Association of Egyptian American Scholars

36th Annual International Conference

"Enhancement and Modernization
of the Medical, Engineering and Commerce Sectors
in Egyptian Higher Education"

Los Angeles, California - USA

Crowne Plaza Hotel
Redondo Beach – California – USA

December 4th – 6th, 2009

Sponsored by:

Delegata

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Conference Organizing Committee (continued)

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Medicine & Health:

Dr. Amer El-Ahraf
Tawfik Ayoub, MD
Fouad Kandeel, MD, PhD

Technology & Education:

Dr. Mohamed Attalla
Dr. Hassan Nour
Dr. Mohamed Hegab
Dr. Ayman Mossallam

Business & Investment:

Dr. Samir Arafeh
Dr. Ramses Toma
Dr. Farouk Abdel Wahed
Dr. Mohamed El Badawy

Round Table Discussion

Dr. Yahia Abdul-Rahman
Dr. Amer El-Ahraf
Dr. Tawfik Ayoub

Keynote Speaker

Dr. Waguih ElMaraghy
Professor & Head,
Department of Industrial and Manufacturing Systems Engineering (IMSE),
Director, Intelligent Manufacturing Systems Centre (IMS)
Faculty of Engineering, University of Windsor
Ontario, Canada

Participating Egyptian Dignitaries

By alphabetical order

Dr. Prof. Mostafa El Demirdash
Chairman of Building and Housing Research, HBRC, Egypt

Mr. Mohamed Salah El-Khattib
Commercial Consul, San Francisco, California

Dr.Hesham Elnakib
Consul General of Egypt, San Francisco, California

Dr. Prof. Ismail I. Gomaa
Secretary General, Commerce Sector

Mr. Hatem Helmy
Press Counselor, San Francisco, California

Dr. Prof. Mohamed Megahed
Secretary General, Engineering Sector Committee

Schedule of Events – Overview

Friday, December 4th2009

7:00 – 10:00 pm Pre-Registration, Soft drink & Cheese Reception
Peninsula

Saturday, December 5th2009 – Social Program

07:00 – 10:00 am Breakfast at the Crowne Plaza Hotel
Peninsula
10:00 – 6:00 pm Visit Los Angeles local attractions

Sunday, December 6th2009 – Scientific Program

7:00 – 7:30 am Registration & Continental Breakfast
Seascape Ballroom
7:30 – 8:00 am Open Ceremony – President Address
Seascape Ballroom
8:00 – 8:30 am Keynote Speech
Seascape Ballroom
8:30 – 10:35 am Morning Scientific Sessions
Pacific & Redondo (1,2-3)
10:35 – 11:00 am Coffee Brake
11:00 – 12:00noon Round Table Discussion
Seascape Ballroom
12:00 – 01:00 pm Lunch
Seascape Ballroom
01:00 – 3:05 pm Afternoon Scientific Sessions
Redondo & Pacific
3:05 – 3:30 pm Open discussion Forum - AEAS business discussions
Seascape Ballroom
3:30 – 4:00 pm Resolution & Adjournment
Seascape Ballroom

Sunday, December 6th2009 – EAO Banquet

"Egyptian American Organization"

06:30 – 07:00 pm Registration & Reception
Seascape Ballroom

07:00 – 10:00 pm Dinner
Seascape Ballroom Tribute to Dr. Mostafa Zayed
Baby Blue Documentary Movie

Social Events

Friday, December 4th2009

7:00 – 10:00 pm — ***Pre-Registration, Soft drink & Cheese Reception***
"Peninsula Room"

Saturday, December 5th2009 – Social Program

07:00 – 10:00 am — *Breakfast at the Crowne Plaza Hotel*
"Peninsula Room"

10:00 – 6:00 pm — *Visit Los Angeles local attractions*

Sunday December 6th2009

7:30 – 8:30 am

Open Ceremony

Dr. Mohamed Attalla

7:30 – 8:00 am — Open Ceremony
President Address

Dr. Waguih ElMaraghy

8:00 – 8:30 am — Keynote Speech

Scientific Presentations Schedule

Medicine & Health – Pacific

8:30 – 8:55 am	Jack Berger. Round table discussion – Care of the terminally ill patients & End-of-life care
8:55– 9:20 am	Steve Haddy. Fellowship training: from apprenticeship to formal curriculum
9:20 – 9:45 am	Phillip Lumb. Anesthesiology Board Examinations - Ensuring Educational Accountability
9:45– 10:10 am	Kevin Forester. Importance of Clinical Pharmacy in Medical Education & Patient care
10:10 – 10:35 am	Diana Messadi. Curriculum Reform in Dental Education
1:00– 1:25pm	Jennifer Hajj. Importance of Nursing in Medical Education & Patient care
1:25 – 1:50 pm	Fouad Kandeel. Closed-Loop Studies in Adults
1:50– 2:15pm	Omar Alfi. Regenerative Medicine In Egypt
2:15 – 2:40 pm	Salwa Saleem. Physical Health and Cosmetics in Ancient Egypt
2:40– 3:05 pm	Shoukry El-Kantiry. Physical Health and Cosmetics in Ancient Egypt

Engineering – Redondo Salon 2&3

8:30 – 8:55 am	Mostafa El-Demirdash. Role Of HBRC In Advancing Building Technology And Establishing The Egyptian Green Building Council
8:55 – 9:20 am	Rachik Elmaraghy. Enhancement and Modernization of Engineering & Technologies for Egypt
9:20 – 9:45 am	Maher Amer. Solar Energy; the Need and the Educational Challenge
9:45 – 10:10 am	Mohamed Attalla. Contributions to the future of Engineering Education in Egypt
10:10 – 10:35 am	Hassan Sassi. The Art of Structural Engineering
10:35 _ 11:00 am	Mohamed Megahed, Future of Engineering Education in Egypt
1:00 – 1:25 pm	Mohamed Hegab. Continuous Improvement Of Engineering Programs Using Total Quality Management
1:25 – 1:50 pm	Waguih ElMaraghy. The Grand Challenges for Engineering and Education
1:50 – 2:15 pm	Ayman Mossalam. Preparing Egyptian Engineering Professionals: Education, Training And Certification
2:15 – 2:40 pm	Mohamed El-Gafy. Adaptation of Green Building Guidelines (LEED®) in Egypt: Opportunities and Challenges

2:40 – 3:05 pm	Hassan Nour. Round table discussion - Narrowing the Gap between Engineering Education/Research and Public Engineering Services in Egypt

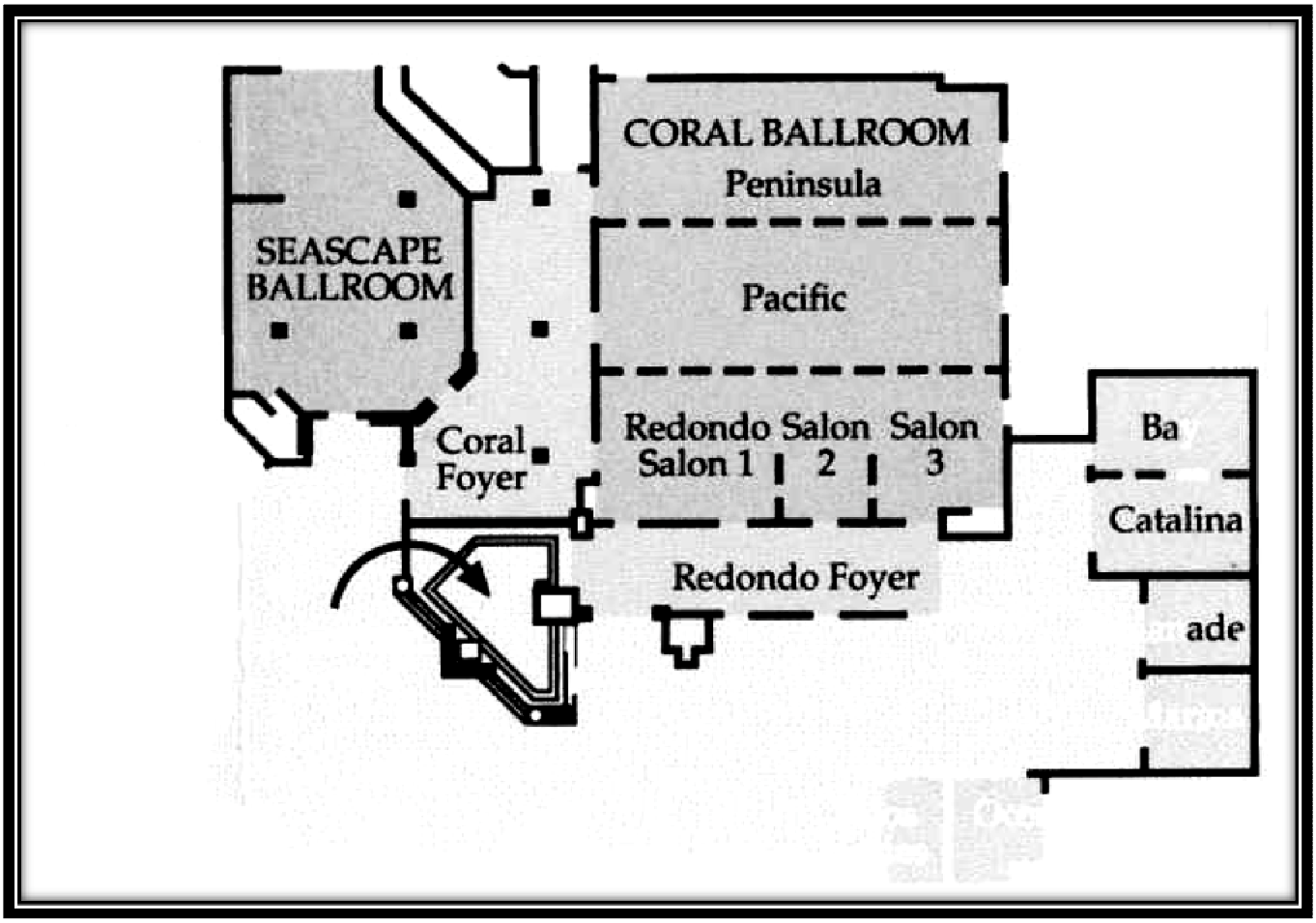
Scientific Presentations Schedule

(continued)

