

## RESEARCH NEWSLETTER

*July, 2008*

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## FOREWORD

This second 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 January 2008 to June 2008. 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. IN080404**  
**Mahmoud**

**Principal Investigator: Dr. Magdi**

**Co-Investigator: Dr. Fouad Al-Sunni**

**Title: Improved Stabilization Methods for Dynamical Systems with State- and Input Delays**

### **Abstract**

This project considers a wide class of dynamical systems with time-delays in the system, input and output matrices and subject to bounded disturbances and uncertainties. The dynamical system is modeled in either continuous- or discrete-time format. The objective is to develop efficient stabilization methods that guarantee closed-loop system stability while satisfying some prescribed performance measures including  $H_2$ ,  $H_\infty$  or simultaneous  $H_2/H_\infty$ . The project provides improved methods based on input-output and parameterization approaches and casting the results as feasibility testing of a family of linear matrix inequalities. The theoretical results will be demonstrated on several examples and engineering applications

**2. Project No. IN080405**

**Principal Investigator: Dr. Rabee M. Reffat**

**Co-Investigator #1: Mr. Mir Sabeer Hamid**

**Co-Investigator #2: Mr. Yaman Khaeruzzan**

**Title: A Knowledge-Based Tool for Contextual-Based Assessment of Intelligent Buildings**

### **Abstract**

The aim of this research project is to develop a computational knowledge-based tool for contextual-based assessment of intelligent buildings. The proposed tool aims to overcome the limitations of the current assessment methods of intelligent buildings by paying attention to functional variations in different types of buildings, building location, and to accommodate both quantitative and qualitative criteria in the assessment. Hence, the proposed tool will focus on both residential and high-rise office buildings in the Arabian Gulf countries. The expected outcomes of this research include: (a) development of a framework of contextual-based assessment of intelligent buildings that accommodates both quantitative and qualitative measures; (b) application of the Analytic Network Process method on the developed framework of contextual-based assessment of intelligent buildings; and (c) development of a knowledge-based computational tool for contextual-based assessment of intelligent buildings and particularly for homes and high rise offices in the Arabian Gulf Countries. Some of the potential benefits of this project include providing a computational knowledge-based tool that can perform well in common appraisal contexts at the design process, where only partial information is available and many qualitative explanatory variables are used; and promoting awareness of the contextual-based assessment to optimize the adaptation of intelligent buildings through efficient and accurate assessment to be used by architects, engineers, and

facility managers

**3. Project No. IN080407**

**Principal Investigator: Dr. Nesar Merah**

**Co-Investigator #1: Dr. Zafarullah Khan**

**Co-Investigator #2: Dr. Abdulaziz Bazzoune**

**Title: A Natural and Accelerated Weathering Effects of Tensile and Impact Properties of CPVC Pipe Material**

**Abstract**

Polyvinyl Chloride (PVC) and more recently Chlorinated-PVC (CPVC) pipes are extensively used for water distribution pipes, wastewater, and in limited applications for gas distribution. More and more cities are using CPVC pipes and pipefittings in their water distribution networks. Chlorinated-PVC is a material designed to withstand higher service loads and temperatures than PVC. Its utilization in harsh environmental conditions such as those of the Arabian Peninsula requires understanding of weathering effects, including UV, moisture and high ambient temperatures on its mechanical and chemical properties.

**4. Project No. IN080408**

**Principal Investigator: Dr. Salim Messasoudi**

**Title: General Decay in Some Timoshenko-Type Systems**

**Abstract**

The issue of stabilization of Timoshenko systems has attracted a great deal of researchers and several results concerning asymptotic and uniform decay of solutions have been established. In this project, we aim to investigate the stabilization of a Timoshenko system by frictional and viscoelastic dampings acting separately or simultaneously and complementarily in the domain. In this regard, we intend to study several problems and establish general stability and decay results for wider classes of relaxation functions and without imposing the usual growth conditions on the frictional damping.

**5. Project No. IN080409**

**Principal Investigator: Dr. Sadiq Sohail**

**Title: Marketing Strategy, Related Factors and Performance of Firms in Saudi Arabia: An Examination of Their Relationships**

**Abstract**

The proposed research aims to investigate the degree of emphasis laid by the manufacturing industry in Saudi Arabia on the marketing strategy, together with other functional strategies that include human resource, technology, research and development and operations. The proposed study also aims to investigate the relationship between marketing strategy and firm's performance. Further, investigation will include an examination of the differences, if any, on the emphasis on marketing strategy differ and a

firm's contextual factor such as its size, PLC stage or industry category. The study will employ a survey methodology in which a self-administered questionnaire will be distributed to a sample of respondents in the three major cities representing the three major provinces of Saudi Arabia. The findings of this study will provide useful insights into the relative importance given by the manufacturing industry in Saudi Arabia to marketing strategy in a mix of other functional strategies and the correlation between marketing strategy variable and organizational performance. Such a knowledge will undoubtedly help organization to have a better understanding and formulate better strategies.

**6. Project No. IN080410**

**Principal Investigator: Dr. Steven Binns**

**Title: Algorithmic Complexity and Effectivity Closed Classes**

**Abstract**

We propose basic research in the area of algorithmic complexity and computability theory. This field of study has historically been of interest to both computer scientists and mathematical logicians and there is currently a resurgence of research in the area, with recent international conferences having taken place in Argentina, The United States, China and Germany. A major research grant by the United States' National Science Foundation has recently been awarded, and publications are appearing in many major journals of computer science and mathematics. There is a lot of potential for basic research of this type to have ramifications in many different areas of mathematics and computer science. We propose here to concentrate on the relationship between algorithmic complexity and effectively closed subclasses of the Cantor space. In particular we will study diminutive classes and explicate their relationship to Kolmogorov complexity. Diminutiveness is a computability-theoretic notion and is a generalisation of the idea of being 0-dimensional in the sense of Hausdorff. We intend that this research build on previous work in the area and to point towards future directions of investigation. The results of the research will be applicable to other areas in computability theory, have ramifications for the study of the Muchnik degrees and shed light on some aspects of computable algebra and other areas of logic and mathematics. We intend in particular to investigate the relationship between diminutive, effectively closed classes and effectively presented Boolean algebras, completions of logical theories and aspects of symbolic dynamics. The proposal will take place over the period of one year and include attending meetings abroad, collaborating with distinguished international researchers and publishing results in academic journals.

**7. Project No. IN080411**

**Principal Investigator: Dr. Hussain Al-Gahtani**

**Co-Investigator: Dr. Faisal Fairag**

**Title: Application of Radial Basis Functions to Incompressible Solids and Fluids**

**Abstract**

The proposed study suggests the use of a new mesh-free method for the solution of incompressible solids (finite elasticity) and incompressible fluids (Navier Stokes equations). The method is based on collocation with radial basis functions (RBF). The objective of the study is to derive a unified mathematical formulation that represents both

incompressible solids and fluids. The proposed RBF method will be used to discretize the governing equations and to obtain a numerical solution for various cases involving incompressible solids and fluids.

**8. Project No. IN080412**

**Principal Investigator: Dr. Razali Bin Matt**

**Co-Investigator: Dr. Obaid Al-Shuraidah**

**Title: ETHICAL ORIENTATIONS AMONG SAUDI AND MALAYSIAN UNDERGRADUATE STUDENTS: A COMPARATIVE STUDY**

### **Abstract**

Culture has been identified as a significant determinant of ethical attitudes of business managers. However, culture is a loaded variable. It needs to be unpacked into a set of interpretable dimensions which as independent variables can help reach meaningful conclusions. This research is intended to investigate the impact of culture on the ethical attitudes of business managers in Saudi Arabia and Malaysia. Adopting Hofstede's cultural typology, this study examines the relationship between his five cultural dimensions—individualism, power distance, uncertainty avoidance, masculinity and long term orientation – and management students ethical attitudes and various demographic and organizational variables. This study will use primary data collected from a selected sample of undergraduate students in business management who are studying in two universities in the Kingdom of Saudi Arabia and two other universities in Malaysia.

**9. Project No. IN080413**

**Principal Investigator: Dr. Hassen Muttalak**

**Co-Investigator #1: Dr. Farah Saleh**

**Co-Investigator #2: Mr. Muaz Abu-Jiya**

**Title: STEIN-TYPE ESTIMATION USING REPLICATED RANKED SET SAMPLING**

### **Abstract**

In this project we consider the application of James-Stein (J-S) estimate for population means from a class of arbitrary populations based on  $k$  replicated ranked set samples (RRSS) and replicated median ranked set sampling (RMRSS). We consider a basis for optimally combining sample information from several data sources. We succinctly develop the asymptotic theory of simultaneous estimation of several means for differing replications based on well-defined shrinkage principle. We showcase that a shrinkage-type estimator will have, under quadratic loss, a substantial risk reduction relative to the classical estimator based on simple random sample (SRS), RRSS and RMRSS. Asymptotic distributional quadratic biases and risks of the shrinkage estimators are derived and compared with the classical estimator. A simulation study is used to support the asymptotic result. An over-riding theme of this study is that the shrinkage estimation method provides a powerful extension of its traditional

counterpart for non-normal populations. Finally we will use a real data set to illustrate the computation of the new proposed estimators.

