

2nd Young Researchers Conference at SCU

Suez Canal University, Ismailia, Egypt

24-25 October 2015

Under the patronage of

Prof. Mamdouh M. Ghorab

President of Suez Canal University (SCU)

Conference Chairman

Prof. Nahed Mohamed M. Ali

Vice President, Postgraduate Studies and Researches,
Suez Canal University

Conference Coordinator

Dr. Ismail Salama

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- | | |
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Conference Program

First Day Saturday 24 October 2015		
08:00 – 10:00	Registration	Main Hall
10:00 – 10:45	Plenary Lecture (1)	Main Hall
11:00 – 11:30	Opening Ceremony	Main Hall
11:30 – 12:15	<i>Tea Break</i>	Restaurant
12:15 – 13:00	Plenary Lecture (2)	Main Hall
13:00 – 15:00	Oral Session (A) Suez Canal Development Oral Session (B) Water treatment & Fish Farming	Main Hall
	Oral Session (C) Green Technology Oral Session (D) Renewable Energy	Hall II
15:00 – 16:00	Poster Session	Front Hall
16:00 – 17:00	<i>Lunch</i>	Restaurant
Second Day Sunday 25 October 2015		
09:00 – 11:00	Oral Session (E) Microbiology Oral Session (F) Medical Science	Main Hall
	Oral Session (G) Physics & Math. Oral Session (H) Tourism & Heritage	Hall II
	<i>Tea Break</i>	Restaurant
	Plenary Lecture (3)	Main Hall
11:45 – 12:15	Orientation Session (climasp)	Main Hall
12:15 – 12:30	Poster Session	Front Hall
12:30 – 13:15	Oral Session (I) Undergraduate Students	Main Hall
	Oral Session (J) Pharmaceutical Science	Hall II
	Oral Session (K) Education & Humanities	
	Oral Session (L) Agriculture	

15:15 - 15:45	Closing Ceremony and Recommendations	Main Hall

First Day: Saturday 24 October 2015

Plenary Lectures

Plenary Lecture (1)	10:00 – 10:45 (Main Hall)
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"Toward Resilient and Sustainable Development at the New Suez Canal Region in Egypt"

Dr Ahmed ELSERAGY

Associate Professor of Sustainable Architecture – Lincoln, UK

Vice President EBEA UK – Egyptian British Education Association – London, UK

Chairmen:

1- Prof. Nahed Mohamed M. Ali

Vice President, Postgraduate Studies and Researches, Suez Canal University, Egypt

Plenary Lecture (1)

Toward Resilient and Sustainable Development at the New Suez Canal Region in Egypt

Dr Ahmed ELSERAGY

Associate Professor of Sustainable Architecture – Lincoln, UK

Vice President EBEA UK – Egyptian British Education Association – London, UK

ABSTRACT

While the term sustainability manages to embed itself in all aspects of contemporary life today, sustainability in the built environment requires special attention. Instilling social sustainability and the ethos of social justice in the society is a significant method of encouraging and supporting sustainable urban development and regeneration in practice. This is particularly important in non-sustainable societies such as those of the Middle East in general and Egypt in particular.

For these reasons, this research aims at exploring 'social sustainability strategies,' as they may be described, for adoption in our societies at all different levels. Research that does address social aspects has focused on the role sustainable regeneration play in social interaction and inclusion, cultural identity, and community development. Such sustainable development approaches aimed at social purposes are essential for the liveability of cities, as Chiesura (2004) states that "developing more sustainable cities is not just about improving the abiotic and biotic aspects of urban life,

it is also about the social aspects of city life...". This is of utmost importance when considering the contradiction and difficulties of embracing sustainable urban development and regeneration schemes in Egyptian and Middle Eastern societies, whose cultural fabric does not encourage environmental awareness.

Elnokaly and Elseragy (2013) note that the problems of historical cities such as Cairo would not be solved by individual projects that focus on the sustainable regeneration and rehabilitation of their architectural and urban spaces. Rather, they can be solved by governmental and non- governmental policies and concrete programs that address the needs of the inhabitants such as reducing poverty, increasing employment, upgrading local communal services, and most importantly, empowering and enabling the local inhabitants to positively participate in the planning and management of their environment. To be able to achieve this, it will be necessary to enable change in the political agenda and environment in which social justice is the true essence.

It is envisaged that for successful sustainable urban regeneration or development projects to take place it requires a lot than choosing the best regeneration /development strategy or relocation policies. It should involve educational and environmental campaigns to teach local communities the merits of the projects developed and to highlight the historical, functional, and ontological ties that abide them with their city. It should work on the development and assuring the sense of belonging to a place and of empowering the citizens.

After the Egyptian Revolution and with Egypt entering a complete new political era challenges are greater than ever. Today on the peripherals of Cairo and other major cities of Egypt like Alexandria, urbanisation is continuing at a very high speed. The research embarks on the vital role social sustainability can play in creating a positive change in society. This research is concerned with the creation of successful new communities – new suburbs, new towns – where previously no community existed. But the challenge is equally great, or greater, in the creation of sustainable new communities within the existing urban fabric or as an extension of what is existing where users can live and work in a cohesive and successful communities.

With an ultimate goal to discern lessons from social and urban sustainable regeneration practices, social sustainability and urban regeneration is discussed with reference to case studies. The research looks at case studies from the built environment and scrutinises in more details the successful case of regeneration of both the urban fabric and social behaviour within number of successful case-studies like the city of Bogota, Colombia.

Keywords: Social Justice, Social Sustainability, Sustainable design, environmental awareness.

References:

Chiesura, A. (2004), The role of urban parks for the sustainable city, *Landscape and Urban Planning* 68 (2004) 129–138

Elnokaly, A., & Elseragy, A. (2013), Sustainable Heritage Development: Learning from Urban Conservation of Heritage Projects in Non Western Contexts, European Journal of Sustainable Development (2013), 2, 31- 54

"واحدى التكنولوجيا ومشروع تنمية محور قناة السويس"

Dr . Naema Mohamed Moheb

General Manager of Technology Valley, Suez Canal development Project.

Chairmen:**1- Prof. Ibrahim M. Fares**

Dean, Faculty of Veterinary Medicine, Suez Canal University, Egypt

Plenary Lecture (2)**"واحدى التكنولوجيا ومشروع تنمية محور قناة السويس"**

د/ نعيمة محمد محب

مدير عام وادى التكنولوجيا بمشروع تنمية محور قناة السويس

مشروع وادى التكنولوجيا احد المشروعات القومية فى مصر والذى يهدف الى خلق مجتمع عمرانى جديد يعتمد على نشاط اقتصادى ناتج من تفاعل الاستثمار والتعليم والبحث العلمى مرتكزا على الصناعات ذات التقنية العالية فى حيز جغرافى واحد لتساهم فى دفع عجلة التنمية الاقتصادية والعمرانية فى مصر سواء على المستوى القومى أو الاقليمى . يشغل المشروع موقعا استراتيجيا فى الضفة الشرقية من قناة السويس باجمالى مسطح 16500 فدان على المحور الاوسط مباشرة ويبعد عن محور قناة السويس بمسافة 10كم. وتم بالفعل العمل فى المرحلة العاجلة للمشروع و مدها بالبنية الاساسية والخدمات و جارى الانتهاء من اقامه التجمع السكنى الاول بوادى التكنولوجياوالذى يعتبر بمثابة الظهير السكنى للنشاط الاقتصادى بالمشروع ..بالاضافة الى انه جارى اقامه اول منطقته تكنولوجية بمشروع وادى التكنولوجيا بهدف توطين مشروعات لتقديم خدمات تكنولوجيا المعلومات والاتصالات. وقد تم ادراج وادى التكنولوجيا ضمن مشروع تنمية محور قناة السويس كمحور لوجيستي صناعي عالمي ، و صدر بالفعل القرار الجمهورى بإنشاء المنطقه الاقتصادية لمشروع تنمية محور قناة السويس على مساحه 460 كم2، ويلحق بالمنطقه الاقتصادية 6 موانى بحريه شرق وغرب بورسعيد ، الادبيه والعين السخنه بالسويس ، والطور والعريش .

ORAL SESSION (A) (Main Hall)

Saturday 24/10/2015 13:00 - 14:00

Chairmen of the Session
(Suez Canal Development)

1-Prof. El- Arabi Hendi Shendi

Faculty of Science, Suez Canal University

2- Ass. Prof. Rania Helmi Abdou

Faculty of Veterenary Medicine, Suez Canal University

(A-1)

موقف اتحاد جنوب أفريقيا من تأميم قناة السويس عام 1956

أ. بدوى رياض عبد السميع

مدرس مساعد معهد البحوث والدراسات الأفريقية - جامعة القاهرة

لا تقع الأحداث التاريخية منبئة الصلة بعضها عن بعض، فما وقع فى شمال القارة أترَ على جنوبها، بل واتخذ الجنوب من أحداث الشمال مواقف مختلفة بحسب ظروفه وأحواله ومصالحه. ولعل هذا الكلام ينطبق بشكل كبير وواضح على مواقف جنوب أفريقيا من قضايا الشرق الأوسط؛ وأهمها على الإطلاق الصراع العربى الإسرائيلى.

ولعل جنوب أفريقيا ليست بغريبة على شمالها؛ فقد دخلت قوات اتحاد جنوب أفريقيا إلى مصر عسكرياً خلال الحرب العالمية الثانية، كجزء من قوات الكومنولث البريطانى التى تحارب الألمان، وقاتل المتطوعون الجنوب أفريقيون أيضاً إلى جانب العصابات الصهيونية فى فلسطين منذ أواخر عام 1947. ولم تكن جنوب أفريقيا فى فترة ما بعد قيام دولة إسرائيل عام 1948 بعيدة عن الصراع العربى الإسرائيلى، بل كانت عنصرًا مهمًا من عناصر الصراع، وإن كان بشكل مستتر بشكل.

وتحاول هذه الورقة أن تناقش موقف ذلك النظام العنصرى القابع فى القمة الجنوبية للقارة من إحدى أهم حلقات الصراع العربى الإسرائيلى؛ تأميم شركة قناة السويس فى 26 يوليو عام 1956. وكما هو الحال مع بلدان أخرى، كانت ردود أفعال جنوب أفريقيا تجاه أزمة السويس مشروطة بمجموعة مختلفة الأنواع من المصالح والعواطف. ولعل غياب أية مصالح ملاحية مباشرة فى قناة السويس، مع القلق الشديد على السلام فى منطقة الشرق الأوسط، حيث تعتبر المنطقة بوابة إلى جنوب أفريقيا، قد حمل على الاتحاد سياسياً واستراتيجياً. وقد عكست ردود الأفعال تجاه الأزمة الانقسامات العرقية والوطنية فى اتحاد جنوب أفريقيا.

وتتناول هذه الورقة الموضوع من خلال النقاط التالية:

أولاً- الموقف الرسمى لحكومة الاتحاد من تأميم القناة.

ثانياً- موقف المعارضة (الحزب المتحد United Party) من تأميم القناة.

ثالثاً- موقف حركات التحرر الوطنى (المؤتمر الوطنى الأفريقى ANC).

(A-2)

ENVIRONMENTEL RISK ASSESSMENT OF ISMAILIA CITY, SUEZ CANAL PROVINCE, EGYPT

N.M. Moheb¹, A.E. El Rayes¹, M.F. Kaiser¹, M.H. Geriesh¹ and H.A. Gadou²

¹ *Geology Department, Faculty of Science, Suez Canal University, Ismailia 41522, Egypt.*

² *Urban Planning Department, Faculty of Engineering, Ain Shams University, Cairo, Egypt*

The present research aims to assess the environmental hazards influencing urban planning of Ismailia City at the Suez Canal Province. Waterlogging, water salinity, soil salinization and land subsidence are the most serious environmental hazards threatening Ismailia city. Field investigation, water level, chemical properties of shallow groundwater and remotely sensed data were integrated using Geographic Information Systems to build up the risk assessment map of Ismailia City. The acquired satellite images in this research were selected to be during 1990-2014. Ismailia City is covered by Quaternary sands, gravels and occasional clay lenses. The ground surface subsidence profile is strongly influenced by the presence of the clay lenses and high water level. Risk assessment map of sulphate in groundwater shows that sulphate content is extremely high at the northeastern and southeastern parts of the study area. Therefore, precaution should be taken to avoid corrosion of the building foundation, the planning solutions recommended the modifications of development plans and re-sitting of structures. Risk assessment map of waterlogging shows that water level is very high at the western parts of the study area and some scattered districts in both of eastern and central parts. Water management and applying groundwater modeling techniques should be carried out to mitigate waterlogging and land subsidence hazards. In conclusion, the present study recommends that the future urban planning have to consider the geological and environment determinants which include groundwater salinity, water level, topography and geotechnical properties of soil. In addition, proper planning and management regimes for land use changes associated with rapid urbanization will result in positive impacts on sustainable development and environment.

Keywords: *Urban planning, geologic determinants, environmental hazards, waterlogging, water salinity, soil salinization and satellite images.*

(A-3)

THE EFFECTIVENESS OF FISCAL POLICY TO ENHANCE GREEN GROWTH ECONOMICS IN EGYPT

Ahmed Gamal Khattab

*Assistant Lecturer, Economics Department, Faculty of Commerce – Suez Canal
University, Ismailia, Egypt*

Abstract

Fiscal policy affects sustainable development through its effects on green growth, so the study will end up with answers of the following questions: What is the effect of growth on the environment? What is the effect of environmental policy on growth? What kind of policy for growth and the environment to go together? How much? Under any conditions? How can environmental investment and taxation contribute to the Productivity of private factors & to sustainable economic growth? How much sustainable development can be affected by fiscal policy instruments? Does pollution taxation provide an efficient and permanent revenue source for government expenditure?

First of all the unit root test will be employed to determine the order of integration for the variables. After that the Johansen cointegration test will be used to determine the long run equilibrium between variables. The optimal lag length is determined using Vector Auto Regressive (VAR) method and the “Final prediction error (FPE), Akaike information criteria (AIC), and Schwartz information criteria (SC)” indicates the optimal lag length, and error correction model is used to test the long run relationship between the variables, Granger causality test is used to determine the direction of causality between the variables.

All hypotheses are significant. That is mean fiscal policy should be the most effective instrument to construct and enhance the green growth economics in Egypt.

Fiscal policy is necessary but still insufficient to achieve the green growth economics it should be used in the conjunction with monetary and international trade policy.

Key words: Economic Growth, Sustainable Economic Development, Fiscal Policy

(A-4)

المواقع الأثرية الواقعة علي محور قناة السويس

وسام مجدي طلبة
كلية الآثار - جامعة الفيوم

نسلط الضوء في هذا البحث علي عدد من المواقع الأثرية داخل محافظة الإسماعيلية ، وذلك من أجل تطوير هذه المواقع لكي تليق بمكانة مشروع قناة السويس الجديدة وتنمية المحور ، حيث أنه من المتوقع أن تزيد الزيارات التجارية بعد إكمال هذا المشروع وبالتالي الزيارات السياحية إلي محافظة الإسماعيلية ، ومن خلال هذا البحث أريد أن أضيف المكانة الأثرية للمحافظة جنبا إلي جنب مع مكانتها السياحية حيث يخفي عن كثير من مواطنيها تلك الأهمية ، وينقسم البحث إلي خمسة فصول نناقش في الفصل الأول قناة مصر خلال العصور القديمة والتي كانت لها أهمية إقتصادية كبيرة ، وفي الفصل الثاني نتحدث عن المواقع الأثرية الواقعة غرب قناة السويس والمتمثلة في منطقة وادي الطميلات الذي كان مثار جدل عدد من كبار العلماء في مجال المصريات لما يحويه من أهمية تاريخية ، في الفصل الثالث نلقي الضوء طريق حورس الحربي ذلك الطريق الذي كان يربط قارة أفريقيا عامة ومصر بصفة خاصة بقارة آسيا. وتأتي أهمية الطريق لما يشمله من عدد من التحصينات الدفاعية والقلاع التي أكدت دور فراعنة مصر في الحفاظ علي هذا الجزء الثمين من أرضها لذلك قامت وزارة الآثار مؤخرا بعمل مشروع البانوراما العسكرية ، ينقلنا الطريق إلي الفصل الرابع حيث المواقع الأثرية علي شرق القناة والتي مازال يجري بها العديد من الحفائر لإكتشاف الجديد ، وينتهي البحث بخاتمة توضح أهمية المواقع الأثرية داخل محافظة الإسماعيلية والتي يمكن أن تدر دخل مادي كبير من خلال الزيارات التي يمكن أن تتم لهذه المواقع ، ويعتمد البحث بشكل كبير علي نتائج الحفائر القديمة والحديثة في التعريف بهذه المواقع الهامة من أرض مصر .

الكلمات الدالة: مواقع أثرية، محور قناة السويس، محافظة الإسماعيلية، وادي الطميلات، طريق حورس الحربي.

ORAL SESSION (B) (Main Hall)

Saturday 24/10/2015 14:00 - 15:00

Chairmen of the Session

(Water treatment & Fish Farming)

1-Prof. Salah Eldin Mesalhy Aly

Fish Farming & Technology Institute

2- Dr. Geneseia Farouk

Faculty of Agriculture, Suez Canal University

(B-1)

New Alginate-Based Composites for Efficient Uptake of Fe (III) from Underground Water at the Bahariya Oasis

I. E. Genina^{1,2}, O. M. Abdeldayem^{1,2}, L. W. Ameen^{1,2}, N. T. Bahgat^{1,2}, M. Abdelhay^{1,2}

¹ *Nanomaterials Lab, Center for Materials Science (CMS), Zewail City of Science and Technology, 6th of October, Egypt*

² *Sophomore (2nd year) Students, Environmental Engineering Program, University of Science and Technology at Zewail City, 6th of October, Egypt*

Abstract

Underground water at the Bahariya Oasis, Egypt contains significantly high concentrations of iron ions (67 ppm) which exceeds the limits (3 ppm) approved by the World Health Organization (WHO). The current project was aiming to address the issue of heavy metals in the Bahariya Oasis's underground water, mainly iron ions. The materials and polymers investigated as sorbents were Graphene oxide, Biochar, Bentonite clay, Carrageenan, and sodium alginate biopolymer. New composite beads formulations consisting of sodium alginate polymer, Bentonite clay and Carrageenan copolymer of different ratios were developed and fully characterized. Besides, another series of interpenetrating polymeric networks (IPN) formulations based on alginate and incorporating either graphene oxide and/or biochar were prepared. The beads were lyophilized to maintain a high surface area for metal ion adsorption, and the iron metal ion uptake study was conducted using both a standard solution of the iron ions and the underground water from the Bahariya Oasis. The formulation with the most synergistic effect was determined, based on the UV-Vis spectroscopy analysis. Based on a batch process, the study indicates an iron ion removal of 97% from a 1350 ppm standard iron solution, and almost 100% iron ions removal from the underground water in less than 180 minutes. Besides, with the aid of a Packed Bed Column (PBC) of alginate beads, iron ions removal reached almost 99% at 6750 ppm in about 1 hour and at 67 ppm in just 4 minutes. Equilibrium studies were also conducted on the alginate-graphene oxide beads and the alginate-bentonite beads, and the obtained results were fitted to both Langmuir and Freundlich isotherms. In addition, the effect of pH on adsorption was investigated. Also, various analytical techniques such as differential scanning Calorimetry, FTIR, and UV-Vis spectrophotometry were used to investigate the structure and functional properties of the developed matrices. It has been concluded that the developed beads are thermally stable, possess a considerably high swelling extent, high surface area for adsorption due to lyophilization and active binding sites for metal ion uptake in addition to the ability to re-use them several times after washing.

Keywords: Underground water; heavy metals;

(B-2)

A preliminary trial on controlled challenge test of *Penaeus semisulcatus* families with white spot syndrome virus (WSSV)

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² Suez Canal University, Faculty of Agriculture, Department of Animal Production & Fish Resources, Ismailia, 41522, Egypt

Abstract:

The objective of this study was to assess between family differences in resistance to White Spot Syndrome Virus (WSSV). Juveniles of *P. semisulcatus* (mean weight 3 ± 0.5 g) from 50 families (20 full - sib families and 30 half - sib families) were tested for survival after challenge with WSSV. Mortality in the challenge test was recorded daily, and the experiment was terminated after 30 days post challenge when the mortality ceased. The overall mortality at the end of the experiment was 75%. Using cross sectional model, heritability of intermediate magnitude was estimated for WSSV resistance, using a linear model on the observed scale (0.37). This indicates there is high additive genetic variation for survival in the challenge test and the recorded disease resistance is a heritable trait, and suggests that survival in controlled challenge test experiments may serve as basis for selection for improved resistance to WSSV in *P. semisulcatus*. However, further investigation is needed to confirm and exactly quantify the additive genetic variation for resistance to WSSV in this species.

Keywords: shrimp, *Penaeus semisulcatus*, WSSV, Challenge test, genetic selection, resistance, Egypt

(B-3)

Bacteriophages as biocontrol agents in the aerated lagoons of Ismailia Wastewater Treatment Plant

Marwa M. Abdel Kareem, Ahmed Dewedar A. El-Baseouny , Ishrak K. Khafagi, Alaa El-Din R. Ahmed

Botany Department, Faculty of Science, Suez Canal University, Ismailia, EGYPT.

