National Research Centre

Egyptian American Scholars

Higher Education Enhancement Project

Association of Egyptian American Scholars 17th Bi-Annual Conference

www.EAScholars.org

Conference Theme

"Enhancement of Higher Education and Scientific Research in Egypt"

Under the patronage of

H. E. Prof. Dr. Hany Helal
Minister of Higher Education & Scientific Research

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December 25-27, 2006
National Research Centre
www.nrc.sci.eg
El-Behooth Street, Cairo – Egypt

AEAS President Welcome Message

Dear Colleagues:

On behalf of Dr. Ayman El-Mohandes and the entire membership of the Executive Board of the Association of Egyptian American Scholars (AEAS), I welcome you to the 2006 Cairo Conference and wish you a productive and an enjoyable meeting. I also wish to express my deep gratitude to the friends of the AEAS in Egypt including the National Research Council, His Excellency the Minister of Higher Education and Research and other scholars from various academic institutions for their support and warm hospitality.

Formally established in the early seventies, the AEAS represents scholars who are active in various academic and scientific endeavors in the United States and Canada. The AEAS Mission Statement is "To create a forum for North American Egyptian Scholars that facilitates dialogue and promotes partnership with Egyptian counterparts to implement scholarly endeavors". It is within this spirit that the joint conferences, that started over thirty years ago continue today.

The significance of this conference with its theme emphasizing quality higher education, illustrates the aforementioned point especially within a country with an illustrious civilization. The issue is treated within the context of developments now taking place in Egypt, global requirements and the expertise of scholars and with reference to fields affecting the quality of life of all Egyptians. In over 80 papers, contemporary trends in higher education as well as its by-products in public health, medicine, e-learning, engineering, computer science, business and other disciplines of the natural and social sciences and humanities are examined to extract experiences that can benefit Egypt.

The theme of the conference illustrates another important point that is clear to our colleagues in Egypt and abroad. Transferring the experience of others is useful; but it has its limitations. No nation can advance as a leader of higher education in the world, as Egypt aspires to be, by just borrowing science and technology from others. The organizers of this conference and the participants recognize the significance of learning from the experience of others, adopting it to local conditions and then moving forward to build homegrown science and technology within a higher education delivery system that is indigenous to Egypt. This is also true for fields that represent the by-products of higher education. Egypt has led the world in knowledge in various fields and is now taking steps to restore its rightful place as a global leader in education. Your intellectual discussion that is taking place in this conference is a step forward in that direction.
Congratulations.

Dr. Amer El-Ahraf, Incoming President
Association of Egyptian American Scholars

Preface

Dear Colleagues and Friends

We are cordially pleased to introduce to you this constellation of abstracts and valuable contributions that represent the intellectual property of over 80 participants in the 17th Bi-Annual conference of the Association of Egyptian American Scholars (AEAS). Under the theme of “Enhancement of Higher Education and Scientific Research in Egypt”, many Egyptian Scholars in North America and colleagues in Egypt have come together to produce one of the very important conferences that are concerned with higher education and scientific research in Egypt.

This conference together with the volume and the quality of submissions is a strong reflection of the fruitful cooperative efforts between Egyptian scientists inside Egypt and their counterparts in North America.

We wish to thank all the authors for their valuable participation. The submitted abstracts are divided into different categories based on the submission, namely, Medical Education Enhancement, Engineering Education Enhancement, Business Economics and Natural Sciences, Engineering Centers of Excellence, E Learning, Medical and Public Health and Engineering and Technology. We wish that future plans would be established to take these ideas and proposals forward into implementation. This would complement the current efforts at the national level to further develop Higher Education in our beloved Egypt.

We wish to recognize the great effort of the National Research Center and its Conference Unit. We would like to also thank the Higher Education Enhancement Project and the Strategic Planning unit within the Ministry of Higher Education for their valued support for the success of this conference.

We are looking forward to your active participation and enriching discussions in the current conference, and for continuous future encounters and collaboration.

Dr. Mohamed Attalla, P.Eng.
Chair, Conference Organization

Dr. Dina El Metwally, MD
Conference Scientific Coordinator

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ENGINEERING CENTRES OF EXCELLENCE & JOINT PROGRAMS

WHY SHOULD THE UNIVERSITY OF WATERLOO HAVE A PRESENCE IN EGYPT?

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EXTENDED ABSTRACT

The region of North Africa and the Middle East can be divided into three main clusters where the Communications and Information Technology (CIT) sector has significantly boomed over the past few years. The first cluster comprises Morocco, Algeria and Tunisia. Tremendous growth has been witnessed in those three countries to attract both foreign investments in the CIT sector as well as international design centers – particularly those of French origin. The second cluster comprises Egypt which is quickly becoming the center for CIT in the Middle East and North Africa. Six years ago, Egypt established the Ministry of CIT, and since then the number of CIT companies has increased by five folds hitting the 2,000 mark in 2006. The last cluster encompasses the Gulf States – in particular the UAE and Qatar. Both governments have invested heavily in the CIT sector, with UAE establishing the Dubai Technology Sector and Silicon Valley Oasis which is acting as a prime incubator to attract international companies. Similarly, the government of Qatar established the Qatar Foundation for Science and Technology which has identified research as an essential component in its strategy.

With these growing initiatives, it is becoming critical to ensure the presence of a pool of highly qualified graduates that are capable of managing technology in a global environment. However, there is currently no graduate research-focused university in these regions that offers internationally-acknowledged programs. There is a clear gap between what these governments are attempting to establish in terms of attracting foreign investment and between the needed human resources that will actually take part in such investments. In fact, international firms are usually skeptical about investing in a country which cannot offer proof of being able to establish a solid base of highly qualified personnel.

The University of Waterloo (UW) is globally renowned for its Engineering programs – particularly those that deal with CIT. UW's presence in the region can help ensure the existence of a pool of highly qualified graduates. It would also foster university–industry collaboration in developing the various fields of technology. In addition, UW's presence would mobilize the private sector to invest in higher education to ultimately reach a cohesive model similar to the one UW achieved in Canada.

The benefits to the University of Waterloo for establishing a presence in the Middle East are three parts: (1) establish a strategic presence in a highly growing region, (2) financial benefits associated with early market penetration, and (3) opportunities for research collaborations with
industries in the area.

Among the three clusters where the CIT sector is booming, Egypt has been chosen as a prospective location to host UW's campus for three reasons: (1) Egypt has a strategic geographic location which facilitates travel from areas within the three clusters. (2) The Egyptian government understands the strategic importance of having a top quality graduate school in Egypt and is willing to invest and subsidize the cost of its establishment. The Egyptian government understands that high quality graduate education must be coupled with its current efforts to attract foreign investments. The Egyptian government constructed the Smart Village – a 450 – acres project that offers high tech infrastructure, the Ministry of CIT was established to create incentives to encourage international investments in CIT and Engineering. (3) Egypt offers a low cost of living.

The target market is students from Egypt, North Africa and the Gulf States. In particular, the following segments are targeted: (1) Professionals who do not have access to local high-end specialized graduate programs, (2) Graduates who need to acquire the skills required by IT and Engineering firms, (3) Young women who have difficulty traveling out of the region for educational opportunities because of cultural restrictions, and (4) Students who were not accepted in North America and Europe's admission process, and/or those with limited resources. In 2006, UW's Faculty of Engineering received around 400 applications from qualified students coming from the three clusters, out of which only 20 were accepted. With 380 students rejected in UW alone, this number would be augmented when other North American universities are accounted for. The sheer number once again advocates the importance of establishing an internationally - recognized graduate school in the region.

It should also be noted that establishing a UW presence in Egypt would give the project a competitive advantage in three ways: (1) UW has renowned reputation in the field of Engineering – this is its core competence. (2) UW is a main sponsor of the IEEE International Conference on Microelectronics (ICM). ICM is an annually held conference in the North African and Middle East region with the mission of bridging the technological, educational and cultural gaps between developing and developed nations . With UW's sponsorship, it is in effect acting as a free marketing tool to UW's programs. (3) Top Egyptian (primarily) faculty will be attracted to work in UW's new campus. All faculty members will be North American-educated and are of top
caliber. UW's quality of education will not be compromised.

Based on the market in the three core clusters, UW's campus will encompass three faculties as a starting point; Engineering and Materials Science, Information Engineering and Technology, and Management Technology and Entrepreneurship. The later will particularly be vital if the governments of the three clusters are serious about taking the idea of foreign investment to the next level; promoting research, intellectual property and technology start-ups. Preliminary financial analysis show the feasibility of the project with a break-even point around the 3 year mark.

The next step should include an in-depth feasibility study from UW's Office of Research and International Agreements which would involve SWOT analysis, marketing issues, risk assessment, and strategic planning.

PROPOSAL FOR A COMPUTER SCIENCE PROGRAM LINKAGE BETWEEN THE NILE UNIVERSITY AND THE UNIVERSITY OF NEW BRUNSWICK

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Summary
It is proposed to establish a Joint Academic educational link and a Computer Science (CS) Degree Program, approved by the University of New Brunswick (UNB), granting the students of the Nile University of Egypt the possibility of securing the UNB Bachelor of Computer Science (BCS) degree with a number of specializations.

Linkage Structure

Two Models are proposed each ensure an equitable linkage, resource sharing and full monitoring of educational quality and equivalency. The Models are outlined below:
Model A – Articulation Agreement or Block Credit-Transfer Agreement

"2 + 2"-Program where students would complete 2 years at the Nile University and then apply to complete the degree at UNB, Fredericton Campus.

The specific courses taught in the first 2 years at the Nile University will be pre-approved for transfer credit, provided that a grade of C or better is obtained in all transfer courses and Quality Assurance Metrics defined by UNB are implemented. Students must complete at least 50% of the program leading to the Bachelor of Computer Science, about 75 credit hours, at UNB.

Students will also be required to meet all admission standards for the program including the language requirement outlined in the UNB *Undergraduate Calendar*.

Students who transfer to UNB will pay the standard international student fee, tuition and other applicable fees as stipulated in the relevant UNB *Undergraduate Calendar*.

Model B – Off-Campus Program

"1 + 3"-Program where students would study all four years at the Nile University. They would complete the first year of the program as a Nile University student and the subsequent three years as a UNB full-time student.

Students will be required to meet all admission standards for the program including the language requirement outlined in the UNB *Undergraduate Calendar*.

Nile University will deliver all courses in the first year of the BCS Program and all non-CS courses in the following three years of the program to education standards and equivalencies acceptable to UNB.

All approved and monitored courses taught by the Nile University will be pre-approved for transfer credit. A grade of C or better is required for transfer.

UNB will ensure quality by monitoring the first-year CS courses. For the final three years of the program, UNB will either monitor or deliver all CS courses of the program. All of these courses will be required to meet UNB course standards. UNB will provide approximately 30% of the instructors for these courses while Nile University will provide the remaining instructors capable of teaching CS courses of this program at the Nile University. All appointments must be screened and approved by UNB through its Faculty of Computer Science (FCS).

Program fees for 25 students per cohort per year are guaranteed to be paid to FCS at UNB by the Nile University beginning in year two of the program.

UNB will also require a one-time lump-sum payment to cover initial start-up cost of the joint educational/degree program.

Starting from the second cohort, the Nile University will only pay ($400-CND) admission fee for each student admitted to the second year of the joint program.

Share of UNB-Program fee per student will be 30% of tuition charged by the Nile University and must not be less than 50% of current UNB-Tuition Fee (whichever is larger).

Share in New Curricula Development and Future Accreditation/Substantial Equivalency Requirement by Certification Agencies in Canada and Abroad.

WIRELESS INNOVATION CENTER (AN EDUCATIONAL PROGRAM IN WIRELESS STANDARDS AND APPLICATION)

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Wireless access and connectivity is one of the basic components of a healthy and dynamic economy. This is particularly true in developing nations. Mastering the breath-taking advances in wireless networking provides very effective and low-cost solutions to many problems. This paper is based on the idea that having a layer of very knowledgeable and skilled wireless engineers and software developers is crucial to the development of the Egyptian economy over the coming decades. The paper describes an approach to establish an Egyptian "Wireless Innovation Center" to develop skills and promote knowledge in international wireless standards such as: WiFi, WiMax and UMTS. The center would then help software companies and wireless service providers in Egypt to excel in developing new wireless applications that serve the unique needs of the Egyptian society. The initial phase of the wireless education program would link up the many Egyptian talents abroad in this field with their counterpart in Egypt, then the center could progress internally throughout Egypt via a combination of E-Learning and hands-on instructor-led wireless educational programs. Another aspect of the "Wireless Innovation Center" is to provide WiFi and WiMax certification services to Egypt and perhaps the entire Middle East.

PROPOSAL FOR COLLABORATION BETWEEN THE CENTER FOR LIGHTWEIGHTING AUTOMOTIVE MATERIALS AND PROCESSING AND UNIVERSITIES/RESEARCH INSTITUTIONS IN EGYPT

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ABSTRACT

The purpose of this proposal is to explore the opportunities for collaboration between the Center for Lightweighting Automotive Materials and Processing (CLAMP) at the University of Michigan-Dearborn and Egyptian universities and/or research institutions. This collaboration will be a two-way avenue. It opens up opportunities for Egyptian scholars to co-operate with their counterpart in CLAMP and conduct research that benefits both the Egyptian and the American automotive industries. The CLAMP was established in September 1998 with a grant from the Department of Energy's Graduate Automotive Technology Education (GATE) program. The primary mission of the CLAMP is to conduct research in the materials and processing fields and to provide graduate education on advanced automotive materials. Including the director, the Center currently has six faculty members who are conducting research in areas related to lightweight automotive materials and processing. The faculty members working in the Center have been able to attract funding from government, industry and professional organizations.

A CENTER OF EXCELLENCE IN EGYPTIAN-AMERICAN PARTNERSHIP FOR ENHANCING URBAN AND REGIONAL PLANNING EDUCATION IN AFGHANISTAN

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Executive Summary

The Center for Spatial Analysis and the K20 Center for Educational and Community Renewal at the University of Oklahoma in partnership with the Department of Architectural Engineering at the University of Mansoura in Egypt are proposing to form and lead the Geospatial Urban and Regional Planning Education Alliance (GURPEA) for Afghan higher education institutes. GURPEA is a network that will bring together international partners from academia, international organizations, and private sectors to work with their Afghan counterparts to develop and implement a multi-phase project for instilling and sustaining internationally recognized urban and regional planning (URP) programs within Afghan universities.

This proposal addresses the first phase of the project (GURPEA-I). The strategic goal of GURPEA-I is two-fold: (1) to prepare Afghan professional planners to assume their new role as faculty in the future urban and regional programs in Afghan universities, be effective transformational leaders armed with the knowledge and skills relative to Afghanistan development needs, and actively engage in the subsequent phases of GURPEA; and (2) to ensure the engagement and motivation of Afghan universities and governmental officials. This strategic goal will be realize through the following program implementation objectives: (1) to develop and coordinate an interdisciplinary Master of Arts program in urban and regional planning with an emphasis on the use of geospatial technologies and educational leadership in the context of developing countries; (2) to embed knowledge and skills of geospatial technologies and educational leadership into the proposed Master of Arts program; (3) to create authentic learning opportunities for the program participants; and (4) to build new partnership and expand the circle of GURPEA network.

The proposed Master of Arts program will be administrated by the University of Oklahoma, but hosted at the University Mansoura where students' residency and face-to-face instruction will take place. This will create opportunities for the Afghan participants to interact with peer planners from Egypt and other contexts that are closer to Afghanistan than the Western context, develop and exchange knowledge and experience with regard to the degree of overlap between these contexts, and could potentially lead to the development of new partnerships and intervention ideas to be incorporated in future phases of the project. The University of Mansoura (MU) was selected for several reasons. The primary reason was MU's generous offer to host the program and provide necessary teaching facilities at no cost. Additional factors

included: security concerns, costs of travel and living, the desire to ensure the dedication of students, and cultural factors. Further, MU's Department of Architectural Engineering, the host department, has a good reputation in urban and regional planning studies and it is likely to attract a good pool of qualified non-Afghan participants to the program from Egypt and Middle Eastern countries.

An instrumental, context-sensitive approach is proposed to deliver the course content of the proposed Master of Arts program. The proposed approach is applied in nature and suggests a few basic courses on planning theory, principles and methods, and a more articulated program on the application of these theories and models in the context of the development of Afghanistan, the use of geospatial technologies and planning support tools, and educational leadership and community renewal. This way the general knowledge gathered in planning courses provides a base to discuss technologies and educational issues in relation to the Afghan and developing countries contexts. The operating principles for the proposed program involve: the degree offered, recruitment of students, admission, program delivery elements, teaching platform, student and program assessment, instructors team, management of the program, and sites. The major elements of the degree program will include: (1) Students progressing through the program as a cohort; (2) A 15 month on-campus residency requirement at MU; (3) a 36 none elective credit hours of core course modules; (4) Six 2-month academic terms; (5) A 3-month individual major project (MIP) required for graduation and focused on the development of curriculum relevant to Afghanistan; (6) an integration of face-to-face short instruction and a distance learning component; (7) dedicated international faculty participating in the instruction team; and (8) monitoring and evaluation activities on a bi-monthly basis.

GURPEA-I will contribute significantly to enhancing and strengthening urban and regional planning education in Afghanistan, Egypt, and the USA. The Afghan universities will benefit from the graduates of the proposed Master of Arts program and the expertise gained from the studies in the development of their graduation projects. The influence these graduates will bring to their potential home institutions will be based on a solid understanding of planning sciences built on a foundation of theoretical knowledge, practical applications and topical research, and equipped with educational leadership and geospatial technical skills. Thus, the outcome of the successful implementation of GURPEA-I would be a cadre of Afghan pioneers ready to assume a leading role in building urban and regional degree programs in Afghan universities, and who possess the capability, knowledge, and skill necessary to develop comprehensive, contextspecific programs that speak to the short- and long-term development goals of Afghanistan. GURPEA-I will also provide benefits to the alliance university professors and students from the University of Oklahoma and University of Mansoura who will benefit from access and exposure to cross cultural communication and understanding social dynamics through interaction with the students from a post-conflict and developing environment. Finally, GURPEA-I will create a solid foundation to attract additional partners in the alliance, including funding agencies and will set the stage for the Egyptian-American partnership to play a critical role in the subsequent phases of the program.

STATUS OF SCIENTIFIC RESEARCH IN EGYPT

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Scientific research is universally recognized as a key element in economic development, technological change and military power. In most developing countries, however, this recognition is never translated into practice and, compared with advanced countries, little scientific influence is visible in daily activity. The output of scientific research productivity may be evaluated according to: Scientific publications, turnout of Ph.D. graduates, Patents and inventions, Nobel and other prizes, Industrialization, the design and construction of new industries, Growth of GNP and improvement of the standard of living. One may thus analyze the performance of a country over long and short periods of time as well as compare one country with another. Several databases including biological abstracts, chemical abstracts, web of science, ISI, SciFinder were used to determine scientific productivity in Egypt. Citation index was also used as a tool for determining the global awareness of the publication by other scientists. The total number of published scientific articles were approximately 80,000 with a highest contribution from University of Cairo (20%) followed by the National Research Center (12%), University of Alexandria (11.2%), University of Ain Shams (11%), University of Assiut (8%), El Mansoura University (7.8%) , Al Azhar University (4.5%), Tanta University (4.1%), Zagazic University (3.9%), Atomic Energy Authority (2.7%), Suez Canal University (2.2), El Monoufia University (1.9%), El Menia University (1.7%), American University Cairo (1.4%), none of the all of the other scientific institutions contributed more than 1%. Although the number of publications increased slightly during the last twenty years, however, the majority of publications were published locally in Egyptian journals. Number of articles cited by the international community was found to be drastically reduced in recent years. The majority of publications were in the field of Chemistry, material science, pharmacy, engineering and physics.