**10 Project No. IN080417      Principal Investigator: Dr. Nasser-eddine Mohamed Tatar**

**Title: UNIFORM STABILIZATION OF TIMOSHENKO-BEAMS BY THERMAL EFFECT**

#### **Abstract**

It is by now well documented that Timoshenko theory is an improvement of Euler-Bernoulli theory. Indeed, in the Euler-Bernoulli beam theory, it is assumed that plane cross-sections perpendicular to the axis of the beam remain plane and perpendicular to the axis after deformation. It results that the transverse shear strain are zero. When the rotational inertia and the transverse shear are significant in the beam model one has to use rather the Timoshenko theory. Due to a surrounding flow of wind, gas or fluid, the beam is subject to mechanical vibrations. These vibrations are of course undesirable because of their damaging and destructing nature. To reduce these harmful vibrations several control mechanisms have been designed. This is achieved either by incorporating into the structure a smart material actuator as piezoceramic or by acting inside or at the free edges of the beam. Some researchers have been adding different types of dampings (frictional, strong, viscoelastic,...) in the equations of the model. Recently, Rivera and Racke have introduced a damping through a thermal effect by coupling one of the equations with a heat equation. This required a strong damping term in the additional equation. In the proposal at hand we suggest coupling the shear-deformable model with a heat equation in the sense of Green and Naghdi. This kind of coupling has been introduced by Green and Naghdi in the case of a thermoelastic material. This model is based on a constitutive assumption different from the Fourier's law. The damping is present in the additional equation. We expect to have exponential decay of solutions in the energy norm to the equilibrium in case of strong damping. Then, the next natural step would be to weaken this damping to other weaker ones and try to prove the same thing.

**11. Project No. IN080418      Principal Investigator: Dr. Mamdouh Al-Harthi**

**Title:  
MATHEMATICAL MODELING OF LIVING RADICAL POLYMERIZATION OF  
STYRENE INITIATED BY EPOXIDE RADICAL RING OPENING**

#### **Abstract**

There has been significant advances in the field of living radical polymerization (LRP), which has driven LRP as a fundamental tool in modern polymer chemistry. Mechanistically, LRP occurs by Atom transfer radical polymerization (ATRP), dissociation-combination (DC) or degenerative transfer (DT). ATRP is catalyzed by late transition metals. DC is mediated by

organic nitroxides, while DT employs sulfur based reversible addition-fragmentation (RAFT). LRP is living in nature and can produce different class of polymers with controlled microstructure and novel properties. Constant new innovations in LRP require comprehensive polymer reaction engineering investigation for commercialization. One way to achieve this is by mathematically modeling the behavior of this technique. Once that has been done, we can use computation algorithms to predict the produced polymers with this mechanism. This model will also help us to predict the conditions we need to prepare polymer with desired microstructure, which would ultimately give us control on the properties of the polymer produced. This project will develop a mathematical model for living radical polymerization of styrene initiated by epoxide radical ring opening. The model developed will be simulated using Monte Carlo technique, which not only can predict the polymer average properties, but can also predict complete microstructure distributions. The model will then be validated by experimental data from renowned journal publication.

Based on our knowledge ATRP coupled with DC or DT has not been modeled using Monte Carlo models. Styrene is of undeniable commercial importance. Asandei et al have shown that Ti alkoxides generated in-situ by Epoxide radical ring opening (RRO) are efficient catalysts for the living ring opening polymerization of cyclic esters. Therefore, epoxides and titanium complexes represent potent new classes of initiators and respectively catalysts for both radical and ring opening polymerizations. They have advantage of inexpensive commercial availability with wide structural diversity. This work would lead to better understanding of polymerization mechanism of this particular styrene polymerization process.

**12. Project No. IN080419**

**Principal Investigator: Dr. Rajai Al-Assar**

**Title: HEAT CONDUCTION FROM TWO SPHERES**

#### **Abstract**

An exact solution of heat conduction from two spheres is to be obtained. The unconventional bi-spherical coordinates is used to solve the problem. The two spheres may be of different diameters and located at any distance from each other. The effect of the axis ratio of the two spheres, the temperature ratio, and the center-to-center distance on the heat transfer coefficient (the famous Nusselt number) will be studied.

**13. Project No. IN080420**

**Principal Investigator: Dr. Mahmoud Elish (ICS)**

**Title: A MEASUREMENT FRAMEWORK FOR ASPECT-ORIENTED SYSTEMS**

#### **Abstract**

Aspect-oriented techniques are emerging to cope with the challenges of current software development, and to address shortcomings of existing paradigms such as object-oriented and component-based software engineering. However, there is not much empirical knowledge about their advantages and side effects on system quality attributes such as reusability, maintainability, and reliability. The main objective of this research is to investigate measurement frameworks for effective assessment and well-informed adoption and comparison of aspect-oriented systems and techniques.





**14. Project No. IN080421  
(Chem)**

**Principal Investigator: Dr. Anvarhusain Isab**

**Co-Investigator: Dr. M.I.M. Wazeer (Chem)**

**Title: REDOX AND LIGAND EXCHANGE REACTION OF GOLD(III) CYANIDE AND GOLD(III) SELENO-CYANIDE WITH VARIOUS BIOLOGICALLY IMPORTANT LIGANDS**

#### **Abstract**

The interactions of various biologically important ligands such as L-Methionine, its derivatives, thiols, various thiones, trialkyl phosphines and its derivatives, with Au(III) cyanide and Au(III)-Selenocyanate will be investigated using  $^{13}\text{C}$ ,  $^{15}\text{N}$ ,  $^{31}\text{P}$ ,  $^{77}\text{Se}$  NMR spectroscopy. It is expected that some of these ligands such as trialkyl phosphines and thiols, will reduce  $[\text{Au}(\text{CN})_4]^-$  to  $[\text{Au}(\text{CN})_2]^-$  as well as  $[\text{Au}(\text{SeCN})_4]^-$  to  $[\text{Au}(\text{SeCN})_2]^-$ . The  $^{13}\text{C}$  NMR chemical shifts of both of these Gold species are different. Therefore, these redox reactions will be followed by using NMR spectroscopy with labeled compounds. The ability of thioether and thione to form square planar Au(III) complexes by replacing one or more  $\text{CN}^-$  ligands will be investigated by NMR spectroscopy, although reduction of Gold (III) to Gold (I) is also expected. Rates of reactions as well as equilibrium constants on the proposed systems will be measured. These studies will provide insight into the possible mechanisms of an immunogenically generated Gold(I)/Gold(III) redox cycle *in vivo*.

**15. Project No. IN080422  
(CEM)**

**Principal Investigator: Dr. Ashraf El-Azzouni**

**Co-Investigator #1: Dr. Mohammad Abido (EE)**

**Co-Investigator #2: Mr. Putu Raharja (COE)**

**Title: FINANCE-BASED SCHEDULING OF CONSTRUCTION PROJECTS USING EVOLUTIONARY AND HEURISTIC ALGORITHMS**

#### **Abstract**

Construction Scheduling is the process of devising schemes for sequencing activities. An executable schedule fulfills the real concerns of users, thus minimizes the chances of schedule failure. The minimization of total project duration has been the concept underlying CPM schedules. Subsequently, techniques including resource management and time-cost trade-off analysis were developed to customize CPM schedules in order to fulfill users' concerns regarding project resources, cost, and time. However, financing construction activities throughout the course of the project is another crucial concern that must be properly treated, otherwise, non-executable schedules are possibly rendered. Unless contractors manage to procure adequate cash to keep construction work run according to schedule, the pace of work will definitely be relaxed. Therefore, making the expenditures of the scheduled activities always in balance with the available cash has a potential contribution to producing executable schedules. Contractors procure cash through establishing credit-line accounts with bankers

who allow contractors to withdraw cash up to certain credit limits. This proposal introduces evolutionary and heuristic algorithms to produce financially feasible schedules that balance the expenditures of activities at any period with the credit limit. The proposed methods offers twofold benefits of minimizing total project duration and fulfilling finance availability constraints.

**16. Project No. IN080423**

**Principal Investigator: Dr. Abdullatif Shuhail**

**Title: USING SEISMIC INTERFEROMETRY FOR NEAR-SURFACE MODEL ESTIMATION (INDUSTRIAL SABBATICAL LEAVE)**

**Abstract**

The purpose of the sabbatical leave is to conduct research in order to present in detail the experience of Schlumberger Dhahran Center for Carbonate Research (SDCR) in Seismic Interferometry (SI). The research is needed because near-surface problems present serious challenges to the quality of land seismic data acquired in Saudi Arabia. One way to tackle these challenges is by inverting the velocity structure in near-surface layers. Several studies have shown the effectiveness of SI in inverting the near-surface velocity model. Consequently, petroleum companies working in Saudi Arabia who use land seismic data routinely will find research of any local experience beneficial.

It is also important for the Earth Sciences Department (ESD) since near-surface effects on seismic data are discussed in undergraduate and graduate courses in the Department. Industrial experience would enrich the content of these courses. The research is also important to KFUPM because it hosts the Near-Surface Seismic Investigation Consortium (NSSIC). The NSSIC is an industry-sponsored research consortium, based at the ESD and the Center of Petroleum and Minerals in the Research Institute (CPM/RI). The consortium is devoted to investigating the effects of near-surface features on petroleum seismic data. The consortium is currently sponsored by Saudi Aramco, SDCR, and SRAK and headed by the proponent (Dr. Abdullatif Al-Shuhail). For more information on the NSSIC, please follow this link: <http://www.kfupm.edu.sa/nssic/>

**17. Project No. IN080424**  
**Sahlawi**

**Principal Investigator: Dr. Mohammad Al-**

**Title: AN ALTERNATIVE OIL PRICING CURRENCY TO IMPACT OPEC'S ECONOMIES AND THE US GEOPOLITICAL POWER (SABBATICAL LEAVE PROJECT)**

**Abstract**

OPEC's revenue strategy to date has focused on production output, with little overt consensus for alternative means to improve the oil earnings-particularly in light of the predominance in trade with European and Asian nations. This research project will examine the economic and strategic impacts of moving from U.S. dollar pricing of oil to other alternative currencies in a way to avoid dollar fluctuation with respect to other currencies and inflationary pressures which would expected to increase OPEC's revenue and reducing geographical trading partner balance of trade deficits and would affect the US geopolitical power especially in the Gulf region.