Abstract

Pathogenic microorganisms in the wastewater stream can be transmitted to healthy individuals and cause disease if improper regulation and control methods in wastewater irrigation are practiced. Lagoons as wastewater treatment systems are aiming for complete pathogen removal which necessitates search for novel approaches that does not harm the environment. One such novel approach is exploring the possibilities of bacteriophages for pathogen removal. *Aeromonas sp.*, *Citrobacter sp.*, *Enterobacter sp.*, *Escherichia sp.*, *Klebsiella sp.* and *Shigella sp.* which are pathogenic Gram - negative rods associated primarily with the enteric tract of warm - blooded animals have been isolated from Ismailia Wastewater Treatment Plant and molecularly characterized. *Escherichia coli* is one of the major pathogenic bacteria which causes significant diarrheal and extraintestinal diseases which have high morbidity and mortality rate. for fish and people. To develop an effective antimicrobial agent of *Escherichia coli*, the agar-overlay technique has been used for counting and isolation of a specific bacteriophage, named *phi-x174*. The lytic phage was characterized using the electron microscope and molecular methods. The *phi-x174*, which is related to family microviridae, was observed to be an icosahedral particle of 25 nm in diameter carrying a spike at each vertex. A bacteriological method was used to demonstrate the role of bacteriophages in the elimination of their host strains in the wastewater. The treatment of domestic wastewater with the lytic phage resulted in the decrease of its host strain counts. These results suggest that the phages can be used as biocontrol agents in the lagoon systems for wastewater treatment.

Keywords: Bacteriophages, Wastewater, Biocontrol agent, Lagoons, Enteric bacteria, *Escherichia coli*, microviridae, *phi-x174* phage

ORAL SESSION (C) (Hall II)

Saturday 24/10/2015 13:00 - 14:00

Chairmen of the Session

(Green Technology)

1-Prof. Ishrak Khafagi

Faculty of Science, Suez Canal University

2- Dr. Amro Elkelish

Faculty of Science, Suez Canal University

Isolation and Identification of Uranium Tolerant Actinomycetes and Bacteria from Different Egyptian Ores

Heba S. Taher¹, Hesham M. Abdulla¹ and Hala A. Ibrahim²

¹*Department of Botany, Faculty of Science, Suez Canal University, Ismailia, Egypt*

²*Nuclear Material Authority, Kattamya, Cairo, Egypt*

Abstract

Microorganisms inhabiting rocks are constantly exposed to stressful situations of low nutrients as well as high levels of metals. Hence, the ability to resist stresses is essential for their survival; these capabilities may vary according to rock type. To investigate the impact of the rock types on metal resistance ability, two-chemically different- ore were obtained from Nuclear Material Authority, Sand stone (5A) , containing 0.022% U₃O₈ and Black Shale (10A) containing 0.081% U₃O₈ were collected from Allouga, Sinai. Three dilution buffers, nine isolation media and three isolation techniques were used to recover actinomycetes and bacteria from these samples. Diluted starch casein medium was found to be the most effective isolation media for actinomycetes. Warcup method was better than buffer extraction in isolating actinomycetes, where 130 and 30 cfu/g actinomycetes recovered from sample 10A and 5A respectively. Nutrient agar medium was the best medium in recovering bacteria, where counts ranged from 502 to 1000 cfu/g for samples 5A and 10A respectively. To examine the uranium tolerance the metal was added to agar media at concentrations covering the range from 100 to 1000 ppm. Three actinomycetes isolates obtained from 5A sample and only one isolate from 10A tolerated 1000 ppm U(VI). Bacterial tolerance was lower than that of actinomycetes, only one isolate of 61 from both samples could grow in the presence of 1000 ppm U(VI). Using 16S rDNA gene sequence, the most Uranium tolerant actinomycetes were found to be belonged to genus *Streptomyces* while bacteria were found to be belonged to genus *Bacillus*.

Key words: Uranium tolerance, Egyptian ores, *Streptomyces*, *Bacillus*.

Bioleaching of Uranium from Different Ores Using Actinomycetes

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²Nuclear Material Authority, Kattamya, Cairo, Egypt

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Abstract:

Bioleaching is described as “the dissolution of metals from their mineral sources by certain naturally occurring microorganisms”. Mineralytic effects of microbes on minerals are based mainly on acidolysis (acids formation). The efficiency of different actinomycetes isolated from rocks containing uranium to produce acid was assessed to select the active producers to be used in bioleaching experiments. Siderophore production and oxidation reduction potential were considered as leaching mechanisms as well. Eleven isolates were used to extract uranium (U(VI)) from two-chemically different- ore materials named 5A, and Mn. The ore materials were obtained from Nuclear Material Authority (5A), and from Geology Department, Faculty of Science, Suez Canal University (Mn). 5A is Sand stone containing 0.022% U_3O_8 was collected from Allouga; while Mn is Manganese ore containing 0.055% U_3O_8 collected from Umm Bogma, Sinai. Three methods were used to inoculate the ore in shake-flask leaching experiments. Results showed that the leachability varied between the isolates, according to the ores to be leached and the inoculation method. The isolates G1, UA15 and U16 were efficient when used with non-sterile ore, they extracted 62%, 45% and 73% U(VI) from 5A ore respectively. On the other hand medium containing sterilized ore and inoculated with isolate UA11 extracted 44.75% U(VI) from 5A and 30.96% from Mn but UA12 was more efficient, it extracted 56.73 from 5A, while U30 was the stronger with Mn, it extracted 31.15% U(VI). G1, U16 and five other isolates produced siderophore, while all the tested isolates reduced pH and increased oxidation reduction potential.

Key words: Bioleaching, U(VI) extraction, leaching mechanisms

(C-3)

EFFECT OF MAGNETICALLY IRRIGATED WATER ON GROWTH PARAMETERS AND PHOTOSYNTHETIC PIGMENTS OF BROAD BEAN (*VICIA FABIA* L.) PLANT UNDER HEAVY METAL STRESS

Eman R. Abu Slima¹, Ahmed I. Mohamed², Amal A. H.Saleh³, and Mohamed S. Beltagi⁴

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² *Department of Soil and Water, Faculty of Agriculture, Suez Canal University, Ismailia, Egypt*

Abstract:

Heavy metal stress is one of the biggest threats that still endanger plant life in Egypt, therefore; the purpose of the current study is trying to reduce the impact of such stress by using one of the promising and environmentally friendly techniques which is magnetic water. The experiment was conducted to explore the effect of magnetically irrigated water on broad bean (*Vicia faba* L) growth, and photosynthetic pigments under Pb and Ni stress. The soil was artificially contaminated with Pb and Ni, which were added to the root environment as aqueous solution of Pb(NO₃)₂ and NiSO₄ in two doses at the beginning of the experiment. The concentration of Pb and Ni selected for the treatments were (500 and 1000) and (250 and 500) mg kg⁻¹ of dry weight of soil respectively, the same concentrations repeated to be treated with magnetically treated water. Irrigation water was magnetized by passing through a magnetic field 1000 gauss magnetron unit of 0.5 inch diameter. Bean seeds were cultivated at rate of 6 seeds/pot. After six weeks from sowing, bean plants were thinned into 4 plants/pot; vegetative and crop stages were both investigated. Generally Ni and Pb treated plants showed significant reduction in growth parameters of both the vegetative and crop stages while, magnetically treated plants showed tolerant behavior for most parameters specifically in crop stage. Photosynthetic pigments did not show any significant difference in vegetative stage, while showed a significant reduction in crop stage for most treatments.

Key words: heavy metal, magnetic water, broad bean

ORAL SESSION (D) (Hall II)

Saturday 24/10/2015 14:00 - 15:00

Chairmen of the Session

(Renewable Energy)

1-Prof. Kamal Abdel Kader

Faculty of Science, Suez Canal University

2-Dr. Ahmed Nawar

Faculty of Science, Suez Canal University

(D-1)
**INDIRECT ROLE OF SOLAR ENERGY IN CONTROLLING
PREDATORS BEHAVIOR AGAINST THE TWO FORMS OF
TETRANYCHUS URTICAE KOCH**

Rania A. Abd El-Wahab

Plant Protection Research Institute, Agricultural Research Center, EGYPT

Abstract:

Light emitting diodes (LEDs), which showed a direct effect on pests and predators, were powered by solar energy to play an indirect role in controlling *Tetranychus urticae*. Phototactic behavior of both *Phytoseiulus persimilis* and *Scolothrips sexmaculatus* was strongly affected by LEDs to the two forms of *T.urticae*. The attraction incidence rate ratio (IRR) was estimated of the predators. The highest attraction IRR values of *P. persimilis* recorded in case of *T.urticae* green form exposed to cool white LED (8000K nm) while it was detected with *S.sexmaculatus* preyed on red form exposed to super blue LED (470 nm). Concerning voracity, it was recorded 100 % in case of predation on the green and red forms of *T.urticae* exposed to cool white and super blue LEDs by *Phytoseiulus persimilis* and *Scolothrips sexmaculatus*, respectively. Moreover, the feeding preference and the predation efficiency of certain predators on the both forms of *Tetranychus urticae* adult males and females which exposed to LEDs were estimated depending on direct olfaction and Y-tube olfactory test. Results showed that there were significantly differences of insect predators' phototactic behavior which back mainly to colors of LEDs powered by solar energy.

Key words: Solar energy, Diodes, *Tetranychus*, *Phytoseiulus*, *Scolothrips*

(D-2)

Fabrication and Electrical Characteristic of a Solar Concentrated Photovoltaic Prototype for Solar Conversion Efficiency Enhancements of Commercial Solar Cells

M. M. Abd Elhady*, R. A. Abd Elazeez, F. M. Khalifa, K. T. Abd Elsalam, F. M. Amin and Ahmed M. Nawar

Physics Department, Faculty of Science, Suez Canal University, Ismailia, Egypt.



Abstract

Over all the world there are A huge demands for energy sources so that renewable energy sources are needed to reduce the countries reliance on greenhouse gas-producing fossil fuels .Concentrated photovoltaic (CPV) systems use optics to concentrate the sun onto solar cells that do not cover the entire module area. In our present work a parabolic trough reflecting system of plano-pixel was assisted with Plano Convex lens mirrors to increase the efficiency of commercial solar cells conversion energy parameters. By testing Commercial solar panel we found that short circuit current $I_{sc} \sim 78.13$ mA and efficiency $\eta \sim 1.40$ %. After adding Plano Convex lens to solar panel, I_{sc} increases to 81.58 mA and η exceeds 1.41 %. Putting solar panel at distance ~ 28.5 cm from curved mirror leads to increase I_{sc} to be 131.67 mA and $\eta \sim 1.45$ %. We also observed further increase in $I_{sc} \sim 145.03$ mA and $\eta \sim 1.5$ % when fabricated CPV system. The authors recommend usage of CPV system to enhance cell efficiency where it is cheap and simple method to improve solar panel efficiency.

Keywords: CPV - commercial solar panel - Plano Convex lens -Sun Concentrator.

Posters Abstracts

Poster Session 15:00 – 16:00 (Front Hall)

Poster Session
1-Suez Canal Development

SC-22

The Suez Canal In Literature: A Postcolonial Review of Arabic And Western Novels

Sameh Saad Hassan

*Department of English Language and Literature, Faculty of Arts and Humanities,
Suez Canal University, Ismailia, Egypt*

Abstract

The main aim of this paper is to present a postcolonial review of significant symbolic references of the Suez Canal in selected novels by Arab, French and English writers to trace literary and historically how the symbolism of the Suez Canal changed many times throughout its history due to major historical and political changes. What is really significant about the present paper is that it covers the period since the construction of the old Suez Canal in the mid-1800s until the present time in which a new Suez Canal is to be opened in August 2015. To study the literary significance of the Suez Canal as a symbol in Arabic and Western novels, this paper makes use of the concepts and ideas of New Historicism to discuss the relationship between history and literature as well as concepts and ideas of Postcolonialism to examine how the Western literary canon served to reinforce colonialist ideology and how the Arabic literary canon tried to reinforce the politics of anti-colonialist resistance. I conclude the paper by pointing out that the symbolic significance of the Suez Canal changed throughout a number of significant historical phases (the Suez Company's concession; the Suez Crisis; the Arab–Israeli wars; post-war era; and the new Suez Canal) from being a symbol of domination and exploitation of Egypt and the East in the Western novel to become a symbol of prosperity and national will in the Arabic novel.

Key words: Suez Canal, symbolism, literature, history, New Historicism, Postcolonialism

SC-44

Wastewater Properties Affecting Performance of Garada Wastewater Treatment Plant

Sameh M. Abdel-Moaty¹, Sahar A. El-Shatoury², Abeer A. El-Shahawy³

¹*Company of Potable Water & Sanitary Drainage at North and South Sinai, North Sinai, Egypt*

²*Botany Dept., Faculty of Science, Suez Canal University, Ismailia, Egypt*

³*Civil Engineering Dept., Faculty of Engineering, Suez Canal University, Ismailia, Egypt*

Abstract

Wastewater properties affecting performance of Garada wastewater treatment plant, Al-Arish, North Sinai, Egypt, were evaluated using principal component analysis (PCA). Principal component analysis indicated that [TDS, Salinity, Ammonia, E.C, temperature, phosphate] of the wastewater had the greatest effect on treatment process. For raw wastewater, the governing factors on treatment process were [temperature, BOD, E.C, Salinity, Ammonia and COD]. For anaerobic pond [TDS, Temperature, BOD, COD, TSS, Phosphate and Nitrate]. For facultative pond, the governing factors on treatment process were [Temperature, BOD, TDS, COD, pH and Turbidity]. For maturation pond, the governing factors were [COD, Temperature, Turbidity and BOD]. For zigzag canal, the governing factors on treatment process were [Temperature, TDS, BOD, DO, Phosphate, Nitrate and Ammonia].

Key words: PCA, Wastewater Treatment, COD

Ecology and Biogeography of the Ground Fauna of Suez Canal Region

Esraa S. Hamdy¹, Shereen M. Elbanna², Ahmed H. Abo Ghalia³ and Ahmed A. Shabayek⁴

¹*Department of Zoology, Faculty of Science, Suez Canal University, Ismailia, Egypt*

²*Department of Zoology, Faculty of Science, Suez Canal University, Ismailia, Egypt*

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⁴*Department of Land and Water, Faculty of Agriculture, Suez Canal University, Ismailia, Egypt*

Abstract

Soil invertebrate fauna is the most diverse and important group to maintain the soil health. The Suez Canal region has a special and unique status in Egypt. Since its opening for international navigation in 1869, population in the Canal region increased and green areas expanded greatly. The expanded cities have initiated new habitats that attracted some taxa from the Nile valley to the west bank of the Suez Canal. However, the military actions that the Suez Canal zone had exposed to resulted in giving a little attention for the ecological studies concerning biodiversity in this area. This study not only surveys soil-dwelling macro invertebrates in Suez Canal region but also includes an attempt to demonstrate the results of previous surveys of some invertebrate species in Egypt over years. The faunal samples were collected by using pitfall traps in nine sites of three different habitats (agricultural, desert and coastal) at the left bank of Suez Canal in three stations between Ismailia and Suez: Abusultan, Fanara and Geneifa. A number of 3502 individuals were found during this study which belongs to 140 species. The highest species richness was shown by Coleopterans, while the most abundant group was Hymenoptera. The coastal sites have shown the lowest abundance and diversity of soil macro-invertebrates and characterized by the deficiency of both soil essential chemical parameters and wild plants coverage. The urbanization along the shores of Suez Canal is behind the diminished soil fauna community in coastal sites.

Key words: Soil health, Habitats, Biodiversity, Macro invertebrates, Pitfall traps, Suez Canal region, Coleopterans, Hymenoptera, Urbanization

2-Water treatment & Fish Farming

Reproductive Biology of the Spotted Guitarfish *Rhinobatos Punctifer* from the Gulf of Suez, Egypt

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² Department of Marine Biology, Faculty of Science, Suez Canal University, Ismailia, Egypt.

³Laboratory of Fisheries Biology, National Institute of Oceanography and Fisheries, Suez, Egypt.

Abstract

Guitarfishes are an important component of the artisanal elasmobranch fisheries and are commonly caught as trawl fishery bycatch throughout the Gulf of Suez. However, no studies have been undertaken to investigate the life history of the species. To address this lack of critical biological information, the reproductive biology of *Rhinobatos punctifer* was investigated in the Gulf of Suez. 337 specimens were collected monthly during the trawling fishing season from September 2014 to April 2015. Development of claspers, testes, ovaries and uterus width indicated that males and females reach sexual maturity at 87.5 cm total length. *R. punctifer* is an aplacental viviparous species, with each female having two ovaries and two uteri, both functional. Ripe oocytes in the ovaries, ova, embryos and fully developed fetuses in the uteri are symmetrically distributed. The gestation period could last for a maximum of ten months. Ovarian egg size and male gonadosomatic index both peaked in February and March, indicating that mating occurs in winter. Uterine eggs were present from October through February. Females with full-term embryos were observed from November to February. Ovarian fecundity ranged from 7 to 12 (mean 9) eggs per fish, whereas uterine fecundity ranged from 2 to 10 (mean 6) embryos per fish. Average size at birth was 194 mm TL. The estimated overall sex ratio was 1.2:1 male to female.

Key words: Reproductive Biology, *Rhinobatos punctifur*, Spotted Guitarfish.

Bougainvillea Dried Leaves: An Eco-Friendly Biosorbent For Lead (II) Removal From Aqueous Solution

Ghadir A. El-Chaghaby and Mamdouh A. Abdel-Moneim

RCFF, Agricultural Research Center, Giza, Egypt

Abstract

The use of Bougainvillea dried leaves as a low-cost and eco-friendly biosorbent for the removal of lead (II) ions from aqueous solution was investigated in batch mode experiments. The different factors affecting lead (II) biosorption onto Bougainvillea leaves including: contact time, biosorbent weight, initial ion concentration and initial solution pH were studied. The experimental results showed that lead (II) removal percentage onto Bougainvillea dried leaves reached its equilibrium in 90 minutes. The removal percentage was found to be highly dependent on the initial solution pH and initial lead ions concentration. The kinetics of the biosorption process was investigated by applying the pseudo first and second order kinetic models. The results showed that the pseudo-second order kinetic model gave the best fit to the experimental data with high regression coefficient values ($R^2 > 0.98$). The biosorption of lead by Bougainvillea dried leaves was described by the intraparticle diffusion mechanism. The Langmuir, Freundlich and Temkin equilibrium models were applied to the obtained data and the results revealed that the Langmuir model best fitted the experimental data. The surface characterization of the biosorbent revealed the presence of many active surface groups capable of binding the adsorbate ions.

Key words: Biosorption, Metal Ions, Kinetics, Equilibrium, Mechanism.

WT-42

Coliphages as fecal indicators in the aerated lagoons of Ismailia Wastewater Treatment Plant

Marwa M. Abdel Kareem, Ahmed Dewedar A. El-Baseouny , Ishrak K. Khafagi, Alaa El-Din R. Ahmed

Botany Department, Faculty Of Science, Suez Canal University, Ismailia, Egypt.

Abstract

In order to treat municipal wastewater so that it can be safely used for agricultural purposes it is important to conserve nutrients while at the same time removing pathogens. Wastewater treatment processes carried out on the lagoons are widely used due to their relative low cost and maintenance requirements, minimum production of sludge and integration in the environment. Ismailia Wastewater Treatment Plant has two parallel treatment series; each one consists of an aerated lagoon, an aerated facultative lagoon and a polishing lagoon. The water quality of both influent and effluents of the lagoons was monitored through determination of various physicochemical (temperature, pH, DO, BOD₅, COD, TSS, TDS) and microbiological parameters (TVB, TC, FC) according to the Standard Methods for the Examination of Water and Wastewater (1985; 1992). Many microbial pathogens in wastewater (*Escherichia sp.*, *Shigella sp.*, *Klebsiella sp.*, *Citrobacter sp.*, *Enterobacter sp.*, and *Aeromonas sp.*) have been enumerated and molecularly characterized. Indicator organisms are always used to determine the relative risk of the possible presence of a particular pathogen in wastewater. The use of bacteriophages as potential indicators of faecal pollution has been studied. The correlation of the number of bacterial indicators and the presence of somatic coliphages in the influent and effluents of the lagoons is presented in this study. The removal of somatic coliphages was less than the observed for fecal bacteria and tended more towards that of enteric bacteria. This makes somatic coliphages a potentially better process indicator for the removal of pathogenic bacteria in the lagoons system.