Detailed descriptions of annual productivity, pattern, trends, and conclusion of the study will be presented.

A PROPOSAL FOR SCIENTIFIC COLLABORATION BETWEEN CAIRO UNIVERSITY AND TEXAS STATE UNIVERSITY

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Prof. Mahmoud Saleh and Prof. Ahmed Farghally suggest introducing a unit of Environmental Management and Sustainable Development into the center of Excellence for Energy at University of Cairo. Prof. Mahmoud Saleh, Professor of Chemistry, Texas Southern University and Prof Ahmed Farghally, Professor of Environmental Accounting has conducting several meetings with Prof. Mohamed El Kassas, Professor of Environment, Cairo University. These meetings were conducted by the idea of establishing the above mentioned unit. It is suggested that unit for Environmental Management and Sustainable Development, Center of Excellence is operated by the collaboration of the Egyptian institutions; Cairo University institutions and the American institutions; Texas Southern University. Further consultations will provide a draft document to be combined by concern institutions.

The areas of interest of unit for Environmental management and sustainable Development include, but not limited to

- Advanced technology transfer for environmental monitoring fate and remediation of toxic waste.
- Application of GIS and remote mapping Biodiversity
- Environmental Education
- Students and faculty exchange
- Environmental management Accounting
- Ecological, Ecozone, and Biodiversity Accounting

Energy management and Reduction

A STRATEGIC VISION FOR CITE: AN INTEGRATED COMPUTER, INFORMATION TECHNOLOGY AND ENGINEERING PROGRAM

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1. Vision

The mission of the Universities in the new millennium is to provide adequate educational resources and learning services that foster innovation, creativity, and discovery as well as embrace a new inclusive global culture that is both welcoming and diverse.

The University should harness Science and Technology for the Ethical Development and Sound Economic Prosperity in all walks of life. And to provide needed expertise to solve industrial and, environmental, health, agricultural, and medical problems, hence promotes prosperity, welfare and wellness of the whole population.

The University should be engaged in both National and International Arenas by realizing the three pillars of academic life, namely: Teaching, Research and Community Service.

An Inclusive University Environment is based on: Transparency, Collegiality, Accountability, and Sustainability.

The training of a fully productive, professional and ethical work fore requires flexible inter-disciplinary and multi-disciplinary hands-on programs with needed essential skills of Communications, Entrepreneurship, Ethical, Design skills and Group dynamics.

The professional Colleges of Engineering and Computer & Information sciences are the flagships of the new global University with the burden of continuous morphing and renewal. The need is more than urgent for an Integrated Approach to C&IT with Engineering and Technology programs.

The new CITE Curriculum should be structured to reflect the two essential dynamic factors of Emerging Technologies and Titling Employment Markets within a new competitive Global Economy and Global Village!

2. CITE- Program Issues

1. Ensure full adherence to accreditation requirements with emphasis on Quality & Excellence.
2. Need to enhance QA-Assurance evaluation methods and industrial delivery systems using effective Teaching/Learning tools and technology enabled Self Learning Methods.
3. Stream line the use of available resources via resource sharing, joint programs, Co-Op, intership, inter-departmental / inter-disciplinary joint education programs.
4. Ensure educational quality by limiting class size, curriculum redesign, and removal of outdated curriculum and course coverage redundancies.
5. Ensure a healthy Co-Op program and professional experience programs that improve can both future employment and ensure effective resource management.
6. Ensure a rigorous periodic faculty teaching evaluation and learning environment Periodic-Evaluation and Feedback Plan.
7. Strengthen Interdisciplinary Programs and Joint Curricula with Engineering, Arts and Science as well as Medical Sciences.

3. CITE Requirements

To provide high quality education and research, the school needs to:

1. Ensure critical mass of researchers.
2. Ensure Physical, Library and Laboratory space and required support infrastructure.
3. Establish a continuous Quality-Assurance-CQA Plan with links to a full learning outcome assessment with mission, objectives, and metrics.
4. Establish an External Advisory Council and External Review Process.
5. Develop measures for College productivity and performance metrics.
6. Ensure a high quality learning environment that meets accreditation standards, embrace equity and promotes respect for diversity.
7. Ensure a balanced equitable Faculty-Teaching Load that accounts for basic balanced Mix of Teaching, Research and Professional Services.
8. Enhance College-Image by using Out-Reach community programs, Effective Marketing & Recruitment Plan.

4. Role of Scholarly Teaching and Value Added Research

1. Promote research areas of excellence with integrated modular interdisciplinary Inter-Faculty approach that enhances Value-Added Research and promotes Scholarly Teaching.
2. Establish sustainable Research Links by promoting national collaboration and international Agreements.
3. Ensure research support capabilities by adopting resource sharing that can be sustained by Short Term Consulting/Technology Incubation via (ORC) – Office for Research Consulting Services.
4. Promote scholarly teaching by transferring real innovative research to the Class-Room.
5. Promote College-Image by raising a new Cohesive Culture of Excellence and real achievements.

5. Role of Internationalization

Establish academic links, agreement, channels, and educational/Research Satellite Campuses, with national and international Universities and Research Centers based on the following areas of cooperation and collaboration:

1. Exchange of undergraduate and graduate students.
2. Faculty members' exchanges and short visits.
3. Joint M.Sc and Ph.D graduate programs.
4. Joint research and ancillary research support infrastructure.
5. Short term research and development consulting services.
6. Life Long Learning, Extended-Education and extended Training Services

6. Administration Structure:

1. Promote collegial Decision Making Process and Consultation.
2. Ensure full transparency and equity.
3. Reward excellence and encourage productivity.

4. Open-Door policy and a bottom up approach based on Situational Management Style that measures Degree of Readiness/Socio-Behavioral support.

7. Proposed Joint Educational Programs:

The new evolving technological innovations and titling employment markets in the Global Competitive Economy redefines Higher Education Mission, Objectives and structure.

1. Need to establish new Inter- Departmental, Inter-Faculty, inter-disciplinary joint programs and restructured curricula that link information sciences and computer to art, engineering, medical sciences, health sciences, business, communications, information technology, architecture, biological sciences, environmental and agricultural engineering / agribusiness.
2. New Curricula and Joint-Programs in Communications and Information Technology , Bio-Informatics, AI-Intelligent, Soft-Computing systems, Safety Critical Design, Real Time Systems, Distributed / Parallel Computing Systems, Micro / Nano- Electronics, Human-Machine Interface, Diagnostic Computerized systems, Mechatronics &Automation Systems, Data Mining, Machine-Vision, Intelligent Software, Advanced Micro sensors and Devices, Smart Data Base / Decision Making Systems and Pattern Recognition Diagnostic/Fault Tolerant Systems and Intelligent Soft-Computing systems.
3. Need for flexible Computer technologies and Information Sciences Disciplines and Joint Interdisciplinary Programs under the umbrella of Computer Information Sciences.

It is proposed that a newly established CITE School of Egypt be located at Helwan University using an enhanced Joint Academic Link with UNB that builds on the Existing HELWAN-UNB University Wide Agreement (see Attached) and cover the following areas:

A) Site-School New Undergraduate Curriculum development and Accreditation
B) Joint Graduate Studies via academic links, short term Faculty visits and Student exchanges
C) Research Collaboration and Join Supervision of Academic Channel graduate students
D) Establish a Distance Education and Internet Based Tele-Learning linkage
E) Establish an effective Office for Research Marketing and Consulting Services-ORMCS
F) Establish a full Linkage with the Smart Village and Soft-Computing AI-Based-Intelligent Systems and Applications.

The proposed idea for a full University-Linkage Agreement covering specific educational Program can also furnish the base for seeking Funding Grants and Financial help from Canadian International Development Cooperation (CIDA), International World Bank (IWB) and United Nations-UNSECO.

THE A-to-Z ELECTRONICS CENTER

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I. INTRODUCTION

The author performed a case study (as a TOKTEN expert) about the electronics industry in Egypt via panel discussions, personal interviews, and documentation gathering during (2004-2006). The field study detailed the problems and added very useful insight into their understanding. The author believes that there are many bottlenecks which hinder this industry that should be overcome as a prerequisite for advancement in this highly technological field [1].

There were a good number of studies about the electronics industry in Egypt. Examples include El-Garf [2], Abdallah & Abdel-Fattah et al [3], El-Ghonaimy [4], Wagdy [5], Abdel-Aziz [6], Habib & Raafat [7], etc. Marketing of small industries was addressed by Aly [8]. Also, the following studies were summarized in [3]: (1) "Electronic Industries in Egypt and its Future till Year 2000" by the Specialized National Councils on 1979, (2) "The Egypt High Technology Industry Strategy Plan" by Dataquest on 1991, (3) "Scientific Research and Information Technology Age" by the Specialized National Councils on 1997, (4) "Development Chances of the Electronic Industries in Egypt" by the Specialized National Councils on 1998, (5) High Technology and Electronic Industry Development" by Maglis El-Shoura on 1998, (6) "National Strategy for Electronics and Information Technology" by Ministry of Scientific Research on 1996, (7) "A National Plan for Information Technology in Egypt" by Academy of Scientific Research and Technology on 1998.

Most of the above-mentioned studies provided informative data about the status of the electronics industry in Egypt and worldwide. These studies addressed: (1) R&D, (2) investments, (3) production levels, (4) added value, (5) laborer productivity, (6) labor force, (7) product types, (8) marketing issues, (9) education, and (10) recommendations for improving this industry in Egypt. However, the author believes that implementing most of these recommendations requires certain level of infrastructure, which does not exist yet in Egypt, as well as a certain national mind-set, otherwise recommendations by various individuals and institutions will always be in vain. This is an important motivation behind this proposal!

There were also attempts to propose electronic projects that are needed for Egypt, namely, computer manufacturing [9], miscellaneous electronics industries [3], and semiconductor microelectronics industry [10]. Although the "Strategy of Manufacturing Computers in Egypt" [9] dates back to 1985, there are no PCs manufactured in Egypt (as of 2006). Also, most of the miscellaneous electronics projects proposed in 1998 [3], have not been implemented. It would not be surprising that the microelectronics projects proposed in [11] would have a similar fate. This is another motivation behind this proposal!

The author believes that there are many bottlenecks which hinder the Egyptian electronics industry and should be overcome first in order for reality to match the dreams. Many of these problems are recognized among those who are knowledgeable in the field, and some of these bottlenecks are solely recognized by the author. The author believes that spoon-feeding does not work in high-tech; the baby should be thrown in the water to swim! Thus, more seriousness is needed to fully carry out some example needed projects, from R&D through mass production and marketing. Accordingly, the author believes that there is a need to establish a good model for a center of excellence which handles all the steps of real electronics industry from A to Z.

ENGINEERING EDUCATION ENHANCEMENT

SELF BASED/ PROJECT BASED LEARNING AND ROLE OF VIRTUAL LABORATORY IN ENGINEERING EDUCATION

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Abstract

This paper presents the need to introduce the concept of Virtual Laboratory /Self Based Learning/Project Based Learning as an effective pedagogical Delivery/Teaching tool to improve Technology / Engineering group dynamics, enhance design skills and provide for hands-on experience. Educational simulation tools and Virtual Computer based simulators can be considered as full alternatives of course delivery systems to supplement or complement existing technical/engineering courses. As an example, the position paper presents a case study on a real time computer controlled Virtual Laboratory Simulator (VLS) for Automatic Control Systems Courses. After given some examples from current applications and commercially available simulation software, a cost effective personnel computer (PC) based real time control simulator is introduced as design workstation and its scope and capabilities are fully presented to Student assigned groups (2-3 Students each). The VLS-Simulator introduced in this paper is a real time digital control systems simulator with a user friendly graphical user interface (GUI) that allows for selection of different system types and control models to be used in the VLS-Simulator, for example to control the speed of a small size DC motor. The control types included in this built low-cost VLS-Simulator are P, I, PI, PD, PID, and fuzzy logic (FL) Controllers. The user is capable of freely selecting any type of these preset controllers or build a new design as well as setting the parameters.

PERSPECTIVES ON REFORMING THE PRINCIPALSHIP

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Abstract

The prevailing model, and practices, of school principalship in Egypt is long over due for an overhaul. It is no secret that the role dimensions, organizational expectations, value framework, and behavioral manifestations of the principalship have been by and large modeled after, and in practice trailed, theoretical models and conceptual structures. Such ancestoral roots of the principalship become deeply ingrained in actual practice and remain long after the conceptual and theoretical bases have been abandoned.

The DNA of the Egyptian school principalship carries the genetic characteristics of certain dysfunctional conceptual structures that were inherited from abandoned and discredited administrative and managerial theories. The prevailing model, and implicit practices, are not in tune with the recent paradigm shift of the principalship, and in particular with the recent progressive and democratic changes in Egypt .

A change in the selection, preparation, professional development, role dimensions, value premises, and accountability of the Egyptian principalship is long over due. For the present cadre of Egyptian principals, some guidelines are critically needed, and will be presented.

REFORMING THE EGYPTIAN GOVERNMENT'S SCHOLARSHIPS SYSTEM TO THE US

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Abstract

This presentation is attempting to address a very important issue and a key foundation for the future of academia in Egypt. The current scholarships system for the US that the Egyptian government is adopting is not only outdated and out of touch with reality, but also inefficient and ineffective. In my presentation, I will start by recognizing the importance of sending prospectus scholars to be trained in the west in general and specifically to the United States. I will also draw classical historical examples, such as Mohamed Abdo, and contemporary ones, such as Ahmed Zewail and Ahmed ElBaradei. Second, I will describe the current reality of funding in PhD programs in the US and other western institutions. I will illustrate the mechanism of graduate students funding and what are the different channels that graduate students obtain grants in western academia. Third, I will describe the current system and the different aspects of its incompetence. I will also describe how it is not matching the current funding mechanism in the west, thus wasting the Egyptian government's resources and funds. Next, I will present how the Egyptian system is not addressing the need to train professional through MBA, MPA, MPP and JD programs. Subsequently, I will argue for the importance of undergraduate education, and the importance of introducing undergraduate scholarships. Consequently, I will portray different successful mechanisms that other governments adopted to fund its students in the US, such as the UAE, India, and Korea. Finally, I will propose different means to reform the Egyptian Scholarships system.

ENHANCING WRITING, ANALYSIS AND PRESENTATION SKILLS FOR ENGINEERS

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ABSTRACT

Technical communication skills are important for the success of professionals in general and for engineers in particular. The *Enhancing Data Analysis and Presentation Skills for Engineers* 'EDAPSE' is one of the HEEPF projects carried out at the Faculty of Engineering, Ain Shams University. The objectives of EDAPSE are to upgrade undergraduate courses, introduce new ones, and provide training for graduating and postgraduate students, practicing engineers on three subjects. These subjects are technical writing, data analysis, and presentation. In addition, the Faculty library is complemented by relevant books bought from Canada and from the local market. An internet website -accessed from the University site- provides introduction to the project activities and offers most of the training material in PDF-format that is easy to download and free of charge. Hundreds of trainees have benefited from EDAPSE within the Faculty and outside. A consulting unit to promote the objectives of project has been established with equipment bought from project money. The unit has already started providing training and consulting services to clients within and outside the Faculty. The new programs at the Faculty of Engineering allows the experience gained through the project to be implemented in a selected course on Technical Writing and Communication that is offered for both Building and Material engineering programs. Several presentations were made by the Project Manager outside Egypt in Jordan and Italy about EDAPSE and its accomplishments.

ON THE PROMOTION OF SCIENTIFIC RESEARCH TOWARD EXCELLENCE IN EGYPT

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One of the major challenges facing Egypt is ability to realize an economic growth rate that would help provide for its young citizens seeking employment and sustaining a higher standard of living. This would require a non traditional approach for training and scientific development. Such an approach would primarily depend on the ability of the higher education and scientific cadre of Egypt develop new approaches that would provide its citizens with new skills, new projects, and more rewarding job opportunities.

In this paper, a preliminary framework and a model for the development and implementation of an Egyptian Research plan with stated priorities and performance measures indicators is proposed. In developing such plan, we draw on the successful experiences of other nations. The proposed plan also takes into account the comparative advantages of the available resources. Such plan will be referred to as the Egyptian Research and Development Plan

The paper also presents a well defined procedure to fund the proposed plan as well as support the establishment of centers of Excellence in major scientific areas needed in Egypt. Local share -holding industries and businesses must contribute to the scientific development and education in Egypt.

The formation of a scientific commission on Higher Education, Research and Development, that is independent of the cabinet of ministers, is also proposed to update and manage the plan of scientific activities and higher education in Egypt.

A PROPOSED MODEL FOR LEADING CHANGE IN THE EGYPTIAN UNIVERSITY EDUCATIONAL SYSTEMS, WITH EMPHASIS ON THE HUMAN SIDE OF THE CHANGE EQUATION

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This abstract includes two major components: A simplified graphical representation of the proposed model and a tool for assessing positive self management and otherness. This tool could be used by the leaders and members of the change projects that are taking place now to enhance the quality of the Egyptian higher Education Systems (EHES).

At the heart of this model is the needed development of the emotional intelligence capacities and behavioral habits of the Human resources (HR) of our (EHES). This is true since the HR are the steering wheel for maximizing the effectiveness and efficiency of the utilization of other resources available for the change project. Therefore, empowering HR with the competencies needed to change from individualism to groupism, from self centeredness to group spirit, and from conflicting work environment to an environment of positive synergy is of utmost importance to the success of the projects.

It is worth mentioning that the proposed model and tool are part of a course in change management within a group of four training programs that are now underdevelopment. The programs are applying the systems approach in upgrading the management competencies of the middle and upper management in the public and governmental sector in Egypt.

The four programs represent one of the major deliverables of a tempus project entitled: Innovations in Professional Training in Egypt. For more details, kindly refer to our web site: www.uedcscu.com.

Due recognition is given to my colleague Kevin Gallagher, of the college of Business, the University of Sunderland, UK, who is coauthoring the managing change course with the writer of this abstract.

ENHANCING HIGHER EDUCATION IN ICT - INFORMATION AND COMMUNICATION TECHNOLOGY

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For best achievement, planning should be linked to objectives. The first step towards enhancements starts with defining the objectives. Since the effort here is to enhance higher education, in general, it is well understood that each field of study varies in nature from other fields. Therefore, objectives will also vary. This paper concentrates on the field of ICT – Information and Communication Technology. With today's revolutionary progress, this field has gained one of the most remarkable attentions.

Before defining the objectives for ICT, we need to understand where we are today and what tools we have. Then, we set the goal along with the path to achieve it. While Egypt is still considered one of the developing countries with growth rate below the desirable level, the post secondary educational system has been, however, geared towards research and development (R&D), while there is a significant gap in the work force for technicians and technologists, who are qualified for the respective job functions. Today, the higher education in ICT in Egypt concentrates on inventing "novel" ideas – that, in general, will help the innovation process in the developed countries rather than in the developing countries. For example, we can see Egyptians as top executives in universities and hi-tech companies in North America and Europe, while the number of Egyptian technologists in these places is relatively very small. [Out of 10 universities in Ontario, Canada, the Deans of Engineering in 5 universities are Egyptians].

