

# RESEARCH NEWSLETTER

*January, 2008*

## TABLE OF CONTENTS

	<u>Page #</u>
1. FOREWORD .....	2
2. ABSTRACTS OF SELECTED RESEARCH PROJECTS.....	3
3. RESEARCH/BOOK-WRITING PROJECTS CURRENTLY SUPPORTED BY THE UNIVERSITY .....	11
4. RESEARCH PROPOSALS UNDER REVIEW .....	25
5. BOOK-WRITING PROPOSALS UNDER REVIEW .....	31
6. SABBATICAL LEAVE PROPOSALS RECEIVED FOR 2008-2009 .....	32
7. SABIC AND FAST TRACK PROPOSALS RECEIVED FOR FUNDING DURING NOVEMBER 2007 .....	33
8. PUBLICATIONS IN REFEREED JOURNALS REPORTED AFTER JULY, 2007 .....	37
9. RESEARCH PAPERS PRESENTED AT CONFERENCES REPORTED AFTER JULY, 2007 .....	54
10. BOOKS PUBLISHED AND CONTRIBUTIONS .....	68
11. TECHNICAL REPORTS, FUNDED PROJECTS AND PATENTS .....	70
12. INTERNAL LECTURES/SEMINARS PRESENTED BY KFUPM FACULTY .....	75
13. SEMINARS OFFERED BY OUTSIDE SPEAKERS AT KFUPM.....	82

## FOREWORD

This first issue of the University Research Newsletter for the academic year 2007-2008 provides up-to-date information about the research and other scholarly activities undertaken by the University faculty members for the half year period from July 2007 to December 2007. A healthy research program has the advantage of attracting the best faculty and students. The scope of research support has been expanded in response to global technological challenges and in order to support and sustain diverse faculty research interests. Our goals are to promote creativity; to address critical, scientific, technological and managerial issues; encourage research in areas of national significance; and to improve the quality of graduate education. This *Research Newsletter*, published by Deanship of Scientific Research on a semi-annual basis, provides an overview of our faculty's research output, as well as the funding which the University provides its faculty to pursue research and scholarship. In particular, the *Research Newsletter* reports on faculty publications, conference presentations, funded projects, and many other features.

The Deanship of Scientific Research is making its best efforts in promoting the new research grants among the faculty members so that the faculty members can actively participate in the research which is not only beneficial to their own professional career but also to the development of the society at large.

Our sincere appreciation is due to Mr. R. Jayaraman for compiling this edition of the Research Newsletter.

**Dr. Mohammad S. Al-Homoud**  
**Dean of Scientific Research**

## 2. ABSTRACTS OF SOME OF THE RESEARCH PROJECTS RECENTLY APPROVED FOR FUNDING

### 1. Project No. IN080389      Principal Investigator: Dr. Mohammad Sadiq Sohail

#### **Title: IT Outsourcing in Saudi Arabia: Perspectives from Employees**

##### **Abstract**

Outsourcing is the contracting out of all or part of a company's functions to third parties. With a growing evidence of a number of information systems functions being contracted out the aim of the proposed research is twofold. Firstly, most of the existing research on information technology (IT) outsourcing looks into the businesses considerations of outsourcing like cost savings, and other monetary benefits to the firm. However, given the pervasive nature of IT and its ever-increasing rate of change, the implication is that cannot compete on technology alone, but from the skilled management of manpower resources. The perceptions of IT professionals towards outsourcing are therefore an important area that needs to be investigated. The second aim of the proposed research is that extant research in this area has largely focused in developed economies. The proposed study aims to undertake a study on the practice of IT outsourcing in Saudi Arabia, which has been witnessing an increasing intensity of competitive pressures due to falling trade barriers. The findings of this study are expected to make a significant contribution in this direction.

### 2. Project No. IN080390      Principal Investigator: Dr. Roland Koh-Kheng Yeo Co-Investigator #1: Dr. Mohammed Youssef

#### **Title: Corporate Image and Reputation of Large Commercial Banks in Saudi Arabia: An Exploratory Study**

##### **Abstract**

Much of the literature on corporate image and corporate reputation indicates that corporate image and reputation are regarded as the most critical, strategic, and enduring intangible asset for a corporation. A favorable corporate image and reputation can be an effective form of differentiation and a source of competitive advantage (Dowling 1993; Gray and Balmer 1998) which is enough to guarantee greater long-term returns to better regarded companies (Fombrun 1996). In this research, we will focus on consumers' perception of the corporate image and reputation of large commercial banks in Saudi Arabia. The Saudi banking sector is strong yet vulnerable to influences of global financial forces; hence, in order to compete in the domestic and global markets, it is crucial that these financial institutions project a strong positive image to boost investor and consumer confidence. This research has two intents: First, it seeks to develop an appropriate way of measuring the corporate image and reputation of large commercial banks in Saudi Arabia by identifying a set of specific factors and scale items that explain the perception of consumers. Next, it seeks to identify the dominant factors influencing these perceptions and their implications. We will first develop a conceptual framework that comprises four constructs, namely "Financial Prospects", "Corporate Management", "Market Presence" and "Corporate Identity and Communication". We will then design a questionnaire to collect quantitative data from banking consumers. We will distribute our questionnaires in Riyadh, Jeddah and the Eastern Province. We hope that the findings will lead to valuable implications for practice transforming the professional image and reputation of the financial sector in Saudi Arabia to an even higher international level.

**3. Project No. IN080391      Principal Investigator: Dr. Ismail Budaiwi**  
**Co-Investigator #1: Dr. Adel Abdou**  
**Co-Investigator #2: Dr. Maatouk Khoukhi**

**Title:      The Impact of Moisture Content on the Thermal Conductivity of Fibrous Insulation Materials**

#### **Abstract**

Thermal insulation plays an important role in determining the building thermal and energy performance. The effectiveness of thermal insulation is dependent on its thermal resistance and the ability to maintain its thermal characteristics for a long period of time. The value of insulation thermal resistance can be greatly reduced by the presence of moisture within the insulation materials. In hot-humid climates, the thermal insulation material as part of the exterior building envelope is subjected to high ambient air humidity levels leading to elevated levels of material moisture content. Furthermore, when conditions are suitable, concealed condensation can occur within the insulation material leading to deposition of considerable amount of water hence, reduced performance and premature deterioration of material. The objective of this study is to assess the impact of moisture content on the thermal conductivity of commonly used fibrous insulation materials under hot-humid climatic conditions. Additionally the impact of variations of thermal conductivity due to increased moisture content on insulation thermal conductivity and building energy is also investigated. Results of this study would be helpful to building envelope-designers when deciding on the type of fibrous insulation and the envelope components design under hot-climatic conditions. Additionally, better understanding of factors influencing thermal performance of the building envelope under hot-humid climatic conditions will be attained.

**4. Project No. IN080392      Principal Investigator: Dr. Chawki Fedjki**  
**Co-Investigator #1: Dr. Salih O. Duffuaa**

**Title:      Heuristics for QAP Using a Characterization of a B-Local Star Minimum**

#### **Abstract**

The Quadratic Assignment problem (QAP) is a very well known combinatorial optimization problem. It has many application in facility location, capital budgeting, resource allocation, VLSI design and many other areas. The QAP is an NP-hard problem and many researchers are working to find efficient algorithms for it. Until know, exact solutions have been obtained for problems not exceeding 30 facilities. Many researchers have used exact and heuristic algorithms for QAP, yet still room exists for developing more efficient algorithms for it. The objective of this research is to develop efficient heuristic algorithms for QAP utilizing the ideas of Tabu search and Genetic Algorithms applied to the characterization of a **B**-local star minimum developed by Fedjki and Duffuaa [22], then test the developed algorithms and compare them with the best algorithms on standard benchmark QAPs.

**5. Project No. IN080394**

**Principal Investigator: Dr. Mohamed F. Mudawar**  
**Co-Investigator #1: Dr. Abdelhafid Bouhraoua**  
**Co-Investigator #2: Dr. Abdul Rahim Nasser**

**Title: The Design and Simulation of a Multicore Vector Processor**

**Abstract**

Chip multiprocessors are now a reality. Vendors are producing multiple cores in their processors that allow multiple threads to run concurrently and provide huge performance gains. Parallelism is exposed at different levels. Instruction-level parallelism is exposed within a single thread. Multiple-issue cores can issue multiple independent instructions and execute them in parallel. Due to the limitations of instruction-level parallelism, thread-level parallelism is exposed and exploited across different cores. Threads belonging to the same program or different ones can run independently and in parallel in different cores. The cores can be fully utilized provided there are sufficient threads. Another type of parallelism, called data-level parallelism is common in loop iterations. The same code is executed in parallel on different elements of arrays and matrices. This type of parallelism is scalable with the size of data, and is abundantly available in multimedia applications and scientific computing. Vector processors exploit data parallelism by introducing special vector instructions, vector registers, and a vector unit. Rather than introducing an expensive vector unit, we propose taking advantage of the multiple cores for executing vectorized loops and exploiting data-level parallelism. A vector loop can be broadcast and executed in all cores. We propose minor adjustments to the design of a core, such as allowing vector loop iterations to run concurrently across the different cores, while at the same time running the main thread that is scheduled to run in each core. The result is a multicore vector processor that can exploit thread- and data-level parallelism. To assess the performance of the proposed multicore vector processor, we will develop a parallel simulation program. A prototype small-scale multiprocessor will be constructed from boards and components to run the parallel simulation program. The simulation has to be done in parallel in order to simulate a large number of cores in reasonable amount of time. The simulator will be parameterized to allow changes in the parameters of the design. It will collect various performance statistics.

**6. Project No. IN080395**

**Principal Investigator: Dr. Mohammad Wasim Raad**  
**Co-Investigator #1: Dr. Mohammad Deriche**  
**Co-Investigator #2: Dr. Tarek Sheltami**

**Title: Development of a Portable PC-Based Bi-Lingual Tele-Health Monitoring System for the Elderly and the Disabled**

**Abstract**

One major challenge to successful aging is the capability to preserve health, or from another perspective to avoid disease. *Unfortunately*, a large percentage of the elderly people are living with chronic diseases or disabilities. Home care technologies and other emerging technologies have the potential to play a major role in home-based health care

approach. The advent of sensor technology, in addition to telecom industry has made this possible. The main *goal* of the proposed *applied* research is to *develop* a cost-effective user-friendly telehealth *system* to serve the elderly and disabled people in the community. The research also aims at utilizing the state-of-the-art advances in medical instrumentation technology to establish a continuous communication link between patients and caregivers and allow physicians to offer help when needed. The expected outcomes of the proposed research are:

1. *The development of a hardware system that could serve as a prototype to be used by doctors and patients for delivering remote health care services.*
2. *The development of a software package that includes a set algorithms for analyzing vital sign data captured from medical sensors..*
3. *The development of a bi-lingual GUI interface to be used by patients and care givers in the proposed telemedicine system.*
4. *Enhancing the research capabilities of KFUPM and the kingdom at large in the area of biomedical engineering and telemedicine.*
5. *Training graduate and undergraduate students in the area of biomedical engineering.*
6. *Opening new opportunities for collaboration between KFUPM, the industry and hospitals in the area of telemedicine and biomedical engineering.*
7. *Publishing the findings of the proposed research at international conferences and in referred journals.*

Due to the interdisciplinary nature of this research, the main people who will benefit from this research are those people working in the health sector in addition to patients, particularly the elderly and disabled. The research will be split into four phases for a period of twenty eight months. In phase I, a comprehensive literature survey will be performed by the team. Phase II will be protocol design and tool building. Experimental data collection, data analysis, interfacing with LabView software, establishing wireless/wired communication links to achieve the target system and simulation will be conducted. Moreover, verifications and benchmarking will be performed in this period. In Phase III the team will be using the developed system in phase II and critically analyze the data to test the credibility of the prototype. In addition, a graphical user interface (GUI) that support bi-lingual will be developed. Phase IV will be dedicated for documenting the results and writing the final report.

**7. Project No. IN080396**

**Principal Investigator: Dr. Ibrahim Rahimov**  
**Co-Investigator #1: Dr. Mohammad Omar**  
**Co-Investigator #2: Mr. Musawar Malik**

**Title: Investigation of the Validity of Bootstrap in a Non-Homogeneous Branching Stochastic Process**

### **Abstract**

It is known that in the critical case, the standard parametric bootstrap is not valid for the branching stochastic process with stationary immigration. The fact that the asymptotic distribution is not normal and the estimator does not have the desired rate of convergence (faster than) to the parameter under the estimation are the main causes of the failure. In previous work, the principal investigator has shown that in the case of time-dependent

immigration the estimator may have normal limit distribution and the rate of convergence is faster than. This circumstance allows us to expect validity of the bootstrap in this non classical model. This problem will be investigated in the project. Since the distribution of the number of immigrating individuals depends on the time of immigration, the process is not time-homogeneous. Therefore the investigation of a validity of the bootstrap in this non classical model is not possible using known asymptotic results obtained for the time homogeneous processes. In the first phase of the project we need to obtain convergence results for the array of branching processes with time dependent immigration and in the next phases, we apply these results and study the possibility of the bootstrap. The bootstrap approach can be applied by utilizing a single representative random sample to generate many or infinitely many random samples by re-sampling. Bootstrapping as a valid approach is very important in branching processes, since it provides an alternative to the difficult problem of large-scale data collection in these kinds of processes.

**8. Project No. IN080397**

**Principal Investigator: Dr. M. Tahir Mustafa**

**Co-Investigator #1: Dr. Hasan Azad**

**Title: Group Classification Optimal System and Optimal Symmetry Reductions of a Class of Klein-Gordon Equations**

**Abstract**

Lie symmetry method is a powerful technique to find closed form solutions of differential equations. It contains as particular cases many efficient methods for solving differential equations like separation of variables, method of finding traveling wave solutions, method of self-similar solutions and method of exponential self-similar solution.

One of the significant applications of Lie symmetry theory is to achieve a complete classification of Lie symmetries and symmetry reductions of partial differential equations. This project is concerned with carrying out a complete symmetry analysis of the Klein Gordon equations of the form  $u_{tt} = u_{xx} + f(u)$ .

**9. Project No. IN080398**

**Principal Investigator: Dr. Numan Abu-Dhier**

**Co-Investigator #1: Dr. Bekir Sami Yilbas**

**Title: Quality Assessment and Metallurgical Examination of Laser Welded Sheets**

**Abstract**

Laser welding of steel 316 sheets is considered and the effects of laser welding parameters on the laser weld quality and metallurgical changes in the weld section will be examined. The laser weld quality will be assessed through careful examination of weld features, weld strength, and weld fracture toughness of the resulting weld. Metallurgical changes in the weld sites will be examined using optical, electron scanning microscope (SEM), x-ray diffraction (XRD) techniques. The fracture toughness of the weld sites will be measured using the indentation testing method. The data developed for quality assessment and metallurgical changes will be correlated with the weld parameters for possible industrial

adoption.

**10. Project No. IN080399**

**Principal Investigator: Dr. Muhammad Al-Salamah**

**Title: Manpower Planning with Short-Term Contracts and Worker Training**

**Abstract**

Manufacturing companies with fixed assets find temporary employment to be the cheapest option to help them face fluctuating production demands. Solutions that commit these companies to long term change will reduce their profit margins and make them incapable to adopt to production demand changes. This research attempts to address one type of temporary employment, which is characterized by firm short-term contract agreements and worker training. In reviewing the relevant literature, it has been found that this specific temporary employment problem has not received attention from researchers. Mathematical programming has historically been popular as a decision tool for manpower planning and staffing assessment. The proposed work will develop a mixed-integer linear programming optimization model for the temporary employment problem addressed in this research and illustrate and use the model on a case study from the local industry.

**11. Project No. IN080400**

**Principal Investigator: Dr. Jawad Abuihlail**

**Title: Semibialgebras and Hopf Semialgebras**

**Abstract**

In this project we develop - from scratch - the theory of “Semibialgebras” and “Hopf Semialgebras” over commutative semirings (semifields), which generalize and extend the theory of “Bialgebras” and “Hopf Algebras” over commutative rings (fields). In particular, we provide non-trivial examples of Hopf semialgebras (semibialgebras) that are not Hopf algebras (not bialgebras) and study their structures. For a given semibialgebra  $H$ , and analogous to the classical case, we introduce and study  $H$ -semi(co)module semi(co)algebras, Doi-Koppinen structures and the associated categories of Doi-Koppinen semimodules. Assuming suitable conditions, we consider dual semicoalgebras (resp. dual semibialgebras, dual Hopf semialgebras) of semialgebras (resp. semibialgebras, Hopf semialgebras) over special classes of commutative semirings.

**12. Project No. IN080401**

**Principal Investigator: Dr. Zain Yamani**

**Co-Investigator-1: Dr. Mohammad Gondal**

**Co-Investigator-2: Mr. Mohammad Dastageer**

**Title: Laser-Induced Breakdown Spectrometer for Trace Elemental Analysis**

**Abstract**



This research proposal is for the development of a laser-based spectroscopic technique known as laser induced breakdown spectroscopy (LIBS). This method is based on the study of emission spectra of plasma resulting from interaction of intense laser radiation with the sample material. The unique features of LIBS are: low analysis cost per sample, ability to analyze a large number of samples in a short amount of time, measurement precision sufficient for screening many elements of interest, high sensitivity, and the possibility of remote and *in situ* detections.

LIBS has been applied in many applications, covering a wide variety of areas such as pollution monitoring (contaminants in liquid, solid and gaseous samples), trace element analysis of soil and water, immediate determination of ore grades during mining, industrial chemical process control, and identification of plastics.

The principle objective of this project is to develop, a sensitive LIBS system to detect trace elements including Ni, Cu, Mg, Mo, Cr, K, Na, Ca and Fe, present in geological rock samples collected from different parts of the Arabian shield, contaminated sites, oil residue samples, industrial waste, waste dumps, agricultural soil and other solid samples etc. The system will also be tested for the identification of different families of plastics for waste management and recycling of plastics.

Pulsed laser radiation using a YAG laser (fundamental, second, third and possibly fourth harmonic) will be employed for the generation of laser induced breakdown spectra. The atomic emission lines will be spectrally analyzed using an optical spectrometer and detected with a gated CCD camera. Atomic emission spectra of different elements (toxic and non-toxic) contained in unknown samples will be recorded in the 200 – 1100 nm region. The observed spectral lines will be assigned to transitions in the atoms of the materials under investigation.

It is worth noting that this system will promote interdisciplinary research and transfer of technology. The analysis method pertains basically to physics; geological rock samples will be acquired through the Earth Sciences department while plastics will be acquired from the Chemistry department. Environmental and Civil engineering department could benefit from the solid waste analysis and water contamination studies.

Moreover, undergraduate and graduate students will be trained, working part-time on this project. In addition, an ICS-411 computer science student will be requested to customize a program for data acquisition and handling and the implementation of specific tasks using specialized macros.

**13. Project No. IN080402**

**Principal Investigator: Dr. H. Emara-Shabaik  
Co-Investigator-1: Dr. Magdi Mahmoud**

**Title: Realizable State Estimation for Uncertain Descriptor System**

### **Abstract**

This project treats the realizable state estimation problem of descriptor systems which have uncertainties in their model representation. For such systems, realizable state estimation requires a special treatment different from that for regular linear stochastic systems since it seeks practically-implementable estimators. This project is aiming at the development of

filtering techniques that can provide realizable robust state estimation under the aforementioned conditions. The developed state estimates can further be used as the basis for maintaining proper control and safe operations of automated industrial systems

**14. Project No. IN080403**

**Principal Investigator: Dr. Mihai Halic**

**Title: Algebraic Hamiltonian/Gauge theoretical Gromov-Witten invariants**

**Abstract**

The gauge theoretical/Hamiltonian Gromov-Witten invariants have been introduced independently in [CGS] and [Mu], and later on developed in [OT]. They are defined within a purely real-analytical frame. The goal of the present project is to develop a purely algebraic treatment of the subject, based on a Kobayashi-Hitchin type correspondence. The interest in developing an algebraic approach relies in the possibility of using specifically algebraic techniques for explicit computations of the invariants. Steps in this direction have been taken by the principal investigator in the article [Ha]. A special emphasis will be given to the so-called gauged sigma linear models, introduced by E. Witten.

**References:**

[CGS] K. Cielibak, R. Gaio, D. Salamon: J-holomorphic curves, moment maps, and invariants of Hamiltonian group actions, IMRN 16 (2000), 831-882.

[Ha] M. Halic: Hamiltonian/Gauge theoretical Gromov-Witten invariants of toric varieties, Math. Z. 252 (2006), 157-208.

[Mu] I. Mundet i Riera: Hamiltonian Gromov-Witten invariants, Topology 42 (2003), 525-553.

[OT] Ch. Okonek, A. Teleman: Gauge theoretical Gromov-Witten invariants and the full Seiberg-Witten invariants of ruled surfaces, Commun. Math. Phys. 227 (2002), 551-585.