Keywords: Coliphages, Wastewater, Fecal Indicators, Lagoons, Enteric bacteria

Wastewater Properties Affecting Performance of Garada Wastewater Treatment Plant

Sameh M. Abdel-Moaty¹, Sahar A. El-Shatoury², Abeer A. El-Shahawy³

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²*Botany Dept., Faculty of Science, Suez Canal University, Ismailia, Egypt*

³*Civil Engineering Dept., Faculty of Engineering, Suez Canal University, Ismailia, Egypt*

Abstract

Wastewater properties affecting performance of Garada wastewater treatment plant, Al-Arish, North Sinai, Egypt, were evaluated using principal component analysis (PCA). Principal component analysis indicated that [TDS, Salinity, Ammonia, E.C, temperature, phosphate] of the wastewater had the greatest effect on treatment process. For raw wastewater, the governing factors on treatment process were [temperature, BOD, E.C, Salinity, Ammonia and COD]. For anaerobic pond [TDS, Temperature, BOD, COD, TSS, Phosphate and Nitrate]. For facultative pond, the governing factors on treatment process were [Temperature, BOD, TDS, COD, pH and Turbidity]. For maturation pond, the governing factors were [COD, Temperature, Turbidity and BOD]. For zigzag canal, the governing factors on treatment process were [Temperature, TDS, BOD, DO, Phosphate, Nitrate and Ammonia].

Key words: PCA, Wastewater Treatment, COD

***Trichoderma Viride* And *Mucor Hiemalis*, A New Heavy Metal Mycosorbents, Isolated From Contaminated Sediments of Mediterranean Coastal Lagoon El-Manzala, Egypt**

Hussein M. Rashad^{1,3}, Ahmed M. Abdel-Azeem^{2,3} and El-Sayed M. El-Morseay⁴

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⁴Department Botany, Faculty of Science, Damietta University, New Damietta, Egypt

Abstract

Diversity of mycobiota in the sediment of Lake Manzala was investigated to evaluate their efficiency in heavy metals biosorption. Results showed that all sediment samples collected from different sites of Lake Manzala were contaminated with Cd, Fe, Cu, Mn, Pb and Zn but in various concentrations. *Aspergillus*, *Penicillium*, *Mucor* and *Trichoderma* were the most prevalent isolated genera in the examined sediment samples. In the present study, biosorption of Cadmium (Cd) by using mixed culture of *Trichoderma viride* and *Mucor hiemalis* and parameters affecting the biosorption of heavy metals, such as contact time, pH, biomass concentration and initial metal concentration, have been investigated. Results showed that 80% of biosorption of cadmium was reached for mixed cultures of *T. viride* and *M. hiemalis* and 60% and 45% biosorption for individual cultures respectively in 30 min. Optimized parameters for mixed cultures were 5 pH, 180 rpm agitation, 25°C temperature, 200 ppm initial metal concentration and 0.2 g of biomass concentration respectively.

Keywords: Biosorption, Conservation, Fungarium, Pollution, Suez Canal University,

WT-90

EFFECT OF SOME BIOLOGICAL FACTORS ON THE CHITIN YIELD OF TWO CRUSTACEAN SPECIES INHABITING THE MEDITERRANEAN AND THE RED SEAS

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Abstract

Crustacean wastes such as shrimps and crabs' exoskeletons cause environmental pollution. These are extensively used for the production of Chitin, which is an environmentally friendly biopolymer that has numerous properties and several uses. This study aimed to investigate the chitin yield of two of the commercial crustacean species that are exploited in the Suez Canal region, the Red Sea crab *Charybdis natator* and the Mediterranean mantis shrimp *Erugosquilla massavensis*. It also aimed to assess the effect of some biological factors such as sex, size and maturity stages of females' ovaries on this yield. 1441 specimens were collected, 64 crabs and 1377 shrimps, chitin was obtained after the de-proteinization, de-mineralization and de-colorization of 100gm oven dried exoskeletons. Chitin yield was significantly higher in *E. massavensis* than *C. natator* (22.1, 14.22 gm/100gm respectively). No significant difference in the yield was recorded between sexes of *C. natator* (12.9, 14.9 g, respectively), while the yield in *E. massavensis* males was significantly higher than females (25.3, 21.2 g, respectively). Significant variations in the chitin yield were observed between the different sizes of *E. massavensis* with the maximum being in the size range 90-130 mm CL. The chitin yield was at its lowest in the immature stage of *C. natator* females' ovaries (9.29g). However, the values increased but remained constant for the remaining stages (≥ 18 g). The study recommends the use of the mantis shrimp for the production of chitin on commercial scale particularly medium sized males.

Key words: Chitin yield, biological factors, *Erugosquilla massavensis*, *Charybdis natator*.

Water Quality Assessment of Lake Timsah, Suez Canal, Egypt Using different bio-monitoring Techniques

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Abstract

Water is the most important natural resource which supports all life forms. Lake Timsah as an important lake in Suez Canal and the backbone of the tourism and fishing industry in Ismailia City is highly polluted and receiving different sources of contaminations. In this study, three different bio-monitoring tools at three different scales have been integrated to assess the water quality in Lake Timsah besides the use of conventional water quality parameters (Physico-chemical and Heavy metal analyses). Sixteen sites were selected throughout the lake for in situ measurements and collecting water samples which were subsequently analysed. The analysed water parameters were regressed against calibrated radiance values extracted from a high resolution WorldView-2 image. The regression analysis resulted in six unique models with high determination coefficient (R^2) and probability (P) at 95% confidence level. These models were then applied to the WV-2 image to produce six unique water quality maps for the entire Lake Timsah. These maps were subsequently used to select the appropriate sites for collecting biota that serve as good bio-indicators for assessing the water quality of the lake. The alkaline comet assay technique was used and suggested that the aquatic crustacean isopod, *Sphaeroma serratum* can resist pollution and can be used as a reliable bio-indicator of DNA damage. The biota assemblage and biotic index in these sites indicate degraded conditions of the water body and the assessment of its water quality using Hilsenhoff's biotic index (HBI) ranged from fairly poor to poor water conditions.

Key words: Water quality, Bio-monitoring tools, Aquatic Macro-invertebrates

3-Medical Science

MS-10

Piroxicam Improve the Behavioural Response to L-Dopa in Experimentally Parkinsonian Rats

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²Department of Pharmacology & Toxicology, Faculty of pharmacy, Suez Canal University, Ismailia, Egypt

Abstract

Parkinson's disease is a progressive chronic neurodegenerative disorder. L-dopa is the cornerstone in treatment of Parkinson's disease; however, debilitating adverse effects emerge upon chronic use. This work investigated the protective effect of the non-steroidal anti-inflammatory drug, piroxicam, against rotenone-induced parkinsonism in rats and its utility in conjunction with L-dopa. Male rats were divided into six groups. Group i: the vehicle group, group ii: the disease control group [injected with rotenone (1 mg/kg/48 h, s.c.)]. Groups iii: rats were treated with rotenone and L-dopa/carbidopa (100/10 mg/kg/day, p.o.). Group iv-v: rats were treated with rotenone plus daily doses of piroxicam (1 and 3 mg/kg, p.o.). Group vi: rats received rotenone in addition to a combination of L-dopa plus piroxicam (3 mg/kg/day). At the end of week 10, rotenone-treated rats exhibited poor motor activity and rigidity in behavioral tests. Further, treatment with piroxicam enhanced the overall motor activity compared rotenone group. Addition of piroxicam to L-dopa therapy improved the motor response to L-dopa. Overall, these results recommend piroxicam as a promising ad-on therapy with L-dopa for neuroprotection in Parkinson's disease.

Key words: dyskinesia, levodopa, parkinsonism, piroxicam, rat, rotenone

MS-19

Arrhythmogenic Effect of Levofloxacin in Rats and Effect on Cardiac Herg Potassium Channel Expression

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⁴*Department of Biochemistry, Faculty of Medicine, Suez Canal University, Ismailia, Egypt*

Abstract

Fluoroquinolones antibacterials have broad spectrum antibacterial activity and high bioavailability; they are widely used for fighting wide range of infections. However, these compounds are recently reported to induce adverse cardiovascular effects. In this study, the effect of the fluoroquinolone antibiotic, levofloxacin, on electrocardiographic parameters was assessed in healthy rats. Male albino rats were divided into three groups. Levofloxacin was given orally to rats in two doses (150 or 300 mg/kg) for 6 weeks to monitor its toxic effect. At the end of the experiment, electrocardiograms were obtained from the rats under anesthesia. Then, blood samples were collected to obtain the sera and the hearts were dissected from the rats. Treatment with levofloxacin in rats produced electrocardiographic changes. Furthermore, serum cardiac enzymes were different in rats treated with levofloxacin compared to control. Moreover, microscopic assessment identified some abnormalities in cardiac histology. Importantly, levofloxacin affected the cardiac mRNA expression on the rat ether-a-go-go-related gene (HERG)-encoded potassium current. The current results highlights for the first time the arrhythmogenic effect of levofloxacin in rats leading to the suggestion of limiting its use in patients with cardiac diseases.

Key words: levofloxacin, ECG, mRNA and HERG

MS-46

Cardioprotective Effect Of Pioglitazone In Diabetic And Non-Diabetic Rats Subjected To Acute Myocardial Infarction Involves Suppression Of Ages-Rage Axis And Inhibition Of Apoptosis

Dina M. Khodeer¹, Sawsan A. Zaitone¹, Noha E. Farag², Yasser M. Moustafa¹

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Abstract

It is well established that people with insulin resistance have a greater risk of cardiovascular morbidity and mortality. Current work investigated the protective effect of pioglitazone on myocardial infarction (MI) in non-diabetic and diabetic rats focusing on its role on downregulating serum advanced glycation end products (AGEs) and apoptotic machinery in the heart. Rats were divided into two experiments: Experiment I, (non-diabetic rats), rats were assigned as (i) saline (ii) MI (two injections of isoproterenol, 85 mg/kg, daily) (iii-v) MI + pioglitazone (5, 10 and 20 mg/kg), respectively. Experiment II, (diabetic groups), rats were assigned into five groups similar to those in experiment I. Recording ECG, infarct size, serum cardiac enzymes, serum. Results indicated that induction of experimental MI in diabetic rats showed greater ECG disturbances compared to that induced in healthy non-diabetic rats. Treatment with the low dose of pioglitazone (5 mg/kg) reduced the infarct size and produced some improvements mainly in some ECG findings. Pioglitazone (10 mg/kg) enhanced ECG findings, improved the histopathological picture and downregulated apoptosis in cardiac tissues. Whereas, the higher dose of pioglitazone (20 mg/kg) did not improve most of the measured parameters but rather worsened some parameters such as proapoptotic markers. Importantly, a positive correlation was found between serum AGEs/cardiac AGE receptors and caspase 3 expression in the two experiments, therefore, the current action of pioglitazone is, at least in part, mediated through down regulation of AGE-RAGE pathway. Consequently, current study suggests that pioglitazone, at optimized doses, may have utility in protection from acute MI.

Key Words: advanced glycated end products, apoptosis, diabetes, myocardial infarction, pioglitazone, rat

MS-47

Histological Studies on the Possible Protective Effect of Ginger Extract against Gasoline Exposure Induced Liver, kidney and lung Toxicity in Adult Male Albino Rats

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Abstract:

Ginger (*Zingiber officinale*) is used traditionally for many therapeutic purposes. The aim of this study was to investigate the possible protective role of ginger against leaded gasoline induced toxicity in rat's liver, kidney and lung tissues. Sixty male adult albino rats (120-150 gm) were divided into 10 groups (n=6). Control group. Groups (2-5) inhaled leaded gasoline with nominal concentration 18.18 ppm for exposure times 3, 6, 9 and 12 hrs/days for 14 successive days. Group (6) orally received 100 mg/kg ginger per day for 14 days. Group (7-10) inhaled gasoline in same conditions and same exposure times of groups (2-5), in addition to orally receiving 100 mg/kg ginger during exposure for 14 days. After sacrificing, liver, kidney and lung of the rats was taken for histological preparation. The histological examination of rat's liver showed inflammatory infiltration in the portal areas. Their central veins were congested. The hepatocytes of the liver in the four exposure time showed hydrobic degeneration. The histological examination of rat's kidney showed some abnormal renal corpuscles and tubules. The histological changes of lung of all exposure time of gasoline included thickening and destruction of the alveolar wall. The bronchial wall showed hypertrophy of muscle layer and dilatation of the bronchioles. Rat received ginger during exposure to gasoline for different time for 14 days showed only decreased in the severity of the histological changes that appeared in the rat's liver, kidney and lungs tissues exposed to gasoline. It can be concluded that Ginger administration (100 mg/kg) showed mild protective action against gasoline-induced histological damage to the rat's liver, kidney and lung.

Key words: leaded gasoline, ginger, liver, kidney, lung, histology

MS-48

Scaffolds' Characterisation for a Multilayered Construct Simulating the Tooth Periodontium

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Abstract

Orthodontic forces are usually small forces regulating bone remodeling (resorption & apposition). However, the underlying mechanism at molecular level remains unclear. Most previous in-vitro studies investigating orthodontic forces were performed in 2D monolayer systems and represent either the hard or soft tissue. Hence a 3D multilayered simulation system of the complexity of periodontium is in demand to investigate the effect of orthodontic forces on the different components of the periodontium. **Aim:** to compare 4 different scaffolds to select one representative of hard tissue components (bone and cementum) and one of the soft tissue component (periodontal ligament (PDL)) of the periodontium to be used in a proposed multilayered construct: PLGA 50/50 Poly (D, L-lactide-co-glycolide), and Sol-Gel scaffolds for the hard tissue components, and Bio-Gide® and Flexcell® membranes for the soft tissue component were compared. All scaffolds were seeded with human periodontal ligament (HPDLCs) cells. Cells viability, adhesion, proliferation, and matrix formation were assessed by Confocal and SEM imaging. Mechanical properties were evaluated before and after cell seeding. **Results & Conclusion:** All types of scaffolds have displayed typical viable fibroblast like appearance in confocal images. SEM images indicated the presence of cells in sheets or layers, spreading and stretching within the scaffolds confirming the biocompatibility and indicating various amounts of matrix formation by the cells within the scaffolds. Sol-Gel and Bio-Gide® had the best mechanical properties and were suitable for the study

Key words: Orthodontic tooth movement, Tissue Engineered construct, scaffolds

Using Tissue Engineering to Investigate Intrusive Orthodontic Tooth Movement: In-Vitro Model

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Abstract

Due to the anatomic and material complexity of, tooth-supporting apparatus, periodontium (alveolar bone, PDL, and root cementum), it is not easy to quantitatively determine mechanical responses to orthodontic loads without developing a realistic biomechanical model. In order to mimic the tooth periodontium and reach such model two 3D structures were selected. The Sol-Gel scaffold was used to represent the hard (alveolar bone) and Bio-Gide membrane to resemble the soft tissue components (periodontal ligament fiber) of the periodontium. **Methodology:** Both 3D structures were seeded with cells and arranged in a bi-layered construct. This bi-layered structure was left in such arrangement for 2 weeks and cells were allowed to grow within. The HPDLCs were obtained from extracted healthy wisdom teeth and were seeded at passage 4 dynamically using Macs Mix tube rotator. After 2 weeks in culture continuous compressive forces (7.2g&12.2g) were applied to the bi-layered construct using the continuous compression weight approach using a specially designed loading system. The growth and differentiation of HPDLCs within the bi-layered construct was detected using the Live/dead imaging of each of the components of the bi-layered construct separately. In addition cytotoxicity of the construct as well as its components was quantitatively assessed using LDH assay. Relative change in gene expression was determined using qRT-PCR for osteoclastogenesis, osteoblastogenesis, pain, inflammatory and cementum markers at 6h, 24h and 24h loading followed by 2h rest. **Results & conclusion:** HPDLCs enjoyed a biocompatible 3D environment within the bi-layered construct. The ephrin/EPH pathway contributes to the bone remodeling process on the compression side during force application. Pain markers were released following application of compressive force as soon as 6h and continued for the whole duration of the study. However the removal of the compressive force leads to immediate reduction of pain markers. The external root resorption accompanying orthodontic tooth movement is a feature that is associated with force application as evident by CEMP1 down regulation even when force was released for a short period of time (2h).

Key words: Bilayered construct, compressive orthodontic forces, osteoclastogenesis

MS-55

Antitumor Efficacy of *Androctonus Australis* Crude Venom on Ehrlich Ascites Carcinoma Cells-Bearing Mice

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Abstract

Scorpion venom is a potential bio-source and therapeutic tool exhibiting biochemical effects against variety of diseases. The present study was carried out to assess the antitumor effect of *Androctonus australis* crude venom on the Ehrlich ascites carcinoma-bearing mice. Experimental protocol included intraperitoneal (i.p.) injection of the venom at sub lethal dose, 1/10 LD50 (0.025 mg/kg BW) compared to cisplatin (2 mg/kg BW) and both normal and EAC control groups. Antitumor activity was done by i.p. transplantation of EAC into Swiss albino female mice. Analysis of ascetic fluid tumor, complete blood count, liver and kidney function tests, hepatic oxidative stress biomarkers (MDA, NO, CAT, SOD and GSH) and histopathological study of peritoneal, hepatic and renal tissues were evaluated in control and treated animal groups along with survival study. The venom induced a significant ($P \leq 0.05$) increase in hemoglobin level, RBC's and WBC's counts. It induced a significant ($P \leq 0.05$) increase in liver enzymes AST, ALT and ALP, a non-significant decrease in albumin, creatinine and glucose with a significant ($P \leq 0.05$) decrease in urea level and a non-significant increase in total protein content compared to EAC control group. *A. australis* venom exhibited a highly significant ($P \leq 0.001$) decrease in tumor volume, tumor cell count, and viable tumor cells, decreased body weight and increased the duration of life span compared to EAC control group. The results revealed that the *A. australis* venom exhibited antitumor activity by modulating lipid peroxidation and augmenting antioxidant defense system against EAC-bearing mice.

Key words: *Androctonus australis*, Ehrlich ascities carcinoma, Antioxidants, Albino mice.

MS-56

RELATIONSHIP BETWEEN IRRITABLE BOWEL SYNDROME AND CHRONIC RHINOSINUSITIS : A CASE CONTROL STUDY

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Introduction: Irritable Bowel Syndrome (IBS) and Chronic Rhinosinusitis (CRS) are two of the most commonly reported complaints at health care systems and have a great negative impact on quality of life ,but there is not a clear relationship has been established between them before . Many people can suffer from both diseases without seeking medical care , so this study is considered one of the turning points that assessed the relationship between both disorders.

Methods : In a case-control study design, a convenient sample of 133 medical students at Suez Canal University - Egypt, were involved. Fifty students were identified as cases with irritable bowel syndrome (IBS) diagnosis; using Rome III criteria, and 83 healthy students as controls. Both cases and controls were subject to an assessment of the history of chronic rhinosinusitis symptoms; using EP3OS criteria.

Results: The study included 44 female students with IBS (88%) and 50 female students (60.2%) without IBS, while males represented 6 (12%) of IBS cases and 33 (39.8%) of controls [$p=0.001$].The results revealed a statistically significant association between IBS and CRS [$p<0.001$] with an odds ratio of 17.8 [95% CI: 4.9 - 64.2].

Conclusion: The study successfully concluded the presence of a relationship between IBS and CRS, and proved that the risk of a CRS patient getting IBS is about 17 times more than non CRS one getting IBS . All gastroenterologists and otolaryngologists and even general practitioners must be aware of the presence of this relationship.

Key words: IBS, chronic rhinosinusitis, gastrointestinal disorders, post nasal drainage.

MS-64

Vitamin C and Glucose Oxidase Ameliorate Aflatoxin B1-Induced Adverse Effects in Broiler Chicks

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Abstract

Aflatoxins, the toxic secondary metabolites produced by *Aspergillus flavus* and *Aspergillus parasiticus* are silent killers in poultry feed due to their hepatotoxicity, genotoxicity and immunotoxicity. The current study was conducted to determine the efficacy of vitamin c and glucose oxidase in counteracting the deleterious effects of aflatoxin B1 (AFB1). One day-old commercial broiler chicks were fed AFB1-contaminated diet at level 5ppm and 25ppm. The chicks were assigned randomly to six dietary groups, of 30chicks each and kept for six weeks. The dietary groups were fed basal diet contained 5ppm AFB1, basal diet contained 25 ppm AFB1, basal diet contained 5 ppm AFB1 plus vitamin c, basal diet contained 25 ppm AFB1 plus vitamin c; basal diet contained 5 ppm AFB1 plus glucose oxidase, and basal diet contained 25 ppm AFB1 plus glucose oxidase. Growth performance parameters, hematology, weight of liver and immune organs, serum biochemical analysis and DNA fragmentation were evaluated. Ingestion of AFB1 in rate of 25 ppm was revealed a decrease in body weight gain, serum total protein, albumin, globulin. Feeding diet contaminated with AFB1 cause increase in serum levels of AST, ALT and alkaline phosphatase with enlargement of liver and increasing in mean percentage of DNA fragmentation in liver cells. However, supplementation of vitamin c and glucose oxidase in the diet contained AFB1 enhance all studied parameters. It was concluded that, vitamin c and glucose oxidase ameliorated AFB1 toxicity in broilers through their antioxidant and free radical scavenging activities.

Key words: Aflatoxin B1, Vitamin C, Glucose oxidase, Broilers.