Economics & Humanities– Redondo Salon 1

8:30 – 8:55 am	Ismail Gomaa. Development of the Commerce Sector in Higher Education
8:55– 9:20 am	Mahmoud Esayess. The use of multimedia Internet tools to enhance pronunciation skills in Arabic and medicine - Applicability to other academic fields
9:20 – 9:45 am	Hadeel El-Ahraf. Moderating Effects of Rater Ethnicity and Acculturation on Ratings of Middle-Eastern Resumes
9:45– 10:10 am	SamirArafeh. Institutional Reform: Incremental, Quantum or Matrix Transformation - Rethink Again…
10:10 – 10:35 am	Yahia Abdul Rahman.Value of Training and Educating a New Generation of Riba-Free Bankers to the Future of the Egyptian Economy
1:00– 1:25pm	Jeng-Liang Eric Hwang. Ocupacional Medicine
1:25 – 1:50 pm	BrinceGhattas. Training and Qualifying Graduates of the Faculty of Commerce, Assiut University to Meet Labor Market Needs and the Requirements of Self- Employment (Case Study)
1:50– 2:15pm	Dr. Mahmoud Omar Mohamed Selim (Shoukri El-Kantiry – Presenter). The Pharaonic Zgazig University. "pr^nch"
2:15 – 2:40 pm	Mohammad Eyadat. Student Research
2:40– 3:05 pm	

Meeting Rooms Locations




Medical & Health Sessions

Medical& Health Sessions

Pacific

Morning Session

Co-Chairs: Tawfik Ayoub, MD Amer El-Ahraf, PhD

8:30 – 8:55 am	Jack Berger, MD, PhD "Round table discussion – Care of the terminally ill patients & End-of-life care"
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Chair: Fouad Kandeel, MD, PhD

1:00– 1:25pm	Jennifer Hajj, RN, CCRN-CSC "Importance of Nursing in Medical Education & Patient care"
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Round Table Discussion: Teaching End-of-Life Care to Physicians

Jack M. Berger MD, Ph.D.
Professor of Clinical Anesthesiology, Keck School of Medicine, University of Southern California, Los Angeles, California

The goals of end-of-life care encompass symptom management for comfort. Palliative interventions may be necessary for improved comfort. Palliative care is defined as care that recognizes the inevitability of the patient's death and therefore whose goal is to lessen, ease, and make less severe the patient's suffering, without curing the disease. A multidisciplinary team approach to end-of-life care is the most successful.

The interdisciplinary team should consist of at least one attending physician specialist, one registered nurse, and one social worker. The rest of the team can consist of various consultants as needed such as clergy, lymphedema nurses, wound nurses, etc. When starting a program enrollment of patients should be by referral initially from the primary care physician. Symptom control of such things as pain, nausea/vomiting, constipation, Dyspnea, etc., should be the goal. Medical decision making such as withdrawal of treatments, TPN, ventilator support, and DNR discussions should be part of the duties of this palliative care team. In starting a program, this palliative care team should act as consultants and will have to overcome the primary care physician's reluctance to initiate recommendations, which will be the primary impediment to obtaining set goals. When recommendations are implemented in a timely fashion, goals can be obtained within 24-48 hours in more than 90% of cases.

Goals of palliative care are based on the four ethical principles of medical care
nonmaleficence (minimize harm)
beneficence (do good)
patient autonomy (respect for the patient as a person)
justice (fair use of available resources)

In providing palliative care one must maintain a respect for life, while at the same time be able to accept the ultimate inevitability of death. The potential benefits of treatment must be balanced against the potential burdens of such treatment. The physician must strive to preserve life but, when biologically futile, provide comfort in dying. At the same time the physician must recognize that individual needs must be balanced against those of society.

Landberg suggests that the best way to reduce cost is to cease futile care. The public must define futility if they are to accept limits on such care! But it is unrealistic to expect the lay public to accept this responsibility. Therefore, the healthcare profession must take the lead. ***Compassionate Stewardship*** is part of physician behavior. In one survey it was noted that only 141/2490 nursing home patients who died had undergone CPR. ***Reductio ad Absurdum, having*** a 108 year old man make a decision about CPR suggests the unreal and macabre. The level of competence to which patients should be held varies with the expected harms or benefits of acting in accordance with the patient's choice.A minimal level of decision making competence should

be applied to a patient who consents to a lumbar-puncture for presumed meningitis. A maximum standard should be applied for a patient who refuses surgery for a simple appendectomy. CPR discussions held at the time of acute illness may lead patients and their families to believe erroneously that any last hope is being withheld.

When patients were educated about CPR, 87% chose to forego CPR or allow the physician to decide if it was appropriate.When surveyed, patients consistently overestimated their chances of surviving CPR and survival to discharge. The physician must initiate discussion of CPR since no patients reported initiating the discussion themselves although most desired to have this type of conversation.

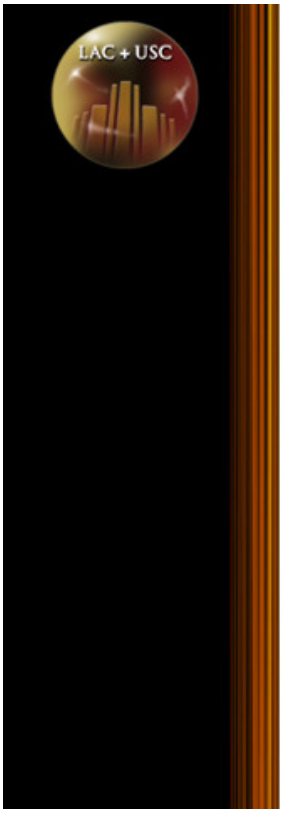
Question 1.
"Would you want to be resuscitated in the event of cardiopulmonary arrest?"
This question needs to be asked in lay terms that the patient can understand.This question needs to be presented in the manner of informed consent with a presentation of the true risks and realistic chances of successful outcome. If the patient chooses to have full resuscitation, then a second question must be asked.

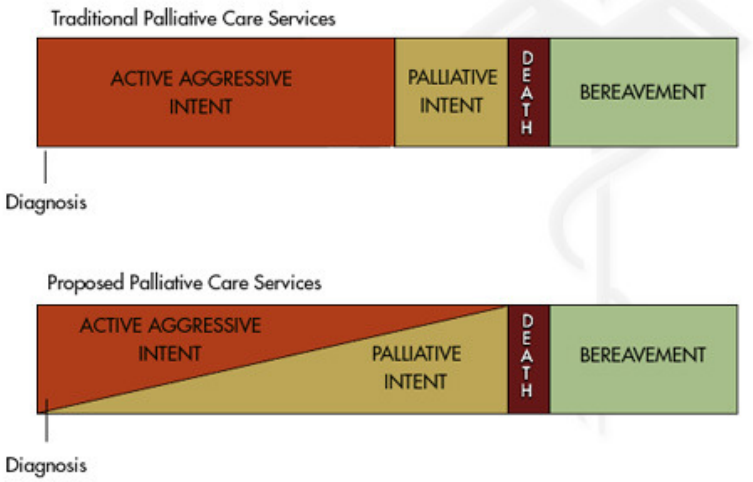
Question 2
"Let us assume you were resuscitated. If the critical care team, despite doing everything they can to save your life, determine after 72 hours that you have no chance to regain a reasonable quality of life, would you agree to let them withdraw support and allow natural death to occur with peace and dignity?"It is believed that most patients who choose to be resuscitated will choose to not have their death prolonged if there is no reasonable chance to recapture a meaningful life. The earlier these questions are discussed in the course of a terminal illness, the more likely that a prolonged course of suffering in dying can be avoided.

Neville Goodman stated that "Words are all we have to describe what we do, the way we do it, and what we infer from clinical research. We must use them carefully and properly."

How do we make decisions about care? The palliative care model is shown below. If one follows this model and employs the **Rule of Double Effect** judiciously, ethical dilemmas can be avoided and patients can have the best care. The rle of double effect states that if an action has the possibility of a good outcome and a harmful outcome, it is acceptable to choose the action if only the good outcome is desired and if there is a need to risk the bad outcome in order to obtain the good outcome. This applies mostly to the use of opioids in the treatment of pain at the end-of-life.

Eric J. Casssel stated it best when he said "…The relief of suffering and the cure of disease must be seen as twin obligations of a medical profession that is truly dedicated to care of the sick. Physicians' failure to understand the nature of suffering can result in medical intervention that (though technically adequate) not only fails to relieve suffering but becomes a source of suffering itself."





Traditional palliative care services. (Adapted from Palliative Care Services Guidelines: Health Canada, 1989, with permission of the Minister of Public Works and Government Services, Canada, 1998.)

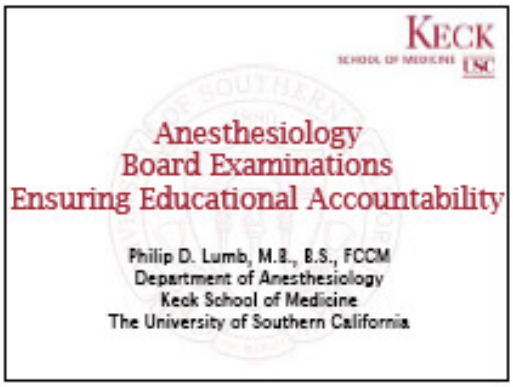
Fellowship Training: From Apprenticeship to Formal Curriculum

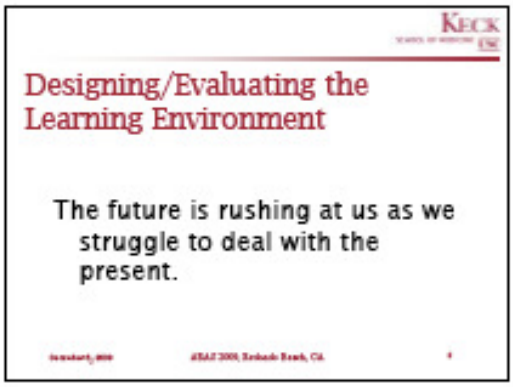
Steven Haddy, MD
Associate Professor of Clinical Anesthesiology
Program Director, Cardiac Anesthesia Fellowship
Keck School of Medicine, University of Southern California, Los Angeles, California

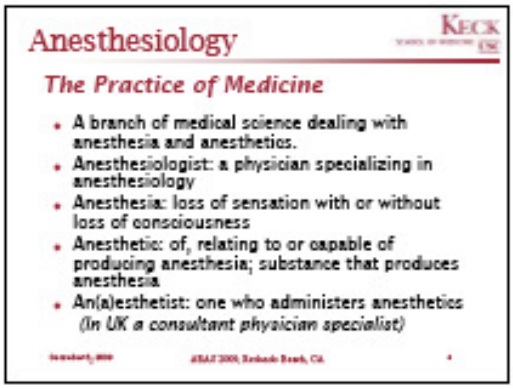
Postgraduate medical education has traditionally been based upon the apprenticeship model wherein knowledge and experience is gained largely through observation and imitation of a mentoring physician. This model depends to a large extent on the volume and variety of patient encounters to ensure a complete educational experience. Changes in medical education including decreased duty hours and requirements for more direct attending participation (which decreases resident autonomy and decision making opportunities), have mandated a shift toward a more formalized curriculum model of graduate medical education. One approach to fulfilling these new requirements is to use "curriculum management systems" to distribute a prepared curriculum and monitor the trainee's progress.

