genes were performed by PCR assay. **RESULTS:** The carbapenem resistant isolates constitute (36.1%). The most prevalent isolated species were Klebsiella sp. (40.9%) followed by Acinetobacter sp. (18.8%), Pseudomonas sp. (17.3%), E.coli (15.4%), Enterobacter sp. (5.3%) and Proteus sp. (2.4%). The MHT showed positive result in 54.7% of resistant isolates and CDT test showed 42% positive results. PCR amplification revealed that 44% of positive MHT carbapenem resistant isolates were harboring bla KPC gene and 37% of these isolates were positive bla GES gene. **CONCLUSION:** Multidrug resistance characterized the studied isolates. The spread of carbapenem-resistant strains in our hospitals has serious health consequences and requires the application of strict infection control measures.

**KEYWORDS**

Carbapenem resistance,  
carbapenemases,  
bla KPC gene,  
Klebsiella pneumonia



### GPSF-48: EFFECT OF MEDIUM TYPES AND BAP ON PONYTAIL PALM (BEAUCARNEA RECURVAT) MICROPROPAGATION DURING MULTIPLICATION STAGE

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#### ABSTRACT

Ponytail palm (*Beaucarnea recurvat.* family Agavacea) is one of the most important plants in the internal and external coordination. This study was carried out in tissue culture laboratory in Horticulture Department, Agriculture Faculty, Suez Canal University, Ismailia during the period 2013 – 2015, to study the effect of medium type (MS, B5 and WPM) and cytokinin (BAP at 0 , 0.2 , 0.4 , 0.6 mg/l) during multiplication stage, in a complete randomized design. The Shoot Tip were collected from Plant already planted tissue culture technology on MS media. In B5 medium supplemented with 0.4 mg/l Benzyl amino purine (BAP) increased number of shoots (3.40) and increased number of Leaves (24) in B5 medium compared with other medium treatments. The B5 media is preferable within mass production and Featured commercial. The BAP Concentration 0.4 mg/l promotes shoot initiation and development either with B5 media more than MS and WPM.

#### KEYWORDS

Ponytail palm,  
Beaucarnea recurvat.,  
Tissue culture,  
micropropagation,  
BAP,  
medium type



## GPSF-51: BIOPIGMENT PRODUCTION BY ROCK INHABITING ACTINOMYCETES

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## KEYWORDS

Biopigment-,  
Microbial pigments,  
Rock actinomycetes,  
Biopigment applica-  
tions,  
Pigment production,  
optimization

## ABSTRACT

**Introduction:** Colors provide attracting appearance to different products in our life; synthetic pigments are documented to be toxic, carcinogenic, non-environment friendly and energy consumers. Biopigments are a promising alternative they are extracted from biological origin; plants or microorganisms; they may be exploited in everyday uses such as foods, textile industry and in therapeutics. Biopigments are safe, eco-friendly and renewable. **Objectives:** The current study was initiated to investigate the ability of actinomycetes isolated from harsh environment to produce pigment. **Methods:** Fifty-six rock inhabiting actinomycetes isolates were screened on 4 different media known to support pigment production (ISP5- starch casein- R2A and starch casein 1/10). Only 24 isolates of them showed an ability to produce diffusible pigment on the four types of the tested media. These isolates were cultured on starch casein broth medium. The supernatants containing the pigments were filtrated then scanned on spectrophotometer within the visible ranges (400 - 700 nm) to determine the wavelength of each pigment. Based on the scan results, the strongest pigments producer's isolates were selected for investigating the factors affecting the pigment production. The amount of produced pigments were examined at different pH, temperature and carbon sources. **Results:** Results showed that starch casein medium was the most suitable medium for pigment production for 91.6% of the isolates. Twenty-four- isolates produced pigments with various colors such as red, olive green, yellow, canary yellow, brown, reddish brown, orange, violet and pink. According to Vis-Scan, 19 isolates showed the highest absorbance values, those isolates were selected for further study. Temperature, pH and the types of the utilized carbon sources were the most significant agents that affect the pigment production. The optimization of pH showed that isolates produce more pigments towards alkaline conditions, 33.3 % of the isolates produced more pigments with pH 10 and 66.6% showed increases with pH8. The of carbon source optimization showed that starch is the most suitable carbon source for pigment production. The temperature optimization showed variable results towards the different temperatures preliminary results revealed that the best pigment production was achieved at 37°C by all the tested isolates. **Conclusion:** The study revealed that actinomycetes inhabiting rocks are a valuable source for biopigments production.



**GPSF-52: COMPARATIVE ANALYSIS OF SOIL, GROUNDWATER AND ENDOPHYTIC ACTINOBACTERIA ASSOCIATED WITH ARTIMISIA HERBA ALBA**

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**Introduction:** Endophytic actinobacteria have attracted attention for production of natural products including, antibiotics, plant growth promoters and enzymes. The potential to produce active secondary metabolites is linked to polyketide synthase (PKS) and nonribosomal peptide synthetase (NRPS) genes. Since endophytes have to compete in the rhizosphere before entering the plant and to be adapted to the plant environment, their metabolic potential may differ from that of free-living microorganisms, making them a rich source of metabolites. **OBJECTIVES:** This work aimed to study the uniqueness of endophytic actinobacteria, previously isolated from *Artemisia herba alba* in South Sinai, compared to those isolated from surrounding soil and groundwater. The study was focused on both phylogeny and biosynthetic capacity of the strains. **METHODS:** The actinobacteria were identified using standard chemotaxonomy methods. All strains were tested for production of cellulases, lipases, indole acetic acid, phosphatases and siderophores, using standard plate assay methods. They were tested for antimicrobial activity against clinical cultures of *E.coli*, *Staphylococcus aureus*, *Candida albicans*, using Disk Diffusion method. Genomic DNA was isolated, from 15, 10 & 17 strains from soil, groundwater and plant tissues, respectively, using salting out method, with modifications. Taxonomic position was confirmed by 16SrDNA analysis, using the universal primers 27f and 1522r. Biosynthetic capacity of selected isolates was investigated by detecting (PKS-I) and (NRPS) genes using primers sets (K1F&M6R) and (A3F&A7R), respectively. **RESULTS:** Soil strains belonged to genera *Streptomyces*, *Kitasatospora*, groundwater strains belonged to *Micromonospora*, *Kitasatospora*, *Micromonospora* and endophytes were *Micromonospora*, *Nocardiopsis*, *Streptomyces*. The physiological activities of endophytic strains were higher than those from soil and ground water. Most of the endophytic strains showed high antimicrobial activity against the tested pathogens, in particular *Staphylococcus aureus* and *Candida albicans*. PKS-I and NRPS genes were highly represented in the endophytes (35% & 47% of strains, respectively), compared to the other two habitats. **CONCLUSION:** The endophytic strains are suggested to host a higher number of gene clusters encoding for secondary metabolites, in particular NRPS and other metabolites than the free-living actinobacteria in the surrounding soil and water. This study indicates the uniqueness of actinobacteria strains inhabiting internal tissues of *Artemisia herba alba*.

**KEYWORDS**

Actinobacteria,

Endophytes,

PKS-I,

NRPS



## GPSF-53: BIOTREATMENT OF OIL-RICH WASTEWATER USING ACTINOMYCETES

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**ABSTRACT**

**Introduction:** Wastewater treatment systems receiving high lipid content in Egypt usually suffer from several operational problems. Biological treatment has been found to be the most efficient method for removing oil and grease by degrading them into miscible molecules. **Objectives:** Purpose of the present study was to evaluate a consortium of actinomycetes for biotreatment of lipid rich wastewater. **Methods:** Screening of 40 isolates of actinomycetes that is capable of producing lipases, using agar plates supplemented with tributyrine. Phylogenetic identification of five most effective isolates was performed using the universal primers 27f & 1522r. The selected individual isolates and their consortium were tested for treatment of high fat and oil wastewater at batch experiment. Biodegradation of lipids at microcosm scale was investigated by attaching the developed actinomycete consortium on microcosm carrier media. At 10 day intervals, water samples were collected from the microcosm and analysed for oil content using Partition Gravimetric method. **Results:** Results indicated high lipolytic activity of five isolates, that all were confirmed as *Streptomyces* spp. by phylogenetic analysis. The consortium, growing in olive mill wastewater in batch experiment, showed 53 % oil reduction after 7 days; while individual strains showed less removal abilities. Efficient oil removal could be achieved by the attached actinomycete growth in the microcosm (57% removal) after 10 days. **Conclusion:** Selected actinomycete strains successfully lowered the load in oil-rich wastewater up to 57 %. A consortium of these actinomycete strains can be applied for designing biotreatment processes for industrial effluents that are rich in oils.

**KEYWORDS**

Oil-rich wastewater,  
Biodegradation,  
Actinomycetes,  
Lipase

**GPSF-54: INFLUENCE OF INULIN ON PHYSICOCHEMICAL, RHEOLOGY AND ORGANOLEPTIC PROPERTIES OF SET YOGHURT**

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**Introduction:** Recently, the relationship between fat milk consumption and heart diseases has been discovered, and the reduction of dietary animal fat has been recommended by nutritionists. Low- calories with enhancing the organoleptic properties of yoghurt or low-fat dairy products have been available in EU or USA. **Objectives:** To improve the low fat yoghurt product by using inulin, which decrease the colorific value of food. **Methods:** The experimental design was performed to compare full-fat (5.5%) yoghurt and five samples of 1% fat without or with (0, 1, 2, 3 and 4) inulin. Total acidity, pH, lactose, acetaldehyde, diacetyl, syneresis, rheology and organoleptic and other chemical analysed when fresh and during 14 days of cold storage. **Results:** The total solids of yoghurt samples were significantly reduced as a result of skimmed process. Addition of inulin stimulated acetaldehyde and diacetyl formals and the samples 1% and 2% inulin had the lowest syneresis. The use of inulin in low fat yoghurt formulation increased the viscosity of the product, consistency, and yield stress values. Hardness of yoghurt samples was enhanced not by inulin addition as prebiotic but also by the progressive of storage period. Generally, the total acceptability of different treatments was good. The panelists found that sample made with 2% inulin received the highest total acceptability. **Conclusion:** From the obtained results, adding inulin to low fat yoghurt 1% fat at level 2% get higher acceptability. Using higher ratio of inulin in low fat yoghurt making led to unsatisfactory quality.

**KEYWORDS**

Yoghurt,  
Inulin-Low fat,  
Syneresis,  
Rheology properties

## GPSF-61: REMOVAL OF CADMIUM AND LEAD FROM WATER USING HUMIC ACID

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The distribution and fate of heavy metal pollutants in aqueous solution is strongly influenced by the presence of natural organic material. They are present in aqueous systems and can exist either in solution or as a precipitate mixed with sediments. Important characteristics of humic acid form water-insoluble complexes with metal ions and sediments or suspended particulates. The aim of this study remediation of water contaminated cadmium and lead by using humic acid. The extract of the humic acid was achieved from compost which present in Sharkia government is from plant residues. The obtained humic acid was characterized using Fourier transform infrared (FTIR), Scanning electron microscopy and the elemental analysis (C, H, N, S and O %). Adsorption capacities of humic acid towards the different concentration of Cd (II) and Pb (II). The effect of pH, metal concentration and ionic strength was evaluated and discussed. The obtained data go well with previous work. The concentration of metal ions was followed by using the atomic absorption Spectrometer (AAS) technique. The ash content of the humic acid was measured by muffle furnace at 500°C for two hours 0.16%. Adsorption of metal ion on humic acid at pH = 6 is greater than pH= 4. The high sorption efficiency for Cd (II) and Pb (II) at pH= 6 are 92.25% and 99.02% respectively, Mean while at pH=4 for are 63.49% and 84.93% respectively. The hydrated humic acid appears to be significantly more reactive than the dried humic acid, Pb<sup>2+</sup> ions bond strongly to humic acid more than Cd<sup>2+</sup>.

**KEYWORDS**

Cadmium,  
Lead ,  
Humic acid



**GPSF-63: FABRICATION OF GRAPHENE/CARBON NANO TUBES NANO COMPOSITES FOR ORGANIC SOLAR CELL APPLICATIONS**

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**ABSTRACT**

**Introduction:** Recently, the composites of graphene with carbon nanotubes attract the attention because of their large specific surface area and excellent electrical conductivity. Getting the benefits of their excellent electronic characterizations to fabricate organic solar cells, electrode materials, and heat transfer management of battery backs. **Objectives:** A systematic study of structural, morphological and thermal behavior of G/CNTs nanocomposites was established. **Methods:** Modified Hummer method was used to prepare GO nano sheets, and hydrothermal technique was used to synthesis different concentrations (2, 5, 10, and 15Wt%) of CNTs/graphene. **Results:** XRD patterns for graphene, showed abroad (002) reflection. With increasing the concentration of CNT up to 15%, the sharpness and intensity of the peaks increase which reflects the enhancement in the crystallinity. The diffusion of charge carriers from the hot side to the cold side is responsible for the generated potential. The values of Seebeck coefficient was  $0.022 \times 10^{-6}$ ,  $2.9 \times 10^{-6}$ ,  $4.6 \times 10^{-6}$ , and respectively for the concentrations of 0Wt%, 1Wt%, and 10Wt% respectively. **Conclusion:** different concentration of CNTs/graphene were synthesized using hydrothermal method. A forest like shape was observed for higher CNTs concentrations. The increase in Seebeck coefficient with increasing the concentration of CNTs is related to the intrinsic properties of strong Sp<sup>2</sup> hyperdization.

**KEYWORDS**

Carbon nanotube,  
Graphene nanocomposites,  
Thermoelectric-power

## GPSH-69: HEPATITIS B AND C INFECTIONS AMONG HAEMODIALYSIS PATIENTS IN ISMAILIA GOVERNORATE, EGYPT

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### ABSTRACT

**INTRODUCTION:** Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) infections are serious viral diseases that affect human in Egypt. Infection with both viruses is very high in patients receiving maintenance hemodialysis (HD) than the general population because of the high number of blood transfusion sessions and the potential for exposure to contaminated HD machines. These two viral infections are important causes of morbidity and mortality in HD-patients and constitute problems in the management of the patients in the renal dialysis units. In addition, patients with HBV/HCV co-infection have a higher risk of progression to cirrhosis and decompensated liver disease with an increased risk of hepatocellular carcinoma (HCC). **OBJECTIVES:** Since the prevalence of HBV and HCV infection among HD-patients is highly variable, this study aimed to estimate the prevalence of HBV, HCV and HBV/HCV co-infection in HD-patients in Ismailia governorate. Furthermore, to find out the impact of HCV on the HBV infection in HD-patients, if any. **METHODS:** The present study is conducted on 150 HD-patients' serum attending the main HD-units in Ismailia governorate: Suez Canal University Teaching Hospital, General Hospital and Suez Canal Authority Hospital. The samples collection continued from January 2015 to January 2016. The serological assessment was done as follows: Serum IgG antibodies for HCV were detected by indirect ELISA technique using AccuDiag™ HCV-Ab ELISA kit, Cat.No.1707-12, supplied by Diagnostic Automation/Cortez Diagnostics, Inc. Meanwhile, Serum HBV surface antigen (HBsAg) were detected by sandwich ELISA technique using DIAsource HBsAg ELISA kit, Cat.No.#KAPG4SGE3, supplied by DIAsource ImmunoAssays SA, Inc. Both ELISA tests were done according to manufacturer's instructions. On the other hand, HBV viral load (copies/mL) was measured using real-time polymerase chain reaction (RT-PCR), using the commercially available Artus HBV RG RT-PCR Kit, Cat.No.4506263, Supplied by Qiagen. **RESULTS:** The study population comprised of 150 HD-patients, 79 males (52.7 %) and 71 females (47.3%). Their ages arranged between 10 and 70 years [mean  $\pm$  SD: (46.7  $\pm$  11.45) years]. Out of 150 patients, 39 were positive for only anti-HCV (26%), 14 patients were positive for HBsAg (9.3%) and dual infection was observed in another three patients (2%). The mean of HBV viral load in HD-patients with HCV infection was 4578999 copies/mL, whereas it was 2683504 copies/mL in those without HCV infection. There was a non-significant difference between the HD-patients with and without HCV infection regarding the HBV viral load [P-value=0.36]. **CONCLUSION:** HCV infection was the most prevalent one representing about 26 %, the HBV infection was less prevalent than HCV representing 9.3%, and the dual infection was rare representing only 2% of the studied HD-patients in Ismailia governorate. In addition, there was a non-significant difference of both HBV incidence and viral load (copies/mL) between the studied HD-patients with and without HCV infection [P-value=0.36]. Thereby, HCV did not have a significant impact on HBV infection in the studied HD-patients.

### KEYWORDS

Hemodialysis,  
Hepatitis B virus,  
Hepatitis C virus,  
Egypt



**GPXF-70: THE POTENTIAL OF THE SECONDARY METABOLITES FROM ENDO-PHYTIC ACTINOMYCETES IN CONTROLLING SPODOPTERA LITTORALIS**

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**ABSTRACT**

**INTRODUCTION:** Egyptian cotton leafworm, *Spodoptera littoralis* is a polyphagous cosmopolitan pest that attacks more than 112 economically host plants in Egypt, by feeding gregariously on their shoot system, causing large economic losses. It is currently controlled *via* the use of many agrochemicals, which have negative impacts on the ecosystem, human health and thus alternative tactics are urgently needed. Recently, many reports demonstrated the potential of using the secondary metabolites of actinomycetes, especially genus *Streptomyces*, as biological alternatives for controlling insect pests. Amongst these, endophytic actinomycetes that still considered as untapped source of novel bioactive natural products for exploitation in agriculture compared to other microorganisms. **OBJECTIVES:** The present study aims to investigate the efficiency of certain endophytic actinomycete secondary metabolites in controlling *S. littoralis*. **METHODS:** Under laboratory conditions, the efficiency of 70 strains of endophytic actinomycetes against laboratory and field cultures of *S. littoralis* (4<sup>th</sup> instar) was tested, using leaf dipping technique at concentrations of 0.6, 6, 60, 100 mg/ml. Selected strains were tested for production of chitinase, lipase, amylase, indole acetic acid, phosphatase and siderophores. Promising strains were identified using standard microscopic and chemotaxonomy methods. **RESULTS:** Results indicated high potency for seven strains at concentration of 100 mg/ml that all belonged to *Streptomyces* spp. and were originally recovered from the compositae host plants *Seriphidium herba-album* and *Artemisia Judaica*. Bioactivity of the metabolic extracts ranged between direct toxicity on the 2<sup>nd</sup> day of feeding to latent effects that appeared from the 6<sup>th</sup> day on the field strain. Six promising strains showed lipase and amylase production while five strains produced chitinase. **CONCLUSION:** Seven endophytic actinomycete strains are promising source for novel biocontrol agents against *S. littoralis*. The investigation of the active principles responsible for biological activity is under progress.

**KEYWORDS**

Endophytic actinomycetes,

2ry metabolites,

Bioactivity,

Spodoptera littoralis

**GPSI-74: REMOVAL OF ORGANIC MATTER FROM OLIVE MILL WASTEWATER USING COAGULATION**

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**ABSTRACT**

**INTRODUCTION:** Olive oil industry has an economic importance for many Mediterranean countries which produce about 97% of olive oil demand in the world. As the demand of olive oil is rapidly increasing worldwide, environmental pollution posed by olive mill wastewater (OMW) is a growing problem because it contains high amounts of organic materials. They are composed of many complex substances that are not easily degradable and toxics. OMW requires special treatment to lower the levels of COD, phenols, oil and grease. That can be achieved by using a single technique or combined processes such as physical, chemical and biological treatment. This study is focused on the primary treatment of OMW by using chemical coagulation. **OBJECTIVES:** The purpose of the present study was to reduce the organic load in OMW by using different types of coagulants also, it aimed to study the factors which affect the coagulation process, such as PH, mixing time, heat and sedimentation time. **METHODS:** OMW was collected from Al-Fayrouze Olive Mill at El-Aresh, North Sinai, Egypt. Coagulation experiments were carried out, using doses between 0.5 to 3gm/100ml of the coagulants alum, lime, ferric chloride and cement dust. Samples were collected for analysis, according to the standard methods. Chemical oxygen demand was measured by spectrophotometer at 600nm. PH, turbidity and color were recorded using digital meters. **RESULTS:** COD removal was most effective (47%) at concentration 2g/100ml of Aluminum sulfate and (42%) for ferric chloride. While cement dust gave significantly low removal of COD. Turbidity and color were removed efficiently (38% and 44%, respectively), using aluminum sulfate at concentration 1gm/100ml and 2gm/100ml, respectively. **CONCLUSION:** Aluminum sulfate was the best to remove the color where removal ratio reached (44%) at concentration 2g/100ml. It should be investigated at pilot scale, as a pre-treatment stage, to reduce the organic load in olive mill wastewater, prior to treatment.

**KEYWORDS**

Treatment,  
Wastewater,  
Coagulation,  
Olive mill



**GPSF-76: BIOACTIVITIES OF ACTINOMYCETES ISOLATED FROM GROUNDWATER IN SOUTH SINAI**

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**ABSTRACT**

**INTRODUCTION:** Actinomycetes are economically and biotechnologically important microorganisms. A wide range of important secondary metabolites, including antibiotics, herbicides, enzymes and growth promoting substances, are produced by several members of the actinomycetes. There are more than 22,000 known microbial secondary metabolites, 70% of which are produced by actinomycetes. Other compounds described are bioactive compounds with pharmacological activity (pheromones, toxins, enzyme inhibitors, receptors and immunological modulators), and other industrially relevant properties (pigments and surfactants). **OBJECTIVES:** This study aims to explore actinomycetes isolated from groundwater at South Sinai for production of bioactive natural products. **METHODS:** A total of 40 isolates of actinomycetes were recovered from groundwater in south Sinai. The strains were identified using standard microscopic and chemotaxonomy methods. All isolates were tested for antimicrobial activity against reference and clinical cultures of *E.coli*, *Staphylococcus aureus*, *Candida albicans*, *E.coli* ATCC 25922, *Staphylococcus aureus* ATCC 25923, *Salmonella typhimurium* ATCC 14028, *Bacillus subtilis* ATCC 6633 and *Candida albicans* ATCC 10231. Primary screening was done by using Agar cross streak method and secondary screening was done by using Disk diffusion method. Also all isolates were tested for extracellular biosurfactant activity by using Oil displacement method and Emulsification index. **RESULTS:** Thirty three isolates were active against at least one of the tested organisms. The highly active isolates were identified as genera *Streptomyces*, *Microbispora*, *Nocardiosis*, *Fenia*, *Kitasatospora*, *Micromonospora* and *Actinomadura*. Only one isolate (*Streptomyces* sp.) showed broad spectrum activity against all the eight tested microbes. Twenty six isolates showed biosurfactant activity; these belonged to the genera *Streptomyces*, *Microbispora*, *Nocardiosis*, *Fenia*, *Kitasatospora* and *Micromonospora*, the isolate which has the highest emulsification index is belonged to the genera *Streptomyces* and its ( $E_{24}$ ) value is 216 %. **CONCLUSION:** Results revealed that the groundwater actinomycetes could be a promising source of bioactive compounds. Most of the active actinomycetes belonged to *Streptomyces* and *Microbispora* spp. The present study suggests further investigations for the chemical nature of the metabolites produced by groundwater actinomycetes and encourage for further investigations on their novelty.

**KEYWORDS**

Actinomycetes,  
Groundwater,  
Antimicrobial activity,  
Biosurfactants



## GPSI-78: PERFORMANCE ANALYSIS OF TRADITIONAL AND SAC-OCDMA RECEIVERS

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**Introduction:** Optical code division multiple access (OCDMA) systems are considered the most recent multiple access technique in optical communication networks; supporting a high number of subscribers in an asynchronous mode and providing an increased level of security. Recent trends of is devoted to enhance the system performance through investigation of new code families or developing new transmitter and receiver architectures. **Objectives:** The paper compares performance of traditional and spectral amplitude coding (SAC) OCDMA receivers utilizing different code families complied with each receiver. The efforts in the former direction attempt to investigate new codes with good cross-correlation. The latter approach adopts new receiver configurations to minimize the effect of MAI. Three code with different properties have been examined through this study including multi-diagonal code (MD), random-diagonal (RD), and Hadamard code (HC). **Methods:** The bit error probability computed mathematically for the traditional receiver employing RD or MD codes while HC for the SAC schemes. Several noise sources are considered in the analysis; thermal, shot, and phase-induced intensity noise (PIIN). Effect of several system parameters is included in the analysis. In addition, a simulation program Optisystem12 carried out for the two receivers. The performance is analyzed by mathematical and simulation models using MATLAB and simulator, respectively. **Results:** The theoretical results show that the performance of the traditional OCDMA receivers with MD codes is superior to the SAC receiver. The simulation results confirm the mathematical analysis. **Conclusion:** The performance analysis of OCDMA with two receiver configurations employing related codes is carried out. Traditional receiver with MD can support a large number of users due to the zero cross-correlation property associated with such a code.

**KEYWORDS**

Optical code division,  
multiple access,  
Multi-Diagonal code

**FPSF-79: A NOVEL LUMINESCENT TERBIUM-PIPERAZINE-1,4-DIYLBIS ((3-ALLYL-2-HYDROXYPHENYL) METHANONE) FOR FLUORESCENCE SENSING OF DICHLORVOS**

ANWAR Z.M. , IBRAHIM I.A. , MOHAMED A.E. , BAIUOMY M.S.

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**ABSTRACT**

**INTRODUCTION:** Environmental pollution by organic chemicals is one of the world's main challenges to sustainable development. Many of these organic compounds enter the environment and cause air, water, and soil dessecration. Pesticide exposition can cause a variety of adverse health effects, ranging from simple agitation of the skin and eyes to more severe effects such as affecting the nervous system, simulating hormones causing reproductive problems, and also causing cancer. **OBJECTIVES:** This study aims to search for novel compounds could be used for monitoring of pesticides. **METHODS:** Tb(III)-piperazine-1.4-diylbis((3-allyl-2-hydroxyphenyl)methanone) was tested in solution for fluorescence detecting of Dichlorvos. Luminescence spectra were acquired on a Jasco FP-6300 spectrofluorometer with 150 W xenon lamp source for excitation and quartz cells of 1cm path length. Luminescence was excited at 333 nm and emission was collected at 545nm. The detection of lead has been carried out in ethanol. **RESULTS:** The stoichiometry for the interaction of the ligand with Tb(III) ions was advised to be (1:2). The luminescence intensity of the (Tb(III)-L) probe was quenched. The detection limit of such probe was (0.9  $\mu$ M). **CONCLUSION:** A luminescence-based method for Detecting of Dichlorvos utilizing the Tb-L(1:2) Probe has been developed which impel them a promising probe for determination of Dichlorvos.

**KEYWORDS**

Lead,  
Probe,  
Pesticides,  
Stoichiometry,  
Dichlorvos,  
Luminescence

## FPSF-80: NEW PROBE FOR FLUORESCENCE DETECTION OF LEAD

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**ABSTRACT**

**INTRODUCTION:** Lead is a particularly dangerous chemical. It has been used widely in metal products, cables, pipelines, paints and pesticides. It can cause several unwanted effects, such as: A rise in blood pressure - Kidney damage - Miscarriages and subtle abortions - Disruption of nervous systems - Brain damage - Declined fertility of men through sperm damage - Behavioural disruptions of children, such as aggression, impulsive behavior and hyperactivity moreover lead can enter a foetus through the placenta of the mother, and cause serious damage to the nervous system and the brains of unborn children. **OBJECTIVES:** This study aims to search for new polymeric compounds could be used for monitoring of lead. **METHODS:** Polymethyl methacrylate with Tb(III)-Ethyl3-allyl-2-hydroxybenzoate (PMMA-Tb(III)-L) were examined in solution for fluorescence sensing of lead. The detection of lead has been carried out in methanol. Luminescence spectra were acquired on a Jasco FP-6300 spectrofluorometer with 150 W xenon lamp for excitation. Luminescence was excited at 318 nm for Tb(III)-L and 322 nm for PMMA-Tb(III)-L and emission was collected at 545 nm. **RESULTS:** The nature of the interaction between Tb (PMMA)L, Tb-L Probes and lead has been investigated where the luminescence intensity of the probes is quenched. The experimental results indicate that the probable quenching mechanism is dynamic quenching, the thermodynamic parameters demonstrated that the binding was spontaneous and exothermic process in case of Tb(PMMA)L probe while endothermic in case of Tb-L Probe. The detection limits of such probes with lead were found (0.39 and 0.54  $\mu\text{M}$ ) respectively. **CONCLUSION:** A simple rapid, luminescence-based method for determination of lead using the Tb(PMMA)L and Tb-L Probes has been developed which make them a promising probes for monitoring of lead.

**KEYWORDS**

Polymeric compounds,  
Luminescence spectra,  
Quenching,  
Emission



**FPSI-81: PERFORMANCE ANALYSIS OF WAVELENGTH DIVISION MULTIPLEXING SYSTEMS CONSIDERING NONLINEAR FIBER IMPAIRMENTS**

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**INTRODUCTION:** Wavelength division multiplexing (WDM) systems exploit the enormous bandwidth of the optical fiber efficiently. Each user is assigned a unique wavelength and all users are multiplexed and transmitted simultaneously through the fiber. At receiver, the required signal is demultiplexed and extracted. However, nonlinear effects of the optical fiber have a serious impact on the WDM performance. Four-wave mixing (FWM) and stimulated Raman scattering (SRS) are considered the dominant nonlinear issues. **OBJECTIVES:** In this paper, the performance of WDM system under the impact of FWM, SRS and other noise sources has been investigated. **METHODS:** Mathematical modeling of FWM and SRS in WDM with equal frequency separation is investigated. Q-factor, as a measure of system performance, is computed in terms of transmitted power for the worst affected channels; the central channel for FWM and the first one for SRS. In addition, related simulation experiments of WDM system are carried out by Optisystem-12. **RESULTS:** For long-haul WDM transmission systems, high power is transmitted to achieve the required performance; leading the system to be prone to fiber nonlinearities. The results show that at certain power levels, FWM becomes dominant and deteriorate the system performance seriously. Also, further performance degradation is noticed when the SRS is considered in the analysis. Furthermore, the simulation results confirm that the generated number of FWM products matched with the theoretical formulas. **CONCLUSION:** Analysis of FWM and SRS in WDM communication systems has been examined. Q-factor calculations show that system performance depends not only on FWM noise but also on received signal power affected by SRS. The results confirm that using high dispersion fiber or increasing the frequency spacing can reduce the effect of fiber nonlinearity. Furthermore, the simulation results confirm some aspects of the theoretical investigations.