MS-98

PROMOTER METHYLATION STATUS OF BREAST CANCER SUSCEPTIBILITY GENE 1 (BRCA1) AND 17 BETA HYDROXY STEROID DEHYDROGENASE TYPE 1 GENE (17 β HSD-1) IN SPORADIC BREAST CANCER

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Abstract:

Epigenetics are important events in carcinogenesis. DNA methylation is involved in both the initiation and progression of sporadic breast cancer. We aimed to study promoter methylation status of both BRCA1 and 17 β HSD-1 genes in breast cancer tissues and adjacent normal tissue as controls. Genomic DNA was extracted from both cancer breast tissues and normal tissues from forty sporadic breast cancer patients. Methylation status of both gene promoters was determined by restriction enzyme based methylation specific polymerase chain reaction. BRCA1 promoter methylation was detected in 17/40 (42.5%) of cancer tissues compared to 14/40 (35.0%) of normal tissues. Cancer tissues were 1.4 times more likely to show BRCA1 methylation than normal tissues (The odds ratio =1.4; 95% confidence interval=0.56-3.38), although that was statistically insignificant. Patients with BRCA1 methylated normal tissues were 12.2 times more likely to have methylated cancer tissues than those with unmethylated normal tissues and that was statistically significant ($p < 0.001$). BRCA1 methylation was significantly associated with increasing age of menopause, mitosis and negative Her2 ($p=0.048$, $p=0.042$ and $p=0.007$ respectively). We found that 17 β HSD-1 promoter methylation was detected in 39/40 (97.5%) of cancer tissues compared to 38/40 (95.0%) of normal tissue and this difference was statistically insignificant ($p=1.000$). The Methylated 17 β HSD-1 promoter was not associated with any clinicopathological characteristics. In conclusions, our findings suggest that BRCA1 methylation could be used as a potential biomarker for early detection of sporadic breast cancer. Investigating association of BRCA1 methylation and various gold standard biomarkers warrants further insights in the process of breast carcinogenesis.

Key words: Breast cancer, Promoter methylation, BRCA1, 17 β HSD-1

MS-99

IMMUNOMODULATORY AND GROWTH PERFORMANCE EFFECTS OF BASIL, ECHINACEA AND GINSENG ESSENTIAL OILS AS NATURAL GROWTH PROMOTERS IN BROILER RATIONS

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Abstract

With the emergence of antibiotic-resistant pathogens and decrease of vaccine efficacy, safe and natural alternatives strategies are required. Hence, the increasing interest for augmenting immunity and promoting growth performance led to development of new alternatives such as probiotic, organic acids, enzymes and phytobiotics for enhancing animal health and reducing the antibiotic use.

This study was assigned to investigate the comparative effects of basil, echinacea, ginseng and antibiotic supplementation as growth promoters and immunomodulators in broiler chicks. In a 35-day growth trial, a total of 150 broiler chicks (Cobb) were weighted and randomly allocated into 5 groups (control, flumequine, basil, echinacea and ginseng essential oils) of 30 birds each. Each group was subdivided into 3 replicates of 10 chicks each.

The results showed that, basil, echinacea, and ginseng treated groups were significantly heavier (improved performance parameters) than control or antibiotic treated groups. The blood phagocytic cells capacity was significantly higher in groups received basil, echinacea or ginseng essential oils (69.00 ± 0.577 , 72.67 ± 0.882 and 76.00 ± 0.577 , respectively) compared to control or antibiotic treated groups (61.00 ± 0.577 and 63.33 ± 0.882 , respectively).

The results revealed that, supplementation of broiler rations with some phytochemicals such as basil, echinacea or ginseng oils has a good immunostimulant and growth promotion effects and can be used as natural substitutes for antibiotic growth promoters.

Keywords: phytobiotics, phytochemicals, immunostimulant, growth promoters, broiler, basil, echinacea, ginseng, flumequine.

MS-100

EFFECT OF CHITOSAN, SUPERIMMUNE[®] AND SELENIUM PLUS VITAMIN E ON IMMUNITY, HEALTH AND GROWTH PERFORMANCE OF BROILER CHICKS

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Abstract

Immunomodulators are natural or synthetic substances which regulate or normalize immune system. There are two types of immunomodulators: immunostimulants and immunosuppressant.

This experiment was done to investigate the effects of dietary chitosan, superimmune[®] and selenium plus vitamin E supplementation in water on blood analysis, immune response, growth performance and histopathological changes of broiler chicks.

A total of 200 healthy unsexed one day-old Cobb chicks were divided randomly into 4 treatment, each were subdivided into 2 replicate of 25 chicks per replicate. Dietary treatments groups were; control, selenium plus vitamin E, chitosan and superimmune[®].

The results revealed that, chitosan treatment highly increased the growth performance, the weight gain and the final body weight as compared to other groups. Additionally, chitosan and selenium increased the immune index at 35 days. None of the applied treatments altered the liver or kidney function on 21 days. Moreover, the highest level of serum immunoglobulin was recorded in chitosan supplemented group.

It could be concluded that, chitosan has a great potential effect as an immunostimulant with a good growth promotion property in poultry farming.

Keywords: Broiler chicks, Selenium with vit. E, Chitosan, Superimmune, Immune index, Growth performance, immunoglobulin.

MS-104

Cardiovascular Disorders Induced By Noise Stress Can Be Alleviated By *Moringa Oleifera*

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Abstract

Noise is a pervasive aspect of modern communities and work environments. Exposure to noise causes many health problems such as hearing loss, sleep disturbance, performance impairment and heart diseases. The present work investigated the role of a medicinal plant, *Moringaoleifera*, in alleviating the induced adverse effects on cardiovascular system. Male albino rats were daily exposed to noise stress (60 and 90 dB) for 4 or 6 hrs along 3 weeks. ECG was recorded in 15-min sessions while blood pressure was monitored directly from caudal vein. One hour before exposure, chronic intraperitoneal (IP) injection with (10mg/kg) methanolic extract of *M. oleifera* leaves powder was applied. For exploring the mechanism of action, both stressed and *M. oleifera*-treated groups were separately IP injected with (10mg/kg) of propranolol daily along the experiment. Noise stress induced significant ($P \leq 0.05$) chrono-, ino- as well as dromotropic effects depending on dose and duration of exposure. Venous blood pressure was significantly ($P \leq 0.05$) increased. Meanwhile, treatment of stressed rats with *M. oleifera* extract ameliorated these effects. Moreover, the noticed hypertension was significantly decreased from (41.19 ± 2.041) to (13.64 ± 1.975). Propranolol revealed that *M. oleifera* extract mediated the induced ECG abnormalities through adrenergic nerve elements. Treatment with *M. oleifera* has significantly relieved the recorded negative chrono-, ino- and dromotropic effects represented as bradycardia, decrease of R-amplitude and P-R segment elongation. On the other hand, it also impeded the highly significant ($P \leq 0.05$) increase in blood pressure. It can be concluded that chronic treatment of stressed rats with *M. oleifera* could alleviate both bradycardia and hypertension as well as the observed cardiac disorders induced by noise stress, which can be mediated through beta-adrenergic nerve elements.

Keywords: ECG, Hypertension, Noise stress, *Moringaoleifera*, Propranolol.

4- Agriculture

AG-66

Issr Markers associated with Effects of Gamma Irradiation on Growth and Seed Yield of Faba Bean (*Vicia Faba L.*)

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Abstract

Dry seeds of six faba bean varieties (Sakha1, Noburia 2, Noburia 3, Giza 3, Giza 716, Giza 843) were irradiated with gamma low doses of rays (20, 40, 60, 80, 100, 200 Gy). Treated seeds together with control seeds were grown for two seasons to determine the effective dose for mutation breeding that helps in developing new genotypes with useful yield traits. The results indicate that the low doses of gamma rays below 200 Gy increased morphological growth estimated as plant height, fresh weight, dry weight, leaf area as well as some yield parameters particularly number of pods per plant, number of seeds per pod and 100-seed weight. However higher doses were detrimental to plant growth and yield. The variation in DNA ISSR profiling in response to gamma irradiation treatments in M₂ was detected using seven ISSR primers. The results indicated that Noburia 3, Noburia 2 and Giza 3 showed the highest numbers of polymorphic bands (225, 191 and 181) respectively. The highest number of polymorphic bands in Noburia 3 and Noburia 2 plants was found with the use of gamma doses 60, 100 and 200 Gy while in Giza 3 the highest number was observed with the doses 60 and 80 Gy. Polymorphic information content (PIC) was estimated for each primer which ranged from 0.193 for primer 807 to 0.31 for primer 834 with a mean of 0.259.

Key words: Mutation breeding, Gamma rays, Faba bean, DNA-ISSR profiling

AG-85

Nitrogen Fertilization Source and Micronutrients Impact on Carrot (*Daucus Carota* L.) Yield

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Abstract

Carrot is very important vegetable crop in Egypt and worldwide, grown for both fresh market and processed foods and is known for its high nutritional value. A field experiment was conducted at the Experimental Research Farm, Faculty of Agriculture, Suez Canal University, Ismailia, Egypt, in fall-winter 2014-2015 to study the effect of two nitrogen soil fertilization sources and foliar application of micronutrients on marketable and total yield of two carrot genotypes. The experiment was laid-out in a Randomized Complete Block Design (RCBD) with four replications. At harvest, marketable yield was determined as total yield minus small roots and defects (deformed- branched- cracked) roots. The analysis of main effects of factors under study revealed a significant effect of those factors on carrot yield. Ammonium sulfate $[(\text{NH}_4)_2\text{SO}_4]$ gave a higher significant yield compared to ammonium nitrate (NH_4NO_3) by 8% and 7.7% for marketable and total yield, respectively. In addition, foliar spraying of micronutrients significantly increased carrot yield by 13.5% and 13% for marketable and total yield, respectively. Genotypes had a significant effect on carrot yield, as genotype Kuroda gave significantly higher yield compared with genotype Nantes by 25.2% and 26.3% for marketable and total yield, respectively. The analysis of interaction effects showed that the highest yield was achieved when genotype Kuroda has been fertilized by ammonium sulfate and sprayed with micronutrients. The study provides interesting results concerning carrot yield. Carrot growers have to give much attention to nitrogen source and micronutrients fertilization as well as genotype selection to maximize their yield.

Key words: Ammonium Sulfate, Ammonium Nitrate, Cultivars, Yield.

AG-88

Pathological studies on postharvest diseases of green bean pods

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Abstract

Postharvest diseases of green bean pods (*Phaseolus vulgaris. L*) are the major problem to the green bean during storage and marketing at certain localities of different governorates in Egypt. The most frequent isolated fungus was *Sclerotinia sclerotiorum* (14 isolates) which were evaluated for their pathogenicity test. Clear variation among tested isolates of *S. sclerotiorum* was observed according to the linear growth as well as number and size of sclerotia. Pathogenicity test of main isolated fungi i.e. *S. sclerotiorum*, *Botrytis cinerea*, *Alternaria* sp., *Rhizctonia solani* and *Fusarium* sp. were carried out by using two different methods (length of infected area or weight of infected area). Results indicated that all the tested fungi were able to infect Bronco cv. bean pods. The highest infection of green bean pods was obtained with two isolates of *S. sclerotiorum* (isolate no. 11 and isolate no. 13 which recorded 80, 75.6 % as disease incidence respectively. As for *B. cinerea* disease infection was recorded at 35.9, 30.9 and 29.5% by isolate no. 2, isolate no.1 and isolate no. 3) respectively. Meanwhile, other isolated fungi were less effective.

Key words: Bean pods-, Rot, – *Botrytis*, *Sclerotinia*, - Pathogenicity Postharvest

5-Microbiology

Antioxidant Activity of Selected Algal Species Collected From the Red Sea, Egypt

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Abstract

Marine algae are known to be a source of healthy food due to their low content in lipids, high concentration in minerals and bioactive compounds with antioxidant properties. Although seaweeds constitute an important component of the Red Sea, yet scarce information is available about its potentiality as food and medicine. This study was performed to investigate the antioxidant property of six selected algal species. Two red algae (*Actinotrichia fragilis*, and *Laurencia papillosa*) and four brown algae (*Cystoseira myrica*, *Hormophysa cuneiformis*, *Sargassum cinereum*, and *Turbinaria turbinata*) were collected from the Red Sea of Hurgada, Egypt, during winter of 2012. The crude extracts were prepared using 80% methanol and were tested for its total phenolic content and antioxidant activity using electron spin resonance (ESR) spectrometer. The species were then examined for antioxidant activity using Vero cell line. The total phenolic content ranged from 162.5 ± 0.37 to 10.7 ± 0.22 . The crude extracts showed a strong scavenging activity towards DPPH, hydroxyl and alkyl radicals with a dose dependent activity. The tested species showed a protective effect against AAPH and H₂O₂ - induced oxidative stress represented by Vero cell viability (%), although they showed a slightly cell cytotoxicity towards high sample concentration. As a conclusion the study showed that the selected species could be a promising species as antioxidant and recommended for further studies concerning bioactivity.

Keywords: Seaweeds, Antioxidant, electron spin resonance (ESR)

MIC-40

Evaluation of Anti-Genotoxicity of the Ethanolic Plant Extract of *Beta Vulgaris Maritima* Using *Allium Cepa* Root Assay

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Abstract:

Beta vulgaris.L. subsp. *maritima* (Chenopodiaceae) is widely distributed throughout the world and used as an old medicinal plant and traditional food. Anti-mutagenic effects of ethanolic extract of the dried wild plants of *Beta vulgaris* subsp. *maritima* was studied. *Allium cepa* root tips were treated with Magnesium sulfate as mutagenic substance at concentration 3000ppm, which induced the highest aberrations % . Three types of treatments were applied, pre, post and simultaneous-treatment. In the pre-treatment, roots were treated with different concentrations of ethanolic extract (0.1%, 0.5% and 1%) for 3 h., followed by treatment with 3000ppm MgSO₄.7H₂O for 3 h. The post treatment, roots were first treated with 3000ppm MgSO₄.7H₂O for 3h. Followed by the different concentrations of the extract. In the simultaneous-treatment, roots were treated with 3000ppm MgSO₄.7H₂O and different concentrations of ethanolic extract at the same time for 3 h. For positive and negative controls, roots were treated with 3000 ppm MgSO₄.7H₂O and distilled water for 3h., respectively. The data revealed that the extract modulated the genotoxic and clastogenic mutations. The inhibition activity of the highest concentration 1% of plant ethanol extract with the post treatment was 55.4%, with pre-treatment was 69% and was 69.9 % with the simultaneous treatment.

Key words: *Beta vulgaris*, *Allium cepa*, anti-mutagenic, medicinal plant, anti-genotoxicity, clastogenic mutations.

MIC-60

Effect of Bioactive Compounds from Endophytic Actinomycetes as a Bioactive Control on Some Pathogenic Microorganisms

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Abstract

A total of 23 commercial antibiotics as well as 30 ethyl acetate extracts of endophytic actinomycetes were evaluated for *in vitro* antibacterial activity by using disc diffusion method against the most prevalent bacteria isolated during the present study, causing bovine mastitis. The antimicrobial susceptibility pattern of *S. aureus* strains showed high resistance against penicillin (90.2%). Furthermore, 5(9.8%) isolates of *S. aureus* were resistant for oxacillin and detected as methicillin resistant *S. aureus* (MRSA) genotypically. In contrast, high susceptibility was obtained against trimethoprim-sulphamethoxazole (84.3%) and amoxicillin-clavulanic a. (80.4%). For *E.coli* strains, the highest resistance was against streptomycin (40%). In contrast, high susceptibility was obtained against chloramphenicol (93.3%) followed by amikacin (86.7%). For *P. aeruginosa* strains, high resistance was obtained against most of the used antibiotics, (83.3%) were resistant to ceftriaxone, enrofloxacin and levofloxacin. The opposite, (100%) were sensitive for impenam. Actinomycete extracts exhibited antimicrobial activity against at least one or more of the pathogens isolated from mastitis. The largest number of extracts showed activity against *S. aureus* (96.6%), MRSA (90%), *P. aeruginosa* (83.3%) and *E. coli* (76.7%), respectively with zone of inhibition values \pm SD, ranging from 6.5 to 1.4 mm. The minimum inhibitory concentration was estimated for the actinomycete isolates coded 2/34, 7/105 and 2/116, the results indicated that the isolate coded 2/34 obtained from *Mentha longifolia* showed the most inhibitory effect against the test bacteria. The DNA sequence analysis confirmed identity of the actinomycete isolates (2/34, 7/105 and 2/116) as a *Micromonospora sp.*, *Micromonospora echinospora* and *Streptomyces sp.*, respectively.

Key words: Endophytic actinomycetes, Bovine mastitis pathogens and Antimicrobial disc diffusion test

Second Day:
Sunday
25 October 2015

ORAL SESSION (E) (Main Hall)

Sunday 25/10/2015 9:00 – 10:00

Chairmen of the Session

(Microbiology)

1- Prof. Mohamed El-Sayed Enany

Faculty of Veterinary Medicine, Suez Canal University

2- Dr. Ahmed Youssef

Faculty of Veterinary Medicine, Suez Canal University

(E-1)

Production of Mycosporine-like Amino Acids (MAAs) by Two Native Fungi

Asmaa L. Ismail^{1,2}, Maha T. Mohamed^{1,2}, Mai A. Alian^{1,2}, Fatma M. Salem^{1,2}, Abdelghafar M. Abu-Elsaoud¹, and Ahmed M. Abdel-Azeem^{1,2}

¹Department Botany, Faculty of Science, Suez Canal University, Ismailia 41522, Egypt

²Arab Society for Fungal conservation, Botany Department, Faculty of Science, Suez Canal University, Ismailia 41522, Egypt

Wavelengths of ultraviolet (UV) radiation that reaches the Earth's surface is in between 280 and 400 nm are of two ranges UV-B (from 280–320 nm) and UV-A (from 320–400 nm). We tested the effects of solar radiation, UVA+B in particular on two taxa namely *Drechslera spicifera* and *Paecilomyces variotii* of aeromycobiota isolated from different sites at Suez Canal University Campus during the extracurricular activities of microbiology students in academic year 2015. Four replica of 90 mm plastic Petri dish of each ultraviolet radiation exposition dose were installed for each examined taxon. Irradiation chamber containing preinstalled UV-lamps were used as UV-B sources (F20T12, Black light, 24", 610 mm length), time and expositions were controlled automatically using mechanical 24 hours timer. Several morphological and physiological parameters were carefully recorded, analyzed and presented in tables and figures supplemented with two-way analysis of variance (2-way-ANOVA) using SPSS package ver.22 followed by post-hoc analysis. A comparison of growth responses to UVA+B showed that *D. spicifera* was most resistant to UV radiation while *P. variotii* showed the highest content of phenylalanine ammonia lyase (PAL), UV-absorbing/screening compounds, such as Mycosporine-like amino acids (MAAs). These data suggest that solar UV-A+B reduces the growth of fungi on the air and soil surface in the Ismailia governorate. *P. variotii* has the capacity to synthesize or accumulate UV-absorbing Mycosporine-like amino acids (MAAs), presumably for protection against environmental UVR which can be applied in many industrial applications.

Keywords: Aeromycobiota, Climate change, Conservation, Suez Canal University.

(E-2)

**Bovine Tuberculosis Survey in Central City Abattoir at Ismailia, Egypt and
its Implications to Public Health**

Ahmed I. Youssef^{1*} and Ali M. Ahmed²

¹Division of Zoonoses, Department of Animal Hygiene and Zoonoses,

*²Department of Food Hygiene and Control, Faculty of Veterinary Medicine,
Suez Canal University, Ismailia Egypt.*

Abstract

This article aimed to investigate bovine tuberculosis in cattle and buffalo based on data from abattoir of Ismailia city, Egypt and examining abattoir workers for tuberculosis infection. Carcasses were routinely examined for Tuberculosis lesions according to procedure of Egyptian guidelines for meat inspection. Tuberculosis-like lesions were confirmed by Ziehl-Neelsen staining and histopathological techniques. Of 13866 bovine animals were slaughtered in one year. Tuberculosis-like lesions were detected in 86 (0.62%) of carcasses; 2 (2.3%) were generalized and 84 (97.7%) were localized. By microscopic examination for Acid-Fast Bacilli and histopathological examination, 38 (0.3%) carcasses and 50 (43.9%) of grossly detected lesions were confirmed for tuberculosis. Lesions in lung and its associated lymph nodes were the most predominant (64.8%). The tuberculous lesions were grossly detected higher among cattle (0.7%) than buffalo (0.5%). There were significant differences between male and female among cattle and buffalo ($P < 0.0007$), however, seasonal effects were not significant. By Tuberculin Intradermal test, 12.5% of the abattoir workers were reactor while Acid-fast bacilli were not detected in their sputum smears stained by Ziehl-Neelsen.

Keywords: Bovine Tuberculosis, abattoir, buffalo, zoonoses.

ORAL SESSION (F) (Main Hall)

Sunday 25/10/2015 10:00 – 11:00

Chairmen of the Session

(Medical Science)

1-Prof. Abadi Elkadi

Faculty of Dentistry, Suez Canal University

1-Dr. Hoda Yousry

Faculty of Medicine, Suez Canal University

(F-1)

**ROLE OF SLEEPINESS IN ROAD TRAFFIC ACCIDENTS
AMONG EGYPTIAN COMMERCIAL DRIVERS**

**Nesreen Elsayed Morsy¹, Ahmad Yonis Badawy², Sayed Ahmad abdelhafeez²,
Abdel-Hady El-Gilany³, Mohsen Mohammed ELshafey².**

¹ *Assistant lecturer of Chest Medicine, Faculty of Medicine, Mansoura University-EGYPT*

² *Professor of Chest Medicine, Faculty of Medicine, Mansoura University-EGYPT*

³ *Professor of Public Health and Preventive Medicine, Faculty of Medicine, Mansoura University-EGYPT*

EGYPT is ranked the 3rd country in the world with highest mortality rates due to road traffic accidents. The commonest cause of accidents in EGYPT was inattention of the driver (18%) which can be caused by: distraction of the attention or sleepiness. The aim of our study is to detect prevalence of accidents and sleepiness related accidents and the independent predictors of accidents among Egyptian commercial drivers.