### 3. RESEARCH/BOOK-WRITING PROJECTS CURRENTLY SUPPORTED BY THE UNIVERSITY

<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
<b>College of Engineering Sciences</b>		
Aerospace Engineering	<b>Dr. Hanafy M. Omar Dr. Mohammad Abido (EE)</b>	Optimal Design of Fuzzy-Based Guidance Law for Homing Noisy Measurements Using Multi-objectives Evolutionary Algorithms <b>(AE/OPTIMAL/372)</b>
Chemical Engineering	<b>Dr. Usamah Al-Mubaiyedh</b>	The Stability and Dynamics of Non-Isothermal Taylor-Coutte Flow: Influence of Viscous Heating, Buoyancy and Fluid Thermal Sensitivity <b>(CHE/TAYLOR-FLOW/262)</b>
Chemical Engineering	<b>Dr. Nadhir Al-Baghli</b>	Photoxidation of MTBE in the Presence of Hydrogen Peroxide <b>(CHE/MTBE/275)</b>
Chemical Engineering	<b>Dr. Basel Abu Sharkh Dr. Shaikh Asrof Ali (Chem) Dr. Ibnelwaleed Hussain Dr. Hasan Al-Mualem (Chem)</b>	Influence of Hydrophobe Architecture on Self-Assembly, Rheology, and Interfacial Properties of Amphiphilic oleyelectrolyte, Polyampholyte and Neutral Co-Polymers. <b>(CHE/ COPOLYMERS/292)</b>
Chemical Engineering	<b>Dr. S.M. Javaid Zaidi Dr. Sleem ur Rahman Dr. Ibnelwaleed Hussain</b>	Development of Highly Conductive Composite Membranes for Medium Temperature PEM Fuel Cell <b>(CHE/PEM FUEL CELL/294)</b>
Chemical Engineering	<b>Dr. Saleem ur Rahman (Che) Dr. Ahmad Yamani (EE)</b>	Development of Solid-Liquid Mass Transfer Probe Based on Limiting Diffusion Current: Application to Stirred Tanks <b>(CHE/MASS/302)</b>
<b>College /</b>	<b>Principal Investigator /</b>	<b>Title of the Project</b>

<b>Department</b> -----	<b>Co-Investigator(s)</b> -----	<b>and its Code</b> -----
Chemical Engineering	<b>Dr. Sulaiman Al-Khattaf</b> <b>Mr. Nasiru Tukur (Che)</b>	Novel process for Methanol Alkylation of Toluene to Produce Xylene <b>(CHE/ALKYLATION/ 317)</b>
Chemical Engineering	<b>Dr. Ramazan Kahraman</b> <b>Dr. Saleem ur Rahman</b> <b>Dr. Mesfer Al-Zahrani (CE)</b> <b>Dr. Salah Al-Dulaijan (CE)</b>	Corrosion Investigation of Stainless Steel and Stainless Steel Clad Reinforcing Bars <b>(CHE/STEEL/ 320)</b>
Chemical Engineering	<b>Dr. Habib Al-Ali</b> <b>Dr. Habib Zughbi</b> <b>(Consultant)</b>	Investigation of the Hydrodynamics of a Moving Bed Reactor. <b>(CHE/MOVING BED/328)</b>
Chemical Engineering	<b>Dr. Saleem ur Rahman</b> <b>(Che)</b> <b>Dr. O.S.B. Al-Amoudi (CE)</b> <b>Dr. Shamshad Ahmad (CE)</b>	An Exploratory Study on Corrosion Protection of Reinforcing Steel in Concrete Using Conducting Polymers <b>(CHE/POLYMER/329)</b>
Chemical Engineering	<b>Dr. Javaid Z.M. Zaidi (Che)</b> <b>Dr. Ibnelwaleed Hussain (Che)</b> <b>Dr. Usamah Mubaiyedh (Che)</b>	Separation of Binary Organics Mixtures Using Novel Composite Polymeric Membranes by Pervaporation <b>(CHE/Binary/341)</b>
Chemical Engineering	<b>Dr. Ibnelwaleed A. Hussein,</b> <b>Dr. Basel F. Abu Sharkh,</b> <b>Dr. Muhammad Al-Arfaj,</b> <b>Dr. João B.P. Soares,</b> <b>Professor of Chemical Eng., University of Waterloo, Canada,</b> <b>Consultant</b>	Synthesis; Solution, Melt, and Solid-State Properties; and Modeling of Metallocene Polyolefins with Controlled Long Chain Branching <b>(CHE/Metallocene/347)</b>
Chemical Engineering	<b>Dr. Habib Al-Ali</b>	Cost Effective and Optimum Strategies for Emission Reduction in Refineries <b>(Sabbatical Leave Project)</b> <b>(Che/Refineries/348)</b>
Civil Engineering	<b>Dr. Ali Al-Gadhib</b>	Numerical Simulation of the Evolved Physico-Chemical Distress in Concrete Repairs and Concrete Structures <b>(Sabbatical Leave)</b> <b>(CE/CONCRETE/313)</b>

<b>College / Department</b>	<b>Principal Investigator / Co-Investigator(s)</b>	<b>Title of the Project and its Code</b>
Civil Engineering	<b>Dr. M.H. Blauch Dr. Ali Al-Gadhib Dr. Ahmad S. Al-Gahtani Dr. M. Kalimur Rahman</b>	Engineering Guidelines for Application and Design of Prestressed Precast Hollow Core Concrete Slabs Strengthened with CFRP Sheets <b>(CE/Design/336)</b>
Electrical Engineering	<b>Dr. Ahmad Yamani Dr. Mohammed Deriche</b>	Extraction of Optimal Features from Ultrasonic NDT Signals Using Time-Frequency and Time-Scale Distributions <b>(EE/ULTRASONIC/318)</b>
Electrical Engineering	<b>Dr. A. Zerguine Dr. L. Cheded Dr. Asrar Sheikh</b>	Performance Evaluation of a Soft Decision Based Least Mean Fourth (LMF) Algorithm: Applications to Wireless Communications <b>(EE/LEAST-MEAN/327)</b>
Electrical Engineering	<b>Dr. Husain Al-Zaher (EE) Mr. Mohd. K. Al-Ghamdi Mr. Noman Tassaduq</b>	CMOS LOWPASS Filters for Dual Bluetooth/WLAN Direct-Conversion Receiver <b>(EE/LOW-PASS/324)</b>
Electrical Engineering	<b>Dr. Mohammad Adnan Landolsi Dr. Wajih Abu-Al-Saud Engr. Ahmad Abul-Hussain Dr. M. Mohandes (EE) Dr. Maan Kousa (EE) Dr. S. Al-Shahrani (EE) Mr. A. Abul Hussain (EE)</b>	Development of a Software-Defined Radio Platform for Communication System Design <b>(EE/Platform/332)</b>
Electrical Engineering		RFID Wristband Tag for Pilgrims Identification <b>(EE/Wristband/340)</b>
Electrical Engineering	<b>Dr. Tarek Y. Al-Naffouri</b>	The Effect of Spatial Correlation on the Capacity of Multi-Input Multi-Output Broadcast Channels with Partial Side Information <b>(EE/Spatial/342)</b>
Electrical Engineering	<b>Dr. Shaikh Sharif Iqbal (EE) Dr. Saad Al-Shahrani (EE)</b>	Design of Active 24-GHz Micro Strip Linear Phased Array-Antenna for Microwave Sensors <b>(EE/Microwave/345)</b>

<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Electrical Engineering	<b>Dr. Tarek Y. Al-Naffouri</b>	Broadcasting Data to Multiple User Groups: Information Theoretic Investigation of the wide Band Case <b>(EE/Data/373)</b>
Electrical Engineering	<b>Dr. Abdel-Aal Mantawy Dr. Mohammad H. Shwehdi Dr. Jamil Bakhawain</b>	Distributed Generation Integration for Optimal Operation and Improved Performance of Distribution System <b>(EE/Optimal/385)</b>
Electrical Engineering	<b>Dr. Mohammad Adnan Landolsi (EE) Dr. Aimen Al-Maleh (COE)</b>	Design and Implementation of Interconnect-Efficient Low Density Parity Check Error Connecting Codes <b>(EE/Density/376)</b>
Mechanical Engineering	<b>Dr. Zaki Ahmad (ME)</b>	Principles of Corrosion Engineering and Corrosion Control (Book-writing Project) <b>(ME/COR. ENG. /258)</b>
Mechanical Engineering	<b>Dr. Mohammad Antar Dr. Maged El-Shaarawi</b>	Entropy Generation Around a Solid/Liquid Sphere in a Gas Stream <b>(ME/ENTROPY/261)</b>
Mechanical Engineering	<b>Dr. Zaki Ahmad Dr. Maysser Al-Haddad Mr. B.J. Abdul-Aleem</b>	Exploring the Corrosion Behavior of New Generation Scandium Reinforced Aluminum Alloys for Service Performance <b>(ME/ALLOYS/288)</b>
Mechanical Engineering	<b>Dr. Mohammad Antar</b>	Accurate Estimation of Heat Leak Through Hollow Building Blocks <b>(ME/HOLLOW/323)</b>
Mechanical Engineering	<b>Dr. Amro Al-Qutub Dr. Mohammad Allam Mr. M. Abdul Samad</b>	A Study on the Dry Sliding Wear of 6061 Al/Al <sub>2</sub> O <sub>3</sub> Particulate Reinforced Aluminum Alloys Against Automobile Brake Materials

<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Mechanical Engineering	<b>Dr. Esmail Mokheimer Dr. Tarek Abdel-Galil Dr. Faleh Al-Sulaiman Dr. Tarek Abdel-Galil (Consultant)</b>	<b>(ME/Sliding Wear/352)</b>  Techno-Economic Feasibility Study for Implementing Efficient Air Conditioning Technologies for Local Manufacturers of small Central Air Conditioners <b>(ME/AC Technology/350)</b>
Mechanical Engineering	<b>Dr. Amro Al-Qutub Mr. M. Abdul-Samad</b>	Development of Further Capabilities for the ME High Temperature Tribometer <b>(ME/Turbo/359)</b>
Mechanical Engineering	<b>Dr. Numan Abu-Dhier Dr. Bekir Sami Yilbas</b>	Quality Assessment and Metallurgical Examination of Laser Welded Sheets <b>(ME/Laser/398)</b>
Petroleum Engineering	<b>Dr. Gharib M. Hamada Dr. Moustafa El-Shafei (SE)</b>	Using Neural Networks to Estimate Petrophysical Properties of Sandstone Reservoirs from NMR Measurements <b>(PETE/SANDSTONE/380)</b>
<b>College of Comp. Sci. &amp; Engg.</b> Information & Computer Science	<b>Dr. M. Sarfraz</b>	Interactive Curve Design with Applications in Computer Graphics, vision and Image Processing <b>(ICS/GRAPHICS/306)</b>
Information & Computer Science	<b>Dr. M. Sarfraz</b>	Reverse Engineering for Geometric Models Using Evolutionary Heuristics <b>(ICS/REVERSE ENG/312)</b>
Information & Computer Science	<b>Dr. Wasfi Al-Khatib Dr. Sabri A. Mahmoud</b>	Toward Content-Based Indexing and Retrieval of Arabic Manuscript <b>(ICS/INDEX/325)</b>
Information & Computer Science	<b>Dr. M. Sarfraz Dr. Sabri A. Mahmoud</b>	Toward Content-Based Indexing and Retrieval of

Arabic Manuscript  
(ICS/Optical Test/337)

<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Information & Computer Science	<b>Dr. Khaled Salah</b> <b>Dr. Mohammad Sqalli</b>	Intelligent Firewall DoS Attacks and Countermeasures (ICS/Fire-Wall/361)
Information & Computer Science	<b>Dr. Krishna Rao</b>	Learnability Results for Logic Programs and Term Rewriting Systems (Release Time) (ICS/Logic/370)
Information & Computer Science	<b>Dr. Farag Azzedine</b>	Reputation Assessment Process in Peer-to-Peer Systems (ICS/Peer/365)
Information & Computer Science	<b>Dr. Khaled Salah</b>	Improving the Performance of Linux Networking Subsystem (ICS/Linux/383)
Computer Engineering Department	<b>Dr. Mohammad Sadiq Sait</b> <b>Dr. A.S. Abdul Waheed</b> <b>Mr. Mahmoud R. Minhas</b>	Parallel Iterative Heuristics for Performance-Driven Low- Power VLSI Standard Cell Placement (COE/CELL.PLACE/263)
Computer Engineering	<b>Dr. Muhammad El-Rabaa</b> <b>Dr. Abdelhafid Bouhraoua</b>	Developing a Network-on- Chip for Field Programmable Gate Arrays (COE/GATE/367)
Computer Engineering	<b>Dr. Aimen El-Maleh</b> <b>Dr. Ahmad Al-Yamani</b>	Transistor-Level Defect Tolerant Digital System Design at the Nanoscale (COE/Nanoscale/387)
Computer Engineering	<b>Dr. Mohamed F. Mudawar</b> <b>Dr. Abdelhafid Bouhraoua</b> <b>Dr. Abdul Rahim Nasser</b>	The Design and Simulation of a Multicore Vector Processor (COE/IN080394)
Systems Engineering	<b>Dr. Umar Al-Turki</b> <b>Dr. Shokri Z. Selim</b> <b>Dr. Abdulbasit Andijani</b>	On Stochastic Single Mac-hine Early-Tardy Scheduling SE/SCHEDULE/191
Systems Engineering	<b>Dr. Malick Ndiaye</b>	Locating Facilities with Various Distance Functions (SE/LOCATION/307)



Systems Engineering	<b>Dr. Salih O. Duffuaa</b> <b>Dr. Mohammad Darwish</b> <b>Dr. Ahmed Haron</b>	Multi-Objective Mathematical Models for Process Targeting (SE/MATH MODEL/321)
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Systems Engineering	<b>Dr. Muhammad Shafiq</b> <b>Dr. Fouad Al-Sunni</b>	Adaptive Tracking of Non-Minimum Phase Discrete-Time Plants Using Inverses of Signals (SE/DISCRETE TIME/323)
Systems Engineering	<b>Dr. Mohammad Ben Daya</b> <b>Dr. Salih Duffuaa</b> <b>Dr. Abdul Raouf</b>	Maintenance Engineering and Management (Book Editing Project) (SE/Maint.Mgt/331)
Systems Engineering	<b>Dr. Chawki Fedjki</b> <b>Dr. Salih Duffuaa</b>	Heuristics for QAP Using a Characterization of a B-Local Star Minimum (IN080391)
Systems Engineering	<b>Dr. Mohammad Al-Salamah</b>	Manpower Planning with Short-Term Contracts and Worker Training (SE/Manpower/399)
<b>College of Industrial Management</b> Accounting & MIS	<b>Dr. Haider Madani</b>	Corporate Disclosure and Reporting Practices in the Gulf Cooperative Council Countries: A Cross-National Comparative Investigation (CIM/DISCLOSE/248)
Accounting & MIS	<b>Dr. Ahmad Abu Musa</b> <b>Dr. Jasem Al-Rumaihi</b> <b>Dr. Mohammad Al-Khaldi</b>	Evaluating the Security Controls of Computerized Accounting Information Systems in Saudi Arabian Banks (CIM/SECURITY/303)
Accounting & MIS	<b>Dr. Mustafa Eid</b> <b>Dr. Salem Al-Ghamdi</b> <b>Dr. Mohammad Al-Ahmadi</b> <b>Mr. Ehab Qahwash</b> <b>Mr. Mubashir Hussein</b>	A Conceptual IT-Based Model for Collaborative Research (ACT/IT-Model/363)
Department of Management & Marketing	<b>Dr. Alhassan Abdulmuhmin</b> <b>Mr. Irfran Ilyas (Mgt &amp; Mkt)</b>	Awareness, Adoption and Maturity Level of Customer Relationship Management (CRM) Practices in Saudi Companies (CIM/Customer/338)
Department of	<b>Dr. Mansour Murad</b>	An Empirical Study on the

Management Marketing	&	(Management Marketing)	&	Factors Influencing Employer Decisions in Hiring and Retaining Individuals with Disabilities in the Arab World (Mgt/Hiring/349) <b>Title of the Project and its Code</b>
<b>College / Department</b> -----		<b>Principal Investigator / Co-Investigator(s)</b> -----		-----
Department Management Marketing	of &	<b>Dr. Asad M. Sadi Dr. Salem Al-Ghamdi</b>		Franchising a Gizmo for Small-Medium Sized Enterprises (SME) Development in Industrialized Economies: A Saudi Arabian Investigation (MGT/Gizmo/366)
Department Management Marketing	of &	<b>Dr. Mourad Mansour Dr. Mustapha Achoui</b>		Gender and Job Satisfaction among Employees in Saudi Arabia (MGT/Gender/381)
Department Management Marketing	of &	<b>Dr. Mohammad Sadiq Sohail</b>		IT Outsourcing in Saudi Arabia: Perspectives from Employees (IM080389)
Department Management Marketing	of &	<b>Dr. Roland Kok-Kheng Yeo Dr. Mohammad Youssef</b>		Corporate Image and Reputation of Large Commercial Banks in Saudi Arabia: An Exploratory Study (IM080392)
<b>College of Sciences</b>  Chemistry		<b>Dr. Bassam El Ali Dr. Basel Abu Sharkh (Che) Dr. Mohammad Morsy Dr. Mohammad Fettouhi</b>		Regioselective Catalytic Hydrocarboxylation of Alkynes by Palladium Complexes. Effects of the type of Ligands and Additives. Computational Study of the Mechanisms of Reaction (CY/PALLADIUM/295)
Chemistry		<b>Dr. Hassan M. Badawi Dr. Wolfgang Forner</b>		Potential Surfaces and Vibrational Analysis of Some Halo Propanols (CY/PROPONELS/297)
Chemistry		<b>Dr. M. Fettouhi (Chem) Dr. Bassam El Ali (Chem) Dr. Khalil Ziq (Phys)</b>		New Group 10 Metal Complexes Based on Chelate Ligands Bearing Nitroxide

Chemistry	<b>Dr. Hasan Badawi (Chem)</b> <b>Dr. Abdulaziz Alsuwaiyan (Chem)</b> <b>Dr. Wolfgang Forner (Chem)</b>	Radicals. Magnetic Properties and Catalytic Performance in Oxidation Reactions of Alcohols <b>(CY/METAL/301)</b> Analysis of Vibrational Spectra and Ring-Puckering of Some Heterocyclic Compounds <b>CY/ROTATION/309)</b> Growth of Uniform Zeolite Layers on 3D Ordered Macroporous Anion Modified Zirconia: Synthesis, Characterization, and Catalytic Evaluation <b>(CY/Zeolite/344)</b>
Chemistry	<b>Dr. Mohammed A. Al-Daous (Chem)</b>	
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Chemistry	<b>Dr. Anvarhusain Isab</b> <b>Dr. Mohammad I.M. Wazeer (Chemistry)</b>	Synthesis of Gold(III)-Diamines complexes and their Interactions with Biological Molecules Studies by solid and solution NMR <b>(CY/GOLD/374)</b>
Chemistry	<b>Dr. Bassam El-Ali</b> <b>Dr. Jimoh Tijani (Chemistry)</b>	Rhodium-Catalyzed one Pot Hydroformylation-Cyclization Reactions of Allybenzene Derivatives <b>(CY/BENZENE/379)</b>
Earth Sciences	<b>Dr. Mohammad Makkawi</b>	Groundwater Resources and Environmental Management: Industrial Experience in Modeling Groundwater Aquifers <b>(ES/GROUND-WATER/290)</b>
Earth Sciences	<b>Dr. Mahbub Husain (Release Time Proposal)</b>	Application of Trace and Rare Earth Elements (REE) in Tectonic Interpretations of the Exposed Cretaceous Wasia Formation in Al-Kharj and Riyadh Area <b>(ES/RARE EARTH/308)</b>
Mathematical Sciences	<b>Dr. Mohammad El-Gebeily</b> <b>Dr. Khaled Furati</b>	Approximating Singular ODEs by Nearby Regular Ones:

	<b>Dr. Hattan Tawfiq</b>	Theoretical and Computational Issues (MS/SINGULAR ODE/274)
Mathematical Sciences	<b>Dr. Jawad Abuilhail</b>	Primeness and Coprimeness Conditions for Comodules and Corings (MS/ CORINGS/296)
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Mathematical Sciences	<b>Dr. Mohammad Samman</b>	Some Development in Near-Ring Theory (Sabbatical leave proposal) (MS/NEAR-RING/314)
Mathematical Sciences	<b>Dr. Naser-Eddine Tatar</b> <b>Dr. Mohammad R. Alamia</b>	Stabilization of a Partially Viscoelastic Material (MS/VISCO/326)
Mathematical Sciences	<b>Dr. Hassan Muttalak (Math)</b> <b>Mr. Marwan Al-Momani</b> <b>Mr. Mohammad Saleh</b>	Estimating $P(Y < X)$ Using Ranked Set Sampling in Case of the Exponential Distribution (MS/Set-Sampling/330)
Mathematical Sciences	<b>Dr. Abdeslem Lyaghfour (Math)</b>	On the Continuity of the Free Boundary in a Class of Elliptic Free Boundary Problems with Neumann Boundary Condition (MS/Neumann/333)
Mathematical Sciences	<b>Dr. Salim Messaoudi (Math)</b>	General Decay in Viscoelastic Damped Equations (MS/Decay/334)
Mathematical Sciences	<b>Dr. Ibrahim Rahimov (Math)</b>	Functional Limit Theorems for Branching Stochastic processes with Time-Dependent Immigration (MS/Theorems/335)
Mathematical Sciences	<b>Dr. Jawad Abuilhail (Math)</b> <b>Mr. Mohammad Jarar (Math)</b>	The Structure of Tilting Modules Over Commutative Rings (MS/Rings/351)
Mathematical Sciences	<b>Dr. Abdulrahman Alshuaibi (Math)</b>	Regularization and the Inverse Laplace Transform (Sabbatical leave proposal) (Host Institute: University of West Georgia,

Mathematical Sciences	<b>Dr. Kassem Mustapha (Math)</b>	USA) (MS/Laplace/354)  An Alternative Direction Implicit Quadrative Petrov-Galerkin Method for Solving a Class of Time-Dependent Problem (MS/QUADRATIVE/356)
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Mathematical Sciences	<b>Dr. Qamrul Hasan Ansari</b> <b>Dr. Soliman Alhomidan (Math)</b>	Multiobjective Optimization and Vector Variational Inequalities (MS/VECTOR/357)
Mathematical Sciences	<b>Dr. Abdul Rahim Khan</b> <b>Dr. Soliman Alhomidan</b> <b>Dr. Qamrul Hasan Ansari</b> <b>Mr. Shamsuddeen Khan</b>	Iterative Methods for Solving Variational Inequalities with Applications (MS/Applications/362)
Mathematical Sciences	<b>Dr. Said Berrimi (DCC)</b> <b>Dr. Salim Messaoudi</b>	Study of Decay in Some Thermoelastic Systems (MS-DCC/Decay/360)
Mathematical Sciences	<b>Dr. Salah-Eddine Kabbaj</b>	Trivial Ring Extensions Defined by Gaussian Conditions (MS/Ring/368)
Mathematical Sciences	<b>Dr. Salah-Eddine Kabbaj</b>	Subalgebras of Affine Domains Over a Noetherain Domain (MS/Domain/369)
Mathematical Sciences	<b>Dr. Rajai Al-Assar</b>	Transient Inviscid Flow Past Two Cylinders (MS/Inviscid/375)
Mathematical Sciences	<b>Dr. Mohammad El-Gebeily</b> <b>Mr. Shafiqur Rahman (RI)</b>	Wavelet and Fractal Methods for the Analysis of Meteorological Data of Saudi Arabia: Phase 2 (MS/WAVELET-2/378)
Mathematical Sciences	<b>Dr. Ibrahim Rahimov (Math)</b> <b>Dr. Mohammad Omar (Math) and Mr. Musawar Malik (Math)</b>	Investigation of the Validity of the Bootstrap in a Non-Homogeneous Branching Stochastic Process (MS/Bootstrap/396)

Mathematical Sciences	<b>Dr. Mohammad Tahir Mustafa and Dr. Hasan Azad (Math)</b>	Group Classification Optimal System and Optimal Symmetry Reductions of a Class of Klein-Gordon Equations <b>(MS/Gordon/397)</b>
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Physics	<b>Dr. S.M. Al-Amoudi Dr. H. Bahlouli</b>	Real-Time Dynamics of Bose-Einstein Condensates <b>(PH/BOSE/241)</b>
Physics	<b>Dr. Abdullah Alsunaidi (Phys) Dr. Basel Abu Sharkh (Che)</b>	Self-Assembly in Confined Semiflexible Copolymers <b>(PH/COPOLYMERS/268)</b>
Physics	<b>Dr. G.D. Khattak (Phys) Dr. A. Mekki (Physics)</b>	Direct Current (DC) Conductivity Studies of Strontium-Borate Vanadate Glasses. <b>(PH/Glasses/346)</b>
Physics	<b>Dr. Mohammad Al-Kuhaili Dr. S.M.A. Durrani Dr. E.E. Khawaja (Consultant)</b>	Development of a New Method for Determining the Optical Constants (n and k) of Thin Inhomogeneous Films <b>(PH/OPTICAL/286)</b>
Physics	<b>Dr. M.I. Al-Jarallah</b>	Radon Gas and Radiation Dangers (Sabbatical leave to write a book) <b>(PH/RADON GAS/315)</b>
Physics	<b>Dr. Nouar Tabet Dr. A. Mekki Dr. K. Mezghani (Mech Engg.)</b>	DC-Magnetron Sputtering Synthesis and Characterization of the Physical Properties of Zinc Oxide Thin Films <b>(PH/DC-MAGNETRON/299)</b>
Physics	<b>Dr. A.A. Naqvi (Phys) Dr.M.M. Nagadi (Phys) Dr. Omar Al-Amoudi (CE) Dr. M. Maslehuddin (RI)</b>	Measurement of Chloride Concentration in Silica Fume and Fly Ash Cement Concretes Using PGNAA Technique <b>(PH/FLY ASH/305)</b>
Physics	<b>Dr. S.M.A. Durrani (Phys) Dr. M.F. Al-Kuhaili (Phys)</b>	Cerium Oxide Tin Film Gas Sensor for Monitoring of