AnesthesiologyBoard ExaminationsEnsuring Educational Accountability

Philip D. Lumb, M.B., B.S., FCCM
Professor & Chair,
Department of Anesthesiology
Keck School of Medicine, The University of Southern California







ACGME Strategic Plan

- Mission
  - We improve Health Care by assessing and advancing the quality of resident physicians' education through accreditation.
- Vision
  - Exemplary Accreditation: Our goal is to make the ACGME an exemplary accrediting organization.
- Values:
  - Accountability, Excellence and Professionalism

Four Strategic Priorities

- Foster innovation and improvement in the learning environment
- Increase the accreditation emphasis on educational outcomes
- Increase efficiency and reduce burden in accreditation
- Improve communication and collaboration with key internal and external stakeholders

Transitional Year

- The objective of the transitional year is to provide a well balanced program of graduate medical education in multiple clinical disciplines, designed to facilitate the choice of and preparation for a specific specialty.
- The transitional year is not meant to be a complete graduate education program in preparation for the practice of medicine.

Fundamental Clinical Skills (FCS)

- Obtain a comprehensive medical history
- Perform a comprehensive physical examination
- Assess a patient's problems
- Make appropriate use of diagnostic tests and studies
- Integrate information to develop a differential diagnosis
- Implement a treatment plan

Core Competencies

- *Patient care*: compassionate, appropriate, effective for treatment and health promotion
- *Medical Knowledge*: about established & evolving biomedical, clinical & cognate sciences – application to patient care
- *Professionalism*: manifested through commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds
- *Practice based learning and improvement*: involves investigation & evaluation of care for patients, appraisal and assimilation of scientific evidence, and improvements in patient care
- *Interpersonal and communication skills*: result in effective information exchange and collaboration with patients, families and other health professionals
- *Systems-Based Practice*: actions demonstrating awareness of / responsiveness to larger context of system health care; effectively utilize system resources for optimal provision of health care

RRC Education Committee

- Ensure that residents are educated in high-quality medical care based on scientific knowledge, evidence- based medicine and sound teaching by qualified educators
- Ensure educational opportunities are equivalent to those provided at all accredited training institutions

Anesthesiology RRC: Membership

- American Board of Anesthesiology
- American Medical Association
- American Board of Anesthesiology
- Resident/Fellow Representation
- ACGME Director and Staff
  Develop "constructive" citations

Council of Review Committee Chairs (CRCC)

- Increase CRCC in input into ACGME activities
- Reaffirm the charges to the Committee on Innovation in the Learning Environment (CILE)
- Encourage RRC's to define "excellence in the learning environment" by giving commendations in letters of accreditation and develop criteria for increased cycle lengths
- Move Common Program Requirements into Institutional requirements
- Eliminate non- essential requirements that are rarely cited
- Encourage RRC's to collaborate and eliminate "turf" issues

RRC Development Course

- Cite non- compliance with the competency/outcomes project with consequences for a program's status
- Provide programs with constructive suggestions for improvement in their implementation of the competencies

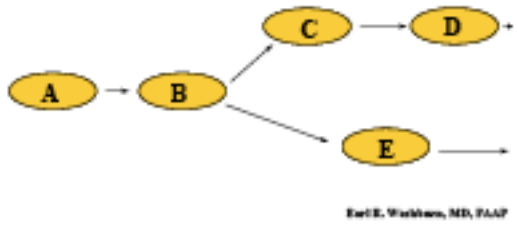
Health Care Change: Educational Challenges

evolution

Vs

dialectic struggle

Evolution



Earl R. Washburn, MD, FAAP

Dialectic Struggle

Earl R. Washburn, MD, FAAP

Barriers to Evolution

- Internal
  - Mission/Vision/Culture
  - Current economic state
  - Program definition, development, success
- Environmental
  - Market pressure
  - Market consolidation
  - Corporate relationships: AHSC Vs Community

Problem Solving Styles

- ABSOLVE (UTION) - do nothing
- RESOLVE - historical management response; retread prior solutions; satisfy
- SOLVE - best possible solution for now; optimize
- DISSOLVE - ideal solution; change system to eliminate problem and perpetuate better solution

Problem Re-design

- Paper match company; striker design
- Redesign to create a system that does not demonstrate the problem rather than solve the problem
- Patient care today is sickness care
- Healthcare tomorrow is wellness care
- Pain management is not about relieving pain

Process Reorganization

- Tool
  - Something used in performing an operation or necessary in the practice of a profession
  - *When all you have is a hammer, everything looks like a nail.*
- System
  - An organization forming a network, especially for serving a common purpose

Curriculum for Change?

- Population management
- Team building
- Information- systems management
- Clinical- resource management

The First Law of Improvement

Every system is perfectly designed to achieve exactly the results it gets.

Changing Organizations:
Delivering care in a new paradigm

- Redesign care based on best practices
- Use information technology to improve access to information and to support clinical decision-making
- Improve workforce knowledge and skills
- Develop effective teams
- Coordinate care among services and settings
- Measure performance and outcomes

Corporate Culture

- The way we do things around here
- The way we behave toward the people we serve
- The most important intangible to the success of any organization
- The organization must create an environment that encourages those specific behaviors that demonstrate its espoused values and discourages any behaviors that run counter to those values
- Corporate culture resists change; like personality

Health Care Criteria:
Performance Excellence

- Delivery of ever-improving value to patients, other customers and stakeholders
- Contributing to improved health care quality and organizational sustainability
- Improvement of organizational effectiveness and capabilities as a health care provider
- Organizational (team) and personal learning

Learning Organizations

- Regular part of daily work
- Practiced at personal, department/work unit and organizational levels
- "Root cause" problem solving
- Focused on building and sharing knowledge throughout the organization
- Driven by opportunities to effect significant, meaningful change

Compact / Contract ?
Residents & Teachers

- Excellence in Resident education
- Highest Quality Patient Care and Safety
- Respect for Residents' Well- Being
- Faculty Commitment:
  - Respect
  - Role model
  - Mentor
  - Graded, progressive responsibility
  - Supervision
  - Evaluate
  - Nurture

Organizational Typology

- Pathological
  - Actively discourage bridging
- Bureaucratic
  - Tolerate bridging
- Generative
  - Encourage bridging as being critical to their work

Bridging: Placing an organization into a larger context, a context that may affect its power stature

KECK

www.ihi.org

- Soon is not a time
- Some is not a number

KECK

George Bernard Shaw

"If you don't say a thing in an irritating way, you may just as well not say it at all since nobody will trouble themselves about anything that does not trouble them."

Regenerative Medicine in Egypt

Omar S. Alfi, M.D.
Alfi Stem Cell Training & Education, 11 W Del Mar Blvd, Pasadena, CA 91105

Regenerative medicine is a new branch of medicine that attempts to change the course of a chronic disease by creating functional cells, tissues or organs to replace the missing or non-functional ones. It refers to two main biomedical approaches to clinical therapy:

a: Use of Stem Cells.
b: Tissue engineering (transplantation of *in-vitro* grown organs and tissues).

There are several serious health problems in Egypt. Hepatitis C virus (hcv) infection is one of them. It has been reported as having a prevalence that exceeds 15% of the population, compared to 2-3% in the rest of the world. It started in the early 1960's as a iatrogenic, man made error during massive treatment campaigns to treat Schistosoma infection, and had been facilitated since then by certain customs and hygienic standards among the population. A related complication of the virus infection has been a type of liver cancer (HCC) which has been rapidly increasing in Egypt, and had almost doubled in the past 10 years.

The 3 main lines of defense against the infection are:

1- Preventive approach: health authorities are putting effort in that direction.
2- Therapeutic approach (anti-viral).
3- Regenerative approach:
   a: Liver transplantation.
   b: Regenerative therapy.

The issue of minimal availability of liver transplantation, the cost, the imported expertise, and religious guidelines, make this approach unfit to make a dent as a choice for treatment. The main hopes are on Regenerative medicine, mainly Stem Cell therapy.

Efforts in SCT started in Egypt about 5 years ago. Several MD's started some trials in their offices, with varying degrees of potential success, without following the international guidelines for clinical trials. At that time, no one knew what the others were doing. The first SC society was started at Cairo University, and was called: Egyptian Society of Stem Cell Therapy (ESSCT). I was asked to join the society. I started an on line Google group that facilitated communication and exchange of information and literature among members.

After the first annual meeting many of the participants shared some information about their researches. The next focus was introducing the international guidelines for clinical trials, with stress on the consent forms, follow ups and statistical analysis of results. Through a grant obtained from The U.S./Egypt Joint Science Research, a team from Univ. of Southern California School of Medicine offered a two week training program in Cairo, attended by about fifty interested researchers from Kasr el Aini, Ein Shams, Tanta and Bilharz Institute.

The 3rd annual meeting was held in Cairo 2 weeks ago, there were 52 presentations, including

the participation of a "twin society" by the name of International Study Group on Stem Cell Therapy (ISGSCT), with multinational members, all interested in seeing the Egyptian Society grow.

So there has been significant progress in the Stem Cell trials for liver failure (as well as heart and nervous system) during this relatively short period.

The second entity in Regenerative Medicine i.e. Tissue Engineering, has been recently approached in an interesting publication that came from the Department of Surgery, Ain Shams University early this year in which amniotic stem cells were used to reconstruct the bile duct.