In order for any post secondary education, and in particular for engineering disciplines, to be successful, linkage to local industry is needed. One way to achieve this is through co-op programs. Such programs have been very successful in developed and developing countries. In Egypt, however, we need to account for our own environment and what is expected from these programs. The talk will address this point. We also need to utilize all tools and products necessary to materialize E-Learning in its best offering.

One main objective within any national plan is to enhance the business outcomes of related programs geared towards increasing the standard of living of Egyptians in Egypt. In ICT, we need to realize the significant technology gap between Egypt and the developed countries. In order to achieve the ultimate goal of reaching the top in this highly progressive field, we need to start from "technology" rather from "R&D". Transfer of technology is the key to achieve this. One way that many countries have followed is to go through outsourcing. Large companies (such as Microsoft, Nortel, etc.) have adopted outsourcing for financial reasons. While there is outsourcing in Egypt, yet its scale is far below what is sought and relatively very small compared with other contending countries like India, Romania and Vietnam. The author has been trying to establish outsourcing in Egypt for Nortel. The process is slow and needs to be expedited. The talk will elaborate on this point.

One way to achieve success is to have full coordination between the NRC and the respective ministries, particularly for long term planning like the subject of this conference. For instance, in ICT, the effort here must be coordinated with the Ministry of Higher Education as well as the Ministry of Communication and Information Technology. Non-coordinated effort in the past led to unsuccessful outcomes. Examples to learn from will also be provided during the talk.

MANAGEMENT OF TECHNOLOGY IN HIGHER EDUCATION

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Management of Technology (MOT) is a process, which includes planning, directing, control and coordination of the different and unique technological resources needed to shape and achieve the strategic and operational goals of an organization. MOT is considered an important strategic instrument for organizational competitiveness and has helped create prosperity in countries that effectively apply it.

In keeping-up with the radical changes in the way technologies are developed, diffused, utilized, and managed, and the new management concepts related to globalization of businesses like outsourcing, e-business and value creation networks, there is a growing need for establishing the appropriate infrastructures, strategies and mechanisms to support the diffusion of MOT principles and to prepare for the next generation of technology and business leaders. A concrete understanding of business strategy, competition, and the strategic role that technology plays, is crucial for the success and sustainability of organizations. Competitive advantage of organizations is maintained through the introduction of new product and process developments supported by the implementation of new technologies, which requires a deep understanding of the complex problems related to MOT.

Several universities in North America, Europe, and the Asia-Pacific regions are offering graduate programs in Management of Technology (MOT). These MOT programs have originated from different academic schools usually offering Master of Business Administration and Master of Engineering Management degree programs. Educational institutions in Egypt offering business and engineering education should consider introducing and integrating MOT to their curricula. Building on the MOT programs offered worldwide, a tailored program complementing the current Egyptian curriculum for higher education is recommended.

There is also a need to develop a framework that provides continuous direction to MOT education in Egypt. An integrative approach combining best practices in teaching MOT and the local environment of the Egyptian and Arab countries can be best supported by creating an MOT research center for the region. MOT is a dynamic discipline that evolves and adapts to the changing business needs. Studies are needed to highlight the emerging trends in terms of program themes, technologies, and management issues addressed. Research helps identify the knowledge and skills that are necessary for effective management of technology. It is imperative that technology management educators and program directors coordinate and work closely with technology management practitioners and senior business managers who are critical stakeholders of MOT programs.

APPLICATION OF INTERACTIVE LEARNING IN THE NEWLY INTRODUCED ENGINEERING CURRICULA IN EGYPT

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Abstract

The new engineering curricula introduced this year in Egyptian Universities have many advantages: Interaction with Western universities or programs
Low student to faculty ratio
Flexible study programs based on credit-hours
Textbook-based instructions
Enhanced English language proficiency
Multidisciplinary areas of national and industrial needs

These new curricula provide an opportunity to enhance student comprehension and retention of the scientific material by the introduction of interactive-style learning. In this approach customary lectures are reduced to a minimum and the students are guided to do research and experimentation on their own prior to meeting with the instructor in order to review, discuss and question the subject under study. The instructor provides the reading sources from the assigned text, supplementary books or articles posted on the Web. Then meeting with the students will be based on interactive exchange of the subject matter including review of assigned problems and solution methodologies. Linking laboratory practice with the theory is an important component in this approach. The student attains an important insight when looking at virtual experimental program such as LabView in association with theoretical laws and their applications.

The paper will review some examples of interactive learning and its impact on student enthusiasm and competency, both at Drexel University in the U.S. and the United Arab Emirates University in the UAE, where this approach was implemented. Impact of this methodology on future US accreditation of the programs will be discussed.

ASSESSING THE QUALITY OF GRADUATE PROGRAMS AND RESEARCH

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Abstract

Graduate programs and research are essential to reputable and successful higher educational institutions. Graduate programs and research, not only serve graduate students and faculty members, they also have significant impact on the quality of undergraduate programs. A university with strong graduate programs and research will attract the best faculty members and graduate students who will be teaching and mentoring undergraduate students.

Establishing high quality graduate programs requires providing the proper research environment including: research engaged faculty members, laboratories, library, funding and proper policies and administrative support.

In this talk I will discuss the elements of establishing high quality graduate programs and research. I will also present measures to assess the quality and adequacy of the environment and to monitor progress. I will present examples of program structures and models that have demonstrated their effectiveness in enhancing the quality of graduate programs and research.

THE MANAGEMENT OF TECHNOLOGY IMPERATIVE FOR EGYPT'S ECONOMIC GROWTH

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Abstract

Countries, companies and individuals must be able to lead and adapt to the continuous changes that characterize the dynamic environment of the twenty first century. Wealth creation and competitiveness for economic growth combined with improvement of the quality of life of citizens are primary goals of managers and policy makers alike. This can be achieved by capitalizing on the progress in technology and the effective management of resources.

At the macro-level of countries, competitiveness depends on the production of goods and services that meet the test of international markets. At the micro-level of companies, competitive power depends largely upon timely identification of technological opportunities, their integration into operations, and subsequent transfer into the marketplace. Therefore, decision-makers as well as professionals with management responsibilities must be capable of strategy formulation and knowledgeable in the issues that influence business success. This requires understanding of the innovation process, requisites of effective technology transfer as well as the effect of new and emerging technologies on management practices, organizational structure, operational procedures, global marketing and human resource development.

This paper discusses the imperative of providing world-class education in management of technology in Egypt. It briefly describes the initiatives taken by Nile University to pioneer this effort not only in education but also in research and the application of technology management principles as an aid to Egypt's continuous effort for economic growth and prosperity.

NILE UNIVERSITY: WORLD-CLASS EDUCATION AND RESEARCH IN EGYPT

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Nile University is an initiative presented by a group of private and government leaders who have proposed the establishment of a new hi-tech., not-for-profit and privately-managed university offering a distinguished world-class education in science, technology and management.

The vision statement of Nile University is to "Grow Leaders for a Technology-Driven High-growth Economy". The mission for the Nile University is to be a world-class research university that provides leading edge graduate programs and training, and carry out large-scale interdisciplinary research in collaboration with industry, other universities and research establishments - in Egypt and abroad - in targeted areas of critical importance to the national and regional economies. Nile University is supported by both the Egyptian Government - led by the Ministry of Communications and Information Technology (MCIT) - as well as the private sector, represented by the Egyptian Foundation for Technology Education.

Nile University sets itself apart from other universities in Egypt by adopting the following objectives:

- Establish a world-class graduate institution of higher education and interdisciplinary research
- Establish NU as an integrated component of a Technopolis to support capacity building in Egypt
- Graduate entrepreneurs and managers of technology for the dynamically changing global environment
- Improve competitiveness of Egyptian businesses by promoting applied research, technology start-ups and protection of intellectual property rights
- Strengthen university-industry-government collaboration in targeted technology sectors vital to Egypt's economy
- Contribute to the formulation and evolution of the national technology policy and agenda
- Create an environment for brain-circulation through mutual cooperation between members of the expatriate community, NU, local and international universities

This paper will introduce Nile University to the Egyptian American Scholars and will report on the progress and the state of development of the university.

A PROPOSAL
MENA PROGRAM FOR GRADUATE STUDIES AND SCIENTIFIC RESEARCH IN EGYPT

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This proposal presents a model of partnership Consortiums between universities and research centers under the auspices of the Egyptian Ministry of Higher Education and Scientific Research (referred to in this presentation "Egyptian Side") and the Consortium of American universities to develop the Graduate studies and scientific research in Egypt and will be referred to the program with MENA in this proposal.

The proposed partnership aims to bring about radical, comprehensive and integrated changes in the approaches and management of scientific research, and methods of dealing with post graduate studies and emission.

The MENA program that is proposed here is the development and extension of VT-MENA program, which began in 2005 in a partnership between the American University of Virginia Tech and the Arab Academy for Science and Technology. This program with limited resources had succeeded in establishing a modern system of Graduate Studies and Scientific Research on the land of Egypt, in which about 25 graduate students and 10 professors from the Egyptians and more than 15 professors from Virginia Tech. This system has led to the establishment of the foundations for continuous communication and cooperation between the two sides in a building creates the opportunity for the Egyptian participation in locally advanced scientific research. Thus can continue locally and can be directed and customized to serve the needs of Egypt.

AN INNOVATIVE WAY TO GET THE DESIRED CHANGE IN HIGH EDUCATION

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All is recognizing that higher education in Egypt has generally deteriorated. It is not the intent of the author to examine the reasons for the degradation in the higher education, that has been the subject of many investigations that can be found elsewhere.

In the view of the author, the starting point is to recognize “competition” a word that has been missed completely from the eyes of everyone, whether on the level of the University staffs (professors, planners, and administrators) or students. The reality is in a global economy, the competition extends far beyond the local conditions, it is worldwide. The graduate has to be on par or better than a graduate in other countries. The norms are set on international level, and the proficiencies and skills the graduate acquires through his or her years at the University, must translate to sought graduate that is ready to perform and deliver to the expectations of the future Employer. To be recognized that the Employer is in fierce competition to sell its products or services. The markets are very dynamic and the employees or fresh graduates should be well prepared to cope with these realities.

To bring about a change, there is a need to address both the – freshman level and the programs that he / she takes while attending the (4 / 5/ 7) years at the University.

A) It is proposed that some select faculties be allowed to introduce a new structure, where the freshman would spend one year to go through a qualification process. If he / she passes this qualification tests, he is allowed to follow the new program structure at the select faculties, if he / she fails he can transfer to another University following the conventional programs.
B) The staff of the select faculties should be allowed to elect if they want to follow the new programs, if they agree then they should go through special training, they should commit to different standards of performance. They would have to introduce new curricula and accept measures of performance including students appraisal.
C) There should be incentives introduced for students and staff to follow the new structure.
D) With the success of the new programs at the faculties that elects to introduce such programs, more faculties will elect to follow the new structure.

The new structure which will start on a smaller scale will propel the growth in the right direction, as finally the new product “the graduate of the University” will meet the desired levels and will not be just a holder of a certificate, which is the case for many of today’s graduates from the Egyptian public Universities.

The above gives an outline to pursue a "Concept" starting with a "Model" under an "Initiative" to bring about a change. The concept forms a "thinking out of the box" and has to be practical.

MANAGEMENT MEDICAL EDUCATION ENHANCEMENT

HIGHER EDUCATION REFORM: THE NOT SO IMPOSSIBLE DREAM

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Higher education in Egypt is experiencing its critical times at an actually sensitive pivotal point: globalization with a diversity of higher education sector markets; rapidly changing number and types of providers (public, private, foreign); very high-paced increasing number of students; diversity of the type of students; and the swift technological (r)evolution. All these challenges render any predictions for the future scenarios in higher education very difficult. There is a consensus in the educational arena that the curriculum is the heart of the educational process which is a dynamic process that could be innovated or restructured according to the surrounding ecological niche in the society (national & international), be it social, educational, economical, political, or institutional. This paper would tackle: (1) The current situation; (2) The proposed solutions (Eclectic curricula; E-learning; Blended learning); (3) Process; (4) Outcomes. A multi-component logic model would be presented.

OPTIMIZING SCHOOL TEACHERS PROFESSIONAL DEVELOPMENT VIA CENTRALIZED/DECENTRALIZED IT MODEL

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Project

Staff

Contractor: ABC Systems Engineering

Reynolds Ferrante, PhD, Emeritus Professor, Graduate School of Education and Human Development, GWU -- leadership training.

Ahmed Abdel-Latif, MSBE, MSCS, ABC President – equipment, supplies, and technical training.

Aly Mansour, MSOR, EdD, EdTechConsultants/ABC-VP, A.Professor UMUC -- network optimization, forecasting, and monitoring technical training.

Sub-contractors/Consultants

Carolyn Brown, PhD, Ass. Professor, GWU cabrown7@gwu.edu – Professional Development and Curriculum and evaluation

Mona Fahmy, MEd, MASpEd, GWU – Project Coordination and translation services

Project Overview

Group collaboration and teamwork are important components of Egyptian society, business, and professional life. While the skills needed to function as an effective member of a team are required in the workplace, they are not practiced or taught in Egyptian schools.

The emphasis in schools is on rote memorization of knowledge level learning in order to pass examinations. While this emphasis is effective in producing students with "knowledge", it is not effective in producing "learners", nor is it effective in producing quality workers for the developing Egyptian business and professional economy.

In order to teach students the skills of collaboration and independent learning, teachers must be exposed to new ways of teaching and must develop skills in teaching team building and collaboration among their students. Egyptian teachers know how to collaborate and work in team, it is built into the Egyptian culture, but the educational system, for too long, has emphasized individual achievement, and teacher have not been taught how to teach these critical skills in collaboration and independent learning. A comprehensive program of professional development for teachers and school administrators is needed.

Comprehensive professional development of all teachers in Egypt through traditional classroom (face-to-face) methods would be prohibitively expensive in both human and financial resources.

This project proposes to build a technological infrastructure throughout the schools in Egypt in order to provide professional development for teachers on methods

for building collaborative skills and independent learning for their students. This project will disseminate professional development on current teaching methods to all teachers in Egypt through a comprehensive program of technology training and professional development.

Administrators and teachers will be provided with professional development opportunities in web-based and CD formats at a fraction of the cost of courses presented in a face-to-face format by specialist.

Phase 1 of the project will establish an extensive infrastructure of computer and audio/visual technology in schools and provide training for the use of the technology for school zone, sub zone and school administrators.

Phase 2 of the project will provide curricular materials that have been field tested in the United States, translated and adapted for the specific culture and sub cultures of Egypt, and formatted into electronic modules that will be presented in a website or available on CDs. These curricula will be developed for general methods of teaching collaborative learning and inquiry learning.

Phase 3 will continue to support technology development and expand the e-learning opportunities and curricular offerings into subject specific areas for teachers.

This project will be accomplished by training school zone administrators in technology so that they can train sub zone administrators who can train school directors. The project design will provide a maximum amount of training to schools with a minimum amount of resources by using a “train the trainer” model. The overlapping concept will provide for ongoing evaluation.

School zone and sub zone administrators and school directors will be undergoing technology training at the same time as the professional development curricula are being acquired and adapted. Independent evaluation of training will take place simultaneously.

The close working relationship between the project contractor, ABC Systems, and the educational consultants from George Washington University, who will act as project evaluators, will assure ongoing monitoring and modification of technology training and professional development.

Components of the project:

1) Computer equipment including LCD projectors will be provided to school zone and sub zone offices and to individual schools.
2) School zone administrators will be trained in technology, and they, in turn, will train their sub zone administrators who will train school directors.
3) School directors will use the technology and their skills to schedule e-learning professional development –both online and via CD –for their faculty.
4) Technology training and curriculum for professional development will be accomplished simultaneously over the first two years.
5) Extensive evaluation of training and curriculum beginning at the start of the project will allow for improvements as the project progresses.

IMPACT OF EDUCATIONAL ETHICS ON CORPORATE QUALITY PERFORMANCE IN DEVELOPED AND DEVELOPING COUNTRIES

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Abstract

In the past few years the corporate world has witnessed numerous corporations going bankrupt due to mismanagement, market conditions, bad risk management and contingency planning, and lack of ethics. Perhaps the "Enron" case exposed most of the deficiencies practiced in the corporate world without any sincere attempt to review or try to avoid similar cases. This paper will focus mainly on the reasons behind "lack of ethics" in the existing corporate world.

Corporate employees are mostly a product of the college and school systems in the US. Few of the corporate employees have attended private colleges, and/or private schools; yet, most of the corporate employees and workers have attended the public school system. Thus, the low performance and deteriorating quality of most products, in particular the service industry, are mainly the output of the public school system.

This paper will assume that the educational ethics is the independent variable; whereas, all other variables are the dependent variables. The dependent variables discussed briefly in this paper are the effect of: the bussing system, the lack of individual ethics, the lack of team ethics, the school centralizations, the "teach-to-exam" policy, focusing on "least" standards of learning, increasing gang activities, increasing drug abuse, and increasing carelessness. The paper is limited to the actual existing parameters of the existing environment of the American high schools. The samples researched where almost 10 schools in the Washington, Virginia, and Maryland metropolitan areas. The paper will focus on common variables in high schools of developed and developing countries.

The paper will present the deviations of the existing variables from the DEM (Deming educational model). The paper will also correlate the research results with their effects on the poor performance in the corporate world. Furthermore, the paper will show the direct link between the effects of the deteriorating public school system on the deteriorating ethical system within the corporate world. The paper will conclude by suggesting several recommendations to fix the public school system; while, trying to intensify an ongoing training program(s) in the corporate world – both based on Dr. W. E. Deming's principle's of management.

AIMING TOWARDS QUALITY FOR ACCREDITATION. *THE MISSING INGREDIENT!!*

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Accreditation of the educational institutions had empowered a global revolution in education. In medical and other health professions education, it had become the magic wand to ensure quality and enforce basic standards that are mandatory for minimum professional competencies. It also promulgated debate and conflict emerging from the existence of diverse institutional local circumstances, and thus matching educational missions and standards. In the process of reform, various medical institutions had geared their efforts towards self exploration and needs assessment. Struggling towards transparency, these institutions trespassed borders which were considered banned; as self-interest denial, un-embellished disclosures and governance confrontations. Parallel to those efforts, there had been national and international support for institutions that are serious about reform at the managerial and the implementation levels. Financial grants had been privileging the educational institutions with plans for innovation, curriculum development, faculty capacity building and resources update.

All tremendous global efforts in this field are promising. Anticipated outcomes should make the new century an educational reform epoch that marks history. Will this happen? Very possible, but one ingredient should be added more elaborately to the recipe!

Promote Excellence in Higher Education Learning and Research Environment "HEAVENS ON EARTH"

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Abstract

Key Words:
Amelioration
Prevail
Tools
Masters instructors
Knowledge sharing
Lore
Strategy
IT
Business Managememt
Integration
Transmission
Effort Cost Benefit

Ever since creation, every step taken by Man's mind aimed largely at amelioration of his existence.

Such steps rooted in his deep seated desire to prevail over all other creatures on earth.

Such sense of supremacy necessarily demanded means and modes.

Means and modes meant the creation of "tools".

The necessary paraphernalia never ceased to build up and expand, sometimes hesitant sometime festinate; nevertheless omnipresent.