	<b>Mr. B.J. Abdul-Aleem (ME)</b>	Carbon Monoxide <b>(PH/CERIUM/355)</b>
Physics	<b>Dr. A.K. Aksoy (Physics)</b> <b>Mr. Mohammad Raashid (Physics)</b>	Enhancement of Technical Capability of the 14 MeV FNAA Facility at KFUPM <b>(PH/FNAA Facility/357)</b>
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Physics	<b>Dr. Khalil Ziq</b> <b>Mr. A. Ghannam</b> <b>Mr. A.F. Salem</b>	Magnetic Properties of ZnO-TM Semiconductor <b>(PH/Magnetic/364)</b>
Physics	<b>Dr. Abdullah Alsunaidi</b>	Dynamics and Morphology of Phase Separating Liquid-Crystal/Polymer Blends <b>(PH/Crystal/382)</b>
Physics	<b>Dr. Abdulaziz Aljalal</b> <b>Dr. Ibrahim Nasser</b> <b>Mr. Khateeb-ur-Rahman</b>	Manual Editing entitled General Physics: Multiple-Choice Questions: Waves, Thermodynamics, Electricity and Magnetism <b>(PH/Multiple Questions/384)</b>
<b>College of Environmental Design</b> Architecture Department	<b>Dr. Rabee Reffat (ARC)</b> <b>Dr. Emad El-Sebakhy (ICS)</b>	<b>A Semantic Based Virtual Design Environment for Digital Designing in Architecture</b> <b>(ARC/SEMANTIC/311)</b>
Architectural Engineering Department	<b>Dr. Ismail Budaiwi</b> <b>Dr. Adel Abdou</b> <b>Dr. Maatouk Khoukhi</b>	The Impact of Moisture Content on the Thermal Conductivity of Fibrous Insulation Materials <b>(IN080390)</b>
Construction Engineering & Management Dept.	<b>Dr. Mohammad Al-Khalil</b>	The Value Engineering Experience at Saudi Aramco <b>(CEM/VALUE ENG/276)</b>
City & Regional Planning Dept.	<b>Dr. Adel Aldosary</b> <b>Mr. Syed Masiur Rahman</b>	Localization in Saudi Arabia: Social and Economic Perspectives <b>(CRP/Localization/353)</b>

Architecture Department	<b>Dr. Hamoud Dehwah (ARE)</b> <b>Dr. Mohd. Maslehuddin (RI)</b> <b>Dr. Omar B. Al-Amoudi</b> <b>(CE)</b>	Optimization of Mix Design and Durability of Self- Compacted Concrete <b>(ARE/Concrete/343)</b>
<b>College of Industrial Management</b> Department of Management & Marketing	<b>Dr. Mohammad Bureay</b>	<b>Islamic Management and Administration</b> <b>(CIM/ISLAMIC MGT/289)</b>
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Department of Management & Marketing	<b>Dr. Muhammad A. Sadi</b> <b>Dr. Mohammad Al-Bureay</b>	An Examination of Saudization Policy in the Service Sector: The Replacement of Foreign Workers with Locals in Saudi Arabia <b>(CIM/Saudization/339)</b>



#### 4. RESEARCH PROPOSALS UNDER REVIEW

##### SUBMITTED IN 2005-2006

#	Name of Faculty & Department	Title of Research Proposal
1.	Dr. Ahmed Z. Algarni Dr. Ayman H. Kassem (Aerospace Engg.)	A Toolbox for Remote-Sensing-Satellite Mission-Analysis and Design

##### 2006-2007

#	Name of Faculty	Department	Title of the Research Proposal
IP-2007-29	Dr. A.A. Naqvi, Dr. Nabil Maalej, Dr. M.I. Al-Jarallah, Mr. Khatib ur Rahman, Mr. Asad ul Islam and Mr. Mohammad Raashid	Physics Physics	Design and Tests of An accelerator based Beam Shaping Assembly for Boron Neutron Capture Therapy Duration: 36 months Budget: SR. 983,000
IP-2007-31	Dr. Mohammad Hawwa	Mechanical Engg.	Ultrasonic Characterization of Inhomogeneous Cladded Plates Duration: 12 months Budget: SR. 29,100
IP-2007-35	Dr. H.M. Masoudi Dr. M.A. Gondal Dr. E. Hegazi Dr. J. Pola (Consultant)	EE Dept. Physics Physics Consultant from Czech Republic	Laser Approach to Metal Nanoalloys, Its Optimization and Search for Novel Alloy Nanostructures Duration: 36 months Budget: 1,191,900
IP-2007-41.	Dr. Mahmoud O. Elish	ICS Dept.	Object-Oriented Software Maintainability Forecasting Models Based on Computational Intelligence: Methodology and Applications Duration: 28 months Budget: SR. 195,000

**SUBMITTED IN 2007-2008**

#	Name of Faculty	Department	Title of the Research Proposal
IP-2008-01	Dr. Salim Messaoudi	Department of Mathematics & Statistics	General Decay in Some Timoshenko-type Systems Budget: SR. 33,600 Duration: 12 months
IP-2008-02	<b>BOOK-WRITING PROPOSAL</b>	<b>SUBMITTED BY DR. RAJAI ALASSAR</b>	2 EVALUATIONS RECEIVED AS OF 6.11.2007 AND TO BE DISCUSSED
IP-2008-03	Dr. Ibrahim Rahimov, Dr. Mohammad Omar and Mr. Musawar Malik	Mathematical Sciences Dept.	Investigation of the Validity of the Bootstrap in a Non-Homogeneous Branching Stochastic Process Budget: SR. 99,200 Duration: 18 months
IP-2008-04	Dr. Ibrahim Allam, Dr. Noman Abu-Dhier, Dr. Abdulrahman N. Shuaib and Dr. Amro Al-Qutub	Mechanical Engineering	High Temperature Oxidation Behavior of Transition Metal Carbides for Cutting Tool Applications Budget: SR. 966,000 Duration: 36 months
IP-2008-05	Dr. Steven Binns	Mathematics & Statistics	Algorithmic Complexity and Effectivity Closed Classes Budget: SR. 51,400 Duration: 12 months
IP-2008-06	Dr. Mohammad Antar, Dr. Rached Ben Mansour, Dr. Salem Al-Dini	Mechanical Engineering	Fluid Flow and Heat Transfer Characteristics in a Varying Speed Lid-Driven Cavity Budget: SR. 105,200 Duration: 24 months
IP-2008-07	Dr. Ashraf Al-Azzouni and Dr. M. Abido	CEM Dept. EE Department (Caution: Similar titled	Finite-Based Scheduling of Construction Projects Using Evolutionary Algorithms Budget: SR. 143,300 Duration: 13 months

		proposal was approved last year (SB070012) Finance-based Scheduling of Multiple Simultaneous Construction Projects	
<b>IP-2008-08</b>	Dr. Abdulhafez Selim and Prof. Dr. Boala Divieti (External Consultant)	Physics Dept. <b>(Bookwriting Proposal)</b>	Osteocyte Biology and its Clinical Implications Budget: SR. 54,900 Duration: 24 months
<b>IP-2008-09</b>	Dr. Nesar Merah, Dr. Zafarullah Khan and Dr. Abdulaziz Bazzoune	Mechanical Engineering Dept.	Natural and Accelerated Weathering Effect of Tensile and Impact Properties of CBVC Pipe Material <b>(Proposal with Release time for Dr. Merah)</b> Budget: SR. 121,300 Duration: 24 months
<b>IP-2008-10</b>	Dr. Abdullatif Sohail	Earth Sciences Department <b>(Industrial Sabbatical Leave)</b>	<b>Industrial Sabbatical Leave Proposal entitled "Using Seismic Interferometry for Near-Surface Model Estimation" for six months.</b>
<b>IP-2008-11</b>	Dr. Jauwad Abuhlail	Mathematics & Statistics	Semibialgebras and Hopf Semialgebras Budget: SR. Duration: 24 months Budget: SR. 63,000
<b>IP-2008-12</b>	Dr. H.E. Emara-Shabaik Dr. Magdi S. Mahmoud	Systems Engineering Systems Engineering	Realizable State Estimation for Uncertain Descriptor System Duration: 24 months Budget: SR. 124,500
<b>IP-2008-13</b>	Dr. Magdi Mahmoud and Dr. Fouad Al-Sunni	Systems Engineering	Improved Stabilization Methods for Dynamical Systems with State- and Input Delays Duration: 18 months Budget: SR. 82,800
<b>IP-2008-14</b>	Dr. M. Sadiq Sohail	Management & Marketing	Marketing Strategy, Related Factors and Performance of Firms in Saudi Arabia: An Examination of their Relationships Duration: 18 months Budget: SR. 75,500

<b>IP-2008-15</b>	Dr. Mihai Halic	Mathematics & Statistics	Algebraic Hamiltonian/Gauge theoretical Gromov-Witten invariants Duration: 24 months SR. 71,000
<b>IP-2008-16</b>	Dr. Mohammad Tahir Mustafa and Dr. Hasan Azad	Mathematics & Statistics	Group Classification Optimal System and Optimal Symmetry Reductions of a Class of Klein-Gordon Equations Duration: 12 months Budget: SR. 46,400
<b>IP-2008-17</b>	Dr. Muataz Ali Atieh	Chemical Engineering	Production of Carbon Nanotubes (CNTs) by Using Fluidized Bed Chemical Vapor Disposition (FB-CVD) for Nanotechnology Application Duration: 24 months Budget: SR. 480,200
<b>IP-2008-18</b>	Dr. Abdul Karim Zahrani Dr. Moustafa El-Shafei Ahmed, Dr. Atef Al-Najjar, Dr. Essam Eid Abu-Gharbia, Dr. Saeed Ben Ali Al-Amri, Dr. Abdul-Majeed Al-Mubarak and Mr. Husni Al-Muhtaseb	Islamic & Arabic Studies SE Dept., Computer Engg. Dept. and ICS Dept.	Automatic Voice Identification of Arabic Poetry Meters Duration: 24 months Budget: SR. 802,600
<b>IP-2008-19</b>	Dr. Nu'man Abu-Dheir and Dr. Bekir Sami Yilbas	Mechanical Engineering Dept.	Quality assessment and Metallurgical Examination of Laser Welded Sheets Budget: SR. 75,000 Duration: 12 months
<b>IP-2008-20</b>	Dr. Rabee Reffat, Mr. Mir Sabeer Hamid and Mr. Yaman	Architecture Department ARE Dept. ICS Dept.	A Knowledge-Based Tool for Contextual-Based Assessment of Intelligent Buildings Duration: 30 months SR. 182,800

	Khaeruzza n		
<b>IP- 2008- 21</b>	Dr. Ahmad S. Al- Gahtani, Dr. Shamshad Ahmad, Eng. M, Mukarram Khan and Dr. M. Maslehudd in	Civil Engineering Dept.	Effect of Curing Methods on Properties of Plain and Blended Cement Concretes Budget: SR. 379,800 Duration: 24 months
<b>IP- 2008- 22</b>	Dr. Husain J. Al- Gahtani and Dr. Faisal Fairag	Civil Engineering Math & Statistics	Application of Radial Basis Functions to Incompressible Solids and Fluids Duration: 30 months Budget: SR. 101,000
<b>IP- 2008- 23</b>	Dr. Ibnelwalee d Hussein and Mr. M.A. Suleiman (With release time for Dr. Ibnelwalee d Hussein for one term)	Chemical Engineering Dept.	Potential of Nanomaterials in Fluid Drag Reduction of Emulsified Acids Used in Oil Simulation Duration: 24 months Budget: SR. 169,600

**PROPOSALS SUBMITTED UNDER JUNIOR FACULTY RESEARCH GRANTS**  
**DURING THE ACADEMIC YEAR 2007-2008**

#	Name of Faculty	Department	Title of the Research Proposal
1.	Dr. Abdulhafez Selim	Physics Department	<b>NOT ELIGIBLE. SO, PROPOSAL WAS NOT CONSIDERED.</b>
2.	Dr. Khairul Salah Consultant: Dr. A.H. Bokhari	Mathematics & Statistics	Multiple Attractors Involving Chaos in Predator-Prey Models with Seasonal Effects Duration: 11 months Budget: SR. 42,500
3.	Dr. Khalid Al-Shammari, Mathematical Sciences Dept.. Consultant: Dr. Mohamed Ali El-Gebeily, Math. & Statistics	Mathematics and Statistics	Quazilinearization in Hilbert Spaces with Minimal Smoothness Requirements Duration: 11 months Budget: SR. 35,000
4.	Dr. Ahbdulhadi Al-Juhani and Dr. Ibnelwaleed Hussein (Consultant)	Chemical Engineering	Effect of Compatibilizing Agents on the Morphology, Mechanical, Thermal, and Rheological Properties of Polyethylene/ Polypropylene Blends Duration: 11 months Budget: SR. 50,000
5.	Dr. Mohammad Ba-Shammakh,	Chemical Engineering Department	An Optimal Strategy for Integration of SO <sub>2</sub> Reduction into Refinery Production Planning Duration: 11 months Budget: SR.
6.	Dr. Lahouari Ghouti Dr. Azzedine Zerguine (Consultant-EE Dept.)	ICS Department	Securing Fingerprint Images: A Powerful Tool for Biometric Authentication Duration: 11 months Budget: SR. 50,000

**5. BOOK-WRITING PROPOSALS SUBMITTED FOR FUNDING**  
**WHICH ARE UNDER REVIEW**

#	Name of Faculty	Department	Title of the Research Proposal
1	Dr. Rajai Alassar, Jawad Abuihlail and Dr. Mohammad Z. Abu-Sbieh	Mathematics & Statistics	Math Olympiad Problem Book (Duration: 18 months. Budget requested: SR. 95,600)
2	Dr. Abdulhafez Selim and Prof. Dr. Boala Divieti (External Consultant)	Physics Dept. (Bookwriting Proposal)	Osteocyte Biology and its Clinical Implications Budget: SR. 54,900 Duration: 24 months

## 6. SABBATICAL LEAVE PROPOSALS RECEIVED FOR 2008/2009

#	Name of Faculty	Department	Title of the Research Proposal
1	Dr. Abdullatif Sohail	Earth Sciences	Industrial Sabbatical Leave Proposal entitled "Using Seismic Interferometry for Near-Surface Model Estimation" for six months Sabbatical year: 2008-09
2	Dr. Mohammad A. Alsahlawi	Finance & Economics	An Alternative Oil Pricing Currency to Impact OPEC's Economies and the US Geopolitical Power Host University: Norwegian School of Petroleum Management
3	Dr. Soliman Almohawis	Construction Engineering & Management	Response of Real Estate Management Education to the Needs of the Real Estate Industry: A Case Study of the School of Design and Environment at the National University of Singapore (NSU). Sabbatical year: September 2008 to August 2009
4	Dr. Haidar H. Madani	Accounting & MIS Dept.	An Industry-Experience Leave at the World Bank: Learning About the Role of Auditing in Enforcing Compliance to Effective Accounting Disclosure and Corporate Governance: Sabbatical year: September 2008 to August 2009



**7. SABIC AND FAST TRACK PROPOSALS RECEIVED FOR FUNDING DURING  
NOVEMBER 2007 FOR FUNDING**

<b>S. No.</b>	<b>Name of Faculty and Department</b>	<b>Title of the Proposal</b>
<b>SF/2008-01</b>	Dr. Ibrahim Rahimov, Mathematics & Statistics	Estimation of the Offspring Mean in a Branching Process with Non-Stationary Immigration
<b>SF/2008-02</b>	Dr. Abdelwahab Kharab (Math & Statistics) Dr. Fatah Z. Khiari (Physics) Mr. Mustafa Bouchama (Civil Engineering)	Pressure Shock Waves Generated by a Projectile Penetrating Saturated Sandy Media
<b>SF-2008-03</b>	Dr. Hanafy Omar Aerospace Engg.	Designing a Nonlinear Anti-Swing Controller for Helicopter Slung-Load System Near Hover
<b>SF-2008-04</b>	Dr. Salim Messaoudi and Mr. Muhammad Islam Mustafa (Department of Mathematics and Statistics)	On the Internal and Boundary Stabilization of some Timoshenko-type Systems
<b>SF-2008-05</b>	Dr. Abu Hamed Abdur- Rahim and Dr. Ibrahim Habiballah, Electrical Engineering	Control of Doubly-Fed Induction Generator Based wind Generation Systems
<b>SF-2008-06</b>	Dr. Esmail M.A. Mokheimer (Mechanical Engineering Dept.)	Entropy Generation due to Laminar Mixed Convection in Vertical Channels
<b>SF-2008-07</b>	Dr. H. Bahlouli (Physics) Dr. M.S. Abdelmonem (Physics Dept.) Dr. E. El Aoud (University of Hail) Dr. A.D. Alhaidari (Consultant)	One Dimensional J-Matrix Scattering Theory
<b>SF-2008-08</b>	Dr. H. Bahlouli (Physics) Dr. M.S. Abdelmonem (Physics Dept.) Dr. I.M. Nasser (Physics Dept.) and Dr. A.D. Alhaidari (Consultant)	Computations of Bound States and Resonances Using the J-Matrix Approach
<b>SF-2008-09</b>	Dr. Ashfaque Hussain Bokhari and Dr. F.D. Zaman, Math. & Statistics	Noether Symmetries of Some Lorent Geometries
<b>SF-2008-10</b>	Dr. Zakariya M. Al- Hamouz, Electrical Engineering	Experimental and Numerical Study of Fly Ash Precipitation in a Proto-type Model

<b>SF-2008-11</b>	Dr. Amjad Khalil Physics Department	Isolation and Characterization of Thermostable Enzymes (Amylases, Lipases and Glucosidases) from Thermophilic Bacteria Isolated From Desert Sand and Hot Spring in Saudi Arabia for Industrial Applications
<b>SF-2008-12</b>	Dr. Abul Fazal M. Arif and Dr. Bekir S. Yilbas (Mechanical Engg.)	Numerical Modeling of Laser Welding process Using Volumetric Moving Heat Source
<b>SF-2008-13</b>	Dr. Abul Fazal M. Arif Dr. Anwar Khalil Sheikh Dr. Yagoub Al-Nasser (Mechanical Engg.)	Effect of Surface Preparation and Profile Geometry on the Case-Hardening of H13 Tool Steel
<b>SF-2008-14</b>	Dr. Abdulwahab S. Al-Gahtani, Dept. of Management & Marketing	The Status and Needs of Research and Development in Saudi Arabia
<b>SF-2008-15</b>	Dr. Rached Ben Mansour and Dr. M.A. Habib Mechanical Engg.	Use of Nano-fluids for Improved Natural Cooling of Discretely Heated Cavities
<b>SF-2008-16</b>	Dr. Muataz Ali Atieh Chemical Engineering	Production of Carbon Nanotubes (CNTs) by Using Double Stage Chemical Vapor Disposition (DS-CVD)
<b>SF-2008-17</b>	Dr. Jawad Abuihlail, Dept. of Math. & Statistics	Zariski-Like Topologies for Modules Over Commutative Rings
<b>SF-2008-18</b>	Dr. Reyad Shawabkeh Chemical Engineering	Adsorption of Anthracene, Naphthalene and 2-chlorophenol by Activated Carbon from Palm-date pits
<b>SF-2008-19</b>	Dr. Abdel-Nasser Kawde Chemistry Department	Electrochemical Sensors for On-site Monitoring of Heavy Metals in Drinking and Ground Waters in the Western Area of Saudi Arabia
<b>SF-2008-20</b>	Dr. Mohammad A. Bokhari Dr. Mohd. Al-Attas Dept. of Math & Statistics	Interpolation Outside the Interval of Convergence
<b>SF-2008-21</b>	Dr. Mohammad Sadiq Sohail and Dr. Salem M. Al-Ghamdi, Department of Management & Marketing	The Relationship between Strategy, Reward and Organizational Performance: An Empirical Investigation
<b>SF-2008-22</b>	Dr. Ahmed Sedky (ARC) Dr. Mohammad A. Hassanain (ARE)	A Framework for a Sustainable Real Estate Investment Through Adaptive Reuse of Built-Facilities in Saudi Arabia
<b>SF-2008-23</b>	Dr. Essam E. Hassan (EE) and Dr. Mohammed El-Gebeily (Math)	Design of Microwave Filters Using Continuously Varying Transmission Lines
<b>SF-2008-24</b>	Dr. Tareq Y. Al-Naffouri Electrical Engineering	Using the Cyclic Prefix for Blind Equalization in OFDM
<b>SF-2008-25</b>	Dr. Azzedine Zerguine & Dr. Muhammad	Convergence and Tracking Analysis of the Normalized Least Mean Fourth Algorithm without

	Moinuddin Electrical Engineering	the Independence, Long Filter and Small Step Size Assumptions
<b>SF-2008-26</b>	Mr. Abdelouhab Bentrchia Dr. Azzedine Zerguine Electrical Engg. Dept.	Development of New Models for the Asynchronous CDMA Multipath Fading Channel
<b>SF-2008-27</b>	Dr. Mohammad Alshayeb	Refactoring Classification Based on Class and Software Architecture Stability
<b>SF-2008-28</b>	Dr. Shafique Khan and Dr. Nekar Merah, ME Dept.	Exploring the Effect of Thickness on the Crack Tip Plastic Zone and Crack Initiation Angles
<b>SF-2008-29</b>	Dr. Bekir Sami Yilbas, Dr. Shafique Khan and Mr. Muhammad Kamran Raza, ME Dept.	Investigation of Quality and Metallurgical Aspects of Laser Cutting of Aluminum Alloy
<b>SF-2008-30</b>	Dr. Qamrul Hasan Ansari and Dr. Soliman Alhomidan, Dept. of Math. And Statistics	Ekeland's Variational Principles for Set Values Maps and Generalized Equilibrium Problems
<b>SF-2008-31</b>	Dr. Soliman Alhomidan Dr. Qamrul Hasan Ansari	Minimal Condition Number for Positive Definite Hankel Matrices
<b>SF-2008-32</b>	Dr. Luai Al-Hadhrami, Mech. Engg. Dept. and Dr. Mohammad Maslehuddin, Res. Institute	Assessing Concrete Density Using Infrared Thermo-Graphics (IRT) Images
<b>SF-2008-33</b>	Dr. Luai Al-Hadhrami and Mr. Abdul Quddus	Experimental Comparison of Calcium Sulfate $\text{CaSO}_4$ Salt Deposition on Coated Carbon Steel and Titanium Surfaces
<b>SF-2008-34</b>	Dr. M. Halic, Dept. of Math. & Statistics	The GIT Fan of affine varieties
<b>SF-2008-35</b>	Dr. Farooq Saeed Dr. Ahmad Z. Al-Garni Aerospace Engineering	Development of a Design Method for Inertial or Sand Particle Separator
<b>SF-2008-36</b>	Dr. Ayman H. Kassem Mr. Ahmad Jamal, Aerospace Engineering	Reliability Forecasting Analysis of Aircraft Tires Using Weibull Regression and Neural Network Models
<b>SF-2008-37</b>	Dr. Mohammad Youssef (Dept. of Math. & Statistics) Dr. Khaled Masood of Afr Al Batin	Regularization of Initial Inverse Problems in Heat Equations Using Finite Difference Methods and Positivity Deserving Pade Schemes
<b>SF-2008-38</b>	Dr. Khaled Furati and Dr. N.A. Tatar Dept. of Mathematics & Statistics	On Inequalities involving Fractional Derivatives
<b>SF-2008-39</b>	Dr. Wael Abdulrahman, Aerospace Engg.	Investigation of The Wave Propagation Characteristics of Functionally Graded Material Plates with Piezo Electric Elements
<b>SF-2008-</b>	Dr. Mohammad Antar	Analysis and Assessment of Performance of a

<b>40</b>	Dr. S.M. Zubair Mechanical Engg.	MSF Evaporation Desalination Plant
<b>SF-2008-41</b>	Dr. Ashraf El-Azzouni CEM Department Dr. Osama Abdulwahhab (Consultant)	Utilizaiton of Pattern Recognition Techniques to Monitor the Progress of Construction Projects
<b>SF-2008-42</b>	Dr. Salah Al-Dulaijan Dr. M. Maslehuddin Dr. M.M. Al-Zahrani, Civil Engg. Dept.	Performance Evaluation of Corrosion Resistant Reinforcing Steel Bars: Service Life Prediction and Service Life Cost
<b>SF-2008-43</b>	Dr. Mahmoud Elish Dr. Emad El-Sebakhy Dr. Mohammad Al-Shayeb ICS Department	Object-Oriented Software Maintainability Prediction Based on Functional Networks
<b>SF-2008-44</b>	Dr. Habib I. Abualhamayel, Dr. M.A. Habib and Dr. R. Ben-Mansour, Mechanical Engg. Dept.	NOx Formulation During Transient Modes of Tangentially Fired Furnaces
<b>SF-2008-45</b>	Dr. Abdulhafez Selim Physics Dept. Consultant: Dr. Marina D'Anjelo	Use of Novel MMP-13-Derived Peptide to Treat Asteo-Arthritis in Rat Animal Model
<b>SF-2008-46</b>	Dr. Salim Messaoudi Dr. N.A. Tatar Mr. Mohammad Kafini Math. & Statistics Dept.	Stabilization in Viso-Elastic Problems in Rn

## **8. PUBLICATIONS IN REFEREED JOURNALS**

## REPORTED AFTER JULY, 2007

### College of Engineering

#### Civil Engineering

1. "Elasto-Damage Model for High Strength Concrete Subjected to Multiaxial Loading", **Khan, A.R., Al-Gadhib, A.H. and Baluch, M.H.**, International Journal of Damage Mechanics, Vol. 16, No. 3, July 2007, pp. 361-398.
2. "Effects of Aggregate Size and Type and Mold Size on the Load Carrying Capacity of Calcareous Fines-Gravel Mixtures", **Aiban, S.A. and Aurifullah, V.**, ASCE Journal of Materials in Civil Engineering, Vol. 19, No. 10, 2007, pp. 1-14.
3. "Leaching Characteristics of a Fine-Grained Calcareous Sediment", **Aiban, S.A.**, Quarterly Journal of Engineering Geology and Hydrogeology, Vol. 40, 2007, pp. 251-266.
4. "Performance of an Immersed Membrane Bioreactor (IMBR)", **Al-Malack, M.H.**, Desalination, Vol. 214, 2007, pp. 112-127.
5. "Performance of Plain and Blended Cements Exposed to Varying Concentrations of Sodium Sulfate", **Al-Zahrani, M.M.**, Advances in Cement Research, Vol. 19, No. 1, 2007, pp. 1-8.