So we can say that interest in Stem Cell Therapy started 5 years ago, and interest in Tissue Engineering started One year ago.

However, to make a dent in the overwhelming need of the country, some basic changes will need to be done. The following 4 points seem to be essential:

1- Inclusion of Stem Cell Technology, and Regenerative Medicine in the curricula of schools of medicine, science, veterinary medicine, pharmacy and agriculture.
2- Focus on the quality of medical research labs, basically what is termed Clean Labs.
3- A look at the Budget for research in universities.
4- Serious training of students, starting with KINDERGARTEN and ELEMENTARY onwards, on the value of TEAM work.

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Importance Of Clinical Pharmacy On Medical Education And Patient Care

Forrester, Kevin, Pharm.D.
University of Southern California School of Pharmacy, Los Angeles, California

The American College of Clinical Pharmacy defines clinical pharmacy as " that area of pharmacy concerned with the science and practice of rational medication use, adding clinical pharmacists assume responsibility and accountability for managing medication therapy in direct patient care settings, whether practicing independently or in consultation/collaboration with other healthcare professionals. Clinical pharmacist researchers generate, disseminate and apply new knowledge that contributes to improved health and quality of life. The clinical pharmacist's activity is known to have significant association with positive health outcomes (mortality rate, total cost of care, drug costs, length of hospital stay and medication errors).

In 1999, the Society of Critical Care Medicine formally recognized that pharmacists are essential for the provision of high quality care to the critically ill population. The society highlighted the important role pharmacists have in drug dosing, administration, cost-containment issues, cardiopulmonary resuscitation efforts and clinical research projects. A 2001 Society of Critical Care Medicine position article describing models of critical care delivery further elaborated on the necessity of a critical care pharmacist specialist on rounds with the critical care team.

The support of clinical pharmacy services stems largely from their ability to provide expert medication knowledge and focus on often complex medication regimens that exist for ICU patients. In several reports, the involvement of an ICU pharmacist has been shown to decrease adverse drug events, rates of ventilator-associated pneumonia, inappropriate drug concentrations and costs. In addition, several studies have also evaluated the positive and beneficial effects that provision of clinical pharmacy services can have outside of the ICU.

Curriculum Reform in Dental Education

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The goal of an effective clinical education is to graduate physicians and dentists that are inquisitive, critical thinkers, dedicated to lifelong learning who are able to incorporate scientific methods into clinical practice.

This presentation will focus on dental curriculum reform that is currently being implemented in many dental schools throughout the US where traditional biomedical and basic sciences are better integrated into dental clinical practice, thus providing students with skills and knowledge to think like clinicians. In addition, the importance of lifelong learning of dental educators will be emphasized as faculty development and training is a necessary condition for change and innovation in dental education.

Importance of Nursing in Medical Education & Patient Care

Jennifer Hajj, RN, CCRN-CSC
Ventricular Assist Device Coordinator
USC University Hospital

Nursing is the foundation in the healthcare delivery system. Professional nurses play a critical role in protecting patient safety and providing quality healthcare. This discussion will explore the educational levels, challenges and factors that inhibit professional nursing care.

CLOSED-LOOP STUDIES IN ADULTS

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City of Hope, California

Introduction

The ultimate goal in the management of diabetes mellitus is the normalization of glycemia. Currently, the most promising beta-cell replacement therapy for adult patients with type 1 diabetes is a closed-loop,"artificial endocrine pancreas" system. A closed-loop system utilizesa continuous glucose sensor and insulin pump designed to emulate the physiological characteristics of the pancreatic beta cell in order to achieve the goal of full glycemic normalization, while minimizing patient interaction with the system. Previous issues that have been considered in the development of an artificial pancreas include the absorption kinetics of subcutaneous insulin delivery, dynamics of carbohydrate metabolism (in terms of plasma, hepatic, and pancreatic concentrations of glucose, insulin, and glucagon), and the interactions between plasma and subcutaneous glucose concentrations. Further, while a functional beta cell can directly determine real-time plasma insulin concentration via physiologic insulin receptors on the cell surface, in an artificial system, a model prediction of the plasma insulin concentration must be used. The reliability of this control algorithm is of central importance to any artificial system. The Medtronic MiniMed external physiological insulin delivery (ePID) system combines an external pump and sensor with a variable insulin infusion rate algorithm.

To date, there have been three landmark studies examining the feasibility of ePID systems. In the first study, performed at UCLA [1], delays in insulin absorption associated with the subcutaneous route of delivery inevitably led to undesirably large postprandial glucose excursions. In the second study, performed at Yale University [2], a partial insulin bolus (manual priming dose) was given before meals in order to account for this delay. Although improved, postprandial excursions were still not completely normalized, and late postprandial hypoglycemia still resulted.

The present study at City of Hope [3], however, attempts to improve the PID algorithm by incorporating the concept of "insulin feedback" (IFB) gain. In short, the physiologic beta cell is thought to reduce insulin secretion in proportion to the prevailing plasma insulin concentration; although the significance of this feedback mechanism to the beta cell remains unclear, the effect of such a feedback term in a closed-loop system is to compensate for a long, or undesirable, time constant in the control response. Thus, our approach has been to model the artificial control algorithm after the dynamic behavior of the beta cell.

Methods

Eight subjects with previously diagnosed type 1 diabetes completed the trial with two admissions each, and were studied under three settings: open loop, linear PID closed loop, and bilinear PID closed loop. Subjects wore a continuous glucose monitoring system (CGMS) for 3 days prior to (open-loop) admission, and then were admitted to the clinic on the evening prior to the start of closed-loop control. Control was initiated around 06:30, and lasted for 30 hours. Standard meals

were provided at 07:00, 12:00, and 18:00, with a snack provided at 21:00. A 2-U insulin bolus was manually administered at the start of each meal, independent of carbohydrate meal content. Target glucose was set at 90 mg/dl for daytime (06:00-22:00) and at 100 mg/dl for nighttime (22:00-06:00). Each subject wore two sensors, with calibrations performed at 06:00 and 22:00, and also when deemed necessary.

Results

Table 1: Key statistics [nighttime]

Statistic	Open Loop	Closed Loop
Mean glucose (mg/dl)	130 ± 36	112 ± 5
25th percentile (mg/dl)	100 ± 32	101 ± 7
75th percentile (mg/dl)*	169 ± 47	124 ± 9
% time<70 mg/dl**	12.2	0
% time 70-180 mg/dl**	63.9	100
% time>180 mg/dl**	23.9	0
Hypoglycemia (<50 mg/dl)	6 episodes (37.5% of all instances)	No episodes

*Difference in 75th percentile between open-loop and closed-loop is statistically significant with $p = 0.028$

**Difference between open-loop and closed-loop is statistically significant with $p < 0.001$

Overall, preliminary study results have been very encouraging. The linear PID algorithm was superior to the bilinear PID algorithm; thus, results presented will compare open loop with linear closed loop only. Average blood glucose was 112 mg/dl for the closed loop versus 130 mg/dl for the open loop. Importantly, 12.2% of the time was spent <70 mg/dl at night for the open loop, versus no time spent <70 mg/dl for the closed loop. Peak postprandial glucose never exceeded 200 mg/dl with the closed loop. These data indicate that the closed loop results in reduced swings in blood glucose and improved overall glycemic control, reduced frequency of hypoglycemia, and elimination of nighttime hypoglycemia, as well as reduced postprandial glucose (most peaks below 200 mg/dl).

Thus, the introduction of IFB has resulted in overnight and postprandial responses closer to those seen in normal, glucose-tolerant individuals, and these results were achieved without carbohydrate counting, involved the use of varying meal compositions (including carbohydrate content), and the improvement in postprandial response did not result in an increase in hypoglycemia. A significant advantage over previous studies is that the amount of the pre-meal bolus was independent of the carbohydrate content of the meal. Additional challenges that remain to be overcome include issues with sensor placement (e.g., an inflammatory response occurs on the sensor itself, which affects not only performance, but also limits the sensor lifetime), sensor performance (e.g., sensor failure, and the requirement for finger-stick calibration, leading to the possibility of calibration error via nighttime under- or over-calibration, mealtime under-calibration), ensuring the accuracy of insulin delivery (e.g., tubing and site problems, pump malfunction), and concerns with the system/algorithm [e.g., delay in glucose measurement, SQ vs. IV), insulin pharmacodynamics (SQ vs. IV), and the absence of counter-regulatory mechanisms].

Further testing under more variable conditions (e.g., irregular meals, exercise, illness, stress), however, is required before attempting to study the system in an ambulatory setting. In this regard, City of Hope investigators have recently submitted a novel grant proposal to test and improve the safety, efficacy, accuracy and reliability of closed loop therapy in the setting of islet transplantation for type 1 diabetes. Because transplant recipients exhibitfluctuating insulin requirements in the post-transplant period, while still having less glycemic variability than other patients with similarly advanced diabetic disease due to the fact that their transplanted islets produce some insulin, successful use of the closed-loop system in a transplant patient populationcould rapidly advance this technology to the point of widespread, fully ambulatory application. As an additional benefit, the presence of a closed-loop system during the post-transplant period mayassist in reducing islet graft exposure to hyperglycemia during the early stages of engraftment when cells are most fragile, which could result in reduced islet graft loss and improved long-term transplant outcomes.

The proposed project will develop and test a portable closed-loop system with the aim of progressing to fully ambulatory studies in the later stages of the study, while also determining whether intensive blood glucose management during the peri-transplant period will lead to improvement in islet engraftment and survival. A step-wise study design will establish the safety of the closed-loop system under decreasing degrees of supervision in three patient cohorts. In the first cohort, subjects will receive fully supervised closed loop therapy over a 7-day period, beginning just before islet transplant. In the absence of safety concerns in this initial model, the second cohort of subjects will receive fully-supervised closed-loop therapy for 7 days in the hospital, immediately followed by semi-supervised closed-loop treatment (on-campus patient housing using remote monitoring) for an additional 7 days. If there continues to be no more than 2 serious adverse events in the second cohort, the final phase of the study will extend the use of the closed-loop system for an additional 14 days in the patient's home (i.e., fully ambulatory setting) in a third cohort of patients. This study will critically examine the implications of closed-loop therapy in this population, both for its safety and for formal evidence of therapeutic improvement in islet graft function. Thus, the proposed project offers a unique opportunity to make significant, simultaneous advances in both closed-loop system development and islet cell transplantation for the treatment of T1D.