Over time, such desire for tool creation, turned into passion for a number of those human minds, whom took the lead of mankind.

They were the first to show the path, and in their trail came those who paved the way.

Masters and instructors.

Despite the powerful "ego" integrally created with man, the insatiable quest for exploration and knowledge compelled sharing; if the infinite lore was to be exploited.

Sharing had to be built on education… from majister to ignoramus.

Education as a science means to edify, instruct and mostly to enlighten.

The basic concept of the matter seems to have shown little change ever since the dawn of known history.

Two intertwined things however did:
1) The *modus vivendi* (the lifestyle)
2) The *modus operandi* (the management)

The outcome of those two factors seems to have aimed-at all times- at developing into brighter and sharper information edifice.

A clear and continually developing strategy permanently at hand hence became mandatory.

The judicious use of advanced data technologies that would reduce system costs and complexity, and deliver better decision making should unquestionably be put to action.

On the assumption that man is the operator, and education is the tool, the product could be regarded as achievement of the professional target.

And the consumer would-logically and hopefully-be mankind!

Alongside the mainstream category of education (as diverse as it is), all three domains had and have, to develop:

1. The Information Technologies, grosso modo inclusive of modes and modalities and info exchange were to pour into the service of the attained lore.
2. Management of the business while applying the acquired knowledge
3. Integration of the above two into a module of transmission to future generations.

Heavens on earth would then be a “research continuum” globally conduced locally applied, for all to share: efforts, costs and benefits.

FACULTY RESEARCH DEVELOPMENT PROJECT TO SUPPORT LIFE SCIENCES IN EGYPT

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Abstract

National ministries and research institutions in Egypt have agreed to work together to increase the number of trained scientists in Egypt, and give science a bigger role in the country's development. Thus, a comprehensive plan for developing Egyptian universities and research institutes has been implemented through the Faculty and Leadership Development Project (FLDP). FLDP has provided an outstanding opportunity of interaction among the faculty at all levels to explore and discuss different strategies to shape a better intellectual and leadership capabilities. Given that Egypt has about 170,000 scientists, or 2,000 per million of the population compared with 800 per million for most developing countries, it is also crucial to implement an in parallel project with an attempt to create an integrated system of scientific research in Egypt. We propose here Faculty Research Development Project (FRDP) with a main goal to\cf1 create opportunities for Egyptian researchers in the filed of life sciences to develop their professional skills through workshops and training programs, as well as offering a platform for research projects. The proposed FRDP includes two main core facilities, one core to establish and breed all experimental animal models, and another core to establish animal and human cell lines and tissues. The structure of this model is based on a similar accredited project at Medical University of South Carolina, USA. Upon completion of the accreditation process, the established facilities will be then distributed to the local research institutes. These cores of the research development process will consists of obtaining and assimilating new technology in the form of machinery and new buildings, and the knowledge or software with which to run the technology. New technology can be obtained through purchases of equipment, engaging in technology licensing agreements, hiring consultants, learning from others through formal or informal programs, from faculty with previous experience in other advanced institutes, or from formal interaction with more advanced institutes. Given that applied research leading to new products is a priority for Egyptian science in future, we believe that the proposed FRDP will markedly contribute to reforming the role of science in the national development.

DEVELOPMENT OF A CERTIFIED QUALITY ASSURANCE MANAGEMENT SYSTEM FOR UNDERGRADUATE MEDICAL EDUCATION IN THE FACULTY OF MEDICINE, ZAGAZIG UNIVERSITY

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Abstract

It is one of the HEEPF projects with a budget of 1.074700 LE for 36 months, started 1/4/2004 and will end on 1/4/2007.
The steering committee of the project has involved 6 professor including the project manager, the dean, the vice-dean for researches and postgraduate studies and 3 professors in different departments in the faculty.
Project Objectives
The main objective of the project is to develop a certified quality assurance management system that provides a systematic approach for undergraduate medical education to:

1. Perform gap analysis
2. Address the strong and weak areas in the current medical education system (perform SWOT analysis)
3. Develop the necessary action plans to maintain the strong areas and improve the gaps
4. Keep a continuous reviewing of all resources at the faculty of medicine for effective use
5. Control and implements the necessary changes the lead to continuous improvement of medical education processes

The planned activities of the project are expected to run through 4 phases:

1. Resources availing and preparation (11 months
2. System development (12 months)
3. Pre-assessment and gap analysis (8 months)
4. Implementation and certification of quality assurance management system (5 months)

However, the speed was higher than expected to complete building the quality assurance management system according to ISO 9001:2000 standard and obtain the certificate in almost 2 years.

Many factors have participated this achievement , firstly the support of top management of the faculty and university. Secondly, the assistance and guiding by a group of consultants specialized in development of quality systems (QUENSH systems). Thirdly, the great effort exerted by almost 30 members of the project team supported in the scientific and administrative departments by 60 quality coordinators given the authority to adopt the system by all the heads of departments. Fourthly, the quick response to the needs of building the system with a flexible management adopted the concept of management by objectives principles as well as participation of all the team and the top management in all the activities of the project.

Phase (1) Resource availing and preparation:
is finished
1- Formulate the leading committees
2- Facility preparation
3- Study the international guidelines and standards (WFME and LCME and ISO 9001:2000)
4- Conduct the Egyptian visit to a similar foreign Medical School (Düsseldorf Medical University, Germany). This visit lead to:
5- Develop mission, vision, policies and objectives of the faculty of medicine
6- Conduct the preliminary awareness program for developing the Quality Assurance Management System
7- All the departments have finished preparing the intended learning outcomes (ILOs) and course specifications
8- web site has been developed for the project through the web site of the university (WWW/Zu.edu.eg)

Phase (2) System Development
9- The organization structure of the faculty and the main job descriptions have been reviewed and documented
10- Self assessment study was performed according to LCME standard, WFME guidelines and ISO 9001:2000 standard (Triad study). It is the in the stage or reviewing and preparation for publishing.
11- Development of the quality assurance management system for the undergraduate medical education including all the inter-related processes. The system is composed of 35 processes and procedures that involved all the functions for undergraduate medical education
12- The second conference for dissemination of information was conducted on 16/5/2005
13- The adequacy audit is performed
14- Faculty awareness for the system and assisting in implementation : 3 months (11/05-1/06)

Phase (3) Pre-assessment and gap analysis
15- Internal audit was performed(4/2/06-18/3/06)
for all functions in the faculty of Medicine, Zagazig University including all the scientific departments and the administrative sections which are related to the undergraduate medical education according to the requirements of ISO 9001:2000

Phase (4) Implementation and certification
16- The arrangements for ISO 9001:2000 Certification of the quality assurance management system of undergraduate medical education have been finished
17- The electronic data base program is in the way to be established

E-LEARNING

IMPACTS OF E-LEARNING ON HIGHER EDUCATION

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Abstract

E learning provides the flexibility for students to learn where and when they choose. It offers features to motivate students and provides an evaluation of their performance. It presents a quick ,inexpensive ,and fun method for study ,understand, and remember lessons for future implementation.

This study discusses the use of information and communication technologies (ICT's) ,and their associated impacts on higher education.

These interactive technologies support many different types of capability:

- internet access to digital versions of materials unavailable locally
- internet access to search, and transactional services
- interactive diagnostic or adaptive tutorials
- interactive educational games
- remote control access to local physical devices
- personalised information and guidance for learning support
- simulations or models of scientific systems
- communications tools for collaboration with other students and teachers
- tools for creativity and design
- virtual reality environments for development and manipulation
- data analysis, modelling or organisation tools and applications
- electronic devices to assist disabled learners

For each of these, there is a learning application that could be exploited within Higher Education. The range and scale of possible applications of new technologies in higher education is almost beyond imagining because, while we try to cope with what is possible now, another technological application is becoming available that will extend those possibilities even further.

E-learning is defined for our purpose here as the use of any of the new technologies or applications in the service of learning or learner support. It is important because e-learning can make a significant difference: to how learners learn, how quickly they master a skill, how easy it is to study; and, equally important, how much they enjoy learning. Such a complex set of technologies will make different kinds of impact on the experience of learning: Cultural, intellectual, social, practical and financial impacts.

The change towards e-learning creates the challenge that it needs both the network-style 'cybernetic systems' approach to innovation, and the top-down, 'command and control' approach to shared infrastructure and standardisation.

E-learning, could be considered as the means by which universities and academics manage the difficult trick of making the learner's interaction with the academic feel like a personalised learning experience, focused on their needs and aspirations, developing their skills and knowledge to the high level universities always aspired to, while doing this on the large scale.

E-learning enables academics and students to communicate through networks of communities of practice in the cybernetic approach that makes distinctive change and innovation an inherent property of the system.

E-learning has been used very effectively in university teaching for enhancing the traditional forms of teaching and administration. Students can have web access to the lecture notes and selected digital resources in support of their study, they have personalised web environments in which they can join discussion forums with their class or group, and this new kind of access gives them much greater flexibility of study. Part time students can more easily access the course and this in turn supports the objectives of wider participation, removing the traditional barriers to higher education study.

PROJECT MANAGEMENT DISTANT LEARNING
A PROPOSAL FOR A JOINT CERTIFCATE BETWEEN RYERSON UNIVERSITY, CANADA AND EGYPT E LEARNING UNIVERSITY

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Introduction

Project Management is at the heart of professional practice of every discipline. Realizing and acquiring Project Management skills and competencies is essential to any and every enterprise. In the early days of Project Management, the concepts and theories were developed around engineering Projects. The ancient Egyptian has started utilizing the early concepts of Project Management during the construction of the Pyramids and their great temples.

Now a days, all disciplines have started to utilize the concepts of Project Management in their journey of seeking efficiency in their project delivery. These disciplines would include Information Technology, Health Care Professions, Finance and Accounting disciplines among others.

Graduates of these disciplines do not get enough exposure to the essential Project Management concepts as part of their undergraduate curriculum due the lack of availability of enough time to cover the necessary subjects for their accredited programs. Therefore, professionals seek the acquisitions of these crucial skills after they graduate and realize its importance for their professional growth. However, finding the time to explore this knowledge becomes a stumbling block in their journey to master these skills.

The provision Project Management Programs via Distance Learning becomes a viable option for many professionals. The establishment of the first E-Learning University in Egypt became very timely to address the growing need for professionals to acquire the necessary skills.

EELU and Ryerson University

Ryerson University in Canada has an in-depth experience in delivering a variety of professional programs and widely recognised Professional Certificate Programs. Many of these programs are delivered successfully via Distance Learning. Ryerson is also interested in expanding its services globally and compete in the international market.

Egypt E Learning University (EELU) is a newly established university which is still in the founding stage. EELU is interested in developing and delivering Joint Programs with recognized international Universities.

The following reflects a preliminary draft proposal to build this collaboration.

A) The Certificate and The Program

1- The program is to be established as a Joint Degree. A Certificate will be issued to students upon completion of the program. The Certificate will carry both Ryerson and EELU names, Seals and Signatures.
2- A representative from Ryerson would attend a ceremony for the graduation and handing certificates.
3- The Program will benefit three main streams: Engineering and Construction, Information Technology and Health Care Professions.
4- The program consists of Eight courses as follows:

- ***Five Core Program***: Fundamentals of Project Management, Planning and Scheduling, Project Risk and Quality Management, Leadership in Project Management, Project Cost and Procurement Management.
- ***Elective: All Streams***: One course.
- ***Industry Stream***: Two Courses

B) Infrastructure, Buildings and Systems

1- Ryerson University will provide the course material and the content.
2- EELU Moodle will be used as the platform at EELU. Ryerson will provide the material in an electronic Format (PowerPoint, Word, Excel, etc..) and EELU will upload the material to Moodle,

C) Quality Assurance (Staff, students, instructors, programs, etc.)

1- EELU intend to utilize instructors who hold a PH.D. degree and an additional professional and industrial training in their respective subject areas.
2- Ryerson does not prefer to provide faculty to teach. EELU will appoint their own faculty and it may utilize the Ryerson faculty if it wishes to.
3- EELU, intend to maintain a Bachelor Degree or an equivalent degree from a recognized university as a minimum standard for accepting Students in its degree programs.
4- Tests as well as the evaluation of student achievement will be administered in a format that is acceptable to Ryerson University.
5- Ryerson University may appoint an academic co-ordinator for the programme at their end. This position will serve as a liaison and will assist in reviewing and performing the Quality Assurance functions. This could be performed through an annual visit to Egypt and could be scheduled around the Annual Graduation Ceremony. This person could also help in an initial Professional Development Activity with EELU staff.

D) Cost and Feasibility

1- Ryerson University waives the tuition fees for students in the program, but EELU pays Ryerson University a fee each semester for the 'right' to deliver the courses. This fee could be based on the number of students per course per semester.

2- Ryerson may charge a Professional Development Cost: This is a one time cost at start up, to assist EELU in setting up an administrative structure and Faculty members that ensure the program success.
3- Ryerson may also charge an annual charge for Quality Assurance which will include an annual visit to review performance.
4- The prospective students will be initially from Egypt but the EELU will market itself as a regional leader in Distance education to provide this service to other countries in the Region.

Potential students are expected to come from different areas of professional backgrounds, including engineering, health professions, finance, etc…

THE EFFECTS OF E-LEARNING ON STUDENTS OF THE AMERICAN UNIVERSITY IN CAIRO

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Abstract

Today's generation has grown in the information age, accordingly it has different demands in view of the rapid change in technology. It needs to catch up with the new development associated with new electronic learning styles. In order to enhance teaching and learning, universities in Egypt are making an effort to implement advanced technological learning and teaching methods similar to the techniques used by international universities. The American University in Cairo is no exception and is used as a model in Egypt.

In this paper, the researcher attempts to study the effective use of e-learning among AUC students and their attitudes. Although there are the Distant Learning and the Hybrid Learning techniques, the WebCT is a learning course management system that is using the hybrid system of learning technique. AUC is using the e-learning but not neglecting the role of the instructor. This technique combines both the instructor and students in an online relationship. This means that the instructor will have a major role in directing the course for the students online.

In the theoretical framework, the researcher will apply the Uses and Gratifications and the knowledge gap theories. The study will be conducted through a distributed survey among the AUC students, and statistics will show the number of students adopting the WebCT technique.

HOSPITAL NETWORKING AND TELECOMMUNICATION IN MEDICAL SERVICE AND EDUCATION

(Project A-023-S0)

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Project Objectives:

- Establish a local hospital network and a patient database system.
- Establish a video conference centre for live transmission of scientific events.
- Enhance the process of continuous medical education for both under & postgraduate students via innovative E-learning methods.

Achievements:

A fiber-optic-based hospital network has been fully established & currently in service. In the initial project proposal, the network was designed to serve 5 different departments in Tanta University hospital. Throughout the project we were able to cut down the financial expenses, at the end of the project we had a positive financial balance, in addition to Tanta University co-finance commitment & HEEPF support, we were able to direct this positive balance to expand the current network to involve more departments in the hospital. We were also able to integrate with another HEEP-funded ongoing project at our university (project: C-041-S0)

We also completed the instillation of a video conference unit which is capable of live broadcasting transmission from two different points; from the operative theater room of the urology department in Tanta University Hospital and from the main conference hall of Faculty of Medicine, Tanta University. Several successful connections were transmitted between our faculty and Urology & Nephrology Center at Mansoura University.

Under & postgraduate students were allowed to participate in the activity of the project. Under supervision, students were allowed to review on line medical records, X-rays. In the near future multimedia kits will be also available for student reviews.

E EDUCATION AT CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS

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Abstract
The purpose of this paper is to present our experience with the MBA online. For many students the choice of location to further their educational objectives remains restricted. The demands of career, family, and scheduling logistics imposed by a fixed time and place do not permit them to make educational choices uninfluenced by distance. Interaction with faculty and among students is regular and continuous. The MBA can be completed entirely online through the MBA Online Program. Courses feature a high level of interaction between faculty and students and between students. Each class combines text materials, lecture videos, case studies, and group interaction among students, threaded discussions, interactive net meetings and video conferencing.

Forbes magazine identified CSUDH in 1997as one of the top 20 Cyber Universities in the United States, recognizing its leadership in distance learning. In 2003, *The Wall Street Journal:* "One completely online program with a growing reputation is Dominguez Hills. In 2004, *GetEducated.com:* CSU Dominguez Hills MBA Online listed among the best bargains in the nation!

Students and Computer technologies: We noticed that many of the students are working professionals from all over. Many of our online students are from overseas. Most students did not have the latest computer technologies or the fast speed Internet connections. Students complained that it takes a long time to download the files. We provided some software to the students.
Textbooks: At first we did not use textbooks. We used only cases. The casebook became outdated and students' got hold of solution manuals. Students complained that they need some references. We added reference books. We finally assigned a text in addition to the cases.
Videos: At first we tried to load pre-recorded videos that were recorded during our TV broadcasts. Students complained that it takes a long time to download the videos. We asked the students to use the videos as audios only and use it along Power Points presentations. We also recorded short lectures specifically for the online class. Students complained that it takes long time to download. We streamed lined the videos but students complained that it is not clear. We abandoned the videos but it is still an option for short lecture.
On campus Exams: At first, we used on campus exams especially for the TV program where all students can travel to campus. When students from overseas registered for the program, we abandoned the idea of on campus exams. We tried some e exams.
Emails and faxes: Students were encouraged to use email and faxes to ask questions and to turn in their assignments. The volume became prohibitive and some of the questions were repeated. We added the threaded discussions and hired teacher assistants to help the faculty mange the volumes of emails.
Threaded discussions: This is by far the most beneficial mode of delivery. It allowed the students to read other students' questions and discussions. We interfere with the

discussions when we feel that it is going on tangent or to redirect the students' discussion exactly as we do in a classroom.
We found it beneficial to students to create separate threaded discussions for assignments. Students can read other students' discussion of the case and either asks questions or carry the discussions further. Some of the threaded discussion cases, we provided the quantitative solutions and asked students to discuss them.
We still have students who are shy and ask questions through email. We remove the student's name and post the question and our response on the threaded discussion.
Assignments: We used group cases and individual cases. The purpose of the individual cases is to make an assessment of the individual student's learning and contribution. Some students complained that some group members are not contributing to the group efforts. We used part of the grades on the peer evaluations of the group members.

Availability of solutions of the cases online: We noticed that some solutions are suspiciously perfect. Upon investigations, we found that, to our surprise, students got hold of the solution manuals on line. We alternated cases from different casebooks and from out of date textbooks with some modifications.

FOSTER RELATIONSHIPS BETWEEN THE EGYPTIAN IT COMMUNITY & KEY GLOBAL INDUSTRY ASSOCIATIONS, GOVERNMENT & COMMERCIAL ENTITIES

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For Egypt to act as a true player in today's fast growing global economy, the need for partnership with Global Industry players, Governmental & Commercial entities is becoming more & more essential to bring to life many of the projects that have now become part of our daily life.

Extra attention has to be paid to the human element. Investment in training and building human capital & knowledge base in the field of CIT by means of establishing training programs offering a wide array of training schemes & knowledge building will help build Egyptian human capital and add key advantages to Egypt attracting more foreign investments & business opportunities.

The opportunity nowadays has grown dramatically to put Egypt on the map of key players in the Global Economy growth. Without effectively educating the up and coming generation, we are not realizing our potential, our key competitive advantage we hold. Bridges has to be established between Egyptian Government & Private Sector players and Egyptian Scholars & Experts outside Egypt . Their role is a key to act as Opportunity Hunters for building relations & drawing attention for the growing potential in Egypt .