**18. Project No. IN080425**

**Principal Investigator: Dr. Haider Madani**

**Title: AN INDUSTRY-EXPERIENCE LEAVE IN THE WORLD BANK: LEARNING ABOUT THE ROLE OF AUDITING IN ENFORCING COMPLIANCE TO EFFECTIVE ACCOUNTING DISCLOSURE AND CORPORATE GOVERNANCE**

**Abstract**

The purpose of the proposed sabbatical leave is to gain practical experience at the World Bank, Washington, D.C., U.S.A. and would give me informative insight to learn more on the recent development in accounting disclosure and corporate governance. The experience emphasis will revolve around the role of the accounting and auditing profession in enforcing world-wide compliance to effective disclosure and sound international corporate governance. The sabbatical leave will provide me a great opportunity to enrich my knowledge as an academician. It will give an excellent exposure needed to promote new ideas on bolstering accounting disclosure and corporate governance. I will also use the unique practical experience that would be gained at the World Bank in my future teaching and research

**19. Project No. IN080426**  
(IAS)

**Principal Investigator: Dr. Abdulkarim Al-Zahrani**

**Co-Investigator #1: Dr. Moustafa El-Shafei (SE)**

**Co-Investigator #2: Dr. Atef Al-Najjar (COE)**

**Co-Investigator #3: Dr. Essam Eid Abu-Gharbia (IAS)**

**Co-Investigator #4: Dr. Saeed Ben Ali Al-Amri (IAS)**

**Co-Investigator #5: Dr. Wasfi Al-Khatib (ICS)**

**Co-Investigator #6: Mr. Husni Al-Muhtaseb (ICS)**

**Title: AUTOMATIC VOICE IDENTIFICATION OF ARABIC POETRY METERS**

**Abstract**

This project aims at developing a system based on the recent advances in speech recognition technology to analyze and identify the meters (Awzan) of spoken classical Arabic poems. The system will also be cable of detecting errors in the meters of the spoken poems. Development of such system requires collaboration of multi-discipline expertise in Arabic language, experts in Arabic poetry structure, Arabic phonetics, computational linguistics, digital signal processing in and statistical methods for speech recognition. The outcome of this project will also include building a comprehensive database of text & voice classical Arabic poetry, and possibly a modern mathematical modeling of the meters of Arabic poets. The speech processing and tools will be based on the state of the art research results developed by Carnegie Mellon university, and the statistical speech modeling tools developed by the Cambridge University. The project will be carried out by 7 investigators, and two internationally known consultants in Arabic poetry, in addition to research assistants and programmers. The duration of the project is two calendar years.

**20. Project No. IN080427  
(EE)**

**Principal Investigator: Dr. Mohammad Shwehdi**

**Title:**

**Identifying the Causes of Low Voltage Cable Outages by Applying Explicit Measures and Laser Induced Breakdown Spectroscopy (LIBS)**

**Abstract**

It is well known that the efficiency of cable Ampacity is inversely proportional to thermal losses. One of the evident solutions, from the thermal point of view, is to use highly conductive material to minimize the thermal losses in the wires. The major causes of faults of cable and accessories of any electrical system may be categorized into: bad quality Insulations, bad manufacturing processes, Overheating, over-/Under-loading, bad workmanship, short circuits, line upgrade, digging accidents, and/or incidents and severe weather. Other factors may affect cable performance are environmental effects, aging, and/or degradation, soil and its thermal resistivity, commissioning procedures, and means and ways of installation. Saudi Arabia has its own particular factors that make this research more important to both end-users and the cable industry such factors are; overloading along with ambient high temperature, humidity, level of water and sewage in many areas, and its soil resistivity, definitely make cable susceptible to short or long term failures [1, 3, 11 and 14]. In Saudi Arabia there are three cables manufacturers who produce power cables. Most of the conductors (copper or aluminum) and the raw material needed for cable manufacturing are provided from the local petrochemical industries and others foreign suppliers. Saudi Electric Company (SEC) is considered the largest end user of cables as well as many other Saudi Companies (Marafiq, SABIC, and Aramco). The presence of defects and impurities and minerals in insulation materials due to raw materials quality or manufacturing processes, and improper installation by contractors does play another major factor that lead to more feeders' failures. The high loading and haphazard loads which increases feeder ampacity beyond its designed rating and the Kingdom rapid development will subject cable feeders to more thermal and degradation effects and can develop high temperatures profiles which in turn lower and weaken the insulation level of the its insulating materials. The proposed project will identify and investigate the different raised problems and factors and causes of outages, categorize these factors, conduct experimental and testing work and make the recommendations that will definitely assist sec and cable manufacturers to reduce such cables failures and build reliable quality cables respectively

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

College / Department -----	Principal Investigator / Co-Investigator(s) -----	Title of the Project and its Code -----
<b>College of Engineering Sciences</b>		
Aerospace Engineering	<b>Dr. Hanafy M. Omar</b> <b>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</b> <b>Dr. Shaikh Asrof Ali (Chem)</b> <b>Dr. Ibnelwaleed Hussain</b> <b>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</b> <b>Dr. Sleem ur Rahman</b> <b>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)</b> <b>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 / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Chemical Engineering	<b>Dr. Sulaiman Al-Khattaf 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 Dr. Saleem ur Rahman Dr. Mesfer Al-Zahrani (CE) 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 Dr. Habib Zughbi (Consultant)</b>	Investigation of the Hydrodynamics of a Moving Bed Reactor. <b>(CHE/MOVING BED/328)</b>
Chemical Engineering	<b>Dr. Saleem ur Rahman (Che) Dr. O.S.B. Al-Amoudi (CE) 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) Dr. Ibnelwaleed Hussain (Che) 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, Dr. Basel F. Abu Sharkh, Dr. Muhammad Al-Arfaj, Dr. João B.P. Soares, Professor of Chemical Eng., University of Waterloo, Canada</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. Mamdouh Al-Harthi</b>	Mathematical Modeling of Living Radical Polymerization of Styrene Initiated By Epoxide-Radical Ring Opening <b>(CHE/EPOXY/418)</b>
Chemical Engineering	<b>Dr. Habib Al-Ali</b>	Cost Effective and Optimum Strategies for Emission Reduction in Refineries <b>(Sabbatical Leave Project) (Che/Refineries/348)</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. Ali Al-Gadhib</b>	Numerical Simulation of the Evolved Physico-Chemical Distress in Concrete Repairs and Concrete Structures (Sabbatical Leave) <b>(CE/CONCRETE/313)</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>
Civil Engineering	<b>Dr. Husain J. Al-Gahtani Dr. Faisal Fairag (Math)</b>	Application of Radial Basis Functions to Incompressible Solids and Fluids <b>(CE/IN080411)</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 Landolsi Dr. Wajih Abu-Al-Saud Engr. Ahmad Abul-Hussain</b>	Development of a Software-Defined Radio Platform for Communication System Design <b>(EE/Platform/332)</b>
Electrical Engineering	<b>Dr. M. Mohandes (EE) Dr. Maan Kousa (EE) Dr. S. Al-Shahrani (EE) Mr. A. Abul Hussain (EE)</b>	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



College / Department	Principal Investigator / Co-Investigator(s)	(EE/Spatial/342)
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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</b> <b>Dr. Mohammad H.</b> <b>Shwehdi</b> <b>Dr. Jamil Bakhashwain</b>	Distributed Generation Integration for Optimal Operation and Improved Performance of Distribution System <b>(EE/Optimal/385)</b>
Electrical Engineering	<b>Dr. Mohammad Adnan</b> <b>Landolsi (EE)</b> <b>Dr. Aimen Al-Maleh</b> <b>(COE)</b>	Design and Implementation of Interconnect-Efficient Low Density Partly 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. Zaki Ahmad</b> <b>Dr. Maysser Al-Haddad</b> <b>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. Amro Al-Qutub</b> <b>Dr. Mohammad Allam</b> <b>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>(ME/Sliding Wear/352)</b>
Mechanical Engineering	<b>Dr. Esmail Mokheimer</b> <b>Dr. Tarek Abdel-Galil</b> <b>Dr. Faleh Al-Sulaiman</b> <b>Dr. Tarek Abdel-Galil</b> <b>(Consultant)</b>	Techno-Economic Feasibility Study for Implementing Efficient Air Conditioning Technologies for Local Manufacturers of small Central

Air Conditioners (ME/AC Technology/350)		
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Mechanical Engineering	<b>Dr. Amro Al-Qutub Mr. M. Abdul-Samad</b>	Development of Further Capabilities for the ME High Temperature Tribometer (ME/Turbo/359)
Mechanical Engineering	<b>Dr. Numan Abu-Dhier Dr. Bekir Sami Yilbas</b>	Quality Assessment and Metallurgical Examination of Laser Welded Sheets (ME/Laser/398)
Mechanical Engineering	<b>Dr. Nesar Merah Dr. Zafarullah Khan and Dr. Abdulaziz Bazzoune</b>	Natural and Accelerated Weathering Effect of Tensile and Impact Properties of CPVC Pipe Material (Release Time Proposal for the PI) (ME/Tensile/407)
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 (PETE/SANDSTONE/380)
<b>College of Comp. Sci. &amp; Engg.</b> Information & Computer Science	<b>Dr. Mahmoud Elish</b>	A Measurement Framework for Aspect-Oriented Systems (ICS/ASPECT/420)
Information & Computer Science	<b>Dr. Wasfi Al-Khatib Dr. Sabri A. Mahmoud</b>	Toward Content-Based Indexing and Retrieval of Arabic Manuscript (ICS/INDEX/325)
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)
Information & Computer	<b>Dr. Khaled Salah</b>	Intelligent Firewall DoS