**KEYWORDS**

Four wave mixing,  
Stimulated Raman,  
scattering

## GPSF-82: ALLELOPATHIC EFFECT OF NEEM (AZADIRACHTA INDICA) LEAF AQUEOUS EXTRACT ON GERMINATION AND GROWTH OF SOME SELECTED CROPS AND WEEDS

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### ABSTRACT

**INTRODUCTION:** The term "allelopathy" was proposed for expressing the harmful effects that one plant species has on another through the formation of chemical retardants escaping into the environment. *Azadirachta indica* is an evergreen tree and one of the most well-known medicinal plants indigenous to India. Neem contains hundreds of chemicals which released into the environment, either as exudates from living tissues or by decomposition of plant residues in sufficient quantities to affect neighboring plants. **OBJECTIVES:** This study aims to determine the inhibitory influence of Neem leaf aqueous extracts on the germination and growth of *Zea mays*, *Triticum aestivum*, *Bidens pilosa* and *Portulaca oleracea* under laboratory conditions. **METHODS:** The germination test was carried out in sterile Petri-dishes. A control and three gradient concentrations of Neem leaf aqueous extract (10,30&50%) were used. Daily investigation was carried out to follow up the germination process and measuring the radical & shoot length. **RESULTS:** The inhibition of germination of *B. pilosa* & *P. oleracea* is directly proportional to the increasment in the cincentrations of Neem leaf aqueous extract more than *T. aestivum* & *Z. mays*. On the other hand, radical & shoot lengths of the emerging seedlings were inversible proportional to the increased concentrations. **CONCLUSION:** The allelopathic effect of Neem leaf aqueous extract on the treated plants may be related to some important phytochemicals of Neem. This study may suggest that Neem leaf aqueous extract can be used as natural herbicides to some weeds.

### KEYWORDS

Neem,  
Allelopathy,  
weeds

**GPXI-85: IMPROVED INTERFERENCE CANCELLATION FOR DOWNLINK WAVELET BASED MULTICARRIER CODE DIVISION MULTIPLE ACCESS**A.S. AL-DEEN<sup>1</sup>, H.E.A. HASSAN<sup>2</sup> & ATEF M. GHUNIEM<sup>1</sup>*1 Suez Canal University, Faculty of Engineering, Department of Electrical Engineering, Ismailia, Egypt.**2 Military Technical college, Faculty of Electronic Engineering, Department of Electrical Communications, Cairo, Egypt.***ABSTRACT**

**INTRODUCTION:** The existing and the next wireless mobile communication systems is occupying higher transmission bandwidths to support multimedia applications with high data rates. The multi-carrier code division multiple access (MC-CDMA) one of the most promising candidates for the future generations of wireless mobile communications. Inter-symbol interference (ISI) and multiple access interferences (MAI) due to transmission over multipath fading channels are the major challenges in the system. **OBJECTIVES:** The main objective of this study is to enhance the bit error rate (BER) performance of the downlink MC-CDMA system by suppressing the interference. **METHODS:** A downlink transmission single cell MC-CDMA with K active users over a frequency selective fading channel is considered. For discrete wavelet transform (DWT) -MC-CDMA system, each user symbol spread by Walsh-Hadamard code. The signal then scrambled using a complex scrambling code, then the Inverse Discrete wavelet Transform (IDWT) is applied to the resulting signal without insertion of a cyclic prefix. On the receiver side, DWT is applied to the received signal, then descrambling and despreading is done. **RESULTS:** Using MATLAB, simulating the BER performance for fast fourier transform (FFT)-MC-CDMA with using cyclic prefix and the BER performance for DWT-MC-CDMA without using cyclic prefix are compared. For FFT-MC-CDMA at a signal to noise ratio (SNR) of 3 dB, the BER is 0.06314. For DWT-MC-CDMA at SNR of 3 dB, the BER is 0.03701. For FFT-MC-CDMA at SNR of 9 dB, the BER is 0.00717. For DWT-MC-CDMA at SNR of 9 dB, the BER is 0.003071. These results demonstrate that DWT-MC-CDMA provides an enhanced BER performance and higher capacity. **CONCLUSION:** A new downlink DWT-MC-CDMA was presented, and its performance has been compared with the conventional downlink FFT-MC-CDMA system. The wavelet-based MC-CDMA gives a better BER performance than FFT based MC-CDMA at the same values of the SNR, also the capacity of the DWT-MC-CDMA better than of FFT-MC-CDMA because there is no cyclic prefix used.

**KEYWORDS**

Multi-carrier code division,

multiple access,

Discrete wavelet transform,

Inter symbol interference,

Bit error rate

**GPSH-100: ASSESSMENT OF PERIMENOPAUSAL SYMPTOMS AMONG WOMEN IN SUEZ CANAL UNIVERSITY**

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**INTRODUCTION:** Peri-menopause is the period preceding menopause, usually from 2 to 8 years, and following menopause, including early and late menopausal transition and menopause. The perimenopausal period ranged from 45 to 55 years. At this stage, many women can experience perimenopausal manifestations. **OBJECTIVE:** To assess the prevalence of perimenopausal symptoms among women in Suez Canal University. **METHODS:** This study was a descriptive one with a sample of 111 perimenopausal women having perimenopausal symptoms, recruited from Suez Canal University in Ismailia city. Tools of data collection: 1) A structured interviewing questionnaire was used to collect demographic data, and obstetric and gynecologic history from the perimenopausal women 2) Kuperman index was used to assess perimenopausal symptoms. **RESULTS:** MOST of women in the sample complained from perimenopausal symptoms and the prevalence of these symptoms were as follows: hot flushes (73.9% of women), headache (96.4% of women), heart palpitation (83.8% of women), paresthesia (70.3% of women), insomnia (93.7% of women), nervousness (90.9% of women), melancholia (89.2% of women), vertigo (92.8% of women), fatigue (95.5% of women), myalgia (84.7% of women), formication (83.8% of women), sexual complaints (86.5% of women), urinary tract infection (45.9% of women). **CONCLUSION:** Women in perimenopausal period manifests many complains that can interfere with her daily life style which necessitates designing and implementing an educational program for perimenopausal women about complementary and alternatives measures to alleviate their symptoms.

**KEYWORDS**

Perimenopausal period,  
perimenopausal symptoms

**GPSH-101: CROWN ETHER LANTHANIDE COMPLEXES AS FLUORESCENT PROBES FOR DETERMINATION OF BOVINE SERUM ALBUMIN**

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*1 Chemistry Department Faculty of Science, Suez Canal University, 41522, Ismailia, -Egypt.***ABSTRACT**

**INTRODUCTION:** Albumin constitutes about half of the total blood protein and is the most abundant soluble protein in the body of all vertebrates and the most prominent protein in plasma. It also supplies most of the acid/base buffering action of plasma proteins in extravascular fluids. Cyclen as a common crown ether is used as a ligand in chemistry for the applications of diagnostic imaging technique to identify medical condition or disease for the development of medication as a therapeutic agent and pharmaceutical aid.

**OBJECTIVES:** To use lanthanide complexes as fluorescent probes containing crown ether to assess the level of bovine serum albumin (BSA) in biological samples.

**METHODS:** 4,4,4 trifluoro-1-(2-naphthyl)1,3-butanedione (TNB) and crown ethers of 1,4,7,10-tetraazacyclododecane (Cyclen), as ligands, were interacted with Europium to form complexes that act as an antenna for measuring the level of BSA in biological samples by using UV-Vis and Fluorescence spectroscopy. Also, Eu-4,4,4 trifluoro-1-(2-naphthyl)1,3-butanedione (TNB) - BSA complex and Eu-1,4,7,10-tetraazacyclododecane (Cyclen) - BSA complex in different buffers such as Tris HCl, TES, TAPSO and EPPS were prepared and studied using UV-Vis and fluorescence techniques at room temperature.

**RESULTS:** By using UV and fluorescence spectroscopy and by applying Benesi-Hildebrand equation, binding constants are determined. The results indicate that BSA is strongly bound to either the Eu (TNB) and Eu (Cyclen) (TNB) as binary and ternary complexes respectively. The binding constant values of BSA with the fluorescent complexes depend on the nature of the used zwitterionic buffer. The highest values are obtained in the presence of TAPSO, Tris-HCl and TES buffer for both systems. In all systems the limit of detection (LOD) for BSA is found to be  $1\mu\text{M}$  with good correlation coefficient (0.997). **CONCLUSION:** Lanthanide fluorescent complexes containing crown ether can be used to assess the concentration of BSA in biological sample with extremely low LOD level where the protein molecule exhibits high binding constant values with the studied fluorescent complexes according to the type of zwitterionic buffer used in the measurements.

**KEYWORDS**

Bovine serum albumin,

Cyclen,

Lanthanides



**GPSH-104: HEALTH NEEDS OF WOMEN DURING MENOPAUSAL TRANSITION PERIOD IN ISMAILIA CITY**

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**INTRODUCTION:** Menopausal transitional period is an important time in a woman's life. Perimenopausal women require special attention to know health needs for care. **OBJECTIVES:** this study aimed to assess health needs of women during menopausal transition period in Ismailia city. **METHODS:** convenient sample of 385 perimenopausal women selected from community settings in urban and rural areas in Ismailia city. **Tool of data collection:** - Structured interviewing questionnaire included questions about women's menopausal symptoms and related self-management and their health needs. **RESULTS:** high frequency of women under study reported perimenopausal symptoms include headache, abdominal distention, hot flashes, Feeling unhappy or depressed, weight gain and irregular period. The highest frequency of women with headache reported that drugs were effective in 96.67% and all women with itchy skin and used drugs, shower and wear cotton clothes reported that they were effective. In addition, the highest frequency of women with distention drinking warm liquids and all of them reported that it was effective. All women with hot flashes and used drugs, used fan, or wear loose-fitting clothing reported that they were effective. High frequency of study sample don't eat enough vegetables, fruits and drink fluid (65.9%, 45.2%, 48.1%) and majority of women understudy drink more coffee and tea (90,1%) . About more than two third of study sample (68.6%) didn't perform exercise and more than three quarters from study sample (80.3%) didn't perform periodic medical checkup. Women under study reported that perimenopausal symptoms sometimes worthily affected their daily activities, psychological life and social life. **CONCLUSION:** The result of the study concluded that health needs of perimenopausal women are numerous and and should be fulfilled.

**KEYWORDS**

menopausal transition,  
Perimenopause,  
health needs for perimenopause,  
Self care for perimenopausal symptoms

## FPXF-105: SCREENING OF HYDROLYTIC EXTREMOZYMES IN HALOALKALIPHILIC ARCHAEA ISOLATED FROM SODA LAKES OF WADI AL-NATRUN, EGYPT

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### ABSTRACT

**INTRODUCTION:** Exploring of extremophilic archaea and their enzymes had great significance to biocatalysis. Enzymes produced by Archaea allow improvement in multiple sectors of industry. They can help reduce the quantity of waste energy and material consumption, thus making the technology more environmentally-friendly. **OBJECTIVES:** This study aimed to screen hydrolytic extremozymes in different Soda Lakes of Wadi Al-Natrun, Egypt, by both enzymatic agar-plate assays and molecular-based methods. **METHODS:** Five hundred and thirty-five haloalkaliphilic archaeal strains isolated from different Soda Lakes were screened for production of protease, amylase, pectinase, chitinase, cellulase and lipase by using minimal alkaline medium at pH 10 and 25% NaCl (w/v). The best producer strains were identified by 16S rRNA gene sequencing. Furthermore, metagenomic DNA was extracted from water sample of Ga'ar Lake and constructed library were sequenced to identify the genes encoding target enzymes by using illumina Hiseq2000 system. The data annotated by using EBI metagenomics package. **RESULTS:** By enzymatic agar-plate assay, all tested strains showed potential production of extracellular enzymes, a total of 39.4% of screened strains produced protease, 27.1% showed amylase activity, 25.9 % for lipase and 7.4% displayed cellulase activity, but none of tested strains produced chitinase or pectinase. While, by shotgun metagenomic technique, all genes encoding metabolically active hydrolytic enzymes studied were detected in water sample of Ga'ar Soda Lake. **CONCLUSION:** Metagenome-derived DNA libraries have focused on many classes of enzymes, among these hydrolytic enzymes were prominent. The results of both methods indicated that these soda lakes are prosperous with commercially valuable enzymes.

### KEYWORDS

Metagenome,  
Extremozymes,  
functional genes,  
Wadi Al-Natrun-Egypt



## FPXF-160: ANTICANCER ACTIVITY OF NOVEL SUBSTITUTED PYRIMIDINES, THEIR THIOGLYCOSIDES AND THIAZOLOPYRIMIDINE DERIVATIVES

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*1Photochemistry Department, National Research Centre, Egypt*

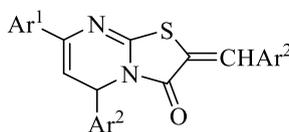
*2Tanning Materials and LeatherTechnologyDepartment, National Research Centre, Egypt*

### ABSTRACT

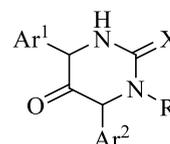
Novel functionalized pyrimidine, thioxopyrimidine, iminopyrimidine derivatives and their derived bicyclic thiazolopyrimidine compounds were synthesized. The substituted arylidene derivatives of the thiazolopyrimidine compounds were also prepared. Glycosylation of the thiopyrimidine derivative resulted in formation of acetylated thioglycosides which were deacetylated to the free hydroxy thioglycosides. A number of the synthesized compounds were studied for their anticancer activity against hepatocellular carcinoma HepG-2, human prostate adenocarcinoma PC-3 and human colorectal carcinoma HCT-116 cell lines and a number of compounds showed significant activities.

### KEYWORDS

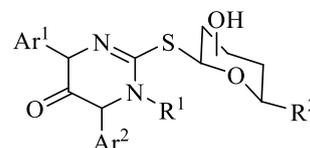
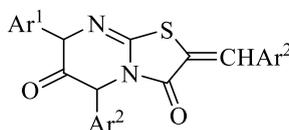
Pyrimidined,  
Thioglycosides,  
Anticancer Activity,  
Tiazolopyrimidines



IC<sub>50</sub> = 63.80803



IC<sub>50</sub> = 58.2448  
= 60.97988  
= 65.31561



## FPXF-161: COX-2 INHIBITION AND ANTI-INFLAMMATORY ACTIVITY OF DESIGNED AND SYNTHESIZED NOVEL 5-(INDOL-3-YL)-THIAZOLIDINONE DERIVATIVES

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### ABSTRACT

**Introduction:** Nonsteroidal anti-inflammatory drugs (NSAIDs) are considered the most excessively particular drugs for inflammation treatment including pain releasing, anti-pyretic and rheumatoid arthritis. They inhibit synthesis of prostaglandin by blocking the cyclooxygenation of arachidonic acid (AA) to prostaglandin G<sub>2</sub>(PGG<sub>2</sub>). This inhibition process is catalyzed by means of the enzyme cyclooxygenase (COX) of which (COX-1) and (COX-2) are two similar but diverse isoforms of the enzyme. **Objectives:** The COX-2 inhibition activity of the synthesized compounds was investigated by studying their ability to inhibit the conversion of arachidonic acid to prostaglandin H<sub>2</sub> (PGH<sub>2</sub>). **Methods:** Synthesis of compounds, characterization by spectral methods, anticancer evaluation COX2 study, docking study. **Results:** The anti-inflammatory activity was studied revealing that a number of compounds have shown good activities. **Conclusion:** Thioxothiazolidin-4-one derivatives of the oxindoline ring system as well as their N-substituted analogs were synthesized and screened for COX-2 inhibition and anti-inflammatory activity in addition to related docking studies. Compounds which showed significant COX-2 inhibition were subjected to anti-inflammatory studies and docking studies. Compound 8b was found to exhibit optimal COX-2 inhibitory potency (IC<sub>50</sub> = 5.40 μM) comparable with celecoxib, so it appears promising in addition to 3a, 10 and 12. The structure–activity relationships (SAR) acquired showed that appropriately (morpholinyl-oxindolyl) thiazolidinestructure has the necessary geometry to provide potent and selective inhibition of the COX-2 isozyme. Furthermore analysis of the obtained results for newly prepared compounds opens the possibility for further optimization of studied compounds.

### KEYWORDS

3D-QSSR,  
Thiazolidinones,  
COX2 inhibitors,  
Catalyst,  
Indole-2,4-dione,  
Docking study



4<sup>th</sup> YRC2017

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**Veterinary Research for community**



**GOSH-25: EFFECT OF DAPAGLIFLOZIN ALONE AND IN COMBINATION WITH INSULIN IN DIABETES TYPE 1 RAT MODEL**

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**INTRODUCTION:** Dapagliflozin is a selective sodium-glucose cotransporter 2 (SGLT2) inhibitor; it reduces the glucose reabsorption from the kidney, and increases the glucose excretion in urine. This inhibitor has a unique insulin-independent mechanism, and is potentially a new method for the treatment of hyperglycemia in diabetic patients. **OBJECTIVES:** In this study, we evaluated the effectiveness of the SGLT2 inhibitor, dapagliflozin, alone or in combination with insulin using a type 1 diabetes rat model. **METHODS:** Type 1 diabetes was induced by a single intraperitoneal injection of 60 mg/kg streptozotocin (STZ). The STZ-induced rats showed marked hyperglycemia and other metabolic abnormalities. We clarified the hypoglycemic effect of the combined treatment of dapagliflozin with a low dose of insulin compared with dapagliflozin alone and insulin alone in a 3-week and 8-week study. **RESULTS:** Our results showed that dapagliflozin in combination with a low dose of insulin significantly lowered hyperglycemia, hypercholesterolemia, and hypertriglyceridemia. Furthermore, the antioxidant status and the body weight were improved. By contrast, treatment with dapagliflozin alone did not improve the blood glucose levels, lipid profile, antioxidant status, or body weight. **CONCLUSION:** These findings suggested that in type 1 diabetes, dapagliflozin is effective in combination with a low dose of insulin; however, administering dapagliflozin alone will not achieve a significant effect.

**KEYWORDS**

Type 1 diabetes,

Dapagliflozin,

Insulin,

SGLT2



**GOSH-27: CYTOCHROME P450 ACTIVITIES IN TYPE 1 DIABETIC RATS AFTER COMBINATION TREATMENT WITH DAPAGLIFLOZIN AND INSULIN**

SAYED N.1, 3 ABDALLA O 1. KILANY O 1. DESSOUKI A2. &amp; SASAKI K.3

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**INTRODUCTION:** Diabetes mellitus alters the activity of hepatic cytochrome P450 (CYP) enzymes, which in turn alter the kinetics of some drugs. Sodium-glucose cotransporter 2 (SGLT 2) plays an important role in renal glucose reabsorption, so it may be beneficial in diabetes treatment. **OBJECTIVES:** In our study, we investigated the therapeutic effect of the SGLT2 selective inhibitor, dapagliflozin in combination with low insulin dose compared with full dose insulin treatment alone and dapagliflozin alone in diabetes type 1 rat model. **METHODS:** We induced type 1 diabetes in rats by single intraperitoneal injection of 60mg/kg streptozotocin (STZ). After diabetes induction, daily treatment started either with full insulin dose alone or dapagliflozin alone or combination of dapagliflozin with a low insulin dose in an 8-week study. **RESULTS:** In our results, the diabetic group showed marked hyperglycemia, increased CYP2E, CYP1A and there was no change in CYP3A. However, dapagliflozin in combination with a low dose of insulin improved hyperglycemia and CYP2E, CYP1A activities similar to full dose insulin treatment. On the other hand, treatment with dapagliflozin alone did not show any improvement in blood glucose or CYP activities. **CONCLUSION:** These findings suggest that the Dapagliflozin and low insulin dose combination treatment exerts beneficial effect on blood glucose and CYP450 enzymes activity similar to full dose insulin treatment in type 1 diabetes.

**KEYWORDS**

Type 1 diabetes,

CYP,

Dapagliflozin,

Insulin



**GOSH-37: ANTITUMOR ACTIVITY OF CHLOROQUINE AND GEMIFLOXACIN ALONE AND/OR IN COMBINATION WITH DOXORUBICIN**

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**ABSTRACT**

**INTRODUCTION:** Cancer is among the leading causes of death worldwide. Currently, there is a growing interest in combining anticancer drugs to maximize efficacy and minimize side effects. **OBJECTIVES:** The current study was designed to evaluate the possible *in-vitro* and *in-vivo* anticancer effect of chloroquine (autophagy inhibitor drug) and gemifloxacin (Topoisomerase II inhibitor drug). **METHODS:** MCF7 breast cancer cell lines were treated with doxorubicin and doxorubicin combination to measure IC<sub>50</sub>. The *In-vitro* antioxidant activity was also measured. In the *in-vivo* experiment, mice were divided into seven groups, with the exception of the normal control group, all other groups were injected with EAC (1 $\times$ 10<sup>6</sup> cell/ml) intraperitoneally and received different treatments: group 1 normal control group, group 2 positive control, group 3 injected with doxorubicin (2 mg/kg) intravenously, group 4 given chloroquine (25 mg/kg) orally, group 5 received gemifloxacin (25 mg/kg) orally, group 6 treated with a combination of doxorubicin (2 mg/kg) and chloroquine (25 mg/kg) and group 7 treated with a combination of doxorubicin (2 mg/kg) and gemifloxacin (25 mg/kg). Blood biochemical parameters (ALT, AST, urea and creatinine) and histopathological picture were studied. **RESULTS:** Doxorubicin combinations showed higher cytotoxic effect on MCF7 cell lines than doxorubicin alone. The combinations significantly increased SOD and GSH and decreased MDA levels in MCF7 cells. Furthermore, these combinations improved hematological parameters and histopathological pictures in the treated mice. **CONCLUSION:** Chloroquine and gemifloxacin significantly enhance the antitumor properties of doxorubicin and reduce its toxicity.

**KEYWORDS**

Doxorubicin,  
Chloroquine,  
Gemifloxacin,  
Ehrlich,  
MCF7

**GOSH-123: THE PROTECTIVE EFFECT OF FISH OIL IN COMBINATION WITH VITAMIN E AGAINST IMIDACLOPRID TOXICITY IN JAPANESE QUAIL**

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**INTRODUCTION:** Imidacloprid (IM) is one of new insecticide, which used in a wide range in agriculture and veterinary fields. IM resulted in a disturbances in ecosystem and appear signs of toxicity on different animal and birds. **OBJECTIVES:** Evaluating the protective effect of fish oil (FO) in synergism with vitamin E (Vit E) against IM toxicity in Japanese quail. **METHODS:** A 70<sup>th</sup> male Japanese quail birds 30 days age, divided into 7 groups. G<sub>1</sub> control –ve, G<sub>2</sub> administrated with IM, G<sub>3</sub> medicated with FO, G<sub>4</sub> medicated with Vit E, G<sub>5</sub> treated with FO against IM, G<sub>6</sub> treated with vitamin E against IM, and G<sub>7</sub> treated with a mixture from FO and Vit E against IM. These experiment was extended for 30<sup>th</sup> days. During these period the growth performance parameters were measured each 10<sup>th</sup> days. After these period the birds were slaughtered and serum, and liver organ samples were collected for evaluate the treatment. Through, measuring the liver, kidney enzymes, and lipid profile in serum, and the antioxidant enzymes in liver tissue. **RESULTS:** IM toxicity appear on birds in group 2. Birds suffered from severe decrease in mean live body in comparison with control –ve group. Serum analysis showed that there is a significant elevation in ALT, AST, creatinine, uric acid, TGC, LDL, and MDA enzyme with significant decrease in the level of HDL, SOD and GSH enzymes in comparison with control –ve group. Treatment with FO in combination with Vit E resulted in a significant improve in general body condition higher than administrated separately. There is a significant decrease in the level of AST, ALT, creatinine, uric acid, TGC, LDL, and MDA enzyme, and significant increase in the level of HDL, SOD, and GSH enzyme. **CONCLUSION:** FO and Vit E combination have a high protective effect against IM through synergism action between them.

**KEYWORDS**

Antioxidant,  
enzymes ,  
Fish oil,  
Imidacloprid,  
Vitamine E

**4<sup>th</sup> YRC2017**

**Community Oriented Scientific Research**

**Second Day**  
**Sunday 30 April 2017**

**Oral Session (F1)**  
**Food, Energy & Resources**  
**Geology Research in the Egyptian Community**



### GOXF-11: REVEALING RESERVOIR ARCHITECTURE BY USING SEISMIC INVERSION AND ATTRIBUTES FOR ABU ROACH /C FORMATION IN WADI OIL FIELD, EAST ABU GHARADIG BASIN, NORTH WESTERN DESERT, EGYPT

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#### ABSTRACT

**INTRODUCTION:** The present study deals with the evaluation of the petroleum system and hydrocarbon potentialities of the study area Wadi Oil Field (WD33) which is located in the North-East part of the Western Desert of Egypt, about 117 Km south of the Mediterranean coast, between latitudes 29° 36' and 29° 48' N and longitudes 29° 00' and 29° 12' E, west of Qattara Depression. It covers about 324 Km<sup>2</sup>. **OBJECTIVES:** The objective of the present work is to configure of reservoir architecture in the studied succession from the seismic and well data. **METHODS:** by integrate the seismic attributes with well log data to insure that attributes providing true relationships. To build reservoir architecture, it is needed to combine with high-determination velocity model that includes an iterative procedure of structural interpretation. Velocity modeling generated by integrating both 3D seismic and wells, giving much more extensive information set for critical review and quality control. Seismic inversion gave us 3D cube such as relative impedance attributes in the study area. **RESULTS:** These impedance attributes obtained from seismic inversion were then utilized with the Petrophysical distribution to predict the lithofacies. The stochastic inversion system gives good control of reservoir heterogeneity between wells and gave higher vertical determination inversion model, 3D seismic inversion-derived reservoir parameters calibrated to well describe the reservoir distribution of Abu Roash/C. **CONCLUSION:** The result showed an estimated seismic derived density for ARC member in the WD33 provides reservoir architecture and pattern and give us figures of rightness depositional environment prediction.

#### KEYWORDS

Reservoir architecture,  
Seismic Inversion,  
velocity modeling,  
Seismic interpretation,  
Wadi Oil Field North,  
Western Desert Egypt

### GOSF-77: MAPPING THE SUBSURFACE STRUCTURES OF RAS EL USH FIELD IN GEBEL EL-ZEIT BASIN, GULF OF SUEZ, USING SEISMIC STUDIES

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#### ABSTRACT

**INTRODUCTION:** Ras El Ush field (REU) is located 80 km north of Hurghada in the offshore transition marine zone, 1.5 km east of the Saddle between the main Gebel El Zeit and little Zeit, in the southern western side of the Gulf of Suez between latitudes 27°40' and 28°05' N and longitudes 33°20' and 33°40' E. **OBJECTIVES:** The objective of the present study is to identify and delineate the possible subsurface detailed structures and deformation of the area, enhancement of the seismic images to get more clear seismic images and a better seismic interpretation. **METHODS:** Constructing detailed structural model for Ras El Ush field based on seismic and well data. As the structural model building is the link between the seismic world and other fields of structural geology, such as the simulation of stresses in a field. **RESULTS:** This study gives more detailed information about the structural and fault orientation and dip. The structural configurations, and the tectonic features of the concerned area is analyzed through the study of the seismic data interpretation with the available geologic data, in which the geo-seismic depth maps for the main interesting tops (Kareem, Nukhul, Matulla, Raha and Nubia Formations) are represented. **CONCLUSION:** Such maps reflect that, the Miocene structure of Ras El Ush area is marked by synthetic NW-SE faults. Added, the Pre-Miocene structure of the studied area is very complex, where the area is of NE dip and affected by severe faulting through varying stratigraphic levels, especially close to the onshore area.

#### KEYWORDS

Seismic interpretation,  
Seismic attributes,  
velocity modeling,  
Ras El Ush field,  
Gebel El Zeit,  
Egypt

### GOXF-89: ASSESSMENT OF SHALE GAS POTENTIALITY OF JURASSIC SEDIMENTS IN MATRUH BASIN, NORTHERN WESTERN DESERT, EGYPT

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#### ABSTRACT

The increasing exploration and development activities targeting unconventional oil and gas shale plays in the United States has created a worldwide interest to explore and develop these rocks. It became a necessity to find out the potentiality of such unconventional reservoirs in Egypt. Therefore, the main purpose of this work is to evaluate the occurrence of shale gas deposits in Jurassic sediments in Matruh Basin located in the north-western part of the Western Desert of Egypt. This work involves the integration of geological, geophysical, geochemical and geomechanical techniques. The interpretations of 2D seismic lines (structure depth maps) constrain the delineation of the vertical and horizontal extension of these shale sediments. The available well logs and geochemical data were used to estimate the Total Organic Carbon (TOC) in the study area. The mechanical properties (Young's modulus, Poisson's ratio, compressional and shear wave velocity, and acoustic and elastic impedance) of shale are necessary to differentiate brittle from ductile zones. Brittle zones are the main target for successful shale gas production. Mechanical properties are estimated using both compressional sonic logs and estimated shear sonic logs in the available wells. The integration of the results leads dramatically to the "sweet spots" area characterized by high (6 %) TOC value, broad vertical and horizontal extension, conspicuous brittle behavior with high young's modulus and low poison's ratio values, and at a sufficient depth for shale maturation and gas expulsion.