#### Chemical Engineering

1. "Cobalt and zinc removal from aqueous solution by chemically treated bentonite", **Shawabkeh Reyad, Al-Khashman Omar, Al-Omari Hamzeh, Shawabkeh Ali**, The Environmentalist, Vol. 27, No. 3. (September 2007), pp. 357-363.
2. "Xylenes Reactions and Diffusions in ZSM-5 Zeolite based Catalyst", **Al-Khattaf, S.**, Ind. Eng. Chem. Res., 46(1), 59-69 (2007).
3. "Effect of Y-Zeolite Acidity on 1,2,4 Tri Methyl Benzenes Reactions" **Al-Khattaf, S.**, Energy & Fuel, 21(2); 646-652 (2007)
4. "1,2,4-Trimethylbenzene Transformation Reaction Compared with its Transalkylation Reaction with Toluene over USY-Zeolite Catalyst", **Al-Khattaf, S., N.M. Tukur, A. Al-Amer**, Ind. Eng. Chem. Res., 46(13), 4459-4467 (2007)
5. "Enhancing P-xylene selectivity during m-xylene transformation using mildly pre-coke ZSM-5 catalyst". **Al-Khattaf, S.**, Chemical Eng. & Processing, 46(10); 964-974 (2007).
6. "Catalytic transformation of 1,3,5-Trimethyl Benzene over USY Zeolite Catalyst". **N.M. Tukur and S. Al-Khattaf**, Energy & Fuel, 21(5); 2499-2508 (2007).

7. "Kinetics of Toluene Methylation over USY-Zeolite Catalyst in a Riser Simulator". **S. Al-Khattaf, S. Rabiou, N.M. Tukur, R. Alnaizy**, Chemical Engineering Journal (Accepted).
8. "Effect of Materials Selection and Design on the Performance of an Engineering Product-An Example from the Petrochemical Industry", **H. M. Tawancy, A. Ul-Hamid, A. I. Mohammed, and N. M. Abbas**, Materials and Design, 28(2), (2007), P.686-703
9. "Evolution of Oxide Scale on a Ni-Mo-Cr Alloy at 900°C", **A. Ul-Hamid, A. I. Mohammed, S. S. Al-Jaroudi, H. M. Tawancy, and N.M. Abbas**, Materials Characterization, 58(1),(2007), pp.13-23.
10. "Evaluation of Methanol Crossover Through SPEEK/TPA/Y-Zeolite Composite Membranes by Electrochemical Methods", **S.M. Javaid Zaidi, M. Bello and S.U. Rahman**, ECS Transactions, Vol. 5, Issue 1 (2007), pp. 69-78.
11. "An Integrated Electrolytic-Electrodialytic Process to remove heavy metals from wastewater", **N. Abu Ghander, , S.U. Rahman, S.M.J.Zaidi**, Purtogese Electrochimica Acta ( in Press).
12. "On Bubble-Side Transport Limitations in Catalytic Fluid-Bed Reactors", **A.A. Shaikh and S.S. Batran**, Chemical Engineering Research & Design (Transactions of Institution of Chemical Engineers - Part A), **85** (2007), pg. 1215.
13. "Natural convective mass transfer from upward pointing conical surfaces in porous media" **S. U. Rahman, K. Mahgoub and A. Nafees**, Chemical Engineering Communications, 194 (3): 280-290 MAR 2007
14. "Experimental study of natural convective mass transfer from downward pointing conical surfaces in porous media". **S. U. Rahman, K. Mahgoub and A. Nafees**, Journal Of Porous Media, 10 (3): 277-286 2007
15. "Rheological Investigation of the influence of Molecular Structure on the Natural and accelerated weathering of LLDPE", **Ibnelwaleed A. Hussein**, Polymer Degradation and Stability, in press.
16. "Influence of Mw on the non-isothermal Crystallization Kinetics of Zighler-Natta and Metallocene HDPE", **Ibnelwaleed A. Hussein**, Applied Polymer Science, in press
17. "Rheological Behavior of pH Responsive Associating Ionic Polymers of Diallylammmonium salts and Sulfur dioxide", **Yunusa Umar, Shaikh Asrof Ali, Ibnelwaleed A. Hussein, Basel Abu-Sharkh**, Applied Polymer Science.
18. "Rheokinetic Study of an Organically Cross-linked Polymeric Gel Used for Water Shut-Off", **J Ghaithan A. Al-Muntasheri, Hisham A. Nasr-Eldin, Ibnelwaleed A. Hussein**, Petroleum Science & Engineering, in press.
19. "Viscoelastic Properties of a High Temperature Cross-linked Water Shut-Off Polymeric Gel", **Ibnelwaleed A. Hussein, Hisham A. Nasr-Eldin, Mohamed B.**

**Amin, Ghaithan A. Al-Muntasheri, J.** Petroleum Science & Engineering, 55, 56-66, 2007.

20. "Influence of Branch Content, Comonomer Type and Composition Distribution on non-isothermal Crystallization Kinetics of Metallocene LLDPEs", **Ashraful Islam, Ibnelwaleed A. Hussein, Muhammed Atiqullah**, European Polymer Journal, 43, 599-610, 2007.
21. "Viscoelastic Properties of an Organically x-linked Water shutoff Polymeric Gel", **G.A. Al-Muntasheri, I.A. Hussein, Hisham A. Nasr-El-Din, Mohamed B. Amin**, Petroleum Engineering & Science, 55, 56-66 (2007)

#### Electrical Engineering

1. "A new mixed-mode OTA-C filter/oscillator circuit", **M.T. Abuelma'atti and A. Bentrchia**, Electronics World, Vol. 113, # 1857, pp: 42-45. September 2007.
2. "Large signal performance of micromachined silicon inductive, microphones", **M.T. Abuelma'atti**, Applied Acoustics, Vol. 68, pp. 1286-1296. 2007.
3. "Theoretical analysis of the intermodulation performance of Mach-Zehnder modulators with difference frequency injection", **M.T. Abuelma'atti**, International Journal of Infrared and Millimeter Waves, Vol. 28, pp. 831-838, 2007.
4. "Large signal analysis of the infrared semiconductor mercury-cadmium-telluride detectors", **M.T. Abuelma'atti**, International Journal of Infrared and Millimeter Waves, Vol. 28, pp. 849-858, 2007.
5. "A novel current-mode OTA-C universal filter", **M.T. Abuelma'atti and A. Bentrchia**, Active and Passive Electronic Devices, Vol. 2, pp. 279-284, 2007.
6. "Robust STATCOM Controller Design of a Multi-machine Power System Through PSO Based Loop-shaping Method", **A.H.M.A.Rahim, S.F.Faisal and J.M. Bakhashwain**, ICASTOR Journal of Engineering, Vol. 1, No. 2, 2007
7. "Performance of Coded Cooperative Diversity With Interference in Nakagami Fading Environments", **Salam Zummo**, Special Issue on Cooperation in Wireless Networks, Springer Wireless Personal Communications, Vol. 43, no. 1, pp. 29-40, October 2007.
8. "Performance Analysis of Coded Cooperation Diversity in Wireless Networks", **Salam Zummo**, Journal on Wireless Communications and Mobile Computing (WCMC), Vol. 7, no. 4, pp. 473-481.
9. "An EM-based forward-backward Kalman filter for the estimation of time-variant channels in OFDM", **T. Y. Al-Naffouri**, IEEE Transactions on Signal Processing, Vol. 55, July 2007.

10. "Theoretical Analysis of Magnetically switchable shorted patch antenna", **Sheikh S. I. and Al-Quraish K.** Electromagnetics, Vol.27, No.8, pp. 545-551, November, 2007.
11. "Application of Particle Swarm Optimization Algorithm for Optimal Reactive Power Planning", **Z. Al-Hamouz, S. Faisal, and S. Al-Sharif**, J. of Control and Intelligent Systems, Vol. 35, pp. 66-72, 2007.
12. "Diffraction of surface plasmon modes on abruptly terminated metallic nanowires", **S. J. Al-Bader and H. A. Jamid**, Physical Review B, Vol.76, No.23, 15 December 2007.
13. "A Chip-Level BSOR-Based Linear GSIC Multiuser Detector for Long-Code CDMA Systems", EURASIP Journal on Wireless Communications and Networking, **A. Bentrchia, A. Zerguine, and M. Benyoucef**, Volume 2007 (2007), Article ID 25945, 9 pages.

#### Mechanical Engineering

1. "Entropy generation due to forced convection fluid flow about a solid sphere", **M.A. Antar and M.A.I. El-Shaarawi**, Int. J. Exergy, Vol. 5, No. 1, 2008
2. "Liquid Desiccant Based Two-Stage Evaporative Cooling System Using Reverse Osmosis (RO) Process for Regeneration", **Al-Sulaiman, F. A., Gandhidasan, P. and Zubair, S.M.**, Applied Thermal Engineering, Vol. 27, October 2007, pp. 2449-2454.
3. "Application of Desiccant Technology for Concentrating Liquid Foods – Experimental Investigation," **Gandhidasan, P. and Abualhamayel, H.I.**, International Journal of Food Engineering, Vol. 3, 2007, Issue 5, pp. 1-14.
4. "Laser cutting of Kevlar and mild steel composite structure: end product quality assessment", **F. Al-Sulaiman, B.S. Yilbas, C. Karatas, O. Keles, I. Uslan, Y. Usta, M. Ahsan and A. Bazoune**, J. Materials and Engineering Performance, Vol. 161, pp. 22-29, 2007.
5. "Laser heating: jet emanating from laser induced cavity", **Yilbas B.S and Mansour S.B.**, Int. J. Thermal Sciences, 46 (4), pp. 385-398, 2007.
6. "Laser repetitive pulse heating influence of pulse duty", **Shuja S.Z., Yilbas B.S., and Shazli S.Z.**, Heat and Mass Transfer, Vol. 43, pp. 949–955, 2007.
7. "Laser treatment of cemented carbide cutting tool", **C. Karatas, - B.S. Yilbas, A. Aleem and M. Ahsan**, J. Material Processing Technology, Vol. 183(2-3), pp. 234-240, 2007.
8. "Laser pulse heating: modeling of cavity formation", **Saad, M., Yilbas B.S. and Shuja S.Z.**, Proc. Inst. Mech. Engrs., Part C: J. Mechanical engineering



Science, Vol. 221(3), pp. 307-328 , 2007.

9. "Entropy generation in a rotating channel flow resembling turbine cooling passage", **Basha M., Al-Qahtani M. and Yilbas B.S.**, Proc. Inst. Mech. Engrs., Part A, Journal of Power and Energy, Vol. 221(3), pp. 291-299, 2007.
10. "HVOF thermally sprayed CoNiCrAlY coatings on Ti-6Al-4V alloy: high cycle fatigue properties of coating", **Al-Anazi D., M.S.J. Hashmi and Yilbas B.S.**, Proc. Inst. Mech. Engrs., Part B, Journal of Engineering Manufacture, Vol. 221(4), pp. 647-654, 2007.
11. "HVOF coating of AMDRY 9954 onto Ti-6Al-4V alloy: fracture toughness measurement", **Al-Anazi D., M.S.J. Hashmi and Yilbas B.S.**, Proc. Inst. Mech. Engrs., Part B, Journal of Engineering Manufacture, Vol. 221(4), pp. 617-623, 2007.
12. "Symmetries and approximate solution of energy transfer equations in short pulse laser heating", **Pakdemirli M. and Yilbas B.S.**, Int. J. Thermal Sciences, Vol. 46, n 9, 908-913, 2007.
13. "Laser short-pulse heating of silver-chromium assembly: improved formulation of electron kinetic theory", **Yilbas B.S.**, Numerical Heat Transfer: Part A, Vol. 52, n 6, pp. 565-589, 2007.
14. "Jet impingement on cylindrical cavity: conical nozzle consideration", **Shuja S.Z., Yilbas B.S., and Budair M.**, J. Fluids and Structure, Vol. 23, pp. 1106-1118, 2007.
15. "Laser shock processing of aluminium: model and experimental study", **Yilbas B.S. and Arif A.F.M.**, Journal of Physics D: Applied Physics, Vol. 40, pp. 1-8, 2007.
16. "Corrosion Properties of HVOF Coated Steel in Simulated Concrete Pore Electrolyte and Concentrated Chloride Environments", **Khaled M. and Yilbas B. S.**, Surface and Coatings Technology, Vol. 202, pp. 433-438, 2007.
17. "Residual stress analysis for HVOF Diamalloy 1005 on Ti-6Al-4V alloy", **Yilbas B.S. and Arif A.F.M.**, Surface and Coatings Technology, Vol. 202, pp. 559-568, 2007.
18. "Analytical solution of laser short-pulse heating of gold films" **Yilbas B.S. and Pakdemirli M.**, Lasers in Engineering, Vol. 00, pp. 1-19, 2007.
19. "Laser short-pulse heating of a gold surface: comparison of absorption and surface heat flux heating situations" **Yilbas B.S.**, Numerical Heat transfer Part A, Vol. 52, pp. 87-100, 2007.
20. "Entropy generation rate during laser pulse heating: effect of laser pulse parameters on entropy generation rate", **H. Al-Qahtani and B.S. Yilbas**,

Optics and Lasers in Engineering, Vol. 46, pp. 27-33, 2007.

21. "Laser evaporative heating: Exact solution or temperature rise due to step input pulse", **H. Al-Qahtani and B.S. Yilbas**, Lasers in Engineering, Vol. 16, pp. 1-15, 2007.
22. "Laser cutting of multilayered Kevlar plates", **B.S. Yilbas, F. Al-Sulaiman, C. Karatas, and M. Ahsan**, Journal of Materials Engineering and Performance, Vol. 16, No. 6, pp. 663-671, 2007.
23. "Entropy Generation in Jet Emanating From Conical Nozzle and Impinging onto a Flat Plate: Influence of Nozzle Cone Angle", **Shuja S.Z. and Yilbas B.S.**, International Journal of Numerical Methods for Heat and Fluid Flow, Vol. 17, pp. 677-691.
24. "Entropy generation in laser heating in relation to machining", **Yilbas B.S. and Mansoor S. B.**, Heat and Mass Transfer, Vol. 44, pp.331-341, 2008.
25. "Laser heating of semi-infinite solid with consecutive pulses: influence of material properties on temperature field", **S.Z. Shuja, B.S. Yilbas and S.M.A. Khan**, Optics and Laser Technology, Vol. 40, pp. 472-80, 2008.
26. "Entropy generation rate during laser pulse heating: effect of laser pulse parameters on entropy generation rate", **H. Al-Qahtani and B.S. Yilbas**, Optics and Lasers in Engineering, Vol. 46, pp. 27-33, 2008, 2007.
27. "Laser treatment of HVOF coating: model study and characterization", **Taha-al Z.Y., Hashmi M.S.J., and Yilbas B.S.**, J. Mechanical Science and Technology, Vol. 21, pp. 1439-1444, 2007.

### Petroleum Engineering

1. Application of artificial neural network (ANN) in petrophysical evaluation of shaly sand reservoirs," **Hamada, G.M.**, NAFTA Journal, Year 58, No. 11, page # 551 – 555, Zagreb, R. of Croatia.

### College of Sciences

#### Chemistry Department

1. Comparison of the Quality of DFT Versus MP2 and MP3 Total Energies and an Unexpected Size Effect in the Conformational Equilibria Together with the Vibrational Analyses of Vinylhalogermanes", **W. Förner, H.M. Badawi** and Z.S. Seddigi, Asian Journal of Spectroscopy, 10, 15-36 (2006).
2. "The Conformational Stability of Several Vinylhalomethanes, Silanes, and Germanes using MP Perturbation Theory up to Fourth Order and DFT Together with a Valence Triple Zeta Basis Set with Polarization Functions, Compared with Experimental Results", **W. Förner and H. M. Badawi**, Canadian Journal of Analytical Sciences and Spectroscopy , 52, 101-119 (2007).
3. "Identification of Different Kinds of Plastics Using Laser Induced Breakdown Spectroscopy for Waste Management", **I. Gondal, M. A. and Siddiqui, M. N.**: Journal of Environmental Science and Health Part A, Vol. 42, No. 13, **2007**, p.1989-1997.
4. "Structural stability, "S-O rotational barrier and vibrational analyses of monomeric non-planar halosulfonic acids  $\text{XSO}_2\text{-OH}$  (X is F, Cl and Br)", **H. M. Badawi**, Spectrochim. Acta Part A, Vol. 66, 194 (2007).
5. "Conformational stability and vibrational analyses of 1,1,3-trichloroacetone  $\text{CHCl}_2\text{-CO-CH}_2\text{Cl}$ ", **H. M. Badawi**, Asian J. Spectrosc., Vol. 11, 23(2007).
6. "Vibrational spectra and analysis of acetohydrazide  $\text{CH}_3\text{-CO-NH-NH}_2$ ", **H. M. Badawi**, Spectrochim Acta Part A, Vol. 67, 592 (2007).
7. "Rotational barriers in monomeric  $\text{CH}_2=\text{CX-COOH}$  and  $\text{CH}_2=\text{CX-CONH}_2$  (X is H or  $\text{CH}_3$ ) and vibrational analysis of methacrylic acid and methacrylamide", **H. M. Badawi, A. A. Al-Khaldi, S. S. A. Al-Abbad, Z. H. A. Al-Sunaidi** , Spectrochim. Acta Part A, Vol. 68, 432(2007).
8. "Conformational properties and vibrational analyses of monomeric pentafluoropropionic acid  $\text{CF}_3\text{CF}_2\text{COOH}$  and pentafluoropropionamide  $\text{CF}_3\text{CF}_2\text{CONH}_2$ ", **H. M. Badawi, A. A. Al-Khaldi, Z. H. A. Al-Sunaidi, S. S. A. Al-Abbad**, Can. J. Anal. Sc. Spectrosc., Vol. 52, 262 (2007)

9. "Phylogenetic diversity and activity of aerobic heterotrophic bacteria from a hypersaline oil-polluted microbial mat", Abed RM, Zein B, **Al-Thukair A**, de Beer D Syst Appl Microbiol. Vol.4 (2007), pp.319-330.
10. "Vibrational spectra, ab initio calculations, and ring-puckering potential energy function for  $\gamma$ -crotonolactone", **Abdulaziz A. Al-Saadi** and Jaan Laane, J. Phys. Chem., 111 (2007) 3302

#### Earth Sciences Department

1. "A cost-effective method to map the top of shallow groundwater systems", **Makkawi, M. and Al-Suhail, A.** Arab Gulf. J. of Sci. Res. 25(1/2)2007: 67-70.
2. "Hydrological and quantitative groundwater assessment of the Basaltic Aquifer, Northern Rahat, Saudi Arabia ", **Shaibani, A., Lloyd, A.A., Abokhodair, A. and Al-Ahmari, A.** Arab Gulf. J. of Sci. Res. 25(1/2)2007: 39-49.
3. "Numerical tools for geoscience computations: Semiautomatic differentiation – SD", **Abokhodair, A.A.** Comput. Geosci. 11 (2007): 283-296.
4. "Fracture-porosity inversion from P-wave AVOA data along 2D seismic lines: An example from the Austin chalk of southeast Texas". **Shuhail, A.A.** Geophysics 72(1) 2007: B1-B7.
5. "Implementation of ShakeMap in Ontario: Challenges of Detection and Location in a sparse network", **Kaka, S.A. and Atkinson, Gail M.** Seismol. Res. Letts. 77(6)2006: 780-792.
6. "Relationship between felt intensity and instrumental ground motion in the Central United States and California", **Atkinson, Gail, M. and Kaka, S.L.** Bull. Seism. Soc. Am., 97 (4)2007: 497- 510.
7. "Anomalous seismotectonic interrelationships preceding the 1999 Izmit event, NW Turkey", **Oncel, A. O. and Wilson, T.** Geophys. J. Internat. 169 (2007): 259-270.
8. "Mineralogical, pore and petrophysical characteristics of the Devonian Jauf sandstone reservoir, Hawiyah Field, Eastern Saudi Arabia". **Saner, S., Hassan H., Al-Ramadan K. and Abdulghani W.,** Journal of Petroleum Geology 29(2006): 257-272.

#### Department of Mathematics and Statistics

1. "Approximate Toeplitz problem using semidefinite programming", **Al-Homidan, S., JOTA**, 135, no. 3, (2007), 583-598.
2. "Symmetry analysis of wave equation on sphere," **Azad, H. and Mustafa, M.,** Journal of Mathematical Analysis and Applications, 333, no.2, (2007), 1180-1188.