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Regenerative Medicine in Egypt

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Introduction: Regenerative medicine is a new branch of medicine that attempts to change the course of a chronic disease by creating functional cells, tissues or organs to replace the missing or non-functional ones. It refers to two main biomedical approaches to clinical therapy:

a: Use of Stem Cells.
b: Tissue engineering (transplantation of *in-vitro* grown organs and tissues).

There are several serious health problems in Egypt. Hepatitis C virus (hcv) infection is one of them. It has been reported as having a prevalence that exceeds 15% of the population, compared to 2-3% in the rest of the world. It started in the early 1960's as a iatrogenic, man made error during massive treatment campaigns to treat Schistosoma infection, and had been facilitated since then by certain customs and hygienic standards among the population. A related complication of the virus infection has been a type of liver cancer (HCC) which has been rapidly increasing in Egypt, and had almost doubled in the past 10 years.
The 3 main lines of defense against the infection are:

1- Preventive approach: health authorities are putting effort in that direction.
2- Therapeutic approach (anti-viral).
3- Regenerative approach: a: Liver transplantation.
b: Regenerative therapy.

The issue of minimal availability of liver transplantation, the cost, the imported expertise, and religious guidelines, make this approach unfit to make a dent as a choice for treatment.
The main hopes are on Regenerative medicine, mainly Stem Cell therapy.

Efforts in SCT started in Egypt about 5 years ago. Several MD's started some trials in their offices, with varying degrees of potential success, without following the international guidelines for clinical trials. At that time, no one knew what the others were doing. The first SC society was started at Cairo University, and was called: Egyptian Society of Stem Cell Therapy (ESSCT). I was asked to join the society . I started an on line google group that facilitated communication and exchange of information and literature among members.

After the first annual meeting many of the participants shared some information about their researches. The next focus was introducing the international guidelines for clinical trials, with stress on the consent forms, follow ups and statistical analysis of results. Through a grant obtained from The U.S./Egypt Joint Science Research, a team from Univ. of Southern California School of Medicine offered a two week training program in Cairo, attended by about fifty interested researchers from Kasr el Aini, Ein Shams, Tanta and Bilharz Institute.
The 3rd annual meeting was held in Cairo 2 weeks ago, there were 52 presentations, including the participation of a "twin society" by the name of International Study Group on Stem Cell Therapy (ISGSCT), with multinational members, all interested in seeing the Egyptian Society grow.

So there has been significant progress in the Stem Cell trials for liver failure (as well as heart and nervous system) during this relatively short period.

The second entity in Regenerative Medicine i.e. Tissue Engineering, has been recently approached in an interesting publication that came from the Department of Surgery, Ain Shams University early this year in which amniotic stem cells were used to reconstruct the bile duct.

So we can say that interest in Stem Cell Therapy started 5 years ago, and interest in Tissue Engineering started One year ago.

However, to make a dent in the overwhelming need of the country, some basic changes will need to be done. The following 4 points seem to be essential:

1- Inclusion of Stem Cell Technology, and Regenerative Medicine in the curricula of schools of medicine, science, veterinary medicine, pharmacy and agriculture.

2- Focus on the quality of medical research labs, basically what is termed Clean Labs.

3- A look at the Budget for research in universities.

4- Serious training of students, starting with KINDERGARTEN and ELEMENTARY onwards, on the value of TEAM work.

Extra-adipocyteleptin release in human obesity and its relation to sympathoadrenal function.

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The link between the human sympathoadrenalmedullary system and the adipocyte hormone leptin is controversial. We measured total and regional norepinephrine spillover, epinephrine secretion rate, and extra-adipocyteleptin release in 22 lean [body mass index (BMI) < 26] and 20 obese (BMI > 28) normotensive men who underwent arterial and central venous catheterization. Since plasma clearance of leptin is primarily by renal removal, whole body leptin release to plasma from renal plasma leptin extraction could be estimated. Whole body leptin release was 1,950 ± 643 ng/min in obese men and 382 ±124 ng/min in lean men.Total and renal norepinephrine spillover rates correlated directly with whole body leptin secretion rate. Leptin is released from multiple nonadipocyte sites, which we tested by use of simultaneous arteriovenous blood sampling. We found a surprisingly large contribution of brain leptin release to the plasma leptin pool, 529 ± 175 ng/min (> 40% whole body leptin release), with greater leptin release in obese than in lean men, 935 ± 321 vs. 160 ± 59 ng/min. In parallel with leptin measurements, we also quantified brain serotonin turnover and jugular overflow of neuropeptide Y (NPY). Brain serotonin turnover was higher in obese than in lean men, 227 ± 112 vs. 21 ± 14 ng/min, as was overflow of NPY from the brain, 12.9 ± 1.4 vs. 5.3 ± 2.2 ng/min.These results suggest that leptin is released within the brain and at an increased rate in obese humans, in whom activation of brain serotonergic and NPY mechanisms also exists.

Physical Health and Cosmetics in Ancient Egypt

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Professor and Vice President Emeritus California State Dominguez Hills
Dr. Shoukry Kantiry
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To ancient Egyptians, the beauty was an integral part of their society. Beauty was always side by side with their mortal existence and even in their afterlife. They believed that the more beautiful you are, the closer you will be to the gods. They valued makeup and ritualized them, and all the very first cosmetics were kept special in jars and packed in makeup boxes. (1)

In ancient Egypt, cosmetics were not a luxury; they were a way of life! Men and women followed the latest fashions in both hairstyles and make- up, everyone, from the poor to the pharaohs, had make- up. (2)

Cleansing rituals were very important to the Egyptians. Most people bathed daily in the river or out of a water basin at home. The wealthy had a separate room in their home to bath. Servants would pour jugs of water over their master (the equivalent of a modern day shower). The runoff water drained away through a pipe that led to the garden. Instead of washing with soap, a cleansing cream was used. This cream was made from oil, lime, and perfume. People rubbed themselves daily with perfumed oil. Perfume was made from flowers and scented wood mixed with oil or fat, and was left in a pot until the oil had absorbed the scent. The perfumed oil was used to prevent the skin from drying out in the harsh climate. At parties, servants put cones of perfumed grease on the heads of the guests. As the grease melted, it ran down their face with a pleasing cooling effect

(1) http://www.eye-make-up-tips.com/makeup/makeup-beauty-tips/ancient-egyptian-makeup.aspx
(2) http://www.thekeep.org/~kunoichi/kunoichi/themestream/ womenegypt .htm.op.cit

Engineering, Technology & Industry Sessions

Engineering, Technology & Industry Sessions

Redondo 2&3

Morning Sessions

Co-Chairs: Dr. Mohamed Attalla – Dr. Mohamed Hegab

8:30 – 8:55 am	Dr. Mostafa El-Demirdash. "Role Of HBRC In Advancing Building Technology And Establishing The Egyptian Green Building Council"
8:55 – 9:20 am	Dr. RachikElmaraghy. "Enhancement and Modernization of Engineering & Technologies for Egypt"
9:20 – 9:45 am	Dr. Maher Amer. "Solar Energy; the Need and the Educational Challenge"
9:45 – 10:10 am	Dr. Mohamed Attalla. "Contributions to the future of Engineering Education in Egypt"
10:10 – 10:35 am	Dr. Hassan Sassi. "The Art of Structural Engineering"
10:35 – 11:00 am	Dr. Mohamed Megahed. "Future of Engineering Education in Egypt"

Morning Sessions

Co-Chairs: Dr. Hassan Nour – Dr. Ayman Mosalam

1:00 – 1:25 pm	Dr. Mohamed Hegab. "Continuous Improvement Of Engineering Programs Using Total Quality Management"
1:25 – 1:50 pm	Dr. Waguih ElMaraghy. "The Grand Challenges for Engineering and Education"
1:50 – 2:15 pm	Dr. Ayman Mossallam. "Preparing Egyptian Engineering Professionals: Education, Training And Certification"
2:15 – 2:40 pm	Dr. Mohamed El-Gafy. "Adaptation of Green Building Guidelines (LEED®) in Egypt: Opportunities and Challenges"

Role Of HBRC In Advancing Building Technology And Establishing The Egyptian Green Building Council

Mostafa El-Demirdash, Ph.D.
Chairman, The Housing & Building National Research Center (HBRC) of Egypt
http://www.hbrc.edu.eg/ehbrc

For the past two decades, the Egyptian government has worked feverishly to improve building energy efficiency and address green house gas emissions. The motivation for this effort has been the realization that population momentum would ultimately place enormous demands on all sectors of the Egyptian state and that these demands would have the potential to dramatically limit long term growth of the Egyptian economy. At the time, detailed studies had shown the close link between population growth and energy. For that reason, Egyptian stakeholders and government officials have looked for methods to reduce power consumption and GHG emissions. In that sense, developing energy efficiency building codes was a critical the first step in that process and identifying alternative paths towards energy efficiency has been a second.

In January 2009, a major step was taken by establishing the Egyptian Green Building Council (EGBC). Membership in the EGBC consists of both national and international personalities including government ministers from Cabinet level agencies, officers from respected NGOs, prominent businessmen, seasoned labor leaders, and major contractors. One of the objectives for establishing this council is to provide a mechanism to encourage building investors to adopt BEECs as well as other sections of existing codes that satisfy both energy efficiency and environmental conservation. By focusing on new construction, the EGBC could use its leverage as a professional organization to educate and convince engineers, builders, contractors and owners about the benefits of green construction to the individual, to the community, to the nation and most significantly to the bottom line. In this manner, green construction would be the desired goal for all new building projects and building energy efficiency codes would be the materials, tools and road map to achieve the desired goal. In that sense, the primary motivation was to eliminate any stigma or clichéd perspectives associated with green construction and, instead, present green construction as a financially logical and appropriate course of action that integrates important global and national concerns to produce viable sustainable products that meet the short term and long term needs of people.
This lecture will present an overview on HBRC and its role in advancing the building and construction technology. Samples of current research advances in the use of nano-materials in construction as well as non-conventional green construction technologies will also be discussed.