Science	<b>Dr. Mohammad Sqalli</b>	Attacks and Countermeasures (ICS/Fire-Wall/361)
<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. 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	<b>Dr. Muhammad El-Rabaa Dr. Abdelhafid Bouhraoua</b>	Developing a Network-on- Chip for Field Programmable Gate Arrays (COE/GATE/367)
Computer Engineering	<b>Dr. Aimen El-Maleh 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 Dr. Abdelhafid Bouhraoua Dr. Abdul Rahim Nasser</b>	The Design and Simulation of a Multicore Vector Processor (COE/IN080394)
Systems Engineering	<b>Dr. Umar Al-Turki Dr. Shokri Z. Selim 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 Dr. Mohammad Darwish Dr. Ahmed Haron</b>	Multi-Objective Mathematical Models for Process Targeting (SE/MATH MODEL/321)
Systems Engineering	<b>Dr. Muhammad Shafiq 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) <b>(SE/Maint.Mgt/331)</b>
<b>College / Department</b> -----		<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Systems Engineering		<b>Dr. Chawki Fedjki</b> <b>Dr. Salih Duffuaa</b>	Heuristics for QAP Using a Characterization of a B-Local Star Minimum <b>(IN080391)</b>
Systems Engineering		<b>Dr. Mohammad Al-Salamah</b>	Manpower Planning with Short-Term Contracts and Worker Training <b>(SE/Manpower/399)</b>
Systems Engineering		<b>Dr. Magdi Mahmoud and Dr. Fouad Alsunni</b>	Improved Stabilization Methods for Dynamical Systems with State- and Input Delays <b>(SE/Stabilization/404)</b>
<b>College of Industrial Management</b> Accounting & MIS		<b>Dr. Haider Madani</b>	An Industry-Experience Leave at the World Bank: Learning About the Role of Auditing in Enforcing Compliance to Effective Accounting Disclosure and Corporate Governance <b>(CIM/AUDIT/425)</b>
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 <b>(ACT/IT-Model/363)</b>
Department of Management & Marketing	of	<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 <b>(CIM/Customer/338)</b>
Department of Management & Marketing	of	<b>Dr. Mansour Murad &amp; (Management Marketing)</b>	An Empirical Study on the Factors Influencing Employer Decisions in Hiring and Retaining Individuals with Disabilities in the Arab World <b>(Mgt/Hiring/349)</b>
Department	of	<b>Dr. Asad M. Sadi</b>	Franchising a Gizmo for

Management Marketing	&	<b>Dr. Salem Al-Ghamdi</b>	Small-Medium Enterprises Development in Industrialized Economies: A Saudi Arabian Investigation <b>(MGT/Gizmo/366)</b>
<b>College / Department</b> -----		<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Department Management Marketing	of &	<b>Dr. Mourad Mansour Dr. Mustapha Achoui</b>	Gender and Job Satisfaction among Employees in Saudi Arabia <b>(MGT/Gender/381)</b>
Department Management Marketing	of &	<b>Dr. Mohammad Sadiq Sohail</b>	IT Outsourcing in Saudi Arabia: Perspectives from Employees <b>(IM080389)</b>
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 <b>(IM080392)</b>
<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 <b>(CY/PALLADIUM/295)</b>
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 Radicals. Magnetic Properties and Catalytic Performance in Oxidation Reactions of Alcohols <b>(CY/METAL/301)</b>
Chemistry		<b>Dr. Mohammed A. Al-Daous (Chem)</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. Anvarhusain Isab 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>
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Chemistry	<b>Dr. Bassam El-Ali Dr. Jimoh Tijani (Chemistry)</b>	Rhodium-Catalyzed one Pot Hydroformylation-Cyclization Reactions of Allybenzene Derivatives <b>(CY/BENZENE/379)</b>
Chemistry	<b>Dr. Anvarhusain Isab Dr. Mohammad I.M. Wazeer (Chemistry)</b>	Redox and Ligand Exchange Reaction of Gold(III) Cyanide and Gold(III) Seleno-Cyanide with Various Biologically Important Ligands <b>(CY/LIGAND/421)</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. Abdullatif Shuhail (Industrial Sabbatical Leave)</b>	<b>Using Seismic Interferometry for Near-Surface Model Estimation (ES/SEISMIC/423)</b>
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 <b>(MS/Neumann/333)</b>
Mathematical Sciences	<b>Dr. Jawad Abuihlail (Math) Mr. Mohammad Jarar (Math)</b>	The Structure of Tilting Modules Over Commutative Rings <b>(MS/Rings/351)</b>
Mathematical	<b>Dr. Abdulrahman Alshuaibi</b>	Regularization and the Inverse

Sciences	(Math)	Laplace Transform (Sabbatical leave proposal) (Host Institute: University of West Georgia, USA) (MS/Laplace/354)
Mathematical Sciences	<b>Dr. Qamrul Hasan Ansari</b> <b>Dr. Soliman Alhomidan</b> (Math)	Multiobjective Optimization and Vector Variational Inequalities (MS/VECTOR/357)
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
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</b> (Math) and <b>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>
Mathematics Statistics	&	<b>Dr. Salim Messaoudi</b>	General Decay in Some Timoshenko-type Systems <b>(MS/Decay/408)</b>
<b>College / Department</b> -----		<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Mathematics Statistics	&	<b>Dr. Steven Binns</b>	Algorithmic Complexity and Effectivity Closed Classes <b>(MS/IN080410)</b>
Mathematics Statistics	&	<b>Dr. Hassen Muttlak Dr. Farah Saleh Mr. Abu-Jiya</b>	Stein-Type Estimation Using Replicated Ranked Set Sampling <b>(MS/STEIN/413)</b>
Mathematics Statistics	&	<b>Dr. Nasser-eddine Tatar</b>	Uniform Stabilization of Timoshenko-Beams by Thermal Effect <b>(MS/BEAMS/417)</b>
Mathematics Statistics	&	<b>Dr. Rajai Alassar</b>	Heat Conduction from Two Spheres <b>(MS/HEAT/419)</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)</b>	Self-Assembly in Confined Semiflexible Copolymers <b>(PH/COPOLYMERS/268)</b>
Physics		<b>Dr. Basel Abu Sharkh (Che) 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</b> <b>Dr. A. Mekki</b> <b>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>
<b>College / Department</b> -----	<b>Principal Investigator / Co-Investigator(s)</b> -----	<b>Title of the Project and its Code</b> -----
Physics	<b>Dr. A.A. Naqvi (Phys)</b> <b>Dr.M.M. Nagadi (Phys)</b> <b>Dr. Omar Al-Amoudi (CE)</b> <b>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)</b> <b>Dr. M.F. Al-Kuhaili (Phys)</b> <b>Mr. B.J. Abdul-Aleem (ME)</b>	Cerium Oxide Tin Film Gas Sensor for Monitoring of 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>
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

Islamic & Arabic Studies Department	<b>Dr. Abdul Karim Zahrani</b> <b>Dr. Moustafa El-Shafei</b> <b>Ahmed,</b> <b>Dr. Atef Al-Najjar,</b> <b>Dr. Essam Eid Abu-</b> <b>Gharbia, Dr. Saeed Ben Ali</b> <b>Al-Amri, Dr. Abdul-Majeed</b> <b>Al-Mubarak and</b> <b>Mr. Husni Al-Muhtaseb</b>	<b>(PH/Multiple Questions/384)</b>  Automatic Voice Identification of Arabic Poetry Meters <b>(IAS/POETRY/426)</b>
College / Department -----	Principal Investigator / Co-Investigator(s) -----	Title of the Project and its Code -----
<b>College of</b> <b>Environmental</b> <b>Design</b> Architecture Department	<b>Dr. Rabee Reffat (ARC)</b> <b>Dr. Emad El-Sebakhy (ICS)</b>	<b>A Semantic Based Virtual</b> <b>Design Environment for</b> <b>Digital Designing in</b> <b>Architecture</b> <b>(ARC/SEMANTIC/311)</b>
Architecture Department	<b>Dr. Rabee Reffat (ARC)</b> <b>Mr. Mir Sabeer Hamid</b> <b>Mr. Yaman Khaeruzzan</b> <b>(ICS)</b>	A Knowledge-Based Tool for Contextual-Based Assessment of Intelligent Buildings <b>(AR/Knowledge/405)</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. Ashraf El-Azzouni</b> <b>(CEM)</b> <b>Dr. Mohammad Abido (EE)</b>	Finance-Based Scheduling of Construction Projects Using Evolutionary and Heuristic Algorithms <b>(CEM/FINANCE/422)</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</b> <b>Management</b> Department of Management & Marketing	<b>Dr. Mohammad Bureay</b>	<b>Islamic Management and</b> <b>Administration</b> <b>(CIM/ISLAMIC MGT/289)</b>

Department of  
Management &  
Marketing

**Dr. M. Sadiq Sohail**

Marketing Strategy, Related  
Factors and Performance of  
Firms in Saudi Arabia: An  
Examination of Their  
Relationships  
**(CIM/IN080409)**

Department of  
Management &  
Marketing

**Dr. Razali Matt Zin**  
**Dr. Obaid M. Al-Shuraidah**

Ethical Orientations Among  
Saudi and Malaysian  
Undergraduate Students: A  
Comparative Study  
**(CIM/ETHICAL/412)**

**College /  
Department**  
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**Principal Investigator /  
Co-Investigator(s)**  
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**Title of the Project  
and its Code**  
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Department of  
Finance & Economics

**Dr. Mohammad Al-Sahlawi**

An Alternative Oil Pricing  
Currency to Impact OPEC's  
Economies and the US  
Geopolitical Power  
**(IM/OIL PRICING/424)**