#### KEYWORDS

Shale gas,  
Shale geomechanics,  
Shale geochemistry,  
Matruh Basin,  
North Western Desert



### GOSF-94: GROUNDWATER POLLUTION ASSESSMENT IN IBB BASIN, YEMEN USING INTEGRATED GIS AND HYDROCHEMICAL DATA

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#### ABSTRACT

Groundwater (GW) is a unique source in IBB basin that is utilized in domestic, farming, and industrial activities. Because of this, it is extremely necessary to examine the influence of land use on GW quality. Careful observing of GW sources helps in reducing the contamination of these sources. The present work established a GIS-based model to assess GW pollution in IBB basin, Yemen based on its hydrochemical properties. Nine different components, which consistent to common evaluation measures, are incorporated in the model. The created hydrochemical factor maps contain F, NO<sub>3</sub>, NO<sub>2</sub>, NH<sub>4</sub>, CN, Sr, Cu, Zn, and Fe variables. Programs such as STATISTICA7, ERDAS Imagine and ARC GIS are utilized to integrate these variables together and creating the contaminated sites maps by anthropogenic and natural impacts in Ibb Basin. Then, the produced model is used to define the geospatial contamination of GW in the study area. The created contamination maps are combined with the land-use map using an arithmetic overlay in order to characterize the contaminations sources. The obtained results show that the GW is contaminated due to different point-sources including the sewage plant, landfill and application of agrochemicals and domestic actions. The created integrated contamination maps are very useful tool for sustainable development of GW in Ibb basin.

#### KEYWORDS

Yemen,  
Ibb basin,  
Integrated,  
Geospatial,  
Hydrochemical variables

**GOXF-157: EVALUATION OF PETROPHYSICAL CHARACTERISTICS OF THE UPPER BAHARIYA RESERVOIR, HEBA-200 OIL FIELD, NORTH WESTERN DESERT, EGYPT**

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The Heba -200 field is located in the southern part of the north-east Abu Gharadig Basin, north of Egypt's Western Desert. Heba -200, a significant structural feature within this concession, which is considered as a prolific hydrocarbon producer field. The main objective of this study is to characterize, petrophysically, the Upper Bahariya reservoir in heba-200 field and to evaluate its hydrocarbon potentiality. Seismic data and four well logs (GR, RXOZ, RLA3, RLA5, RHOZ and NPHI) were analyzed. The grain density varies from 2.65 to 2.69 gm/cc, according to the ratios between sand, clay and limestone. The most important petrophysical properties of Upper Bahariya reservoir (e.g net pay, Sw, porosity, gross sand, Vsh, oil-water contact) were mapped to show the distribution and relationship of these properties. The porosity average is 0.16 %. The water saturation varies from 0.5 to 0.8, thus the Sw cut off reaches 0.8, but the produced water is 3%, indicating that irreducible water. The formation water resistivity ranges from saline (0.18 ohm-m) to brackish water (0.75 ohm-m). SP is used to interpret the variability of Rw. The shale volume average is 0.12%, and maximum net pay is 26 m. Oil water contact is -1667 m. The integration of petrophysical characteristic with seismic result has improved the understanding of the reservoir potentiality. The Heba-200 oil field is found on a large horst block. The center of the horst is the prospective area for oil trapping, as revealed from petrophysical maps. New drilling sites for production and injection wells.

**KEYWORDS**

Upper Bahariya reservoir,  
Heba-200 oil field,  
North Western Desert,  
Petrophysics



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**Education, Tourism & Humanities**

دراسات من العصر المملوكي



النقوش الكتابية التأسيسية على العمائر الدينية بمدينة القاهرة في العصر المملوكى 784 – 923 هـ / 1382 - GOSE-22: م1517

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## ABSTRACT

مما لا شك فيه أن الكتابات الأثرية بصفة عامة تأتى فى مقدمة المصادر الأثرية الاصيلة اللازمة لدراسة التاريخ والآثار على السواء، والتي يصعب الطعن فى قيمتها، أو التشكك فى أصالتها أو صحتها، إلا فى حالات قليلة نادرة، كما أنه فى مجال الدراسات التاريخية والأثرية الإسلامية تحل تلك الكتابات المركز الأول بين مصادر هذه الدراسات وذلك للدور الرئيسى الذى لعبته حتى أنها كانت القاسم المشترك الأعظم على الأعمال الفنية الإسلامية سواء كانت معمارية أو تشكيلية أو تطبيقية وتلك الكتابات تُعد من المخلفات الأثرية ذات القيمة الفنية الجديرة بالاهتمام والدراسة. ويهدف هذا البحث إلى إلقاء الضوء على النصوص التأسيسية على العمائر الدينية المملوكية الباقية بمدينة القاهرة من خلال دراسة نشأة تلك النصوص التأسيسية، وأشكالها، وأنواعها، والمواد التى نفذت عليها، والخطوط التى كتبت بها. ولهذه النصوص التأسيسية أهمية خاصة إذ أنها تبرز من خلالها التعرف على إسم المنشئ، وألقابه ووظائفه، وتحديد تاريخ بناء المنشأة بصورة أكثر دقة وتاريخ الفراغ منها. كما تتعلق أهمية دراستها بالوظيفة التى من أجلها أنشئت المنشأة، أو تتعلق بالتخطيط العامة للمنشأة أو قد تتعلق بالوقف وشروطه، وأن إطلاق إسم الجامع أو المدرسة أو الخانقاة على المنشأة رغم تأديتها للوظائف الأخرى بغض النظر عن التخطيط

## KEYWORDS

نقوش كتابية،  
ضريح،  
تربة،  
خط ثلث،  
عصر مملوكى

## GOSE-28: EVOLUTION OF THE FUNCTION OF THE MADRASAS IN MAMLUK EGYPT (648-923/1250-1517)

AHMED M. Salem<sup>1</sup><sup>1</sup> Department of Tour Guidance, Faculty of Tourism and Hotels, Suez Canal University, Ismailia, Egypt**ABSTRACT**

**INTRODUCTION:** The term of madrasa is derived from the Arabic roots; *darasa*, ‘a verb means studied’, *dars* which is a lesson in *Fiqh*, ‘Islamic law’, *darrasa* and *tadrīs* mean to teach or teaching *Fiqh*. The madrasa is an institute of higher education (i.e. a college for high education) in which the traditional Islamic sciences, traditions of Prophet Muḥammad (*Hadīth*), exegesis of the Qur’ān (*Tafsīr*) and Islamic law (*fiqh*) according to one or more Sunni rites (chiefly, *Shāfi’ī*, *Hanafi*, *Mālikī* or *Hanpālī*) were taught. The madrasa is the product of three stages in the development of the college in Islam. The mosque (*Masjid*), particularly in its designation as the non-congregational mosque, was the first stage and it functioned in this stage as an instructional center. The second stage was the *Masjid- Khān* complex, in which the Khān, ‘hostelry’, served as lodging for out of town students. The third stage was the madrasa proper, in which the function of both *masjid* and *khān* were combined in one institution and based on a single endowment (*Waqf*) deed. The madrasa was provided with endowments that enabled it to perform its main function for long periods and to pay the salaries of professors, students and employees of other dependences of the madrasa. It was supplied with residences for the professors and some of their students. **OBJECTIVES:** this paper focuses on the primary function of the madrasa at beginning of the Baḥarī Mamluk period in Egypt and follows its evolution until the end of Circassian Mamluk period in Egypt. The paper investigates and discusses the reasons behind that functional evolution. **METHODS:** It was used archival researches and surveys for data collection. Additionally, the models of the madrasas, which still remain and locate in Cairo, were visited and captured by the researcher in order to support the ideas of the that paper. **RESULTS:** this paper results that the madrasa performed its early function, which is teaching or instruction process, as well as the role of the mosque (*Masjid*), i.e. the five daily prayers. Then, the function of the congregational mosque, which is Friday sermon, was added. Finally, the function of the Khanqah, which is Sufism, was additionally added to the function of the Mamluk madrasa in Egypt. **CONCLUSION:** The madrasa was erected to do its main function which is teaching process as well as being mosque for the five daily prayers. Both madrasas and khanqas were integrated in the function especially in the year 730 (1329). Since the inauguration of the congregational mosque and madrasas of Sultan Ḥasan 757 (1356)–764 (1362), the madrasas had alternatively performed the triple functions; teaching, sufism and Friday sermon.

**KEYWORDS**

Madrasas Mamluk,  
Functional,  
Egypt,  
Masjid

## GOSE-35: PLAN OF THE MAMLUK MADRASAS IN EGYPT: NEW PROSPECTIVE

AHMED M. Salem<sup>1</sup><sup>1</sup> Department of Tour Guidance, Faculty of Tourism and Hotels, Suez Canal University, Ismailia, Egypt**ABSTRACT**

**INTRODUCTION:** From the 7th (13th) century, the plan of an open courtyard surrounded by four porticos shared the favor of the Cairene architects with a new form, which was, however, rather a development of the former than a new departure. Some western scholars have argued about the origin of the cruciform plan. Van Berchem supposed the cruciform plan is inspired from the cruciform Byzantine church plan at Syria. Creswell denied the supposition of Van Berchem; the former demonstrated that the cruciform Byzantine church plan is not found in Syria, but is confined to Asia Minor and Constantinople and is invariably covered by a dome. **OBJECTIVES:** this paper discusses all theories of the western scholars about plan of the Mamluk madrasas in Egypt. It sheds light on circumstances related plan of each Mamluk madrasas like; location, economic situation of the founder, skills of the architect himself and desire of the founder. The paper investigates kinds of plans accompanied with models of madrasas in Cairo. **METHODS:** It was used archival researches and surveys for data collection. Additionally, the models of the madrasas, which still remain and locate in Cairo, were visited and captured by the researcher in order to support the ideas of the that paper. **RESULTS:** this paper resulted three kinds of plans; *īwāns* style (*Nizām al-Īwanāt*) which consists of an open or covered courtyard (*Ṣaḥn*) surrounded by *īwāns*, the porticos style (*Nizām al-Arwiqah*) which consists of an open or covered court (*Ṣaḥn*) surrounded by porticos, and the mixed plan which combines between the *īwāns* style and the porticos style at one foundation. **CONCLUSION:** the madrasa is a type of religious institutions which, unlike the mosque, was not originally planned for the use of the general public. Rather, it was restricted for the use of a certain community attached. For this reason, the madrasa tend to combine the features of both domestic and religious architecture. From the mosque, it borrows the Mecca orientation of the main hall, the open courtyard for allowing air and light, the style of porticos, the presence of minaret. it borrows the pulpit (*Minbar*) and banquette (*Dakkat al-Mubaligh*). With domestic architecture it share the inclusion of living unites and kitchen. Some khanqas even incorporate bathroom (*Hammāms*) or apartments for the founder and his family.

**KEYWORDS**

Plan Ṣaḥn Mamluk,  
Madrasas,  
Cruciform

المزملة كعنصر معمارى بدهلينز مداخل العمائر الدينية المملوكية بمدينة القاهرة 648 - 1250هـ/1517م - GOSE-40

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### ABSTRACT

يهدف هذا البحث الى إلقاء الضوء على عنصر معمارى هام احتل فى معظم الأحيان جزء من مسطح مساحة دهليز المدخل بالعمائر الدينية الباقية فى القاهرة فى العصر المملوكى من جوامع ومدارس وخانقوات، كما عرف فى المصادر التاريخية والوثائق الأثرية تحت عدة مسميات. وعلى الرغم من وجود بعض الدراسات السابقة التى أشارت الى وظيفة هذا العنصر وكذلك بعض المسميات المختلفة التى أطلقت عليه، إلا أن هذا البحث قد إهتم عن غيره بدراسة وصفية تحليلية تبرز من خلالها مكونات المزملة وكذلك التكوين المعمارى والفنى لها مع توضيح للمساحة التى احتلتها المزملة من مسطح مساحة الدهليز، وما هى علاقة النسبة والتناسب بينهما. يهدف البحث الى: توضيح أهم المواضع التى إحتلتها المزملة بدهلينز المدخل وما هى المؤثرات المختلفة عليها، عرض أهم الأساليب التى اتبعها المعمارى لتوفير مناخ مناسب يساعد المزملة على أداء الوظيفة المنوطة بها، و عرض موجز لأهم الوظائف التى ظهرت فى العصر المملوكى والتى ارتبطت بهذا العنصر إرتباطاً وثيقاً.

### KEYWORDS

سبيل،  
دهليز،  
مزملة،  
مدرسة،  
جرة خضراء

فلسفة العمانر الدينية من خلال نصوص الإنشاء والوقف في مدينة القاهرة في العصر المملوكي (648-923هـ / GOSE-65: 1517-1250م)

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## ABSTRACT

جاء الإسلام برسالة التنوير والعمل دائماً على ربط الإنسان بواقعه والعمل على جعله في قمة النجاح والاستفادة بكل ما حوله في إطار الدين والشريعة الإسلامية السمحة خاصة بعد اتساع رقعة الدولة الإسلامية وتوافد المسلمين الجدد على أن ينهلوا من ذلك المورد العظيم. وليس الحديث بصدد ذكر مزايا الديانة الإسلامية السمحة بقدر إلقاء الضوء على مدى حاجة الشعوب الإسلامية لهذه المنشأة الدينية المؤسسة التي قدمت العلم الديني والعلم الدنيوي (التطبيقي) لعامة الناس عظيمهم وفقيرهم كل على حد سواء دونما تفرقة في العرق أو الانتماء الطبقي ، وليس بصحيح على الإطلاق أن هذه المدارس كرسست جهودها للدراسات والعلوم الفقهية فحسب بل كان من هذه المدارس ما يتم به تدريس العلوم العقلية إلى جانب العلوم النقلية ، وقد كان المسجد هو نواة المجتمع الإسلامي ككل في عهد النبوة ثم بدأت فكرة الخروج من المسجد والتوسع في إنشاء دور كثيرة للعلم واتخاذها مجالس مخصصة له عُرفت بمجالس العلم وظل الأمر كذلك حتى ظهر في الأفق مصطلح المدرسة الإسلامية والتي أضحت أمراً واقعاً في القرن الخامس الهجري في بلاد المشرق الإسلامي. عرفت مصر المدارس السنية منذ الدولة الفاطمية وفي هذا الأمر دلالة واضحة على أن الشعب المصري ظل على انتمائه للمذهب السني حتى وإن كان المذهب الشيعي هو المذهب الرسمي للدولة الفاطمي، وقد كانت حلقات العلم التي تدرس المذهب السني أثناء وجود المحاولات الفاطمية للقضاء على هذه التوجهات السنية داخل المجتمع المصري ؛ إلا أنه في نهاية العصر الفاطمي وجدت العديد من المدارس السنية والتي تدل على ان الشعب المصري في معظمه لم يعتنق المذهب الشيعي بل ظل على سنتيه رغم كافة المحاولات التي قام بها الفاطميون لتحويل الشعب المصري عن مذهبه السني إلى مذهبهم الشيعي الذي كانت تدين به الدولة الفاطمية بشكل رسمي. ومع تعدد الأغراض والوظائف لاحت في الأفق عديد من أنماط العمانر والمنشآت الدينية إلى جانب المدرسة فكانت هناك الخوانق والربط والزوايا ، والتي مع تعددها تعددت وظائفها وأغراضها مما أدى إلى الخلط بينها وبين بعضها في كثير من الأحيان؛ حتى كان الفيصل في تحديد ماهية هذه المنشآت والفصل في فلسفتها ووظيفتها هو نصوص الإنشاء والوقف.

يهدف هذا البحث إلى دراسة وتأصيل العمانر الدينية وأنماطها المختلفة في ضوء نصوص الإنشاء والوقف وأثرها على كل من الناحية المعمارية والوظيفية للمنشآت الدينية، ودراسة مراحل التطور الوظيفي لهذه المنشآت في ظل التحديات التي مرت بها مدينة القاهرة خلال العصر المملوكي (648-923هـ / 1517-1250م).

اتبعت الدراسة المنهج التحليلي والتاريخي من خلال مقارنة وتحليل فلسفة العمانر الدينية من واقع نصوص الإنشاء بمدينة القاهرة في العصر المملوكي وتحديد الأغراض التي أنشئت من أجلها ودورها في الحياة العلمية والسياسية على حد سواء.

تنتهي الدراسة إلى أن حتمية الاعتماد على نصوص الإنشاء والوقف في تحديد الغرض الرئيسي وفلسفة العمانر الدينية هو أمر يشوبه القصور في جوانب عدة وهو ما ظهر جلياً في وجود عدة عوامل أخرى تأثرت بها فلسفة هذه العمانر ومنهجيتها عبر تاريخها. كان الغرض الرئيس من العمانر الدينية هو نشر تعاليم الدين الإسلامي إلا أن هذه المنشآت قد تطورت ووظائفها وفلسفتها بتطور العصور التي مرت بها وكذلك العوامل التي أحاطت بها مما كان له بالغ الأثر في تكوين فلسفة هذه العمانر وترسيخ مفاهيم عدة حول الدور المنوط بها.

## KEYWORDS

سبيل،  
دهليز،  
مزملة،  
مدرسة،  
جرة خضراء

فلسفة العمانر الدينية من خلال نصوص الإنشاء والوقف في مدينة القاهرة في العصر المملوكي (648-923هـ/ GOSE-65: 1517-1250م)

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## ABSTRACT

جاء الإسلام برسالة التنوير والعمل دائماً على ربط الإنسان بواقعه والعمل على جعله في قمة النجاح والاستفادة بكل ما حوله في إطار الدين والشريعة الإسلامية السمحة خاصة بعد اتساع رقعة الدولة الإسلامية وتوافد المسلمين الجدد على أن ينهلوا من ذلك المورد العظيم. وليس الحديث بصدد ذكر مزايا الديانة الإسلامية السمحة بقدر إلقاء الضوء على مدى حاجة الشعوب الإسلامية لهذه المنشأة الدينية المؤسسة التي قدمت العلم الديني والعلم الدنيوي (التطبيقي) لعامة الناس عظيمهم وفقيرهم كل على حد سواء دونما تفرقة في العرق أو الانتماء الطبقي ، وليس بصحيح على الإطلاق أن هذه المدارس كرسست جهودها للدراسات والعلوم الفقهية فحسب بل كان من هذه المدارس ما يتم به تدريس العلوم العقلية إلى جانب العلوم النقلية ، وقد كان المسجد هو نواة المجتمع الإسلامي ككل في عهد النبوة ثم بدأت فكرة الخروج من المسجد والتوسع في إنشاء دور كثيرة للعلم واتخاذها مجالس مخصصة له عُرفت بمجالس العلم وظل الأمر كذلك حتى ظهر في الأفق مصطلح المدرسة الإسلامية والتي أضحت أمراً واقعاً في القرن الخامس الهجري في بلاد المشرق الإسلامي. عرفت مصر المدارس السنية منذ الدولة الفاطمية وفي هذا الأمر دلالة واضحة على أن الشعب المصري ظل على انتمائه للمذهب السني حتى وإن كان المذهب الشيعي هو المذهب الرسمي للدولة الفاطمي، وقد كانت حلقات العلم التي تدرس المذهب السني أثناء وجود المحاولات الفاطمية للقضاء على هذه التوجهات السنية داخل المجتمع المصري ؛ إلا أنه في نهاية العصر الفاطمي وجدت العديد من المدارس السنية والتي تدل على ان الشعب المصري في معظمه لم يعتنق المذهب الشيعي بل ظل على سنتيه رغم كافة المحاولات التي قام بها الفاطميون لتحويل الشعب المصري عن مذهبه السني إلى مذهبهم الشيعي الذي كانت تددين به الدولة الفاطمية بشكل رسمي. ومع تعدد الأغراض والوظائف لاحت في الأفق عديد من أنماط العمانر والمنشآت الدينية إلى جانب المدرسة فكانت هناك الخوانق والربط والزوايا ، والتي مع تعددها تعددت وظائفها وأغراضها مما أدى إلى الخلط بينها وبين بعضها في كثير من الأحيان؛ حتى كان الفيصل في تحديد ماهية هذه المنشآت والفصل في فلسفتها ووظيفتها هو نصوص الإنشاء والوقف.

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تنتهي الدراسة إلى أن حتمية الاعتماد على نصوص الإنشاء والوقف في تحديد الغرض الرئيسي وفلسفة العمانر الدينية هو أمر يشوبه القصور في جوانب عدة وهو ما ظهر جلياً في وجود عدة عوامل أخرى تأثرت بها فلسفة هذه العمانر ومنهجيتها عبر تاريخها. كان الغرض الرئيس من العمانر الدينية هو نشر تعاليم الدين الإسلامي إلا أن هذه المنشآت قد تطورت ووظائفها وفلسفتها بتطور العصور التي مرت بها وكذلك العوامل التي أحاطت بها مما كان له بالغ الأثر في تكوين فلسفة هذه العمانر وترسيخ مفاهيم عدة حول الدور المنوط بها.

## KEYWORDS

العمائر الدينية،  
نصوص الإنشاء والوقف،  
القاهرة،  
العصر المملوكي

## القباب خلال العصرين الأيوبي والمملوكي في مدينة القاهرة (567-923هـ / 1171-1517م) GOSE-66:

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## ABSTRACT

تميزت العمارة الإسلامية بتعدد عناصرها وتباين وظائفها وما تشتمل عليه من مفردات وقيم جمالية ورمزية تتسق بشكل واضح مع الناحية الوظيفية، حتى صارت المجموعة المعمارية في الحضارة الإسلامية كل متنسق ومتكامل، وقد برع المعمار المسلم في الموازنة بين الكتلة والفراغ ليس من الناحية الإنشائية فحسب بل من الناحية الوظيفية والزخرفية في آن واحد. كانت القبة أحد هذه العناصر المعمارية التي نالت حظاً وثيراً من التحليل والدرس، سواء كانت الدراسة للمادة الإنشائية أو القيمة الجمالية والرمزية أو الأهمية الوظيفية لها؛ فلم تقتصر القبة بالناحية الجنائزية فحسب بل امتدت لتشمل عدة أغراض وظيفية منذ البدايات المبكرة لها مثلما هو الحال في قبة الصخرة وما لها من أغراض دعائية سياسية كانت هي السبب الرئيس في تأسيسها على عهد الخليفة الأموي عبد الملك بن مروان (72هـ / 691م) والتي كانت النموذج الأول للقبة في الحضارة الإسلامية على صعيد العمائر الدينية والتي حذا حذوها سائر من جاء بعدها، والأمر نفسه يندرج على الجامع الأموي بدمشق (87 – 96 هـ / 706 – 714 م) وإن كان الغرض قد اختلف من الناحية الوظيفية حيث كانت تستخدم كبيت مال للجامع وليست بقصد تسقيف المبنى. يهدف هذا البحث إلى دراسة وتأسيس العناصر المعمارية للقبة وأنماطها المختلفة من خلال الغرض والرمزية وأثرهما على كل من الناحية المعمارية والوظيفية للقباب، ودراسة مراحل التطور الوظيفي لهذه القباب في ظل التحديات التي مرت بها مدينة القاهرة خلال العصر الأيوبي والمملوكي (567-923هـ / 1171-1517م)، وكذلك دراسة كل من المادة الإنشائية والقيمة الجمالية والرمزية والأهمية الوظيفية للقباب.

اتبعت الدراسة المنهج التحليلي والتاريخي من خلال مقارنة وتحليل فلسفة القباب من واقع نصوص الإنشاء والوقف بمدينة القاهرة خلال العصر الأيوبي والمملوكي (567-923هـ / 1171-1517م) وتحديد الأغراض التي أنشئت من أجلها ودورها في الديني والعقائدي.

تنتهي الدراسة إلى أن حتمية الاعتماد على نصوص الإنشاء والوقف في تحديد الغرض الرئيسي وماهية القباب أمر يشوبه القصور في جوانب عدة وهو ما ظهر جلياً في وجود عدة عوامل أخرى تأثرت بها فلسفة هذه القباب ومنهجيتها عبر تاريخها. كان الغرض الرئيس من القباب هو أداء الوظيفة الجنائزية إلا أن هذه المنشآت قد تطورت وظائفها وفلسفتها بتطور العصور التي مرت بها وكذلك العوامل التي أحاطت بها مما كان له بالغ الأثر في تكوين فلسفة هذه العمائر وترسيخ مفاهيم عدة حول الدور المنوط بها.

## KEYWORDS

القباب،  
الغرض والوظيفة،  
القاهرة،  
العصر الأيوبي المملوكي

**Second Day**  
**Sunday 30 April 2017**

**Plenary Talks**



### **P5: 3D HIGH RESOLUTION IMAGING OF THE EARTH USING RADAR TECHNOLOGY FOR ENGINEERING, ENVIRONMENTAL, GEOLOGICAL AND ARCHAEOLOGICAL APPLICATIONS**

Dr Ahmed Gaber

Associate Professor of Geology, Portsaid University

#### *Plenary 5*

#### **ABSTRACT**

We are daily interacting with the surface and subsurface of the outermost part of the earth's crust, where we live, drill, excavate, construct structures, utilize its groundwater and mineral resources and store our wastes. This part of earth is extremely dynamic and needs proper non-destructive technology to image it. A high resolution subsurface imaging reconstruction using a non-destructive probing technique is needed in many fields of applications; engineering, environmental, geological and archaeological. On the other hand, radar waves have the capability of penetrating deep into vegetation, snow and soil and reveal, thus, information about the dielectric and geometric properties of the target surface and subsurface. In this presentation, two different radar sensors, namely spaceborne synthetic aperture radar (SAR) and ground penetrating radar (GPR), will be presented to show their ability to image the surface and subsurface at different scales and platforms. The SAR satellites with its multi-frequency and multi-polarization features are a very effective method for exploring large-scale and difficult-to-access areas, revealing the surface and underneath structures. Such large scale imaging from space can definitely provide useful information for further field work. The GPR can be used not only to verify and to interpret the resulting image products of space-borne SAR sensors but also to illustrate the geometry of the subsurface layers, structural framework and the accurate depth to targets. SAR and GPR are operating in a relatively same microwave range of the electromagnetic spectrum and controlled by the same electromagnetic wave propagation theory as well. In addition, the 3D high resolution image reconstruction of the subsurface is useful to identify the depth, shape and size of targets from which the end-user can easily extract quantitative results. Thus a new 3D GPR system which consists of a combination between the Rotary Laser Positioning System (RLPS) with the commercial GPR system will be introduced here in this presentation. Many experiments and real field measurements were conducted using this system setup to test its effectiveness in showing high performance for detecting all targets especially the small ones with high resolution. Some of these measurements will be demonstrated in this presentation.

#### **KEYWORDS**

Spaceborne synthetic aperture radar,

Ground penetrating radar,

Rotary Laser Positioning System



**4<sup>th</sup> YRC2017**

**Community Oriented Scientific Research**

**Second Day**  
**Sunday 30 April 2017**

**Oral Session (H4)**  
**Health & Drug Discovery**  
**Community Oriented Dentistry Research**



**GOSF-49: DENSIOMETRIC CONE BEAM COMPUTED TOMOGRAPHIC EVALUATION OF THE EFFECT OF LOW INTENSITY LASER ON DENTAL IMPLANTS IN OSTEOPENIC PATIENTS**

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1-Suez Canal University , Faculty of Dentistry, Oral Radiology Department, Egypt.

2- Suez Canal University , Faculty of Dentistry, Oral and Maxillofacial Surgery Department, Egypt.

**ABSTRACT**

**INTRODUCTION:** Recently, implant has gained a wide attraction in the field of dentistry. The successful outcome of any implant depends on the quality and quantity of the local bone. Among the common causes affecting local bone, is osteopenia; a condition characterized by low bone mineral density. New modalities helping in improving the local bone condition as low intensity laser therapy (LILT) has become an important research focus for modulating inflammation and enhancing healing. **OBJECTIVES:** To investigate the effects of low-level laser therapy (LLLT) on bone density around implant in osteopenic patients. **METHODS:** The present study involved two groups: Control group: 6 implants were left to heal without any intervention. Study group: 6 implants received low intensity laser. All patients included in the study were assessed clinically and radiographically using DEXA scan to assure that they are osteopenic and by Cone Beam Computed Tomography (CBCT) preoperatively, immediately and after 2, 4 and 6 months for follow up. Bone density was statistically analyzed. **RESULTS:** Bone density increase was found insignificant upon comparing control and laser group at different time intervals. The increase at laser group was much more greater where it reached 32.18%, while control group showed only 16.31% increase. **CONCLUSION:** Osteopenia showed no effect in implant failure. LILT showed increase in bone density compared to the control group among different interval time, although the increase was insignificant.

**KEYWORDS**

Osteopenia,  
Dental implant,  
low intensity laser therapy (LILT),  
Bone density

### GOSH-57: EFFECT OF PLATFORM SWITCHED ON THE BONE HEIGHT UNDER IMPLANT SUPPORTED OVERDENTURE

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3- Removable prosthodontics Department, Assistant professor, faculty of Dentistry ,Suez Canal University, , Ismailia , Egypt

#### ABSTRACT

**INTRODUCTION:** implants overdenture have been widely used nowadays as an excellent alternative of ordinary complete dentures, researches are carried to maintain bone height as possible under dentures. **OBJECTIVES:** effect of using implant platform and non-platform implants one bone height. **METHODS:** 12 patients were selected from the patients flow in dental clinic of removable prosthodontics department faculty of dentistry, Suez Canal University. Patients were divided into two groups then complete upper and lower denture are constructed for each patient. Group (a) received platform switched implants and group (b) received non-platform implants. After complete Osseointegration patients were recalled again and the abutments were installed, the lower denture was converted into overdenture supported by telescopic crowns assessment was carried using cone beam computed tomography (CBCT). **RESULTS:** using (CBCT) for assessment of bone height around the implants showed that platform-switched implants maintained the height of bone around implants and less bone resorption occurred. **CONCLUSION:** using of platform switched enhanced the bone height than the non-platform and decreased crestal bone preservation.