Enhancement and Modernization of Engineering & Technologies for Egypt

RachikElmaraghy,Eng.,Ph.D.
Founder, President & CEO
SAFI Quality Software Inc.- Canada

The **S**tructural **A**nalysis of **F**rame **I**nstallations (SAFI) organization was founded in 1986 in Canada at the early phases of the developments of the Information Technology for the Construction Industry. The SAFI research facilities and building are located in the heart of the historic Quebec City for its research and development operations.

SAFI Products have been developed incrementally for the global marketplace since about a quarter of a century. The products meet the North American and European market place highest standards and are continuously upgraded for practically all structural applications. The company follows the new technological evolutions, the international standards, codes and rules, recent scientific researches, new operating systems, networks, compilers, and the latest hardware required to operate modern Software. For all of its Software design applications and tools that are produced, SAFI's main trade mark is innovation.

Members of the Egyptian delegation concerned with the enhancement and modernization of the engineering projects in Egypt as well as the sector of Egyptian Higher Education will find SAFI is the answer for Egypt. To save the time of the experts, and in Egypt there are many, the main challenging question that has been in my mind before deciding to contribute to this 36th AEAS conference is the following:

At which level such major decisions are taken for Egypt and who are the specific authorities or organizations mandated to truly select and have a final say about Egypt needs and benefits that may result in the full integration of the SAFI Engineering Technologies for the Egyptian engineering community at large, in all fields of structural engineering and for higher education.
SAFI technologies can contribute in building the modern infrastructures for Egypt and help significantly in the enhancement and modernization of the engineering projects in Egypt as well as the Egyptian Higher Education sector. Who may carry this challenging proposal as specifically described? How can we evaluate the associated rewards and benefits to the Egyptian Engineering community for the years to come with the help of a partnership with SAFI Quality Software Inc. in Canada.?

Solar Energy; the Need and the Educational Challenge

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In year 2050 the world population is surely predicted to top 8 to 10 billion people with energy needs of 30 to 60 terawatts. To satisfy such energy need, it will require the production of 450-900 million barrels of oil per day which planet earth cannot provide. The search for new sources of energy to ensure global prosperity and peace becomes a mankind survival necessity. One can easily trace all energy sources on planet earth, i.e. fossil fuel, wind energy, oceanic current, etc. to one gigantic nuclear reactor known as "the Sun" that provide earth with 165,000 terawatts of energy per day. The conclusion can be easily drawn that solar energy would be our refuge. As the world is standing at the doorsteps of the new industrial revolution, nanotechnology, many opportunities can be ceased. In this lecture, we will discuss the global energy crises and the opportunities that solar energy can provide once integrated with nanotechnology. The need for higher education programs preparing new generations of scientists and engineers to face the challenge will be emphasized.

Contributions to the future of Engineering Education in Egypt

Dr. Mohamed Attalla, P.Eng.
Ryerson University

Many efforts and different activities and initiatives are being investigated and implemented to improve Engineering Education in Egypt. Egyptian Scholars in both Canada and the USA could play an important role as collaborative partners who could contribute positively to the current planes. This paper will present some detailed examples for possible contribution to these efforts.

Some of these ideas include the provision of support and external review to graduate research and promotion committees. Egyptian scholars could also assist in the establishment of new regular programs as well as develop and deliver new Distance Learning courses.

Additionally, one of the potential and major contributions is to serve as external reviewers to the Accreditation and the Quality Assurance process of engineering programs. Furthermore, the establishment of Engineering Sciences and internationally refereed journal is one major avenue for collaboration

The Art of Structural Engineering

Hassan Sassi, PhD
Senior Structural Engineering Consultant (URS)
Professor of Structural Engineering (Cal Poly, Pomona)

There has been a lot of debate as to whether or structural engineering is a science or some form of art. Few people are fully aware of the structural engineer's contribution to humanity.

This presentation will introduce to the audience what structural engineers do to enhance and contribute to the world of architecture and most of all to the environment.

The presentation is also meant for young Arab Americans seeking information regarding the role of structural engineering and demonstrates the link between the structural engineer's understanding of structural materials form and behavior used in the design and construction of buildings and bridges.

To perceive an engineering project requires intelligence, understanding of physics, art and perception of the object to be designed as geometrical phenomena with its relationship to the untrained eye.

The term Art used here is to show that structural engineering is not just a science but it is a reflection of artwork created by architects for a certain function. The structural engineer designs structures as a relationship between various entities that display a certain order to resist loads and deformation due to gravity and other environmental loads such as wind, earthquakes, flood etc. Structures are designed to meet three objectives: 1) Efficiency; 2) Economy; 3) Elegance with the designer's ability for vision, and the creativity to express a certain function.

The author has chosen four structural engineers of Arab American decent to show their contributions to the Art of Structural Engineering and he includes his own contribution of 4 decades in design and instruction in this Art form.

Continuous improvement of engineering programs using total quality management

Mohamed Hegab, PhD, PE, PMP
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The accreditation of engineering programs from accrediting agencies, such as Accreditation Board of Engineering and Technology (ABET), is a goal of every engineering program. The accreditation agencies look for proof of the existence of a continuous improvement of the program through checking the objectives and the outcomes of the program. Showing the process of improvement for objectives and outcomes is always a challenging task to a lot of engineering programs. This software is presenting a framework to perform that task in easy way and make it understood. The framework is using one of the total quality management techniques. This technique is called PDCA (Plan-Do-Check-Act). The technique is implemented to close the loop of the improvement of the engineering program objectives and outcomes.

The Grand Challenges for Engineering and Education

Dr. Waguih ElMaraghy, P.Eng.
Professor & Head, Department Of Industrial and Manufacturing Systems Engineering (IMSE)
Faculty of Engineering

Engineers are needed to create wealth that is necessary for sustained growth and economic stability and they are needed to solve practical problems of benefit to all mankind. Such a need has led many countries to develop a strategic innovation agenda, and to take a fresh look at engineering education, research and training.

The contents of undergraduate and graduate education programs, as well as the targeted research agenda, should reflect the existing and future philosophical, cultural and industrial factors that relate to qualities required in its professional engineers and quality of life for the masses.

This presentation will review the grand challenges for engineering and education in view of recently published international reports discussing these topics and their crucial importance now and into the future. The United Nations Millennium Summit report for instance, stated that: "The benefits of globalization are obvious: faster growth, higher living standards, new opportunities. Yet a backlash has begun, because these benefits are so unequally distributed, and because the global market is not yet underpinned by rules based on shared social objectives. ..… The gross disparities of wealth in today's world, the miserable conditions in which well over a billion people live, the prevalence of endemic conflict in some regions, and the rapid degradation of the natural environment: all these combine to make the present model of development unsustainable, unless remedial measures are taken by common agreement." Other important world bank, international monetary funds, US and Canadian government reports and statistics will be referred to.
Finally the new trends in higher education, accreditation, and research will be highlighted. Relevance to the situation in Egypt and for the sustainable development of the economy and education will be discussed.

Preparing Egyptian Engineering Professionals: Education, Training and Certification

Ayman S. Mosallam, PhD, PE 1, MedhatKhorshid, PhD 2,
1-Professor & Director, Civil & Environmental Engineering Department, University of California, Irvine, USA
2-Assistant Professor, The Housing & Building National Research Center (HBRC) of Egypt

The lecture presents a summary of the 5-year collaborative programs between HBRC and both the International Code Council (ICC) and the International Accreditation Service (IAS). These programs were initiated through an collaborative protocol that was signed in 2004. The objective these programs is to establish a jointly-sponsored regional training and certification center, located at the HBRC facilities in the Arab Republic of Egypt, for structural and construction inspectors for the following professions: (1) *Reinforced Concrete Special Inspector, (2) Prestressed Concrete Special Inspector,(3) Structural Steel and Welding Special Inspector, (4) Structural Masonry Structural Inspector, (5) Fire Special Inspector, (6) Commercial Building Inspector, (7) Commercial Mechanical Special Inspector, (8) Commercial Plumbing Special Inspector, (9) Commercial Electrical Special Inspector, and (10) Fiber-Reinforced Polymer(FRP) Composite Special Inspector*. To date, an accredited training program following the ISO17024 has been developed and a 5-day training course has been offered to engineers specialized in reinforced concrete construction works. A certification examination protocol and examination bank for Reinforced Concrete Special Inspector has been established. Last year, HBRC made the first certification exam where 26 engineers were registered, of which 16 engineers successfully passed the exam and are being certified by both HBRC and ICC. Other programs are in progress.

Adaptation of Green Building Guidelines (LEED®) in Egypt: Opportunities and Challenges

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With the exponential growth of construction industry in Egypt, there is a definite need to reduce its environmental impact; such as CO2 emission, water and soil pollution, and poor air quality; by adapting green building guidelines. In the United States, Leadership in Energy and Environmental Design (LEED®) was developed by the U.S. Green Building Council (USGBC). This voluntary credit-based building rating system is intended to evaluate environmental performance from the whole building perspective over the building's lifecycle, providing a definitive standard for what constitutes a green building. This US rating system has been adapted in countries such as Canada, Italy, and India. The purpose of this research is to identify the characteristics of LEED®-USA and to analyze its influence on the evolution and adaption of LEED guidelines in other countries. Based on comparative analysis of LEED-USA with the Italy experience, various characteristics associated with their acceptance will be identified. The results of this research can be applied to understand the evolution as well as future adaption of green building guideline; tailored specifically for Egyptian climates, construction practices and regulations.

Keywords: Green Building Guidelines, LEED-USA, Italy experience

Round Table Discussion Topic: Narrowing the Gap between Engineering Education/Research and Public Engineering Services in Egypt

Dr. Hassan Mohamed-Nour
California State University Long Beach

The ultimate goal of engineering education or engineering research is the application of mathematics, science and technological advances for sustaining and continuously improving the public daily life. Engineering services are everywhere, roads, transportation, public service offices, cleaner environment and supplies, utilities services, etc. Apparently, there is a wide gap between engineering education/research and technology application to engineering services. As an example, while education and research in civil and construction engineering in Egypt are so advanced, there are stretches of roads in parts of most modern cities are far below normal standards. This in turn may lead to very costly road accidents. There are many similar examples in other sections of engineering and in fact in many other disciplines.

The goal of this discussion is to shed some light on means of narrowing these gaps. The primary objective of this round table gathering is to identify some actions toward the above goal and define a measurable progress bar, one step at a time.