#### 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

##### SUBMITTED IN 2007-2008

#	Name of Faculty	Department	Title of the Research Proposal
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-2008-06	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
<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-2008-17</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-2008-21</b>	Dr. Ahmad S. Al-Gahtani, Dr. Shamshad Ahmad, Eng. M. Mukarram Khan and Dr. M. Maslehuddin	Civil Engineering Dept.	Effect of Curing Methods on Properties of Plain and Blended Cement Concretes Budget: SR. 379,800 Duration: 24 months
<b>IP-2008-23</b>	Dr. Ibbelwaleed Hussein and Mr. M.A. Suleiman (With release time for Dr. Ibbelwaleed 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 (PROPOSAL WAS WITHDRAN RECENTLY)

**SUBMITTED DURING SPRING SEMESTER 2007-2008**

#	Name of Faculty	Department	Title of the Proposal
<b>IP-2008-26</b>	Dr. S.A.M. Said Dr. M.A. Habib Dr. T.F. Ayinde	Department of Mechanical Engineering	Experimental Investigation of Flow Mal-distribution in Air-Cooled Heat Exchangers Budget: SR. 224,800 Duration: 30 months
<b>IP-2008-27</b>	Dr. Bellouli Bouzid and Dr. Mohammad Nazeem, Dr. Khan Hamidullah and Mr. Mohammad Zahid	Hafr-al-Batin Community College	Theoretical Modeling and Experimental Analysis of Novel and Efficient Erbium Doped Fiber Laser (EDFL) and Erbium Doped Fiber Amplifier (EDFA) Budget: SR. 370,000 Duration: 24 months
<b>IP-2008-28</b>	Dr. Mohammad Al-Kuhaili and Dr. S.M. Ayub	Physics	Materials Fabrication Using DC/RF Magnetron Sputtering Budget: SR 1,882,200 Duration: 24 months (PROPOSAL WAS WITHDRAN RECENTLY)

<b>IP-2008-29</b>	Dr. Tarek Al-Naffouri and Dr. Mohammad Moinuddin	EE Dept., and Hafr-Al-Batin Community College	Optimum Error Nonlinearities for Long Adaptive Filters Duration: 12months Budget: SR. 56,000
<b>IP-2008-30</b>	Dr. Hassen Muttalak, Dr. Farah Saleh and Mr. Abu-Jiya	Dept. of Mathematics and Statistics	Stein-Type Estimation Using Replicated Ranked Set Sampling Budget: SR.97,400 Duration: 18 months
<b>IP-2008-36</b>	Dr. Adel Abdou	Architecture Department	Development of a Model University Classroom Suitable for Emerging Teaching Pedagogy with State-of-the-Art Educational Facilities in a Quality Indoor Environment Budget: SR. 184,600 Duration: 20 months
<b>IP-2008-37</b>	Dr. M. Tahir Mustafa and Dr. Ashgar Qadir	Mathematics & Statistics	Investigation of Wave Equation on Some Plane Symmetric Space Times Budget: SR. 23,000 Duration: 10 months
<b>IP-2008-38</b>	Dr. S.A.M. Said Dr. M.A. Habib Dr. T.F. Ayinde	Department of Mechanical Engineering	Characterization of Natural Convection, Heat Transfer in an Array of Discrete Heat Sources Duration: 12 months Budget: SR. 75,000
<b>IP-2008-40</b>	Dr. Ibrahim M. Algahtani	Finance & Economics Department (Industrial Sabbatical leave)	Establishing a Real Estate Investment Fund at Sumou Holding Sabbatical year: September 2008 to August 2009
<b>IP-2008-41</b>	Dr. Mihai Halic	Department of Mathematics & Statistics	Strong Exceptional Sequences of Vector Bundles Over a Certain Class of Fano Varieties Duration: 12 months SR. 28,400
<b>IP-2008-43</b>	Dr. Mahmoud Elish and Dr. Mohammad Alshayeb	ICS Department	A Measurement Framework for Aspect-Oriented Systems Duration: 24 months Budget: SR. 99,200
<b>IP-2008-44</b>	Dr. Farag Azzedin and Dr. Sahalu Junaidu,	ICS Department	I/O Request Handling in Web Servers: Issues and Solutions: Duration: 36 months Budget: SR. 145,600
<b>IP-2008-46</b>	Dr. Ahmed Bouketir and Dr. H. Bahlouli and 3 External Consultants from Uzbekistan and	Mathematical Sciences Dept., Damman Community College and Physics Dept.	Localized Vectorial Modes in Bose-Einstein Condensates and Optical Waveguide Systems with Cubic-Quintic Nonlinearity Duration: 24 months Budget: 162,800

	other places		
<b>IP- 2008-47</b>	Dr. Tarek Al-Naffouri and Dr. Mohammad Moinuddin	EE Dept., and Hafr-Al-Batin Community College	Optimum Error Nonlinearities for Long Adaptive Filters Duration: 12months Budget: SR. 56,000

**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

**Submitted in Spring Semester 2007-2008 (072)**

7.	Dr. Marwan Al-Qur'an	Management & Marketing	The Process of International Market Section: The Case of the Saudi International Firms . Duration: 11 months Budget: SR. 49,500
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8.	Dr. Mohammad Saad Al-Ahmadi	Accounting & MIS Dept.	Perturbing Datasets with Linear Relationships when All Attributes are Confidential Duration: 11 months Budget: SR. 50,000
9.	Dr. Yaser Ahmed Fallatah	Accounting & MIS Dept.	The Usefulness of Accounting Information in the Bull and Bear Markets: An International Perspective. Duration: 11 months Budget: SR. 47,400
10.	Dr. Mohammed Alzahrani (2077) 1626	Finance & Economics	Taxation and Corporate Financial Policies Around the World Duration: 11 months Budget: SR. 49,300

**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. <b>(Bookwriting Proposal)</b>	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 Aaoud (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. Ashfaq 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. Necar 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)	Utilization 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.	NO <sub>x</sub> 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 JANUARY, 2008**

### **College of Engineering**

#### **Civil Engineering**

1. "Correlations between Depth of Water Penetration, Chloride Permeability and Coefficient of Chloride Diffusion in Plain, Silica Fume and Fly Ash Cement Concretes", **Ahmad, S., Al-Kutti, W.A., Al-Amoudi, O.S.B. and Maslehuddin, M.**, ASTM Journal of Testing and Evaluation (U.S.A.), Vol. 36, Issue 2, March 2008, pp. 136-139.
2. "Compliance Criteria for Quality Concrete", **Ahmad, S., Al-Kutti, W.A., Al-Amoudi, O.S.B. and Maslehuddin, M.**, Construction and Building Materials Journal (UK), Vol. 22, No. 6, June 2008, pp. 1029-1036

#### **Electrical Engineering**

1. "Characterization of wall dispersive and attenuative effects on UWB radar signals", **A. Muqaibel, A. Safaai-Jazi, J. Franklin Inst.**, doi:10.1016/j.jfranklin.2008.01.002, (2008)
2. "Measurements of UWB through-the-wall propagation using spectrum analyzer and the Hilbert transform", **A. Muqaibel**, Microwave and Optical Technology Letters, vol. 50, no. 2, pp. 465-470, Feb. 2008.
3. "FRESH-DFE - A new structure for interference cancellation", **Asrar U. H. Sheikh and F. Hendessi**, Wireless Personal Communications, vol. 44, No. 2, pp. 101-118, January 2008.
4. "A dynamic spectrum management algorithm for mitigating crosstalk in digital subscriber line system", **Adnan Rashdi, Noor M. Sheikh and Asrar U. Sheikh**, M. U. Research Journal of Engineering & Technology, vol. 27, no. 1, pp. 1-12, January 2008.
5. "A Unified Approach to BER Analysis of Synchronous Downlink CDMA Systems with Random Signature Sequences in Fading Channels with Known Channel Phase", **Muhammad Moinuddin, Asrar Sheikh, Azzedine Zerguine and Mohammed Deriche**, EURASIP Journal on Advances in Signal Processing, Volume 2008, Article ID 346465, 12 pages doi:10.1155/2008/346465. (2008)
6. "Adaptive on-line Stabilizing Control through STATCOM", **A.H.M.A.Rahim and M. Baber Abbas**, ICGST J. on Automatic Control & System Engineering , Vol.7, No. 2, pp.55-62, Nov.2007
7. "A Non-Iterative Formulation for 2D Optical Waveguide Discontinuity Problems Based On Padé Approximants", **H. A. Jamid and Md. Z. M. Khan**, IEEE Photonics Technology Letters, vol. 20, no. 7, pp: 469-471. April 2008.
8. "Diffraction of Surface Plasmon Modes on Abruptly Terminated Metallic Nanowires", **S. J. Al-Bader and H. A. Jamid**, Physical Review B, vol. 76, 10 Dec. 2007.
9. "Enhancement of RAKE Receivers for UWB Reception", **Maan A. Kousa**, IET Communication., vol. 2, no. 3, pp.422-431, Mar. 2008.
10. "Erasure Rate Analysis and Tighter Upper Bound for Binary Product Codes", **Maan A. Kousa and Hazem H. Selmi**, Comments on: IEEE Transaction Letters, vol. 12, no. 2, pp. 139, Feb 2008.
11. "A Cost effective development of an ultrasonic A-scans database for high temperature hydrogen attack", **Yamani, A.**, NDT & E International journal, vol. 41, no. 3, pp. 163-168, April 2008
12. "Simple Microwave Method for Detecting Water Holdup", **Sheikh, S. I. and Al-Qurashi, K. Y. and Ragheb, H.A. and Babelli, I.** Microwave and Optical Technology Letters (MOTL), 50 (2). pp. 354-355. ISSN 0895-2477, (2008).