3. "On the control of solutions of a viscoelastic equation", **Messaoudi, S.**, Journal of the Franklin Institute, 334, (2007), 765-776.
4. "Global existence, exponential decay, and blow-up in one-dimensional quasilinear hyperbolic systems: a unified approach", **Messaoudi, S.**, Dyn. Contin. Discrete Impuls. Syst. Ser A., 14, no.3, (2007), 387-400.
5. "Breakdown of solutions of a system describing heat propagation with second sound", **Messaoudi S.** and **Al-Juhani, A.**, Arab J. Math. Sciences, 12, no.1, (2007), 31-42.
6. "Asymptotic behaviour of a controlled branching process with continuous State space", **Rahimov, I.**, Stochastic Analysis and Applications, ISI, 25, no.2, (2007), 337-352.
7. "On a stochastic model for continuous mass branching population, Mathematics and Computers in Simulation", **Rahimov, I.**, ISI, 76, no.1-3, (2007), 155-160.
8. "On the number of productive individuals in the Galton-Watson process with immigration. Mathematics and Computers in Simulation", **Rahimov I.** and **Kurbanov, S.**, ISI, 76, no.1-3, 187-190.
9. "t-Class semigroups of integral domains", **Kabbaj, S.**, and **Mimouni, A.**, J. Reine Angew. Math., 612, (2007), 213-229.
10. "Global existence and asymptotic behavior for a fractional differential equation", **Messaoudi, S.**, **Tatar, N.**, and **Said-Houari, B.**, Applied Math and Computations, 188, (2007), 1955-1962.
11. "Absence of local and global solutions to an elliptic system with time-fractional dynamical boundary conditions", **Kirane, M.** and **Tatar, N.**, Siberian Mathematical Journal, 48, no.3, (2007), 477-488.
12. "On the wave equation with a temporal non-local term", **Medjden, M.** and **Tatar, N.**, Dynamical Systems and Applications, 16, (2007), 665-672.
13. "Long time behavior for a nonlinear fractional model", **Furati, K.** and **Tatar, N.**, Journal of Mathematical Analysis and Applications, 332, 1, (2007), 441-454.
14. "Nonexistence for the Laplace equation with a dynamical boundary condition of fractional type", **Tatar, N.** and **Kirane, M.**, Siberian Mathematical Journal, 48, no. 5 (2007), 849-856.
15. "Some extensions to double ranked set sampling", **Abujiya, M.R.** and **Muttlak, H.**, Journal of Applied of Statistical Science, 15, no. 3, (2007), 365-379.
16. "Monitoring the Process Mean and Variance using Ranked Set Sampling and its Modification", **Abujiya, M.R.** and **Muttlak, H. A.** Journal of Statistical Theory and Applications, 6, no.4, (2007), 408-422.

17. "On the exponential decay of the N-point correlation functions and the analyticity", **Lo, Assane**, J. Math. Phys., 48, no.12, (2007).
18. "Some useful integrals and their applications in correlation analysis", **Joarder, A.H.**, Statistical Papers, (2007), 49, 211-214.
19. "Inequalities among some measures of location" **Laradji, A.** and **Joarder, A.H.**, Communications in Statistics – Theory and Methods, 35, no.11, (2007), 1963-1970.
20. "Family of estimators of mean, ratio and product of a finite population using random nonresponse" **Singh, H.P.**, **Chandra, P.**, **Joarder A.H.** and **Singh, S.**, Test: A Journal of the Spanish Statistical Society, 16, no.3, (2007), 565-597.
21. "Probability issues in without replacement sampling" **Joarder, A.H.** and **Al-Sabah, W.S.**, International Journal of Mathematical Education in Science and Technology, 38, no.5, (2007), 823-831.
22. "The remainder method for sample Percentiles", **Joarder, A.H.**, and **Abujiya, M.R.**, International Journal of Mathematical Education in Science and Technology, 38, no.5, (2007), 667-676.
23. "Preparatory Year Program Courses as Predictors of First Calculus Course Grade", **Yushau, B.** and **Omar, M.H.**, Mathematics and Computer Education Journal, Spring Issue, (2007), 92-108.
24. "On some characteristics of the bivariate t-distribution", **Joarder, A.H.**, International Journal of Modern Mathematics, 2, no.2, (2007), 191-204.
25. "Evaluation of Mean and Variance Integrals without Integration", **Joarder, A.H.** and **Omar, M.H.**, International Journal of Mathematics Education and Science Teaching, 38, no.4, (2007), 538-543.
26. "On locally solid topological lattice groups," **Khan, A.R.** and **Rowlands, K.**, Czechoslovak Mathematical Journal, (2007), 57, no. 3, 963-973.
27. "Coincidences of Lipschitz type hybrid maps and invariant approximation," **Khan, A.R.**, **Domlo, A.**, and **Hussain, N.**, Numerical Functional Analysis and Optimization, (2007), 28, no. 9-10, 1165-1177.
28. "Coincidence and fixed point of nonself contractive maps with applications," **Khan, A.R.** and **Domlo, A.**, Indian Journal of Mathematics, (2007), 49, no. 1, 17-30.
29. "Approximating Common Fixed Points of Asymptotically Nonexpansive Maps in Uniformly Convex Banach Spaces," **Fukhar-ud-Din, H.** and **Khan, A.R.**, Computers & Mathematics with Applications, (2007), 53, no. 9, 1349-1360.

30. "An implicit iteration scheme with errors for a finite family of uniformly continuous mappings," **Fukhar-ud-din, H., Khan, A.R., Regan, D. and Agarwal, R.**, Functional Differential Equations, 14, no. 2-4, 245-256.
31. "Numerical Real Inversion Formulas of the Laplace Transform by Using the Sinc Function", **T. Matsuura, Al-Shuaibi, A., Fujiwara, H., Saitoh, S. and Sugihara, M.**, Far East J. Math. Sci. (FJMS), 27, no.1, (2007), 1-14.

#### Physics Department

1. "Optical properties of chromium oxide thin films deposited by electron beam evaporation", **M. F. Al-Kuhaili and S. M. A. Durrani**, Optical Materials, Vol. 29, pp. 709-713, 2007.
2. "A method for the determination of the optical constants (n and k) of thin films with large optical inhomogeneities", **M. F. Al-Kuhaili, E. E. Khawja and S. M. A. Durrani**, Journal of Modern Optics, Vol. 54, pp. 1453-1465, 2007.
3. "Incorporation of oxygen into thermally evaporated germanium and optical characterization of the resulting films", **M. F. Al-Kuhaili and S. M. A. Durrani**, Journal of Applied Physics, Vol. 102, Art. No. 053512, 2007.
4. "High Sensitive Electronically Modulated Photoacoustic Spectrometer for Ozone Detection", **Gondal, M. A and Z. H. Yamani**, Applied Optics, Vol 46, 7083-7090, 2007.
5. "Activity Comparison of  $\text{Fe}_2\text{O}_3$ ,  $\text{NiO}$ ,  $\text{WO}_3$  and  $\text{TiO}_2$  Semiconductor Catalysts in Phenol Degradation by Laser Enhanced Photo-Catalytic Process", **Gondal, M. A., M.N. Sayeed and A Arfaj**, Chem. Phys. Letters, Vol 445, 325-330, 2007.
6. "Identification of Different Kinds of Plastics Using Laser Induced Breakdown Spectroscopy for Waste Management", **Gondal, M. A. and M. N. Siddiqui, J.**, Environment Science and Health Part A, Vol 42, No13, 1989-1997, 2007.
7. "Laser Based Sensor For Detection Of Hazardous Gases In The Air Using Waveguide  $\text{CO}_2$  Laser", **Gondal, M. A., A. Dastageer and I.A. Bakhtiari, J.**, Environment Science and Health Part A Vol. 42, No. 7, 871-878, 2007.
8. "Detection of Contaminants in Ore Samples Using Laser Induced Break Down Spectroscopy", **Gondal, M. A., T. Hussain, Z. Ahmad and A. Bakry, J.**, Environment Science and Health Part A Vol. 42, No. 7, 879-887, 2007.
9. "Analysis of Oil, Soil and Ore Samples using Laser Induced Breakdown Spectroscopy", **Gondal, M. A., T. Hussain, Z. H.Yamani and Z. Ahmad**, Bulletin Of Environmental Contamination & Toxicology, Vol 78, 270-274, 2007.

10. "Measurement of the 2-D modulation transfer function for screen-film magnification mammography", **Maalej N, Asuni G, Al-Dhukair and Naqvi A**, Medical Physics Journal, 34(6):2354-2354, 2007.
11. "Growth of ZnO Nanostructures on Zinc and Pt substrates", **N. Tabet, M. Faiz and A. L. Oteibi**, Int. J. Nanoscience 6, 1, (2007)23.
12. "Evaluation of integrals involving orthogonal polynomials: Laguerre polynomial and Bessel function example", **A. D. Alhaidari**, Applied Mathematics Letters, Vol. 20, pp. 38-42, 2007.
13. "Relativistic extension of the complex scaling method", **A. D. Alhaidari**, Physical Review A, Vol. 75, pp. 042707/1-11, 2007.
14. "Representation reduction and solution space contraction in quasi-exactly solvable systems", **A. D. Alhaidari**, Journal of Physics A, Vol. 40, pp. 6305-6328, 2007.
15. "Density of states extracted from modified recursion relations", **H. Bahlouli, A. D. Alhaidari and M. S. Abdelmonem**, Physics Letters A, Vol. 367, pp. 162-172, 2007.
16. "Rotating Morse potential model for diatomic molecules in the tridiagonal J-matrix representation: I. Bound states", **I. Nasser, M. S. Abdelmonem, H. Bahlouli, and A. D. Alhaidari**, Journal of Physics B, Vol. 40, pp. 4245-4257, 2007.
17. "Charged particle in the field of an electric quadrupole in two dimensions", **A. D. Alhaidari**, Journal of Physics A, Vol. 40, pp. 14843-14855, 2007.
18. "Taming the Yukawa potential singularity: improved evaluation of bound states and resonance energies", **A.D. Al-Haidari, H. Bahlouli and S. Abdelmonem**, Journal of Physics A: Fast Track Communications, In Press, 2007.
19. "The role of osteoactivin-derived peptides in osteoblast differentiation", **Selim AA, Castaneda JL, Owen TA, Popoff SN, Safadi FF**, Med Sci Monit., 13(12):BR259-270, Dec., 2007.
20. "Use of sclerosing agent in the management of oral and perioral hemangiomas: review and case reports", **Heba Selim, Abdulhafez Selim, Amor Khachemoune and Sallah Abdulfattah**, Med Sci Monit., 13(9):CS114-119, Sept., 2007.
21. "A young girl with blisters on her forehead", **Sarabi K, Selim A, Khachemoune A**, J Fam Pract., 56(7):551-3, Jul., 2007.
22. "Bilateral lesions on the legs", **El-Ghandour A, Selim A, Khachemoune A**, J Fam Pract., 56(1):37-9, Jan., 2007.
23. "Sporadic and syndromic keratoacanthomas: diagnosis and management", **Sarabi K, Selim A, Khachemoune A**, Dermatol Nurs., 19(2):166-70, April, 2007.



24. "The process of selective molecular photonic replication in color emitting molecules and its influence on the seeing process", **Fida Fouad Al-Adel**, Asian Journal of Spectroscopy, 11(127-132), 2007.
25. "Investigations of the Process of Selective Molecular Photonic Replication in Coumarin 500 and its Relation to Other Emission Processes", **F. F. Al-Adel and M. A. Dastageer** International Review of Physics, 1(89), 2007.
26. "The effect of nano-alumina on structural and magnetic properties of MgB<sub>2</sub> superconductors", Intikhab A Ansari, M Shahabuddin, **Khalil A Ziq**, **A F Salem**, V P S Awana, M Husain and H Kishan, Supercond. Sci. Technol., 20, 827–831, 2007.
27. "Measurement of the 2-D modulation transfer function for screen-film magnification mammography", **Maalej N, Asuni G, Al-Dhukair A, et al.**, MEDICAL PHYSICS, 34 (6), pp. 2354-2354, 2007.
28. "Mixed-ligand platinum and palladium complexes based on dinitrogen chelating ligands and a pyridine bearing the nitronyl nitroxide radical", Ahsan M. Shemsia, , Bassam El Ali, **Khalil A. Ziq**, Mohamed Morsy, Tony D. Keene, Silvio Decurtins and Mohammed Fettouhia, Inorganic Chemistry Communications 10(2007), 1355–1359.
29. "The effect of nano-alumina on structural and magnetic properties of MgB<sub>2</sub> superconductors", Ansari IA, Shahabuddin M, **Ziq K.A**, **Salem A.F**, Awana V.P.S, Husain M, Kishan H, Superconductor Science & Technology 20,8 (2007) 827.

## College of Computer Science & Engineering

### Information & Computer Science Department

1. "A Review of Network Security," **E. M. El-Alfy**, IEEE Distributed Systems Online, Book Review, Vol. 8, No. 7, July 2007.
2. "Recognition of Arabic(Indian) Numerals using Hidden Markov Models", **Sabri A. Mahmoud**, Signal Processing 88, April 2008, pp.844-857.
3. "Performance Analysis and Comparison of Interrupt-Handling Schemes in Gigabit Networks," **K. Salah, K. El-Badawi, K., and F. Haidari**, International Journal of Computer Communications, Elsevier Science, Vol. 30(17) (2007), pp. 3425-3441.
4. "Throughput and Delay Analysis of Interrupt-Driven Kernels under Poisson and Bursty Traffic," **K. Salah, and K. El-Badawi**, International Journal of Computer Systems, Science and Engineering, CRL Publishing, Vol. 22 (1-2) (2007), pp. 5-14

### Computer Engineering Department

1. "A Defect Tolerance Scheme for Nanotechnology Circuits," **Al-Yamani, A., S. Ramsundar, and D. Pradhan**, IEEE Transactions on Circuits and Systems-I (TCAS-I), Vol. 54, No. 11, pp. 2402-2409, November 2007.
2. "Energy-Delay Efficient Test," **Al-Yamani, A.**, IET Computers and Digital Techniques (IET CDT), Vol. 1, No. 5, pp. 653-658, September 2007.
3. "Efficient Test Compaction for Combinational Circuits Based on Fault Detection Count-Directed Clustering," **Aiman El-Maleh, Saqib Khurshid**, IET Computers & Digital Techniques, 2007, 1, (4), pp. 364–368.

### Systems Engineering Department

1. "A Simulation Approach for Stochastic Employee Days-off Scheduling", **Al-Fares, H.K.**, International Journal of Modeling and Simulation, Vol. 27, No. 1, 2007, pp. 9-15.
2. "Inventory Model with Stock-level Dependent Demand Rate and Variable Holding Cost", **Al-Fares, H.K.**, International Journal of Production Economics, Vol. 108, No. 1-2, July 2007, pp. 259-265.
3. "Operator Staffing and Scheduling for an IT-Help Call Center", **Al-Fares, H.K.**, European Journal of Industrial Engineering, Vol. 1, No. 4, 2007, pp. 414-430.

4. "Maintenance Staff Scheduling at a Farm Power Station", **Al-Fares, H.K., Lilly, M.T., and Emovon, I.**, Industrial Engineering & Management Systems, Vol. 6, No. 1, 2007, pp. 22-27.
5. "Modeling Health Care Facility Location for Moving Population Groups", **Ndiaye, M., and Al-Fares, H.K.**, Computers & Operations Research, Vol. 35, No. 7, July 2007, pp. 2154-2161.
6. "Strong Stabilization of MIMO Systems : A Projection Approach", **Saif, Abdul-Wahid, A.**, Asian Journal of Control, Vol. 9, No. 3, September 2007, pp. 372-376.
7. "Application of Artificial Neural Network (ANN) in Petrophysical Evaluation of Shaly Sand Reservoirs", **Hamada, G.M., and El-Shafei, M.A.**, NAFTA 58, No. 11, November 2007, pp. 551-555.
8. "A Dynamic Programming Algorithm for Days-off Scheduling with Sequence-dependent Labor Costs", **El-Shafei, M.A., and Al-Fares, H.K.**, Journal of Scheduling, Published Online, 13 October, 2007.
9. "Influence of Combustion Parameters on NO<sub>x</sub> Production in an Industrial Boiler", **Habib, M.A., El-Shafei, M., and Al-Dajani, M.**, Journal of Computers and Fluids, Vol. 37, Issue 1, pp. 12-23

### **College of Environmental Design**

#### **Architecture Department**

1. "Revitalizing architectural design studio teaching using ICT: Reflections on practical implementations", **Reffat, R. M.**, International Journal of Education and Development using Information and Communication Technology, Vol. 3, No. 1 (2007), <http://ijedict.dec.uwi.edu/viewarticle.php?id=276&layout=html>

### **College of Industrial Management**

#### **Accounting & MIS Department**

1. "Students' perceptions of the critical success factors in the successful implementation of online teaching and learning: a case study in Saudi Arabia International Journal of Learning" **Amine Nehari-Talet**, Saudi Arabia International Journal of Learning, Volume 13 No 13, pp.25-34, 2007 ISSN: 1447-9494 (print), 1447-9540 (online) Publisher Site: <http://www.Learning-Journal.com>.
2. " Defining Information System Success in France" **Hafid Agourram, Bill Robson, & Amine Nehari-Talet**, Volume 3 Issue3 pp66-80, International Journal of

Enterprise Information Systems ISSN: 1548-1115, EISSN: 1548-1123

3. "Students' Perception of the Benefits and Use of Online Teaching and Learning" **Amine Nehari-Talet**, Information Systems of the International Association for Computer Information Systems (IACIS) Vol. VIII, 2007 ISSN: 1529-7314.
4. "Managing Resources Towards Achieving Malaysian Vision 2020: Policies, Prospects and Challenges" **Razali Bin Mat Zin, & Amine Nehari-Talet**, Journal of Cambridge Business Review, ISSN 1553 – 5827.
5. "Rational Expectations and Saudi Stock Market Individual Investor Behavior " **Mohamed A. Ramady & Amine Nehari-Talet**, World Journal of Business Management Publisher: WRO / Rosetta Publications ISSN: 1819-8589.

#### Finance & Economics Department

1. "Causality Between Financial Development and Economic Growth: An Application of Vector Error-Correction and Variance Decomposition Methods to Saudi Arabia" **Mansur Masih, A. Elg and H. Madani**, Applied Economics , 39 (22), 2007, 2882 -2891
2. "Model Uncertainty and Asset Return Predictability: An Application of Bayesian Model Averaging", **Mansur Masih**, R. Masih and K. Mie, Applied Economics, 39 (22), 2007, 2903 - 2912
3. "Tests of Different Variants of the Monetary Model in a Developing Economy: Malaysian Experience in the Pre- and Post- Crisis Periods", **Mansur Masih**, C. Lee and M. Azali, Applied Economics , 39 (21), 2007, 2766 -2776
4. "Rational Expectations and Saudi Stock Market Individual Investor Behavior", **Ramady M. and Amin Nehari Talat**, World Journal of Business Management. Vol. 1, Issue 2. 2007.

#### Management & Marketing Department

1. "Emiratis' Demographics and Their Reaction to TV Commercial Breaks: The Case of Emirates of Sharjah (UAE)" **El-Omari, Hussein**, The Business Review, Cambridge, Vol. 8, No. 2, 2007
2. "Organizational learning in representative Singapore public organizations: A study of its contribution to the understanding of management in Singapore", **Yeo, R.K.** (2007) International Journal of Public Sector Management, Volume 20, Number 5, pp. 345-365.
3. "Problem-Based Learning: A viable approach in leadership development?", **Yeo, R.K.** (2007) Journal of Management Development, Volume 26, Number 9, pp. 874-894.
4. "Subsidiary Entrepreneurship: The Case of Multinational Subsidiaries in an Emerging Southeast Asian Nation", **Sohail, S.M. and Selvakumar, A.** (2007),

World Journal of Business Management, Vol. 2007, No. 1, pp. 47-53.

5. “Consumer Trust in Online Travel and Tourism Transactions: A Saudi Arabian Perspective”, **Austin, N.K. and Sohail, S.M.** (2007) World Journal of Tourism and Small Business Management, Vol. 2007, No. 1, pp. 46-54.
6. “Curry Cuisine: Perceptions of Indian Restaurants in Malaysia”, **Josiam, B.M., Sohail, S.M., and Monteiro, P.A.** (2007) Tourism: An International Journal of Tourism, Vol. 2, Issue No. 2, pp. 25-38.
7. “Knowledge Monitoring for Strengthening Competitiveness: The Case of Higher Education and Research Institutions”, **Oukil M. Said**, International Review of Business Research Papers, Vol. 3, No. 6, 2007, Special Issue.

## 9. RESEARCH PAPERS PRESENTED AT CONFERENCES REPORTED AFTER JULY, 2007

### College of Engineering

#### Civil Engineering

1. "Tensile Strength Degradation of Glass Fiber Reinforced Polymer Bars in Aggressive Solutions both as Stand-alone and Cast-in-Concrete", **Al-Zahrani, M.M.**, 8<sup>th</sup> International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures, University of Patras, Patras, Greece, July 2007.
2. "High Temperature Effect on Tensile Strength of GFRP Bars and Flexural Behavior of GFRP Reinforced Concrete Beams", **Al-Zahrani, M.M., Al-Dulaijan, S.U., Al-Idi, S.H., and Al-Mehthel, M.H.**, 8<sup>th</sup> International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures, University of Patras, Patras, Greece, July 16-18, 2007, pp. 494-496.
3. "Bond Behavior of Glass Fiber Reinforced Polymer Bars due to Aggressive Solutions", **Al-Dulaijan, S.U.**, 8<sup>th</sup> International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures, University of Patras, Patras, Greece, July 16-18, 2007, pp. 528-530.
4. "Optimal Scheduling of Chlorine in Water Distribution Network", **Al-Zahrani, M.A., and Akhtar, N.**, Proceedings of the Seventh Saudi Engineering Conference, King Saud University, Riyadh, 2-5 December, 2007, Vol. II, pp. 111-115.
5. "Evaluation of Foamed Asphalt for Road Base Stabilization", **Al-Abdul Wahhab, H.I., Baig, M.G., Mahmoud, I.A., and Kattan, H.M.**, Proceedings of the Seventh Saudi Engineering Conference, King Saud University, Riyadh, 2-5 December, 2007, Vol. III, pp. 3-21.
6. "Evaluation of Sulfur-Asphalt Technology for Local Applications", **Al-Abdul Wahhab, H.I. and Baig, M.G.**, Proceedings of the Seventh Saudi Engineering Conference, King Saud University, Riyadh, 2-5 December, 2007, Vol. III, pp. 23-35.
7. "Numerical Model for Shear Behavior of Prestressed Hollow Core Slabs", **Baluch, M.H., Rahman, M.K., and Mahmoud, I.A.**, Advances in Cement Based Materials and Its Application to Civil Engineering Infrastructure, Lahore, Pakistan, December 2007.
8. "Shrinkage-Induced Stresses in Concrete Using a New Concrete Material Parameter", **Baluch, M.H., Rahman, M.K., Saleem, N.S., and Mahmoud, I.A.**, Advances in Cement Based Materials and Its Application to Civil Engineering Infrastructure, Lahore, Pakistan, December 2007.

9. "Moisture Transport and Shrinkage in Self Compacting Concrete", **Rahman, M.K., Baluch, M.H., Al-Gadhib, A.H., and Raza, A.**, Advances in Cement Based Materials and Its Application to Civil Engineering Infrastructure, Lahore, Pakistan, December 2007.