NETWORKING FOR DISTANCE LEARNING BETWEEN UNIVERSITIES AND HEALTH CENTERS IN PRIMARY PEDIATRICS: LESSON LEARNT FOR FUTURE PROSPECTS

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Summary

This study was conducted in order to assess the current status of teaching of primary care pediatrics and the use of elearning and distance learning technology incorprating two-way telecommunications. The latter is by an advanced WebCam technology by networking of universities with primary health care centers for reinforcement of teaching in primary

It involved three major university hospitals and one Children's Specialty Hospital in Benha, as well as primary health care centers in Cairo and Qaluibiya (5), Sharkia (2 districts) and Dakhlia. An in-depth study was conducted in Cairo and Zagazig university hospitals as well as the affiliated primary health care centers in Cairo, Qaluibiya and Sharkia.

The results showed that there is considerable lack of teaching curricula in primary and preventive pediatrics mostly through lack of integration. Despite the general increase in the interest in IT for communication and education still there is a considerable gap in the usage, skills and application of this technology for teaching and learning and education purposes. The gap varies according to the target assessed. Students have high skills and poor accessibility. University staff demonstrate high accessibility but less application and usage rates. Residents and junior staff, have the skills and accessibility but low utilization of the technology. Staff from MOHP had low accessibility and utilization but high attitudes towards the IT technology.

We identified 14 specialties that were found to include many of the 12 primary care aspects that could be incorporated in the curriculum for the comprehensive care of the pediatric patient with a chronic disorder. Overall the teaching methodologies and teaching tools used are mostly traditional, although the use of tools such as data show is moving in to replace the overhead projectors and slide show. Internet was most used by staff and some students to obtain literature and recent research data. The use of internet or teleconferencing in education and evaluation through ongoing assignments is scarce or completely absent in most of the specialties. The preferred site for teaching primary care is seen to be in outpatient departments or in primary care units, which is not the case as most of the teaching occurs in pediatric inpatient wards, which is far from the reality of primary health care situations that the primary care physician will encounter for these children.

Attitudes towards e-learning are very high and most of the teaching specialist staff agree that e-learning is necessary and desire to learn more about it. They see it as an

acceptable method for the staff and students and useful in teaching and self learning. But some disagree that it could be used as a sole means for education and certifying degrees, but many see it as an innovative but not the ideal method in enhancement of education in our universities.

However the poor application of university staff to this technology reflects on the willingness and access of students to this mode of learning. Strategies to Sensitize and motivate staff to use this technology are needed and should be integrated in their formal system of promotion in their tenure track to become professors. Also it needs to be integrated in the exams as it is integrated inot the application for postgraduate degrees, this will increase the demand for it.

E-GOVERNMENT & E-SIGNATURE; ARE WE READY?

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Abstract

Nowadays; it's a trend of publicity the usage of E-government services in the region which requires digital signature or e-signature concepts and techniques. This will provide a solution to improve government services and makes them much easier and of better quality. The purpose of this paper is to discuss the requirements, processes and if we are really ready for such a step in the Middle East and what should we do to prepare the public for being ready and able to make use of E-government services.

CONTRIBUTION TO THE HIGHER EDUCATION REFORM INITIATIVES IN EGYPT USING A MEGA E-LEARNING ENVIRONMENT

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Abstract

This paper presents a project idea that aims at enhancing capacities of faculty members by means of an e-learning solution. The proposed idea combines two important development axes that are addressed separately by the **Higher Education Enhancement Project in Egypt** namely; the Faculty and Leadership Development Project and the Information and Communication Technology Project. We think that these two aspects, combined together in one project, will result in a bigger benefit, hopefully with less cost and finally with larger accessibility to the whole scientific community in Egypt. The suggested e-learning solution will be used for training activities on faculty leadership and on teaching and research capacity development. The e-learning solution will also be used to share, in the different scientific communities, novel ideas, learning activities and learning objects. Technology will enable forming virtual groups of professors from the same discipline or with similar concerns. The philosophy behind such a solution is the use of a problem-based learning approach which on one hand helps achieve training objectives and introduces these methods to professors who are then expected to use them with their students. Such methods constitute a direct educational reform initiative since they contribute to the achievement of the learning objectives, contrary to the widely used model in Egypt where students are mostly academically completely dependant.

There are a number of reasons that motivated this idea. The e-learning solutions are cost effective and time accommodating because faculty members need flexible schedules. This solution also represents a promotion to the use of e-learning which is becoming more and more a popular method of learning and which opens markets to Egyptian Universities. We think that it is really important for faculty members to apprehend this methodology, in such a project, before using it with the students or even promoting it. Having some learning activities in foreign languages and in a written format will help faculty members acquire written and oral language skills. It will also help archiving a lot of training material for professors and contributions from their colleagues produced during the learning activities.

Adult learners by definition are difficult to deal with. E-learning adapts to style through adequate tutorship strategies. This certainly calls for a substantial effort that will be detailed in the project and that will be handled by the different partners through competent and trained personnel. Eventual partners for such a project are all Egyptian universities together with Egypt e-learning University for which this may constitute an important project and the AUF (Association Universitaire Francophone) that promotes e-learning initiatives in Egypt and other member countries of the francophone world. Other partners should be chosen by the different disciplines in the Egyptian scientific

communities. Every community will have to designate one (or more) partner university in whatever place in the world which is judged of high caliber in their discipline. Educational Technology transfer can then be thought of through electronic means. Technologies in this regard are methods and approaches. Proposals for different roles are detailed in the paper. A budget proposal is also presented.

This project implies, as a first activity, the training of a number of trainers. These trainers will then train groups of different universities who will, on their turn, ensure that the project is clearly understood by the different participants and that they are equipped with all they need to start the project. So, as a medium term objective, we would like to create these "training cells" of competent trainers. A coordinating role among the government actors is hence essential to achieve this objective.

Keywords: Higher education reform, Egypt, e-learning, professors training

JOINT MASTERS OF HEALTH PROFESSIONS EDUCATION. A DREAM COME TRUE!

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Context: Health care professionals had been educated and trained to practice their professions. Those who join the academic career variably acquire educational pedagogy along their practice depending on personal capacities, trials and errors. The need for professional training in education is high, yet the lack of time and high cost make it inaccessible to most.

Setting: The faculties of Medicine at Maastricht and the Suez Canal Universities, being both PBL and innovative schools had been partners for over two decades. They were both founding members of the "Network of Community Partnerships for Health through Innovative Education, Service and Research" currently "the Network: TUFH". Support had been furnished in financial, technical and expertise aspects by the Higher Education Enhancement Project Fund (HEEPF) one of the Supreme Council for Higher Education Projects which had been empowering the developmental revolution among the various higher educational institutions.

Objectives: 1- To jointly offer a program with a Professional Master degree in Health Professions Education, targeting the Eastern Mediterranean region, Africa and the Middle East. 2- The program is a comprehensive one year study that tackles the basic and innovative educational axis in health professions 3- The program adapts to regional needs and yields to cultural and language context of the area 4- The program is provided through distance learning utilizing electronic virtual classrooms

Design: One year professional study in health professions education. The program covers 9 units (4-6 weeks): Student learning and innovative teaching techniques, curriculum analysis, profesional skills, research methodology, program evaluation, quality assurance and accreditation, students assessment, community based education and problem based learning. The World Health Organization, MUNDO and the Higher Education Enhancement Projects Funds had recognized the programme by collaborating as a sponsoring agent.

Main outcomes: 1- Graduation (70%) of a qualified pioneer batch. 50% Of the pioneer group graduated with Honours. 2- Graduates impacted higher education development at the national levels of their countries. 3-The following round witnessed more than doubling of the number of participants with a wider regional coverage.

E-LEARNING PROPOSAL FOR EGYPTIAN MINISTRY OF EDUCATION

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Abstract

This proposal presents the e-Learning experiences of the College of Engineering and Computer Science (CECS) at the University of Michigan - Dearborn. It is intended to describe this experience to Egyptian universities, research institutions and industry. The proposal contains an overview of CECS distance learning delivery methods; programs and certificates available; the admission process and student services, along with information about potential collaborations with other institutions.

CECS began offering two graduate distance learning programs to students in 2003. Adding courses and programs at a measured pace, the college now offers four graduate degree programs and several graduate certificate programs to students across the globe. These programs were initially offered to provide flexibility and convenience of graduate education for engineers working in Southeastern Michigan. Today CECS offers distance learning programs nationally and internationally. Students enrolled in these programs earn graduate credit from The University of Michigan – Dearborn and the University of Michigan Rackham School of Graduate Studies.

WEB-ENABLED COURSEWARE FOR REINFORCED CONCRETE STRUCTURES

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Abstract

A broad domain exists in terms of concept and methodology of web-enabled education in general and reinforced concrete (RC) in particular. This includes e-text, power point presentation, static web pages, dynamic web pages, interactive and non-interactive design of the educational template. RC education, in particular, necessitates the development of animated environment with problem solving along with adequate illustrations. In other words, interactive content including dynamic text, tables, menus, layered images, image maps, image slideshows, GIF and Flash animations should be considered. In its ideal form, an e-learning web site may provide an excellent media to interactively conduct the educational message. Learning Content Management System (LCMS) is a viable tool for organizing the entire learning regime. Such a system involves the student in chat rooms, discussion boards, forums, on-line quizzes along with other learning modules. The present manuscript presents the e-learning package developed in partnership between Cairo University and Tanta University. Four main courses in the RC courseware are included: fundamentals, RC systems, special RC systems and RC water structures. Light is also shed on the evaluation of the application phase carried out at Tanta University on the final-year students.

ENGINEERING AND TECHNOLOGY

MOON-MONTH PERIOD AND EPHEMERIS CORRECTIONS*

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Summary

In previous papers of AEAS Conference of June 2000*, May 2004* and Dec, 2005* Moon-Month Ephemeris investigations were proposed to settle corrections of the surprising few non-occurrences of accurate data for the rise and set times of the moon in the last few years. In this paper investigations are made of the moon ephemeris, for the moon-month period, in the last 9 years. Investigations are also made for the computations of the moon-month period and the ephemeris of the moon during the sun Eclipse, on 29th of March, 2006. Few comprehensively adjusted propositions are made in concern of regulating the moon month calendar, based on observations of practical and ephemeris data.

Analysis of the moon-month period reveals that accuracy for the nominal period of 29.5 days (which support 29 day and 30 day consecutive month periods) indicates an average moon distance at the apogee of 408770 Km and eccentricity of 0.0675. The ephemeris oscillate around an average of 29.53 days. This number is established by ancient Egyptians 200 years BC. The ephemeris has periodic oscillations (around this number) with a period of 14 months and peak deviations from the average, changing between ±0.27 and ±0.12 days in periods of 8 years. At this time deviations are starting to exceed the ±0.12 days. Accurate measurements of the moon distance are still, internationally, in limbo. The daily rise and set regular delays for the moon are computed in Cairo with shape confirmation to the ephemeris. The epoch of its existence need, however, to be adjusted as proposed earlier in the previous paper.

Analysis are made for the practically observed event of the sun eclipse of 29th of March, 2006 at Salome, Egypt. The eclipse started around 11:25 AM, before noon and ended 1:50 PM, in the after noon. The time of the complete Eclipse on Salome was 12:37 PM local time. Few discrepancies concerning the epoch during the moon month period (of 27.295 days) are also observed. It is a fact that the computations for the moon ephemeris are rather accurate for the noon-moon during its noon time, which is the Eclipse time. Discrepancies exist, with more to the direction of delays for the rise time, and with more to the direction of earlier occurrences for the set times.

More moon rise and set time observations are needed in order to correct the analytic assumptions and determine more accurately the moon epochs. Radar measurements for the moon distance and citation of its rise and set times, as proposed to **National Research Institute of Astronomy and Geophysics (NRIAG),** Helwan, Egypt, is ideal for these investigations, especially as the horizon optical observation capabilities are very poor around Cairo.

- The conventional clock of sun and moon, AEAS Toronto, June 2000.
- Practicality of the Conventional Clock of Sun and Moon, AEAS Washington DC 2004.
- Moon Ephemeris Corrections, Cairo , AEAS December 2005

** For submission to the **Bi- Annual Conference of the** Association of Egyptian American Scholars (AEAS) **scheduled for Dec. 25th - 27th, 2006***

PROMOTING EXCELLENCE IN HIGHER EDUCATION AND RESEARCH IN SOFTWARE ENGINEERING

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1. Introduction

Software Engineering (SWE) is the mother of all computer sciences. It does not need physical or complicated equipments. Other countries that were in a similar economic situation to Egypt have adopted SWE as a principal career to their current generation. SWE is one of the promising sectors in Egypt. The last few decades showed that the Egyptian Software industry has invaded the Arabic software market. This highlights the need of keeping the quality of the developed software applications at high standards. Therefore, the practice of software engineering has manifested itself as an important basis to cope with international market. Although Egypt is suited with well-educated engineering human resources, in general and especially in SWE, the teaching and research in SWE needs to be revised and supported through cooperation with American scholars.

2. Strategic Goal

1. Advance the SWE teaching and research in Egypt, and hence support the Egyptian Software Industry.

3. Objectives

2. Levering the SWE Egyptian scholars' standards and quality of teaching
3. Utilize the American scholars' experiences to improve the processes of software engineering learning and training.
4. Establishing strong research links between the Egyptian Universities and the American side as individuals and as schools.

4. Action Plan

We propose the development Software Engineering Research and Development Labs at various universities in Egypt with the help and of American scholars. These labs can become seeds for the establishment of centers of excellence in the future. In particular we propose to develop a lab at Ain Shams University that contains a number of workstations and software engineering tools that supports the software development process. The lab should also contain networking resources to support the collaboration of research groups in Ain Shams with research groups at West Virginia University. The lab can also be used by students in software engineering courses for course projects and assignments. The cost of the proposed lab can be under 30,000.00 L.E.. The

following are the various areas in which this lab will enhance the cooperation between Egyptian and American scholars.

4.1 Post graduate studies at Egyptian Universities

1. Invite the American figure scholars as co-supervisors and external examiners in Msc and PhD theses.
2. American scholars should be encouraged to offer research points and problems based on their area of work to guide the Egyptian research in SWE
3. Parts of the SWE courses could be taught by the American scholars specially those that deal with industrial experiences.

4.2 Undergraduate studies at Egyptian Universities

4. Invite the American scholars to attend and participate in graduation project defense. Also guide the graduation project proposing process.
5. Offer some e-learning based software engineering course that is managed by Egyptian and American scholars to Egyptian post-graduate course, (this course may be optional in its starting years)

4.3 Cooperative Research Projects

6. Video conferences, web-based meeting between scholars from Egypt and the USA to discuss research and courses.
7. Establish mixed research groups (E-Research Group) between USA and Egyptian universities in Software Engineering.

5. Indicators of Success

8. Co-operative Research could be measured by the number of published papers, the number of PhD and Msc thesis produced, and the number of software tools that can be used by the software industry in Egypt.

The post graduate and undergraduate courses' success may be measured by monitoring students and the local market where they work.

BIODIESEL FUEL FROM JATROPHA

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Abstract

Jatropha crop has low production costs, and high biomass yield (around 1550 kg oil per hectare). The capability of growing Jatropha in eroded soil and arid land and the need for hot climate makes Jatropha ideal for Egypt. In fact, Jatropha has been successfully grown in southern Egypt to green the desert, and utilize treated municipal wastewater for its irrigation. An added benefit is to use the Jatropha seeds as a feedstock to produce Biodiesel, an environmentally friendly renewable diesel fuel alternative. This requires a two-step approach; the extraction of the Jatropha oils from the seed, and the conversion of the extracted oil to Biodiesel, according to the following transesterification reaction.

Oil + 3 Methanol [using NaOH or KOH catalyst] = 3 Biodiesel (Methyl Ester) + Glycerol.

The objectives of the research were to study the oil extraction, and the transesterification of the extracted oil to Biodiesel. The specific objectives for oil extraction were to determine the relationship between the Jatropha oil yield and amount of solvent, type of solvent and method of extraction (mechanical vs. solvent). The extracted Jatropha oil was transesterified to produce Biodiesel. The transesterification reaction was done using methanol and two basic catalysts. The yield of Biodiesel was compared when potassium Hydroxide (KOH) and Sodium Hydroxide (NaOH) were used as catalyst. In addition the cost of raw materials per ton of Biodiesel produced using NaOH and KOH was also determined. This paper will discuss the work done, the experimental setup, the results obtained, and conclusions reached.

DESIGNING AN OPTICAL COMPUTER MOUSE USING WHITE LIGHT SPECKLE TECHNIQUE

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Abstract

The basic elements of the optical computer mouse OCM are a small camera and a digital signal processor DSP to implement the algorithm for control. Here, we describe a white light speckle technique for designing an optical computer mouse. The laser speckle pattern will be used also to determine the velocity of the device relative to the surface it slides on it. The most important and critical property of speckles is that their average diameter is almost independent of the type of the surface being illuminated by coherent or partially coherent light. The average diameter of a speckle pattern is function of the diameter D of the illuminated area of the surface, the distance L between the surface and the detector, and the wavelength of the used light.

In this work, we replace the laser source by a small powerful white light lamp with different optical coloured filters and studying the resulting coloured speckle patterns to investigate the effect of different wavelengths on the velocity of the device relative to the surface it slides on it.

AIR AND WATER POLLUTION DETECTION USING LASER SPECKLE PHOTOGRAPHY TECHNIQUE

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Abstract

Most surfaces are considered to be optically rough when the heights or depths of their features are compared to the wavelength of the light used. When a laser light (highly coherent) is allowed to be incident on such a rough surface, the scattered coherent wavelets will mutually interfere constructively and destructively to form a random distributions of bright and dark spots called "Laser Speckles".

The optical system used in speckle photography technique will be presented in this project with the different applications of laser speckles in several fields. The speckle displacement will be generated by the light deflection within the polluted air as our phase object under investigation. The relation between speckle displacement and the integrated deflection angle along the optical path length in the polluted area will be measured by analysing the interference fringes obtained within the experimental work of the project.

Also the optical tomographic imaging using laser speckles photography technique will be used. Tomography refers to the cross – sectional imaging of an object from either transmission or deflection data collected by illuminating the object from many different directions. Reconstructions are often done using a procedure known as back projection. Here a filtered projection is smeared back over the reconstruction plane along lines of constant slope.

The three-dimensional refractive index profile and the density distribution for different cross sections of the phase objects under test have been presented by using the Fourier slice theorem. This theorem relates the Fourier transform of a projection to the Fourier transform of the object along a single radial. Thus given the Fourier transform of a projection at enough angles the projections can be assembled into a complete estimate of the object inner distribution. In this project the experimental verifications of the presented techniques were discussed and the final conclusion will be presented .The experimental results obtained for the three-dimensional refractive index profile and the density distribution of polluted air along different cross sections will be presented and compared with that for pure air. A comparison between the results obtained in the two- dimension analysis technique and the three-dimensional technique will be presented.

To explore the optical properties of materials, for example gases and liquids, one should search for a non-destructive method. This method (technique) should be handy, easy, and of course non-costly. Interferometric material analysis using laser techniques is one such method. It has become extremely useful in many fields because of its high coherence, brightness, high power, and monochromaticity. This leads to a non-destructive form of analysis, with the capability of analysing very minute specimens, achieving a fingerprint of multi-element compositions, and measuring temperature and refractive index

variations with a very high level of accuracy. Many laser techniques, such as holography, holographic interferometry, speckle-techniques, and fluorescence yield are used extensively in various fields.