A cross sectional study including 300 male commercial drivers attending the general medical council in Mansoura- EGYPT for renewal of driving license during the period of May 2013 to April 2014. The following data was collected: history of accidents, the driving behavior including: mean daily driving hours; mean driving years, mean daily sleep duration, Shift work, seat belt, Tea/coffee while driving, driving after meals. The sleepiness history studied by history of excessive daytime sleepiness, Epworth sleepiness scale (ESS), Functional outcome of sleep questionnaire (FOSQ), chronic insomnia, nodded while driving, naps, risk for obstructive sleep apnea and history of comorbidities. Assessment of urine tetrahydrocannabinol (THC) was done. Driver's quality was studied by: education level, vehicle type, license class, road, nature of work.

Prevalence of ever exposure to accidents is (25%) and (12.1%) of them due to sleepiness. Independent predictors of accidents as revealed by multivariate logistic regression were: urine THC (OR=5.3), nodding during driving (OR=4.6), Berlin questioner (continuous) (OR=2.5), stop bang questioner (continuous) (OR=1.5), FOSQ (continuous) (OR= 0.9), mean daily total sleep hours (continuous) (OR=0.9). It is recommended to testing these predictors.

Key words: Sleepiness, Accidents, Drivers

(F-2)

RELATIONSHIP BETWEEN IRRITABLE BOWEL SYNDROME AND CHRONIC RHINOSINUSITIS : A CASE CONTROL STUDY

Mariam M Darweesh

Faculty of medicine, Suez Canal University, Ismailia, Egypt

Abstract:

Irritable Bowel Syndrome (IBS) and Chronic Rhinosinusitis (CRS) are two of the most commonly reported complaints at health care systems and have a great negative impact on quality of life ,but there is not a clear relationship has been established between them before . Many people can suffer from both diseases without seeking medical care , so this study is considered one of the turning points that assessed the relationship between both disorders.

Methods : In a case-control study design, a convenient sample of 133 medical students at Suez Canal University - Egypt, were involved. Fifty students were identified as cases with irritable bowel syndrome (IBS) diagnosis; using Rome III criteria, and 83 healthy students as controls. Both cases and controls were subject to an assessment of the history of chronic rhinosinusitis symptoms; using EP30S criteria.

Results: The study included 44 female students with IBS (88%) and 50 female students (60.2%) without IBS, while males represented 6 (12%) of IBS cases and 33 (39.8%) of controls [$p=0.001$].The results revealed a statistically significant association between IBS and CRS [$p<0.001$] with an odds ratio of 17.8 [95% CI: 4.9 - 64.2].

Conclusion: The study successfully concluded the presence of a relationship between IBS and CRS, and proved that the risk of a CRS patient getting IBS is about 17 times more than non CRS one getting IBS . All gastroenterologists and otolaryngologists and even general practitioners must be aware of the presence of this relationship.

Key words: IBS, chronic rhinosinusitis, gastrointestinal disorders, post nasal drainage.

(F-3)

Myocardial Tissue Characterization Using T1 Mapping

Islam Zakareya¹, Hanan Kamal¹, Mohamed Oraby¹, Ahmed ELhawary¹

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

Abstract

T1 mapping is a novel imaging tool of tissue characterization to differentiate normal and diseased heart muscle. Different T1 acquisition methods have been suggested. We examined the ability of four different methods to detect diseased heart.

35 subjects and 26 healthy controls were recruited in this study. Native and post-contrast myocardial T1 were performed in one short-axis mid level slice before (native) and 15 minutes after the intravenous injection of 0.2 mmol/kg of gadobutrol and before late Gadolinium imaging (postcontrast) using standard MOLLI, 3-5 MOLLI, shMOLLI and SASHA. Studies performed on a 3T MRI machine. Septal and lateral wall T1 measured as well as LV cavity blood. Intra and inter-observer agreement were tested. A significant difference was demonstrated in native septal T1 between normal and abnormal heart muscle using the four methods (AUC, p-value: Original MOLLI, 3-5 MOLLI, shMOLLI, SASHA= 0.92, p<0.01 v. 0.89, p<0.01, v. 0.85, p<0.01, 0.70, p<0.04). shMOLLI and SASHA could not detect the difference between ischemic and non-ischemic cardiomyopathy. Post-contrast T1 using SASHA failed to differentiate diseased from healthy heart. 3-3-5 MOLLI shows better intra and inter-observer reproducibility compared to other T1 mapping methods. All T1 mapping methods are able to detect the difference between normal and diseased heart, where the original 3'3'5 MOLLI remains the most accurate method for detection of abnormal myocardium.

Key words: Cardiac MRI, T1 mapping, Cardiac tissue characterization

ORAL SESSION (G) (Hall II)

Sunday 25/10/2015 9:00 – 10:00

Chairmen of the Session

(Physics & Math.)

1-Prof. Yehia Abbas

Faculty of Science, Suez Canal University

2-Dr. Essam Rashed

Faculty of Science, Suez Canal University

(G1)

Energy Gap Engineering for Topological Insulator Sb_2Te_3 Thin Films

H.M. Abd El-Khalek, Ahmed M. Nawar*, H. Abd El-Monem,
Fatma M. Amin

Thin Film Laboratory, Physics Department, Faculty of Science, Suez Canal University, Ismailia, Egypt

Abstract

Thermal evaporation technique was used to fabricate Antimony Telluride, Sb_2Te_3 , thin films. The fabricated Sb_2Te_3 thin films were grown on quartz substrates at substrate temperature 423 K. The refractive index, n , absorption index, k , and the absorption coefficient, α , were calculated before and after annealing. The type transition was investigated and found to be direct transition. The calculated optical band gap value was decreased from 0.990 to 0.867 eV after annealing process of the fabricated Sb_2Te_3 thin films at 423 k. Some optical parameters namely oscillation energy, E_o , the dispersion energy, E_d , the optical dielectric constant, ϵ_∞ , the lattice dielectric constant, ϵ_L , and the ratio of free carrier concentration to its effective mass, N/m^* were estimated before and after annealing. The third-order nonlinear susceptibility, $\chi^{(3)}$ was increase from 5.586×10^{-12} esu to 13.51×10^{-12} esu after annealing process, and non-linear refractive index was increase from 3.31×10^{-10} esu to 6.63×10^{-10} esu after annealing.

Keywords: Sb_2Te_3 Thin Films; Thermal Evaporation Technique; Optical Constants and Nonlinear Parameters; Substrate Temperature.

(G2)

Synthesis, characterization, and property studies of (La, Cr) Fe₂O₃ (0.0≤x≤0.25) perovskites

Y. M. Abbas^{1,*}, M. A. Ahmed², A. Bakry¹, K. Adly¹

¹Department of Physics, Faculty of Science, Suez Canal University, Ismailia, Egypt

²Department of Physics, Faculty of Science, Cairo University, Giza, Egypt

Abstract:

Multiferroic La_(1-x)Cr_xFeO₃ (0.0≤x≤0.25) were successfully synthesized using citrate autocombustion process using citric acid as a fuel. All the samples were crystallized in a perovskite structure. The synthesized ceramic powders were characterized for structural features applying characterization techniques such as powder X-ray diffraction (XRD), energy dispersive X-ray analysis (EDX), High Resolution transmission electron microscopy (HRTEM), Fourier transform infrared spectroscopy (FTIR), and magnetic property studies. The changes in magnetic properties are correlated to changes in structural features resulting from Rietveld structural refinement.

Key words: Multiferroic, XRD , Rietveld structural refinement.

(G3)

**DYNAMICAL ANALYSIS OF A DELAYED
MONOPOLY GAME WITH A LOG-CONCAVE
DEMAND FUNCTION**

A. M. A. El-Sayed¹, A. A. Elsadany², and A. M. Awad²

¹ *Department of Mathematics, Faculty of Science, Alexandria University,
Egypt*

² *Department of Basic Science, Faculty of Computers and Informatics,
Suez Canal University, Ismailia, Egypt*

In this paper, we consider a delay monopoly game with bounded rationality. We study stability/instability of the game when dynamics was driven by the gradient process. The existence of the monopoly equilibrium of the model is derived, moreover Schwarzian derivatives are carried out to show the complex dynamics of the model. We investigate delay effects on dynamics, the main results are demonstrated such that the stability switches from stability to instability. We find that the delay monopoly equilibrium undergoes a period-doubling bifurcation or Neimark-Sacker bifurcation when the parameters combinations cross the stability-switch curve. We determine the shape of the stability-switch curve that divides the parametric space of the delays into stable and unstable regions. Finally, numerical simulations are provided to illustrate the analytical results found.

Key words: Delay dynamics of monopoly, Log-demand function, Bounded rationality, Schwarzian derivative, period-doubling bifurcation, Neimark-Sacker bifurcation, YRC2015.

ORAL SESSION (H) (Hall II)

Sunday 25/10/2015 10:00 – 11:00

Chairmen of the Session

(Tourism & Heritage)

1-Prof. Heba Fathy

Faculty of Tourism & Hotels Suez Canal University

2-Dr. Radwa Omar

Faculty of Tourism & Hotels Suez Canal University

(H-1)

THE PROFESSOR IN THE MAMLUK MADRASAS OF CAIRO (648-923/1250-1517)

Ahmed M. Salem, Hebat Allah M. Fathy, ESSAM S. AYYAD

Department of Tour Guidance, Faculty of Tourism and Hotels, Suez Canal University, Ismailia, Egypt

In Medieval Egypt, the madrasa, 'religious school', was an educational institution, in which the mudarris, 'professor', was appointed to teach an array of Islamic sciences. The mudarris played a seminal role in the mission of the madrasa; he could be safely described as the mainstay in such considerably influential institutions. This paper sheds light on the qualification required in the mudarris so as to join that foundation. It examines his reputation and its influence on the propaganda of the madrasa. The paper also focuses on the financial issues, accommodation, and other privileges gained by the mudarris. It further investigates the kinds of supervision that was practiced on him. Keywords: mudarris, qualification and propaganda

Key words: *muddaris*, madrasa, qualification and propaganda.

(H-2)

سياسة الفاطميين لنشر المذهب الشيعي في مصر (358 – 567هـ/ 969 – 1171م)

محمد نور البربري 1 ، عائشة عبد العزيز التهامي 2 ، إيهاب محمد يونس 3

معيد بقسم الإرشاد السياحي، كلية السياحة والفنادق، جامعة الفيوم.
أستاذ متفرغ بقسم الإرشاد السياحي، كلية السياحة والفنادق، جامعة الفيوم.
مدرس بقسم الإرشاد السياحي، كلية السياحة والفنادق، جامعة الفيوم.

لقد أيقن الشيعة الاسماعيلية-عقب نجاحهم في إعلان قيام الدولة الفاطمية ببلاد المغرب عام 297هـ/909م- أنه لا سبيل لتوطيد حكمهم في البلاد الخاضعة لسلطانهم إلا بالتمكين للدعوة الفاطمية التي عرفت أيضاً بـ "الدعوة العلوية" أو "الدعوة الهادية"، والتي تهدف إلى ترسيخ الاعتقاد بأحقية عليّ بن أبي طالب (كرّم الله وجهه) بالإمامة دون غيره، وتأكيد صحة نسب الخلفاء الفاطميين إلى السيدة "فاطمة الزهراء" وزوجها الإمام "عليّ بن أبي طالب" (رضي الله عنهما)، حتى نجحوا في فتح مصر عام 358هـ/969م بفضل هذه الدعوة كما ستوضح الدراسة. يُسلط البحث الضوء على سياسة الفاطميين لنشر المذهب الشيعي في مصر، والسبل التي اتبعتها الفاطميون في سبيل التمكين للدعوة الفاطمية والمذهب الشيعي بمصر، كما توضح الدراسة كيف نجحت هذه السياسة في استمالة عدد كبير من المصريين للمذهب الشيعي في بداية حكم الفاطميين لمصر. ولماذا لم تنجح بعد ذلك. تهدف الدراسة أيضاً إلى معرفة كيف كان لتلك السياسة أكبر الأثر في سقوط الدولة الفاطمية بمصر، وسرعة القضاء على المذهب الشيعي بمصر. ينتهي الباحث إلى أنّ السياسة التي نجح الفاطميون بفضلها في فتح مصر دون عناء، وانتشر بفضلها المذهب الشيعي بين عدد كبير من المصريين، كانت أيضاً سبباً رئيسياً في سقوط الدولة الفاطمية وعدم تمسك المصريين بالمذهب الشيعي عقب سقوط الدولة الفاطمية.

الكلمات الدالة: المذهب الشيعي، الدلالات الشيعية، الدولة الفاطمية، سياسة الفاطميين.

(H-3)

أسباب عدم انتشار الطراز الوافد للمساجد في مصر العثمانية

حماده السيد على السيد الجندي

قسم الإرشاد السياحي، كلية السياحة والفنادق، جامعة قناة السويس، الإسماعيلية، مصر

لقد شهدت مصر خلال الحكم العثماني ازدهاراً لافتاً لأنماط متنوعة من العمارة ولا سيما العمارة الدينية، خاصةً في الفترات الأولى من الحكم العثماني والتي اتسمت بطول فترة حكم الولاة وقوة نفوذهم؛ الأمر الذي ساعد علي تشييد العمائر المختلفة ووقف الأوقاف عليها. صاحب ذلك دخول أساليب معمارية جديدة لم تكن مألوقة في مصر — ومنها الطراز التركي الوافد. إلا أن العمارة المصرية الإسلامية ظلت محتفظة بطرازها المحلي الموروث. والذي شيد به أغلب العمائر في مصر ومدينة القاهرة خاصة. يقوم هذا البحث بإلقاء الضوء على مجموعة الأسباب والعوامل التي أدت إلى عدم انتشار الطراز الوافد في مصر، ومن هذه العوامل: توفر مساحات واسعة من الأرض، وهو ما لم يكن متوفراً في القاهرة المكتظة بمبانيها وعمائرها، ومن هذه العوامل أيضاً عدم فرض العثمانيين لذوق معين أو أي طرازاً معماري بعينه، هذا إضافةً إلى اتباع سياسيتهم المعروفة بإبقاء الأوضاع علي ما هي عليه في المجتمع المصري والحفاظ علي تقاليده وعاداته، كما أنه من الصعب علي الطراز التركي الوافد أن يتغلب علي الطراز المصري الموروث والذي تطور علي مدي ستة قرون وهي فيما بين العصرين الفاطمي والمملوكي مع اكتساب طابع مصري مميز، بالإضافة إلي أن طبيعة ذلك الطراز لا تتناسب مع طبيعة البيئة المحلية المصرية.

الكلمات الدالة: العمارة العثمانية، الطراز الوافد

(H-4)

دراسة تحليلية لأنواع الخطوط بصيغة البسملة على الاثار الاسلامية بالقاهرة
هبه محسن عبد المنعم ابو عجيبة مدرس مساعد بقسم الارشاد السياحي كلية السياحة و الفنادق جامعة قناة
السويس

يتناول هذا البحث أهمية دراسة الكتابات والنقوش الأثرية العربية — من حيث الشكل — فى إلقاء المزيد من الضوء على نشأة الكتابة العربية ومعرفة أصولها ومراحل تطورها، وكذلك الوصول إلى معرفة أقرب أشكال الكتابات القديمة إليها، والتوصل إلى معرفة الصلة بين هذه الكتابات وبين الكتابة العربية، والبحث بذلك يوضح دور دراسة أشكال الكتابات العربية فى التعرف على أنواع الكتابات العربية، وأساليبها الفنية المختلفة، ومراحل تطورها، والصلة التى تربط بين هذه الأنواع، وبداية ظهور كل نوع منها، إلا أنه يجب ملاحظة أن دراسة مثل هذه الظواهر الفنية والخطية المختلفة يجب أن تتم بالمقارنة مع نماذج متنوعة من الكتابات الأثرية كنفوش السكة والصنج، وكتابات شواهد وتراكيب القبور، وكتابات البرديات والمخطوطات والمصاحف والتحف التطبيقية المتنوعة، ولانجاز تلك الأهداف فإن البحث يستعين بما كتب فى المصادر التاريخية والمؤلفات الأدبية والعلمية المختلفة، وذلك لأن الخط العربى على الرغم من تميزه بخصائص عامة مشتركة فى سائر بلدان العالم الاسلامى، كانت له خصائصه الخاصة فى كل بلد وجد فيه، وبالتالي يمكن تمييز الأسلوب الفنى لكل بلد من غيره، وهو ما يعرف فى مصطلح تاريخ الفن بالمدارس أو الطرز الفنية. كما أنه يمكن تأريخ الأعمال الفنية الاسلامية غير المؤرخة عن طريق دراسة الطراز الفنى للخط العربى، وبالتالي يمكن نسبتها إلى بلد بعينه أو إلى مكان إنتاجها، وذلك على أساس مقارنتها بالنماذج المؤرخة المشابهة لها أو القريبة الشبه من أسلوبها الفنى.

الكلمات الدالة: البسملة، خطوط، نقوش أثرية، السكة، شواهد القبور، البرديات، التحف التطبيقية

Plenary Lectures

Plenary Lecture (3)	11:45 - 12:15 (Main Hall)
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**" Environmental Impacts Assessment and Invasive Alien Species of the
New Suez Canal Project"**

Prof. Magdy A. Alwany

*Head of the Marine Science Department, Faculty of Science, Suez Canal University,
Ismailia, Egypt*

Chairman:

1- Prof. Yasser M. Moustafa

Dean, Faculty of Pharmacy, Suez Canal University, Egypt

Plenary Lecture (3)

Environmental Impacts Assessment and Invasive Alien Species of the New Suez Canal Project

Magdy A. Alwany

*Department of Marine Science, Faculty of Science, Suez Canal University,
Ismailia, Egypt*

(e-mail magdy.elalwany@yahoo.com)

ABSTRACT

Suez Canal is one of the most important waterways on the world. The Canal was opened in 1869. The Suez Canal corridor project area is a mega project in Egypt that was started (August 2014) and opened after one year. The project's aim is to increase the role of the Suez Canal region in international trading and to develop Suez Canal Province. The environmental impacts assessment study of the New Suez Canal Project was done according the environmental law No. 4 of 1994 (amended by law 9 of 2009) and its executive regulations No. 338 of 1995 (amended by No. 1741 of 2005), which details with the new projects as well as the expansion of existing developments. This study includes water quality, sediment quality, geology, hydrogeology, aquatic ecology and terrestrial ecology. In addition, the monitoring plans were designed for the New Suez Canal Project and surrounded areas.

Posters Abstracts

Poster Session 12:30 – 13:15 (Front Hall)

1- Basic Science
PHYSICS, MATHEMATICS
AND CHEMISTRY

CH-3

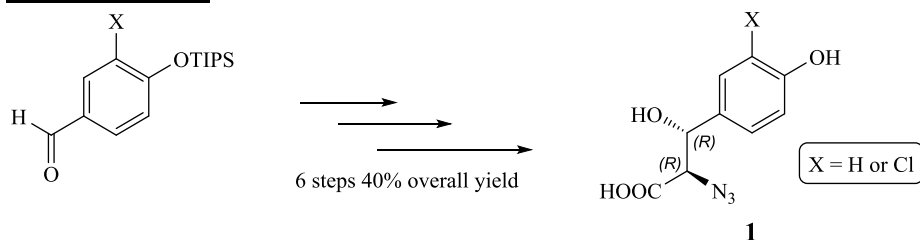
Stereocontrolled synthesis of (*R,R*)- β -hydroxytyrosine derivatives using TIPS as protecting group

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ABSTRACT



The nonproteinogenic amino acids (*2R,3R*)- β -hydroxytyrosine derivatives, identified as components of biologically active cyclic peptides such as Vancomycin, was synthesized in protected form (**1**) from 4-((triisopropylsilyl)oxy) benzaldehyde derivatives in six steps and 40% overall yield. The TIPS-protected benzaldehyde derivatives converted to terminal olefin by a Wittig olefination reaction and the latter compound was subjected to the Sharpless asymmetric dihydroxylation reaction (*AD- β*) to furnish diol in the desired chirality then activation of OH by nosylation reaction to give the nosylated derivatives, which subjected to S_N^2 displacement by NaN_3 to afford the azide derivatives. Finally, deportation of the TIPS group and acidic hydrolysis to ester moiety gave the desired chiral building blocks in enantiomerically pure form with high optical purity.