#### KEYWORDS

Platform implants,  
Overdenture,  
bone height,  
Telescopic crowns

**GOSH-92: DIFFERENTIATION OF STEM CELLS ISOLATED FROM HUMAN THIRD MOLARS USING DIFFERENT BIOMATERIALS**

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*1 Suez Canal University, Faculty of Dentistry, Endodontic Department, Ismailia, Egypt.**2 Suez Canal University, Faculty of Dentistry, Endodontic Department, Ismailia, Egypt.**3 National Research Center, Basic Dental Science Department, Cairo, Egypt.***ABSTRACT**

**INTRODUCTION:** The recent improvements in the basic science research especially in fields of stem cell biology and biomaterials have opened a new era in restorative dentistry, changing the concept of restoration to regeneration, suggesting bioactive materials as a promising alternative to conventional restorative materials. **OBJECTIVES:** The aim of the present in-vitro study was to isolate dental pulp stem cells (DPSCs) from human third molars and to evaluate the effect of different bioactive materials on their odontogenic differentiation (change of stem cells into dentinal tissue secreting cells). **METHODS:** DPSCs were isolated and characterized using quantitative real-time reverse-transcription polymerase chain reactions (qRT-PCR). Mineral trioxide aggregate and Calcium enriched mixture biomaterials were mixed and supplemented to cultured DPSCs in odontogenic differentiation medium (DM) or in growth medium (GM). Cells without biomaterial supplementation were served as controls. After 14 days of culture, alizarin red staining and qRT-PCR tests were done to evaluate the odontogenic differentiation. **RESULTS:** The results showed that the isolated human DPSCs were including stem cells populations that had a positive self-renewal capability and successful stem cell genes expression. DPSCs cultured with biomaterials in DM had more significantly odontogenic differentiation potential than those cultured with biomaterials in GM or than DPSCs cultured in DM only (control). No statistical significant differences were recorded between the tested biomaterials. **CONCLUSION:** Adult dental pulp contains DPSCs populations that are capable for differentiation, extensive proliferation and regeneration. All tested materials could be considered as bioactive regenerative dental materials.

**KEYWORDS**

Dental stem cells,  
Odontogenic differentiation,  
Mineral trioxide aggregate,  
Calcium enriched mixture

### GOSH-96: PULP REVASCULARIZATION WITH A NEW ENDODONTIC BIOMATERIAL

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#### ABSTRACT

**INTRODUCTION:** Trauma to immature teeth may lead to loss of tooth vitality, stopping of root formation and successively root with open apex which will complicating the conventional root canal treatment. Traditionally management of such cases were done by calcium hydroxide or MTA apexification but both of them had drawbacks. Knowledge from tissue engineering and regenerative medicine could be applied to regenerate functional pulpdentin complex that will continue root formation and enhance the apical closure. **OBJECTIVES:** Evaluate effect of Biodentine on apical diameter after revascularization in necrotic immature permanent teeth. **METHODS:** 5 upper anterior teeth showed immature roots with open apex, Patients ages range from 8-12 years old. Revascularization treatment was done, which was started with disinfection of the canals (sodium hypochlorite irrigation, followed by triple antibiotic paste for 3 weeks). Next, the triple antibiotic paste was removed by irrigation with saline, bleeding was induced in the canals, and biodentine was placed over the blood clots. Patients were scheduled for follow up. **RESULTS:** There was significant decrease in the mean apical diameter along the follow up periods. **CONCLUSION:** Revascularization procedure could be an alternative treatment in immature non-vital teeth. In addition, placing Biodentine cement provided a good seal and favorable outcomes as compared to the conventional apexification techniques.

#### KEYWORDS

Traumatized teeth,  
Revascularization,  
Open apex,  
Biodentine

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Community Oriented Scientific Research

**Second Day**  
**Sunday 30 April 2017**

**Oral Session (F2)**  
**Food, Energy & Resources**  
Resources for Community  
Connecting Physics to the community



**GOSF-9: DEVELOPMENT OF REFRACTORIES BASED MGNESIA FROM EGYPTIAN RESOURCES FOR ROTARY CEMENT KILN LINING**

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**ABSTRACT**

**INTRODUCTION:** Egypt produce millions of cement clinker tons annually. There are huge quantities of dolomite which is still intact and presents raw material to produce MgO-Calcium Zirconate clinker. It presents a low priced raw material for refractories industry and on the other hand it guarantees environmental legislations. Usage of Egyptian ores can be very economical to replace foreign product by high grade local alternatives. **OBJECTIVES:** Calcium oxide in dolomite can combine with zirconia in a stoichiometric ratio to produce the high grade refractory calcium zirconate. Egyptian magnesite can be used to enhance the MgO matrix in the refractory clinker structure. Refractory bricks can be manufactured from Egyptian raw materials to line rotary cement kiln. **METHODS:** Three Zirconia concentrations were tested for Egyptian Dolomite and five for Egyptian magnesite. One is the molar ratio of calcium oxide in the ore to Zirconia and the others are above and below the molar ratio in both dolomite and magnesite batches. Many technological properties were evaluated by chemical, thermal, and mechanical testing used to assure the quality of produced clinker to meet global standards. High Quality of produced bricks were assured by testing. **RESULTS:** Zirconia addition to Egyptian dolomite and magnesite increased their densities and hence the mechanical strength and improved the CaO hydration resistance by forming a high refractory calcium zirconate in combination with MgO. High grade refractory bricks were fabricated from MgO-calcium zirconate composite clinker. **CONCLUSION:** Dolomite found in large quantities in Egypt is considered as an important source for refractories industry. Magnesite in fair quantities in Egypt can be used to produce a high grade refractory bricks rich in magnesia when combination with zirconia in the proper ratio.

**KEYWORDS**

Refractories based  
magnesia,  
calcium zirconate,  
Cement kiln lining



**GOSF-84: THREE NEW RECORDS OF FAMILY POTTIACEAE (MUSCI) OF THE MOSS FLORA OF EGYPT**

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**ABSTRACT**

**INTRODUCTION:** Pottiaceae is one of the largest families of the acrocarpous mosses. It constitute more than 10% of the moss species known from the whole world. They are widespread in all phytogeographical regions of the world. In Egypt Pottiaceae is the largest family of mosses. It represents over 46% (84 taxa) of the known moss flora of Egypt. **OBJECTIVES:** The current study aims to validate the presences of 3 new records (*Bryoerythrophyllum inaequalifolium*, *Oxystegus tenuirostris* & *Trichostomum planifolium*) and discover good taxonomic characters which might be of a systematic value in delimiting this problematic taxa. **METHODS:** The three taxa were collected from different habitats in Ismailia governorate. Samples were examined, sectioned and described. Identification carried out by using the available moss flora books and papers either in Egypt or from around the world and international data bases. **RESULTS:** Intensive investigation of many samples collected from Ismailia showed that there is a unique small patches growing among other taxa. Identification of these patches revealed that the 3 taxa (*Bryoerythrophyllum inaequalifolium*, *Oxystegus tenuirostris* & *Trichostomum planifolium*). These three taxa represent new records to Egypt. **CONCLUSION:** The three taxa were confirmed as new records to Egypt. It may not be strange to find these three taxa in Egypt since they exist in neighbouring phytogeographical regions with rather similar climate and in other African regions widespread in Nile basin countries. Thus, diaspores may come via winds (long dispersal) or water and mud of Nile. But these taxa have some differences from those recorded in other countries due to adaptation to new habitat.

**KEYWORDS**

Moss flora,  
New Record,  
Egypt

**GOSF-122: EFFECT OF MYCORRHIZAL FUNGI AND RHIZOBACTERIA ON SOIL ENZYME ACTIVITIES, NUTRIENT UPTAKE AND CORN YIELD**

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**ABSTRACT**

**INTRODUCTION:** Use of arbuscular-mycorrhizal (AM) fungi and rhizobacteria plays a key role in improving activities of soil enzymes, nutrient uptake and crop production. Microbial inoculants proved to reduce the mineral fertilizer addition that causes environmental impacts. **OBJECTIVES:** A field trial was achieved to assess the effect of AM fungi and rhizobacteria *per se* on corn (*Zea mays* Pioneer 3080) yield, nutrient uptake and some soil enzyme activities under different levels of NP fertilizers. **METHODS:** Treatments were 100% NP fertilizer (NP100), 75% NP (NP75), 50% NP (NP50), NP50 + *Bacillus megaterium* (S1), NP75 + S1, NP50 + *Serratia liquefaciens* (S2), NP75 + S2, NP50 + AM fungi and NP75 + AM fungi. The AM fungi were obtained from Ain Shams University. The bacterial strains were isolated and identified by 16S rRNA. Soil samples were collected at flowering and ripeness for P, pH and phosphatases analyses. Plant samples were collected at ripeness to record grain and stover yields and NPK content. **RESULTS:** Grain and stover yields and NPK uptake increased significantly in NP100 treatment compared to NP50 or NP75. The inoculation with rhizobacteria led to an increase in grain and stover yields and NPK uptake at NP75 comparing to NP100, but this increase was not significant. Microbial inoculants increased significantly soil available P and reduced pH comparing to control. The activity of urease and phosphatases were significantly influenced by fungal and bacterial inoculations at NP75 treatment. **CONCLUSION:** Inoculation of corn seeds with AM fungi or tested rhizobacterial strains could reduce the application rate of NP fertilizers by 25

**KEYWORDS**

Zea mays,  
Rhizobacteria,  
AM fungi,  
Nutrient uptake,  
Soil enzymes

**GOSF-62: SYNTHESIS OF UNIFORMLY, WELL DISTRIBUTED SILICATE NANO PARTICLES ON GRAPHENE NANO SHEETS USING HYROTHERMAL METHOD**Abd El-Rahman M. Fayed<sup>1</sup>, Ahmed A. Hassanain<sup>1</sup>, Islam H. El -Sheikh<sup>1</sup>, Ahmed E. Ghitas<sup>2</sup>, and A. N. Fouda<sup>1</sup>*1 Suez Canal University, Faculty of Science, Physics department, Ismailia, Egypt.***ABSTRACT**

**INTRODUCTION:** Recently, the composites of graphene with carbon nanotubes attract the attention because of their large specific surface area and excellent electrical conductivity. Getting the benefits of their excellent electronic characterizations to fabricate organic solar cells, electrode materials, and heat transfer management of battery backs. **OBJECTIVES:** A systematic study of structural, morphological and thermal behavior of G/CNTs nano-composites was established. **METHODS:** Modified Hummer method was used to prepare GO nano sheets, and hydrothermal technique was used to synthesis different concentrations (2, 5, 10, and 15Wt%) of CNTs/graphene. **RESULTS:** XRD patterns for graphene, showed abroad (002) reflection. With increasing the concentration of CNT up to 15%, the sharpness and intensity of the peaks increase which reflects the enhancement in the crystallinity. The diffusion of charge carriers from the hot side to the cold side is responsible for the generated potential. The values of Seebeck coefficient was  $0.022 \times 10^{-6}$ ,  $2.9 \times 10^{-6}$ ,  $4.6 \times 10^{-6}$ , and respectively for the concentrations of 0Wt%, 1Wt%, and 10Wt% respectively. **CONCLUSION:** Different concentration of CNTs/graphene were synthesized using hydrothermal method. A forest like shape was observed for higher CNTs concentrations. The increase in Seebeck coefficient with increasing the concentration of CNTs is related to the intrinsic properties of strong Sp<sup>2</sup> hyperdization.

**KEYWORDS**

Carbon nanotube,  
Graphene nanocompo-  
sites,  
Thermoelectric-power



**UOSF-64: TOWARD THE FABRICATION OF CONDUCTING DISTRIBUTED BRAGG REFLECTOR**

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**INTRODUCTION:** Distributed Bragg Reflector (DBR) which is two layers with different refractive index, are considered as one of the promising alternatives to metallic reflector. There were a lot of efforts to produce semiconducting DBR, and there is no conducting DBR. **OBJECTIVES:** The fabrication of conducting DBR, will open the gate to new generations of opto-electronic devices. In the present study, we proposed multilayer arrangement of conducting DBRs using Al doped ZnO/Ga doped ZnO and Al doped ZnO/Nb doped TiO<sub>2</sub>. **METHODS:** We selected appropriate materials with a suitable difference in refractive index. Simulation method was carried out to confirm the importance of the proposed structure as a new DBR. **RESULTS:** For high reflectivity  $R > 99.5\%$ , the calculations of the stopping band width, of the proposed structure were 50nm for TiO<sub>2</sub>/ZnO, 46nm for ITO/MgO, 11nm for ITO/MgZnO, and 26nm for SnO<sub>2</sub> / ITO. **CONCLUSION:** Conducting DBR structures were proposed, like Al doped ZnO / Ga doped ZnO and Al doped ZnO/ Nb doped TiO<sub>2</sub>. Different types of semiconducting DBRs like ITO/MgO, ITO/MgZnO, GaN / AlInN, AlGaN / GaN , SnO<sub>2</sub>/ITO were analyzed completely using simulation method.

**KEYWORDS**

Stopping band,  
semiconducting DBR,  
Conducting DBR

**GOSF-68: UNZIPPING OF MULTI WALL CARBON NANO TUBE USING MODIFIED HUMMER METHOD**

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Al-Azhar University,, Faculty of Science, Department of Physics***ABSTRACT**

**INTRODUCTION:** Graphene, a flat monolayer of two dimensional (2D) honeycomb carbon atoms, has a wide range of applications due to, its superior structural and electronic properties. It can be synthesized by several methods, including micromechanical exfoliation, thermal expansion, chemical vapor deposition, reduction from GO Unzipping the wall of MWCNT by an easy method is a challenging issue. **OBJECTIVES:** Examining the performance of modified Hummer method to unzip MWCNTs. **METHODS:** Modified Hummer method was applied to CNT. Structural characterizations were performed using XRD, FE-SEM, TEM, and Raman spectroscopy. **RESULTS:** XRD measurements depict the existence of Carbon based material (002) at 26.55°. The surface morphology of GO nanosheets depicted that GO flakes have wrinkles and folds at the edges. A descriptive SEM, and TEM clarify the unzipping process along the wall of CNT. The defect band (D band) and Graphene band (G-band) was observed in Raman spectroscopic analysis for the unzipped MWCNT. **CONCLUSION:** Modified hummer method was used to unzip MWCNT. Structural Characterizations confirm the efficient of the used approach to modify MWCNT.

**KEYWORDS**

Modified Hummer method,  
Multi wall carbon nano tubes,  
Unzipping,  
Graphene

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**Oral Session (E4)**  
**Education, Tourism & Humanities**

دراسات من واقع المعالم السياحية المصرية



## GOSE-47: THE MILITARY CAMPAIGNS OF THUTMOSE III IN KARNAK TEMPLE

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**ABSTRACT**

**Introduction:** Thutmose III was one of the most important kings of the ancient Egypt. He founded a great kingdom extended to the 4<sup>th</sup> cataract of the Nile in the South, and Beyond El Phurate in the North. He was a great warrior and he had many military training while he was young. After the death of his father "Thutmose II", he was still a child; he was too young to rule, so Hatshepsut "the wife of his father" was his co-regent, she declared herself on the Throne of Egypt. When he grew up and had his great power, he held the throne of Egypt. **Objectives:** is to throw the light on our great history and civilization during the region of Thutmose III, and how he was able to add to the Egyptian Military and the War Plans that had been studying in a lot of military institutions around the world. **Methods:** Thutmose III did his best to found his great kingdom; he fought against his enemies to protect the borders of Egypt. He sent sixteenth military campaigns to Asia. His military campaigns had been recorded on the walls of the temple of Amun at Karnak. He started his first military campaign in the twenty two year of his reign; he marched with his great army to Megiddo. There were three ways, the first way was the shortest but it was narrow and dangerous inside the mountain, the other two ways were the longest but they were paved and secured around the mountain. In spite of the commanders saw the other ways were better to pass, Thutmose III saw the first way already was very hard to pass, he intended to cross it, because his enemies did not expect that the Egyptian army could to pass that dangerous way, otherwise he would be defeated, so Thutmose III insisted on crossing the first way that his enemies did not expect to pass it, they were waiting for Thutmose III and his army on the exits of other ways. He attacked on his enemies that they were under the head of the king of Kadesh, he defeated them at Megiddo, and he came back to Egypt with a great victory. After that he did many other campaigns against his enemies to appear the power and the authority of Egypt at Asia, and to protect the Egyptian borders against any attack. **Results:** Thutmose III was the first one who added a lot to the ancient Egyptian military, he divided the Egyptian Army to one heart and two wings, he had studied the war places, and he used the suddenly and surprising war. He subdued the foreign people to the Egyptian authority, and the Asian kings and princes used to send the tributes and special gifts for him. **Conclusion:** Thutmose III was one of the most important kings, not only during the 18th Dynasty, but also the whole of ancient Egypt. He founded a great empire during the New Kingdom. He well-trained during he was child, so when he grew up he became a great warrior and added a lot to the ancient Egyptian military. He sent sixteenth military campaigns to fight his enemies at Asia and to maintain the Egyptian presence over there, in addition to he sent his final expedition to Nubia, and he return back to Egypt with his great victory.

**KEYWORDS**

Thutmose III,  
Military campaigns,  
Karnak Temple

## GOSE-71: WOODEN STATUES IN THE MIDDLE KINGDOM

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**INTRODUCTION:** Wood was a widely used material for sculpture in ancient Egypt from the earliest times. It was mostly native timber, but from the New Kingdom onwards, sculptors also used imported wood species. During the Middle Kingdom wood was so much used for making statues of near life size and statuettes because of its flexibility in carving. It was used for making statues of different standards such as the kings, the high official as well as the servants. The ancient Egyptian believed that he would be resurrected after his death and then the soul will reoccupy him once more, so he had to mummify his body in order to achieve this purpose. He was afraid that his body would be decomposed which by its turn soul would be lost too, so the ancient Egyptian thought of making statues to allow the soul to occupy them if bodies under any circumstances decomposed. **OBJECTIVES:** To high light on the art of sculpture in the Middle Kingdom. To high light on the wooden statues and statuettes of kings, high officials and servants in the Middle Kingdom. **METHODS:** For achieving the objectives of the research, I depend on the analytical descriptive methodology for the most important data that can be found in the Arabic and foreigner bibliographies which concerning the research. **RESULTS:** Most of the wooden statues in the Middle Kingdom are depicted standing. Both Egyptian and foreigner woods were used by the ancient Egyptian artist in his works. **CONCLUSION:** The Middle Kingdom of ancient Egypt covers the 11th and 12th Dynasties. Wood material was used on a large scale for making statues. Both Egyptian and foreigner woods were used by the ancient Egyptian artist in his works.

**KEYWORDS**

Wood,  
Middle kingdom,  
Statues

### GOSE-83: MERSA\WADI GAWASIS: A PHARAONIC PORT ON THE RED SEA

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#### ABSTRACT

**INTRODUCTION:** The Sea played a very important role in life of Ancient Egyptian. So Egyptian various economic, and military activities need to build Ports and project to connect the Nile and the Red Sea. A number of Ports were used for seafaring expeditions in the Red sea. The oldest known pharaonic harbor at El-Ayn El-Sokhuna, on the Gulf of Suez, The Mersa\Wadi Gawasis port. The site of Mersa\wadi Gawasis was used in the Late Old Kingdom, First Intermediate period, during 12th Dynasty and in the New Kingdom. **OBJECTIVES:** This paper focuses mainly on finding the importance of the Sea Ports in Ancient Egypt especially the site of pharaonic port Wadi Gawasis. It illustrates the function of this port during 12th Dynasty. **METHODS:** It was used classical sources, excavated inscriptions and Surveys for data collection. **RESULTS:** This paper results that Mersa Gawasis was the site of a port dating from the 12th Dynasty (Senusert I and Amenemhat II), as indicated by stelae from this period. **CONCLUSION:** Mersa Gawasis served as a place for sending maritime expeditions to the Red Sea region. The site was fully used during the reigns of Senusert I, II and III as well as those of Amenemhat II, III and IV.

#### KEYWORDS

Maritime,  
Middle Kingdom,  
Mersa\Gawasis,  
Seafaring

## GOSE-115: THE CHAPEL OF DEDWEN

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The Chapel of Dedwen is one of the rock-cut temples in Kalabsha at Aswan. It has been reconstructed by an Egyptian team from the Supreme Council for Antiquities "SCA". The Chapel of Dedwen is dedicated to the god Dedwen or Dedun who was a Nubian god worshipped during ancient times in that part of Africa and attested as early as 2400 BC. There is much uncertainty about the original nature of Dedwen god, especially since he was depicted as a lion, a role which usually was assigned to the son of another deity. Nothing is known of the earlier Nubian mythology from which this deity arose, however, the earliest known information in Egyptian writings about Dedwen indicates that he already had become a god of incense by the time of the writings. The objective of this research is to throw the light on the historical importance of the chapel of Dedwen god and its divine scenes of an unidentified king who is probably Ptolemy V, offering to the Nubian god Dedwen and other deities. The method of this research is proposed that the Chapel of Dedwen dates back to the king Ptolemy V, depending on the most important archaeological references that cleared the argument about who is the owner of the chapel? The results of this research revealed that the chapel of Dedwen dates back to the king Ptolemy V, where the part of his royal cartouche is inscribed on its walls. Also, it was revealed that the architecture of the chapel of Dedwen consists of a small chamber, a courtyard and two entrances, the main is located in the northern side and the other is located in the western side. The Chapel of Dedwen is located on the south-west side of the temple of Kalabsha at Aswan, dates back to the king Ptolemy V and is dedicated to the god Dedwen or Dedun who was a Nubian god worshipped during ancient times in that part of Africa. Although mentioned in the pyramid texts of Ancient Egypt as being a Nubian deity, there is no evidence that Dedwen was worshipped by the ancient Egyptian, nor that he was worshipped in any location north of Aswan. Nevertheless, in the Middle Kingdom of Egypt, during the Egyptian rule over Kush, Dedwen was said by the Egyptians to be the protector of deceased Nubian rulers and their god of incense, thereby associated with funerary rites.

**KEYWORDS**

Chapel of Dedwen,  
Kalabsha,  
Ptolemy V,  
Nubian god

## GOSE-124: THE MASTABA OF MERETETI

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**INTRODUCTION:** The Mastaba of Mereruka was originally formed or two section, the larger one (section A) for himself, and the smaller one (section B) for his wife Waatetkethor who was described as king's eldest daughter of his body. A third (section C) was later added for their son Meryteti. Meryteti have 49 titles, His wife called 'Nabet', Nbt and he has two sons. The tomb of Meryteti was most probably completed in the reign of Pepy I, (old kingdom) sixth dynasty), although Nims' suggestion that it was originally built during Teti's reign has great merit. The north east section of Mereruka tomb contains five rooms to which from the chapel of his son (Merteti). It incorporates three decorated chambers (c1, c3, and c4), an undecorated magazine (c2) and a serdab. **OBJECTIVES:** of this research is development of the tomb reached in this period, whether in the architectural and geometrical planning and technical aspects in tomb. **METHODS:** The Mastaba of Mereruka consists of 32 rooms; this very large Mastaba is almost entirely occupied by three chapels, one belonging to Mereruka himself, one for his wife, and the third for their son Mereteti, including 5 rooms. Clarification Architectural features, burial apartment and scenes and inscriptions. The Mastaba constructed with good quality limestone in this period. **RESULTS:** the Mastaba of Mereruka is perhaps the most extensive funerary complex of a private individual or family from the old kingdom. Here, the extent of showing the evolution of the cemetery in the cemetery compared to what it was in previous periods. **CONCLUSION:** we conclude the tomb of Mereteti part of the Mastaba of his father Mereruka; we conclude it's the most family tomb. A major development in the architectural and geometrical planning and also through the technical aspects sees it through scenes and inscriptions in the cemetery and sees it more clearly at the entrance and foals door.

**KEYWORDS**

Mastaba of Mereruka,  
Waatetkethor,  
tomb

## البرديات الاثرية بين طرق الصناعة والتلف والعلاج: FOXE-151

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## ABSTRACT

مقدمة البحث: نظرا لاهمية البردى التاريخية والاقتصادية ولان هناك غموض فى طرق صنعها وعن علم ونبات البردى , لذلك فان البحث يتكلم عن التقنيات المختلفة لصناعة نبات البردى وتأثير تقنيات الصناعة على تلف الاثار البردية وأيضاً استخدام التكنولوجيا الحديثة فى العلاج والصيانة. الهدف من البحث: ان هدف البحث هو التعرض الى طرق صناعة البردى القديمة والتي تم تجريبيها لأول مرة , بالإضافة الى معرفة تأثير طرق الصناعة المختلفة في تلف المواد الاثرية وأخيراً معرفة تطبيقات التكنولوجيا الحديثة في علاج وصيانة البردى الاثرى. الطرق المستخدمة: لقد تم استخدام الميكروسكوب الرقعى للتعرف على الخواص المختلفة لالياف نبات البردى بعد الصناعة وأيضاً تم استخدام الاشعة فوق البنفسجية والاشعة تحت الحمراء في فحص نبات البردى الاثرى وتم استخدام حيود الاشعة السينية في تحديد عناصر المواد الملونة على نبات البردى الملون وأيضاً تم استخدام الاشعة تحت الحمراء لمعرفة الوسيط اللوني المستخدم عموماً مع المواد الملونة ووقد تم تجريب أربعة طرق مختلفة لنبات البردى ومعرفة عيوب ومميزات كل طريقة مستخدمة. النتائج: لقد تم التوصل من خلال الدراسة بعد الدراسة التجريبية وفحص البردى الى ان هناك طرق صناعة تؤثر في تلف البردى وطرق أخرى لا تؤثر في تلف البردى من خلال الفحص الميكروسكوبى وهو الهدف الجوهري, بالإضافة الى انه لابد من توفير بيئة مناسبة لعرض البردى الاثرى داخل المتاحف وقناريين العرض فلا بد من ضبط لدرجة الحرارة لارتفاع عن 20% ولا تقل عن 18% والرطوبة لارتفاع عن 55% ولا تقل عن 45% بالإضافة الى الضوء لابد الانتعاش لضوء اكثر من 50 لوكس ولابد من حماية قاعات العرض من التلوث الجوى واختلاطه بالرطوبة ولابد من تعقيم القناريين ضد الإصابات الميكروبيولوجية والحشرات. الاستنتاج: من خلال الورقة البحثية نستنتج ان المصرى القديم كان لديه الوعى فى استخدام ايا من طرق الصناعة على حسب خصائص الورق المرجو منه ونظراً لاهمية البردى الاقتصادية ظل سر صناعة اوراق البردى لفترات طويلة لم يذكر منه صناعة الا القليل ونجد انه للحفاظ على الاثار البردية لابد للجوء الى طرق الفحص والتحليل العلمية للوقوف على تقييم طرق صناعة البردى وكيفية عمل خطة علمية صحيحة لعلاج وصيانة الاثار البردية. ان البردى استخدم منذ الاف السنين كمادة للكتابة وللطعام والاثاث والتزيين , اصبح الان البردى لة علم خاص يسمى علم البردى Papyrology ونجد انه تم انشاء معاهد علمية عالمية وكليات متخصصة فى دراسة البرديات الاثرية ودراسة النقوش, ان هذه النقطة البحثية فى ابحاث البردى هامة جداً للتعرف على اسرار علم البردى حيث تكتيك الصناعة التى لم يعرف عنة الكثير من المتخصصين وغير المتخصصين ومن هذا المنطلق فقد قام الباحث بالعمل على هذه النقطة وتجريب ما يمكن تجريبه على حسب الامكانيات المتاحة لعمل دراسة مقارنة لمعرفة الورق البردى وطرق صناعته لان صناعة البردى ظلت الى الان لم يعرف عنها وما يذكر ماهى الاجتهادات مع بعض الاثباتات والتجربة وما ذكر من دراسة ميكروسكوبية صحيح ولكن غير كافي لم يوفى تقنيات الصناعة كلها والاضافات التى تضاف والمعالجات التى تتم لها باضافة مواد أخرى, فالهدف من البحث التعرض الى طرق صناعة البردى القديمة والتي تم تجريبيها لأول مرة , بالإضافة الى معرفة تأثير طرق الصناعة المختلفة في تلف البرديات الاثرية وأخيراً معرفة تطبيقات التكنولوجيا الحديثة في علاج وصيانة البردى الاثرى, من خلال استخدام بعض طرق الفحص والتحليل مثل الميكروسكوب الرقعى وأيضاً التحليل بواسطة حيود الاشعة السينية.

## KEYWORDS

البرديات الاثرية،  
نبات البردى،  
صناعة البردى،  
تلف البردى،  
علاج البردى

**Second Day**  
**Sunday 30 April 2017**

**Plenary Talks**



### P6: Water and Agricultural Related Challenges for Sustainable Development

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Head of Farm Irrigation Management Department, Water Management Research Institute, National Water Research Center

#### Plenary 6

#### ABSTRACT

Availability of water resources is a major challenge facing Egypt. Facing food security required mega irrigation and agricultural projects to recover shortage. Mega projects were established to enlarge the cultivated area within the government economic agenda. Strategies including improving the performance of irrigation and drainage systems from integration point of view. The variability could be managed and the efficiency of irrigation water use increased within improving irrigation system as well as reusing drainage water. Those management tools should help in the sustainable planning of the future economy. A positive/negative impact was observed through variable application of irrigation water to meet the individual needs of crop water requirements (within free crop pattern system). Historically, water conservation techniques through irrigation improvement projects (IIPs) were also implemented in order to mitigate the shortage of water resources.