EFFICIENT SCHEDULING AND COST OPTIMIZATION FOR HIGH-RISE CONSTRUCTION

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Abstract

A new scheduling and cost optimization model that suits the challenging and highly constrained environment of high-rise building construction is proposed in this paper. With the cooperation of two Toronto-based construction firms, the current high-rise scheduling practice was investigated. Accordingly, a new high-rise scheduling model (HRSM) has been developed with a unique formulation that accounts for: 1) The logical relationships within each floor (horizontal constraints) and among the different floors (vertical constraints); 2) The vertical nature of the Special structural core-activities which set the rhythm for the high-rise construction; 3) Work continuity and crew synchronization; 4) Seasonal productivity factors and learning curve phenomena; and 5) Pre-specified deadline, work interruptions, and resource constraints. To minimize construction cost, HRSM employs genetic algorithms (GAs), a non-traditional optimization technique that has a powerful capability to search for a near-optimum solution for large scale problems such as high-rise construction. The optimization determines the combination of construction methods, number of crews, and work interruptions for each activity that results in a schedule with minimum total construction cost. To automate HRSM functions, a VBA macro has been developed using the VBA macro language of Microsoft Project software. To demonstrate the model's usefulness and illustrate its capabilities, a case study of a high-rise project has been used.

EFFECTIVE MANAGEMENT OF THE AQUATIC WEEDS INFESTATION IN NASSER LAKE BY USING GIS GEOGRAPHIC INFORMATION SYSTEM

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ABSTRACT

The current lake's water quality now is satisfactory for all uses. However, recent observations in Nasser lake showed the appearance of weeds and algae in scattered locations. The existence of such species is an indicator of possible water quality deterioration in the lake. Moreover the growth of algae would cause real threats to the water quality and consequently the aquatic life in the whole lake on the long run. Besides, If water quality is deteriorated and became unsuitable for some uses, the water budget for the whole country will be severely unbalanced. Therefore, the conservation of water quality in this huge reservoir should be greatly considered. Several measured can be taken to preserve the original conditions, and even to restore and deteriorate the water quality of the lake. Remote sensing (satellite imagee) and geographic information system (GIS) technologies were used to distinguish and map the distribution of the aquatic submerged weeds in ten Khores distributed allover Nasser lake length such as El Ramla, Garf Housen, Tomas, Masmas, Abou Sombol Gharb, Dahmet, Maria, Karasko, and Abou Sombol shark and Adndan. The final satellite images covered the studied Khores will show the location and the percentage of aquatic weeds distribution. The results indicated that the percentage of submerged and ditch bank weeds infestation varied from 0.4% to 10.9% in the studied Khores in August year 2005 and January 2006 respectively. The results of this study will determine locations of overgrowth weeds and detect their negative potential impact on the ecosystem in lake Nasser.

Key words: Remote Sensing, Aquatic Weeds, Water Quality, and Nasser Lake.

ADVANCES IN WIRELESS SENSOR NETWORKS

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Abstract

In recent years, advances in miniaturization; low-power circuit design; simple, low power, yet reasonably efficient wireless communication equipment; and improved small-scale energy supplies have combined with reduced manufacturing costs to make a new technological vision possible: Wireless sensor networks. A sensor network is composed of a large number of sensor nodes, which are densely deployed either inside the phenomenon or very close to it. The position of nodes need not be engineered or pre-determined. This allows random deployment in inaccessible terrains or disaster relief operation. We will present an overview of advances in wireless sensor networks technology and its future trends and its applications.

EVALUATION OF STAND-ALONE PHOTOVOLTAIC BASEED SMALL WATER DESALINATION SYSTEMS

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Abstract

The ever increasing global demand for fresh water has been imposing the development of efficient methods for desalination of brackish or sea water. A major part of the water desalination process is its demand for considerable amount of electrical energy. In remote areas, however, where sun light, wind and inexpensive lands are available, economical water desalination systems may be built by utilizing renewable energy sources. In particular, photovoltaic (PV) based reverse osmosis (RO) configuration is most suitable for such small-scale water desalination systems. In this paper, the electrical power system of the PV-RO configuration is evaluated. Based on the recent developments on motor control systems, an efficient method for continuous operation is configured. Cost estimates for these stand-alone systems are projected. Regions where such desalination systems could be used are also identified.

ELECTRICITY GENERATION & WATER DESALINATION BY CONCENTRATING SOLAR POWER FOR THE ARAB REGION AND EUROPE

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Abstract

Present study by DLR focuses on the electricity and water supply of the Arab Region and Europe. The scope was to create a database for decision makers showing the potential of renewable energies to solve the regional energy and water shortage and the corresponding cost escalation.

A set of criteria for sustainability was defined including not only environmental issues, but also socioeconomic efficiency and security of supply. A scenario was developed showing that the growing demand for power and water can be satisfied in an affordable way by a well balanced mix of technologies and renewable resources such as PV, Wind, CSP Plants, Biomass and Hydropower.

The results of the study can be summarized in the following statements:
Environmental, economic and social sustainability in the energy sector can only be achieved with renewable energies. Present measures are insufficient to achieve that goal.
A well balanced mix of renewable energy technologies can provide peak-, intermediate and base load electricity and thus prolong the global availability of fossil fuels for future generations in an environmentally compatible way. Firm capacity from Concentrating Solar Thermal Power Plants has a key role in such a mix.
Renewable energy resources are plentiful and can cope with the growing demand of the Europe, Middle East, North Africa region. The available resources are so vast that an additional supply of renewable energy to Central and Northern Europe is feasible.
Renewable energies are the least cost option for energy and water security in Europe, Middle East, and North Africa.
Renewable energies are the key for socio-economic development and for
sustainable wealth in Middle East, North Africa, as they address both environmental and economical needs in a compatible way.
Renewable energies and energy efficiency are the main pillars of environmental compatibility. They need initial public start-up investments but no long-term subsidies like fossil or nuclear energies.

An adequate set of policy instruments must be established immediately to accelerate renewable energy deployment in the Europe, Middle East, North Africa

DLR study focuses on the interconnection of the electricity grid of Europe, the Middle East and North Africa with the purpose of supplying about 15 % of the European electricity demand by solar energy imports from the South by the year 2050.

The conventional electricity grid is not capable of transferring large amounts of electricity over long distances.

Therefore, a combination of the conventional alternate current (AC) grid with High Voltage Direct Current (HVDC) transmission technologies will be used in such a Trans-European electricity scheme.

The study shows three examples of interconnections that could be realised without causing major environmental impacts.

There are several good reasons for such a transmission scheme:
the huge solar energy potential of Middle East, and North Africa can easily produce 700 TWh/y in 2050 for export, reducing significantly the. European CO2 remissions.

Concentrating solar power plants in Middle East, and North Africa provide around the clock firm capacity for base load, intermediate load and peak load and can complement the European renewable energy mix to provide secured power supply,

A well balanced mix of national and imported renewable energy will reduce the dependency on energy imports in Europe and provide a basis for economic development in Middle East, and North Africa,

Transmission losses from Middle East, and North Africa to Central Europe by HVDC are 10 – 15 % but solar irradiance is 300 % higher in Middle East, and North Africa than in Central Europe,

Electricity from solar thermal power plants will become the least cost option for electricity in Middle East, and North Africa.

A well balanced mix of renewable is the only guarantor for stable electricity prices. Import solar electricity can be used in Europe for firm power capacity and to generate hydrogen as fuel for the transport sector.

The DLR study provides a first information base for the political framework that is required for the initiation and realisation of such a scheme.

It quantifies the available solar energy resources and the expected cost of import solar electricity, a scenario of integration into the European power sector until 2050, and shows the environmental and socio-economic impacts of such a large scale infrastructure.

EFFECTS OF BIPOLAR PLATE MATERIALS AND IMPURITIES IN REACTANT GASES ON THE POWER OUTPUT OF PEM FUEL CELLS

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Abstract

The bipolar plate's material has considerable influence on the Polymer Electrolyte Membrane (PEM) fuel cell output. The Interfacial Contact Resistance (ICR) between the Gas Diffusion Layer (GDL) and the bipolar plate material showed significant effect on the electric power output from the fuel cell. On the other hand, hydrogen is necessary for the operation of fuel cells to produce clean energy, water and heat. Renewable energy sources such as solar, wind, and biomasses could be utilized to produce hydrogen through electrolysis, thermolysis or bio-thermo chemistry and fermentation processes. The extraction of hydrogen from biomasses and gasification reactors will produce hydrogen that will include certain amount of impurities. The hydrogen reforming from natural gas, coal, and oil will produce hydrogen that could include one or more of the following impurities:

CO, NH_3, H_2S, and HC's. These impurities will have an adverse effect on the power output of the fuel cell due to possible poisoning of the catalyst, electrolyte, and/or the ionomer membrane. In some cases the damage caused by these impurities is permanent and in other cases is reversible. Also, the air intake to the fuel cell may include pollution due to a possible external combustion process such as SO_2, NO, NO_2, and soot which in its turn could cause additional damage the fuel cell components. Overall these impurities can block reaction sites for chemisorption, impede charge transfer and/or impede protonic conduction, and similarly resulting in either permanent or reversible loss of performance. Design consideration should be taken into account to mitigate the negative effects of impurities on catalyst and other fuel cell components.

This paper provides a study on the effect of Interfacial Contact Resistance (ICR) between the Gas Diffusion Layer (GDL) for various bipolar plate materials on the fuel cell power output. Also, a scheme work and a plan for testing, analyzing and recommendations for mitigating the effect of reactant gases impurities on fuel cell performance and durability.

MEDICINE AND PUBLIC HEALTH

MECHANISM OF FATTY ACIDS INDUCED SUPPRESSION OF CARDIOVASCULAR REFLEXES IN RATS

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Blunted baroreflex sensitivity (BRS), impaired heart rate variability (HRV) and high plasma non-esterified fatty acids (NEFAs) are predictors of adverse cardiovascular outcomes. We tested the hypothesis that elevation of NEFAs negatively impacts the cardiac baroreflex response and undertook spectral analyses and molecular studies to delineate the mechanism of action. We employed two interventions to elevate serum NEFAs: (1) overnight fasting (n=7) and (2) i.v. infusion of 1.2 ml/Kg intralipid 20% + heparin (I/H) over 10 min (n=9) in conscious unrestrained male rats. Elevated NEFAs caused by fasting complemented by I/H infusion was associated with a concentration-dependent reduction in spontaneous BRS measured by spectral analysis (LFα, HFα indices) and sequence method (seq-BRS) and HRV measured by frequency domain as power of RRI spectra (LF_{RRI} and HF_{RRI}) and by time domain as standard deviation of beat-to-beat interval (SDRR) and root mean square of successive differences (rMSSD) along with increase in blood pressure variability (BPV) measured as standard deviation of mean arterial pressure (SD-MAP) and power of systolic arterial pressure spectra (LF_{SAP}). Because elevated NEFAs suppressed the vagal component of the baroreflex response (HFα), we tested the hypothesis that NEFA-evoked sequestration of myocardial muscarinic receptor (M2-mAChRs) contribute to the reduced BRS. High NEFAs level was accompanied by increased caveolar sequestration of cardiac M2-mAChRs without changing M2-mAChRs protein expression. We report the first detailed analyses of NEFAs effect on the cardiac baroreflex and show that increased caveolar sequestration of cardiac M2-mAChRs constitutes a cellular mechanism for elevated NEFAs related deleterious cardiovascular outcomes.

ISCHEMIC PRECONDITIONING OF THE INFARCTED HEARTS: ROLE OF ATP-SENSITIVE POTASSIUM CHANNELS

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Background: Ischemic preconditioning (IPC) is well documented in healthy but not in infarcted hearts. It is unknown whether infarcted hearts could be ischemically preconditioned against another acute MI.

Methods: New Zealand male rabbits (3-4 kg, n=55) were randomly divided into eight groups (Gp) according to which coronary artery was occluded first, right RCA, circumflex (CFX) or left anterior descending (LAD) coronary artery. Gp-RCA, Gp-CFX, Gp-LAD (n=6/Gp) underwent a sustained lethal coronary artery occlusion (CAO) for 30' + 2 hrs reperfusion (Rep). Gp-CFX-RCA (n=7) had CFX occlusion first for 30'+10' Rep and then RCA occlusion 30'+2hrs Rep. Similarly, Gp-RCA-CFX (n=6) had RCA occlusion and Rep first before the CFX. Gp-LAD-RCA (n=6) had LAD occlusion before RCA or vise versa Gp-RCA-LAD (n=6). GP-LAD-IPC-RCA in which the IPC (2X5' LAD+10' R) was applied to the RCA before 30' occlusion and Rep. Differential staining with Evans Blue and TTC delineated risk areas of the right (RV) and left ventricular areas (LV) and infarct size (INF). In two other groups, (n=6 each), 5-hydroxydecanoate (5-HD, Mito-K-$_{ATP}$ blocker,, 5 mg/Kg, i.v.) was administered before the first MI. Results are presented as a percent of INF/RA, RA/RV and RA/LV and analyzed by ANOVA for multiple comparisons.

Results: In rabbits, the INF size in the RV was reduced from 21.1±2.8% in Gp-RCA to 4.1±2.3% and 9.1±4% in the groups that had prior MI, Gp-CFX-RCA and Gp-LAD-RCA, ($p<0.01$). The second MI of either the Gp-CFX or Gp-LAD segments reduced the INF size to 3.9±1.6% and 3.6±1.2% compared to Gp-CFX (20.4±2.8%) and Gp-LAD (21.6±3.8%) ($p<0.05$). IPC of the RCA in the infarcted LAD segment further reduced infarction in the RCA ($P<0.001$). 5-HD abolished cardioprotection after second acute MI.

Conclusion: Hearts with prior acute infarction are preconditioned against acute MI and have apparently exhausted the preconditioning reserve. Pharmacologic or surgical interventions that abolish this protection may make infarcted hearts more vulnerable to injury and death.

CARDIOMETABOLIC SYNDROME: WHERE EGYPT STANDS?

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Cardiometabolic syndrome represents an array of metabolic, hemodynamic, renal abnormalities and visceral obesity and associated insulin resistance and hyperinsulinemia. The syndrome is also associated with essential hypertension, abnormalities in the circadian rhythm of blood pressure and heart rate, the diabetic dyslipidemic syndrome, hypercoagulability, hyperuricemia, increased cardiovascular inflammation, and microalbuminuria, all of which contribute to an increased risk of cardiovascular disease morbidity and mortality. This abstract reviews current knowledge about the interrelationship of the various factors that make up the cardiometabolic syndrome and its implications for individuals with and without diabetes mellitus. Special emphases will be made in relation to cardiometabolic syndrome in Egyptian society and efforts of the Egyptian Societies of Hypertension, Diabetes, Nutrition and Cardiology in generating appropriate guidelines and recommendations to prevent cardiovascular diseases as complications of metabolic disorders.

SEXUALITY IN A BRUTAL ENVIRONMENT; A STUDY OF THE SEXUAL EXPERIENCE AMONG HOMELESS GIRLS IN CAIRO.

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BACKGROUND: The UNICEF has defined three types of street children: Street-Living, Street-Working, Street-Family. Hope Village Society (HVS) in a study in collaboration with the department of social studies at the American University in Cairo concluded the that a street child is any child below 18 years, male or female, who due to psychological, social or economic pressures, is forced to leave his family and live a full life on the street, without any adult supervision.

The number of street children in Egypt is unknown, no accurate statistics is present, but based on the number of children presenting to NGOs and governmental institutions working in this field the number can range from a few hundred thousand up to 1.5 million children all over the country. This number is increasing, the age of children presenting on the street is decreasing and lately, there is an marked increase in the number of girls on the street, a phenomenon previously not known.

With the increase in the number of street girls, new problems facing NGOs dealing with these children have appeared, and a closer look at the physical, psychological and sexual problems facing female children on the street is necessary in order to better serve them.

DESIGN: This study includes 80 girls presenting to the HVS, during a period of three months. The inclusion criteria was based on being a female child, living on the street for a period of time, and having been exposed to some form of sexual experience whether willingly or unwillingly at any period before presenting to the society.

A careful data sheet was developed based on Confidential personal history for children and young adults, Pediatric symptom checklist (PSC), the parent-child conflict tactics scales, revised Conflict tactics scales (CTS2), and the strength and difficulties questionnaire for adolescents. In addition to medical, and social data collected from the girls' files at the HVS.

The data collected was examined, analyzed and to the best of our knowledge it is the first study of its kind in Egypt and the Arab world.

RESULTS: Of a total of 100 girls presenting to HVS during the three months of the study, 80 girls had been exposed to sexual experience at some time, of these 33% were below 15 years at the time of presentation and 85% were below 20years. Seventy five percent of girls came from broken homes.

Eighty eight percent of girls said they had been exposed to some form of physical or sexual aggression more than once, 65% had been raped, either at home, on the street or at police station. The incidence of drug addiction mainly in the form of glue inhalation was 36%. Thirty percent of girls were asthmatic, 31 % had been admitted to hospital form medical reasons at some time or another.

Of the 80 girls included in the study 32.5% experienced a full pregnancy and delivery, 80% of whom thought the experience had been a negative one, 25% of the girls delivered between 14 and 16 years of age, while 42% where between 17 and 19 years of age. Of the 26 deliveries, there were 2 (8%) neonatal deaths, 23% needed oxygen at the time of delivery, 42% were formula fed, and 33% had never received any vaccinations.

CONCLUSIONS:
With changes in the economic and social pattern in Egypt the number of street girls is increasing, and with it a whole new set of physical, mental and sexual problems are arising, in addition, a new group of street children is forming from the offspring of these street girls, this group, due to its young age has its own set of medical, social and legal problems, all of which need to be dealt with on the medical, social, legal and politico-economical level.

THE TEENAGE BRAIN:
A TIME OF DRAMATIC REWIRING OF THE NERVOUS SYSTEM

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A major research effort in our lab is directed toward understanding the neural, endocrine, and behavioral changes that take place during puberty and adolescence. Puberty is a period characterized by the elevation in gonadal hormone secretion and maturation of reproductive system. Adolescence is the period between childhood and adulthood where reproductive maturation begins and adult behavior matures. The brain is a target organ for steroid hormones. Recent studies indicate that adolescence may be a sensitive period for steroid-dependent brain organization. The variation in timing of interactions between the hormones of puberty and the adolescent brain leads to individual differences in adult behavior and risk of sex-biased psychopathologies.

Our work has direct implications for human adolescent development and human mental health. First, a number of sex-biased psychopathologies, such as eating disorders, depression, and schizophrenia emerge during adolescence, suggesting both a hormonal and developmental contribution to their etiology. Second, the influence of steroids on developmental processes in the human adolescent nervous system is altered or troubled by a variety of circumstances, including the delay of gonadal development brought about by eating disorders, extreme exercise, disease, abuse of anabolic androgenic steroids, and exposure to environmental endocrine disruptors. We hope to establish the temporal and developmental parameters within which steroid hormones impact the nervous system during puberty in order to fully define and understand periods of vulnerability for the development of behavioral pathologies.