Keywords: β -hydroxytyrosine, cyclic peptides, Stereosynthesis

CH-39

Influence of chloride and hydroxide ions concentrations on the corrosion behavior of Al and Al-Si alloy

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Abstract:

The electrochemical behavior of Al and Al-Si alloy in NaCl and NaOH solutions has been studied in the absence and presence of some amino acids as corrosion inhibitors. Open-circuit measurements showed that both immersion potential ($E_{im.}$) and steady-state potential ($E_{s.s.}$) decreased and become more negative as the concentration of NaCl and NaOH increased, while the rate of film thickening in-depended on the solutions' concentrations. Cyclic anodic polarization curves showed a small hysteresis loop raising the possibility of pitting as well as crevice's corrosion. The studies reveled that both glycine and valine adsorbed on the electrode surface and inhibited both anodic and cathodic reactions. Due to the electron donating effect of methyl group in valine, valine was more effective in inhibition than glycine.

Keywords: aluminum; aluminum alloys; Corrosion; inhibition; polarization; Surfactant

PH-12

Effect of coumarin concentration on the optical and mechanical properties of PVA- coumarin films

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Abstract

Pure Poly(vinyl alcohol) (PVA) and PVA- coum films with different concentrations were prepared by a casting technique. Structural properties are studied using absorption spectroscopy, X-ray diffraction, FTIR spectroscopy and atomic force microscope (AFM) . Using the reflectance and transmittance of samples, the effect of concentration on optical parameters of PVA films include absorption coefficient, optical band gap energy, and complex refractive index, complex dielectric function discussed. Young's modulus Y, strength and strain at break Eb were determined for prepared films. It was found that the band tail increases, while the optical gaps Young's modulus, the strength at the break and RMS roughness of the surface for prepared films decrease as the coumarin concentration is increased .

Key words: coumarin, PVA, FTIR spectroscopy

PH-31

Structural and magnetic properties for Nanocrystalline

Lithium Stannoferrite $\text{Li}_{0.5+0.5X}\text{Fe}_{2.5-1.5X}\text{Sn}_X\text{O}_4$

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Abstract

Nanocrystalline Lithium Stannoferrite system $\text{Li}_{0.5+0.5X}\text{Fe}_{2.5-1.5X}\text{Sn}_X\text{O}_4$, $X = (0, 0.2, 0.4, 0.6, 0.8 \text{ and } 1.0)$ fine particles were successfully prepared by double sintering ceramic technique at pre-sintering temperature of 500 °C for 3 h and the pre-sintered material was crushed and sintered finally in air at 1000 °C. The structural and microstructural evolutions of the nanophase have been studied using X-ray powder diffraction and the Rietveld method. The refinement results showed that the nanocrystalline ferrite has a two phases of disordered and ordered phases for polymorphous lithium Stannoferrite. The particle size of as obtained samples were found to be ~20 nm through TEM that increases up to ~ 85 nm on calcinations at 1000 °C. TEM micrograph reveals that the grains of sample are spherical in shape. (TEM) analysis confirmed the X-ray results. The particle size of stannic substituted lithium ferrite fine particle obtained from the XRD using Scherrer equation. Magnetic measurements obtained from lake shore's vibrating sample magnetometer (VSM).

Key words: Lithium Stannoferrite, Curie temperature, Ceramic technique, Polymorphism, Coercivity, Magnetization, Superparamagnetism, Rietveld, Fullprof.

PH-77

Effect of γ irradiation on PVA-Ag nanocomposite films

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Abstract

Poly (vinyl alcohol)-silver (PVA-Ag) nanocomposite films were prepared by chemical reduction methods, then irradiated with different gamma doses (25, 50, 75, 100 KGy). Structural and optical properties of the prepared films were studied using absorption spectroscopy, X-ray diffraction (XRD) and atomic force microscope (AFM). The optical band gap was determined for the composites, and it is found to be reduced significantly with increasing the gamma irradiation. The refractive index was determined and it is found that it is increase with increasing the gamma irradiation. The contents of the inorganic phase in the nanocomposites were determined by using atomic absorption spectroscopy (AA) for silver. Optical absorption studies in the wavelength range 190–900 nm showed additional peak at 427 nm for differently films, in addition to the peak at 200 nm for undoped PVA film. There is observable change in the absorbed intensity at 427 nm with gamma doses. This is due to the link between the Ag metal ion and the polymer OH- groups. AFM images showed that the RMS roughness values of the nanocomposite films decreased with increasing the gamma doses.

Keywords: XRD , TEM, UV-Vis spectroscopy, mechanical properties

PH-113

Influence of high-energy X-ray irradiation on the structural and optical properties of Bismuth Telluride thin films

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Abstract

Thermal evaporation technique was used to prepare Bi_2Te_3 Thin films onto Quartz and glass substrates for optical and structural investigation respectively at substrate temperature $T= 623$ K. The prepared films were divided into two groups; first was as-grown films, second was irradiated with High energy X-ray at room temperature using dual energy (6 MV and 15 MV) CLinac Varian DMX with total accumulated dose 20 Gy in air. All films were identified by X-ray diffraction (XRD) and scanning electron microscopy (SEM) before and after exposed to X-ray radiation. The spectrophotometric measurement of transmittance and reflectance were used to investigate the optical properties at normal incidence of light in the wavelength range 200–2500 nm for as-grown and X-ray-irradiated films. The analysis of the spectral behavior of the absorption coefficient in the intrinsic absorption region reveals an indirect allowed transition with a band gap of 0.35 eV and decrease with radiation doses to be 0.05 eV. The dispersion of the refractive index is discussed in terms of the single oscillator Wemple–Didomenico (WD) model. The single oscillator energy (E_o), the dispersion energy (E_d), the high frequency dielectric constant (ϵ_∞), the lattice dielectric constant (ϵ_L) and the ratio of the free charge carrier concentration to the effective mass (N/m^*) were estimated. From the optical constants analysis, the optical conductivity, volume and surface energy loss functions could also be calculated.

Keywords: bismuth telluride; Thin film; X-ray irradiation

MATH-23

Generalized Weingarten Ruled Surfaces In Euclidean 3-Space

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Abstract

A family of generalized (\mathbf{K}, \mathbf{H}) -linear Weingarten, (\mathbf{K}, \mathbf{H}) -zero type of nonlinear Weingarten, (\mathbf{K}, \mathbf{H}) -first type of nonlinear Weingarten and (\mathbf{K}, \mathbf{H}) -second type of nonlinear Weingarten ruled surfaces as in equation (1) such that $a = a(s)$, $b = b(s)$ and $c = c(s)$ are functions of the arclength parameter s of the base curve of the ruled surface in Euclidean 3-space \mathbf{E}^3 is introduced and investigated. We obtained some important generalized zero and second types of Weingarten ruled surfaces in the forms $\mathbf{H}^2 = a(s) \sqrt{-\mathbf{K}}$ and $\mathbf{H}^2 = a(s) \mathbf{K} \sqrt{-\mathbf{K}}$, respectively. Finally, some examples for these surfaces are introduced.

$$\begin{cases} a \mathbf{H} + b \mathbf{K} = c, \\ a \mathbf{H}^2 = b \sqrt{-\mathbf{K}} + c, \\ a \mathbf{H}^2 = b \mathbf{K} + c, \\ a \mathbf{H}^2 = b \mathbf{K} \sqrt{-\mathbf{K}} = c, \end{cases}$$

Keywords: Linear and non-linear Weingarten surfaces, Ruled surfaces, Euclidean 3-space.

2-Pharmaceutical Science

PS-4

Antitumor Activity Of Carbonic Anhydrase Inhibitors Against MCF-7 Cell Line In Vitro And Ehrlich's Ascites Carcinoma Solid Tumors Grown In Vivo

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Abstract

The antitumor activity of carbonic anhydrase (CA) inhibitors is exclusively demonstrated in CAIX positive cell line through inducing a state of intracellular acidification. The present study aimed to investigate the expression of CAIX in Ehrlich's ascites carcinoma solid tumors (EAT). Further, this work aimed to determine the antitumor activity of four CA inhibitors, acetazolamide, dorzolamide, brinzolamide and zonisamide *in vitro* against MCF-7 cell line and *in vivo* against EAT. *In vitro* experiment showed that the IC₅₀ against MCF-7 cell line for these drugs were acetazolamide, dorzolamide, brinzolamide and zonisamide, respectively. The results of the *in vivo* study proven that EAT is positive for CAIX and demonstrated that treatment with dorzolamide (10 mg/kg, daily, i.p.) for three weeks provided a superior antitumor activity over the three other drugs against EAT and hence, was selected for further investigations. Results indicated that the antitumor activity of dorzolamide is not attributed to antiangiogenic activity as it does not affect EAT capillary density. However, dorzolamide (3, 10 or 30 mg/kg, i.p.) has provided proapoptotic activity against EAT as indicated by increasing caspase 3 activation and decreasing tumoral Bcl2/bax ratio. In conclusion, the current data established EAC as a valid model for testing antitumor activity of CA inhibitors. Additionally, the antitumor activity of dorzolamide was attributed to proapoptotic rather than antiangiogenic activity.

Keywords: carbonic anhydrase isoform IX, dorzolamide, Ehrlich's ascites carcinoma.

PS -18

Aspirin and omega 3 polyunsaturated fatty acids protect against neurodegeneration in pentylenetetrazole-kindled rats

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Abstract

This is the paper abstract. Epilepsy is a chronic disorder characterized by recurrent interruptions of normal brain function. There is a relationship between inflammation and seizures as epilepsy can be caused by or result in inflammation. Aspirin is one of the most widely used anti-inflammatory drugs. Omega3 polyunsaturated fatty acid (ω 3-PUFAs) including docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) are major components of neuronal membranes and have a wide range of functions including anti-inflammatory action. The aim of the current study was to investigate the effect of aspirin, ω 3-PUFAs and their combination on seizure activity and neurodegeneration in pentylenetetrazole (PTZ)-induced kindling in rats. Male albino rats were injected with PTZ (35 mg/kg, i.p) three times a week till complete kindling (fifteen injections). PTZ-kindled rats were treated daily with aspirin (20 mg/kg, i.p), ω 3-PUFAs (85 mg/kg, p.o) or a combination of them. The histopathological picture of the cortex and hippocampi of rats' brain was examined. Hippocampal level of tumor necrosis factor alpha (TNF- α) was detected by ELISA. Results showed that pretreatment with aspirin, ω 3-PUFAs and their combination reduced the convulsive behavior exhibited by rats compared to PTZ-kindled group. Histopathological examination of the cortex and hippocampus in the treated groups detected a reduction in the number of degenerative cells compared to PTZ group. However, there was no significant difference in levels of TNF- α among the study groups. These findings provide insights to use aspirin and ω 3-PUFAs with hope to support the basic antiepileptic therapy in retarding the development of seizures.

Key words: Epilepsy, aspirin, omega 3, PTZ, cortex, hippocampus

No Role for Cannabinoid Type-1 and Opioid Receptors in the antinociceptive effect of Lamotrigine in the Hot Plate and Formalin Tests

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Abstract

Lamotrigine is an antiepileptic drug that has been reported to produce antihyperalgesic and antiallodynic effects in different pain models. The present study was designed to investigate the involvement of cannabinoid type 1 (CB₁) and opioid receptors in the antinociceptive effect of lamotrigine using two well-documented models of pain, hot plate and formalin tests. In the current study, mice were treated with vehicle or lamotrigine (25, 50 and 100 mg/kg, p.o.) and then tested in the two pain models. In addition, four groups of mice were pretreated with rimonabant (0.25 or 0.5 mg/kg, i.p.) or naloxone (0.05 or 0.1 mg/kg, s.c.) before lamotrigine (100 mg/kg) and then subjected to the hot plate and formalin tests. The results of the current experiment indicated that lamotrigine (50 and 100 mg/kg, p.o.) produced antinociceptive effects in hot plate test and the two phases of formalin test. Furthermore, pretreatment with rimonabant or naloxone did not affect this antinociceptive effect in both pain models. It was concluded that CB₁ and opioid receptors have no role in the antinociceptive effect of lamotrigine tested against the current thermal and chemical stimuli.

Key words: antinociceptive, CB₁ receptor, formalin test, hot-plate, lamotrigine, mice, opioid receptor.

Effect of certain polymers on the ulcerogenic activity of a non-steroidal anti-inflammatory drug

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Abstract:

Diclofenac sodium (DS) is a potent non-steroidal drug with potent analgesic and anti-inflammatory activity. DS is well known to cause gastroduodenal mucosal lesions as an adverse effect. Recently, the serious problem of NSAID-induced small intestinal damage has become a topic of great interest to gastroenterologists. These attributes make diclofenac a good candidate for controlled release dosage form, so as to ensure slow release of the drug in the stomach. The present study focus on the formulation of diclofenac loaded Eudragit RS100, Eudragit RL100, Ethyl cellulose sodium alginate as well as HPMC as a controlled release drug delivery system. Solid dispersion and microencapsulation by ionotropic gelation technique were the techniques of choice in order to coat the drug so as to improve bioavailability and stability and also target a drug at specific sites. The ratio of (1:3) drug to polymer from all polymers used from solid dispersions systems and the best ratio from microbeads were selected to conduct further in vivo evaluation, since it was the best ratio which achieved significant reduction in the release of diclofenac at acidic pH of the stomach and maximal release at alkaline pH of the intestine. The obtained In vivo results indicate that microencapsulation technique was able to protect the stomach from ulcerogenic effect of diclofenac compared to solid dispersion technique.

Keywords: diclofenac, NSAID, controlled release drug delivery, Eudragit RS100, Eudragit RL100, Ethyl cellulose, sodium alginate, HPMC.

PS -50

HPLC method for simultaneous determination of atenolol and pregabalin in their dosage forms and in human urine

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Abstract

A high-performance liquid chromatographic method was optimized and validated for the simultaneous determination of atenolol and pregabalin in dosage form and in human urine. The proposed method used a C18 column with mobile phase consisting of potassium dihydrogen phosphate and methanol in the ratio of 92.5:7.5 (v/v) and buffered at pH 6.0 with orthophosphoric acid, with a flow rate of 1 mL/min. Quantitation was achieved with UV detection at 230 nm. A simplified direct injection of urine samples without extraction in addition to the urinary excretion pattern were calculated using the proposed method. Confirmation of the applicability of the developed method to urinary excretion, study of atenolol and pregabalin was performed in a healthy volunteer after single oral administration of a commercially available tablets (Ateno®) and (Lyrica®). The developed method was proved to be specific, robust and accurate for the determination of cited drugs in pharmaceutical preparations and in human urine.

Key words: HPLC, pharmaceutical preparation, human urine, urinary excretion pattern, atenolol and pregabalin.

PS -51

Design, Synthesis of Three Different Series Of Substituted Quinazoline-2,4-Diones and Their Biological Evaluation As 5-HT₆ Antagonists

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Abstract

The almost exclusive distribution of 5-hydroxytryptamine 6 receptor (5-HT₆R) in the brain makes it a promising, novel, target for central nervous system (CNS)-mediated diseases such as Alzheimer's disease, schizophrenia, anxiety and obesity. On the basis of the previously reported phramacophoric models of 5-HT₆R antagonists, three different series of quinazoline-2,4-diones that represent a new family of potent antagonists at the human 5-HT₆R were designed, synthesized, and biologically evaluated. Homology model of the 5-HT₆R was built based on dopamine receptor subtype 3 (D3R) as template, and used to predict the mode of binding of the new synthesized ligands. Our initial research findings around quinazoline-2,4-dione skeleton let to 3-benzyl-1-(2(dimethylamino)ethyl)quinazoline-2,4(*1H,3H*)-dione (**5a**) and 3-benzyl-1-(2(diethylamino)ethyl)quinazoline-2,4(*1H,3H*)-dione (**6c**) as potent 5-HT₆R antagonists.

Key words: 5-HT₆R , dopamine, Homology model, Alzheimer's disease

Synthesis of Novel 2,6-Disubstituted Pyridazin-3-one Derivatives with Potential Analgesic and Anti-Inflammatory Activity

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Abstract

Non-steroid anti-inflammatory drugs (NSAIDs) which inhibit the activity of cyclooxygenases (COXs) are widely used medications for the treatment of pain and inflammation. Cyclooxygenase catalyzes the conversion of arachidonic acid into prostaglandin H₂ as the first committed step of prostaglandin biosynthesis. This enzyme has been known as the target of non-steroidal anti-inflammatory drugs (NSAIDs). Pyridazinone-based compounds were considered to be promising candidates in the field of design and synthesis of potent analgesic and anti-inflammatory agents especially selective COX-2 inhibitors. The diarylheterocyclic structure was assumed to be important for the anti-inflammatory activity and the N-substitution pattern was absolutely required for good in vitro COX-2 inhibitory potency. Here, we report the synthesis of novel 2,6-Disubstituted pyridazin-3-one derivatives that are expected to have potential in vitro COX inhibiting effect resulting in analgesic and anti-inflammatory activity based on the above findings.

Key words: Pyridazinone, Anti-inflammatory, Analgesic

Synthesis and Antitumor Activity of Novel Quinazolines Starting from Daimedone

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Abstract

In the present study, a series of 1-(4-Acetyl-phenyl)- 7,7-dimethyl-3-phenyl-2,3,4,6,7,8-hexahydro-1H-quinazolin-5-ones were designed, synthesized and characterized using LC-MS, ¹H and ¹³C NMR analysis data, and screened against different cell lines and have expected EGFR inhibition Unlike the first-generation EGFR inhibitors, they inhibit both wild type and mutated EGFR. In recent years, a number of studies on quinazoline synthesis have been reported and used by several medicinal chemistry groups for better and easier development of new derivatives. Therefore, several patents have been approved for the use of quinazoline compounds as inhibitors of other kinases, histone deacetylase, Nox and some metabolic pathways. Because of the large number of proteins targeted, some high structural diversity is observed in patented quinazoline compounds. Due to the vast applications of quinazoline derivatives, development of novel quinazoline compounds as anticancer drugs remains a promising field.

Key words: Quinazoline, Anticancer, EGFR, Cell apoptosis and Mannich reaction.

Synthesis of Novel Aza Containing Heterocycles of Possible Analgesic and Anti-Inflammatory Activities

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Abstract

Novel analgesic, antipyretic and anti-inflammatory pyrazole and imide derivatives were synthesized. This was achieved by cyclization of 2-hydroxybenzohydrazide (**1**) with β -diketones and furan-2,5-diones respectively. Refluxing of hydrazide (**1**) with chalcone (**8**) in ethanol yielded (2-hydroxyphenyl)(5-phenyl-3-(phenylamino)-4,5-dihydro-1H-pyrazol-1-yl)methanone (**9**). Compound (2-hydroxyphenyl)(5-phenyl-3-(phenylamino)-1H-pyrazol-1-yl)methanone (**10**) was synthesized by treating (**9**) with bromine water. Cyclo-condensation reaction of salicylaldehyde, ethyl cyanoacetate and hydrazide of different acid anhydrides under ultrasonic irradiation gave phthalazine and pyridazine derivatives (**11-14**). The structures of new compounds were confirmed by both analytical and spectral data. The synthesized compounds were evaluated for their analgesic, antipyretic and anti-inflammatory activity. Compound N-(2,5-dioxopyrrolidin-1-yl)-2-hydroxybenzamide (**5**) showed the most significant analgesic activity whilst compounds (3,5-dimethyl-1H-pyrazol-1-yl)(2-hydroxyphenyl)methanone (**2**) and (2-hydroxyphenyl)(5-(2-hydroxyphenyl)-3-(phenylamino)-1H-pyrazol-1-yl)methanone (**10**) exhibited the most meaningful antipyretic and anti-inflammatory respectively.

Key words: Acetylacetone; Ethylacetoacetate; Analgesic; Antipyretic; Anti-inflammatory.

PS -66

Issr Markers associated with Effects of Gamma Irradiation on Growth and Seed Yield of Faba Bean (*Vicia Faba L.*)

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Abstract

Dry seeds of six faba bean varieties (Sakha1, Noburia 2, Noburia 3, Giza 3, Giza 716, Giza 843) were irradiated with gamma low doses of rays (20, 40, 60, 80, 100, 200 Gy). Treated seeds together with control seeds were grown for two seasons to determine the effective dose for mutation breeding that helps in developing new genotypes with useful yield traits. The results indicate that the low doses of gamma rays below 200 Gy increased morphological growth estimated as plant height, fresh weight, dry weight, leaf area as well as some yield parameters particularly number of pods per plant, number of seeds per pod and 100-seed weight. However higher doses were detrimental to plant growth and yield. The variation in DNA ISSR profiling in response to gamma irradiation treatments in M₂ was detected using seven ISSR primers. The results indicated that Noburia 3, Noburia 2 and Giza 3 showed the highest numbers of polymorphic bands (225, 191 and 181) respectively. The highest number of polymorphic bands in Noburia 3 and Noburia 2 plants was found with the use of gamma doses 60, 100 and 200 Gy while in Giza 3 the highest number was observed with the doses 60 and 80 Gy. Polymorphic information content (PIC) was estimated for each primer which ranged from 0.193 for primer 807 to 0.31 for primer 834 with a mean of 0.259.