#### KEYWORDS

Water shortage,  
food security,  
Irrigation efficiency,  
irrigation and drainage

**P7: A Journey in Design, Synthesis and Development of Novel Anticancer and Antimalarial Agents**

Prof. Ibrahim El-Tantawy

*Professor, Faculty of Science, El Menoufia University, Egypt & President of Japan Society for the Promotion of Science Alumni Association in Egypt (JSPSAAE)***Plenary 7****ABSTRACT**

This lecture will be focused on two parts. In the first part, we will present diaryl phosphonate inhibitors for urokinase-type plasminogen activator (uPA) with anti-cancer activity. Urokinasetype plasminogen activator (uPA) is a serine protease which is situated on the cell surface and can be bound to its receptor (uPAR). The role of uPA/uPAR system in human cancer was demonstrated (Thromb. Haemostasis 2005, 93, 641). We have designed and developed peptidic diphenyl phosphonate inhibitors of uPA. . A first potent and selective lead compounds were identified and a lead optimization program was started to modify the compounds to a small nonpeptidic diaryl phosphonate irreversible inhibitor of uPA (J. Med. Chem. 2006, 49, 5785, *ibid*, J. Med. Chem. 2007, 50, 6638). Potent and selective uPA inhibition was obtained ( $IC_{50} < 10$  nM; selectivity toward a set of other trypsin like serine proteases more than 1000 fold). The synthetic approach, structure activity relationship (SAR) and *in vivo* animal studies of these selective inhibitors will be presented. While the Part II of my lecture will deal with the development of neocryptolepine scaffolds as a novel antimalarial active agents. As part of a larger project for developing more potent and safer antimalarial lead compounds based on natural product, we have developed robust and efficient synthetic method for the natural product alkaloid, neocryptolepine (J. Med. Chem. 52, 2979, 2009), *ibid*, 56, 1431, 2013) isolated from the shrub *Cryptolepis sanguinolenta* used in Central and West Africa in traditional medicine for the treatment of malaria. A lead optimization program was started to modify the compound and a wide range of neocryptolepine analogues with diversified frameworks and drug-like properties were synthesized. Potent and selective analogues against malaria with  $IC_{50}$  in the low nanomolar range were obtained (Med. Chem. Commun.5, 927, 2014), European Journal of Medicinal Chemistry 64, 498, 2013). The synthetic routes of these molecules, their biological activities and proposed mechanism of action will be illustrated from both our own research and literature.

**KEYWORDS**

Anticancer Drugs,  
Diaryl phosphonate inhibitors,  
Urokinasetype plasminogen activator,  
Antimalarial Drugs,  
*Cryptolepis sanguinolenta*



**4<sup>th</sup> YRC2017**

**Community Oriented Scientific Research**

**Second Day**  
**Sunday 30 April 2017**

**Oral Session (I1)**  
**Innovation & Technology**



## FOSI-10: A BOUNDARY ELEMENT ALGORITHM FOR MODELING THE GENERALIZED THERMOELASTIC PROBLEMS OF 3D ANISOTROPIC FUNCTIONALLY GRADED STRUCTURES

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### ABSTRACT

**INTRODUCTION:** In recent years, an understanding of induced thermal stresses in functionally graded anisotropic structures (FGAS) becomes more important due to its many applications in modern astronautics, aeronautics, soil dynamics, nuclear reactors, mining engineering, plasma physics, and high-energy particle accelerators. **OBJECTIVES:** It is very difficult to calculate the analytical solution of a generalized thermoelastic problems in a general case; therefore, an important number of engineering and mathematical publications devoted to the numerical solution have studied the thermoelastic behavior of FGAS. The main aim of this paper is to develop an implicit-explicit numerical algorithm and implementing it with the dual reciprocity boundary element method (DRBEM) to study the 3D thermoelastic problems in FGAS. **METHODS:** The boundary element approximation is a numerical computational technique that gives approximate solutions for engineering problems that do not have analytical solutions. In the BEM, only the boundaries of problem domain need to be discretized. Due to rapid development of computers and software, it became an efficient method. Functionally graded anisotropic structures (FGAS) are a type of nonhomogeneous composites where its value changes with its direction. FGAS are now developed and used in a lot of engineering applications. **RESULTS:** The results of this paper show the difference between the generalized theories of thermoelasticity in anisotropic functionally graded structures. The accuracy of the proposed method was examined and confirmed by comparing the obtained results with existent results. **CONCLUSION:** An implicit-explicit numerical algorithm was implemented with the DRBEM to model the generalized thermoelastic problems of 3D FGAS. The obtained results show the differences between the generalized theories of thermoelasticity. Excellent agreement is observed between the DRBEM results and the finite element results, thus confirming the accuracy of the DRBEM.

### KEYWORDS

Boundary Element Method,

Thermoelasticity Anisotropic,

Functionally Graded, Structures

## FOSI-72: EFFECT OF BY-PRODUCTS ON GREEN CONCRETE

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**ABSTRACT**

**INTRODUCTION:** In Egypt, concrete production causes pollution to the environment and the surrounding society especially at Helwan and Suez cities due to the emission of CO<sub>2</sub> gas that results from the fuel used in cement production. On the other hand, modern industries in Egypt leave behind a significant amount of waste materials and by-products that are not properly recycled. Concrete as being a composite material, its capacity for implementing by-products is high allowing for a greener concrete production. **OBJECTIVES:** The research investigates the implementation of supplementary cementitious materials (SCM) into concrete and evaluates their effect on concrete mechanical properties. Success in this matter will allow the concrete industry in Egypt to be greener and reduce its negative impact on the environment and the surrounding society. On the other hand, waste materials will be properly treated and reused in concrete production. **METHODS:** The materials used are Kaolin (KA) and Granulated blast furnace slag (GGBS). Their implementation is held through replacing cement partially with various replacement percentages in different design mixes of cement pastes and concrete. The evaluation of using such materials is based on testing the mechanical properties of concrete namely compressive strength, flexural strength, splitting tensile strength and permeability. **RESULTS:** The implementation of KA and GGBS in their inactive state as a replacement of cement has a significant reduction effect on concrete compressive strength at 28 days regardless of the replacement percentage; this can be attributed to their inactivity and their action as filler materials. However, their implementation improves the other mechanical properties such as splitting tensile strength, flexure strength and impermeability due to their particles fineness that enhances concrete pore structure. **CONCLUSION:** Replacement of cement by 10% KA or 45% GGBS in their inactive state improves the flexural strength, splitting tensile strength and impermeability of concrete. However, it reduces the compressive strength. Further research investigation is required to activate these materials and study their effect on concrete properties.

**KEYWORDS**

Green concrete,  
Kaolin,  
GGBS,  
Mechanical properties

## GOSI-135: ADAPTIVE IMAGE DENOISING APPROACH FOR LOW-DOSE CT

Elyamany H. &amp; Rashed E. A.

*Department of Mathematics, Faculty of Science, Suez Canal University, Ismailia 41522, Egypt***ABSTRACT**

**INTRODUCTION:** Low-dose computed tomography (LDCT) is usually performed by reducing the power of x-ray tube in clinical CT scanners. However, images acquired through LDCT are known to be of low quality due to the presence of statistical noise and other related artifacts. Effective denoising techniques are required to improve the quality of images obtained from LDCT to reduce the dose given to the patient during the imaging sessions. **OBJECTIVES:** This paper presents an adaptive method for denoising LDCT images. The proposed method is based on combining two different prior models to detect and reduce noise in LDCT. We consider the non-local means (NLM) as a prior information representing intensity information and probabilistic atlas (PA) to define other missing data in image spatial domain. **METHODS:** Non-local means is an image average filter that is used for image denoise. It is based on averaging image pixels that have similar statistical properties. It is different from the conventional local mean by extending the searching domain from a local neighborhood pixels to the whole image. However, this technique considers image pixel as color scale value without considering the pixel position information. On the other hand, PA constructed from previous scans can be used to provide information regarding the pixel spatial domain. The proposed method is adaptive combination of both methods, such that we consider both the intensity value and pixel position as prior information in the image denoise problem. **RESULTS:** The proposed method is evaluated using real CT data obtained from chest screening of different patients. We first use a fraction of the image dataset to construct the PA. Then, the atlas is registered to the noisy LDCT image. Finally, the proposed method is used to denoise the target image. We have found that the proposed method can lead to a significant noise reduction and image quality improvement compared to related conventional techniques. **CONCLUSION:** This paper presents a novel adaptive method for LDCT image denoise. The proposed method has a strong power in detecting noise by considering prior information corresponding to both pixel value and pixel position. Experimental results demonstrate that the proposed method leads to a notable image quality improvement.

**KEYWORDS**

Computed tomography,  
image denoise,  
probabilistic atlas,  
non-local means (NLM)



## UOSI-141: REALVIEW: INTERVENTIONAL FUSION IMAGING SYSTEM

USAMA A., NASSAR A., EZZAT E., GHALI N., ADLO N. &amp; RASHED E. A.

*Department of Mathematics, Faculty of Science, Suez Canal University, Ismailia 41522, Egypt***ABSTRACT**

**INTRODUCTION:** In orthopedic surgery, it is important for physicians to completely understand the three-dimensional bone structure for several procedures. To achieved this goal, it is required to image the patient several times using C-arm scanner from different positions during the surgery. This procedure is time consuming and increase the x-ray dose given to both patient and physician. **OBJECTIVES:** This work aims to develop an augmented reality system to be used in interventional procedure to facilitate quick and low-dose orthopedic surgery. **METHODS:** We consider two approaches, the first one output a fusion image obtained from x-ray C-arm scanner with true image obtained from digital camera. The fused image is shown on a large display inside the surgery room. The second approach aims at projecting the x-ray image on the patient body, which provide an accurate and real matching on internal bone structures. Both approaches are developed through an image processing technique called image registration and normalization. **RESULTS:** We have conducted experiment using real data obtained from clinical C-arm scanner and fixed digital camera. We have used metal markers to ensure the accuracy of the image registration process. Results indicate an interesting fusion image that may reduce the requirement of several imaging during the orthopedic surgery. **CONCLUSION:** In this work, we develop a new augmented reality system, named realview, which provide a fusion image of real optical images obtained from digital camera and x-ray images. Results indicate potential usefulness in orthopedic surgery procedures.

**KEYWORDS**

Augmented reality,  
interventional surgery,  
image registration

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Community Oriented Scientific Research

**Second Day**  
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**Oral Session (E5)**  
**Education, Tourism & Humanities**

الاعلام و السياسة في المجتمع



## GOXE-5: THE ROLE OF THE EURO-MEDITERRANEAN PARTNERSHIP IN THE GOVERNANCE OF ENERGY POLICIES IN THE MAGHREB COUNTRIES- CASE STUDY ALGERIA

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### ABSTRACT

The Euro-Mediterranean Partnership intervention in this range, as the European Union seeks to develop a comprehensive policy that includes the southern shore of the Mediterranean and which he considers his realm geo strategic since the signing of the Barcelona Convention. This study shows us that the power of great importance in the Euro-Mediterranean partnership between the European Union and the Maghreban countries each party to implement a national energetic strategy sought by focusing on bilateral agreements in the field of energy. It is on the one hand the EU seeks global energetic consumer to ensure the security of its supplies of energy, ease energetic foreign dependency for the greatest possible concessions in the field of natural gas, especially primary energies. On the other hand the Maghreban countries, particularly Algeria seeks to governance their energetic policies to ensures energy efficiency and development of renewable and alternative energies, especially in the production of electricity, improve human development indicators and achieve sustainable development, thus ensuring political stability. we conclude in our study that the EU's focus on making renewable energy a priority the energy cooperation with Maghreban states is the most important axis of underlying Energetic Policy Governance, which was it energetic strategy since 1973, this one hand. On the other hand, We conclude that energetic partnership signed between Algeria and the European Union after 2009 is not a result of common interests between the two parties, Algeria develop a national program to develop renewable energies while Europe seeks to secure supplies of natural gas and in any case the partnership option is inevitable on Algeria in the light of the current volatility in oil prices and their repercussions on Algeria. Also, we conclude that energy is one of the important elements of achieving sustainable development and green economy because it is a key factor in driving the national economy and the achievement of stability and growth, so as to provide employment opportunities, improve living standards and reduce poverty. The strengthening of local energy programs in the framework of the Euro-Mediterranean partnership in order to spread a socially acceptable and environmentally is fundamental for the achievement of the Millennium Development third goals, so Algeria want to develop renewable energies to assure the national economy of the oil shocks and the structural imbalances caused by market volatility international oil.

### KEYWORDS

Euro Algerian partnership,  
Governance of Energetic policies,  
Oil,  
Algeria's economy,  
Renewable energies,  
Sustainable development.



## أثر سلوك الإنسان الأول والطبيعة على نشأة الفكر الذكوري: GOXE-67

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## ABSTRACT

مقدمة: الإنسان كائن حي أجبرته الطبيعة على التطور، لذا إحتفظ بأغلب صفات الحيوان ودوافعه، وأضاف عليها عاداته الجديدة. في البدء كان الذكر والأنثى عرابا في الطبيعة متساويان ومستقلان، وتنسب الأطفال لأمهاتهم. ثم ظهر المجتمع الذكوري الذي أضر بالرجال والنساء معا لذا صار علينا الآن مراجعته فقد أفقدنا الكثير من الوقت بإهدار مساهمة النساء في الرقي بالحياة. وقد توالى الحضارات التي جعلت من المرأة كائنا نجسا هو أصل البلاء إلى أن تحررت جزئيا في عصر النهضة الحديثة. الأهداف: إكتشاف جذور المجتمع الذكوري. معرفة كيفية تفكيكها. تعديل مسار الإنسانية من أجل حياة أكثر رقيا وعدلا. المنهج: إستخدمت منهج (تاريخي، تحليلي، نقدي) وذلك لتتبع تاريخ نشأة الفكر الذكوري ونقده ثم تحليل الأخطاء التي أدت إلى ظهوره. النتائج: عندما قلت موارد الغذاء عرف الإنسان الصيد ولأن الأنثى تعاني من الضعف عند الحمل ورعاية مولود تلو الآخر لجأت للذكر لتأمين الحماية والطعام مما أدى إلى تمييز الذكر. وقد ظهر الإهتمام المبالغ فيه من كلا الجنسين بجسد الأنثى حين إستخدمت جاذبيتها الجنسية لضمان تواجد الذكر بجوارها ما جعلها مجرد جسد يباع للزوج. وقد تم بناء مؤسسة الزواج على الإمتلاك وإنعدام الندية لأن الزوجة تشتري من الأسواق وسط الإحتفالات العارمة فيصبح للزوج حق التصرف بها حتى وإن أراد قتلها وهكذا ظهرت السلطة الأبوية وجعلتها العادات من المسلمات المرغوب بها بل وتحرض النساء على إستمرارها أكثر من الرجال وذلك بسبب تربيتهن المنغلقة. مع الوقت صارت المرأة عبارة عن جسد للمتعة ورحم لضمان نسب الأبناء لأبائهم. ولم تعرف أى حضارة بشرية معنى كلمة العذرية بالنسبة للذكر ووضع شرف المرأة في غشاء بكارتها وذلك لما له من ثمن عند البيع باسم الزواج فالأنثى التي لم تستعمل أعلى ثمننا. الإستنتاجات: الحق لا يسترد بالهبة ولكن ينتزع. لا بد للمرأة أن تضمن الإستقلال المادى لنفسها وتحثك بالحياة الخارجية. ولا بد أن تستعيد المرأة إمتلاكها لجسدها (الحرية الجسدية) فهو وسيلة وليس غاية في ذاته. ويجب تحديد المفهوم الصحيح للشرف. ولا بد من إعادة النظر إلى مؤسسة الزواج ليتم بنائها على الندية التامة فالإمتلاك عدو الحب وإن كان تحت مبرر الزواج. إن التصالح مع أجسادنا وغرائزنا والإعتراف بها عند محاولة تنظيمها هو بداية العودة إلى الإتران ورفع الضغط من فوق كاهلنا جميعا.

## KEYWORDS

الفكر الذكوري  
إستقلال المرأة  
حرية الجسد  
الزواج بالشراء

## دور الإعلام في التصدي للأزمات: GOSE-86

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## ABSTRACT

**مقدمة:** إن التعامل مع وسائل الإعلام أثناء الأزمات هو الوجه الآخر للسياسة، حيث تتجاوز اللغة الإعلامية وظيفتها التقليدية وهي بناء المعنى، وتتحول من مجرد كلمات دالة على مدلولات إلى مواقف ومن ورائها اختيارات كاملة، ولذلك قد يكون في استخدام كلمة أو عبارة أو وصف ما يتجاوز الحدث، حيث يتداخل التعامل الإعلامي في النسيج السياسي ليشكل واجهة للقرار، و الفعل، و رد الفعل والانطباع، والتهديد، والتوقع. ويشهد التاريخ العديد من الأزمات التي كان فيها سوء الأداء الإعلامي صانعاً للحدث السياسي خاصة في ظل التطور التكنولوجي الذي جعل الأداء الإعلامي والأداء السياسي يعيشان متلازمان تحت سماء واحدة.

## الأهداف:

1. توضيح العلاقة بين الإعلام والتأثير على قرار السائح.
2. توضيح العوامل المؤثرة على قرارات السائح وقت الأزمات.
3. تقديم مقترح لتفعيل دور الإعلام الإيجابي وقت الأزمات.

## منهجية الدراسة:

قد اعتمدت الدراسة على توزيع 250 إستمارة إستبيان على عدد من السياح من الجنسيات المختلفة، وقد تم إجراء التحليل الإحصائي (الوصفي) على العينة للأجابة على فروض البحث، وتم إجراء التحليلات الإحصائية الوصفية من تكرارات ونسب مئوية ومتوسطات حسابية مرجحة وإنحراف معياري ومعامل الاختلاف المعياري وذلك لتحديد سمات مفردات عينة البحث.

**النتائج:** أكدت الدراسة النظرية والميدانية أن الإعلام من الممكن ان يؤدي الى صناعة الأزمات، إذا كان هناك عدم وجود ضمير مهني أولاً وثانياً عدم وجود رقابة على الإعلاميين العاملين بقطاع الأخبار الذين يضحون بالأحداث ويصنعون الأزمات مما أدى إلى إنهاء القطاع السياحي المصري وعدم قدوم السياح إلى مصر في الفترة الماضية.

**المخلص العام:** تناولت الدراسة أهمية التعامل مع الأزمة إعلامياً وكيفية التخطيط لإدارتها إدارة سليمة وكيفية أن يكون الإعلام له دور في صناعة الأزمات والإعتبرات الواجب مراعاتها عند التخطيط إعلامياً في مواجهة الأزمة.

## KEYWORDS

الإعلام،  
إدارة الأزمات،  
القيادة الإعلامية

## الإعلام السياحي بين المفهوم والأهمية: GOSE-87

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## ABSTRACT

**مقدمة:** إن الإعلام السياحي هو أحد أشكال الإعلام المتخصص، ويعبر عن كافة أشكال النشاط الاتصالية المخططة والمستمرة التي يمارسها إعلاميون متخصصون بهدف تزويد الجمهور بكافة الحقائق والأخبار الصحيحة والمعلومات السليمة عن القضايا والموضوعات والمشكلات ومجريات الأمور المتعلقة بالسياحة بطريقة موضوعية وبدون تحريف عن طريق وسائل وأشكال الاتصال المختلفة وبكافة الأساليب الفنية للإقناع والتأثير من أجل تنمية الوعي السياحي لدى الجمهور من ناحية ومن ناحية أخرى من أجل اجتذاب أكبر عدد من الأفراد للإقامة بعيداً عن موطن إقامتهم سواء داخل البلاد أو خارجها من ناحية أخرى.

## KEYWORDS

الإعلام،  
الإعلام السياحي

**الأهداف:** دراسة العلاقة بين الإعلام السياحي كقطاع هام في الدولة والسياحة كقطاع أهم.

## منهجية الدراسة:

قد اعتمدت الدراسة على توزيع 203 إستمارة إستبيان على العاملين في قطاع الإذاعة والتلفزيون المصري وقطاع الأخبار المصري وهيئة تنشيط السياحة المصرية، وقد تم إجراء التحليلات الإحصائية الوصفية من تكرارات ونسب مئوية ومتوسطات حسابية مرجحة وإنحراف معياري ومعامل الإختلاف المعياري، وتم أيضاً استخدام اختبار الفا كرونباخ لقياس ثبات وصدق محتوى إستبيان الدراسة، بالإضافة إلى التحليل الوصفي لوصف العينة وإجراء اختبار كروسكال ويلز لدراسة الفرق بين المتوسطات تحت فرض أن توزيع البيانات غير معلوم.

**النتائج:** أكدت الدراسة النظرية والميدانية أن هناك علاقة وطيدة بين الإعلام وقطاع السياحة وخصوصاً الإعلام المرئي، حيث أن له تأثير مباشر على قرار السائح الدولي للسفر وقت الأزمات وهذا التأثير يكون بالسلب أو بالإيجاب، وذلك التأثير يكون قوي ومباشر على قرار السياح للسفر إلى مصر في وقت الأزمات، لأنه من خلال الإعلام المرئي يكون المجال مفتوح لعرض الخبرات السابقة سواء كانت سلبية أو إيجابية، ومعرفة الأخبار الجديدة وقت حدوثها.

**الملخص العام:** تناولت الدراسة مفهوم وأهمية الإعلام والإعلام السياحي بالإضافة إلى وظائف وأهداف الإعلام السياحي، وشروط نجاح الإعلام السياحي كقطاع هام من قطاعات السياحة.

## دور التنمية المستدامة في تنشيط الحركة السياحية بالتطبيق على محافظة الإسماعيلية: GOSE-90

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## ABSTRACT

**المقدمة:** تعتبر التنمية المستدامة أحدث الأنماط الإدارية المستحدثة في إدارة المقاصد السياحية ولذلك تسعى الجهات القائمة على ادارة المقاصد السياحية الى تطبيق مفهوم التنمية المستدامة لتعزيز الإمكانات بالمقاصد السياحية لتحقيق أقصى استفادة ممكنة. فعلى الرغم من وجود العديد من مقومات الجذب السياحي بمحافظة الإسماعيلية إلا أنها تمتلك نصيب ضعيف من الحركة السياحية مما أدى الى وضعها في مكان غير مناسب على الخريطة السياحية. **اهداف الدراسة:** يهدف البحث الى ابراز دور و اثر التنمية المستدامة في تنشيط الحركة السياحية بالتطبيق على محافظة الإسماعيلية. **المنهج العلمي:** أتمد البحث على الأسلوب الكمي في البحث من خلال الاعتماد على أستمارة الأستقصاء لجمع البيانات من السائحين و خبراء وزارة السياحة وهيئة التنشيط السياحي. اعتمدت الدراسة على برنامج (SPSS) في تحليل البيانات المجمعة وذلك لتحقيق هدف الدراسة في معرفة تأثير التنمية المستدامة على تنشيط الحركة السياحية بمحافظة الإسماعيلية. **النتائج:** توصل البحث الى وجود تأثير مباشر للتنمية المستدامة على تنشيط الحركة السياحية عامة و في محافظة الإسماعيلية بصفة خاصة. توصل البحث أيضا الى ان تنوع المقومات السياحية المستدامة داخل المقصد السياحي من الأمور التي تعزز امكانيات المقصد السياحي و تؤهله لمنافسة شديدة بين المقاصد السياحية و تساعد على زيادة تدفق السائحين. كما ان استحداث أنماط سياحية مستدامة يساهم في تنشيط الحركة السياحية الى محافظة الإسماعيلية. كذلك توصل البحث الى ان التنمية السياحية المستدامة ذات اثر ايجابي على النواحي الاقتصادية, الاجتماعية و البيئية يجب الاستفادة منه و ذلك على الرغم من المعوقات التي تواجه تحقيق التنمية المستدامة. **الخلاصة:** استهدف البحث دراسة اثر التنمية المستدامة على تنشيط الحركة السياحية بالتطبيق على محافظة الإسماعيلية, و من اجل الوصول الى هذا الهدف اعتمدت الدراسة على المنهج الكمي في جمع و تحليل البيانات. توصل البحث من خلال نتائج التحليل الكمي للبيانات الى وجود تأثير قوي للتنمية المستدامة على إمكانيات المقاصد السياحية و بالتالي على قدرتها الترويجية التي تساهم في تنشيط الحركة السياحية للمقاصد السياحية.

## KEYWORDS

التنشيط السياحي،  
التنمية المستدامة

## تطوير آليات المراجعة الدستورية في النظام السياسي المصري في ضوء التجربة الصينية: FOSE-97

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## ABSTRACT

انطلاقاً من اختلاف الباحثين حول ماهية النظام السياسي حيث يري البعض انه يعبر عن مجموعة المؤسسات التي تمارس النشاطات ذات العلاقة بالسلطة والحكم، فيما يري آخرون انه يعبر عن الأطر القانونية للنشاط السياسي؛ فالنظام السياسي كغيره من النظم يتأثر بعدد من العوامل الداخلية والخارجية مما يتطلب ضرورة التحديث والتطوير من حين لآخر، ومن افضل وسائل التحديث والتطوير هي الاستفادة من تجارب الدول الاخرى. ومما لا شك فيه ان البيئة التشريعية واحدة من اهم العوامل التي تؤثر علي النظام السياسي، كما ان البرلمان والمحاكم هي جزء من مؤسسات النظام السياسي، وبالتالي فان تطوير او تحديث تلك المؤسسات ونظام عملها سوف ينعكس علي النظام السياسي ذاته وهو ما تسعى اليه تلك الدراسة من خلال تحليل نظام المراجعة الدستورية في الصين ونقل الدروس المستفادة منه. يقصد بالمراجعة الدستورية تلك العملية التي من خلالها تمتلك احدي مؤسسات الدولة السلطة السياسية لتحديد ما اذا كانت القوانين واللوائح وغيرها من النصوص القانونية تتعارض مع النصوص الاعلي منها ام لا، وما اذا كانت تلك النصوص ذاتها مناسبة لتحقيق العدالة ام لا. توضيح المقصود بنظام المراجعة الدستورية بشكل عام وعلاقته بالنظام السياسي، وآليات تطبيقه في جمهورية الصين الشعبية، وبيان الدروس المستفادة من التجربة الصينية وكيفية الاستفادة منها في النظام السياسي المصري. المنهج الاستقرائي والاستنباطي، بالاضافة الي المدخل المقارن، والتحليلي، والقانوني. يخلط بعض الباحثين في استخدام مصطلح المراجعة الدستورية، تقترح الدراسة تطوير نظام المراجعة الدستورية في مصر من خلال العمل بنظام المراجعة السابقة واللاحقة للقوانين معاً من خلال لجنة لمراجعة دستورية القوانين بمجلس النواب بالتنسيق مع المحكمة الدستورية العليا، بالاضافة الي السماح لكل فرد ومؤسسة بتقديم طلب المراجعة مباشرة. تقدم الدراسة مقترحاً لتنمية الوعي القانوني (ملحق 1) وكذلك مقترحاً لتطوير مهنة المحاماة في مصر (ملحق 2) وذلك من خلال الربط بين مجالات العلوم السياسية، والادارة، والاقتصاد، والقانون. استعرضت الدراسة آليات المراجعة الدستورية في الصين وخلصت الي عدد من المقترحات لتطوير النظام السياسي في مصر مثل العمل بنظام المراجعة السابقة واللاحقة للقوانين، وطرحت تصوراً لتنمية الوعي القانوني ومقترحاً لتطوير مهنة المحاماه.

## KEYWORDS

النظام السياسي،  
المراجعة الدستورية،  
تدرج التشريعات،  
مصر والصين،  
السياسة والقانون

## GOSE-158: مفهوم الإنسان في الفكر السياسي المعاصر

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## ABSTRACT

**المقدمة:** إن البحث عن حقيقة كنه الإنسان والطبيعة البشرية وحقيقتها من القضايا التي شغلت الأرض بما تمثل من فكر إنساني، والسماء بما تمثل من تشريع إلهي. وبالتالي فإن دراستنا الماثلة تسعى للتعرف على ماهية الإنسان وكيونته في ذاتية وفرديته، وذلك من خلال ما جسده التصورات الفكرية الغربية والإسلامية للحقيقة الجوهرية للإنسان.