One of our projects that I am reporting here is focusing on the role of steroid hormones in the neurogenesis and gliogenesis that occurs during adolescent brain development in rats. The anteroventral periventricular nucleus (AVPV) and the sexually dimorphic nucleus (SDN) are hypothalamic nuclei related to reproductive function. The AVPV is larger in females than in male rats; and that is functionally related to the ability of females, but not males, to show a preovulatory surge of gonadotropin secretion in response to estrogen. The volume of the SDN is larger in males than in females. The sex difference in SDN is established early in postnatal life, while the sex difference in AVPV size emerges in early puberty at 30-40 days. Neurogenesis is important for the initial establishment of neural circuits; however, whether neurogenesis contributes to the maintenance of brain sex dimorphisms is unknown. We investigated whether pubertal hormones and neurogenesis contribute to the sex differences in AVPV and SDN volumes. In Exp.1, male and female rats received a daily injection of 5'-bromo-2'-deoxyuridine (BrdU, a marker of time of cell birth) on 20-22, 30-32, or 40-42 days of age. Brains were collected 20 days later. AVPV and SDN volume were measured. BrdU-immunoreactive (BrdU-ir) cells were counted in an adjacent set of sections. SDN and AVPV volume and the number of BrdU-ir cells in the nuclei varied with sex but not age. Both AVPV volume and the number of BrdU-ir cells were larger in females than in males. Confocal microscopy showed that the majority of the AVPV BrdU-ir cells

expressed the neuronal marker NeuN. SDN volume was larger in males than in females, as was the number of BrdU-ir cells. In Exp. 2, males and females were gonadectomized (gdx) or sham gdx at P20, injected with BrdU on 30-32 days of age, and perfused at 50 days. Gonadectomy decreased both AVPV volume and BrdU-ir cells in females but not males. Also, Gdx decreased SDN BrdU-ir cell number to a greater extent in males than in females. However, gonadectomy decreased SDN volume in both sexes. These data demonstrate a sex difference in the number of new cells added during puberty in two sexually dimorphic nuclei and show that gonadal hormones contribute to this process. The sex difference in cell addition during puberty may contribute to the maintenance of the sex difference in SDN volume and to the development and maintenance of the sex difference in AVPV volume. These results suggest that concepts of postnatal hypothalamic plasticity should be expanded to include neurogenesis.

MEASUREMENT OF GLUCOSE NANOPARTICLES CONCENTRATION IN PLASMA AND BLOOD ACCURATELY USING LASER SHEET INTERFEROMETRY

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Abstract

One of the major diseases in Egypt and the rest of the world is diabetes. In diabetic patients the synthesis and metabolism of glucose is abnormal that leads to abnormal blood glucose levels in the body tissues. Diabetic patients suffer form many acute and chronic symptoms and diseases. They are at high risk of heard disease, blindness, and reduced blood circulation in extremities often leading to ulcers, gangrenes and limb imputations. It is vital for diabetic patients to monitor blood glucose levels and take medication t control the glucose level in their body.

In this paper, a new technique developed by H.El Ghandoor, called the laser sheet method, will be applied to measure the optical properties of nanoparticles in blood plasma and blood. The technique involves relating the molar reflectivity of plasma to the glucose concentration. Comparing the measurement to the standard clinical method will do validation of the measurement.

Many types of glucose meters are commercially available. Glucose meters are a 3 billion dollar business worldwide. We would like to investigate a new technique for measuring the glucose level in the blood using laser refraction technique. If the technique works it will be the basis for a new instrument the Laser Interference Glucometery (LIG). We plan to originally measure blood glucose in the blood serum. If this is successful we plan to try the measurement on whole blood and possibly develop a non-invasive method for measuring the glucose level. The use of laser interference to determine the blood constituents may prove to be a very sensitive technique to determine blood and other biological fluid constituents. This laser interference technique might become an important accurate medical diagnostic tool in the future.

THE EFFECT OF TOXIC CHEMICALS ON CHILDREN'S ENVIRONMENTAL HEALTH

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Abstract

Every year, thousands of chemicals enter the environment through industrial , agricultural, medical and commercial processes. In addition to the continued use of natural chemicals such as asbestos, mercury and lead, synthetic chemicals are gaining an increasingly strong foothold in the human environment. Over the last 50 years , more than 80,000 new synthetic chemicals have been introduced . Eventually, a portions of these chemicals find their way into the air, food and water consumed by the human and animal populations . Some of these chemicals are known or suspected toxins or carcinogens while others are still under investigation. Chemicals that have been studied and health limits have been set still raise some concern including issues related to body burden , synergism among different chemicals , passage through milk to infants and reduced immunity against infectious diseases in children . Laws and regulations usually lag behind health hazard studies presented by chemicals affecting children that represent the most vulnerable portion of the human population.

The emphasis of this paper is on children's environmental health which is an increasingly important topic of discussion on global basis ; and of particular concern to developed countries such as the US and developing nations such as Egypt.

HISTOPATHOLOGICAL AND IMMUNOHISTOCHEMICAL STUDY OF E-CADHERIN IN DIFFERENT BREAST LESIONS AND CARCINOMAS

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Abstract

Background: E-Cadherin (EC) is a calcium –regulated adhesion molecule expressed in most normal epithelial tissues.

Design: The (EC) was analyzed immunohistochemically on tissue sections of normal, proliferative breast lesions and malignant proliferating breast lesions in attempt to shed insight on the role of (EC). The (EC) _expression was assessed semi-quantitative into four categories:0;1+ were considered negative immunoreactivity of 2+ and 3+ was scored as positive immunoreactivity.

Results: Although ,95% of non malignant proliferative breast lesions showed positive (EC) immunoreactivity ,there was reduced or lost (EC) _expression in all Pre-invasive breast carcinomas cases. Invasive Lobular Carcinoma (ILC) and Invasive Ductal Carcinoma (IDC) cases showed striking difference in their (EC) _expression .None of ILC cases express (EC) in contrast to 30 % of IDC cases.In IDC reduced or lost (EC) _expression was associated with high histological grades.

Conclusion:There was a significant relationship between E-Cadherin expression and histologic types . Furthermore, reduction or loss of E-Cadherin expression may enhance dedifferentiation in IDC.

MAMMAGLOBIN: A NOVEL TUMOR MARKER FOR BREAST CANCER

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Abstract

This work aimed to investigate the clinical reliability of mammaglobin m-RNAas a marker of circulating cancer cells in breast cancer patients and to study the relevance of its expression in blood and expression of its protein in breast tissues, with the pathological parameters and its value in evaluating efficiency of treatment. This study was conducted on 48 breast cancer patients and 28 controls (10 healthy controls and 18 patients controls: 6 with fibroadenoma, 4 with uterine carcinoma, 4 with ovarian carcinoma and 4 with cancer colon). For histopathological study, the healthy control group included the normal breast tissue adjacent to fibroadenoma. All breast cancer patients were of the infiltrating duct carcinoma type and 10 of them had associated areas of intraduct carcinoma. The patient group was classified into 26 patients with localized breast cancer and 22 patients with metastases (9 patients had locoregional lymphadenopathy and 13 patients had distant metastasis). Breast cancer patients were reclassified according to the histologic grade into grade I (8 patients), grade II (26 patients) and grade III (14 patients). All individuals included in this study were subjected to detection of mammaglobin m-RNA in circulating tumor cells in peripheral blood using nested PCR technique. Breast tissue expression of mammaglobin was investigated using immunohistochemistry. Blood and tissue mammaglobin expression were correlated with estrogen receptor and Ki-67 proliferation index. It was found that Circulating mammaglobin m-RNA is a highly specific (100%) tumor marker. The detection rate was significantly associated with the histologic grades, ER positivity and low proliferative rate of tumors. The detection rate decline after receiving chemotherapy. Immunohistochemically, the pattern of expression of mammaglobin in breast cancer tissues was characteristically different than that in non-cancer tissues (being diffuse cytoplasmic in the former and scattered in the latter). Mammaglobin overexpression in breast tissue was significantly higher in low grade tumors(I and II) than in high grade ones (III). The strong staining intensity was more frequently detected in low grade tumors. Also mammaglobin expression in breast tissue was significantly correlated with ER positivity and low Ki-67 proliferation index of the tumors.

It is concluded that mammaglobin expression is a promising specific tumor marker of breast cancer that could predict the prognosis of breast cancer and its response to hormonal treatment.

HEPATITIS C IN CHILDHOOD

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The HCV genome was first described by Choo et al in 1989. Since then, it became the most important cause of liver disease in the world. The WHO estimates that 3% of the world's population are infected with HCV and 3 to 4 million persons are newly infected each year. At least 85% (170 million) of HCV infected people fail to clear the virus and become chronic carriers. Chronic hepatitis and liver cirrhosis have been documented in 70% and 20%, respectively, of those chronically infected. Egypt has an overall HCV antibody prevalence around 15%, about ten-fold that of industrialized countries. Although children comprise a minority of the 170 million people infected with HCV, yet the impact of HCV infection on the pediatric population can be substantial in terms of lost years of healthy life since children have a lifetime to develop the severe complications of HCV. The prevalence of HCV infection in otherwise healthy children in developed nations is about 0.2% in children 6 to 12 years old, and 0.4% in 13 to 18 year old adolescents. While in Egypt HCV prevalence under 9 years of age is 7% and1.8% in the Nile Delta region and in Upper Egypt respectively. Until recently percutaneous exposure has been the principle route of acquisition of HCV in children, but vertical transmission and infection through household contacts are more important current risks for infection. Previous studies of mother-to-infant transmission in HCV infected mothers who are HIV negative have averaged 5-6%. The role of intrafamilial asexual transmission in the spread of HCV infection particularly in children and the factors that increase the risk of HCV intrafamilial transmission remain undefined. Despite recent improvements in antiviral therapy with pegylated interferon and ribavirin, only about half of those who meet the criteria for treatment will respond to therapy. In January 2004 FDA approved combination therapy with standard interferon and oral ribavirin for the treatment of HCV-infected children with genotypes 1, 2, & 3 who are three years or over. Combination therapy achieved a sustained virologic response in 46% of patients overall. Therapeutic protocols tailored to preventing persistent hepatitis C infection are not available and no vaccine yet for HCV and until a one becomes available we should exert our utmost effort developing a viral hepatitis prevention and control plan.

IMPOTENCE, LEAD AND OXIDATIVE STRESS: DO THEY FORM A SERIOUS TRIANGLE?

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Lead- a ubiquitous environmental pollutant; and impotence- a serious socio-economic medico-legal problem- have never been linked in published reports. Moreover, the ultra-morphological work on human penile erection or on impotence ultrastructure is few and none is present in this aspect in relation to lead exposure.

Aim of Study: Assessment of the possible hazardous effects of lead on the endogenous antioxidant status of erectile tissues. Assessment of free radical versus antioxidant balance as an indicator of its harmful effect in erectile tissues and peripheral blood. The study also elucidates the histopathological and the ultrastructural changes induced by lead in the cavernous tissue of impotent subjects.

Subjects & Methods: The study included (49) male subjects who were categorized into (2) main groups: Group (I) (n= 34) included impotent males who were operated upon for penile implants. They were further subdivided according to the blood lead level into (2) subgroups; Subgroup (1) (n= 18) with acceptable blood lead level and who suffered of diabetes mellitus; and Subgroup (2) (n= 16) with high lead level. Group (II) (n= 15) included potent males who underwent surgery for penile cancer. Blood and cavernous tissue samples were taken from each subject and in which lead concentration was estimated. In addition, nitric oxide (NO) and hydrogen peroxide (H2O2) were detected as representatives of free radicals; malondialdehyde (MDA) as a product of lipid peroxidation and superoxide dismutase (SOD), catalase, glutathione peroxidase (GPx), selenium, vitamin C and vitamin E, as indicators of the endogenous antioxidant status. Two small pieces of cavernous tissue were taken during the operation. One piece was preserved in absolute alcohol to stain lead by Mallory Parker stain. The other piece was fixed and stained for electron microscopic study.

Conclusion: Cavernous tissue is a site for lead deposition with consequent elevation of reactive oxygen species (ROS) and MDA, as well as, reduction of antioxidants; except for selenium which was higher in serum and cavernous tissue of impotent cases. There was a significant positive correlation between blood lead level and ROS; and a significant negative correlation between ROS and antioxidants in serum and cavernous tissue. Moreover, there was a significant association between lead, H2O2, NO, catalase, GPx, selenium, vitamin C and vitamin E in serum and their corresponding counterparts in cavernous tissue. No association was found between ser um and cavernous tissue as regards MDA and SOD. The mechanism by which the deposited lead alters the cavernous tissue function in impotent subjects differs to some extent from those caused by any other disease which may affect erectile function.

BEYOND RESEARCH ETHICS COMMITTEES: ACCEPTANCE BY INVESTIGATORS AND INVOLVMENT OF THE COMMUNITY

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Background: Although, there are generally accepted international research ethics guidelines, their application would differ between individual countries and communities due to cultural, religious, and social factors. With the current theme of globalization, and the exploding evolution in diagnostic and therapeutic research related to health issues, ethical issues have emerged and there is an urgent need for a parallel advancement of research ethics practice around the world.

Discussion: Enhancing the research ethics capacity in developing countries through establishment of national regulations, development of research ethics committees, and the training of personnel involved in the review process of research would be the first step towards ensuring the conduct of ethical research. However, these efforts need to be supplemented by application of research ethics practices by investigators who conduct the research. In addition, there needs to be input from the community in the planning, conduct, and the eventual integration of the research results in the health care system. Such community involvement and building of trust between the public and the researchers are of paramount importance. Without such trust, the public would be skeptical towards research participation, which would threaten the whole research enterprise.

Recommendations: University officials need to support the concept of research ethics and impress upon their faculty the worthiness of these concepts in the conduct of research. Additionally, policy makers need to enhance the concept of community involvement in research. Examples of such activity would include the establishment of Community Advisory Boards that occurs in AIDS research in several African countries.

Conclusion: One could not achieve this complete picture, without conducting awareness campaigns allowing discussion with potential investigators, public seminars, and media involvement aiming to spread the notion of transparency and trust between the public and the investigators.

COULD AWARENESS CAMPAIGN OF RESEARCH ETHICS IMPROVE THE QUALITY OF HEALTH RESEARCH IN EGYPT?

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No one can deny the difficulties that face research in resource- scarce countries including Egypt (e.g. small national budget which is devoted to health research, unclear general and institutional scientific plans, overlapping with already proven result research…). But could awareness campaign of research ethics improve the quality of health research in Egypt? In our opinion, until development of local standard operating procedures of research ethics in Egypt, we have to raise the research ethics awareness among different levels of researchers. This awareness will make the researchers consider many points before and during carrying out their researches. Some of these points will be, community partnership and social value which will lead to responsible use of finite resources and avoidance of exploitation. It will also focus upon the role of Research Ethics Committee which protects the research subjects, the researchers, the institutes and the whole community. Research ethics will explore the various methods of community-collaborative research and how to face challenges and ethical considerations arise in such circumstances in developing countries.

The awareness campaign in Egypt starts with Health Research Ethics Training Initiative in Egypt (HRETIE), which is planning to strengthen Egypt's institutional training capacity in research ethics. This project carries up series of workshops in different Egyptian universities and research institutes. It also follows training of trainers experience. Those trainers can group ethics as an educational domains with set of learning objectives to be demonstrated by the students of medical school. Research ethics should be incorporated in all postgraduate courses in the Egyptian Universities. This approach may help in building the infrastructure of research ethics among researchers in Egypt.

THE POTENTIAL ROLE OF MACROPHAGES IN BREAST CANCER PROGRESSION IMPLIES PROTEASE ACTIVATION

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Abstract

Tumor associated macrophages have a crucial role in breast tumor progression. The role of proteases in this process has not yet been clearly elucidated. We have previously established that breast tumor-educated macrophages are characterized by high proteolytic activity as well as alternation in secretion of pro-inflammatory cytokines. The aims of our present study were to determine: 1) whether there is a feedback response of breast tumor cells to tumor-educated macrophages and 2) whether the feedback response occurs in breast tumor cell lines derived from tumors of different subtypes e.g. non-inflammatory vs. inflammatory breast cancer. Therefore, we seeded either MDA-MB-231 or SUM-149 reast carcinoma cells in media conditioned by tumor-educated macrophages and measured the expression of proteases cathepsin B, MMP-2 and MMP-9. In addition breast tumor cell lines were cultured alone or in cocultures with tumor-educated macrophages or control monocytes on coverslips coated with Cultrex mixed with protease quenched fluorescent protein substrate, DQ-collagen IV. We found that proteases involved in degradation of extracellular matrix such as cathepsin B, MMP-2 and MMP-9 are upregulated by these interactions. Using confocal assay microscopy we show at the single cell level that in-vitro interactions between breast tumor cells and breast tumor-educated macrophages increase proteolysis in the tumor microenvironment and subsequently increase the migration and invasion of the tumor cells. Our results suggest that dynamic interactions between macrophages and breast tumor cells contribute to the growth and invasiveness of the breast tumor cells in a way that may differ between tumor types.

ALEXANDRIA UNIVERSITY CENTER FOR EARLY IDENTIFICATION AND INTERVENTION OF CHILDHOOD DISABILITIES

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Introduction to the Project

There are several hundred million people in the world with permanent disabilities as a result of movement, hearing, seeing or mental impairments. Their precise number is unknown, but the inadequacy of current services to meet their needs is clear. In developing countries, even the most basic services and equipment are lacking. The management of a rehabilitation program for people with disabilities requires a clear definition of who is disabled. In many countries, the definition varies among the health, educational, vocational and social services. This can lead to confusion and lack of coordination in the provision of rehabilitation services. The World Health Organization has developed the International Classification of Impairments, Disabilities, and Handicaps (CIDH) (WHO 1980). In 2001, WHO introduced the social model of this classification in order to maximize services and integration of disabled children and adults in the society?

Rehabilitation is the process that assists children and adults with disabilities to develop or strengthen their physical, mental and social skills. Rehabilitation within the health care services has traditionally been thought to involve the provision of therapy – physical, occupational and speech as well as special equipment. There are three major strategies for rehabilitation – institution-based, outreach, and community-based.

Childhood disabilities refer to differences in children's development or current functioning (in any or all of the spheres of physical, cognitive, affective, social, communicative, or sensory function) resulting from interactions of conditions that are intrinsic to the child, and environmental factors which may present barriers to full development and function. Such conditions (intrinsic) and the interactions of these within environmental settings, including social attitudes and values (extrinsic), present special challenges for the child and the family, as well as for institutional systems, communities, and future employers.

By definition, childhood disability may present a constantly changing picture, with new outcomes emerging from old. Throughout their growing years, children are by nature in a state of change and development; hence disorders of development may have diverse presentations and enormous and cumulative impacts on many aspects of the child's development and function as the child grows. Similarly, children's and families' needs change constantly throughout childhood and adolescence. Supports and services, as well as research, must be designed and constructed in a manner that is sensitive to and addresses these issues so that full inclusion and participation of children with disabilities is possible. (Can Child Center for Childhood Disability Research, www.fhs.mcmaster.ca/canchild/.

If the goal of childhood is to emerge at the end of the first 20 years of life as capable, competent, confident young adult with as much as independence as possible, one's

interventions during childhood for children with disabilities take on a focus that prevents the occurrence of disabilities and promotes these characteristics and abilities rather than addressing 'abnormalities'.

Among the most striking gaps that are always identified in any research on disability issues or situation analysis of disabled children in Egypt was the lack of a comprehensive system for the early detection and proper response and intervention to disabling conditions facing children in their early years of development.