13. "Performance analysis of a RLS-based MLP-DFE in time-invariant and time-varying channels", **Kashif Mahmood, Abdelmalek Zidouri, Azzedine Zerguine**, Digital Signal Processing, 18, 307–320, (2008).
14. "Performance of Coded Systems With Generalized Selection Diversity in Nakagami Fading", **Salam Zummo**, EURASIP Journal on Wireless Communication and Networking, May 2008.
15. "Upper Bounds on the Error Probability of Coded STBC Systems with Diversity Reception", **Salam Zummo**, IET Communications, Vol. 2, no. 4, pp. 538-544, April 2008.
16. "A Hybrid, PDE-ODE Control Strategy for Intercepting an Intelligent, Well-Informed Target in a Stationary, Cluttered Environment", **Ahmad A. Masoud**, Applied Mathematical Sciences, HIKARI Ltd, Vol. 1, , no. 48, 2345-2371, 2007.
17. "Large signal analysis of the Michelson interferometer with Gires-Tournois interferometers in its arms", **M.T. Abuelma'atti**, International Journal of Infrared and Millimeter Waves, Vol. 29, pp. 586-595, 2008.
18. "A novel approach for pileup detection in gamma-ray spectroscopy using deconvolution", **Muhammad W Raad, Mohamed Deriche, James Noras and Muhammad Shafiq**, Meas. Sci. Technol. 19, June 2008.

#### Mechanical Engineering

1. "Development of a support environment for first year students taking materials science/engineering", **T. Laoui, J. O'Donoghue**, Research in Science and Technological Education, vol. 26, No. 1, April 2008, pp. 93-110.
2. "Effect of milling temperature on the synthesis and consolidation of WC-10wt%Co nanocomposite powders", **S. Hewitt, T. Laoui, K.K. Kibble**, International Journal of Refractory Metals & Hard Materials, *Available online 10 April 2008*.
3. "Experimental investigation of turbulent natural convection flow in a converging channel", **Ayinde, T.F.**, Experimental Thermal and Fluid Science, Vol. 32, Issue 6, May 2008, pp. 1204-1212.
4. "The Anisotropic R-criterion for Crack Initiation", **Khan, S. M. A., and Khraisheh, M. K.**, Eng. Fracture Mech., vol. 75(14), 2008, pp. 4257-4278.
5. "Development of new Al-based nanocomposites by mechanical alloying", **N. Al-Aqeeli, G. Mendoza-Suarez, C. Suryanarayana, R.A.L. Drew**, Materials Science and Engineering A, Volume 480, Issues 1-2, 15 May 2008, Pages 392-396

6. "Laser Evaporative Heating: Influence of Laser Pulse Intensity on the Cavity Formation", **Mansoor S. B., Yilbas B.S. and Shuja S.Z.**, Heat Transfer Engineering, Vol. 29, pp. 328-339, 2008.
7. "Thermal stress developed during laser cutting process: consideration of different materials", **Arif A.F.M. and Yilbas B.S.**, Int. J. Advanced Manufacturing Technology, Vol. 37, pp. 698-704, 2008.
8. "Entropy Generation in Flow Field Subjected to a Porous Block in a Vertical Channel", **Shuja, S.Z., Yilbas B.S., and Jamal A. ,** Int. J. on Transport in Porous Media, Vol. 72, pp. 179-197, 2008.
9. "Flow subjected to porous blocks in the cavity: Consideration of block aspect ratio and porosity", **S.Z. Shuja, B.S. Yilbas, S.M.A. Khan,** Chemical Engineering Journal, Vol.139, pp. 84-92, 2008.
10. "Laser pulse heating and vapor front generation", **Yilbas B.S., Bin Mansoor S., Shuja S.Z., and Abualhamayel H.,** AIChE Journal, Vol. 54, pp. 627-638, 2008.
11. "Laser pulse heating: cavity formation into steel, nickel and tantalum surfaces", **Yilbas B.S., Mansoor S.B. and Mansoor R.,** Optics and Laser Technology, Vol. 40, pp. 723-34, 2008.
12. "Fatigue testing of inconel-625 coatings on carbon and stainless steel after 1 and 3 weeks of exposure to aqueous electrolytic solution", **Boudi A., Hashmi M.S.J. and Yilbas B.S.,** Industrial Lubrication and Tribology, Vol. 60, No.1, 2008.
13. "Investigation into thermal stresses in gas turbine transition-piece: Influence of material properties on stress levels", **Mustafa A.H., Hashmi M.S.J., Yilbas B.S. and Sunar M.,** Journal of Materials Processing Technology, Vol. 201, n 1-3, pp 369-373, 2008.
14. "Entropy Generation Due to Jet Impingement on a Surface: Effect of Annular Nozzle Outer Angle", **Shuja S.Z., Yilbas B.S., and M.O. Budair,** International Journal of Numerical Methods for Heat and Fluid Flow, Vol. 17, pp. 677-691, 2008.
15. "Corrosion properties of 316L stainless steel coated with polyelectrolyte multilayers of varying anodic acidity", **Khaled M., Abu-Sharkh B., Amr E., Yilbas B. S., Manda A. Abulkibash A.,** Corrosion Engineering Science and Technology, Vol. 42, pp. 356-62, 2008.

#### Petroleum Engineering

- (1) "New NMR approach evaluates tight gas sand" **Hamada, G.M., Abushanab M.A.**

and Oraby, M.El, Oil & Gas Journal, June 2008, page # 1 – 8.

- (2) "Identification of hydrocarbon moveability and type from resistivity logs", **Hamada, G.M.**, 2008, Petroleum Science and Technology Journal, Vol. 26(6), page # 638 – 648.

#### Aerospace Engineering

1. "Experimental and Numerical Investigation of 65-deg Delta and 65/40-deg Double-Delta Wings," **Al-Garni, A. Z., Saeed, F., Al-Garni, A. M.**, AIAA Journal of Aircraft, Vol. 45, No. 1, Jan.-Feb. 2008, pp. 71-76.
2. "Numerical Simulation of Heat Transfer from an Array of Anti-Icing Hot-Air Jets," **Saeed, F.**, AIAA Journal of Aircraft, Vol. 45, No. 2, Mar.-Apr. 2008, pp. 700-714.
3. "A General Framework for Lumbar Spine Modeling and Simulation," **Ahmed Sameh, Ayman Kassem**, International Journal of Human Factors in Modeling and Simulation, IJHFMS, Volume 1, Issue 2, January (2008).
4. "Stochastic Finite Element Analysis of the Free Vibration of Functionally Graded Material Plates," **Shaker, A., Abdelrahman, W. G., Tawfik, M., and Sadek E. A.**, Computational Mechanics, Vol. 41, No. 5, pp. 707-714, 2008.
5. "Stochastic Finite Element Analysis of the Free Vibration of Laminated Composite Plates," **Shaker, A., Abdelrahman, W. G., Tawfik, M., and Sadek E. A.**, Computational Mechanics, Vol. 41, No. 4, pp. 493-501, 2008.

#### College of Sciences

##### Chemistry Department

1. "Hydrophobic-tailed bicycloisoxazolidines: A comparative study of the newly synthesized compounds on the inhibition of mild steel corrosion in hydrochloric and sulfuric acid media', **S. Asrof Ali, H. A. Al-Muallem, M. T. Saeed, S. U. Rahman**, Corrosion Science, 50, 664-675 (2008).
2. "Study of Inversion Isomerism in Some 4,5-trans-Substituted Isoxazolidines by NMR Spectroscopy", **S. Asrof Ali, M. I. M. Wazeer**, Asian J Spectrosc, 12, 15-28 (2008).
3. "An NMR study of conformational behaviour and nitrogen inversion process in some 5,5-disubstituted-□-phenyl- 2-Isoxazolidineethanols", **S. Asrof Ali, M. Z. N. Iman, M. I. M. Wazeer**, Canad J Anal Sci Spectry, 53, 66-74 (2008).
4. "The Regio- and stereo-chemistry of 1, 3-dipolar cycloaddition of a chiral methylenenitrone methylenenitrone with 1,2-disubstituted alkenes" **S. Asrof Ali, M.Z.N. Iman**, J.Chem. Res., 38-47(2008).
5. "2-Isoxazolidineethanols: an NMR study of the effect of intramolecular H-bonding

- on the population of nitrogen invertomers and inversion process", **S. Asrof Ali, M. Z. N. Iman, M. I. M. Wazeer and M. B. Fettouhi**, Spectrochim. Acta. Part A, 70, 482-490 (2008).
6. "Three rotor potential energy scans, conformational equilibrium constants and vibrational analysis of 3-fluoro- 1-propanol  $\text{CH}_2\text{FCH}_2\text{CH}_2\text{OH}$ ", **H. M. Badawi, W. Förner and S. Asrof Ali**, Spectrochimica Acta Part A, 69, 263-271 (2008).
  7. "The Stereochemistry of 1,3-dipolar cycloaddition of internally H-bonded chiral methylenenitrones", **S. Asrof Ali, M. Z. N. Iman**, Tetrahedron, 63, 9134-9145 (2007).
  8. "Synthesis, viscosity behavior, and interactions with a surfactant of some amphiphilic copolymers of diallyldimethylammonium chloride and diallyldodecyl- or diallyloctadecyl-ammonium chloride", **S. Asrof Ali, A. M. El-Shareef, H. A. Al-Muallem**, Journal of Applied Polymer Science, 109, 3256-3265 (2008)
  9. "Synthesis and viscosity of hydrophobically modified polymers containing dendritic segments", **S. Asrof Ali, Y. Umar, H.A. Al-Muallem, B. F. Abu-Sharkh**, Journal of Applied Polymer Science, 109, 1781-1792 (2008).
  10. "Relating Static Shifts in the ESR Spectra of a Nitroxide Radical in Solution to Second Order Perturbation Theory", **J. S. Hwang and G. A. Oweimreen\***, Concepts in Magnetic Resonance. Part A. (Bridging Education and Research), 30A(6), 349 (2007).
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## 9. RESEARCH PAPERS PRESENTED AT CONFERENCES REPORTED AFTER JANUARY, 2008