#### Chemical Engineering

1. 'Upgrading Of Heavy Aromatics Into Xylenes: Effect Of Metal Type And Concentration On The Catalytic Activity', **M. A. Ali, M. A. Al-Saleh, A. Aitani, S. A. Ali, M. A. B. Siddiqui, K. Al-Nawad, K. Alam, T. Okamoto and K. Ishikawa**, Chemistry in Industry, Bahrain, March 2007.
2. "Bulk entrapment of less-toxic antifouling compounds into silicone coatings to study their release: experimental studies and preliminary predictions" **A.A. Al-Juhni, B-M Newby**, Proceeding of the Smart Coatings 2<sup>nd</sup> Meeting, Orlando, Florida, USA, (2006).
3. "Proton conducting polymer composites as membrane materials for PEM fuel cells applications", **S.M.J.Zaidi**, International Symposium on High Tech polymeric materials, May 14-17, 2006, Beijing, China.( Invited Presentation)
4. "Development of membrane materials for PEM fuel cell applications", **S.M.J. Zaidi**, National Conference in Chemistry, April 15-16 2007 in Makkah Al-Mukarramah (Invited Presentation)
5. "Solution Viscosity Behavior of polymeric materials used in Fuel Cell Application: Sulfonated Poly(ether ether ketone), Polyetherimide and Polysulfone", **S.M.J. Zaidi\*, A.S. Sultan, I.A. Hussein** (2007) European Polymer Conference, EUPO-227, May 27-June 1, 2007, Gargnano, Italy
6. "Rheological Properties of Aqueous Solutions of Sulfonated Poly(ether ether ketone), Polyetherimide and Polysulfone", **S.M.J. Zaidi\*, A.S. Sultan, I.A. Hussein** (2007), European Polymer Conference, EUPO-227, May 27-June 1, 2007, Gargnano, Italy
7. Recent advances in Polymer Membranes for PEMFC Applications", **S.M.J. Zaidi, Abdur-Rauf** (2007), European Polymer Conference, EUPO-227, May 27-June 1, 2007, Gargnano, Italy.
8. "Recent Developments in Sulfur Concrete Technology" **Shamsad Ahmad, M. Abdul Kareem and S. U. Rahman**, Chemindix 2007, Bahrain.
9. "Corrosion protection of steel by catalyzed polypyrrole films" **S. U. Rahman**, Chemindix 2007, Bahrain.
10. "Removal of CO from Reformate Gases using Raney-Ni Gas Diffusion Electrodes in Electrochemical CO Filter" **S. U. Rahman**, Chemindix 2007, Bahrain.
11. "Impact of Short Chain branching on Molecular order in metallocene LLDPE melts: NMR, Light Scattering and MD simulation Study", **N.M. Tukur, B.F. Abu**

- Sharkh, E.Y. Osei-Twum, I.A. Hussein,** EUROPOLYMER 2007 Conference, Gargnano, Italy, May 27-June 1, 2007.
12. *"Influence of Tacticity on the Melt Miscibility of PP/LDPE Blends"*, **M.A. Suleiman, I.A. Hussein, A. Meddad, B.F. Abu Sharkh,** EUROPOLYMER 2007 Conference, Gargnano, Italy, May 27-June 1, 2007.
  13. *"Influence of Tacticity on the Melt Miscibility of PP/LDPE Blends: MD Simulation Study"*, **M.A. Kareem, B.F. Abu Sharkh, I.A. Hussein,** EUROPOLYMER 2007 Conference, Gargnano, Italy, May 27-June 1, 2007.
  14. "Rheological Properties of Aqueous Solutions of Sulfonated Poly(ether ether ketone), Polyetherimide and Polysulfone", **S.M.J. Zaidi, A.S. Sultan and I.A. Hussein,** presented at the EUROPOLYMER 2007 Conference, Gargnano, Italy, May 27-June 1, 2007.
  15. *"Influence of short chain branching on the Miscibility of PP/LDPE Blends"*, **M.A. Suleiman, I.A. Hussein,** presented at the EUROPOLYMER 2007 Conference, Italy, May 27-June 1, 2007.
  16. "Influence of branch content on the degradation of metallocene LLDPE in natural weathering", **Md. Ashraful Islam, Ibnelwaleed A. Hussein, Halim H. Redhwi, Alim Rizvi,** Chemistry in Industry 2007, Bahrain.
  17. "Non-Catalytic Partial Oxidation of Heavy Residues Using By-Product Oxygen: A Novel Integrated Approach" **H.K. Abdel-Aal and M.A. Al-Shalabi,** ACS National Meeting, Petroleum Chemistry Division, Paper No 80, Boston, MA, August 19-23, 2007.
  18. "Solution Viscosity Behavior of polymeric materials used in Fuel Cell Application: Sulfonated Poly(ether ether ketone), Polyetherimide and Polysulfone", **S.M.J. Zaidi\*, A.S. Sultan, I.A. Hussein (2007)** Macromolecular Symposia (accepted).
  19. "Recent advances in Polymer Membranes for PEMFC Applications", **S.M.J. Zaidi, Abdur-Rauf (2007),** Macromolecular Symposia (accepted).
  20. "Wet Air Oxidation of Benzene Enhanced by Phenol", **B. Abussaud, D. Berk, and G. Kubes,** 57<sup>th</sup> Canadian Chemical Engineering Conference 2007, Admontion, Alberta, Canada

#### Electrical Engineering

1. "Dynamic Performance improvement of an isolated Wind turbine induction generator", **A.H.M.A.Rahim, M.F Kandlawala & M. A. Alam,** In Proc. Of 4th IEEE-GCC Conference, Manama, Bahrain, Nov. 11- 14, 2007.
2. "Dynamic Performance of a Wind Generation System with Thyristor Controlled Capacitor Compensation", **M.F Kandlawala, A.H.M.A Rahim, & M. A. Alam,** In Proc. Of 7th Saudi Engineering Society Conference, Riyadh, Saudi Arabia, 3-5 Dec. 2007,



3. "An improved universal CMOS current-mode analog function synthesizer", **M.T. Abuelma'atti and N.M. Al-Yahia**, International Symposium on Integrated Circuits (ISIC2007), pp. 620-623, Singapore, September 26-28, 2007,
4. "In GCC Universities which Electrical and Computer Engineering Curricula is Really Needed: Flexible or Specialized?" **M.T. Abuelma'atti**, 4th IEEE GCC Conference and Exhibition, Manama, Bahrain, pp. 1-5 (CD), November 12-14, 2007.
5. "Restructuring the Engineering Education in Saudi Arabia", **M.T. Abuelma'atti**, Proceedings of the Seventh Saudi Engineering Conference, pp. 47-58, Riyadh, Saudi Arabia, December 3-5, 2007.
6. "Parameter Optimization of Shunt FACTS Controllers for Power System Transient Stability Improvement", **Ahsanul Alam and M. A. Abido**, Proceedings of the IEEE Power Tech 2007, Lausanne, Switzerland., 1 - 5 July 2007.
7. "Two-Level of Nondominated Solutions Approach to Multiobjective Particle Swarm Optimization", **M. A. Abido**, Proceedings of the 2007 Genetic and Evolutionary Computation Conference, GECCO'2007, pp. 726-733. London, UK, 7 - 11 July 2007.
8. "Multiobjective Particle Swarm for Environmental/Economic Dispatch Problem", **M. A. Abido**, Proceedings of the 8th International Power Engineering Conference (IPEC 2007), pp. 1894-1899. Singapore, 3 - 6 Dec 2007.
9. "Online Intelligent Control of a Boiler-Turbine Unit using Tabu-Search Algorithm", **M. Shakil and M. A. Abido**, Proceedings of the 8th International Power Engineering Conference (IPEC 2007), pp. 1900-1904. Singapore, 3 - 6 Dec 2007.
10. "Dynamic Performance Improvement of an Isolated Wind Turbine Induction Generator", **A.H.M.A.Rahim and M.A.Alam**, 4th IEEE GCC Conference, Bahrain, Paper #1569047855, Power Systems and Control, Nov. 12-14, 2007
11. "Adaptive STATCOM Control for a Multi-machine Power System", **A.H.M.A.Rahim and M. B. Abbas**, 4th IEEE GCC Conference, Bahrain, Paper # 1569043283, Power Systems and Control, Nov. 12-14, 2007.
12. "The industry and the scientific community: the elusive trust", **Essam Hassan**, Presented and published in the proceedings of the in the 7th Saudi Engineers conference, Riyadh, Dec 2007.
13. "Full modal analysis of coupled microstrip lines using variational techniques", **Essam Hassan and Hassan Ragheb**, Proceedings of the North American Radio Science (URSI) meeting, Ottawa, Canada, July 22-27, 2007.

14. "UWB Multipath Simulator based on TEM Horn Antenna", **A. H. Muqaibel, and U. M. Johar**, The 2nd International Conference on Wireless Broadband and Ultra Wideband Communications, 2007, AusWireless 2007, pp. 9 - 9. 27-30 Aug. 2007.
15. "Near-Instantaneously Adaptive Cooperative Uplink Schemes Based on Space-Time Block Codes and V-Blast," **Mohammed El-Hajjar, Salam Zummo and Lajos Hanzo**, Proceedings of the IEEE Vehicular Technology Conference, (VTC'07/Spring), Dublin, Ireland, pp. 2200 - 2204, April 2007
16. "Frequency Domain Estimation of Multiple Access OFDM", **T. Y. Al-Naffouri and A. Mukaddam** IEEE International Conference on Signal Processing and Communication, Dubai, UAE, Nov. 2007
17. "Beam Scanning Using Integrated Microstrip Ferrite Phase shifter", **Sheikh S. I. and Ali M.R.**, Proceedings of 23rd Progress in Applied Computational Electromagnetics (ACE) Conference, Italy, pp.1746-1749., 2007.
18. "A Tabu Search Approach for the Design of Variable Structure Load Frequency Controller Incorporating Model Nonlinearities", **Z. Al-Hamouz, N. Al-Musabi, and H. Al-Duwaish**, JEEEC, pp.264-270, 2007.
19. "RFID System for Pilgrim Identification", **M. Mohandes, M. Kousa, A. Abul Hussain**, The First Saudi Intelligence Conference on Data Security, Riyadh, 1-4 December, 2007.
20. "Reduced Feedback Opportunistic Scheduling with the Aid of User Cooperation in Wireless Networks", **Y. S. Al-Harthi**, In Proc. of IEEE International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC'07), Athens, Greece, September 2007.
21. "Path Selection Diversity For Packet Delivery in Wireless Single-hop Networks", **Y. S. Al-Harthi**, In Proc. of IEEE International Symposium on Signal Processing and Information Technology (ISSPIT'07), Cairo, Egypt, December 2007.
22. "Automatic detection of High Temperature Hydrogen Attack", **A. Yamani, M. Deriche** IEEE 2007 Ultrasonics Symposium, NY, Oct. 24-28, 2007.
23. "Automatic Detection and Classification of HTHA defect from Ultrasonic A-scan signals", **A. Yamani, M. Deriche**, 4<sup>th</sup> IEEE GCC conference, Bahrain, Nov. 2007.
24. "Automatic Classification of HTHA in Pressure vessels ", **A. Yamani, M.Deriche**, 4<sup>th</sup> MENDT Conference, Bahrain, Dec. 3-5, 2007.
25. "A Family of Normalized Least Mean Fourth Algorithms", **A. Zerguine**, Fourth GCC Conference, Manama, Bahrain, November 11-14, 2007.
26. "A Noise Constrained Least Mean Fourth Adaptive Algorithm", **S. A. Imam, A. Zerguine, and M. Deriche**, ICSPC07, Dubai, UAE, November 24-27, 2007.

27. "A Wideband BSOR-GSIC Multiuser Detector for Long-Code CDMA Systems", **A. Bentrchia, A. Zerguine, and M. Benyoucef**, ICSPC07, Dubai, UAE, November 24-27, 2007.

#### Mechanical Engineering

1. "Fluid flow and heat transfer over a micro-sphere", **M .A. Antar**, Proceedings of IPACK, 2007, ASME InterPACK '07, July 8-12, 2007, Vancouver, British Columbia, Canada.
2. " Fluid Flow and Heat Transfer in Wavy Channels with Converging-Diverging Sharp Edge" , **Haitham M.S. Bahaidarah, O. Duffuaa, and N.K. Anand**, Fifth International Conference on Computational Heat and Mass Transfer, Canmore, Calgary, Alberta, Canada, June 18-22, 2007.
3. " Static and Dynamic Tensile Behavior of Multi-Directional Glass-Fiber Reinforced Polyester Produced by the RTM Technique", **Eleiche, A.M., El-Kholy, W.A., and Adly, M.A.**, 10th International Conference on Advanced Materials (IUMRS-ICAM 2007), Bangalore, India, October 2007
4. "Experimental Investigations of Fresh Water Collection from the Humid Atmosphere," **Abualhamayel, H.I. and Gandhidasan, P.**, Proceedings of the Fourth International Conference on Fog, Fog Collection and Dew, City of La Serena, Chile, July 22-27, 2007.
5. "Wind pressures and Turbulence measurements on Buildings in Adverse Wind environment" , **Mahmood, M**, Seventh Saudi Engineering Conference, Riyadh, Saudi Arabia, Dec.3-5, 2007.

#### Petroleum Engineering Department

1. **"Identification of Pay Zones Using Compressional Wave Velocity and Shear Wave Velocity Data in Sandstone Reservoirs,"** Hamada, G.M., **SPE paper # 110947, the 2007 SPE Saudi Arabia Technical Symposium, Dhahran, Saudi Arabia, 7 – 8 May 2007.**
2. **"Determination of petrophysical properties of tight gas sand reservoir using NMR and SCAL,"** Hamada, G.M., **13<sup>th</sup> Formation Evaluation Symposium of Japan, Chiba, Japan, September 27-28, 2007.**
3. **"Interference Testing with Horizontal Wells in Layered Reservoir,"** Abu Faizal, S. and Al-Hashim, H.S., **SPE paper # 109023-PP, 2007 SPE Asia Pacific Oil & Gas Conference and Exhibition, Jakarta, Indonesia, October 30-November 1, 2007.**
4. **"Hydrocarbon potential monitoring of by passed pay zones using TDT and CHFR Logs,"** Hamada, G.M., **SPE paper # 106748, 2007 SPE Asia Pacific Oil**

**& Gas Conference and Exhibition, Jakarta, Indonesia, October 30-November 1, 2007.**

5. **"Better porosity estimate of gas sandstone reservoirs using density and NMR Logging data,"** Hamada, G.M. and Abushanab, M.A., **SPE paper # 106627, 2007 SPE Asia Pacific Oil & Gas Conference and Exhibition, Jakarta, Indonesia, October 30-November 1, 2007.**

### **College of Sciences**

#### **Chemistry Department**

1. "The Refractive Dispersion Analysis and the Optical Constants of Hexadecyltrimethylammonium 4-Octylbenzenesulfonate (TABSo) Doped 4-*n*-pentyl-4'-cyanobiphenyl (5CB) Nematic Liquid Crystal"," F. Yakuphanoglu, M. Okutan, G. A. Oweimreen\*, Eduardo F. Marques, Bruno F. B. Silva and O. Koysal, Abstracts of the Eighth International Conference on Materials Chemistry, MC8; Advancing Materials by Chemical Design, July 02-05, 2007, London, U.K.
2. "Useful Liquid Products from the Pyrolysis of Mixed Plastics", Siddiqui, M. N. and Redhwi, 234<sup>th</sup> ACS National Meeting & Exposition, H. H.Preprints, Div. Fuel Chemistry, 52(2), 761-762, Boston, USA, August 19-23, 2007.
3. "Infrared Quantitative Measurements of Some Alkyl Groups in the Generic Fractions of Asphalt", Siddiqui, M. N., The UPAC World Chemistry Congress, Chemistry Protecting Health, Natural Environment, and Cultural Heritage, Torino, Italy, August 6-11, 2007.
4. "Useful Liquid Products from the Pyrolysis of Mixed Plastics", Siddiqui, M. N. and Redhwi, H. H.: 234<sup>th</sup> ACS National Meeting & Exposition, Preprints, Div. Fuel Chemistry, 52(2), 761-762, Boston, USA, August 19-23, 2007.
5. "Land reclamation activities along the East Coast of Saudi Arabia", Assad A. Al-Thukair and L. Mohamed. The international conference on "Rapid urbanization and land use conflicts in coastal cities", 30 October- 01 November 2007, Aqaba-Jordan. (In Press).

#### **Earth Sciences Department**

1. "Distribution of diagenetic alterations in siliciclastic shoreface deposits within sequence stratigraphic framework: Evidence from the Upper Jurassic, Boulonnais, NW France". **Ramadan, K.** IAS Conference, Patras, Greece, Sept. 4-7, 2007.
2. "Static stress changes and fault interaction related to the 1985 Nahanni Earthquakes, Western Canada." **Oncel, A.O.** Proc. 1<sup>st</sup> IASME/WSEAS Int. Conf. on Geol. and Seismology (GES'07) Portoroz, Slovenia, May 15-17, 2007, pp. 75-79.

3. "Integration between GIS and Remote Sensing in the Geological Studies". **Hariri, M.M.**, The 3<sup>rd</sup> Science Conference 10-13 March 2007, King Saud University, Riyadh, Saudi Arabia.
4. "Yardang, Eolianite, and Gypsum Lunette Along the Southern Arabian Gulf Shorelines, Northeastern Saudi Arabia" **Hussain, M., Hariri, M. M., and Khandakar, N.I.**, 2007 GSA Denver Annual Meeting (28-31 October, 2007)
5. "Hydrological and quantitative groundwater assessment of the Basaltic Aquifer, Northern Rahat, Saudi Arabia ", **Shaibani, A., Lloyd, A.A., Abokhodair, A. and Al-Ahmari, A.** 7<sup>th</sup> Arab Gulf. Water Conference, WSTA, November, 2005, Kuwait.
6. "Linking Diagenesis and Porosity Preservation to Sequence Stratigraphy of Reservoir Sandstones in the Jauf Formation (Lower Devonian), Eastern Saudi Arabia". **Al-Ramadan K., Morad, S., Norton, A.K., and Hulver, M.L.** 7<sup>th</sup> Middle East Geosciences Conference and Exhibition (GEO2006), 27-29 March 2006, Bahrain.

#### Department of Mathematics & Statistics

1. "On the uniform decay in a semilinear integro-differential elastic equation", **Messaoudi, S.**, ICIAM, Zurich, (July 16-20, 2007).
2. "General decay in a viscoelastic system, second symposium on nonlinear dynamics", **Messaoudi, S.**, The Second International Symposium on Nonlinear Dynamics, Shanghai, China, (October 27-30, 2007).
3. "Age-dependent branching processes with incubation: Workshop on Stochastic Modeling in Population Dynamics", **Rahimov, I.**, Marseille, France, (April 10-14, 2007).
4. "Convergence of the immigration-branching process and conditional least-squares: Workshop on Stochastic Modeling in Population Dynamics", **Rahimov, I.**, Marseille, France, (April 10-14, 2007).
5. "On the fractional telegraph problem", **Tatar, N.**, 6<sup>th</sup> International Congress on Industrial Mathematics, Zurich, Switzerland, (July 16-20, 2007).
6. "Fractional dissipations in the damping technology, **Tatar, N.**, The Second International Symposium on Nonlinear Dynamics, Shanghai, China, (October 27-30, 2007).
7. "Evaluation of mean and variance integrals without integration", **Joarder, A.H.**, Third Saudi Science Conference: New Horizons in Science and Their applications (Venue: King Fahd Cultural Center), King Saud University, Riyadh, (March 11, 2007).
8. "A bivariate Chi-square distribution and some of its properties", **Joarder, A.H.**, Third Saudi Conference, (Venue: King Fahd Cultural Center), King Saud University, Riyadh, (March 11, 2007).
9. "Distribution theory with two correlated Chi-square variables", **Joarder, A.H.**, 5<sup>th</sup> International Conference on Multiple Comparison Procedure, University Campus-Altes AKH, (Eds. Martin Posch, Jason Hsu and Franz Konig), Vienna, Austria, (July 8-11, 2007).

10. "Morita-Takeuchi Contexts and Elementary Corns", **Abuhlail, J.**, International Conference on Noncommutative Rings and Geometry, Almeria – Spain, (September 18-2, 2007).
11. "Evaluation of moment integrals without integration", **Joarder, A.H. and Omar, M.H.**, Third Saudi Science Conference: New Horizons in Science and Their applications (Venue: King Fahd Cultural Center), King Saud University, Riyadh, (March 11, 2007).
12. "Random coincidence points of multivalued contractive random operators," **Khan, A.R.**, Nonlinear analysis and Convex Analysis (2005), Okinawa, Yokohama, Japan, (2007).
13. "Best approximation operator and fixed points of multivalued mappings," **Khan, A.R.**, Modern Mathematical Models and Algorithms for Real World Systems, New Delhi, India (2006).

### Physics Department

1. "Monte Carlo Simulation of the Electron Beam Induced Current at a Nano Schottky Contact", **M. Ledra and N. Tabet**, Proceedings of International Conference on Physics and Its Applications (CIPA 2007), p.664.667, 2-4<sup>th</sup> December, 2007, Oran Algeria.
2. "DC Conductivity of Vanadium Phosphate Glasses", **A. Mekki and G. Khattak**, Presented at the 21<sup>st</sup> International Congress on Glass, 2-6 July, 2007, Strasbourg, France.
3. "XPS Study of Vanadium Phosphate Glasses", **G. Khattak and A. Mekki**, Presented at the 21<sup>st</sup> International Congress on Glass, 2-6 July, 2007, Strasbourg, France.
4. "Applications of laser induced photo-catalysis in hydrogen production, hydrocarbon conversion, disinfection of bacteria and phenol removal from waste water " invited talk, **M. A. Gondal**, 4th International Symposium on Non-Crystalline Solids and 8th Brazilian Symposium on Glass and Related Materials, Oct 19-26, 2007, Aracaju, SE, Brazil.
5. "Establishing the First Master's Program in Medical Physics in Saudi Arabia and the Gulf Region", **Nabil Maalej and Anan Al-Karmi**, International Conference on Physics Education, November, 2007, Marrakech, Morocco.
6. "Synthesis and Properties of of Nanostructured ZnO", **N. Tabet**, First Sharja International Conference on Nanotechnology and its Applications, 10-12 April, 2007, Sharja.
7. "Community Colleges in AAFAQ- Strategy for Higher Education in KSA", Workshop on Higher Education in Saudi Arabia, 20 May, 2007, London, UK.
8. "Non-covalent Interaction of MMP13 and LTBP1 in a Unique TGF\_ Large Latent Complex Produced by Hypertrophic Chondrocytes", **B. N. Dragann, V. L. Scheinfeld, S. M. Routson, B. M. Mentzer, P. M. Mattioli, A. H. Selim, D. M. Appelt, M. D'Angelo**, American Society for Bone and Mineral Research (ASBMR), annual meeting, Sept., 2007, USA.