Continuous Improvement Of Engineering Programs Using Total Quality Management

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The accreditation of engineering programs from accrediting agencies, such as Accreditation Board of Engineering and Technology (ABET), is a goal of every engineering program. The accreditation agencies look for proof of the existence of a continuous improvement of the program through checking the objectives and the outcomes of the program. Showing the process of improvement for objectives and outcomes is always a challenging task to a lot of engineering programs. This software is presenting a framework to perform that task in easy way and make it understood. The framework is using one of the total quality management techniques. This technique is called PDCA (Plan-Do-Check-Act). The technique is implemented to close the loop of the improvement of the engineering program objectives and outcomes.

Business, Economics & Humanities Sessions

Business, Economics & Humanities Sessions

Morning Sessions – Redondo Salon 1

Co-Chairs: Dr. Samir Arafeh Dr. Mohamed El badawy

8:30 – 8:55 am	Dr. Ismail Gomaa.
8:55– 9:20 am	Prof. Mahmoud Esayess. The use of multimedia Internet tools to enhance pronunciation skills in Arabic and medicine - Applicability to other academic fields
9:20 – 9:45 am	Hadeel El-Ahraf. Moderating Effects of Rater Ethnicity and Acculturation on Ratings of Middle-Eastern Resumes
9:45– 10:10 am	Dr. SamirArafeh. Institutional Reform: Incremental, Quantum or Matrix Transformation - Rethink Again…
10:10 – 10:35 am	Dr. Yahia Abdul-Rahman. Value of Training and Educating a New Generation of Riba-Free Bankers to the Future of the Egyptian Economy

Afternoon Sessions – Redondo Salon 1

1:00– 1:25pm	Dr. Jeng-Liang Eric Hwang. Occupational Medicine.
1:25 – 1:50 pm	Dr. Brince Ghattas. Training and Qualifying Graduates of the Faculty ofCommerce ,Assiut University to Meet Labor Market Needs and the Requirements of Self- Employment (Case Study)
1:50– 2:15pm	Dr. Mahmoud Omar Mohamed Selim (Dr. Shoukri El-Kantiry – Presenter). The Pharaonic Zgazig University - "pr ᶜnch"
2:15 – 2:40 pm	Dr. Mohammad Eyadat. Student Research
2:40– 3:05 pm	

Ismail I. Gomaa, PhD.
Secretary General, Business Education Sector - Supreme Council of Universities
Professor of Accounting
Faculty of Commerce, Alexandria University
Alexandria, Egypt

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The use of multimedia Internet tools to enhance pronunciation skills in Arabic and medicine - Applicability to other academic fields

Professor Mahmoud El-Sayess
Multimedia & Information Technology Specialist
Professor of information Technology, University of Phoenix,

Dr. Amer El –Ahraf
President American European University Consortium
Professor and Vice President Emeritus, California State Dominguez Hills

Moderating Effects of Rater Ethnicity and Acculturation on Ratings of Middle-Eastern Resumes - A Research Proposal

Hadeel El-Ahraf
M.S. Industrial and Organizational Psychology, Candidate
California State University, Long Beach

Previous research (Derous et al., 2006; in press) has identified several factors that have caused Caucasian raters to demonstrate increased discrimination towards Middle-Eastern job applicants, such as applicants' ethnic names and affiliations. The current study partially replicates previous studies by examining the role of applicants' ethnic identifiers in determining job suitability ratings. It also extends previous literature by investigating whether ethnic minority raters (i.e., Middle-Eastern Americans and African-Americans) will report higher job suitability ratings for Middle-Eastern applicants than Caucasian raters. Specifically, Middle-Eastern raters may rate resumes of Middle-Eastern applicants more favorably than applicants of different ethnic groups. Additionally, the raters' acculturation levels may moderate the relationship between the ethnicity of the rater and job suitability ratings given to Middle-Eastern applicants. Specifically, ethnic minorities with low levels of acculturation may give higher job suitability ratings to Middle-Eastern applicants than ethnic minority raters with high levels of acculturation.

Institutional Reform: Incremental, Quantum or Matrix Transformation - Rethink Again…

Dr. Samir A. Arafeh, Principal*
www.ieSEAM.com

Over the last recent decades, the world has witnessed the fast evolution from industrial supremacy to technological supremacy. All institutional, corporate and governmental sectors found themselves in an unprecedented race to catch up with the imposed need for agility. That is in order to cope with the fast and continuous change in maintaining the supply and demand in products and services. The education sector worldwide, being at the hub of supply, suffered from the misalignment between "Education & Research" and their adaptation to the market demand for skilled and up to date knowledge workers as well as innovations. As a result many countries succumb to a spiral of degradation when rigidity, or slow adaptation, stood in front of reform. This presentation introduces a "Systems based Methodology" and a "Road Map" to enable "Quantitative Assessment" to support and work hand-in-hand with the "Qualitative Research & Analysis" of any reform effort. The key approach is to start with the "Anticipated Outcomes in Sight" rethinking "Backward" to derive the "Requirements, Solutions & Conditions" of the needed "Actors, Processes and their Intakes" towards the most "Efficient, Fast and Credible" supply volume to the constantly moving target demands. Best practices and logical sequence are derived from the three disciplines of; 1) Requirements & Solutions Analysis, 2) Project Management and 3) Operating Process Management. A formal "Road Map" practice of 12 steps is also introduced as a form of best practice that ensures successful results while minimizing risk, wasted effort and duplications that can lead to undesirable excess expenditures and delays in deliveries, if not failures. An outline of the presented methodologies is considered for an ongoing "Qualitative Research & Analysis" reform effort by the University of Alexandria, Faculty of Commerce.

Value of Training and Educating a New Generation of Riba-Free Bankers to the Future of the Egyptian Economy

Dr. Yahia Abdul-Rahman, Chairman / CEO
Bank of Whittier, NA - 562-945-7553 X-120

Ocupacional Medicine.

Jeng-Liang Eric Hwang, PhD., OTR/L
Assistant Professor
California State University, Dominguez Hills
Department of Occupational Therapy

Training and Qualifying Graduates of the Faculty of Commerce Assiut University to Meet Labor Market Needs and the Requirements of Self-employment. (Case Study)

Brince Michael Ghattas
Professor of Accounting, Faculty of Commerce - Assiut University – Egypt

This study aimed to explore the expectations gap between the labor market needs and the requirements of self-employment and the level of faculty graduates, and suggest how to treat and avoid (or reduce) in the future. Implementation of the study by field survey of 122 organizations staffed by graduates of the faculty in Assiut Governorate was conducted.

The study resulted in the existence of general and technical reasons, and other related skills, Graduate lead to dissatisfaction with employers about the level of performance of graduates.

The Pharaonic Zgazig University "pr ᶜnch"

Dr. Mahmoud Omar Mohamed Selim
Dean of the Higher Institute of Ancient Near East Civilizations
Professor of Egyptology Zgazig University – Egypt
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Some ruins east of the current city of Zgazig maintains some monuments which recorded the history of the ancient Egyptian city of *"pr B3st"* (Bubastis). It was famous for the reputation its university *"pr ᶜnch"* and the scholars of this university (The PharaonicZgazig University). The Archaeological Excavation of Zgazig University provided us with new two monuments have been found in the great Temple of Bubastis, the first one is a sandstone block statue related to a senior staff, exhibited in Zgazig University Museum, No. 2156, part of wall paintings.

Out The Archaeological Excavation of Zgazig University part of wall paintings, a part of tomb door related to "Iuty" the Vizir and Judge in the city, and a conopic jar from the tomb of "Iuty" (HirriatRznh Museum No. 3501).

Out of Bubastis, there are monuments like the gate of Iroy from Qantir (Cairo Museum No. 30-1-35-1 a-d,e turns back to the reign of Ramsis III, a funerary stela of "Hori" Ben "Iiroy" from "Qantair". And a shrine statue for "Iuni", exhibited in the Metropolitan Museum in New York (Metropolitan MA 33.2.1).

The Hieroglyphic inscriptions on these monuments prove that those clergy people (priests) hold Administrative and political titles in the country like Royal writer, and supervisor of the king working, chief of the Royal clerks in the house of life in *"Pr-Bast"*. The repeated title wabsxmt which means the priest of goddess "Sekhmet", indicating that they had working as surgeons for the treatment of human beings, or engaged in recovery and veterinary medicine, and were related to the role of Godess "Sekhmet" which has a big role in *"pr B3st"* (Pr-Bast, Bubastis) was "commensurate with the stature of this prestigious group of scientists, and proved to achieve the progressive degrees of surgeons.

As a result of this scientific and medical climate scientists, who dyes "Pr-Bast" known as the University of the city and the main goddess "Bastit" as able to give life, healing and health . have emerged this inscription for the statue of Boston Mus. 88748.The scientists of "Pr-Bast", where well known since the King "Snfro", fromthe Old Kingdom, through the most famous writers of Ancient Egypt "Nfrty" or "Nfr-Roho", of Bubastis".

Student Research.

Dr. Mohammad Eyadat
California State University, Dominguez Hills

Egypt Papers

Recent Developments in Egyptian Engineering Education Through Competitive Projects

Galal Abdel-Hamid Abdellah[1], Salah El-Din Mohamed Fahmy Taher[2], Mohammed Abdel-Rahman[3]
1 – Higher Education Minister's Advisor for Strategic Planning & Chairman of HEEPF National Committee
2 – Executive Director, Higher Education Enhancement Project Fund, HEEPF
HEEPF Monitoring and Evaluation Consultant and Assistant Professor,Faculty of Engineering at Mataryia, Helwan University, Egypt

Well-established engineering higher education is considered one of the most important requirements for modern technological development. There is a gap between the currently available engineering qualifications in Egypt and the required levels which is attributed to some obstacles in Egyptian engineering education. This paper presents an overview of the engineering education in Egypt, current situation, comparison with different countries, structure of program and its outcome. It also presents an overview of the engineering projects funded by the Higher Education Enhancement Project Fund (HEEPF) and the impact of these projects on the performance of engineering education.

Proposal for Establishment of Students' Assessment Center In Medical Schools

Omayma Aboulella Hamed Aly, M.B.B.Ch- MSc- MD-MHPE
Professor, Faculty of Medicine-Cairo University
Professor, Medical Education Dept.-KAU

Background:
Both national and international accreditation organizations have stressed the essential presence of high quality assessment processes in education. Moreover, assessment plays the central role in the medical education process by leading to a more effective instruction, and by evaluating the achievement of learning.