## KEYWORDS

إنسان،  
فكر،  
إسلامي،  
غربي

وعليه، فإن السؤال التي تسعى هذه الدراسة للإجابة عليه هو: ما المقصود بهذا الإنسان موضع ذلك الاهتمام؟ وما مفهوم الإنسان في الفكر السياسي المعاصر بشقبة الغربي والإسلامي؟ كيف تعامل الفكر العربي الإسلامي والفكر السياسي الغربي (بشقبة الليبرالي والاشتراكي) مع الشأن الإنساني؟ **الأهداف:** تقديم رؤية معرفية عن ماهية الإنسان ومكانته في الفكر السياسي المعاصر خاصة لدى النظريات الفكرية الغربية (بشقبة الليبرالي والاشتراكي الماركسي) ومفهوم الإنسان في الفكر الإسلامي، وتوضيح مدى اهتمامها بالإنسان من جميع جوانبه بشمول وتكامل وتوازن، خاصة وإن الإنسان هو الإنسان. وكذا كشف عن نقاط الاتفاق والصور والاختلاف في الأفكار التي قدمتها التصورات والنظريات الفكرية في ماهية الإنسان. **المنهجية:** ارتكزت الدراسة في تحليلاتها على بعض المناهج أبرزها: المنهج التاريخي: وبموجبه تم التعرف على الجذور التاريخية متمثلة في الفكر اللغوي والاصطلاحي لمفهوم الإنسان، وذلك وفق ما صاغة الكتب والمراجع الأم. المنهج المقارن: وتم الاعتماد عليه في المقارنة بين التصورات والمدارس الفكرية والفلسفية لماهية الإنسان، وبيان أوجه الشبه والاختلاف فيما بين النظريات والتصورات الفكرية (الغربية والإسلامية) في تناولها للإنسان. **النتائج:** مفهوم (الإنسان) نلتسه في إطار الفكر الإسلامي (الكلاسيكي والمعاصر) من خلال مجموعة من العلوم والمداخل، ومع ذلك فإن الملاحظ على هذه الأدبيات أنها لم تهتم بتعريف الإنسان، بقدر تركيز اهتمامها على توضيح حضور حقوق الإنسان في الإسلام، وتأكيد أسبقية وأفضليته في هذا المجال. وأما في الفكر السياسي الغربي فقد طغت عليه الماديات، ففي الفكر الليبرالي الإنسان هو الفرد المستقل ذاتياً فهو محور النظام وغايته، وأن حقوقه وحرياته هي هدف الجماعة، فهو أسبق من المجتمع وأسمى منه وأن المجتمع قد صنع من أجل الفرد، وليس العكس. وفي الفكر الاشتراكي الماركسي ينظر إليه كونه جسم مادي صرف تحكمه وتسيره عوامل اقتصادية مجرد من القيم الروحية، وأن حقوق المجتمع لها الأولوية على حقوق الفرد (عكس التصور الليبرالي). **المستخلص:** في التحليل الأخير وضحت الدراسة بأن مفهوم الإنسان – بشكل عام – لم ينحصر في مفهوم واحد شامل ولم يحصل اجماع على الدلالة إلية بميزة جوهرية دون سواها، فعلماء المسلمين والفكر السياسي الإسلامي بكل شرائحهم ومختلف توجهاتهم نظروا إلى الإنسان بجانبه الروحي والمادي. وأما علماء الغرب والفكر السياسي الغربي فقد نظروا إلى الإنسان بجانبه المادي.

**First Day**  
**Saturday 29 April 2017**  
**Poster Session (S2)**



**GPSH-7: SYNTHESIS OF POROUS COMPOSITE SCAFFOLDS OF (ε- POLYCAPROLACTONE) / NANO BIO-CERAMIC: EVALUATION AND IN VITRO ENZYMATIC LI-PASE DEGRADATION**

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**ABSTRACT**

**INTRODUCTION:** The biodegradable polymeric scaffolds have gained lots of attention for applications of soft tissues and bone regeneration. Polycaprolactone (ε-PCL) is a biodegradable polyester that takes very long time to degrade, and it cannot fulfill all of the requirements for bone tissue engineering, including mechanical properties, biodegradability and biocompatibility. **OBJECTIVES:** This study aimed to improve the degradation rate and the physico-mechanical properties of PCL scaffolds to be suitable for bone tissue engineering applications. **METHODS:** Preparation of ε-PCL scaffolds contained 40 wt. % nano-bioceramic fillers of hydroxyapatite, bioglass and a combination between them using solvent casting and particulate leaching technique. In vitro enzymatic degradation behavior of these scaffolds in phosphate buffer solution (PBS) contained pancreatic lipase (for 6 months) and pseudomonas cepacia lipase (for 1month) was examined. **RESULTS:** The results showed that the composite scaffolds were bioactive and highly porous (porosity 83-92%) with well-defined interconnected open pores. The combined mixture of hydroxyapatite and bioglass blended in PCL scaffold matrix revealed the highest mechanical strength, Young's modulus, bulk density and degradation weight loss (14.57%) in presence of pancreatic lipase enzyme after six months. All polymeric composite scaffolds showed a high degradation rate with accompanying weight loss (55- 88 %) after one month. **CONCLUSION:** On the bases of this study, it could be recommended to use pancreatic lipase as a catalyst with (ε-Polycaprolactone) / nano-bioceramic of hydroxyapatite / bioglass composite scaffolds for long - term bone implants , while Pseudomonas cepacia lipase is suitable for soft tissue regeneration or short - term implant applications.

**KEYWORDS**

ε- Polycaprolactone,  
Bio ceramic,  
Bioactivity,  
Enzymatic degradation,  
Tissue engineering

### **GPSH-36: MOLECULAR CHARACTERIZATION OF VARIANT STRAINS OF INFECTIOUS BRONCHITIS VIRUS IN EGYPT USING REAL TIME RT-PCR**

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#### **ABSTRACT**

Infectious bronchitis virus (IBV) is considered one of the most widespread and difficult poultry diseases to control. The characterization of the recently emerged variant strains in the Egyptian field is essential for improving the control measures for IBV and understanding the causes of recent outbreaks. Twenty broiler flocks raised in Ismailia and Sharkia governorates during 2016 were examined. The chicken flocks were suffering from coughing, sneezing, gasping, tracheal rales and conjunctivitis. Postmortem examination revealed presence of large amount of mucous in the respiratory passage, congestion, pneumonia, presence of caseated plugs at tracheal bifurcation and nephritis with kidney enlargement. Twenty tissue pools samples (trachea, lung and kidney) of examined flocks revealed 17 IBV positive samples using RT- PCR. The sequencing of S1 gene (Spike 1 glycoprotein) was done for 4 isolates and grouped as variant 2 IBV. Although some farms in this study were vaccinated by commercial live (hitchner IB, clone IB and IB primer) vaccine, that provided poor protection against new IB serotypes that have been recently circulated and detected which lead to outbreaks. It is essential to monitor the IBV strains in order to set up a successful strategy of the disease in Egypt.

#### **KEYWORDS**

IBV,  
Variant,  
Poultry,  
S1gene



**GPSH-44: ANTITUMOR ACTIVITY OF CHLOROQUINE AND GEMIFLOXACIN ALONE AND/OR IN COMBINATION WITH DOXORUBICIN**

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**ABSTRACT**

**INTRODUCTION:** Cancer is among the leading causes of death worldwide. Currently, there is a growing interest in combining anticancer drugs to maximize efficacy and minimize side effects. **OBJECTIVES:** The current study was designed to evaluate the possible *in-vitro* and *in-vivo* anticancer effect of chloroquine (autophagy inhibitor drug) and gemifloxacin (Topoisomerase II inhibitor drug). **METHODS:** MCF7 breast cancer cell lines were treated with doxorubicin and doxorubicin combination to measure IC50. The *In-vitro* antioxidant activity was also measured. In the *in-vivo* experiment, mice were divided into seven groups, with the exception of the normal control group, all other groups were injected with EAC (1 × 10<sup>6</sup> cell/ml) intraperitoneally and received different treatments: group 1 normal control group, group 2 positive control, group 3 injected with doxorubicin (2 mg/kg) intravenously, group 4 given chloroquine (25 mg/kg) orally, group 5 received gemifloxacin (25 mg/kg) orally, group 6 treated with a combination of doxorubicin (2 mg/kg) and chloroquine (25 mg/kg) and group 7 treated with a combination of doxorubicin (2 mg/kg) and gemifloxacin (25 mg/kg). Blood biochemical parameters (ALT, AST, urea and creatinine) and histopathological picture were studied. **RESULTS:** Doxorubicin combinations showed higher cytotoxic effect on MCF7 cell lines than doxorubicin alone. The combinations significantly increased SOD and GSH and decreased MDA levels in MCF7 cells. Furthermore, these combinations improved hematological parameters and histopathological pictures in the treated mice. **CONCLUSION:** Chloroquine and gemifloxacin significantly enhance the antitumor properties of doxorubicin and reduce its toxicity.

**KEYWORDS**

Doxorubicin,  
Chloroquine,  
Gemifloxacin,  
Ehrlich,  
MCF7



## FPSH-50: EVALUATION OF THE EFFECT OF LOW INTENSITY LASER ON DETECTING BONE LEVEL AROUND DENTAL IMPLANT IN OSTEOPENIC PATIENTS USING CONE BEAM COMPUTED TOMOGRAPHY

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### ABSTRACT

**INTRODUCTION:** Diagnostic imaging is an important part of implant dentistry and is used to ensure safe and predictable treatment. Cone Beam Computed Tomography (CBCT) provides illustrative three dimensional image of the jaw bone. Osteopenia is a reduction in bone mass due to imbalance between resorption and formation that affect postmenopausal women, so it is important to use low intensity laser therapy to decrease the amount of crestal bone loss for implant success. **OBJECTIVES:** To detect the impact of osteopenia on implant success and evaluate the effect of low intensity laser therapy on bone level around implant. **METHODS:** The study involved two groups; Control group: 6 implants were left to heal without any intervention. Study group: 6 implants received low intensity laser. All patients included in the study were assessed clinically and radiographically using DEXA scan to assure that they were osteopenic and by CBCT preoperatively, immediately and after 2, 4 and 6 months for follow up. Bone level around implant was statically analyzed. **RESULTS:** The bone level decrease was found insignificant upon comparing control and laser group at different time intervals. But the decrease at laser group was less, as it was found to be 8.91% comparing to 10.17% decrease found at control group. **CONCLUSION:** Osteopenia showed no effect in implant, as the bone loss was found to be within the normal range. The decrease in bone level was insignificant upon comparing laser and control groups among different interval time, although the laser group showed little decrease than control group.

### KEYWORDS

Dental implant,  
Cone beam computed tomography (CBCT),  
Laser,  
Bone loss,  
Osteopenia

## FPSH-55: EFFECT OF OCCLUSAL FORCES ON MANDIBULAR BONE SUPPORTING IMPLANT OVERDENTURE WITH DIFFERENT CANTILEVER BAR LENGTHS (THREE-DIMENSIONAL FINITE ELEMENT ANALYSIS)

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### ABSTRACT

**INTRODUCTION:** Dental implants provided the prosthodontic community with a valuable modality, and afforded many prosthetic options for the patients. Several dental schools now recommended that almost most mandibular dentures be retained by implants as the use of dental implants provide support for the prosthesis and offers a multitude of advantages compared with the use of removable soft tissue borne restorations. Implant retained mandibular overdentures are now considered the standard of care for completely edentulous patients, of which the bar retained overdenture has been shown to be durable and highly accepted by patients. **OBJECTIVES:** Aim of this study was to analyze the effect of occlusal forces on mandibular bone supporting implant overdenture with different cantilever bar lengths using a finite element analysis program. **METHODS:** Three models created, Model A: mandibular overdenture retained by a bar unit fixed between two mandibular implants. Model B: mandibular overdenture retained by bar and short cantilever bar unit (8mm). Model C: mandibular overdenture retained by bar and cantilever bar unit (16 mm). Personal computer with a Core i7, a cash memory of (1000 GB) and RAM (8 GB ). Computerized Tomography scanner (previously constructed 3D model used simulating completely edentulous case).Materialism's Interactive Medical Image Control System software. Solidworks 2015 software (engineering drawing programme and finite element analysis program). Steps: (1) Three dimensional drawing model components. (2) Assembling components. (3) Defining material properties. (4) Defining contacts and gaps. (5) Defining model fixture and restrain. (6) Defining loads applied. (7) Meshing. (8) Running the analysis. (9) results. **RESULTS:** The highest stresses within bone under vertical loading were recorded in the model with the long cantilever (16 mm) followed by the model with short cantilever (8 mm) while the model with no cantilever extension recorded the least value. **CONCLUSION:** The use of cantilevers in supporting mandibular implant overdentures can be done with a wide margin of safety, either short or long, with giving concern to the stress concentration within it to avoid failure.

### KEYWORDS

Cantilever,  
Implant,  
Overdenture,  
Mandibular,  
Finite Element Analysis

### GPSH-56: THE EFFECT OF PLATFORM- SWITCHED AND NON-PLATFORM IMPLANTS ON THE BONE IN MANDIBULAR IMPLANT SUPPORTED OVERDENTURE

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#### ABSTRACT

**INTRODUCTION:** Implant-retained or implant supported prostheses nowadays is the choice for completely edentulous patients to overcome problems associated with complete denture as retention and stability. **OBJECTIVES:** Aim of the study is evaluate the effect of the platform-switched and non-platform-switched mandibular overdenture on bone around the Implants. **METHODS:** 12 edentulous patients were selected from dental clinic of prosthodontics department, faculty of dentistry , Suez Canal University . a complete upper and lower denture were delivered to each patient, patients were divided in two groups, group (a) received platform switched implant ,group (b) received non platform implants . after complete osseointegration of the implants patients were recalled and abutments were installed , lower complete dentures were converted into complete overdentures retained by telescopic crowns on implant abutments , assessment of bone was done using cone beam x-ray every (3,6,9,12) months. **RESULTS:** using cone beam computed topography (CBCT) for assessment of bone density around the implants showed that platform-switched implants maintained the bone density of bone around implants and less radiolucency than non-platform implants. **CONCLUSION:** using of platform switched implants showed more enhancement of the bone density than the non-platform and enhance crestal bone preservation.

#### KEYWORDS

Implant-overdenture,  
Platform switched,  
Mandible,  
Removable prosthesis

## GPSH-58: DESIGN, SYNTHESIS AND BIOLOGICAL EVALUATION OF NOVEL HETEROCYCLIC COMPOUNDS AS ANTICANCER AGENTS

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### ABSTRACT

**INTRODUCTION:** Lung cancer is the leading cause of cancer deaths worldwide. There are two major types of lung cancer Non-Small Cell Lung Cancer (NSLC) (85% of cases) and Small Cell Lung Cancer (SCLC)(10-15% of cases).In non-small cell lung cancer (NSCLC), epidermal growth factor receptor (EGFR) over expression is detected in up to 85% of the tumors and has been shown to be associated with tumor growth, invasion, metastasis and poor prognosis. **OBJECTIVES:** EGFR is a member of the HER family: a subfamily of four closely related receptor tyrosine kinases EGFR (ErbB-1), HER2/ Neu (ErbB-2), HER3 (ErbB-3) and HER4 (ErbB-4), therefore blocking tyrosine kinase activity represents a rational approach to lung cancer therapy. A new series of thiophene based compounds were designed, synthesized and evaluated for their tyrosine kinase inhibitory activity. **METHODS:** Cyclohexanone undergoes Gewald reaction to give 2-amino-5,6-dihydro-4H-cyclohexa[b]thiophene-3-carbonitrile which is then reacted with chloroacetyl-chloride to afford 2-chloro-N-(3-cyano-4,5,6,7-tetrahydrobenzo[b]thiophen-2 yl) acetamide. The later compound represent a scaffold for coupling with different aromatic amines including simple mono cyclic amines such as benzyl amine and bicyclic amines such as 4,6-dimethyl-1H-pyrazolo[3,4-b]pyridin-3-amine and 4,6-dimethylisoxazolo[3,4-b]pyridin-3-amine to afford the targeted compounds. **RESULTS:** The newly synthesized compounds were evaluated *in vitro* against human lung carcinoma cell line (H1299) and showed promising activity. **CONCLUSION:** 10 new compounds were designed and synthesized as tyrosine kinase inhibitors and showed a promising anticancer activity.

### KEYWORDS

Thiophene derivatives,  
Anticancer,  
Gewald reaction.



**GPSH-59: DESIGN AND SYNTHESIS OF NOVEL HETEROCYCLICS WITH EXPECTED ANTI-CANCER ACTIVITY**Mohamed Salem<sup>1</sup>, Mohamed M.Said<sup>1</sup>, Yasmine M. Abdel Aziz<sup>1</sup> and Khaled Abouzid<sup>2</sup><sup>1</sup>Department of Pharmaceutical Organic Chemistry, Faculty of Pharmacy, Suez Canal University, Ismailia, Egypt<sup>2</sup>Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Ain Shams University, Abbasia, Cairo, Egypt**ABSTRACT**

**INTRODUCTION:** Epigenetic Aberrations often cause cancer and other human diseases. Recent studies on histone methyl transferases showed that deregulation of histone methylation plays a critical role in human carcinogenesis. These methyl transferases are classified as either SET-domain containing or non-SET-domain containing enzymes for methylation of lysine residue on histone. Specific lysine methyl transferases (KMT) catalyze the methylation process in a site dependent mode. **OBJECTIVES:** G9a and G9a-like protein (GLP) are members of the KMT family. They are the primary enzymes for mono and di methylation at Lys9 of Histone H3. Over expression of G9a protein is observed in many cancers, including prostate, colon, lung cancer and lymphocytic leukemia, therefore G9a could be a feasible target for cancer therapy. A new series of thiophene -based compounds were designed, synthesized and evaluated for their G9a activity. **METHODS:** different carbonyl compounds Under go Gewald reaction to give different 2-amino-thiophene-3-carbonitrile derivatives which are then reacted with formic acid/sulfuric acid to afford thieno [2,3-d] pyrimidin-4(3H)-one derivatives. The later compounds represent a scaffold for chlorination then coupling with different aliphatic diamines. **RESULTS:** The newly synthesized compounds were evaluated *in vitro* against human carcinoma cell lines and showed promising activity. **CONCLUSION:** new compounds were designed and synthesized as Lysine methyltransferase inhibitors and showed a promising anticancer activity.

**KEYWORDS**

Thiophene,  
Anticancer,  
Lysine methyl transferase.

**GPSH-60: THE EFFECT OF LEUCINE SUPPLEMENTATION ON ATROPHIED SOLEUS MUSCLES OF STREPTOZOTOCIN DIABETIC RATS**

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**INTRODUCTION:** Skeletal muscle atrophy is one of the serious and less studied diabetic complications. Mammalian target of rapamycin complex 1 (mTORC1) is an essential signaling pathway that regulates protein synthesis in skeletal muscles. Leucine is an essential amino acid that is transported into most mammalian cells by System L. Leucine was found to stimulate mTOR signalling. **OBJECTIVES:** The current study was conducted to assess the conceivable protective effect of leucine against diabetic myopathy. **METHODS:** Forty male Wister rats were allocated into four groups; control, Leucine-treated group subjected to daily oral supplement of Leucine (1.35 g/kg) for 8 weeks and STZ- diabetic group treated with single intravenous injection of STZ (45 mg/kg, i.v.) and diabetic STZ supplemented with leucine (1.35 g/kg) for 8 weeks. Blood glucose level, changes in body weight and histopathological analysis of soleus muscle were evaluated. L-type amino acid transporter (LAT1) expression was detected by RT-PCR and activation of mTORC1 signaling was evaluated by the western blotting via detecting phosphorylated AKT ser 473 (pAKT) and 4EBP1. **RESULTS:** Blood glucose of leucine supplemented rats was decreased significantly at  $p > 0.05$  compared with control. Body weight of leucine and STZ rats supplemented with leucine was significantly increased at  $p > 0.05$  compared with STZ rats. Leucine supplementation attenuates loss of soleus muscle mass observed in STZ diabetic rats. There was up regulation of LAT1 expression in all treatment groups compared to control. Western blotting results illustrated a significant phosphorylation of AKT ser 473 in STZ rats supplemented with leucine compared with control at  $p > 0.05$  and a significant activation of 4EBP1 in leucine and STZ rats supplemented with leucine at  $p > 0.05$  compared with control. **CONCLUSION:** These findings may suggest possible mechanisms by which Leucine appeared to be a prospective candidate to ameliorate diabetic myopathy.

**KEYWORDS**

Diabetes mellitus,  
Myopathy,  
Soleus muscle,  
mTORC1,  
LAT1

## GPSE-73: WOODEN COFFINS IN THE MIDDLE KINGDOM

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**INTRODUCTION:** The Middle Kingdom of ancient Egypt covers the 11<sup>th</sup> and 12<sup>th</sup> Dynasties. During the Middle Kingdom wood was so much used for making coffins because of its flexibility. Coffin's main purpose from the earliest times was the protection of the body, preserving it from deterioration or mutilation. Coffin styles and decorations changed over time. The earliest were made of wood and were basically rectangular boxes. This type of coffin remained common through the Middle Kingdom, though it was then that the anthropoid-shaped coffins first appeared as an inner container for the body placed within the rectangular outer coffin. For making coffins, the wood was cut so that the edges should exactly fit together; the adjoining surfaces were then fastened together with little wooden pegs; afterwards the joint was completely hidden by painting. Wooden pins were commonly used as the method of fastening, and during the periods with which we occupied, glue was employed but rarely. During the 11th Dynasty, coffins were almost always positioned in a north-south orientation. **OBJECTIVES:** To high light on the Middle Kingdom Period, To high light on the industry of wooden coffins through the Middle Kingdom Period, To high light on the decoration and inscriptions of the wooden coffins in the Middle Kingdom. **METHODS:** For achieving the objectives of the research, I depend on the analytical descriptive methodology for the most important data that can be found in the Arabic and foreigner bibliographies which concerning the research. **RESULTS:** Human shape wooden coffins appeared during the 12th Dynasty of the Middle Kingdom simulating the decease. The wooden coffins appeared in ancient Egypt since the Early Dynastic Period. **CONCLUSION:** The Middle Kingdom of ancient Egypt covers the 11th and 12th Dynasties, Wood material was used on a large scale for making coffins, The wooden coffins appeared in ancient Egypt since the Early Dynastic Period. Human shape wooden coffins appeared during the 12<sup>th</sup> Dynasty of the Middle Kingdom simulating the decease.

**KEYWORDS**

Wood,  
Middle kingdom,  
Coffins

**GPSH-75: CELECOXIB ENHANCES CARDIOTOXICITY IN L-NAME INDUCED PRESSURE OVERLOAD IN RATS**

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**INTRODUCTION:** The mechanism of celecoxib cardiovascular adverse events was earlier investigated; yet in-depth investigations are needed to assess the involvement of its pro-apoptotic effect throughout this process. **OBJECTIVES:** This work was designed to better understand the cardiotoxic effect of celecoxib in rats. The study focused on investigating the developed myocardial apoptosis in rats with experimental pressure overload induced by L-NAME. **METHODS:** An in-vivo chronic rat model of pressure overload employing N<sup>w</sup>-nitro-L-arginine methyl ester (L-NAME) was tested. Seven groups of male Wistar rats were assigned as (1) distilled water; (2-4) L-NAME (60 mg/kg) for 6, 12 or 16 weeks; (5-7) L-NAME [16 weeks] + celecoxib (25, 50 or 100 mg/kg), from week 13 to week 16. Systolic blood pressure was measured, in addition to immunohistochemical staining for apoptosis markers (activated caspase-3, Bax, Bcl-2 and Mcl-1) and DNA fragmentation measurement via agarose gel electrophoresis. **RESULTS:** Administration of L-NAME increased systolic blood pressure in addition to cardiac activated caspase-3 expression and Bax/Bcl-2 ratio whereas; Mcl-1 expression was decreased. Administration of celecoxib (25, 50 or 100 mg/kg) aggravated the L-NAME-induced toxicity. **CONCLUSION:** The work results showed that celecoxib pro-apoptotic effect is involved in its cardiovascular adverse effect in an animal model of pressure overload. These findings give new insights into the mechanism of action by which celecoxib may negatively affect the heart. There is a great need for exercising care when prescribing celecoxib to patients at risk of cardiac toxicity and pressure overload.

**KEYWORDS**

Celecoxib,  
L-NAME,  
Cardiotoxicity,  
Myocardial apoptosis,  
Systolic blood pressure

**GPSH-93: EFFECT OF NANO-HYDROXYAPATITE ON DENTAL PULP STEM CELLS**

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**ABSTRACT**

**INTRODUCTION:** Trauma or dental caries may lead to severe pulp exposure with various subsequent complications such as pulp inflammation and necrosis. Clinically, the treatment objectives of such cases are to seal the remaining vital pulp wound through forming a barrier of hard tissue. Recent advances in stem cell biology provide new strategies for dentin-pulp complex regeneration through progenitor stem cell recruitment, proliferation and differentiation into hard tissue secreting cells (odontogenesis). **OBJECTIVES:** The purpose of this study was to evaluate the effect of Nano hydroxyapatite (NHA) biomaterial on the odontogenic differentiation and proliferation of isolated human dental pulp stem cells (DPSCs) in vitro. **METHODS:** NHA biomaterial was inserted directly onto cultured DPSCs. Other cells were cultured only with odontogenic differentiation medium (positive control) or growth medium (negative control). After incubation for 14 days, alizarin red staining and quantitative real-time reverse-transcription polymerase chain reactions tests were carried out to evaluate the odontogenic differentiation. Moreover, Proliferation and viability percentage of NHA supplemented DPSCs were evaluated at 1, 3 and 5 days of culture. **RESULTS:** NHA induced the odontogenic differentiation of DPSCs in a similar manner to that of odontogenic induction media. The NHA supplemented DPSCs showed an initial significant decrease in mean cell count and viability percentage at day one in comparison to control cells. Then a subsequent rise in cell counts and viabilities was noticed in a time dependent manner. **CONCLUSION:** NHA promotes the odontogenic differentiation and proliferation of human DPSCs and can be used in dental regenerative purposes.

**KEYWORDS**

Nano-hydroxy apatite,  
Dental pulp stem cells,  
Proliferation,  
Differentiation

### GPSH-95: NOVEL TECHNIQUE FOR TREATMENT OF NECROTIC IMMATURE PERMANENT TEETH

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3 Suez Canal University, Faculty of Dentistry, Pediatric, Preventive dentistry and Dental Public Health Department, Ismailia , Egypt

#### ABSTRACT

**INTRODUCTION:** There is a great shift toward treatment of necrotic immature permanent teeth, regarding to biological based principles and regenerative endodontics. Earlier researches proposed that, stem cells from remaining vital pulp and/ or periodontium could enhance continuation of root development when regenerative endodontic procedure (REP) applied. **OBJECTIVES:** Evaluate effect of Tri-calcium silicate on increasing root length in necrotic immature permanent teeth. **METHODS:** Five upper anterior necrotic immature permanent teeth were disinfected with sodium hypochlorite and tri-antibiotic paste consisting of ciprofloxacin, doxycycline and metronidazole. At a following visit, intentionally over instrumentation was done to evoke bleeding within the canal. After blood clot formation, tri-calcium silicate was applied and the access was sealed by composite resin then patients were scheduled for follow up. **RESULTS:** Periapical radiolucency was disappeared. There was significant increase in the mean root length along the follow up periods. **CONCLUSION:** Disinfection of the canal is an important step in REP. Tri-calcium silicate is a suitable sealing material in the REP, causing favorable increase in the root length.

#### KEYWORDS

Immature permanent teeth,  
Tri-calcium Silicate,  
Endodontics,  
Regenerative

**GPSH-98: DESIGN, SUNTHESIS AND BIOLOGICAL EVALUATION OF NOVEL HETEROCYCLIC COMPOUNDS AS POTENTIAL ANTIDIABETICS AGENTS**Manar G. Salem<sup>1</sup> , Hosam A. Elshihawy<sup>1</sup>, Yasmine M. Abdel Aziz<sup>1</sup> and Mohamed M.Said<sup>1</sup>*<sup>1</sup>Department of Pharmaceutical Organic chemistry ,Faculty of Pharmacy, Suez Canal University, Ismailia, Egypt***ABSTRACT**

**INTRODUCTION:** Diabetes mellitus is a prevalent disease that has affected 285 million adults worldwide by the year 2010. It has been estimated that the number of diabetic patients is expected to rise upto 552 million by the year 2030. Moreover diabetic patients often suffer subsequent enlargement of tissue damaging complications that are widely responsible for the morbidity and mortality of diabetes. Various biochemical pathways are responsible for starting diabetic complications but evidence suggests the key role of polyol pathway. **OBJECTIVES:** The orally administered drugs, sulfonylureas have the ability to increase insulin secretion from pancreatic beta-cells. The main target of these drugs is known as sulfonylurea receptor 1 (SUR1) of adenosine triphosphate-sensitive potassium (KATP) channel. On the other hand enzyme aldose reductase is involved in the leading step of polyol pathway. This enzyme contributes to myocardial ischemic injury and diabetic atherosclerosis .The inhibition of aldose reductase enzyme is a possible approach to the treatment of some of the secondary diabetic complications .We meant to the synthesis of sulphonylurea derivatives from imidazolidine-2,4-dione. The new compounds were evaluated for hypoglycemic and aldose reductase inhibitory activity. **METHODS:** Different ketones undergoes Bucherer–Bergs reaction, then arylsulfonyl derivatives were prepared through coupling with various arylsulfonyl chlorides. **RESULTS:** All newly synthesized compounds were evaluated for in-vivo anti-diabetic activity. In addition, the compounds were screened for their effective inhibitory potential against human aldose reductase enzyme. **CONCLUSION:** the new compounds were designed and synthesized as hypoglycemic agents and aldose reductase inhibitors.