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#### Civil Engineering

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25. "Building engineering and technology capacity in the Arab countries", **M.T. Abuelma'atti**, The 2<sup>nd</sup> Conference on Planning & Development of Education and Scientific Research in the Arab States, pp. 857-868, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, February 24-27, 2008 (17-20 Safar, 1429H).
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2. "Pyrolysis of Mixed Waste Plastics Using Azobisisobutyronitrile (AIBN) - An Initiator", **Mohammad Nahid Siddiqui**, 18<sup>th</sup> International Symposium on Analytical & Applied Pyrolysis "Pyrolysis 2008", Lanzarote, Spain, May 18–23, 2008.
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7. "An NMR study of conformational behaviour and nitrogen inversion process in 5,5-disubstituted-b-phenyl-2-isoxazolidineethanols", M. I. M. Wazeer and Shaikh A. Ali, **The 5<sup>th</sup> Euroasian Meeting on Heterocyclic Chemistry, Kuwait, March 01-06, 2008.**
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  5. “Singular and non-summable kernels in viscoelasticity”, **Tatar, N.-e.**, The Third International Conference on Mathematical Sciences, Al-Ain University, Al-Ain, UAE., (March 3-6, 2008).
  6. “Energy decay in a Timoshenko-type system of thermoelasticity of second sound”, **Messaoudi, S.A. and Said-Houari, B.**, The Third International Conference on Mathematical Sciences, Al Ain, UAE, (March 3-6, 2008).
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  13. “On Some Notions in the Context of Fuzzy Theta-Open Sets and Fuzzy Theta-Closure Operator”, **Latif, R. and Jafari, S.**, Ninth International Conference on Fuzzy Set Theory and Applications, Liptovsky Jan, Slovak Republic (FSTA), (Feb. 4 – 8, 2008.).

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9. "Reversible properties of MgB<sub>2</sub> superconducting samples doped with Aluminum" **A. F. Salem, K. A. Ziq, A. A. Bahgat and A. Bianconi** Presented at Al-Azhar 6th International Science Conference - Cairo - Egypt - March 2008.
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11. "Dose calculations from a D-D reaction based BSA for Boron Neutron Capture Synovectomy", **Khalid Abdallah, A. A. Naqvi, N. Maalej and B. Elshahat**. Paper presented in 2<sup>nd</sup> International Nuclear Chemistry Congress (2nd-INCC) held at CANCUN, Mexico on April 13-18, 2008 pp. 139-Rp-24
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14. "Dosimetry Comparison between experimental, Monte Carlo and PlanUNC Treatment Planning System". M. Shehadeh, **N Maalej**. 3<sup>rd</sup> International Saudi Conference on Medical Physics. King Faisal Specialist Hospital and Research Center, 5-7 February 2008, Riyadh.
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### **College of Computer Science & Engineering**

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

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3. "A Fuzzy Similarity Approach for Automated Spam Filtering," **El-Sayed M. El-Alfy and Fares S. Al-Qunaieer**, Proceedings of the IEEE International Conference on Computer Systems and Applications (AICCSA'08), Qatar, April 2008.
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#### Systems Engineering Department

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2. "Realization and Utilization of Temporary Labor Market in the Kingdom", **M.F. Al-Salamah**, The Second Conference on Projects Management, May 5-9, 2008, Saudi Council of Engineering, Riyadh.

#### College of Environmental Design

##### Architecture Department

1. "Towards Creative Design Approaches for Affordable Housing Neighborhoods", **Reffat, R. M.**, Proceedings of the 2nd Symposium of Charitable and Affordable Housing in Saudi Arabia: Creative Solutions, Khobar, Saudi Arabia (2008).
2. "Enriching Tourism Awareness Using Virtual Reality", **Reffat, R. M.**, Proceedings of the Gulf Tourism & Community Forum 1, Madinah, Saudi Arabia (2008).
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5. "Planning for Effective utilization of Information Technology in Architectural Design Education", **Reffat, R. M.**, Proceedings of the 2nd Conference on Planning & Development of Education and Scientific Research in Arab States: Towards

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### **College of Industrial Management**

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

1. “Corporate Governance and Directors’ Remuneration in Selected ASEAN Countries” **Mohammad Talha**, **Best Paper Award given by the Clute Institute for Academic Research**, for presenting in the 2008 EABR (Business) & TLC (Teaching) Conference, held from June 23-26, 2008 in Salzburg, Austria.

#### **Finance & Economics Department**

1. “Price Dynamics of Plastics and its Feedstocks: A Look at the Asian and North West European Markets”, **Mansur Masih**, Ron Ripple, **Ashraf Eid** and Lurion DeMello, 31<sup>st</sup> Conference of the International Association for Energy Economics, Istanbul, Turkey, June, 2008
2. “Price Dynamics of Natural Gas and the Regional Methanol Markets”, **Mansur Masih**, **Khaled Albinali** and Lurion DeMello, 31<sup>st</sup> Conference of the International Association for Energy Economics, Istanbul, Turkey, June, 2008
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4. “Estimation of Long-Run Demand for Money: An Application of Long-Run Structural Modeling to Saudi Arabia” **Mansur Masih** and **Ibrahim Algahtani**, Annual Conference of the International Academy of Business and Economics, Stockholm, Sweden, June, 2008.
5. "Managerial Opportunism in Accounting Choice: Evidence From Directors' and Officers' Liability Insurance Purchases", **Nabil Ghaleb**, Narjess Boubakri and Martin Boyer, European 17<sup>th</sup> European Financial Management Association conference, Athens, Greece, June 2008.
6. “The Impact of Taxation on Dividends: A Cross-Country Analysis”, **Mohammed Alzahrani** (KFUPM) and **Meziane Lasfer** (Cass Business School –London), European Financial Management Association Annual Meeting, Athens, Greece. 24-28, 2008.

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

1. “Offshore outsourcing: A case study of the evolution and growth of Pakistani software companies, “**Jameel, Qazi M**, Academy of World Business Australia,



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### Electrical Engineering Department

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2. "Opportunistic Scheduling in Wireless Networks: A Feedback Load Perspective", **Y. S. Al-Harthi**, 4G Mobile & Wireless Communications Technologies, River Publishers, May 2008.
3. "Application of PSO to Design UPFC-Based Stabilizers", **Ali T. Al-Awami, M. A. Abido, and Y. L. Abdel-Magid**, Swarm Intelligence: Focus on Ant and Particle Swarm Optimization, Book edited by: Felix T. S. Chan and Manoj Kumar Tiwari, ISBN 978-3-902613-09-7, pp. 532, January 2008, Itech Education and Publishing, Vienna, Austria, Chapter 14, pp. 235-262.

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2. "Virtual Prototyping & Bio-manufacturing in medical applications", Edited by **B. Bidanda and P.J. Bartolo**, Springer Science+Business Media, New York, pp. 149-170, 2008.

### Physics Department

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2. "The J-matrix method: Recent Developments and Selected Applications", edited by A. D. Alhaidari, E. J. Heller, H. A. Yamani, and M. S. Abdelmonem (Springer NL, June 2008).

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

### **College of Engineering**

#### **Civil Engineering Department**

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2. “Multi-Criterion Optimal Design of R/C Beams and Columns: Experimental & Analytical Studies”, **Alghamdi, S.A. and Ahmad, S.**, 5<sup>th</sup> Progress Report, KACST Project AT-23-21, February 20, 2008.
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4. “Environmental Effects of Wastewater Treatment Plants: Evaluation & Guidelines”, **Vohra, M.S., Al-Suwaiyan, M.S., Al-Zahrani, M.A., and Essa, M.H.**, Progress Report No. 2, KACST Funded Project, February 2008.
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### **College of Sciences**

#### **Chemistry Department**

- 1 “Synthesis of Novel Inhibitors in Oil and Gas-Field Applications”, **Hassan Al-Muallem**, KACST, Feb 19<sup>th</sup>, 2007 - Feb 1<sup>st</sup>, 2010.
2. “Effects of Charge Types on the Viscometric Behavior of a Variety of New Associating Ionic Polymers”, **Hassan Al-Muallem**, SABIC 2006, Sep 1<sup>st</sup>, 2006 – Feb 29<sup>th</sup>, 2008-06-09.
3. “Synthesis of Polyisoxzolidines: A Novel Class of Polymers for Inhibition of Mild Steel Corrosion”, **Hassan Al-Muallem**, SABIC 2007, May 1<sup>st</sup> 2007 – Feb 28<sup>th</sup> 2009.
4. “Sulfur Modification of Polymers for use in Asphalt Binders”, **Hassan Al-Muallem**, Saudi Aramco, July 1<sup>st</sup>, 2007 – Jan 31<sup>st</sup> 2009.
5. “Electrochemical Sensors for On-Site Monitoring of Heavy Metals in Drinking and Ground Waters in the Eastern Province of Saudi Arabia”, **Abdel-Nasser Kawde**, SB080017.