9. "Percutaneous Injection of Allantoin Accelerates Fracture Repair", A. A. **Selim**, K. Mezghani, A. Abou-Samra, D. Al-Tamimi, American Society for Bone and Mineral Research (ASBMR), annual meeting, Sept., 2007, USA.
10. "Hypertrophic Chondrocytes Produce a Novel TGF $\beta$ -Large Latent Complex that contains MMP13 in Non-covalent Association", Brendan N. Dragann, Patrisia M. Mattioli, **Abdulhafez Selim**, Brittany M. Mentzer, Victoria L. Scheinfeld, Denah Appelt and Marina D'Angelo, Society of Developmental Biology Meeting, March, 2007, Washington DC, USA.
11. "Parallel Microfluidic Cytometer for Rare-Cell Screening", **Abdulhafez Selim**, Brian McKain, John T Potts, Richard Bringham, Danial Enrich, Third Saudi Science Conference, March, 2007, Riyadh, Saudi Arabia.

### **College of Computer Sciences and Engineering**

#### **Information & Computer Science**

1. "Solving the Minimum-Cost Constrained Multi-Path Routing with Load Balancing in MPLS Networks Using an Evolutionary Method," **E. M. El-Alfy, S. Z. Selim and S. N. Mujahid**, Proc. of the IEEE Congress on Evolutionary Computation (CEC 2007), Singapore, September 2007, pp. 4433-4438.
2. "Detection of Questions in Arabic Audio Monologues Using Prosodic Features", **Omair Khan, Wasfi G. Al-Khatib, and Cheded Lahouari**, in Proceedings of the IEEE International Symposium on Multimedia 2007 (ISM2007), Taichung, Taiwan, R.O.C., December 2007, pp. 29-36.
3. "Similarity Searching In Statistical Figures Based On Extracted Meta Data", **Mohammad Mahdi Hassan and Wasfi Al-Khatib**, In proceedings of the Int. Conference on Computer Graphics Imaging and Visualisation, Bangkok, Thailand, August 2007, pp. 329-334.
4. "Statistical Analysis of Arabic Text to Support Optical Arabic Text Recognition", **Husni A. Al-Muhtaseb, Sabri A. Mahmoud, and Rami S. Qahwaji**, Accepted for publication in the International Symposium on Computer and Arabic Language & Exhibition "ISCAL 2007", November, 2007.
5. "On Skew Estimation and Correction of Text", **M. Sarfraz, S. A. Mahmoud and Z. Rasheed**, 2<sup>nd</sup> International Conference Geometric Modelling and Imaging GMAI'07, 4-6 July, 2007, Switzerland.

#### **Computer Engineering Department**

1. "Arabic Diacritics Based Steganography", **Mohammed Aabed, Sameh Awaideh, Abdul-Rahman Elshafei, and Adnan Gutub**, IEEE International Conference on

- Signal Processing and Communications (ICSPC 2007), pages 756-759, Dubai, UAE, 24-27 November 2007.
2. "A Generalized Energy-Aware Data Centric Routing For Wireless Sensor Network," **T. Khmour and U. Baroudi**, International Conference on Signal Processing and Communication (ICSPC07), Dubai, UAE, 24-27 November 2007.
  3. "Parallel Computing Platform for Evaluating LDPC Codes Performance", **Esa Alghonaim, Aiman El-Maleh and Adnan Al-Andalusi**, IEEE International Conference on Signal Processing and Communications (ICSPC 2007), pp. 157-160, Dubai, UAE, 24-27 November 2007.
  4. "Improving BER Performance of LDPC Codes Based on Intermediate Decoding Results", **Esa Alghonaim, Mohamed Adnan Landolsi, and Aiman El-Maleh**, IEEE International Conference on Signal Processing and Communications (ICSPC 2007), pp. 1547- 1550, Dubai, UAE, 24-27 November 2007.
  5. "Message Concealment Techniques using Image based Steganography", **Farhan Khan and Adnan Gutub**, The 4<sup>th</sup> IEEE GCC Conference and Exhibition, Gulf International Convention Centre, Manamah, Bahrain, 11-14 November 2007.
  6. "A Reconfigurable Broadcast Scan Compression Scheme Using Relaxation Based Test Vector Decomposition," **Aiman H. El-Maleh, Mustafa Imran Ali and Ahmad A. Al-Yamani**, 16th IEEE Asian Test Symposium, October 2007. pp. 91-94.
  7. "High Defect Tolerant Low Cost Memory Chips," **Argyrides, C., A. Al-Yamani, and D. Pradhan**, IEEE International System-On-Chip Conference (SOCC'07), Hsinchu, Taiwan, September 26-29, 2007.
  8. "Impact of Mobility on Bypass AODV Protocol in Mobile Ad Hoc Network," **Shanyour, and U. Baroudi**, The First International Workshop on Wireless Networking for Intelligent Transportation Systems (WINITS), Canada, Vancouver, August 14, 2007.
  9. "An Entropy-Based Throughput metric for Fairly Evaluating WSN Routing Protocols," **T. Khmour and U. Baroudi**, 15th IEEE International Conference on Network Protocols (ICNP), Beijing, China, 2007.
  10. "An Improved MAC Algorithm for Enhanced Performance for Saturation and Non-Saturation Conditions in IEEE 802.11 WLANs," **Aqeel, A. Mahmoud and U. Baroudi**, the Twelfth IEEE Symposium on Computers and Communications (ISCC'07), Aveiro, Portugal, July 1-4, 2007
  11. "WSNodeRater: An optimized Reputation System Framework for Security Aware Energy Efficient Geographic Routing in WSNs", **I. K. Maarouf and A. R. Naseer**, Proceedings of ACS/IEEE International Conference on Computer Systems and Applications, AICCSA '2007, Amman, Jordan, May 13-16, 2007.



12. “SNARE : Sensor Node Attached Reputation Evaluator”, **I. K. Maarouf and A. R. Naseer**, Proceedings of IEEE/ACM 2<sup>nd</sup> International CONEXT Conference, Lisboa, Portugal, December 4-7, 2006

#### Systems Engineering Department

1. “Vibration Monitoring and Fault Detection Using Time-Frequency Techniques”, **Al-Badour, F., Cheded, L., and Al-Saeed, B.**, International Conference on Signal Processing, Dubai, 24-27 November, 2007, (Accepted for Presentation).
2. “Detection of Questions in Arabic Audio Monologues Using Prosodic Features”, **Khan, O., Al-Khatib, W.G., and Cheded, L.**, IEEE International Conference on Multimedia (ISM-2007), Taichung, Taiwan, December 10-12, 2007, (Accepted for Presentation).
3. “Designing a Classroom Board”, **Al-Haboubi, M.**, International Conference on Ergonomics, Malaysia, pp. 95-101.
4. “Soft Sensor for NO<sub>x</sub> Emission Using Dynamical Neural Network”, **Shakil Mohammad, Elshafei, M., Habib, M. and Al-Malki, F.**, Proceedings of the 4<sup>th</sup> IEEE-GCC, Bahrain, November 2007.
5. “Thalassemia Screening Using Unconstrained Functional Networks Classifier”, **Elsebakhy, Emad, and Elshafei, Moustafa**, Proceedings of the International Conference on Signal Processing and Communication (ICSPC’07), 24-27 Nov., 2007, Dubai, UAE.
6. “Neural Network Identification of Hydrocarbon Potential of Shaly Sand Reservoirs”, **El-Shafei, Moustafa, and Hamada, Gharib**, SPE-KSA’2007 Conference, Saudi Aramco, Dhahran, Society of Petroleum Engineering Paper # SPE 110959.
7. “Prediction of Critical Well Oil Properties Using Neural Networks”, **El-Shafei, M., and Elsebakhy, Emad**, 3<sup>rd</sup> International Computer Engineering Conference, Smart Applications for the Information Society, Cairo University, Egypt., December 26-27, 2007.
8. “Power Line Communications : An Overview”, **Yousuf, Muhammad Salman, El-Shafei, Moustafa**, 4<sup>th</sup> International Conference on Innovations in Information Technology (Innovation’07), Dubai, November 2007.
9. “Overview of Safety Instruments Standards for Process Industry”, **Al-Nasser, Mustafa, nd El-Shafei, Moustafa**, Symposium on Decision Support Technologies for Plant Profitability, Saudi Aramco, November 27-28, 2007.

10. "Evaluation of Petrophysical Properties of Sandstone Reservoirs Using Artificial Neural Networks", **Hamada, Gharib, and El-Shafei, Moustafa**, Proceedings of the Second International Conference on Modeling, Simulation and Applied Optimization (ICMSAO'07), Abu-Dhabi, March 24-27, 2007.
11. "Dynamic Programming Algorithm for Training Functional Networks", **El-Sebakhy, Emad, Salahadin, M.A., and El-Shafei, Moustafa A.**, Proceedings of the 2007 International Conference on Artificial Intelligence (ICAI'07), June 25-28, 2007, USA.
12. "Developing a new Industrial & Systems Engineering program at KFUPM" **H.K. Alfares, U.M. Al-Turki and S.O. Duffuaa**, 2<sup>nd</sup> International Conference on Engineering Education & Training (ICEET-2), April 9-11, 2007, Kuwait.
13. "Community Service by Saudi Universities", **H. Alfares, M. Al-Habboubi, and M. Al-Zahrani**, 2<sup>nd</sup> National Workshop on Higher Education Issues: Preliminary Results of Technical Studies, Riyadh, December 4-5, 2006.
14. "A Mathematical Model for Optimum Petrochemical Multi-Grade Selection, Production and Sequencing", **H.K. Alfares**, The 6<sup>th</sup> Conference on the Analysis of Manufacturing Systems (AMS 2007), May 11-16, 2007, Lunteren, The Netherlands, pp. 199-204.

### **College of Industrial Management**

#### **Department of Management & Marketing**

1. "Domains and Opportunities of Human Resources Recruitment for the Development of Muslim Countries", **Oukil M. Said**, Third International Conference, Algiers University, November 2007,

### **College of Environmental Design**

#### **Architecture Department**

1. "An Integration System for Improving the Utilization of Smart Building Technologies," **Reffat, R. M.**, Proceedings of the International Conference on Intelligent Systems, Structures and Facilities (ISSF2007): Frontier in Intelligent, Green and Energy Efficient Buildings, Asian Institute of Intelligent Buildings & Department of Building and Construction, City University of Hong Kong, Hong Kong (2007).
2. "Guidelines for Incorporating Smart Building Technologies in the Design Brief," **Reffat, R. M.** and Hamid, S., Proceedings of the International

Conference on Intelligent Systems, Structures and Facilities (ISSF2007): Frontier in Intelligent, Green and Energy Efficient Buildings, Asian Institute of Intelligent Buildings & Department of Building and Construction, City University of Hong Kong, Hong Kong (2007).

3. “Emergence of new forms in digital architectural design”, **Reffat, R. M.**, Proceedings of the Conference on Sources of Architectural Form: Theory and Practice, Kuwait University, Kuwait (2007), pp. 523-531.
4. “Development of Knowledge-Based Cities: The Information Technology Spine for Cities in Transition”, **Reffat, R. M.**, Proceedings of the 2<sup>nd</sup> International Symposium on Knowledge Cities: Future of Cities in the Knowledge Economy, Arab Urban Development Institute, Shah Alam, Selangor, Malaysia (2007).

## **10. BOOKS PUBLISHED AND CONTRIBUTIONS**

### Chemical Engineering Department

1. "Polymer membranes in Fuel Cell", **S.M.J.Zaidi, T. Matsuura (Eds.):** Springer Science & Business Media Inc. Publishers, New York, USA (in Press) (Book)
2. "Fuel Cell Fundamentals- Properties of fuel cell membranes", **S.M.J.Zaidi, Book Chapter in Polymer Membranes for Fuel Cells**, Zaidi & Matsuura (Eds.), Springer Publishing Co., New York, USA, (in Press).
3. "Research Trends in Polymer Electrolyte Membranes for PEMFC", **S.M.J.Zaidi, Book Chapter in Polymer Membranes for Fuel Cells**, Zaidi & Matsuura(Eds.), Springer Publishing co., New York, USA,(in Press).
4. "Methanol Permeation through proton exchange membranes" **S.M.J. Zaidi, S.U. Rahman, Book Chapter in Polymer Membranes for Fuel Cells**, Zaidi &Matsuura (Eds.), Springer Publishing co., New York, USA, (in Press).
5. "Thermal and Mechanical Properties of Fuel Cell Polymer membranes: Structure property relationships" **S.M.J. Zaidi H.I. Hussein, Book Chapter in Polymer Membranes for Fuel Cells**, Zaidi &Matsuura (Eds.), Springer Publishing co., New York, USA, (in Press).
6. "Research and Development on Polymeric Membranes for Fuel Cells: An Overview", **D.Rana, T. Matsuura, S.M. J. Zaidi, Book Chapter in Polymer Membranes for Fuel Cells**, Zaidi & Matsuura (Eds.), Springer Publishing co., New York, USA, (in Press).

### Electrical Engineering Department

1. "Intermodulation Measurements, Nonlinear Distortion Measurement, Transient Intermodulation Measurement", **M.T. Abuelma'atti**, in Wiley Encyclopedia of Electrical and Electronics Engineering, Edited by: J.G. Webster, John Wiley & Sons, New York, U.S.A., pp. 1-21, 2007, (Online version, Last Updated: July 13, 2007).
2. "Application of PSO to Design UPFC-Based Stabilizers", **Ali T. Al-Awami, M. A. Abido, and Y. L. Abdel-Magid, Swarm Intelligence**, ARS Publishing Company, Chapter 14, pp. 235-262.
3. "Electric Circuit Fundamentals in MATLAB and SIMULINK", **Mohammad Nuruzzaman, Book Surge Publishing**, Charleston, South Carolina, October 23, 2007.

### Earth Sciences Department

1. "Topography, Geomorphology, & Natural Hazards", **Al-Saafin, A. Kh.** In: Space Image Atlas of the Kingdom of Saudi Arabia, Chapter 1, Geography of the Kingdom. Prince Sultan Research Center for Environment, Water & Desert, Riyadh, 2007, pp. 42-43 & 62-63. (In Arabic & English.)
2. "Topography of Wadi Hanifa, Topography of Abha, Panoramic 3D view of Ha'il City Area", **Al-Saafin, A. Kh.** In: Space Image Atlas of the Kingdom of Saudi Arabia, Chapter 3, Remote Sensing Applications. Prince Sultan Research Center for Environment, Water & Desert, Riyadh, 2007, pp. 128-133. (In Arabic & English.)
3. "Geomorphology of Coastal Plains, Escarpments, Wadi Runoff Systems, Drainage Areas, Sand Dunes, Sabkhas", **Al-Saafin, A. Kh.** In: Space Image Atlas of the Kingdom of Saudi Arabia, Chapter 3, Remote Sensing Applications. Prince Sultan Research Center for Environment, Water & Desert, Riyadh, 2007, pp. 132-144. (In Arabic & English.)

#### Physics Department

1. "Nanotechnology and Its Applications", AIP Conference Proceedings 929, Ed. by Y.I. Salamin, N.M. Hamdan, H. Al Awadhi, N. M. Jisrawi and **N. Tabet**, N.Y. 2007.

#### Computer Engineering Department

1. "Routing Security in Wireless Sensor Networks", **A. R. Naseer, I.K. Maarouf, and M. Ashraf S. Hasan**, Handbook of Research on Wireless Security, Publisher: Idea Group Reference, USA, 2007 (under Print).

#### Department of Management & Marketing

1. "The Development of Entrepreneurship in the Middle East and North Africa: An Overview of Constraints and Perspectives" in Business Excellence and Competitiveness in the Middle East and North Africa (Ed .) A. Lallam, InderScience Publishers, London, November 2007, pp. 309-318.

#### Architecture Department

1. The realm of Information technology in architectural education: A partnership approach, **Reffat, R. M.**, in Salama A. and Wilkinson, N. (eds), Design Studio Pedagogy: Horizons for the Future, The Urban International Press, Gateshead, UK (2007), pp. 313-323. ISBN : 1-872811-09-4

## **11. TECHNICAL REPORTS, FUNDED PROJECTS AND PATENTS**

### **College of Engineering**

#### **Civil Engineering Department**

1. “Size Optimization of Concrete Thrust Anchor Blocks for Pipelines”, **Kalimur Rahman, M. et al.**, Fifth Progress Report submitted, CER2275.
2. “Influence of Environmental Variables & Mix Design on Moisture Transport in Concrete”, **Baluch, M.H. et al.**, Final Report submitted, CE/MIX-DESIGN/267.
3. Extension of “Development of an Improved Protection System for CCP Construction”, **Azad, A.K. et al.**, Final Report submitted to Client, Addendum to CER2264.
4. “Engineering Guidelines for Application and Design of Prestressed Precast Hollow Core Concrete Slabs Strengthened with CFRP Sheets”, **Baluch, M.H. et al.**, First Progress Report submitted, IN 060336.
5. Revision of the “Course on Basic Strength of Materials”, **Baluch, M.H. et al.**, Complete Set of Notes, Solved Problems, and PowerPoint Presentation of Entire Course submitted, CE2273.
6. “A Study of the Size-effect of Corroded Reinforced Concrete Beams in Prediction of Residual Strength”, **Azad, A.K. and Ahmad, S.**, Technical Report of the Project # SABIC/2005-03, sponsored by KFUPM under SABIC Grants, submitted in July 2007.
7. “Transportation Engineering Manual”, 3<sup>rd</sup> Edition, **Ratrout, N.**, KFUPM, Saudi Arabia, July 2007.
8. “Executive Plan for Updating Traffic Engineering Laboratory”, **Ratrout, N.**, KFUPM, Saudi Arabia, July 2007.
9. “Quality Assurance Testing of Asphalt Binders”, **Al-Abdul Wahhab et al.**, First Progress Report, submitted to Al-Mardoof Est. for Contracting, Madina Munawara, Saudi Arabia, July 2007.
10. “Multi-Criterion Optimal Designs of R/C Beams and Columns: Experimental & Analytical Studies”, **Alghamdi, S.A. and Ahmad, S.**, 4<sup>th</sup> Detailed Progress Report, KACST Project AT-23-21, August 10, 2007.
11. “Effect of Modifiers on Fatigue Behavior of Saudi Asphalt Concrete”, **Al-Abdul Wahhab, H.I. and Baig, G.**, First Progress Report, KACST, AR-25-76, August 2007.
12. “Evaluation of Sulfur-Asphalt Concrete Mixes and Sulfur-Asphalt Test Roads”,

**Al-Abdul Wahhab, H.I. et al.**, Progress Report No. 5, CE2245, October 2007.

13. “Testing and Evaluation of Sulfur-Asphalt Concrete Mixes and Sulfur-Asphalt Test Roads”, **Al-Abdul Wahhab, H.I. et al.**, Progress Report No. 6, CE2245, November 2007.
14. “Aligning Work Culture to Improve University Values”, **Azad, A.K., El-Amin, I., and Al-Turki, U.M.**, Final Report submitted, a project under KFUPM Strategic Plan 06-011, December 2007.

#### Chemical Engineering Department

1. “Size Optimization of Concrete Thrust Anchor Blocks for Pipelines”, **Kalimur Rahman, M. et al.**, Fifth Progress Report submitted, CER2275.
2. “Influence of Environmental Variables & Mix Design on Moisture Transport in Concrete”, **Baluch, M.H. et al.**, Final Report submitted, CE/MIX-DESIGN/267.
3. Extension of “Development of an Improved Protection System for CCP Construction”, **Azad, A.K. et al.**, Final Report submitted to Client, Addendum to CER2264.
4. “Engineering Guidelines for Application and Design of Prestressed Precast Hollow Core Concrete Slabs Strengthened with CFRP Sheets”, **Baluch, M.H. et al.**, First Progress Report submitted, IN 060336.
5. Revision of the “Course on Basic Strength of Materials”, **Baluch, M.H. et al.**, Complete Set of Notes, Solved Problems, and PowerPoint Presentation of Entire Course submitted, CE2273.
6. “A Study of the Size-effect of Corroded Reinforced Concrete Beams in Prediction of Residual Strength”, **Azad, A.K. and Ahmad, S.**, Technical Report of the Project # SABIC/2005-03, sponsored by KFUPM under SABIC Grants, submitted in July 2007.
7. “Transportation Engineering Manual”, 3<sup>rd</sup> Edition, **Ratrout, N.**, KFUPM, Saudi Arabia, July 2007.
8. “Executive Plan for Updating Traffic Engineering Laboratory”, **Ratrout, N.**, KFUPM, Saudi Arabia, July 2007.
9. “Quality Assurance Testing of Asphalt Binders”, **Al-Abdul Wahhab et al.**, First Progress Report, submitted to Al-Mardoof Est. for Contracting, Madina Munawara, Saudi Arabia, July 2007.
10. “Multi-Criterion Optimal Designs of R/C Beams and Columns: Experimental & Analytical Studies”, **Alghamdi, S.A. and Ahmad, S.**, 4<sup>th</sup> Detailed Progress Report, KACST Project AT-23-21, August 10, 2007.

11. "Effect of Modifiers on Fatigue Behavior of Saudi Asphalt Concrete", **Al-Abdul Wahhab, H.I. and Baig, G.**, First Progress Report, KACST, AR-25-76, August 2007.
12. "Evaluation of Sulfur-Asphalt Concrete Mixes and Sulfur-Asphalt Test Roads", **Al-Abdul Wahhab, H.I. et al.**, Progress Report No. 5, CE2245, October 2007.
13. "Testing and Evaluation of Sulfur-Asphalt Concrete Mixes and Sulfur-Asphalt Test Roads", **Al-Abdul Wahhab, H.I. et al.**, Progress Report No. 6, CE2245, November 2007.
14. "Aligning Work Culture to Improve University Values", **Azad, A.K., El-Amin, I., and Al-Turki, U.M.**, Final Report submitted, a project under KFUPM Strategic Plan 06-011, December 2007.

#### Chemical Engineering Department

##### ***Scientific Patents Applications***

1. "Catalytic Cracking of Heavy Oil", **Okuhara, T., T. Ino, M. Abul-Hamayel, A. Aitani, A. Maghrabi**, Japan Patent Office, Patent Number 3948905, April 27, 2007.
2. "Method For Fluidization Catalytic Of Heavy Oil", **Fujiyama, Yuichiro, Toshiaki Okuhara,, Mian Rahat Saeed, Mohammad Abul-Hamayel**, Japan Patent Office, Patent Number 3950437, April 27, 2007.

##### ***Technical Reports***

1. "Establishing a Center of Excellence In Renewable Energy" **S. U. Rahman**, Ministry of Higher Education, KSA

#### Electrical Engineering Department

1. "Development of an Intelligent NDT tool for use in Petrochemical plants", KACST APR 106-24, **A. Yamani and M. Deriche** November 15, 2007.



## College of Sciences

### Mathematical Sciences Department

#### Technical Reports:

1. *“Statistical Process Control Charts for Measuring Rating Consistency Over Time” Omar, M.H., Technical Report# 378.*
2. *“Positive Definite Hankel Matrices using Cholesky Factorization”, Al-Homidan, S. and Alshahrani, M., Technical Report# 379.*
3. *“Injective Morita Contexts(Revisited):”, Abuhlail, J. and Nauman, S., Technical Report# 380.*
4. *“Tilting & Cotilting Modules over Commutative Rings (Survey & Open Problems):”, Abuhlail, J., Technical Report# 381.*
5. *“Some Statistical Properties of a Bivariate Chi-Square Probability Density Function”, Joarder, A.H. and Omar, M.H., Technical Report# 382.*
6. *“Energy Decay in a Timoshenko-type System of Thermoelasticity of Type III”, Messaoudi, S., Technical Report# 383.*

### Earth Sciences Department

1. “Petrography of Sandstone Samples from Different Wells in the Empty Quarter” (P.I.: **Ramadan, K.**). Three Reports, 2007.
2. “Review of Geomorphology and Internal Structure of Sand Dunes”. Technical Report and Presentation for NSSIC Consortium, RI Project, KFUPM (**Abdullatif, Osman, CI**), 2007
3. “Core, Drill Cuttings and Formation Fluids/Gas Analysis in the Area of Block "A", Rub-Al-Khali”, CPM02262 – RI ( **Abdullatif, Osman, CI**), 2007
4. “Multiscale Analysis and Interpretation of Well Logs – Phase – I” Final Report CPM 2261, RI for Saudi Aramco ( **Abdullatif Osman CI**) 2007

### Physics Department

1. “Laser Sensor For Detection Of Ozone”, **M.A.Gondal**, Final Report, Project # SABIC 2005/11

### Architecture Department

1. “Developing an Integration System to improve the Utilization of Smart Office Building Technologies in Saudi Arabia”, **Reffat, R. M.**, and Hamid, S. M., Final Project Report, SABIC Project No. SAB 2005-25, Deanship of Scientific Research, KFUPM, Saudi Arabia (2007).