**KEYWORDS**

Sulphonylurea derivatives,  
Hypoglycemic,  
Bucherer–Bergs reaction

## GPSE-106: THE TOMB OF THUTMOSE III IN THE VALLEY OF THE KINGS

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**ABSTRACT**

**Introduction:** The royal tomb of Thutmose III (KV 34) is one of the most important tombs in the Valley of the Kings. The western Thebes was the official burial place of Egypt's Pharaoh during the New Kingdom. It was discovered by "Victor Loret" in 1898. It contains the main entrance, underground chambers, and the main burial chamber in which the sarcophagus of the king. **Objectives:** is to throw the light on the royal tomb of Thutmose III in the Valley of the Kings at the western Thebes. This tomb contains great inscriptions and monumental treasures showing the ancient Egyptian perception about the other world and added a lot to the Egyptology and ancient Egyptian history. **Methods:** This tomb was decorated with many inscriptions reflect the religious perception of the ancient Egyptians, Hieroglyphic texts, and a new version of the Amduat showing the gods of Ancient Egypt. It was decorated with forms representing the twelve hours distributed according to the heaven directions. The inscriptions painted in black and red lines with Hieroglyphic texts, decorated frieze of some plants, and the ceiling painted with blue color full of yellow stars representing the open sky of the other world. There is an important image of Thutmose III being suckled by the goddess Isis in the form of a tree. The walls of the burial chamber were decorated as a great ornamental scroll, with the completed text of the Amduat. The ancient Egyptians called it the "Book of the Secret Room" describing the afterlife world. **Results:** This tomb was cut in a high cliff in the valley, a steep corridor leading down to the tomb; it contains many antechambers after a deep shaft. The oval burial chamber provided with four smaller side chambers, it supported by two pillars, the sarcophagus taking the shape of cartouche, and it still in the ground of the burial chamber. The mummy of the king was not found in it, but it was discovered in 1881 in Deir Bahri Cache rolled in cloth, on it a hieroglyphic writing of sacred texts. **Conclusion:** The tomb of Thutmose III has many architectural elements including, it cut into the mountain, a staircase leading into the tomb, the shaft about six meters deep, many antechambers, and the oval burial chamber in which the sarcophagus and some of the monumental remains. The tomb was decorated with many inscriptions reflecting the religious believes of the ancient Egyptians, Hieroglyphic texts, and a new version of the Amduat that is one of the most important books of the Netherworld. It describes the sun god's journey through the twelve hours of the night from the sunset in the evening to the sunrise in the morning. The sarcophagus of the king still in his tomb and the mummy was not found in it.

**KEYWORDS**

Royal tomb,  
Thutmose III,  
Valley of the Kings

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**ABSTRACT**

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**KEYWORDS**

Royal tomb,  
Thutmose III,  
Valley of the Kings

**GPSF-107: EFFECT OF UV ILLUMINATION OF GRAPHENE/ZNO NANO COMPO-SITES**Abdo Hagag Eman<sup>1</sup>, Fouda A. N. <sup>1</sup>*<sup>1</sup>Physics department, Suez Canal University, Ismailia, Egypt.***ABSTRACT**

**INTRODUCTION:** Graphene is a two-dimensional single-atom thick membrane of carbon atoms arranged in a honeycomb crystal structure, flexible, strong(100 times than steel), high surface area and very light , high electrical conductivity, high thermal conductivity. Zinc oxide has a wide band gap of 3.37 eV at room temperature. ZnO nanorods function as UV absorbing and charge carrier generating materials ZnO nanostructures are ideal UV sensitive semiconductors for optoelectronic applications. Within ZnO, upon UV illumination, electrons transfer from VB to CB Finding conducting channels through Graphene. Because of graphene high transmittance (low absorption), nano-particle addition is a good solution to use it in photosynthesis. **OBJECTIVE:** Enhancing the photocatalytic activity of ZnO nanoparticles using graphene nansheets. **METHOD:** graphene oxide (GO) was prepared by modified Hummer method, and GO was exfoliated by sonication. Thermal reduction was used to synthesis TRGO. Photocatalytic activity of the synthesized samples were measured. **RESULTS:** It is found that the TRGO/ZnO nano-particles nanocomposites exhibit higher photocatalytic activity than ZnO nanoparticles, Since TRGO creates two-dimensional electronic-conducting channels for the photo-generated carriers, separation and transport of photo-generated electron hole pairs and reducing the recombination. **CONCLUSION:** We emphasized the enhancement in the UV photo-response performance of TRGO/ZnO nano-nanocomposites with respect to ZnO films. Graphene reduces the recombination and improves the on-off ratio.

**KEYWORDS**

Graphene,  
Photocatalytic activity,,  
Modified Hummer  
Method

## GPSH-109: COMPARATIVE STUDY BETWEEN THE EFFECTS OF TRICALCIUM SILICATE (BIODENTINE) AND FORMOCRESOL AS PULPOTOMY MEDICAMENTS FOR VITAL PRIMARY MOLARS

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### ABSTRACT

**INTRODUCTION :** Pulpotomy is the most widely accepted clinical procedure for treating symptom-free primary teeth. Formocresol (FC) is considered the gold standard dressing agent for pulpotomy, but concerns have been raised about its safety. Other alternative pulpotomy agents have been investigated and suggested. **OBJECTIVES:** The aim was to evaluate and compare the effects of tricalcium silicate (Biodentine) and formocresol as pulp dressing materials for pulpotomized primary molars through clinical and radiographic examination. **METHODS:** Forty primary molars, with deep carious lesion that exposed a vital but asymptomatic pulp, in 20 children aged 4-6 years were treated with conventional pulpotomy procedure. The teeth were divided into two groups: Group I (FC) and group II biodentine using split mouth technique. The treated teeth were followed up clinically and radiographically for 6 months. **RESULTS:.** At the end of the 6 months follow-up, the clinical success rates for FC and biodentine were 95% and 100% respectively, There was a statistically significant difference (  $P = 0.311$ ) between the clinical success rates of FC and biodentine. While the radiographic success rates for FC and biodentine were 70% and 90% respectively, there was no statistically significant difference between the radiographic success of FC and biodentine. **CONCLUSION:** Biodentine showed a higher clinical and radiographic success rate when compared to formocresol as a pulpotomy agent in vital primary molars.

### KEYWORDS

Pulpotomy,  
Formocresol,  
Biodentine,  
Primary teeth

### GPSF-110: CORAL REEF MAPPING OF WADI EL-GEMAL ISLAND, RED SEA

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#### ABSTRACT

Coral reef habitats in the Red Sea are famous by its diversity and richness. The coral reef benthic fauna and flora occur in heterogeneity coverage. When scaled to satellite image, one pixel can include many different benthos. The aim of this paper is to classify and mapping coral reef habitat. The present study used the linear un-mixing technique applied to the worldview-3 high spatial resolution image to differentiate and classify the different benthic covers at Wadi El-Gemal Island, Red Sea. The training sites were chosen according to the in-situ survey and used to utilize the extracting of the pure end-member library which can be used in the linear unmixing to obtain the final fractions values for every class. The multispectral high spatial resolution satellite was fit to get the endmember library and classify coral reef with overall accuracy of 66.66% and Kappa coefficient of (0.53). The results of this study can be used in mapping and detecting changes of coral reef cover.

#### KEYWORDS

Coral reef,  
Linear Unmixing,  
Wadi El-Gemal,  
Red Sea,  
Worldview-3

### GPSF-111: BATHYMETRY MAPPING USING HIGH RESOLUTION

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#### ABSTRACT

It is vital to have accurate data on bathymetry maps when surveying shallow water ecosystems and for navigation purposes. The present study used modern remote sensed satellite data to produce water depth in the clear and shallow water around Wadi El-Gemal Island, Wadi El-Gemal National Park, Red Sea. Production of such data carried out using high spatial resolution multispectral satellite image of Worldview-3 which provides more improved bathymetric mapping appropriateness. The image was corrected atmospherically as confirmed to be a very important step in the processing and preparation to extract the depth by ratio processing method. In situ measured depth data was applied to estimate absolute water depths. The high-resolution Worldview-3 was fitting for depth estimation by  $R\text{-Squared} = 0.746$ . The result of this study is useful for mapping bathymetry in shallow water to be integrated with studying coral reef ecosystems.

#### KEYWORDS

Bathymetry,  
Wadi El-Gemal,  
Red Sea,  
Worldview-3

**GPSH-112: FORMULATION DEVELOPMENT OF SELF NANOEMULSIFYING DRUG DELIVERY SYSTEM (SNEDDS) OF TENOXICAM FOR IMPROVEMENT OF ORAL BIOAVAILABILITY**

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**INTRODUCTION:** Tenoxicam is a hydrophobic and highly permeable drug which belongs to class II of the biopharmaceutics classification system (BCS). Low aqueous solubility of tenoxicam leads to high variability in absorption after oral administration. **OBJECTIVES:** To improve the dissolution of Tenoxicam by developing an optimized self-nanoemulsifying drug delivery system through the application of Pseudo-ternary phase diagrams. **METHODS:** The self-nanoemulsifying drug delivery system(SNEDDS) formulation was optimized using pseudo-ternary phase diagram composed of isopropyl myristate(IPM) as oil and tween80 as surfactant with different cosurfactant (COS) namely ethanol, propylene glycol (PG) and polyethyleneglycol(PEG400). SNEDDS formulation areas were identified and three systems each of 55 formulae were prepared. **RESULTS:** Four formulations (S1, S6, S8, S11) were developed with varying concentration of oil, surfactant and co-surfactant by sonication technique. The self nano-emulsifying drug delivery system of tenoxicam was characterized for content uniformity, particle size, poly dispersity index, viscosity determination and robustness of dilution, drug loading efficiency and shape of globules, thermodynamic stability and self emulsification efficiency. In vitro dissolution studies were also carried out to get the final optimized formulation. The optimized tenoxicam SNEDDS (S1) found to containing (30%IPM,60%tween80,10%PEG400) and yielded nanoemulsion of mean droplet size 216nm, and showed optimum PDI values. The zeta potential of the optimized SNEDDS (S1) found to be -23.9 mV. The optimized SNEDDS formulations of tenoxicam showed a rapid decrease in paw edema with a significant increase in anti-inflammatory activity. The SNEDDS formulations were successful in providing rapid release of drugs with improved dissolution and in vivo anti-inflammatory activity. **CONCLUSION:** The developed optimized self-nanoemulsifying formulation of Tenoxicam showed improvement in dissolution rate. Therefore, this formulation could be used as a promising approach to improve the aqueous solubility, dissolution, and thereby, bioavailability of Tenoxicam, a poorly water soluble drug

**KEYWORDS**

Tenoxicam,  
Pseudo-ternary phase  
diagram,  
SNEDDS



## GPSF-114: BIODEGRADATION OF CRUDE-OIL BY MARINE MICROORGANISMS ISOLATED FROM CONTAMINATED REGIONS OF EL-TEMSAH LAKE, ISMAILIA, EGYPT

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### ABSTRACT

**INTRODUCTION:** Lake Timsah is considered as one of the main water bodies along the Suez Canal, it comprises different habitats. Workshops like El-Karakat and Suez Canal authorities cause high pollution by petroleum. The Lake Timsah is considered as a source of supply of fish in Suez Canal area. Therefore, maintaining good marine environmental quality is crucial for several socio-economic reasons. Bioremediation is environmental friendly technology for the remediation of hydrocarbons. The ability to degrade oil hydrocarbons has been observed in numerous types of bacteria and fungi, some cyanobacteria and green algae. However, bioremediation by bacteria are applied, because they are distinguished by high frequency and a wide spectrum of the utilized petroleum products. **OBJECTIVES:** This study aims to evaluate the petroleum pollution of Lake Timsah and the capabilities of different marine microorganisms to remove petroleum pollution. **METHODS:** Water and sediment samples from Lake Timsah were collected and were analyzed physicochemically for pH and chemically for minerals and nutrients by titration methods and spectrophotometrically. Water samples from new Suez Canal were collected and considered as control. Microorganisms were isolated on Basic mineral salts medium supplied with 0.2% of crude oil. The obtained isolates were screened for their capability for petroleum removal. GC analysis was performed to evaluate the oil biodegradation. **RESULTS:** Forty-five different isolates were recovered from Lake Timsah samples; sediments were higher than water samples in both count and diversity. Only seven isolates were recovered from control samples which were represented in Lake Timsah isolates. Only three isolates were selected as the most powerful isolated for crude oil removal. GC analysis has indicated that oil biodegradation was accomplished very well. The three active isolates were identified phenotypically as *Streptomyces*. **CONCLUSION:** Isolates that were recovered from Lake Timsah samples have high oil biodegradation capabilities. Hence, these environments seem to be a properly for isolation of microorganisms which can be potentially applied in bioremediation of petroleum pollution. The natural microbiological activity is applied in bioremediation to reduce the toxicity of petroleum products.

### KEYWORDS

Timsah Lake,  
Biodegradation,  
Crude oil



## FPSH-117: ENDOPARASITES OF THE DOMESTIC PIGEON *COLUMBA LIVIA DOMESTICA* AND THEIR PATHOLOGICAL MANIFESTATION IN ISMAILIA PROVINCE, EGYPT

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### ABSTRACT

**INTRODUCTION:** Domestic pigeons are one of the important items for human food, they are vulnerable to endoparasites infection so feeding on infected pigeon may represent a threat on human health. **OBJECTIVES:** The aim of this study was to screen for endoparasites in the vital organs and show their effects on the pigeon health, identify the different helminth parasites that infect the domestic pigeon (*Columba livia domestica*), determination of their prevalence, and their pathological manifestation. **METHODS:** A total of 120 domestic pigeon (*Columba livia domestica*) were investigated for internal parasites, the domesticated pigeons were collected from birds market in Ismailia province, Egypt during the period extended from December, 2015 to November, 2016, 71 males and 49 females. Six organs (Trachea-osophagus- gizzard-proventriculus-deudenum-ileum) were dissected and examined for endoparasites which were detected only in the ileum. Identification was carried out by using light and scanning electron microscopy. In addition to molecular technique (PCR). **RESULTS:** One nematode (*Ascaridia Columbae*) and three cestodes (*Cotugnia sp.*, *Raillietina beveridgei* and *Raillietina echinobothridia*) were recovered from the intestine of the infected pigeons. The total prevalence of helminths was (58.3%), *Ascaridia Columbae* (42.1%), *Cotugnia sp.* (18.5%), *Raillietina beveridgei* (19.6%), *Raillietina echinobothridia* (18.6%). Identification was confirmed on the molecular level, Blast hits on the query sequence showed that sequence of worm samples were denoted homology with *Cotugnia sp.*, *Raillietina beveridgei*, and *Raillietina echinobothridia*, and the PCR results revealed that the nematode is *Ascaridia Columbae*. The histopathological investigations revealed that the ileum of infected birds showed several changes as massive necrosis of the tips of villi with desquamation of intestinal epithelium, lymphocytic infiltration and hemorrhage. **CONCLUSION:** Molecular surveys seem to be necessary regarding pigeons helminths identification. Moreover, the presence of helminths can cause severe pathological changes in the ileum of the infected domestic pigeon (*Columba livia domestica*) that can affect their health and may lead to death.

### KEYWORDS

Columba livia,  
Helminths,  
SEM,  
PCR,  
Histopathology

**GPSH-119: CHEMOPROTECTIVE EFFECTS OF CHLORELLA VULGARIS AND SPIRULINA PLATENESIS ON COLON CANCER INDUCED BY 1,2 DIMETHYLHYDRAZINE IN RATS**

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**INTRODUCTION:** *Chlorella vulgaris* (CV) and *Spirulina platensis* (SP) are the single-celled microalgae, which contain high concentrations of whole food nutrients, and they have been shown to inhibit cancer-colony formation. **OBJECTIVES:** The present study was conducted to investigate the chemopreventive effects of CV and SP against 1, 2-Dimethylhydrazine -induced colon carcinogenesis in rats. **METHODS:** Rats were divided into five groups. Group1 served as -ve control, Group2 received DMH, and served as +ve control, Group3 received CV, Group4 received SP and Group5 received CV and SP for 5weeks. Group3, 4, 5 were given DMH. Lipid peroxidation (LPO) and oxidative stress markers were examined as well as myeloperoxidase (MPO). Immunohistochemistry (Proliferating cell nuclear antigen (PCNA), (Caspase-3), tumor necrosis factor (TNF- $\alpha$ )) was performed along with histological analysis. **RESULTS:** In our study, LPO and MPO levels were found to be increased in group 2 DMH and decrease in CV and SP compared to the control group. Antioxidant activity reduced in group 2 as compared to the control and elevated in CV and SP treated groups. Numbers of aberrant cryptic foci in the group CV and SP were decreased as compared to the group 2. CV and SP increased in proapoptotic protein caspase 3, a decrease in proliferating protein PCNA and in inflammatory marker TNF- $\alpha$ . **CONCLUSION:** Our study showed that CV and SP have chemopreventive effects by anti-inflammatory, antiproliferating, apoptosis and antioxidant activity in colon cancer induced by DMH in rats.

**KEYWORDS**

Colon cancer,  
Spirulina platensis,  
Chlorella vulgaris,  
Antioxidant activity,  
immunohistochemistry

**GPSH-120: FORMULATION AND EVALUATION OF SPRAY DRIED TRIAMCINOLONE ACETONIDE MICROSPHERES**

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**INTRODUCTION** Inhaled treatment is potentially a helpful strategy for delivering drugs to the lungs and Spray drying demonstrated a viable technique to making microspherical particles. **OBJECTIVES:** To spray dry triamcinolone acetonide also to study the effect of the pore-making agent (ammonium bicarbonate) on the morphological, aerodynamic and physicochemical properties of the resulting powders. **METHODS:** Microparticles were formulated via spray drying from ethanol/water solvent systems and their solid-state properties were assessed by FTIR, scanning electron microscopy, differential scanning calorimetry, and x-ray diffraction. **RESULTS:** Spray drying of triamcinolone acetonide, at 1, 1.5, 2, 2.5 and 3% (w/v) concentrations from different ethanol aqueous solvents resulted in crystalline microspheres particles. The morphology of triamcinolone acetonide particle spray-dried systems various dependent on the feed concentration and solvent concentration of spray dried system. Spray drying of triamcinolone acetonide /ammonium bicarbonate particles were resulted in crystalline. **CONCLUSION:** Concentration of ammonium bicarbonate utilized in the spray drying procedure is not principal for the successful creation of microspheres particles. Physicochemical properties of triamcinolone acetonide were not alter on spray drying in presence of ammonium bicarbonate. Under appropriate process conditions ammonium bicarbonate did not interact with the triamcinolone acetonide. Furthermore, spray-dried triamcinolone acetonide powders have potential for pulmonary delivery.

**KEYWORDS**

Pulmonary delivery,  
Microspheres Triamcinolone acetonide,  
Spray drying

**GPSH-121: PROTECTIVE ROLE OF CHLORELLA VULGARIS AND SPIRULINA PLATENESIS ON OXIDATIVE STRESS AND TOXICITY INDUCED BY 1, 2 - DIMETHYLHYDRAZINE IN RATS**

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**ABSTRACT**

**INTRODUCTION:** 1, 2-Dimethylhydrazine (DMH), a toxic environmental pollutant is a well established procarcinogen. DMH undergoes metabolism in the liver, resulting in the production of oxidative stress. *Chlorella vulgaris* (CV) and *Spirulina platensis* (SP) are the single-celled microalgae, which have been reported to have antioxidant and anticancer properties. **OBJECTIVES:** The present study was carried out to investigate the protective roles of CV and SP against DMH-induced oxidative stress in rat liver. **METHODS:** Rats were divided into five groups. Group 1 served as -ve control, Group 2 received DMH, and served as +ve control, Group 3 received CV, Group 4 received SP, Group 5 received CV and SP for 5weeks. Groups 3, 4 and 5 were given DMH. Liver function tests, hepatic lipid-peroxidation (LPO) and oxidative stress markers were examined by evaluating serum glutamate oxaloacetate transaminase (sGOT), serum glutamate pyruvate transaminase (sGPT), malondialdehyde (MDA), myeloperoxidase (MPO), catalase (CAT), reduced glutathione (GSH) and superoxide dismutase (SOD). **RESULTS:** In our study, the levels of sGOT and sGPT significantly increased in +ve control group compared with -ve control group. Enhanced LPO in the liver of +ve control rats were accompanied by a significant decreased in the activities of GSH, SOD and CAT, and increased in MDA and MPO. Oral administration of CV and SP to DMH-injected rats significantly reduced sGOT, sGPT, MDA, and MPO and enhanced the activities of GSH, SOD and CAT in the liver. **CONCLUSION:** Our study suggested that, CV and SP exert their protective roles against DMH-induced oxidative stress and toxicity in rat liver by modulating the extent of lipid peroxidation and augmenting antioxidant defense system.

**KEYWORDS**

Liver,  
DMH,  
Spirulina platensis,  
Chlorella vulgaris,  
Antioxidant biomarker



**GPSH-125: EFFECT OF ANGIOTENSIN II ON TGF-B/ SMAD PATHWAY IN DIABETIC NEPHROPATHY IN RATS**

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**Introduction:** Diabetic nephropathy (DN) is the most common cause of renal fibrosis and end-stage renal disease (ESRD) worldwide, representing about 80% of all cases of ESRD. several factors and pathway have been implicated in the pathogenesis of DN one is TGF- $\beta$  that plays an important role in the pathogenesis of renal fibrosis and ECM accumulation in diabetic nephropathy which is stimulated by chronic high blood glucose level, glycosylated albumin and advanced glycation end product (AGE). **Objective:** To assess the effects of angiotensin II receptor blockade, using valsartan, on renal pathophysiological changes in a rat model of diabetic nephropathy and to detect the effects of valsartan on TGF- $\beta$  /Smad signaling pathway, as a potential underlying mechanism for DN. **Methods:** Diabetes mellitus was induced in rat with streptozotocin (STZ) injection. Diabetic nephropathy was confirmed by altered kidney function then rats were treated with valsartan (30 mg/kg/day) for 4weeks. The expression level of TGF- $\beta$  and Smad by PCR and protein concentration was measured by ELISA. **Result:** Valsartan treated group showed significantly attenuated albuminuria ( $7.59 \pm 5.34$ ) when compared to DN group ( $24 \pm 30.6$ ) with  $p=0.001$  , improve overall renal functions as ( serum urea =  $25.4 \pm 8.8$  when compared to DN group =  $81.86 \pm 47.4$  with  $p=0.007$ , serum creatinine =  $0.51 \pm 0.16$  while in DN group =  $2.53 \pm 3.38$  with  $p=0.2$  ). Tubuloglomerular damage index showed marked improvement between valsartan treated group = 2 while in DN group = 5. Regarding angiotensin induced expression of TGF- $\beta$  in PCR ; it had been reduced to 17 fold with respect to the model group where it was 73 fold, and Smad expression had been reduced to 10 fold in respect to 42 fold increase in the DN group. ELSA protein expression of TGF- $\beta$  and Smad had also been reduced with significant difference 0.001 in both between the DN group and valsartan treated group. **Conclusion:** Our study indicates that valsartan improves diabetic kidney disease through multiple mechanisms, including decreasing hemodynamic injury, down regulation of TGF $\beta$  and Smad which is an important pro-fibrotic marker.

**KEYWORDS**

Valsartan,  
TGF  $\beta$ ,  
Diabetic nephropathy,  
Angiotensin II blocker

**GPSH-127: COMPARATIVE STUDY ON BIOACTIVITY AND PHYSICAL PROPERTIES OF DIFFERENT ENDODONTIC BIOMATERIALS**

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**INTRODUCTION:** Bioactive materials play an important role in recent endodontics such as pulp capping, perforation repair, regeneration and root end filling. MTA is considered as a gold standard bioactive material, unfortunately it has some drawbacks. Attempts have been made to improve the properties of MTA by incorporating materials into its structure. However, the physical and chemical properties are often affected adversely. The introduction of nanotechnology greatly influenced biomaterials properties including setting time, mechanical and physical properties and bioactivity. **OBJECTIVES:** The aim of this study was to evaluate and compare the bioactivity, setting time, power of hydrogen (ph), compressive strength and microhardness of MTA, Nano MTA (NMTA), and Nano hydroxyapatite modified MTA (NHAMTA) and nanoflorohydroxyapatite modified MTA (NFHAMTA). **METHODS:** Discs of the tested materials were immersed in physiological solution and pH of the solutions were measured using pH meter at different time intervals, then examined for the surface layer shape and ions concentration after 7 days using Scanning Electron Microscopy (SEM) attached with EDX Unit (Energy Dispersive X-ray Analyses). Setting time of tested materials was measured using Vikat apparatus. Cylinders of tested materials were tested for compressive strength using instron universal testing machine and tested for microhardness using Vicker test. **RESULTS:** For pH, NMTA (9.4) had the highest values, while MTA had the lowest one. SEM showed irregular crystals of hydroxyapatite except NFHAMTA had more regular ones. NMTA had the lowest initial and final setting time (20,100) min, while NHMTA and NFHAMTA showed lower values than MTA. For compressive strength, NHAMTA had the highest value (41.4), while MTA showed the lowest value. For microhardness, NHAMTA, NMTA had the highest values (17.9 and 17.5) with significant difference with other materials. **CONCLUSION:** The nanomodification of MTA greatly improved its setting time and initial pH to a great extent, also other physical and biological properties were improved which suggest using smaller particle size in fabrication of bioactive materials, the addition of both NH and NFHA to the original MTA improved its physical and biological properties greatly, also setting time and initial pH were improved slightly that suggesting adding these nano-materials in the fabrication of bioactive materials.

**KEYWORDS**

ε- Polycaprolactone,  
Bio-ceramic,  
Vitro Enzymatic

### FPSH-128: EFFECTIVENESS OF ALVEOLAR DECORTICATION ON THE RATE OF ORTHODONTIC DISTALIZATION OF THE MAXILLARY FIRST PERMANENT MOLAR IN LATE MIXED DENTITION STAGE

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#### ABSTRACT

**INTRODUCTION:** Efficient distalization of the maxillary molars requires a reduction of molar resistance to tooth movement, avoidance of distal crown tipping, good and maintenance of anterior anchorage. One method used to accelerate orthodontic tooth movement is the alveolar decortication technique. **OBJECTIVES:** Evaluate the effect of the Flapless alveolar decortication on the rate of orthodontic tooth movement. **METHODS:** Twenty children in the late mixed dentition stage had their maxillary first permanent molar distalized with bone anchored pendulum appliance using mini-screw. The sample was divided into two equal groups; the children of the first group were not subjected to alveolar corticotomy before distalization while those in the second group were subjected to alveolar corticotomy and distalization. Dental casts were taken pre-operative as initial record and during treatment till the end point. The patients were seen every four weeks for extra-oral re-activation and checking the soft tissue around the miniscrew. **RESULTS:** Maxillary first molars were distalized successfully in both groups. Peak rates of tooth movement occurred around 8 weeks in the second group. The total difference between study and control movements was not significant. **CONCLUSION:** The bone anchored pendulum appliance with mini-screw resulted in distal movement of the maxillary first permanent molar. Flapless alveolar decortication in combination with bone anchored pendulum appliance with mini-screw increased the rate of tooth movements in the first two months then it slows down.

#### KEYWORDS

Flapless decortication,  
Distalization,  
Mixed dentition

## FPSH-129: RADIOGRAPHIC EVALUATION OF MESIODISTAL ROOT ANGULATION OF PERMANENT MAXILLARY FIRST MOLARS WITH ALVEOLAR DECORTICATIONS DURING DISTALIZATION IN CHILDREN AT THE LATE MIXED DENTITION PHASE

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### ABSTRACT

**INTRODUCTION:** Panoramic imaging has been useful for evaluation of mesiodistal root angulations before and after orthodontic treatment thus establishing proper root position. **OBJECTIVES:** Evaluate axial mesiodistal inclinations of the maxillary molars before and after distalization, analyzing whether alveolar decortication inclusion in treatment mechanics has any influence on final molars angulations. **METHODS:** The sample comprised forty panoramic radiographs of twenty children in the late mixed dentition stage. All children had their maxillary first permanent molars distalized with bone anchored pendulum appliance using miniscrew, then divided in to 2 equal groups; the first group was not subjected to flapless alveolar corticotomy before distalization while the second group was subjected to flapless alveolar corticotomy and distalization. Pre-treatment and post-treatment panoramic radiographs were evaluated. The mesiodistal root angulation of maxillary first permanent molar was measured by using two reference lines. **RESULTS:** Intra-group analysis demonstrated significant uprighting of maxillary first molars during treatment in both groups. Inter-group comparison demonstrated that there was no statistical significant difference noticed in angle of inclination of maxillary first molar between both groups. **CONCLUSION:** It was concluded that inclusion of alveolar decortication in the orthodontic mechanics has no superior effect on the mesiodistal root angulation.

### KEYWORDS

Mesiodistal root angulation,  
Flapless decortication,  
Distalization,  
Mixed dentition

## GPSF-130: MITES INHABITING SOME FRUIT TREES IN ISMAILIA GOVERNORATE

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**ABSTRACT**

Field study was carried out on mite species inhabiting some fruit trees in Ismailia Governorate, during the period from October 2014 to September 2016. Survey of mites proved the occurrence of 44 mite species belonging to 36 genera and 21 families belong to 2 orders and 4 suborders. Order: Acariformes include three suborders; Prostigmata, Astigmata and Cryptostigmata. Suborder Prostigmata was represented by 14 families: Tetranychidae (7 species), Tenuipalpidae (8 species), Eriophyidae (one species), Stigmaeidae (2 species), Neophyllobiidae (2 species), Caligonellidae (one species), Raphignathidae (one species), Cheyletidae (3 species), Eupalopsellidae (one species), Bdellidae (one species), Cunaxidae (one species), Eupodidae (one species), Tydeidae (3 species) and Tarsonemidae (one species). Suborder: Astigmata was represented by two families: Acaridae (two species) and Glycyphagidae (one species). Suborder Cryptostigmata was represented by two families: Ophiidae (one species) and Oribatulidae (one species). On the other hand, Order: Acariformes include one suborder: Mesostigmata, which represented by three families: Phytoseiidae (4 species), Ologamasidae (one species) and Ameroseiidae (one species).