The problem as identified by parents of disabled children as well as professionals is multi-faceted: the late discovery of disabling conditions among children did not only lead to the deterioration of the impaired function but also lead to the development of secondary disabilities. Moreover, parents complained from the fact that their lack of knowledge of the existence of the impaired function and its nature and more notably how to address it, lead in many cases to disturbances in the development of their relation to their disabled child and their feelings towards her/him.

If we describe the problem of hearing problems in Egypt as an example we could generalize the case for other types of disabilities, this would reflect the challenges and critical situation that needs intensive and collaborative efforts to be faced. Early identification for hearing problems is one of the biggest challenges faced in Egypt. Due to the lack of post-natal tests on hearing problems for the majority of newly born children, many parents fail to identify any hearing problems except after their speech is delayed by the age of 2, until a child is diagnosed and the problem is accurately known, it might not be until the age of 4 or 5. In the case of partial or residual hearing problems, children might not be detected. In fact, a lot of children join schools having partial hearing loss and in the absence of proper intervention plans, the child faces a lot of challenges in his learning abilities and many children drop out of schools at the 4^{th} -5^{th} level of schooling.

Most of the researches and situation analysis recognizes that Egypt unlike many other developing countries has a huge infra-structure of services. This is particularly true in the case of the primary health care facilities belonging to the MOHP, which has a wide coverage in both rural and urban populations.

Some examples of the success of coverage achieved by preventive services provided by the PHC facilities were, the national vaccination program which achieved as high as 90% coverage and the national program for neo-natal screening for congenital hypothyroidism in which a 70% coverage were achieved in the span of two years only since its introduction.

However, despite the fact that there is in Egypt an institutional system, governmental and non-governmental, to combat handicaps on both preventive and treatment levels, yet only, 1% of the handicapped receive the services of these institutions which make a wide gap between needs and means. In 1997, a national strategy and a five year plan to combat handicaps in Egypt were launched with cooperation between Ministry of Health and Population (MOHP) and National Council for Childhood and Motherhood (NCCM). The

vision of the strategy was " The application of the strategy will lead to a better integration of the handicapped in society and a more active role for them in it; their percentage will decline regularly, and they will receive the services as they are in need of within a global and balanced framework that guarantees more cooperation and more justice". The mission of the strategy was " Work together to reduce the causes of handicaps and detect them as early as possible, and when they occur, face them effectively by rendering the greatest number of handicapped active participants rather than excluded spectators, and economically independent who can manage their own affairs without outside guardianship". This proposed strategy included several principles and objectives among which are the following:

1. Put stress on the prevention services and the early detection of handicaps
2. Put the local communities in a state of preparedness on all levels
3. Opt for the greatest degree of unity of action and integration between governmental, non-governmental and international organizations working in the field of handicap, all within the framework of the national strategy to combat handicaps
4. Set up model units of the centers for early detection and rehabilitation of the handicapped, and centers for teaching and care of handicapped children where the most modern methods in this field are applied.
5. Create a complete and detailed data base on the handicapped and the services dedicated to them, and make such data available to the public.
6. Give the greatest degree of importance to the enlistment and training of specialized teachers and instructors whether locally or abroad.

So, analyzing the root causes of such problem revealed that there is a single common cause which is the lack of proper and adequate training of the undergraduate and postgraduate physicians, speech therapists, social workers, nurses and physiotherapists mainly due to the bio-medical orientation of the current traditional approach to teaching in the Universities and lack of common national and specific goal for their training and specialization which is care for children with special needs.

DEVELOPMENT OF AN EDUCATIONAL INFECTION CONTROL COURSE IN MINIA UNIVERSITY HOSPITAL

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Hospital acquired infection (HAI) still poses a significant problem leading to an enormous increase in hospitalization costs and emergence of new health hazards to the community. In this regard, the human element plays an important role in increasing or decreasing the chances of HAI. In Minia University hospitals (MUH), there was no clear infection control policy and importantly, there was no monitoring in healthcare delivery wards regarding infection control. Also, there was a lack of awareness about infection control practices in most of El-Minia hospitals. In addition, there are many misconceptions about the prevalence of infection in the community and believe that infection control requires fancy, expansive equipment and/or supplies. To deal with these issues, we developed an infection control-training course for health care providers (HCP) in MUH and other hospitals in the Governorate. The Higher Education Enhancement Project Fund (HEEPF) supported this project. Through this project, we managed to train 410 HCP (physicians, nurses and worker) and establish an infection control unit in MUH. Other achievements of the project will be discussed during the presentation.

MINI-REVIEW OF "PROFESSIONAL SKILLS" TRAINING PROGRAMME AT TRADITIONAL EGYPTIAN MEDICAL SCHOOL

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There is now increasing demands to shift from the traditional ways of training which depend on patients from very beginning to the modern ways of mastering skills by using models and others similar ways before getting in touch with the patient.

Skill's training starts from the preclinical stage (first year through the second and third years) to be intensified in the clinical stage (years 4,5 and 6). The overall education objectives of the faculty was documented as follows: " At the end of the undergraduate course the potential graduate will be :

(i) Equipped with adequate knowledge and skills in the broad field of medicine,
(ii) Able to function effectively in urban as well as in rural areas of the country,
(iii) Able to carry out curative regimen as well as preventive programme,
(iv) Able to exhibit the correct attitudes towards the patients and the community he serves, and,
(v) Be imbued with the realization that the study of medicine is life-long process.

A brief description of the professional skills included in the undergraduate training course and how to improve will be mentioned.

COMBATING THE MEDICALIZATION OF FEMALE GENITAL CUTTING IN EGYPT: THE ROLE OF EDUCATION AND TRAINING

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Abstract

Female Genital Cutting (FGC) is a harmful banned cultural practice in Egypt, which showed increased medicalization of its practice in the last decades. According to different EDHS reports, the physicians circumcised 75% of daughters in 2005. The FGC and its consequences is neither included in the medical schools curricula nor in postgraduate studies. The present study aims to show the steps taken to combat this practice.

Methodology: Throughout a period of 10 years (1996-2006), the researcher conducted a series of interventions. These steps included:

1- Introducing the problem in the medical school curriculum using the problem-based format;

2- A cross section descriptive study among a representative sample of Egyptian physicians to identify their knowledge, attitude and practice of it; then

3- Implementing an awareness program among recently graduated physicians about it and its consequences.

Results: The different studies conducted showed statistically significant increase of knowledge and change of attitude of students and physicians. However, effect of these steps on practice still needs to be measured.

Action plan: The road to stop this practice is too long and hard. The researcher will continue the work to combat its medicalization.

NGO'S PLAYS AN EFFECTIVE ROLE IN THE CARE OF CHILDREN AND YOUTH WITH DIABETES: THE ROLE OF AYD

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Type 1 diabetes requires significant empowerment on behalf of the children and their families to manage their condition on a daily basis and to maintain their blood glucose levels within a near-normal range. Therapeutic patient education (TPE) remains the cornerstone of successful management to provide such empowerment .

In Egypt, a developing country with a huge low- income population, the challenge is great. In 2003, the population was estimated to be 74 million and 45% were under the age of 19 (1). Although the exact incidence of type 1 diabetes is unknown, estimates of of the prevalence of type 1 diabetes in children, is one per thousand schoolchild under the age of 15 (2) , making Egypt one of the highest Arab countries dealing with childhood diabetes. Due to the constraints of large numbers of children affected with diabetes, limited time and resources , accessible , continuous and consistent TPE is not always available. Thus the Association , Assistance for Young Diabetics (AYD) , has set its goal to provide TPE focused on effective diabetes self management.

Aim: to empower children and youth with diabetes and their parents to the concept of self -management by attending a therapeutic education program at AYD.

Methodology: AYD, a non- profit organization , was founded in the year 2000, and established the first Egyptian Center for Children with Diabetes, designated "diabetes schools", in Cairo, to implement a structured educational programme based on the International Society of Paediatric and Adolescent Diabetes (ISPAD) guidelines . Training of multidisciplinary teams, including a medical educator, behavior specialist, nutritionist and social worker was the first step. The tools of therapeutic education were a series of booklets prepared and published by Aides aux Jeunes Diabetiques (AJD) published in France , translated and adapted to the Arabic language called " Sukar Mazbout". Each booklet addresses a single educational objective in a simple clear and user friendly format .The behaviour specialist, a key member of the team , screens the family for emotional problems and identifies difficulties in social areas and parenting while offering solutions through improving behavioral skills such as problem solving, goal setting and positive reinforcement.

Support groups for adolescents provided group sessions with an experienced psychologist using peer interaction and problem solving motivating and encouraging the group to cope better with the demands of diabetes .

Results: Three multidisciplinary teams conducted 55 courses, each 20 hours, over 5 years.They took place at the center and through Mobile Units in the two main teaching

University Hospitals and in governorates outside the greater Cairo area. A total of 2464 children and their families attended and 76% completed the full 20 hours'course.

Regardless of social standing , children and their parents had the oppprtunity to education , adapted to our eastern culture, and psychosocial support once diagnosis was made.In addition a network was initiated with various religious communities to offer financial support to families in need.

Conclusion: Successfully translating a programme within few years into a valuable health service for children enhancing self awareness and self worth , and implementing a self care management programme on a large scale , was a big challenge. This success was rewarded by the DAWN award for the year 2004.

AYD future plans is to implement a Hotline Service for people with diabetes in collaboration with Parma University in Italy and establishing satellite centers in other governorates of Egypt

1.United States Census Bureau,International Database
2.Salem M et al Egyptian J Comm Med 1990; 1: 183

BUSINESS, NATURAL AND SOCIAL SCIENCES

LOCAL & EXPATRIATE EFFORT TO DEVELOP A BUSINESS - A CASE IN POINT: DAR AL TARJAMA

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Abstract

A business which started with no clear mission or plan, but was ignited by a strong faith and convictions, where the good came from the bad, hidden gems were discovered and difficulties were overcome. With humbleness, good spirit and sincere team effort, a vision was then conceived and a mission was set to great goals and objectives. The process moved forward and the concept developed to a successful business reality along with the external involvement, consultation and support from expatriates. The expatriates were willing to give back to their land of origin by drawing from their intellectual capital, practices, life experience and energy. This case in point describes a three years process profile with the hope to stimulate others by sharing the actual mindset, steps, processes, experience and lessons learned.

THE FUTURE OF ARAB ECONOMIES – A PUBLIC OPINION SURVEY

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Abstract

The 21st century is expected to be a decisive period in the history of the Arab region. The 20th century can be characterized with wars, political turmoil, and the region was divided by the Europeans into many countries. Current indications are that the political problems in the region are expected to continue and multiply in the foreseeable future. However, the focus of this paper is not on the political situation, but instead on the economic future of the region. The author believes that there is a very strong relationship between the political environment and the economic environment in the region. In the 20th century, the region was divided into two groups of countries; some were dominated by western free market economy, while others were influenced by socialist planned economies. Since the beginning of the new millennium, most countries in the region have adopted a capitalist free market economy. The success of this economic system varies among countries. Although all Arab countries are classified as developing nations, these countries vary greatly in terms of the levels of various economic parameters, and in their citizen's standard of living.

It is a global economic reality that for countries to survive and prosper in the future they must be part of a regional economic integration group. The US is a super economic power due to the economic integration of 50 states, which could have been 50 independent countries. Still, the US has expanded its economic base by establishing the NAFTA to include Canada and Mexico. Now the European Union (EU) includes 25 countries and is expanding. Many other economic integration groups exist all over the world, with varying degrees of success. In the Arab region, the Arab League tried to form various forms of economic cooperation among Arab states with limited success. Also, economic cooperation does exist among the Gulf states, as well as between various Arab countries based on bilateral and multilateral agreements such as among the Maghreb countries, and between Egypt and Morocco.

The study being conducted is a public opinion survey regarding the future of Arab Economies. Data is being collected by students of the American University of Kuwait from thousands of residents of the Arab world; most reside in the State of Kuwait. The survey deals with issues such as what form of economic integration group should Arab countries join; the strongest and weakest aspects of the Arab economies, and the biggest economic threat to Arab economies.

DEVELOPING A CULTURE OF MENTORSHIP, MAYBE?

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Mentorship plays a big role in western academic and social society. In academic environments, we see direct mentorship in the form of supervision within the context of graduate studies, also within study groups and among peers where elder graduate students give advice and help younger students; tenured faculty advise newly appointed faculty and guide them through the nuances of early academic life; Finally, many major conferences have mentorship revision programs for papers submitted from developing countries. In the social environment, we hear of big brother/big sister programs for successful individuals within certain racial circles to help the young by guiding them in making sound decisions. Such mentors play a key role in the mentee's life, serving as a model to aspire to.

In this proposal, I am interested in creating an academic mentorship program. I believe that the way forward for academic life in Egypt is to see more involvement in the international accredited scientific community. The way to be more involved is by active participation by students and faculty in such circles. Such involvement is hinged upon getting papers published and research funded. We are all aware of the interdependence of these two processes. Moreover, the quality of one impacts the quality of the other. As a reviewer for many granting agents in the US and for different journals in my field, I sadly note that many a time a proposal had been rejected because the ideas are not clear or the methods proposed (or adopted) were not scientifically sound or just simply too old – no awareness of the current state of the art, not an excuse in an internet age.

Hence, in my proposal, I would like to explore the mentorship issue within an academic framework in Egypt. I would like to investigate the feasibility of creating a culture of mentorship across disciplinary, gender, geographic and rank boundaries. I would like to propose the creation of a virtual (web based) scientific mentorship program in the narrow areas of proposal and paper writing. In the space of this program, we will have pointers to the different scientific venues, different grants that are relevant to Egypt from the international community, and a set of designated mentors to give feedback on proposals and papers from a qualitative perspective. People from different disciplines may review a paper or a proposal from a scientific exposition perspective while specialists may review for content and relevance. This feedback would serve as a stepping stone for submissions. Moreover, such a feedback loop may lead to more joint collaborations for both the mentors and the mentees.

ASSESSING THE RELEVANCE OF FREE MARKET AND CULTURE ON ENTREPRENEURIAL CHARACTERISTICS AND BEHAVIOR: A CROSS-NATIONAL COMPARISON

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This paper compares Egypt as an example of a society on a transition stage to free market

Economy with U.S. as an achievement-oriented society in terms of their impact on entrepreneurial characteristic and behavior. The paper argues that social and economic changes and environmental adversity (e.g., competition) that accompany the transition to a free market create pressure on the emergent market to adopt a model of environment hospitable to entrepreneurs who seek to create new organization or implement change through new organizational and programmatic initiative. The transformation to a free market economy seems to engage government, communities, bureaucrats, and market; and it is usually supported by a number of international (e.g., World Bank) and intergovernmental and international NGOs as agencies for change. Successful transformation requires positive changes in political, economic, social, and human resources.

A number of hypotheses are tested using a sample of MBA students from Egypt and the USA. Result shows that Americans score slightly higher, but not significantly so, in the areas of entrepreneurship characteristics, comfort in taking financial risks and skill at handling money. According to the entrepreneurship model, individual characteristics may lead to entrepreneurial behavior in terms of innovation and venture creation if environmental conditions permit such action. The paper argues that the difference between the two societies is in the entrepreneurship process in terms of environmental opportunities and entrepreneurial behavior. Implications are discussed.

EGYPTIAN HERITAGE: AN AGENDA FOR THE 21ST CENTURY

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The archaeological and cultural heritage of Egypt is extremely rich and diverse. Realization of the threats to this outstanding heritage was heightened by the Nubia Salvage Campaign in the late 1960s. Since then threats from rising water table, sprawling urbanization, pollution, tourism, among others have reached a point when an active policy to conserve Egyptian heritage must be vigorously pursued. Egyptian heritage is also a potential source of economic development and intercultural dialogue. However, at present, this outstanding heritage is facing many threats posing a challenge that must be met by this generation before conditions worsen beyond recovery. The most urgent need is the training of Egyptians in heritage management. The ways and means by which training and capacity building not only for the conservation of Egyptian heritage, but also for its effective mobilization to crate jobs, improve economic conditions, and enhance our understanding of the great contributions by Egypt over its long history in all fields of knowledge and its contributions to the emergence of a world civilization will be the subject of this contribution.

THE ROLE OF HEEPF IN ENHANCING THE RENEWBLE ENERGY EDUCATIONAL PROGRAMS AT EGYPTIAN UNIVERSITIES

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Energy is important entry point for achieving the goals of all three of the pillars of sustainable development: social equity, economic growth and environmental protection. Current patterns of energy production and consumption have direct negative impacts on the environment and natural resources at the local, regional and global level. Thus, we are facing two major problems with respect to energy: the first is the continuing depletion of fossil fuel reserves and the second is the dramatic increase in global pollution. In the face of these two problems, Renewable energy would seem to be the most suitable solution, since it is clean and abundant energy sources. Although several research works have shown that renewable energy is cost effective in Egypt, the lack of trained personal to design, install and maintain the complete system presents the principal barrier to their development. We believe that in addition to research and development, the know-how transfer is crucial factors for the success of such environmentally benign and promising technology in Egypt. The know-how transfer results mainly throughout training and education. Egyptian scientific and institutional support in Agriculture is very high. There are sixteen Faculties of Agriculture provide 4500 graduates each year. Yet, none of them had developed any renewable training or any educational programs in renewable energy. It is clear that all of the existing Egyptian educational programs in Agriculture are still inadequate due to nonexistence of training and educational program in renewable energy either through conventional or E-Learning environment and this is considered one of the main barriers for the spread use of renewable energy (RE). Therefore, HEEPF supported two projects to develop F2F and e-learning renewable energy educational program at Egyptian universities. The main objective of this paper is to present the activities, outputs, outcomes, achievements and lesson learned from those two projects. The role of HEEPF on the RE educational program and the impact of this education program on increasing the awareness of RE will also be discussed.

RECENT INFORMATION ON MERGERS AND ACQUISITIONS IN THE MIDDLE EAST

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Abstract

This paper provides information on mergers and acquisitions (M&A) in the Middle-Eastern (M.E.) countries from 1990-2005. The following information is presented: M&A transactions by the nationality and industries of the target firms, home countries and industries of the acquiring firms and the acquisition methods. The largest twenty mergers and acquisitions in the Middle East during the 1990-2005 period are identified. The paper also compares the M&A activity in four important countries (Egypt, Israel, Kuwait and Saudi Arabia). Many differences and similarities among their M&A activity were noted. Learning the M&A activity in the Middle East is essential in identifying target or acquirers, and conducting future M&A transactions.

LYCOPENE CONTENT IN RAW TOMATO VARIETIES AND TOMATO PRODUCTS

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Abstract

This study evaluated the lycopene content in raw tomato varieties and processed tomato products. Separation of lycopene isomers was conducted by High Performance Liquid Chromatography (HPLC). Lycopene content was determined on dry weight basis (DWB). The function of three different isomers (cis, all-trans, and 5-cis) of lycopene was examined.

Data for raw tomato varieties were analyzed within and among groups. Cherry tomatoes ranked the highest in lycopene content. On DWB, Roma tomatoes contained the highest lycopene concentration, while the Vine tomatoes ranked the lowest in lycopene content.

Among processed tomato products, Tomato paste ranked the highest in lycopene content and canned tomato juice the lowest. Furthermore, tomato ketchup ranked the lowest in lycopene concentration after DWB. Different dilution ratios may contribute to significant variability in Lycopene content.