### Computer Engineering Department

1. "Method of Radio Resource Management for Integrated Voice and Data CDMA Networks", **Ashraf. Mahmoud, R. Hudson, U. Baroudi and I. Gillespie,** US Patent 7193992.
2. "Method of Non-Intrusive Control of Mobile Device", **Marwan AbuAmara,** US Patent @ 11599457
3. "Reducing the Rate of Registration in CDMA-based Mobile Networks", **Marwan AbuAmara,** US Patent # 11641709.

#### Finance & Economics Department

1. "Do product prices adjust asymmetrically to crude oil price changes ? Evidence from gasoline, diesel and jet fuel prices", **Mansur Masih, K. Albinali** and L. De Mello, Completed Research Project funded by KFUPM Special Competitive Research Grant, 2007
2. "Price dynamics of plastics and upstream feedstocks: A look at the Asian and North West European Markets", **Mansur Masih, A. Eid** and L. De Mello, Completed Research project funded by KFUPM Special Competitive Research Grant, 2007

## **12. INTERNAL LECTURES AND SEMINARS OFFERED BY KFUPM FACULTY**

### Chemical Engineering Department

#### Electrical Engineering Department (Invited Lectures/Seminars)

1. "An Overview on Broadband Wireless Access Technologies", Salam Zummo Saudi Telecom Company (STC), Riyadh, Saudi Arabia
2. "Scaling Laws of Multiple Antenna Group-Broadcast Channels", T. Y. Al-Naffouri, SUPELEC, Paris, France, Jul. 6, 2007.
3. "Pilgrim Identification by RFID systems", M. Mohandes, Ministry of Hajj, Makkah, 9th Dec. 2007.
4. "مؤشرات الأداء في قطاع تقنية المعلومات والاتصالات في التعليم العالي"، معن عبد القادر كوسا، المؤتمر الهندسي السعودي السابع، المجلد الأول، الصفحة 101-110، الرياض، 3-5 ديسمبر 2007،
5. "Overview of Multimodal Biometric Systems", M. Deriche, KFUPM, Oct. 30<sup>th</sup>, 2007.
6. "Introduction to iterative methods", A. Bentrchia, KFUPM, Nov. 6<sup>th</sup>, 2007.
7. "Optimum Control Strategies in PMSG Wind Energy Conversion Systems", Syed Islam, KFUPM, Nov. 20<sup>th</sup>, 2007.
8. "Oil & Gas Technological Challenges: In Search for More Innovation, But Not Alone", Olivier Peyret, KFUPM, Dec. 8<sup>th</sup>, 2007.
9. "Development of a portable PC Based Bi-lingual Telehealth Monitoring System for the Elderly and the Disabled", **M. W. Raad**, KFUPM, Nov. 26<sup>th</sup>, 2007.
10. "A Family of Normalized Least Mean Fourth Adaptive Algorithms", **Azzedine Zerguine**, KFUPM, Dec. 4<sup>th</sup>, 2007.

### **Session Chair/Co-Chair**

1. **A.H.M.A.Rahim**, The 4th IEEE GCC Conference, Bahrain, Nov. 12-14, Session on Electric Power & Control Track

### Chemistry Department

1. Speaker : Prof. Mohammad Ashraf Gondal  
Topic : Elemental Analysis Using Laser Induced Breakdown Spectroscopy (LIBS)  
Date : 4 November, 2007
2. Speaker : Prof. Ghassan Oweimreen  
Topic : The Effects of Distinguishability on Entropy  
Date : 13 November, 2007

3. Speaker : Dr. Nisar Ullah  
Topic : Synthesis Examples of Targets of Hot Ther Areas  
Date : 20 November, 2007
4. Speaker : Dr. Abdel-Nasser Kawde  
Topic : Novel Electrochemical Assays for the Detection of DNA Hybridization: a Step Forward Towards DNA Biosensors  
Date : 27 November, 2007
5. Speaker : Dr. Nabil Maalej  
Topic : Mammography Imaging Optimization for Detection of Cancer  
Date : 5 December, 2007
6. Speaker : Mr. Yousef Ahmed Daboush  
Topic : Protein biosynthesis and its applications  
Date : 9 December, 2007
7. Speaker : Mr. Ibrahim Al-Zahrani  
Topic : Selecting the desirable catalyst for hydrocracking  
Date : 9 December, 2007
8. Speaker : Dr. Bassam Alameddine  
Topic : Self-assembled Nanostructured Organic Materials for Electronic Applications  
Date : 11 December, 2007

#### Mechanical Engineering Department

1. Speaker : Mr. Abdul-Latif A. Bu-Humaidah  
Topic : Exergy destruction (availability losses) as a result of entropy generation related to the heat and mass flows in process heat  
Date : October 23, 2007
2. Speaker : Dr. Bekir S. Yilbas  
Topic : Laser Cutting Process  
Date : October, 30, 2007
3. Speaker : Dr. Luai Al-Hadhrani  
Topic : Advanced Laboratory in Multiphase Flow Systems (ALMFS) in the Kingdom of Saudi Arabia  
Date : November 13, 2007
4. Speaker : Mr. Mostafa Hamed El-Sharqawy  
Topic : Modeling of Heat Transfer in Vertical Ground Heat Exchanger  
Date : November 13, 2007

5.    Speaker    :    Dr. Saif A. Al-Kaabi  
       Topic     :    Introduction to Ultrasonic Nondestructive Testing (UT-NDT)  
       Date      :    November 20, 2007
  
6.    Speaker    :    Mr. Ali Hassan Al-Salim  
       Topic     :    Buoyancy Effects on the Entropy Generation Due to Laminar Flow in Vertical Channels  
       Date      :    November 25, 2007
  
7.    Speaker    :    Syed Sohail Akhtar  
       Topic     :    Analysis and Modeling of Hot aluminum-Extrusion Die for its Service Life Enhancement  
       Date      :    November 25, 2007
  
8.    Speaker    :    Dr. Nasser Al-Aqeeli  
       Topic     :    The development of new Al-based nano-composites via solid-state synthesis  
       Date      :    November 27, 2006
  
9.    Speaker    :    Dr. Faleh A. A-Sulaiman  
       Topic     :    Dhahran Techno-Valley (and the role of KFUPM faculty and students)  
       Date      :    December. 04, 2007
  
10.   Speaker    :    Mr. Dhawi A. Al-Otaibi  
       Topic     :    Experimental comparison of Calcium Sulfate 'CASO<sub>4</sub>,' scale deposition on coated carbon steel and titanium surfaces  
       Date      :    December 11, 2007
  
11.   Speaker    :    Mr. Fadi Al-Bedoor  
       Topic     :    Application of Wavelet Techniques to Vibration Analysis of Rotating Machinery  
       Date      :    December. 31, 2007
  
12.   Speaker    :    Mr. Ahmed Al-Hamed  
       Topic     :    Effect of load and temperature on wear and friction behaviour of sub-micron alumina particle reinforced 6061-aluminum alloy composites  
       Date      :    January, 01, 2008

#### Earth Sciences Department

1.    Speaker    :    Dr. Khalid Ramadan  
       Title      :    Analysis of Siliciclastic Samples along Sequence Boundaries,

- Central Saudi Arabia
- Date : October 03, 2007 (Special ESD Seminar)
2. Speaker : Dr. Ismail Kaka  
 Title : Development of Ontario ShakeMap  
 Date : December 11, 2007 (ESD Seminar)
3. Speaker : Prof. Gabor Korvin  
 Title : Fractal subseries of the harmonic series  
 Date : October 30, 2007 (Mathematics Seminar)
4. Speaker : Dr. Khalid Ramadan  
 Title : Distribution of diagenetic alterations in siliciclastic shoreface deposits within sequence stratigraphic framework: Evidence from the Upper Jurassic, Boulonnais, NW France  
 Date : September 19, 2007 (EXPEC Advanced Res. Center, Saudi Aramco)
4. Speaker : Dr. A. Abokhodair  
 Title : Numerical tools for geoscience computations: Semiautomatic differentiation (SD)  
 Date : October 29, 2006 (Department of Mathematical Sciences)

#### Department of Mathematics & Statistics

#### Lecturers/Seminars by Math Faculty:

1	Speaker Title Date	: : :	Prof. Salim A. Messaoudi General Decay in a Viscoelastic System Tuesday, September 25, 2007
2	Speaker Title Date	: : :	Dr. Faisal Fairag A Block Preconditioning Techniques for the Streamfunction-Vorticity Formulation of the Navier-Stokes Equations (*) Tuesday, October 23, 2007
3	Speaker Title Date	: : :	Prof. Gabor Korvin ( <i>Earth Sciences Dept.</i> ) Fractal Subseries of the Harmonic Series Tuesday, October 30, 2007
4	Speaker Title Date	: : :	Dr. Muhammad Yousuf Efficient L-Stable Method for Nonlinear Parabolic Problems with Nonsmooth Initial Data Tuesday, November 06, 2007
5	Speaker Title Date	: : :	Dr. S.E. Binns Algorithmic Complexity Theory Tuesday, November 13, 2007
6	Speaker Title Date	: : :	Dr. Mihai Halic Rings of Invariants for Representations of Quivers Tuesday, November 20, 2007
7	Speaker Title Date	: : :	Dr. Asghar Qadir Complex Linearization of Ordinary and Partial Differential Equations Tuesday, December 4, 2007
8	Speaker	:	Prof. Bilal Chanane

	Title	:	Fourth Order Sturm-Liouville Problems
	Date	:	Tuesday, December 11, 2007

### Applied Math Group Seminars

1	Speaker	:	Dr. Asghar Qadir, ( <i>Adjunct Professor</i> )
	Title	:	Approximate Symmetries
	Date	:	Sunday, December 2, 2007

### Lectures/Seminars by outside speakers

1	Speaker	:	Prof. S. Ejaz Ahmed (Dept. Mathematics & Statistics, Univ. Windsor, Canada)
	Title	:	Improved Estimation Strategies – Part 1
	Date	:	Tuesday, October 30, 2007
2	Speaker	:	Prof. S. Ejaz Ahmed (Dept. Mathematics & Statistics, Univ. Windsor, Canada)
	Title	:	Improved Estimation Strategies – Part 2 & 3
	Date	:	Tuesday, November 06, 2007
3	Speaker	:	Prof. S. Ejaz Ahmed (Dept. Mathematics & Statistics, Univ. Windsor, Canada)
	Title	:	Improved Estimation Strategies – Part 4 & 5
	Date	:	Tuesday, November 20, 2007
4	Speaker	:	Prof. S. Ejaz Ahmed (Dept. Mathematics & Statistics, Univ. Windsor, Canada)
	Title	:	Improved Estimation Strategies – Part 6 & 7
	Date	:	Tuesday, November 27, 2007
5	Speaker	:	Prof. Juan Enrique Martinez-Legaz (Univ. Autonoma de Barcelona, Spain)
	Title	:	On the Representation of Monotone Operators by Convex Functions
	Date	:	Tuesday, November 27, 2007
6	Speaker	:	Prof. S. Ejaz Ahmed (Dept. Mathematics & Statistics, Univ. Windsor, Canada)
	Title	:	Shrinkage, Lasso/Lars and Related Estimation Strategies in Partially Linear Models
	Date	:	Tuesday, December 11, 2007

Commutative Algebra Weekly Seminar (Organizer: Dr. S. Kabbaj),  
 October 2007–January 2008  
 (Seminars given by the following faculty members and graduate students)

1	Speaker Title	:	Mr. M. Jarrar Rings with every ideal is a star-module
2	Speaker Title	:	Mr. M. Jarrar Star and tilting modules over trivial ring extensions
3	Speaker Title	:	Dr. I. Al-Rasasi Prime ideals and Krull dimension of Bhargava ring (1)
4	Speaker Title	:	Dr. I. Al-Rasasi Prime ideals and Krull dimension of Bhargava rings (2)
5	Speaker Title	:	Mr. A. Ben-Obaid Basic properties of Clifford and Boolean regularity
6	Speaker Title	:	Mr. A. Ben-Obaid Regularity in Noetherian-like settings

### Physics Department

1. Ideas Challenge Contest, 20 Nov-07, IEEE Student Club, KFUPM. ( **Nabil Maalej**)
2. Mammography Imaging Optimization for Early Detection of Cancer, Chemistry Seminar, 4 Dec, KFUPM ( **Nabil Maalej**)
3. Lecture about the Achievements of biotechnology in the 29<sup>th</sup> century, which organized by Showman Foundation in Jordan which held on the 27<sup>th</sup> of October 2007. Title of the lecture was: Applications of Biotechnology in the Medical and Pharmaceutical field.
4. ( **Amjad khalil** )
5. “Introduction to Nanotechnology”, Program for gifted students, KFUPM, 1 July 2007. ( **N.Tabet**)
6. “Nanotechnology: The Idea and its Applications”: College of Science, Imam University Riyadh, 20 Nov. 2007. ( **N.Tabet** )
7. “Nanomaterials and Nanodevices”, International Workshop, Sultan Qaboos University, Sultanat Oman, 13-15 January 2008. ( **N. Tabet** )
8. “Use of Bioinformatic tools to analyze proteins and peptides”, **Abdulhafez Selim**, Aging and Chronic disease Center, Philadelphia College of Osteopathic Medicine (PCOM), Philadelphia, PA, USA. September 2007.
9. “Elemental analysis using Laser Induced Breakdown Spectroscopy”, Chemistry Department, KFUPM, Nov 4, 2007. ( **M.A.Gondal** )
10. “Laser based analytical techniques for various applications”, Chemistry Department, ARARAQUARA, SP. Brazil, Oct 17, 2007. ( **M.A.Gondal** )



### Seminars offered by KFUPM Faculty

Speaker : Dr. A. SELIM  
 Title : Use Of Bioinformatic Tools To Design a Novel Therapeutic Peptide For Treatment of Osteoarthritis and Cancer Metastasis.  
 Date : September 16, 2007

Speaker : Dr. A. Al-Sunaidi  
 Title : Optical and Magnetic Properties of Doped ZnO nano-clusters  
 Date : October 28, 2007

Speaker : Dr. Mohammad AL-KUHAILI  
 Title : Energy-Efficient Coatings  
 Date : November 4, 2007

Speaker : Dr. Jihad AL-SADAH  
 Title : Ultrasound Methods for Assessing Sound Speed and Angular Scattering of Tissues  
 Date : November 18, 2007

### Computer Engineering Department

1. Speaker: : .Ahmad A. Al-Yamani  
 Topic : A Vision for ICT in Saudi Arabia," IT Summit,  
 Place : King Abudllah University of Science and Technology (KAUST), Dhahran, Saudi Arabia,  
 Date : October 28, 2007

2. Speaker : Dr. Ahmad A. Al-Yamani  
 Topic : "Saudi Arabia's Smart Cities,"  
 Place : 1st Digital Planning Day, Marrakech, Morrocco.  
 Date : November 23, 2007.

3. Speaker : Dr. Muhammad Wasim Raad  
 Topic : "A Smart Card Based Prepaid Electricity Systems"  
 Place : The 2<sup>nd</sup> International Conference on Pervasive Computing and Applications.  
 Date : July 27, 2007.

4. Speaker : Dr. Abdul Rahim Naseer  
 Topic : "Reputation System Based Secure Routing for WSNs"  
 Place : SICOM, Berhad, Malaysia  
 Date : July 30, 2007.

### Finance & Economics Department

1.    Speaker        :    Dr. Mansur Masih  
      Topic         :    Temporal Causality Between Prices of Crude Oil and  
                              Regional Petrochemical Markets  
      Date           :    10 December, 2007

### **13. SEMINARS OFFERED BY OUTSIDE SPEAKERS IN THE UNIVERSITY**

#### Petroleum Engineering Department

1.    Speaker        :    Hamdi Tchelepi, Associate Professor, Department of  
                              Petroleum Engineering, Stanford University  
      Topic         :    Multiscale finite-volume formulations for multiphase flow  
                              and transport in highly heterogeneous systems  
      Date          :    9<sup>th</sup> September 2007
  
2.    Speaker        :    Ali A. Al-Meshari, Reservoir Engineering Technology Team  
                              Leader, EXPEC Advanced Research Center, Saudi Aramco  
      Topic         :    New Strategic Method to Tune Equation-of-State for  
                              Compositional Simulation  
      Date          :    5<sup>th</sup> November 2007
  
3.    Speaker        :    Husamuddin S. Madani, Petroleum Engineering Analyst  
                              Reservoir Engineering Systems Division, Saudi Aramco  
      Topic         :    The Petroleum Industry...Exciting Challenges and Rewarding  
                              Career for Young Professional  
      Date          :    13<sup>th</sup> November 2007
  
4.    Speaker        :    Frank F. Chang, Program Manager and Principal Engineer for  
                              Acid Stimulation, Schlumberger Dhahran Carbonate Research  
                              Center  
      Topic         :    Perforation Morphology and the Onset of Sand Production  
      Date          :    19<sup>th</sup> November 2007
  
5.    Speaker        :    Frank F. Chang, Program Manager and Principal Engineer for  
                              Acid Stimulation, Schlumberger Dhahran Carbonate Research  
                              Center  
      Topic         :    Chemical Diversion Techniques Used for Carbonate Matrix  
                              Acidizing: An Overview and Case Histories  
      Date          :    3<sup>rd</sup> December 2007

#### Earth Sciences Department

1.    Speaker        :    Dr Gerald Kuecher (Saudi Aramco)  
      Title          :    Thin Bedded Sequences as Potential Reservoirs  
      Date          :    October 23, 2007
  
2.    Speaker        :    Dr Arun Kumar (KFUPM RI)  
      Title          :    Long distance transport of sediments by tsunamis  
      Date          :    October 30, 2007

3. Speaker : Dr. Falah Abu-Jarad (Saudi Aramco)  
 Title : The Radon Levels in Groundwater of two Major Productive Aquifers in Eastern Province  
 Date : November 06, 2007
4. Speaker : Dr. Alain Yves Huc (IFP)  
 Title : Geological History of CO<sub>2</sub>: Atmospheric Change and Natural Sequestration  
 Date : November 13, 2007 (EAGE Student Lectures)
5. Speaker : Schlumberger Information Solution (Dhahran)  
 Title : Openness through Ocean (Software Presentation)  
 Date : November 17, 2007
6. Speaker : Dr Gerald Kuecher (Saudi Aramco)  
 Title : Definitive reservoir pressure correlations in deepwater sand  
 Date : November 20, 2007
7. Speaker : Dr. Shiv Dasgupta (Saudi Aramco)  
 Title : SEG Regional Lecture  
 Date : December 04, 2007

#### Computer Engineering Department

1. Speaker : Dr. Ehab Al-Shaer  
 Associate Professor, Director of the Multimedia Networking Research Lab at Paul University, Chicago, IL, USA.  
 Topic : "Intrusiopn Detection / Prevention Systems"  
 Date : September 26, 2007, December 2<sup>nd</sup> 2007, & December 3, 2007

#### **SEMINARS BY STUDENTS**

As part of Dr. Ehab Al-Shaer program, a series of seminars were scheduled where students made their presentations about work related to the areas of interest of Dr. Al-Shaer, Associate Professor, Director of the Multimedia Networking Research Lab at Paul University, Chicago, IL, USA:

1. Speakers: Mr. Wael Al-Alwani (COE)  
 Mr. Karim Asif Sattar (ICS)  
 Mr. Muhammad Khaled Alhamwi (ICS)  
 Mr. Omar Al-Hmouz (EE)  
 Topic: "Firewall Attacks and Countermeasures"  
 Date: December 1, 2007

2. Speaker: Mr. Ahmad Salam AlRefai (COE)  
 Topic: "Insider Attacker Detection in Wireless Sensor Networks"  
 Date: December 2, 2007
3. Speaker: Mr. Mohamed Abu Ghalioun (COE)  
 Topic: " A Distributed Host-based Worm Detection System "  
 Date: December 3, 2007
4. Speaker: Mr. Sadiq jafar Hasan (COE)  
 Topic: "Network Configuration Management via Model Finding"  
 Date: December 8, 2007
5. Speaker: Mr. Ahmed Bahjat (ICS)  
 Topic: "Snort"  
 Date: December 8, 2007
6. Speaker: Mr. Mohammad Rahil Rafiq (COE)  
 Topic: "MulVAL - A Logic-based Network Security Analyzer"  
 Date: December 9, 2007
7. Speaker: Mr. Muhammad Asif Siddiqui (COE)  
 Topic : "Implications of Selfish Neighbor Selection in Overlay Networks"  
 Date: December 8, 2007
8. Speaker: Mr. Syed Usama Idrees (COE)  
 Topic : "Dynamic Placement of Virtual Machines for Managing SLA Violations"  
 Date: December 8, 2007

Department of Mathematics & Statistics

Seminars Outside KFUPM

1	Speaker Title	:	Dr. A.R. Khan
		:	Fixed point iteration process of nonexpansive mappings---A unified approach , Engineering Mathematics and Applications Conference.

	Location Date	:	University of Tasmania , Hobart , Australia July 1-4 ,2007.
2	Speaker Title  Location Date	:	Dr. A.R. Khan Coincidences and a general scheme for non-commuting maps Ist. Mathematics Conference. Bahauddin Zakariya University, Multan, Pakistan. 27-28 Jul, 2007 .
3	Speaker Title  Location Date	:	Dr. A.R. Khan An iterative scheme of a nonexpansive map and its applications Summer conference in Mathematics LUMS, Lahore, Pakistan 30-31 Jul, 2007

### Physics Department

#### **SEMINARS OFFERED BY OUTSIDE SPEAKERS IN PHYSICS**

Speaker : Dr. F. Abu Jarad, Saudi Aramco  
 Title : Radon Levels in Ground Water of Major Productive Aquifers in Eastern Province.  
 Date : September 30, 2007

Speaker : Dr. Benjamin NICOT, NMR Research Scientist  
 Schlumberger Dhahran Center for Carbonate Research  
 Title : Heavy oil viscosity estimation using low field NMR  
 Date : October 21, 2007

Speaker : Dr. M. K. EL-ADAWI, Dammam, Faculty of Sciences for Girls  
 Title : The temperature functional dependence of Voc for a solar cell in relation to its efficiency –New approach-  
 Date : November 11, 2007

Speaker : Prof. Asghar Qadir, Centre for advanced Math. & Physics  
 National University of Sci. and Tech., Pakistan  
 Title : Converting an Extreme Reissner-Nordstrom Black Hole into a Naked Singularity  
 Date : December 2, 2007

Speaker : Prof. Axel Schulze-Halberg, University of Colima, Mexico  
 Title: Solvable models in Quantum Mechanics and their application  
 Date : December 9, 2007