Key words: Mutation breeding, Gamma rays, Faba bean, DNA-ISSR profiling

Effect of Surfactant and Surfactant Concentration on Characteristics of Nanostructured Lipid Carriers

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Abstract

Nanostructured lipid carriers (NLC) are one of the most effective means for efficient delivery to/through skin. One of the most characteristics of NLC is the very small particles size which inherits a very large surface area ready for drug absorption through skin layers. Nanostructured lipid carriers were prepared using glyceryl monostearate/oleic acid mixture as lipid core (GMS/Oleic acid, 90/10). Lipid mixture was melted at $70^{\circ}\text{C} \pm 5^{\circ}\text{C}$, and then dispersed in hot (70°C) aqueous medium using an Ultra-Turrax homogenizer. After that, sonication of the primary emulsion had taken place. Factorial design was applied for the preparation NLC formulae. Different surfactants have been utilized for formulae preparation including tween 80, cremophor RH 40, sodium tauroglycocholate (STG), and mixtures of them. The chosen concentrations of surfactants were 6% (W/W) and 3% (W/W). Particles size was measured using dynamic laser light scattering apparatus at ambient temperature. Tween 80 and cremophor RH 40 were effective for producing NLC of appropriate size ($189.7 \text{ nm} \pm 15.7$ and $193 \text{ nm} \pm 2.6$, respectively). However, STG was ineffective in producing formulae with appropriate size ($1778.7 \text{ nm} \pm 125.8$). The mixture of tween 80 and cremophor RH 40 was shown to be more effective than each one separate (NLC particle size of $169 \text{ nm} \pm 1$). Surfactant concentration of 6% was better than 3% in most cases. This suggests that using tween 80 and cremophor RH 40 mixture in 6% (W/W) concentration is the most efficient surfactant blend for producing NLC of appropriate size.

Key words: nanostructured lipid carriers, glyceryl mono stearate, oleic acid, tween 80, cremophor RH 40, sodium tauroglycocholate.

Preparation of Nanostructured Lipid Carriers for Topical Drug Delivery: Effect of Lipid Matrix and Concentration

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Department of Pharmaceutics, Faculty of Pharmacy, Suez Canal University, Ismailia, Egypt

Abstract

Topical drug delivery has gained great importance recently. Nanostructured lipid carriers (NLC) are one of the most effective means for efficient delivery to/through skin. Nanostructured lipid carriers have very small particles size inheriting a very large surface area for drug absorption through skin layers. Nanostructured lipid carriers were prepared using glyceryl monostearate/oleic acid mixture in different ratios as lipid core. Lipid mixture was melted at $70^{\circ}\text{C} \pm 5^{\circ}\text{C}$, and then dispersed in hot (70°C) aqueous medium using high shear homogenizer. Then, sonication had taken place. Two ratios of GMS/Oleic acid were used (90/10 and 70/30). Lipid concentrations used were chosen to be 1, 2 and 3% (W/W). Cremophor RH 40 has been utilized as surfactant. Particles size was measured using dynamic laser light scattering apparatus at ambient temperature (mastersizer 2000, Malvern instruments Ltd., UK). Lipid concentration affected particle size greatly. Increasing lipid concentration was shown to decrease particles size to great extent. Formulae of 1, 2 and 3% (W/W) lipid concentrations prepared using GMS/Oleic (90/10) had particle sizes of had $335.3 \text{ nm} \pm 12$, $215.3 \text{ nm} \pm 4.5$, and $193 \text{ nm} \pm 2.6$, respectively, while formulae of 1, 2 and 3% (W/W) lipid concentrations prepared using GMS/Oleic (70/30) had particle sizes of $452 \text{ nm} \pm 30$, $214.7 \text{ nm} \pm 1.2$, and $197.7 \text{ nm} \pm 8.3$, respectively. This suggests that the best concentration for preparation of NLC is 3% (W/W). Also, increasing ratio of oleic acid in lipid matrix results in higher mean particle size.

Key words: nanotructred lipid carriers, glyceryl mono stearate, oleic acid, concentration, cremophor RH 40.

PS -91

Design and Formulation of Oral Fast Dissolving Lornoxicam Muhammad Nouh, Shadeed Gad, Hasan Ghoniem and Mamdouh Ghorab

*Dept. of Pharmaceutics, Faculty of Pharmacy Suez Canal University,
Ismailia, Egypt*

Abstract:

Oral route of drug administration is the most appealing route for the delivery of drugs, among the various dosage forms administered orally, tablets are the most preferred because of their ease of administration, manufacturing, accurate dosing & self-medication. The main drawback of this dosage form for some patients, is the difficulty to swallow for these reasons. Tablets that can rapidly dissolve or disintegrate in oral cavity have attracted a great deal of attention. Non-steroidal anti-inflammatory drugs (NSAIDs) are widely used as analgesics, antipyretics and in the treatment of inflammation. Their primary use is as anti-inflammatory agents for the treatment of musculoskeletal disorders, including rheumatoid arthritis, osteoarthritis and ankylosing spondylitis. Oral therapy of NSAIDs is very effective, but the clinical use is often limited because of their potential to cause adverse effects such as irritation, ulceration of gastrointestinal mucosa, bleeding or other less frequent forms such as edema, bronchospasms, renal failure and other hypersensitivity reactions. Since NSAIDs are sometimes used for a prolonged period, it is important to reduce the side effects of these drugs by all possible means. Administration of these agents via oral dissolving tablets can bypass these disadvantages of the oral route and may maintain relatively constant plasma levels for a long time from a single dose. Lornoxicam is a non-steroidal oxamic acid molecule, having anti-inflammatory and analgesic properties. Its mode of action is based on inhibition of prostaglandin synthesis (inhibition of cyclooxygenase enzyme). It should be noted that Lornoxicam is absorbed rapidly and completely from the gastro-intestinal tract. Moreover, Lornoxicam is bitter in taste, therefore, the objective of the present formulation as ODT was to mask the bitter taste of Lornoxicam and prepare fast disintegration tablets using super-disintegrants of natural polymer type chitosan and sodium alginate in comparison with most common other super disintegrants (Polacrillin potassium, Croscarmellose sodium, Crospovidone, Sodium starch glycolate).

Keywords: Lornoxicam, NSAID, ODT, super-disintegrants, chitosan, sodium alginate, Polacrillin potassium, Croscarmellose sodium.

PS -110

Synthesis and biological evaluation of some indole derivatives as analgesic, anti-inflammatory agents.

Mohamed Fouada^a, Ismail Salama^a, Samia Mostafa^a, Sawsan Zaitone^b
and Mohamed El-Sadek^c

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^b Pharmacology Department, Faculty of Pharmacy, Suez-Canal University, Ismailia, 41522, Egypt.

^c Medicinal Chemistry Department, Faculty of Pharmacy, Zagazig University, Zagazig, Egypt.

Abstract

A series of 1-(2,6-dichlorophenyl)-5-nitro-2-substituted-indoles was prepared from Diclofenac Sodium, the reaction of 2-(hydrazinocarbonylmethoxy) derivative with aromatic aldehydes gave V₁₋₁₁ and VI₁₋₁₁. The reaction of 2-(ethoxycarbonylmethoxy) derivative with thiosemicarbazide gave VIII₁₋₂, and with secondary amines gave IX₁₋₅. The synthesized compounds were subjected to in-vivo analgesic, anti-inflammatory and ulcerogenic activity measurement, in order to give a full profile about their activity, compounds V₅, VI₁, VI₅, VI₆, VI₈, VI₉, VI₁₁, VIII₂, IX₂, IX₄ and IX₅ were the most active. Moreover, docking studies were performed to give an explanation for their anti-inflammatory activity through COX selectivity.

Key words: COX-1, COX-2, Indole, Diclofenac Na

DESIGN AND SYNTHESIS OF NOVEL HETEROCYCLIC COMPOUNDS AS POTENTIAL ANTI- DIABETIC AGENTS

Khaled M. Darwish¹, Ismail Salama¹, Samia Mostafa¹, Mohamed S. Gomaa¹, and Mohamed A. Helal¹

¹Department of Medicinal Chemistry, Faculty of Pharmacy, Suez Canal University, Ismailia, Egypt

Abstract

Although diabetes is not a new born disease, with a history of half a century, its prevalence is increasing day by day. Nevertheless there is still no cure for diabetes as being highly progressive. The development of a single compound displaying multi-target capacities would provide enhancement of efficacy and/or improvement in safety compared to the present one-drug-one-target methods. We goaled to develop a diverse class of molecules acting as novel PPAR- γ /FFAR1 co-agonists tailored for type II diabetes mellitus management acting, for the first time, as insulin sensitizer as well as insulin secretagogue. Our strategy was based on incorporating the structural features of glitazones, keeping the thiazolidindione head as a suitable acid surrogate, with GPCRs' privileged structures through a non-branched linker. The compounds with this pharmacophore were synthesized and evaluated for their in vitro hPPAR- γ and hFFAR1 transactivation potentialities. Several compounds showed balanced dual PPAR- γ /FFAR1 agonism with EC₅₀ down to one digit micromolar values. Docking studies on both hPPAR- γ and hFFAR1 crystal structures allowed us to rationalize the different activities between these synthesized compounds. These above results suggest that our novel thiazolidindione-based ligands are considered an interesting new molecular class of PPAR- γ /FFAR1 co-agonists. We believe that further intensive optimization and evaluation of these new dual PPAR- γ /FFAR1 agonists are likely to be highly rewarding.

Key words: PPAR- γ /FFAR1 co-agonists, Type II diabetes mellitus, Thiazolidindione head, GPCRs' privileged structures

3- Undergraduate Research

Dietary Rosemary and Garlic Oils Ameliorate Methotrexate-Induced Renal Oxidative Stress in Mice

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Mariam Salah-Eldeen¹ and Mohamed M. Abdel Daim²

¹*Undergraduate students, Faculty of Veterinary Medicine,, Suez Canal University, Ismailia, Egypt.*

²*Pharmacology Department, Faculty of Veterinary Medicine,, Suez Canal University, Ismailia, Egypt.*

Abstract

The clinical efficacy of the widely used anti-metabolite drug, methotrexate (MTX) for treatment of rheumatoid arthritis, neoplastic disorders, and psoriasis is limited due to its associated nephrotoxicity. Therefore, the present study was undertaken to evaluate the protective potential of dietary rosemary and garlic oil against acute methotrexate toxicity in mice. Male albino mice were randomly divided into control, methotrexate-treated, rosemary oil-pretreated methotrexate-treated, garlic oil-pretreated methotrexate-treated groups. The acute toxicity was induced by single administration of methotrexate (20 mg/kg bw, ip). Methotrexate treated animals revealed a significant increase in serum level of renal injury biomarkers; urea, uric acid and creatinine. There is a significant increase in renal lipid peroxidation product; MDA, and significant decrease in the antioxidant, GSH, CAT and SOD as well as TAC. Dietary rosemary and garlic oils normalized the elevated serum renal injury biomarkers and improved the methotrexate-induced lipid peroxidation and reduction on antioxidant markers. Therefore, it could be concluded that rosemary and garlic oil could be used as dietary preventive essential oils against acute methotrexate-induced nephrotoxicity, through their antioxidant and free radical scavenging activities.

Key words: methotrexate, rosemary oil, garlic oil, nephrotoxicity, oxidative stress

Antioxidant Essential Oils Ameliorate Cisplatin-Induced Hepatic Oxidative Stress in Mice

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¹*Undergraduate students, Faculty of Veterinary Medicine,, Suez Canal University, Ismailia, Egypt.*

²*Pharmacology Department, Faculty of Veterinary Medicine,, Suez Canal University, Ismailia, Egypt.*

Abstract

Cisplatin is one of the most potent, effective and widely used chemotherapeutic agents for various types of tumors. However, its anticancer use is limited due to its cumulative adverse effects. Therefore, the present study was undertaken to examine the protective potential of dietary lemon and peppermint oil against acute cisplatin toxicity in mice. Male albino mice were randomly divided into control, cisplatin-treated, lemon oil-pretreated cisplatin-treated and peppermint oil-pretreated cisplatin-treated groups. The acute toxicity was induced by single administration of cisplatin (5 mg/kg bw, ip). Cisplatin treated animals revealed a significant increase in serum level of hepatic injury biomarkers; AST, ALT and ALP, LDH, cholesterol total and direct bilirubin. There is a significant increase in hepatic lipid peroxidation product; MDA, and significant decrease in the antioxidant, GSH, CAT and SOD as well as TAC. Dietary lemon and peppermint oils normalized the elevated serum liver injury biomarkers and improved the cisplatin-induced lipid peroxidation and reduction on antioxidant biomarkers. Therefore, it could be concluded that lemon and peppermint oils could be used as dietary preventive essential oils against acute cisplatin-induced hepatotoxicity through their antioxidant and free radical scavenging activities.

Key words: Cisplatin, Lemon oil, peppermint oil, Liver, Oxidative stress, Antioxidant

UG- 94

Classification of Oral Anti-Diabetic drugs

Doaa Salah El-Sayed and Shadeed Gad

Dept. of Pharmaceutics, Faculty of Pharmacy Suez Canal University, Ismailia, Egypt

Abstract:

Antidiabetic drugs may be either insulin injections which are used in serious cases of diabetes or oral hypoglycemic drugs, these are suitable for most adult patients. Different hypoglycemic drugs are available in Egyptian market. The objective of the current study was to compare between hypoglycemic drugs available in Egypt. These drugs may be classified as the following:

Sulphonylureas: increase insulin secretion and help to reduce blood glucose levels. But sulphonylurea may cause weight gain, hypoglycemia and allergic reactions. They are contraindicated in case of pregnancy, lactation and diabetes type 1. They act by affecting the pancreatic β cells stimulates the movement of insulin-containing secretory granules to the cell surface then into circulation.

Biguanides (metformin): They prevent production of glucose in the liver, so improve the body's sensitivity to insulin. They may cause temporary nausea and/or diarrhea, loss of appetite and metallic taste. They are contraindicated with kidney or liver diseases and heart problems.

Alpha Glucosidase Inhibitor (Acarbose): They may cause diarrhea, gas, constipation, or stomach pain.

Key Words: Anti-Diabetic, Alpha Glucosidase Inhibitor

UG -106

Helicobacter Pylori

Marwa Ahmed Mahmoud, Esraa Hassan Ibraheem, Wessamm Elazab Abd Elhady, Doaa Elsayed Ghareeb, Esraa Abd Elaziz Abd Elhameed

Faculty of Pharmacy and pharmaceutical industry, Sinai University

Abstract:

We want to introduce We are what we called*The theory of 3X1* by linking between conference topic(environment),region that we live in (Alarish) and our Specialty (*Pharmacy*) *in only one topic*. This kind of microbes were discovered by accident in El-Arish water tanks .

Doctors in Alarish classified this type of microbe as more dangerous than virus C. These bacteria are able to live within the human stomach, may protect themselves from the risk of gastric acid juice through what is produced from large amounts of ammonia, which is equivalent gastric acid juice, can coexist and operate the implantation itself under the mucous layer of stomach to protect themselves from the risk of digested juices.This microbe transfer from an infected person to another person through the mouth , eating, water and on the road to peace on the sick person or the use of the patient's tools or by eating unwashed vegetables and fruits. Some complications may occur like ulcer and in the long run lead to cancer. It has been developed to eliminate this microbe within 14 days of the American University of Internal Medicine and the so-called B (triple therapy).

Key words: Helicobacter Pylori, Alarish.

UG-112

Water-Fuel Generator Prototype

**Ali Ahmed Amin – Ali Essam Ali – Mohamed Ismail Mohamed –
Mohamed Mahmoud Orabi – Mohammed Sobhy Hamed and Dr.
Ahmed M. Nawar**

Physics Department -Faculty of Science -Suez Canal University

Abstract:

Water-Fuel Generator which is a simple solution of the organic fuel's problem which is faced every day. HHO gas produced by the electrolysis of water. When water passes between two plates have different polarity, Electric field turns it into HHO gas or in other words water gas that is considered as a clean fuel. Also because it has the capability of releasing thermal explosive energy up to and beyond 2.5 million barrels of oil per gallon of water. The fracturing process is environmentally safe. It can be easily fabricated in local society. Also HHO gas has no exhausts and an environmentally friendly. HHO gas is easily obtained because water, and pieces which the generator is made from are easily obtained. So, it is possible to replace the organic gas with HHO gas. Our society needs this HHO gas in many applications.

Key Words: Water-Fuel Generator -Organic fuel-HHO gas-Clean fuel.

ORAL SESSION (I) (Main Hall)
Sunday 25/10/2015 13:15 - 14:15

Chairmen of the Session
(Undergraduate Students)

1- Prof. Mosen Zaghloul

Faculty of Science, Suez Canal University

2- Dr. Sheded Gad

Faculty of Pharmacy, Suez Canal University

(I-1)

Assessment of the efficiency Solid phase extraction of some antibiotic using High performance liquid chromatography.

Ahmed abd el hakiem, Amer hafez and Mohamed Ramadan ahmed

4th Year students

Department of Analytical Chemistry, Faculty of Pharmacy, Suez Canal University

Abstract:

Solid-phase extraction (SPE) is a sample preparation process by which compounds that are dissolved or suspended in a liquid mixture are separated from other compounds in the mixture according to their physical and chemical properties.

Analytical laboratories use solid phase extraction to concentrate and purify samples for analysis.

Solid phase extraction can be used to isolate analytes of interest from a wide variety of matrices, including urine, blood, water, beverages, soil, and animal tissue.

Key Words: Solid-phase extraction, animal tissue.

(I-2)

Synthesis of Some Novel Benzimidazole Derivatives containing Piperazine Moiety

Hanaa abdalla helazzazy and sara Mahmoud elkerkary

4th year students

Department of Microbiology and Immunology, Faculty of Pharmacy, Suez Canal University.

Abstract:

A new series of benzimidazole derivatives bearing piperazine moiety has been synthesized. The reaction was achieved through condensation of o-phenylenediamine with ethyl-2-chloroacetate in the presence of dilHCl to give the corresponding 2-(chloromethyl)-1H-benzimidazole which upon refluxing with N-substituted piperazines (N-methyl piperazine, N-ethyl piperazine- N-benzyl piperazine and N- phenyl piperazine afforded the corresponding benzimidazole derivatives as 2-((4-methylpiperazin-1-yl)methyl)-1H-benzo[d]imidazole, 2-((4-ethylpiperazin-1-yl)methyl)-1H-benzo[d]imidazole, 2-((4-benzylpiperazin-1-yl)methyl)-1H-benzo[d]imidazole and 2-((4-phenylpiperazin-1-yl)methyl)-1H-benzo[d]imidazole respectively. The newly synthesized compounds were screened *in vitro* for their antifungal activity by disc diffusion method against ATCC strain of *Candida albicans*.

Key Words: benzimidazole, piperazine, antifungal.

(I-3)
Dermatophytes (*Tinea capitis*) culture

Mahmoud Ahmed Bekheit and Dalia Mohamed Nabil Asal

4th Year Students

Department of Microbiology and Immunology, Faculty of Pharmacy, Suez Canal
University.

Abstract:

The research topic is Dr Mariam Emil master on *Tinea capitis*, which is an infection of the scalp, hair follicles and hair shafts. The main objective is the isolation and identification of the causative organisms, then the sensitivity test is applied to determine the antifungal to which the isolate is resistant. Finally DNA extraction is carried out to test for the presence of specific genes responsible for the antifungal resistance.

Practically for the fungal isolation and identification and to fulfill the objective we have applied the following: **macroscopic examination** such that the specimen is inoculated into 2 sets the Sabaroud Dextrose Agar (SDA) and Dermatophytes test medium (DTM), **Lacto phenol Cotton blue Test** for the microscopic identification, and **Physiological tests** to differentiate between close species.

Also the problems and challenges faced during this research have been discussed and how to overcome them practically

Key Words: *Tinea capitis*, Dermatophytes test medium.

ORAL SESSION (J) (Main Hall)
Sunday 25/10/2015 14:15 - 15:15

Chairmen of the Session
(Pharmaceutical Science)

1-Prof. Yasser Moustafa

Faculty of Pharmacy, Suez Canal University

2-Dr. Sayed Khafagy

Faculty of Pharmacy, Suez Canal University

Topical Delivery of Drugs by Solid Lipid Nanoparticles

Pierre A. Hanna, Shadeed Gad, Hassan Ghonaim, and Mamdouh M. Ghorab

Department of Pharmaceutics, Faculty of Pharmacy, Suez Canal University, Ismailia, Egypt

Topical drug delivery system has been gaining great importance recently. Solid lipid nanoparticles (SLN) are one of the most effective means for delivery to/through skin. The very small particle size of SLN inherits a very large surface area ready for drug absorption through skin layers.

Solid lipid nanoparticles were prepared using glyceryl monostearate as lipid core (GMS). Lipid was melted at $70^{\circ}\text{C} \pm 5^{\circ}\text{C}$, and then dispersed in hot (70°C) aqueous medium using an Ultra-Turrax homogenizer. After that, sonication of the primary emulsion had taken place. Factorial design was performed for the preparation SLN different formulae. Different surfactants utilized for preparation of SLN formulae included tween 80, cremophor RH 40, sodium tauroglycocholate (STG), and mixtures of them. Two levels of surfactant concentration were chosen, 6% (W/W) and 3% (W/W).

Particles size was measured using dynamic laser light scattering apparatus at ambient temperature.

Tween 80 and cremophor RH 40 were effective for producing SLN of appropriate size (250.3 ± 9.8 and $180 \text{ nm} \pm 1.7$, respectively). However, STG was completely ineffective in producing formulae with appropriate size ($4420.7 \text{ nm} \pm 102.9$). The mixture of tween 80 and cremophor RH 40 was shown not to differ a lot from cremophor RH 40 (particle size of $184.7 \text{ nm} \pm 2.1$). Surfactant concentration of 6% was best than 3% in all cases.