Aim: The proposal aims at enhancing the students' assessment strategy to be in compliance with the national and international standards.

Methodology: The assessment center encompasses five sectors: (1) Training Sector; (2) Item Analysis; (3) Interpretation; (4) IT; (5) Research & Biostatistics Sectors. These sectors fulfill the objectives of establishing the assessment center which are: (1) Ensure that the assessment methods has high validity by comparing the desired program and course outcomes with the departments published blueprint; (2) Measure the test items composition against the blueprint provided by the departments;(3) evaluate the construction of the test items; (4) Revise test items according to the international criteria; (5) Perform marking of exams using OMR; (6) Analyze test items regarding difficulty index; discrimination index; and bi-serial correlation; (7) Interpret item analysis results for sorting the test items accordingly; (8) Evaluate the teaching process according to the results of item analysis; (9) Define the cause of any flaws in the assessment process; (10) Report item analysis results to departments; (11) Ensure re-scoring, if needed, for technical or scientific flaws; (12) Create a central item bank containing high quality test items.

Conclusion: Establishment of an assessment center to ensure fair assessment which fulfills the standards.

Accuracy Assessment of Automatically Generated Digital Elevation models from stereo SPOT images in surveying and photogrammetry

Eng.LamyaaGamal El-deenTaha Solyman, PhD
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Researcher at National Authority ofRemote Sensing and Space Science (NARSS)

Digital elevation models represent the terrain elevation in discrete form in three-dimensional space. DEM can be generated by several techniques, such as ground surveying, digital photogrammetry, laser scanning, InSAR.. In this research a workflow for automatic Digital Elevation Model (DEM) generation from stereo SPOT satellite images has been presented. DEM has been generated from panchromatic stereo SPOT images using automatic DEM generation polynomial pushbroom (SPOT) method with (100 x 100) grid size, nearest neighbor interpolation and different strategy parameters. The final accuracy of the automatically extracted DEM has been improved by optimization of strategy parameters and automatic DEM editing using a hole-filling algorithm.

The accuracy of DEM was analyzed in comparison with thirty differential GPS points the results indicate that the RMS in elevation of ±15m has been achieved.

A working paper on the development of curricula in the social sciences

Prof. Dr. EmanM.Sabri Ismail
Dr. Eman Nasry Daoud

Through an integrated vision of the interdependence of science between what is psychological and what is social, in particular, we talk about curriculum modernization, because the first step in development is the adequacy of what is studied with the current reality. Given that sociology seeks to discover generalizations, and building theories and studies conducted on the community (home, work, school, university ... etc) and the internal problems faced by this community, and teaches social relations such as the relationship between people, using the general concepts and methods in order to understand these phenomena, understanding the course of history.

Since the science of self-study are being exposed to the individual problems affecting the psychological and mental aspects to him, the close interrelationship between the sociology and psychology to pay to develop the so-called social psychology, which examines the problems in society such as poverty, dependant women, unemployment, and the impact of these social problems leading to disturbances and psychological problems including, for example, anxiety, depression, fear and suicide. And take advantage of this modernization in the curriculum offered to university students in scientific disciplines.

Proceeding from this, the development of social psychology begins by close examination of the conscious community and concomitant psychological problems of individuals, which necessitates cooperation of specialists in psychology and also specialists in sociology with a view to the drafting of new curricula to pay student understanding and awareness of the nature of society which we live in conditions of globalization and the global economic crisis, and the concomitant high rates of crime, suicide, poverty and unemployment. Also cover these new formulation of practical solutions to help graduate students to overcome the social problems that stand in its way and negatively impact that leads to a minor psychological disorders.

The Funerary Music in the Pharaonic Temples

Dr. Inas Moussa Diab – Alexandria University
Dr. Essam Elsaeed - Alexandria University

This paper will present how the people in ancient Egypt are interested very much to live in netherworld and they believed that they would live forever if they were in good work in the life.

The funerary music one for the death man and other for priests inside the temple and we will talk about the kinds of these music and the tools of music instruments, and etc…

Synthesis and anticancer activity of some diazepine derivatives

Fatma A. Bassyouni[1], Sherifa M. Abu-Bakr[2], Osama I. Abd El-Salam[3] andmohamedAbdel-Rehim[4]

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The discovery and development of new therapeutic compounds for the treatment of malignancy is vitally important for the management of cancer. The major examples of the rationally synthesized antitumor drugs, in use for the treatment of cancer in humans are restricted to the antimetabolites and hormonally active agents. Benzodiazepines constitute an important class of heterocyclic compounds which possess a wide range of therapeutic and pharmacological importance. The pharmacological importance of substituted 1,5 benzodiazepine derivatives have been well established and some of these derivatives are known as CNS, analgesic, anti-inflammatory, antiviral,HIV, antiamoebics, antiproliferative and anticonvulsant agents. The aim of the present study is to synthesize and evaluate a series of 1,5-benzodiazepine, 1,4-naphthodiazepine derivatives for their *in vitro* anticancer activity towards cell lines of nine different types of human cancers. The anticancer activities of the synthesized compounds were evaluated utilizing different human cell lines.Some of the tested compounds showed moderate inhibitory effects on the growth inhibition (GI_{50}) of the tested cancer cell lines. The anticancer screening data revealed that some compounds exhibited better results of *in vitro* anticancer activity at 10^{-4} molar concentration against leukemia cell lines.

Keywords:*In vitro* anticancer activity, benzodiazepine, naphthodiazepine, heterocyclic.

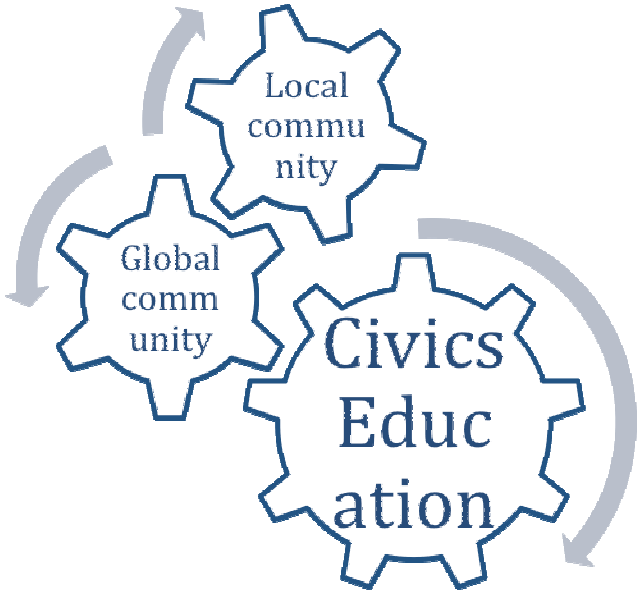
The role of civil state to support the citizenship value to citizens

Dr. Fatma Elzhraaa Salem Mahmud
Ain shams university – Cairo Egypt

Civics education for global citizenship

Today we need civics projects more than any time ago. We need to know the real citizenship. So the civics projects in education enable all the members of educational process to put a holistic meaning about what is called citizenship.

In order to resolve our social problems in our society, we need to put our concept about what is called social event in a global context. As we can not separate what is called local from what is called global .it is an integrative process. to achieve that we need real education based on civics projects .



Diagram(1) illustrates how we can resolve social problems based on civics education.

So in my field of education what we need is civics projects to enhance the ability to share in a democratic community. The Civics and Citizenship domain provides students with knowledge, skills and opportunities to understand and practice what it means to be a citizen in a democracy. Citizens require knowledge and understanding of civic institutions and the skills and willingness to actively participate in society. They need knowledge of political and legal systems and processes and the history that underpins them in order to achieve civic understanding.

They need to understand their rights and responsibilities as citizens, and democratic values and principles such as democratic decision-making, representative and accountable government, freedom of speech, equality before the law, social justice and equality. This domain facilitates the practice of citizenship skills, the exploration and development of values and dispositions to support citizenship and the empowerment of informed decision-making. Teaching of civics engages students in active interaction with the global community.

Dyeing Of Cotton Fabric Using UV Irradiated Turmeric (Curcuma longa L.)as Natural Dye

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In present study the rhizomes of *Curcuma longa* L. has been selected, which contains curcumin, the main coloring component that imparts yellow color on cotton fabric. The extracts have been obtained using different concentration of irradiated turmeric powder. In order to improve colour fastness properties, pre and post- mordanting were applied using alum and iron as mordants. The dyed samples were subjected to CIE Lab system on using spectra flash spectrophotometer for the evaluation of L* (lighter/darker), a* (redder/greener) and b* (yellowier/bluer) values.

Finally, ISO standard methods were employed to study colour fastness to light, washing and rubbing (dry and wet) in order to observe the influence of UV radiation on the dyeing behaviour of turmeric (Curcuma longa L). It is observed that the UV-radiation not only enhances the color strength of dye on irradiated cotton fabric using low concentration of dye but also improves the color fastness properties of pre-irradiated cotton fabric using pre-irradiated turmeric powder using low concentration of mordant.

Keywords: Cotton fabric, Colourfastness, Curcumin, Mordanting, UV source

Morning Round Table Discussion

11:00-12:00noon

Moral & Ethics

Seascape Ballroom

Chairman:
Dr. Yahia Abdul-Rahman

Members:
Dr. Amer El-Ahraf
Dr. Tawfik Ayoub

Discussions – Resolutions - Recommendations

3:05-4:00 pm

Open discussion Forum - AEAS business

3:05 – 3:30 pm *Seascape Ballroom*

Dr. Mohamed Attalla *Dr. Tawfik Ayoub* *Dr. Mohamed Hegab*
Dr. Amer El-Ahraf *Dr. SamirArafeh* *Dr. Mohamed El-Badawy*

Resolutions & Recommendations

3:30-4:00 pm

Seascape Ballroom

Dr. Mohamed Attalla *Dr. Tawfik Ayoub* *Dr. Mohamed Hegab*
Dr. Amer El-Ahraf *Dr. SamirArafeh* *Dr. Mohamed El-Badawy*

Banquet

6:30-10:00pm

Egyptian American Organization Banquet

Seascape Ballroom

06:30 – 07:00 pm	*Registration & Reception*
07:00 – 10:00 pm	*Dinner* *Tribute to Dr. Mostafa Zayed* *Baby Blue Documentary Movie*