**KEYWORDS**

Mites fauna,  
Survey,  
Taxonomy,  
fruit trees,  
Ismailia,  
Egypt



**GPSH-133: EFFECT OF ANGIOTENSIN II RECEPTOR BLOCKER ON NADPH OXIDASE4 IN DIABETIC NEPHROPATHY IN RAT MODEL**

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**INTRODUCTION:** Diabetic nephropathy (DN) is the most common renal complication of diabetes mellitus and a leading cause of kidney failure world wide. Several factors such as renin–angiotensin aldosterone system(RAAS),reactive oxygen species (ROS), growth factors, cytokines, inflammation, advanced glycation end products (AGE) and mechanical strain have been implicated in pathogenesis of DN.NADPH oxidase4(Nox 4) is an obvious cause for ROS production in the kidney via angiotensin system and result in kidney damage via direct effect or through activation of other pathways. **OBJECTIVES:** To evaluate the effect of angiotensin II receptor blocker on Nox4gene expression and ROS production in diabetic nephropathy rat model. **METHODS:** 36 rats were divided into 3groups: group I(n=12) diabetic nephropathy group receiving valsartan, group II (n=12) control group with DN not receiving valsartan and group III (n=12)control healthy untreated group .Diabetes mellitus was induced in rats with single intra-peritoneal streptozotocin injection of 65mg/kg body weight .Diabetic nephropathy was confirmed by altered kidney function then rats were treated with valsartan 30 mg/kg/day for 4weeks,after4week of treatment blood were collected from rats for chemistry analysis then rats were anesthetized sacrificed and kidney tissues were excised for the detection of NOX4 gene expression level by RT-PCR,and NOX4 protein concentration by ELISA and malonaldehyde (MDA) concentration for different group. **RESULTS:** In diabetic rats valsartan treatment significantly attenuate albuminuria(p-0.001) ,improve overall kidney function parameters and glomerulosclerosis.Angiotensin induced expression of NOX4gene was significantly lowered with treatment(p=0.001) and also NOX4 protein concentration, and MDA concentration. **CONCLUSION:**Valsartan treatment suppress oxidative stress and inhibit progression of kidney damage and improve kidney function in diabetic nephropathy in rat through down regulation of NOX4and ROS production.

**KEYWORDS**

Valsartan,  
NOX4,  
ROS,  
Diabetic nephropathy

**GPSH-134: EFFECT OF ANGIOTENSIN II RECEPTOR BLOCKER ON EXTRA CELLULAR SIGNAL REGULATED KINASE(ERK) PATHWAY IN DIABETIC NEPHROPATHY IN RAT MODEL**

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**INTRODUCTION:** Diabetic nephropathy (DN) is a major micro-vascular complication of DM that affects a growing percent of population world wide. Several factors and pathway have been implicated in the pathogenesis of DN with the extra cellular signal regulated kinase is the most prominent . Many extracellular stimuli have been proposed for activating the ERK signaling pathway, it can be activated by angiotensin II, reactive oxygen species (ROS), hyperglycemia (HG), and growth factors in different classes of renal cells, including podocytes and mesangial cells (MCs). **OBJECTIVES:** To evaluate the effect of Ang-II receptor blocker on the expression level of ERK1\2 protein and on protein activity involved in ERK signaling pathway in kidney of diabetic rat model. **METHODS:** 36 adult male albino Westar rats weighing 250±50 g were included in the study divided into three groups, group I (n=12) diabetic nephropathy group receiving Valsartan, group II (n=12) control group with DN not receiving valsartan and group III (n=12) control healthy untreated group. Diabetes mellitus was induced in rats with a single intra-peritoneal streptozotocin injection of 65mg/kg body weight. Diabetic nephropathy was confirmed by altered kidney function then rats were treated with valsartan (30 mg/kg/day) for 4 weeks, after 4 weeks of treatment blood were collected from rats for chemistry analysis then rats were anesthetized sacrificed and kidney tissues were excised. The expression level of extracellular signal regulated kinase (ERK) gene was detected by RT-PCR and phosphorylated ERK protein concentration was measured by ELISA in the kidney tissue homogenate of different groups. **RESULTS:** In rats valsartan treatment significantly attenuate albuminuria (p 0.001) between different groups , significantly improve overall kidney function parameter serum creatinine , urea and albumin creatinine ratio (p=0.001) , glomerulosclerosis. a and decrease angiotensin induced expression of pERK and protein concentration (p=0.001) between different groups. **CONCLUSION:** Our study indicates valsartan inhibit progression of kidney damage occur in diabetic kidney through multiple mechanisms, including decreasing hemodynamic injury , down regulation of ERK pathway.

**KEYWORDS**

Valsartan,  
ERK,  
Diabetic nephropathy.,  
Angiotensin II blocker

**GPSH-136: ROLE OF PIOGLITAZONE AND CURCUMIN IN THE PREVENTION OF OXIDATIVE STRESS AND APOPTOSIS IN METHOTREXATE INDUCED HEPATOTOXICITY IN RATS**

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**ABSTRACT**

**INTRODUCTION:** Methotrexate (MTX) is a widely used chemotherapeutic agent with limited clinical efficacy due to hepatotoxicity resulting from increased reactive oxygen species, inflammation and apoptosis. Pioglitazone (PIO) is a well-known anti-oxidant, anti-inflammatory and anti-apoptotic agent. Curcumin (CUR) has several hepatic protective effects. The mechanisms by which PIO and CUR exert their protective effects need further investigations. **OBJECTIVES:** To evaluate the hepatoprotective effects of pioglitazone either individually or combined with curcumin on the histopathological liver changes, liver enzymes, oxidative stress, and apoptotic markers in MTX-induced hepatotoxicity in rats. **METHODS:** Rats were treated with PIO (5mg/kg p.o, 10 mg/kg P.O) either individually or in combination with CUR (80mg/kg P.O) for 14 days. Hepatotoxicity was induced on day 10 by single dose of MTX (20mg/kg I.P). Rats were sacrificed on day 15. Liver function was evaluated by measuring serum aspartate aminotransferase (AST), alanine aminotransferase (ALT). Hepatic tissue was processed for histopathological assessment. Expression of Caspase-3 was evaluated immunohistochemically. Malondialdehyde levels (MDA), superoxide dismutase (SOD), catalase and glutathione peroxidase (GSH-Px) activities were measured spectrophotometrically. **RESULTS:** MTX group showed increase in MDA, ALT and AST levels, higher histopathological injury and upregulated caspase-3 expression, with decreased SOD, catalase and GSH-Px activities compared to normal control group. In rats with MTX-hepatotoxicity, administration of PIO (5mg or 10mg) and/or CUR showed decrease in MDA, ALT and AST levels and expression of caspase-3 levels with restoration of normal hepatic architecture, beside increase in SOD, catalase and GSH-Px levels which were significantly recognized in diseased rats received PIO 5mg and CUR. **CONCLUSION:** Combined uses of pioglitazone and curcumin may be considered as potential adjuvant hepatoprotective regimens for various clinical conditions in which MTX use is mandatory for cure.

**KEYWORDS**

Apoptosis,  
Curcumin,  
Hepatotoxicity,  
Methotrexate,  
Oxidative stress,  
Pioglitazone



## GPSI-137: AN OPTIMUM ROUTING TECHNIQUE FOR IEEE802.15.6 WBAN

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**ABSTRACT**

**INTRODUCTION:** A Wireless Body Area Network (WBAN) is an emerging technology for health care application; it collects vital signs of a human body, transforms into data, and wirelessly transfers that data to a remote server. IEEE802.15.6 is the WBAN's standard. The standard focuses on short range and low power communications to be used in on/inside the human body. A WBAN typically contains  $n \leq 256$  sensor nodes, all served by one coordinator (CN) each collecting data for the part of the body it serves. This data can be classified into some levels, e.g. normal, critical, and emergency. One problem that can arise is that the temperature of a node can increase due to a lengthy work cycle, leading to burns in the adjacent part of the body. **OBJECTIVES:** In the IEEE 802.15.6 standard, the routing techniques for WBANs are not considered. In this work, an efficient routing protocol for heterogeneous IEEE802.15.6 WBAN is proposed. In this protocol, both the node's temperature will be controlled to avoid overheating, and high performance, in the form of long node lifetime and high packet throughput, is maintained. To validate the proposed protocol, a simulation study has been carried out. **METHODS:** According to the standard, each data level is assigned a transmission priority, namely normal data is assigned priority 5, critical data priority 6 and emergency data priority 7. In this paper, single hop communications (from the node to the CN) will be used for high priority data and multi hop (from the node to a forwarder node to the coordinator) for normal data. Additionally, a threshold is set for the node temperature such that the node is sleep if it is exceeded, but after it has transferred its data to the coordinator. Once the node temperature falls below the threshold, the node starts operation again. **RESULTS:** In the simulation study, several heterogeneous nodes with different data rates are employed. To select a forwarder node, a cost function which chooses the node with the maximum residual energy, high data rate, minimum distance to CN and minimum heat transfer, is proposed. The obtained results have been compared to those obtained in the literature and have shown superior performance. **CONCLUSION:** The proposed protocol has achieved the objectives mentioned above. It can be extended to a more sophisticated setup where such aspects as noise and fading are considered.

**KEYWORDS**

Wireless Body Area  
Sensor,  
Thermal-aware,  
Multi-hop,  
Single-hop

**GPXH-140: A VALIDATED HPLC METHOD FOR SIMULTANEOUS DETERMINATION OF SILDENAFIL, VARDENAFIL, AND TADALAFIL IN PHARMACEUTICAL PREPARATIONS AND COUNTERFEIT DRUGS IN EGYPTIAN MARKET**

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During recent years, pharmaceutical counterfeiting was considered a serious problem in developing countries with weak inspection programs. Potency enhancing drugs considered as one of the most encountered therapeutic categories subjected to counterfeit in Egypt. For this purpose, a simple, rapid, and novel high performance liquid chromatography (HPLC) method with ultraviolet detection has been developed for the simultaneous determination of vardenafil, sildenafil, tadalafil, and their counterfeits (sertraline, paroxetine, tramadol, yohimbine and citalopram) in pharmaceutical preparations and counterfeit drugs. The separation was achieved on Shimadzu High-Performance Liquid Chromatography System using C18 reversed phase column, with acetonitrile and an aqueous solution (0.05% formic acid, pH adjusted to 3.4 by ammonia) as mobile phase at a flow rate of 1 ml/min with a linear gradient program. UV detection was at 214 nm. Total run time was 11 min for elution of these eight drugs. The proposed method was validated according to the current International Conference on Harmonization (ICH) guidelines. The method was found to be linear, specific, precise and accurate. The proposed method was successfully applied to the analysis of different pharmaceutical products from Egyptian market.

**KEYWORDS**

Counterfeit,  
Sildenafil,  
Vardenafil,  
Tadalafil,  
HPLC

**FPSH-142: STABILITY BEHAVIOR OF CERTAIN ANTIOXIDANTS IN BLACK SEED (NIGELLA SATIVA L.) AND LC/MS CHARACTERIZATION FOR THE MAJOR DEGRADATION PRODUCTS OF THYMOQUINONE**Ghada M. Hadad <sup>a</sup>, Randa A. Abdel Salam <sup>a</sup>, Rabab M. Soliman <sup>b</sup>, Mostafa K. Mesbah <sup>c</sup>*a* Department of Pharmaceutical Analytical Chemistry, Faculty of Pharmacy, Suez Canal University, Ismailia, Egypt*b* Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Sinai University, El Arish, North Sinai, Egypt*c* Department of Pharmacognosy, Faculty of Pharmacy, Suez Canal University, Ismailia, Egypt**ABSTRACT**

Black seed (*Nigella sativa*, family Ranunculaceae) (NS), is a valuable medicinal plant, that has several biological activities and protective effects. The aim of this study was to investigate the stability of the principal antioxidants of *Nigella sativa* [Thymoquinone (TQ), Carvacrol (CR) and Thymol (THY)] under different stress conditions by HPLC and LC-MS. Forced degradation for each compound was done under different conditions such as hydrolysis, oxidation, photolysis and thermal decomposition. Results showed that CR and THY were stable under the studied conditions; while TQ was not affected by acidic, basic and oxidative forced conditions, but the effect of light and heat were significant. The degradation products of TQ were investigated and characterized by LC/MS. Reversed-phase separation was performed on C18 column at 25°C. The mobile phase composed of deionized water containing 0.1 % formic acid and methanol in the proportions 40:60 (v/v). The method proved to be simple and selective for giving a distinct separation and identification of the TQ and its degradants when exposed to forced degradation conditions

**KEYWORDS**

Stability study,  
Thymoquinone,  
Carvacrol,  
Thymol,  
HPLC,  
LC/MS



**FPSI-146: THE EFFECT OF TI SUBSTITUTION ON THE STRUCTURAL, MICRO-STRUCTURAL AND MAGNETIC PROPERTIES OF LITHIUM FERRITE**

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**INTRODUCTION:** The varied properties of lithium ferrites originate from their ability to incorporate a variety of transition metal cations into their lattice, causing a subsequent modification in their properties. The observed changes in these properties are brought about by a redistribution of cations among tetrahedral and octahedral sites of the ferrite matrix. These ferrites have become important materials for the microwave applications. **OBJECTIVES:** Nano-sized Titanium substituted Lithium Ferrites with general formula  $\text{Li}_{0.5+0.5x}\text{Fe}_{2.5-1.5x}\text{Ti}_x\text{O}_4$  (where  $x=0, 0.4, 0.6$  and  $1$ ) were synthesized using the double sintering ceramic method, the effect of Titanium content and sintering temperature were studied. **METHODS:** The structure of all the samples was solved by using X-Ray diffraction data using Le bail and Rietveld fitting. The morphological features were studied using Field emission scanning electron microscopy, while the microstructure was observed using the high-resolution transmission electron microscopy studies were investigated. The magnetic properties were studied for the samples at room temperature. **RESULTS:** The good crystallinity for all samples was confirmed by X-Ray diffraction data analysis where the sample with  $x=0$  belongs to space group ( $P4_332$ ) and the samples with  $\geq 0.4$  belong to space group ( $Fd-3m$ ). the results showed that an increase in  $x$  (Li,Ti content) led to the decrease in the crystallite size from 91nm to 40 nm for  $x=1$  accompanied with a decrease in the particle size reach to 42.9nm and decrease in the saturation magnetization from 57.5 to 1.67 (emu/g) as well as a decrease in coercivity from 25.28 to 17.8 (Oe). **CONCLUSION:** These characteristics recommend the use of such nano ferrites in electromagnets as well as microwave devices.

**KEYWORDS**

Lithium Titanium ferrite,  
Rietveld,  
FESEM,  
Electron diffraction,  
Magnetic materials



**GPSH-147: EVALUATION OF MUTAGENIC EFFECT OF TETRACYCLINE ANTIBIOTIC IN MICE**OMHASHEM E. ABDEL-AAL<sup>1</sup>, SAMIR A. IMAM<sup>1</sup>, SAMIRA R. MANSOUR<sup>2</sup><sup>1</sup> Dept. of Zoology, Faculty of Science, Suez Canal University, Ismailia<sup>2</sup> Dept. of Botany Faculty of Science, Suez Canal University, Ismailia**ABSTRACT**

**INTRODUCTION:** Tetracycline hydrochloride is a broad-spectrum antibiotic which exhibited activity against a wide range of microorganisms including Gram-positive and Gram-negative bacteria, chlamydiae, mycoplasmas, rickettsiae, and protozoans. Direct side effects of Tetracycline as DNA damaging agent has no detailed studies. **OBJECTIVES:** Our study was developed to explore the detailed side effect of tetracycline on DNA of bone marrow cells of experimental mice. **METHODS:** Two different tools were used to test the side effect of Tetracycline on DNA damaging cells. Comet assay and p53 gene evaluation, as a central tumor suppressor, were the only tools used for our evaluation. For comet assay, different doses of Tetracycline were used. **RESULTS:** The recorded results showed the damaging effect of high TC dose (160 mg/kg) compared to lower dose (40 mg/kg). The damaged cells were represented by 60% of total cells count. For p53 gene, our study confirmed the DNA damaged effect of TC by recording gaps in nucleotide sequences. These gaps were represented by 3% for bone marrow cells of TC-treated mice at high dose and 1% for lower dose. These results may indicate the dysfunction of this gene which may lead to mutation and in consequence a new generation with carcinogenic susceptibility. **CONCLUSION:** Therefore, our results revealed that the continuous use of TC in random way and in high dose is not safe and more attention should be paid to give awareness for the hazard and negative effect of blind uses of TC on the human and animal health level.

**KEYWORDS**

P53-Gene-  
Tetracycline,  
Mice-Bone marrow,  
Comet,  
assay

## GPSE-148: CLINICAL AND MICROBIOLOGICAL EVALUATION OF CHLOSITE AND ALOE VERA GEL IN TREATMENT OF CHRONIC PERIODONTITIS

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### ABSTRACT

**INTRODUCTION:** Tamsah Lake, one of the water bodies located North Suez Canal bounded by Ismailia city. It supports a variety of marine works, including maintenance work of the Suez Canal Authority, fishing, tourism, the sewers of Ismailia town, agricultural and industrial drainage. Accordingly the lake is exposed to pollution by a variety of heavy metals, petroleum aliphatic and aromatic hydrocarbons. Pollution by oil is a severe global environmental problem causing a number of adverse negative impacts on human health, fishers, aquacultures, tourism, ecosystem and eventually the national income. **OBJECTIVES:** The Pollutants like heavy metals, petroleum oil and its hydrocarbons derivatives are absorbed by most aquatic organisms. Also, polluted sediment represents a persistent source of pollution in the aquatic food chain. This study aims to evaluate the petroleum and heavy metal pollution of Lake Timsah and the capabilities of indigenous microorganisms to remove pollution. **METHODS:** Water and sediment samples were collected from two sites of El-Temsah Lake. From the first site (Fayrouz beach), *Eichhornia crassipes* was collected. Indigenous Microorganisms were enriched on enrichment medium supplemented by yeast extract and peptone. Isolation of microorganisms were in three different media, one with crude oil as the sole carbon source, the two other were R2A supplemented with 5 ppm copper and lead separately. Microorganisms associated or inhabiting *Eichhornia crassipes* were isolated on R2A medium. Plant, water and sediment samples were assessed for crude oil and heavy metal pollution. **RESULTS:** The results indicated that, the lake suffers from crude oil pollutions and high levels of Cu, Fe and Pb. The consortium recovered from the enrichment degraded the crude oil higher than individual organisms, while two bacillus and spore former isolates grew at higher Cu and Pb concentrations than others. The isolates recovered from sediments have higher resistance for both crude oil and heavy metal pollution. **CONCLUSION:** Hereafter, bioremediation by bacteria are applicable, because they are distinguished by high frequency, fast growth and a wide spectrum to utilize different types of pollution.

### KEYWORDS

Bioremediation,  
heavy metal,  
El-Temsah Lake



## التمكين السياسي والاقتصادي للشباب في مصر في ضوء التجربة الصينية: GPSE-149

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## ABSTRACT

مما لا شك فيه أن ارتفاع نسبة الشباب في مصر يمثل ثروة بشرية هامة ومصدر من مصادر قوة الدولة، علي النقيض من العديد من دول الغرب التي تعاني من انخفاض نسبة الشباب وتُنعَت بأنها دول هارمة لدرجة أنها قد تبنت استراتيجيات وطنية لمعالجة تلك المشكلة وللنهوض بمستوي شبابها، إلا أن تلك الثروة البشرية قد تتحول من مصدر لقوة الدولة إلي مصدر لضعفها أو أزمة تواجهها إذا لم يُحسن استغلالها وتنميتها. ولتنمية واستغلال تلك الثروة لابد من تبني الدولة استراتيجيات طويلة الأجل لتفعيل مستوى المشاركة والتمكين السياسي والاقتصادي لشبابها هذا من ناحية، ومن ناحية أخرى فعلي الشباب أنفسهم أن يعملوا علي تطوير ذاتهم للوصول الي مرحلة التمكين وخدمة الوطن. ومن أهم الوسائل التي يمكن أن تستعين بها الدولة في هذا الصدد هي الاستفادة من خبرات وتجارب الدول الأخرى، وتمثل الصين تجربة فريدة ومتميزة فيما يتعلق بتأهيل وتمكين الشباب، إضافة لوجود العديد من العوامل المشتركة بين البلدين. بيان ماهية المشاركة السياسية والتمكين السياسي والعلاقة بينهما، تحليل آليات التمكين السياسي والاقتصادي للشباب في مصر والصين، استعراض الدروس المستفادة من التجربة الصينية وكيفية الاستفادة منها في مصر، اقتراح نموذج لعملية تمكين الشباب. في اطار ظاهرة التكامل المنهجي تعتمد الدراسة علي كلا من المنهج الاستقرائي والمنهج الاستنباطي، بالإضافة الي الاستعانة بالمدخل المقارن، والتحليلي، والسلوكي في ضوء التجربة الصينية توصي الدراسة بكفالة تعيين الشباب كمساعدين للمسؤولين السياسيين علي كافة المستويات، الاعتماد علي نظام الحصص (الكوتا) كنوع من التمييز الإيجابي للشباب، تبني الدولة لاستراتيجية تكفل اشراك منظمات المجتمع المدني في عملية التمكين السياسي والاقتصادي، الالتزام بوجود ممثلين للشباب في مجالس الإدارات والأقسام. قدمت الدراسة نموذجا للتمكين السياسي والاقتصادي للشباب. مقارنة وتحليل آليات التمكين السياسي والاقتصادي في مصر والصين توصلت الدراسة لعدد من المقترحات لتعزيز استراتيجيات تمكين الشباب في مصر، وقدمت نموذجا للتمكين السياسي والاقتصادي للشباب بالتركيز علي دور الشباب أنفسهم في عملية التمكين بالإضافة الي دور الدولة.

## KEYWORDS

التمكين السياسي،  
التمكين الاقتصادي،  
المشاركة السياسية،  
التجربة الصينية

## UPSF-152: BIOREMEDIATION OF PETROLEUM OIL AND HEAVY METAL POLLUTION IN EL-TEMSAH LAKE (ISMAILIA, EGYPT) BY INDIGENOUS MICROORGANISMS

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### KEYWORDS

Bioremediation,  
Heavy metal,  
El-Temsah Lake

### ABSTRACT

**INTRODUCTION:** Temsah Lake, one of the water bodies located North Suez Canal bounded by Ismailia city. It supports a variety of marine works, including maintenance work of the Suez Canal Authority, fishing, tourism, the sewers of Ismailia town, agricultural and industrial drainage. Accordingly the lake is exposed to pollution by a variety of heavy metals, petroleum aliphatic and aromatic hydrocarbons. Pollution by oil is a severe global environmental problem causing a number of adverse negative impacts on human health, fishers, aquacultures, tourism, ecosystem and eventually the national income. **OBJECTIVES:** The Pollutants like heavy metals, petroleum oil and its hydrocarbons derivatives are absorbed by most aquatic organisms. Also, polluted sediment represents a persistent source of pollution in the aquatic food chain. This study aims to evaluate the petroleum and heavy metal pollution of Lake Timsah and the capabilities of indigenous microorganisms to remove pollution. **METHODS:** Water and sediment samples were collected from two sites of El-Temsah Lake. From the first site (Fayrouz beach), *Eichhornia crassipes* was collected. Indigenous Microorganisms were enriched on enrichment medium supplemented by yeast extract and peptone. Isolation of microorganisms were in three different media, one with crude oil as the sole carbon source, the two other were R2A supplemented with 5 ppm copper and lead separately. Microorganisms associated or inhabiting *Eichhornia crassipes* were isolated on R2A medium. Plant, water and sediment samples were assessed for crude oil and heavy metal pollution. **RESULTS:** The results indicated that, the lake suffers from crude oil pollutions and high levels of Cu, Fe and Pb. The consortium recovered from the enrichment degraded the crude oil higher than individual organisms, while two bacillus and spore former isolates grew at higher Cu and Pb concentrations than others. The isolates recovered from sediments have higher resistance for both crude oil and heavy metal pollution. **CONCLUSION:** Hereafter, bioremediation by bacteria are applicable, because they are distinguished by high frequency, fast growth and a wide spectrum to utilize different types of pollution.

**FPSH-153: ABERRANT EXPRESSION OF PLURIPOTENCY GENES IN GLIOBLASTOMA MULTIFORME**

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**ABSTRACT**

**INTRODUCTION:** Glioblastoma multiforme (GBM), a grade 4 astrocytoma, is the most fatal type of gliomas representing up to 50% of almost all primary brain gliomas with the median survival rate of nearly 25 months after treatment. The recurrence of the tumor after prompt surgical removal despite the aggressive courses of treatment denotes the probable existence and proliferation of cancer stem-like cells after the treatment. Recent studies are implicating pluripotent genes which are expressed normally in self-renewing embryonic stem cells (ESCs). **OBJECTIVES:** Determine the expression profiling of transcription factors *SOX2*, *OCT3/4* and *NANOG* to evaluate their diagnostic and performance value in high grade gliomas. **METHODS:** Forty four specimens were obtained from glioblastoma patients (10 females and 34 males). Relative expression of pluripotent genes were assessed using Quantitative Real-Time PCR. *In silico* network analysis of these molecular markers was executed. **RESULTS:** mRNA expression levels of *NANOG* and *OCT3/4* were significantly down-regulated while that of *SOX2* was up-regulated in tumor specimens compared to normal tissue. ROC analysis showed high diagnostic performance of *NANOG* and *Oct3/4* than *SOX2*. However, none of them was associated with prognostic variables. **CONCLUSION:** This study highlighted the aberrant expression of certain cancer-associated transcription factors in glioblastoma multiforme which may direct the attention towards new strategies in the treatment of this lethal disease guided by these results.

**KEYWORDS**

Glioma,  
pluripotency genes,  
RT-PCR,  
OCT4,  
SOX2,  
NANOG

**FPSH-154: MICRORNA-34A: A KEY REGULATOR IN THE HALLMARKS OF RENAL CELL CARCINOMA**

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**ABSTRACT**

**INTRODUCTION:** Renal cell carcinoma (RCC) incidence has increased over the past two decades with unpredictable long-term morbidity and mortality. Recent studies reported microRNAs (miRNAs) as promising biomarkers for early cancer detection and accurate prognosis as well as targets for more efficient treatment. However, although their evident role in cancer biology, their tissue specificity and complex biology makes it difficult to understand their specific role in the disease process and the genes affected by their deregulation. **OBJECTIVES:** This study aimed to evaluate the expression levels of miR-34a and 11 of its bioinformatically-selected target genes and proteins with the highest significant levels to test their potential dysregulation in RCC in an attempt to better understand the molecular mechanisms that underlie the tumorigenesis and progression of this type of cancer. **METHODS:** Quantitative real-time PCR for miR-34a and its targets; MET oncogene, genes regulating apoptosis (TP53INP2, DFFA), cell proliferation (E2F3), and cell differentiation (SOX2, TGFB3) as well as immunohistochemical assay for VEGFA, TP53, Bcl2, TGFB1 and Ki67 protein expression have been performed in 85 FFPE renal tumor specimens obtained from patients with various histopathological types and diverse pathological outcomes. The clinicopathological parameters correlation and in silico network analysis of these molecular markers, in addition, have been analyzed. **RESULTS:** RCC tissues displayed significantly higher miR-34a expression level than their corresponding normal adjacent tissues, particularly in chromophobic subtype. Among the miR-34a target genes, MET and E2F3 were significantly up-regulated, while TP53INP2 and SOX2 were down-regulated. ROC analysis showed the high diagnostic performance of miR-34a (AUC=0.854), MET (AUC=0.765), and E2F3 (AUC=0.761). The advanced pathological grade was associated with strong expression of TGFB1, VEGFA, and Ki67 proteins and absent Tp53 staining. Additionally, chromophobic renal cell carcinoma type showed stronger staining of both TGFB1 and Tp53 proteins. However, lower expression of E2F3, SOX2, and DFFA genes were linked to capsular, pelvic and vascular infiltration, respectively. Functional enrichment analysis and protein-protein interaction showed involvement of the selected genes in the cancer-related biology. **CONCLUSION:** These findings indicate miR-34a along with its putative target genes could represent potential therapeutic molecular targets in renal cell carcinoma.

**KEYWORDS**

MicroRNA-34a,

RCC,

MET,

E2F3,

SOX2,

TGFB1,

VEGFA,

Ki67

**GPSH-155: CLINICAL EFFICACY OF NOVEL SELF-ADHESIVE FLOWABLE COMPOSITE RESIN RESTORATIONS IN VIVO**

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**ABSTRACT**

**INTRODUCTION:** Recently, an innovative resin-based material, combining the properties of self-adhesion and flowability was developed, eliminating both the etching and bonding steps and the associated time expenditure, thus, introducing a new category of restorative materials defined as "self-adhering composite resins. **OBJECTIVES:** Evaluate the clinical efficacy of self-adhesive flowable composite restoration in vivo, according to modified US Public Health Services (USPHS) criteria. **METHODS:** Twenty patients received forty class I restorations in primary molars. Clinical performance was evaluated using US Public Health Service modified criteria. Restorations of both materials were evaluated for: anatomic form, marginal integrity, marginal discoloration, surface texture and recurrent caries. Evaluations were done after 1 week, 3 months, 6 months, 9 months, as well as, after 12 months. **RESULTS:** Concerning the anatomic form, marginal integrity and marginal discoloration, there was no statistical difference between both tested materials at 1 week, 3, 6 and 9 months. At 12 months, there was a significant difference in favor of the self-adhering flowable composite. As for the secondary caries and surface texture, there was no significant difference between them along the whole evaluation period. Tracing both materials by time, there was a significant difference in both materials in the anatomic form, marginal integrity and marginal discoloration. **CONCLUSION:** Both tested materials performed clinically the same during the first 9 months while, at 12 months, self-adhesive flowable composite showed improved performance regarding the anatomic form, marginal integrity and marginal discoloration, yet, was similar to conventional composite concerning surface texture and recurrent caries.

**KEYWORDS**

Self-adhesive composite,

Flowable composite,

US Public Health Services criteria



Photography