This suggests that using either cremophor RH 40 or tween 80/cremophore RH 40 mixture in 6% (W/W) concentration is to be chosen for preparation of SLN of appropriate size.

Key words: Solid lipid nanoparticles, glyceryl mono stearate, tween 80, cremophor RH 40, sodium tauroglycocholate.

(J-2)

Synthesis and binding profile of haloperidol-based bivalent ligands targeting dopamine D2-like receptors

Ismail Salama^{a,b}, Stefan Lober^a, Harald Hübner^a, Peter Gmeiner^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:

Homodimers of dopamine D2-like receptors are suggested to be of particular importance in the pathophysiology of schizophrenia and, thus, serve as promising targets for the discovery of atypical antipsychotics.

This study describes the development of a series of novel bivalent molecules with a pharmacophore derived from the dopamine receptor antagonist haloperidol. These dimers were investigated in comparison to their monomeric analogues for their D2long, D2short, D3, and D4 receptor binding and the ability to bridge two neighboring receptor protomers. Radioligand binding studies provided diagnostic insights when Hill slopes close to two for the bivalent ligand 13 incorporating 22 spacer atoms and a comparative analysis with monovalent control ligands indicated a bivalent binding mode with a simultaneous occupancy of two neighboring binding sites.

Keywords: Bivalent ligands, Dopamine, Binding affinity, GPCR dimers, D2 receptor, D3 receptor, D4 receptor

Design and Synthesis of Novel Heterocyclic Compounds as Potential Phosphodiesterase Inhibitors

Ahmed Alshamiry¹, Ismail Salama¹, Mohamed Gomaa¹, and Mohamed A. Helal¹

¹*Department of Medicinal Chemistry, Faculty of Pharmacy, Suez Canal University, Ismailia, Egypt*

Bronchial Asthma is a "chronic inflammatory disease of the airways" that can cause Shortness of breath, tightness in the chest, coughing and wheezing. Chronic obstructive pulmonary disease (COPD) is a chronic inflammatory disease involving the conditions of the chronic bronchitis (mucus-hypersecretion), small airways disease (chronic bronchiolitis) and emphysema. More than 3 million people died of COPD in 2012, which is equal to 6% of all deaths globally that year. Management of both conditions usually involves corticosteroids, β_2 -agonists and anticholinergic drugs. However, these treatments improve lung function but do not alter disease progression or the underlying inflammatory process in the airway. Consequently, new therapies need to be developed. Phosphodiesterases are family of enzymes that selectively catalyze the hydrolysis of 3' cyclic phosphate bonds of adenosine and/or guanosine 3',5' cyclic monophosphate (cAMP and cGMP). Phosphodiesterase (PDE) type 4 is the main enzyme involved in the metabolism of cyclic AMP in immune, inflammatory, and airway smooth muscle cells. Selective inhibition of phosphodiesterase 4 has emerged as target for rational drug development in respiratory disease. This research aims at finding novel heterocyclic compounds that have a potential inhibitory activity on PDE 4 that can act as anti-inflammatory agents in COPD and bronchial asthma. 22 betacarboline derivatives were designed, synthesized, and tested for PDE4 inhibitory activity. 7 compounds showed promising activity with IC₅₀ ranging between 5 and 12 μ M.

Key words: Bronchial Asthma, Phosphodiesterase

ORAL SESSION (K) (Hall II)

Sunday 25/10/2015 13:15 - 14:15

Chairmen of the Session
(Education & Humanities)

1- Prof. Bayoumi Mohamed Dahawy Ali

Faculty of Education, Suez Canal University

1- Dr. Noha El-Assy

Faculty of Education, Suez Canal University

(K-1)

جهود منظمة اليونسكو في مجال محو الأمية بمصر

إعداد/ دولت حامد محمد ابراهيم**

استهدفت الدراسة تعرف جهود منظمة اليونسكو في مجال محو الأمية بمصر، ولتحقيق ذلك استخدمت الباحثة المنهج الوصفي، مستخدمه إحدى أدواته وهي الاستبانة؛ لتقصي واقع جهود منظمة اليونسكو ببرنامج دعم القدرات الوطنية العاملة في مجال محو الأمية بمصر، وانتهت الدراسة بتطبيق آدائها وهي الاستبانة الأولى لعدد (150) من مدربي معلمي محو الأمية بجميع المحافظات، والاستبانة الثانية لعدد (457) من معلمي محو الأمية بمحافظات (الشرقية، الإسماعيلية، بنى سويف)، وذلك لمعرفة جهود منظمة اليونسكو والمعوقات التي تواجه تلك الجهود ومدى التعاون بين اليونسكو وهيئة محو الأمية في دعم المدربين والمعلمين. ولقد توصلت الدراسة إلى مجموعة من النتائج من أهمها:-

- تقوم اليونسكو بدعم المدربين من خلال تقديم برامج تدريبية لهم، كما تقوم بتقويم المدربين.
 - ضعف الجهود المقدمة من اليونسكو للمدربين على مستوى المتابعة وتقديم حوافز مادية ومعنوية لهم.
 - ضعف التعاون بين اليونسكو والهيئة العامة لمحو الأمية في مجال دعم المدربين والمعلمين مادياً ومعنوياً ومهنياً.
 - ضعف الجهود المقدمة للمعلمين.
- وفي ضوء النتائج السابقة؛ توصلت الدراسة إلى مجموعة من التوصيات منها:-
- رفع كفاءة المدربين عن طريق توفير منح دراسية لهم، وعقد دورات تدريبية وورش عمل.
 - متابعة المدربين وتقديم الدعم الفنى والمادى والمعنوى لهم.
 - دعم المعلمين فنياً عن طريق عقد دورات تدريبية وتنشيطية لهم، وكذلك دعمهم مادياً عن طريق توفير درجات وظيفية أو عمل عقود دائمة مع المتميزين منهم.

* جزء من رسالة ماجستير للباحثة بعنوان "جهود المنظمات الدولية في مجال محو الأمية بمصر: دراسة حالة لمنظمة اليونسكو".
** مدير مركز معلومات الهيئة العامة لتعليم الكبار بالإسماعيلية.

(K-2)

مشاركة الطلبة في نظام ضمان جودة مؤسسات التعليم العالي بمصر

نهى العاصى

مدرس بقسم التربية المقارنة والإدارة التربوية، كلية التربية بالإسماعيلية، جامعة قناة السويس

تهدف الدراسة إلى تحديد مدى مشاركة الطلبة في عملية ضمان جودة مؤسسات التعليم العالي بمصر، وهى دراسة امبريقية اعتمدت على المنهج الوصفى الكيفى حيث تم إلقاء الضوء على نظام ضمان جودة مؤسسات التعليم، العالى وتحديد المستويات الثلاث لمشاركة الطلبة كشركاء في عملية ضمان جودة مؤسساتهم، ثم رصد الواقع الفعلى لمشاركة الطلبة في ضمان جودة مؤسساتهم. ولتحديد ذلك الواقع تم استخدام كل من المقابلات الفردية والجماعية مع 121 طالب و13 من أعضاء هيئة التدريس والإداريين من 8 جامعات حكومية وجامعتان خاصتان من 14 كلية ومعهد بمصر. وأشارت النتائج إلى أن إشتراك الطلبة في عملية ضمان الجودة بجامعاتهم ومعاهدهم اقتصر في معظم الأحوال على الاستجابة للاستبيانات التي تعدها المؤسسة، ويشترك بعض الطلبة فى المقابلات التي تتم أثناء الزيارة الخارجية للمؤسسة التي تسعى للاعتماد مع فريق من الهيئة القومية لضمان جودة التعليم والاعتماد، ولايشترك الطلبة بأى شكل من الأشكال في كتابة أو مراجعة تقاريرالدراسة الذاتية التي تعدها المؤسسة، إلا أن النتائج بينت أن بعض الكليات تشرك طلابها في عملية ضمان الجودة بطرق متنوعة إلتقى بعضها مع ما يمارس في العديد من الدول المتقدمة في هذا الشأن. حددت الدراسة ثلاثة عوامل تؤثر على مدى مشاركة الطلبة في عملية ضمان الجودة، وهى: اتجاه الطلبة نحو المشاركة في مؤسساتهم، ومدى جدية مؤسسة التعليم العالى للحصول على الاعتماد، ومستوى الاتصال بين الطلبة بعضهم ببعض من جهة وبينهم وأعضاء هيئة التدريس من جهة أخرى. قدمت الدراسة آليات طويلة وقصيرة المدى لزيادة مشاركة الطلبة في عملية ضمان جودة مؤسساتهم خاصة بأدوار كل من وزارة التعليم العالى، والهيئة القومية لضمان جودة التعليم والاعتماد، ومؤسسات التعليم العالى.

الكلمات المفتاحية: مشاركة الطلبة، ضمان الجودة، التعليم العالى، مصر

(K-3)

تطوير إدارة الإشراف التربوى بمرحلة رياض الأطفال بمصر فى

ضوء المعايير القومية للجودة *

الإسم: عبير على أحمد أحمد

الوظيفة: معلم أول . أ متابع بإدارة الجودة بالسويس

ملخص الدراسة

هدفت الدراسة إلى التعرف على واقع مرحلة رياض الأطفال بجمهورية مصر العربية، وأهم معايير الجودة القومية فى مجال رياض الأطفال، والإستفادة من خبرات بعض الدول المتقدمة فى مجال الإشراف التربوى، وقد اعتمدت الدراسة على المنهج الوصفى، واستخدمت الباحثة الاستبانات على عينة من معلمات ومدراء رياض الأطفال بلغت (152) فرداً للتعرف على كفاءة العملية التعليمية، وكشفت الدراسة عن الكثير من جوانب القصور فى مجال الإشراف التربوى لرياض الأطفال، ومن ثم وضعت تصوراً مقترحاً لمحاولة تطوير أساليب الإشراف التربوى ومعالجة جوانب القصور بما يتناسب وظروف المجتمع المصرى وإمكاناته.

كما أظهرت النتائج أن الوضع الراهن للهيكل التنظيمى فى الروضات يعانى بعض القصور فى مهامه حيث أن جميع المديرين غير متخصصين بمرحلة رياض الأطفال، وأنه ما يزال أسلوب العمل بالروضة يعتمد على شكل مجموعات العمل التقليدية (المعلمات مع بعضهن البعض) وذلك دون محاولة تشكيل فرق العمل تجمع بين المديرية والموجهة والمعلمة. مع قلة وضوح الأدوار التى تستطيع المعلمة أن تقوم بها لدى أولياء الأمور نظراً للعجز الكمي والكيفى فى المعلمات المتخصصة.

وبناءً على نتائج الدراسة، لذا تقدم الباحثة تصوراً مقترحاً لتطوير عملية الإدارة والإشراف التربوى برياض الأطفال لتفعيل المتطلبات التى يمكن أن تساعد فى تحول المجالات بوثيقة المعايير القومية إلى خطوات إجرائية.

* هذا البحث مشتق من رسالة ماجستير بعنوان: تصور مقترح لتطوير أساليب الإشراف التربوى بمرحلة رياض الأطفال بمصر فى ضوء المعايير القومية للجودة، كلية التربية، جامعة السويس، قسم التربية المقارنة والإدارة التربوية، 2013.

(K-4)

تصور مقترح لمتطلبات جدارات التدريب

ساهر محمد غريب خليل فضه

قسم التربية المقارنة والإدارة التربوية، كلية التربية، جامعة قناة السويس،

الإسماعيلية، مصر

في عصر يتصف بالسرعة والتغير المستمر، فإن أهمية تدريب الموارد البشرية تصبح أمراً ملحاً، وبدونه لن يستطيع الموظفون مواصلة العطاء والاستمرار بالقيام بالوظائف الإدارية، فاساليب جدارات التدريب تعمل على تغيير الفرد بهدف تنمية ورفع كفاءتهم بتحويل المعارف والمعلومات الجديدة الى مهارات تطبيقية.

وتمثلت مشكلة الدراسة في ضعف الإستفادة من التدريبات والدورات التي يحصل عليها الموظفين، والإفتقار الى معايير الأداء والمهارات الوظيفية، وقلة الاستعانة بخبراء التدريب من المعاهد المتخصصة.

وهدفت الدراسة إلى التعرف على الإطار النظري لمتطلبات جدارات التدريب وتقديم تصور مقترح لمتطلبات جدارات التدريب.

واتبعت الدراسة المنهج الوصفي بدراسة متطلبات جدارات التدريب، ولقد اعتمدت تلك الدراسة علي استبانة تم تطبيقها علي عدد من موظفي القطاع الحكومي بالدولة، وأشتملت عينة الدراسة على (28) موظفاً.

ولقد أسفرت الدراسة عن نتائج عدة أهمها:

0,54 لم يستفيدوا من الدورات التدريبية، 0,32 استفادوا لكن بنسبة ضئيلة، 0,14 استفادوا من الدورات التدريبية، ومن اهم توصيات الدراسة

- ضرورة عقد دورات تدريبية عاجلة ومكثفة على جميع المهارات القيادية وتوزيع النشرات والدوريات والكتب المتعلقة بالعمل الإداري .
- الاستعانة بخبراء التدريب من المعاهد المتخصصة وكذلك أساتذة الجامعات وإتاحة الفرصة للمتدربين لممارسة المهارات المختلفة في الواقع العملي.
- تبني مشروع تحديد معايير الاداء والمهارات الوظيفية لكل وظيفة.
- تطوير آليات العمل على الحاسب الآلي وبرامجه وتحقيق مبدأ التعلم المستمر.

الكلمات الدالة(المرشدة): جدارات التدريب

(K-5)

معلم لغة عربية بالمرحلة الاعدادية بمدرسة فايد الرسمية للغات متابع للقرائية بالمدارس

دعاء سعد عبادي حسن احمد

تهدف الدراسة إلي وضع تصور مقترح لإعادة هيكلة وحده القرائية بإدارة فايد التعليمية بمحافظة الإسماعيلية باستخدام أسلوب بيرت "PERT SRTATEGY" لتحديد الوقت اللازم لهيكلة أنشطة الوحدة وتوفير الوقت.

قد اتبع الباحث المنهج الوصفي و ذلك لوصف أداء وحدة القرائية بالإدارة ومدى إمكانية تطبيق أسلوب بيرت في إعادة هيكلة الوحدة . كأحد الطرق المستخدمة في إدارة وجدولة المشاريع من خلال دراسة عناصر العملية الإدارية وتحديد الأنشطة ورسمها بيانيا لتحديد الوقت الملائم لكل نشاط . قام الباحث بمقابلة فردية مع 10 منسقين للقرائية في 10 مدارس ابتدائية بمحافظة الإسماعيلية لمعرفة رأيهم عن إمكانية تطبيق بيرت لإعادة الهيكلة .

توصلت الدراسة إلي عدة نتائج من أبرزها:-

- *يمكن تطبيق أسلوب بيرت في إعادة الهيكلة مع بعض الشروط.
- *يقوم بيرت بتحقيق الاستفادة القصوى من برنامج القرائية نظرا لتوفير التوجيه الفني المتخصص الذي يتابع المعلمين. *لا بد من الحصول علي الموافقة بإرسال نشرة للمديريات قبل توفير الاحتياجات المالية فيمكن الحصول عليها من جهات أخرى.
- *يمكن تطبيق الهيكلة بتوفير الاحتياجات المالية من التبرعات العامة أو بتبرعات القائمين علي المشروع .

*تفعيل الأسلوب التكنولوجي الحديث للتواصل مع المتخصصين في القرائية .
يوصي الباحث : باستخدام أسلوب بيرت في الهيكلة إلا أن ذلك يستلزم تدريب المعلمين علي كيفية استخدام أسلوب بيرت.
الكلمات المفتاحية : إعادة الهيكلة- القرائية- أسلوب بيرت .

ORAL SESSION (L) (Hall II)

Sunday 25/10/2015 14:15 - 15:15

Chairmen of the Session

(Agriculture)

1-Prof. Foad Hassan

Faculty of Agriculture, Suez Canal University

2-Dr. Rewaa El- Shatoury

Faculty of Agriculture, Suez Canal University

(L1)

Genetic Diversity Analysis in Date Palm (*Phoenix dactylifera* L) Germplasm using Microsatellite Markers

SamahSabry, Manal Eid, M. A. Hussein, S.M. Greish

Botany Department, Faculty of Agriculture, Suez Canal University, 41522. Ismailia. Egypt

Abstract

The Date Palm (*Phoenix dactylifera* L), germplasm commonly cultivated in Egypt, shows a wide range of ripening periods and fruit quality and is an unexploited resource for breeding programs. The main purpose of this study was to fingerprint 45 date palm genotypes and accessions and to construct a molecular database including the cultivars commonly grown in Egypt. An analysis of thirty three microsatellite simple sequence repeat (SSR) loci out of thirty five markers was performed to define allele diversity, heterozygosity and genetic structure. The average number of alleles per locus was 32.3. **Heterozygosity** per locus was 0.64 (Dpalm-103) to 0.96 (Dplam-100, 256, mpdCIR08 and mpdCIR078) with an average of 0.89. The highest heterozygosity (**0.768**) was detected in **Avanda**, followed by **Amhat (0.758)** while **Khalas** had lowest heterozygosity value (**0.455**). The genetic similarity values ranged from **0.041 to 0.260**. The obtained dendrogram showed three main clusters and generally, a good structuring of 45 genotypes and accessions. The use of 33 polymorphic microsatellite markers and the level of genetic variability detected within Egyptian date palm germplasm suggested that this is reliable, efficient and effective marker system that can be used for diversity analysis and subsequently in crop improvement programs.

Key words: Microsatellite loci. Heterozygosity. Genetic similarity. Cluster.

(L2)

Developing Herbarium Management System Using Database Applications

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Herbarium is a place kept a collection of dried plants for use in scientific studies. Management of herbarium with continuous collection size enlargement is considered as sophisticated problem. Computer sciences notably database applications is the main tool for herbarium management systems worldwide. These small project have been done in collaboration between botany and computer science departments at the faculty of science, Suez Canal University, Ismailia, Egypt. It aims to develop appropriate herbarium management system to be used in the Suez Canal University Herbarium (SCUI). Free SQL database software (Microsoft®) was used to create the required database. Visual Basic.Net software (Microsoft®) was used to create the application interface. Herbarium Management database have been created with 15 searchable and printable fields with facility for multi-administration. This application was tested by several users for convenience with a good feedback. The application was used to manage the specimens and libraries, collection management (loan, exchange and accession record), biodiversity data sharing and visualization and public outreach. The distinguishing features of these database were to decrease time for specimen search, minimizing physical contacts with herbarium specimens, store huge amount of information for each specimen. Easy updating of the classification systems and flora of targeted herbarium. The next step of these project aims to release this application online with multiplatform compatibility. Finally, these simple database application is the first step toward an ambitious project for **Egyptian Botanical Research Network (EBRN)**.

Key words: Herbarium Management, SQL, VB.NET, Database application, Egypt, Botany, Suez Canal University Herbarium (SCUI).

(L3)

Suitability Of Nine Solanaceae Cultivars To The Root Knot Nematode *Meloidogyne Incognita*

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,Egypt

Abstract:

Three cultivars from each of Tomato, Eggplant and Pepper were selected to study their susceptibility to *Meloidogyne incognita* infection under greenhouse conditions. Fifteen pots were planted by 30 seedlings of each host, by two seedlings for each pot. Ten egg masses were introduced to each pot and three pots per host were left free to serve as a check. Pots were arranged in randomized complete block design, and kept in the greenhouse at 25 to 30 °C in the day and 15° to 25 °C at the night. Pots were watered when needed. Sixty days after nematode inoculation, all plants were harvested and the root system of each plant was carefully removed. Fresh and dry weights of shoot and root, as well as their lengths were determined. Gall index (GI), egg masses index (EI) and the number of second stage juveniles(J2) were counted as a criteria of root knot nematode disease development and host susceptibility. Fresh and dry weights of shoot and root as well as their lengths were taken as a parameter of plant growth. Results revealed that the tested nematode succeeded to develop and reproduce on all tested cultivars and caused disease incidence with different stages. Tomato cvs. ranged between highly resistant (HR) for 448 cv. since it has the least count of GI, and Moderately resistant (MR) for Orita cv., while GS cv. was susceptible (S). As for Eggplant Balady cv. was (HR) and it has the least J2 numbers while the two other cvs. Aros and Romi were susceptible to root knot nematode disease . Pepper Balady cv. showed highly resistant (HR) while Pscara and Topstar cvs. were either slightly resistant (SR).

Key words: host -*Meloidogyne incognita* - Solanaceae - susceptibility

Closing Ceremony and Recommendations

15:15 - 15:45 (Main Hall)

Closing Ceremony Chairmen

1- Prof. Nahed Mohamed M. Ali

Vice President, Postgraduate Studies and Researches, Suez Canal University, Egypt

2- Ass. Prof. Ismail Salama

Faculty of Pharmacy, Suez Canal University

3- Dr. Shaded Gad

Faculty of Pharmacy, Suez Canal University