6. "Methods and apparatus incorporating a surface penetration device", Jina, B. Chua, S. Desai, A. Parmar and **Abdel-Nasser Kawdi**, US 2008/0058726 A1.
7. "Potential Scans and Vibrational Analyses of Some Halopropanols", **H. M. Badawi and W. Forner**, KFUPM, CY/297, 2005-2008.
8. "Analysis of Vibrational Spectra and Ring inversion of some Heterocyclic Compounds", **H. M. Badawi, A. Al-Suwayan and W. Forner** KFUPM, CY/397, 2005-2008.
9. "Construction of a new detector for ion chromatography, HPLC and the volumetric reactions using flow injection system", **Abdalla M.S. Abulkibash**, PI of KACST.
10. "Solid and solution NMR studies of  $^{113}\text{Cd}$  and  $^{199}\text{Hg}$  complexes with the constituents of DNA and Proteins", Investigators: **DR. A. A. ISAB** (Principal Investigator), **DR. M. I. M. Wazeer** (Co-Investigator), **Dr. M. Fettouhi** (Co-Investigator), Duration: 1<sup>st</sup> May '07 to 31<sup>st</sup> Oct. '08 (SABIC SB070010).
11. "Synthesis of Gold(III)-Diamines complexes and their Interactions with Biological Molecules Studies by solid and solution NMR", Investigators: **DR. A. A. ISAB** (Principal Investigator), **DR. M. I. M. Wazeer** (Co-Investigator), Duration: Sept '07 to Feb '10 (CY/GOLD/374).
12. "Investigating The Reactivity Behavior Of Arabian Asphaltenes", **Mohammad Nahid Siddiqui**, SB070020, SABIC funded project, Duration: 12 Months, Amount: SR 74,900.0, May 2006 – January 2009.
13. "Chemical Recycling of Model and Waste Polyethylene Terephthalate (PET) into Industrially Useful Products", **Mohammad Nahid Siddiqui** and Halim H. Redhwi, , AR-27-101, KACST Approved Duration: 24 Months, Amount: SR 327,000.0, March 2008-February 2010.
14. "New Group 10 metal complexes based on chelate ligands bearing nitroxide radicals. Magnetic properties and Catalytic performance in oxidation reactions of alcohols". **Fettouhi, Mohammed**, IN060301, June 1, 2006 – May 31, 2009.

#### Earth Sciences Department

1. "Hydrogeology and Economic Importance of Inland and Coastal Sabkhat of Eastern Province, Saudi Arabia", (Client: KACST): Geophysical Progress Report. (**Al-Shuhail, A.**), 2008.
2. "Hydrogeology and Economic Importance of Inland and Coastal Sabkhat of Eastern Province, Saudi Arabia", **Al-Shaibani, A.**, KACST ARP 26-83: First Progress Report, May, 2008
3. "Groundwater distribution in shallow layers". **Al-Shaibani, A.** Report to the Near Surface Seismic Investigation Consortium, Earth Sciences Department, 2008.

4. "Final Report of the Near-Surface Seismic Investigation Consortium (NSSIC) for 2007". (Al-Shuhail, A.), 2008.
5. "Direct-Arrival Velocity Estimation in Noisy Shot Records using Semblance Velocity Analysis": NSSIC Report and Software Code, 20 p. (Al-Shuhail, A.), 2008.
6. "Joint Inversion of GPR and Seismic Velocity Data for Soil Porosity and Water Saturation": NSSIC Report and Software Code, 29 p. (Al-Shuhail, A.), 2008.
7. "Parameter Estimation of Velocity Function in Unconsolidated Sand via Semblance Velocity Analysis": NSSIC Report and Software Code, 33 p. (Al-Shuhail, A.), 2008.
8. "Geological Analysis of Core and Formation Fluids/Gas Analysis in the Area of Block "A", in the Kingdom of Saudi Arabia". RI Project # CPM 2262, **Osman Abdullatif** (Co-Investigator), 2008.
9. "Geological Analysis of Core, Drill Cutting and Formation Fluids/Gas in the Area of Block "A", in the Kingdom of Saudi Arabia. RI CPM Project # CPM 2266, **Osman Abdullatif** (Co-Investigator), 2008.

#### Mathematical Sciences Department

1. ***"Improved Estimation and Large Sample Theory in Ranked Set Sampling"***  
*Muttlak, H.A., Ahmed, S.E., and Rahimov, I., Technical Report# 384.*
2. ***" $w_\delta$ -Open Sets and  $w_\delta$ -Continuous Mappings"***, *Ekici, E., Jafari, S., and Latif, R.M., Technical Report# 385*
3. ***"Semi-Continuity and Semi-Connectedness in Generalized Semi-Closure Space"***: *Caldas, M., Jafari, S., Latif, R.M., and Naseff, A.A., Technical Report# 386*
4. ***"A Mass Function Based on Correlation Coefficient and Its Application"***,  
*Joarder, A.H. and Omar, M.H., Technical Report# 387.*
5. ***"Variable Step-size Variable Formula Stiffly Stable Linear 3-step Methods"***,  
*G. K. Beg, Technical Report# 388.*
6. ***"Primeness and Coprimeness Conditions for Comodules and Corings"***,  
*Abuhlail, J., Technical Report# 389.*
7. ***"Characterizations of Weakly Br-Open Functions, Jafari, S. and Latif R.M., Technical Report# 390.***
8. ***"Theta-Sobriety Via Nets", Jafari, S. and Latif R.M., Technical Report# 391.***

9. *“Applications of Fuzzy Points Via Fuzzy Theta-Open Sets and Fuzzy Theta-closure Operator”*, Jafari, S. and Latif, R.M., *Technical Report# 392*.
10. *“Generalized Ordered Topological Space”*, Jafari, S. and Latif R.M., *Technical Report# 392*.

#### Information & Computer Science Department

1. Traffic Routing and Management in Communication Networks, **El-Sayed M. El-Alfy**, Technical Report, KFUPM-CCSE-2008-001/ICS, January 2008.

#### Systems Engineering Department

1. “Polypropylene Production Optimization at Ibn Zahr”, **H. Al-Fares, T. Al-Faraj, A. Burney, Asad-Rahman**, Final Report, RI Project CEMS 2238, June 2008
2. “Method and apparatus for tracking center of gravity of air vehicles”, **Muhammad Al-Malki and Moustafa Elshafei**, US patent application number 1/987,797, 2007.
3. “Method and apparatus for programmable flow characteristics”, **Moustafa Elshafei and Ashraf Dasa** US patent application number , 12/076,541.

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

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

1. "Trends and Challenges in Mono and Multi Biometrics", **Mohamed Deriche**, (Invited Talk), WOSPA 2008, Sharjah, UAE, March 2008.
2. "Prosperity Through Education and Research", **Asrar Sheikh**, IEP Technical Seminar, Dhahran International Hotel, May 7, 2008
3. "Wireless Communications: Evolution", **Asrar Sheikh**, Challenges and Solution, Invited Talk at Wireless Communication Forum, University of Bahrain, May 6, 2008.
4. "Education and Research Keys to Prosperity", **Asrar Sheikh**, Invited Presentation at STEM 2008, KFUPM, April 29, 2008.
5. "Code Division Multiplexing and Interference Mitigation", **Asrar Sheikh**, Presented at CITROD, KFUPM, March 30, 2008.
6. "Prosperity through Education and Research", **Asrar Sheikh**, Seminar delivered at University of Central Punjab, Lahore Pakistan, March 26, 2008
7. "Prosperity Through Education and Research", **Asrar Sheikh**, Keynote Address, ICEE 2008, Lahore Pakistan, March 25, 2008.
8. "Distributed Scheduling: A Look at Throughput and Stability in Random Access Networks", **Y. S. Al-Harhi**, European Institute for the study of RANDOMness (EURANDOM), Eindhoven University of Technology, Eindhoven, Netherlands, 14 February 2008.
9. "Issues on Opportunistic Scheduling in Wireless Networks", **Y. S. Al-Harhi**, 1st KFUPM Communications and Information Technology Research Open Day (CITROD), Dhahran, Saudi Arabia, 30 March 2008.
10. "Outage Probability of Wireless Networks with Directional Antennas", **Salam Zummo**, 1<sup>st</sup> Communications and IT Research Open Day (CITROD-08), KFUPM, Saudi Arabia, March 2008.
11. "International Cooperation at KFUPM – Experience and Lessons", **Salam Zummo**, Saudi Universities International Cooperation Management Meeting, Al-Ahsa, Saudi Arabia, January 2008.
12. النهضة العلمية للأمة الإسلامية، **محمد ظاهر ابو المعاطي**، برنامج "حوارات التواصل بين الأساتذة و الطلاب" جامعة الملك فهد للبترول والمعادن- الظهران- المملكة العربية السعودية – ٥ جمادي الأول ١٤٢٩ الموافق ١٠ مايو ٢٠٠٨



13. "إصلاح التعليم: دور الطالب و الأستاذ " محمد طاهر ابو المعاطي، كلية التربية- جامعة الجوف – سكاكا – الجوف - المملكة العربية السعودية – ١٢ جمادى الأول ١٤٢٩ الموافق ١٧ مايو ٢٠٠٨
14. "كيف تصبح مهندساً متميزاً " محمد طاهر ابو المعاطي، كلية الهندسة – جامعة الجوف – سكاكا – الجوف - المملكة العربية السعودية – ١٣ جمادى الأول ١٤٢٩ الموافق ١٨ مايو ٢٠٠٨

#### Mechanical Engineering Department

- |    |         |   |  |
|----|---------|---|--|
| 1. | 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   |
| 2. | Speaker | : | Mr. Rubayan F. Al-Shahrani   |
|    | Topic   | : | Finite Element Modeling of Glass Fiber Reinforced Plastic Pipes Under Impact Loading   |
|    | Date    | : | March 11, 2008   |
| 3. | Speaker | : | Engr. F Ahmed Intisar  |
|    | Topic   | : | Drill Bit Technology & Applications  |
|    | Date    | : | March 18, 2008   |
| 4. | Speaker | : | Dr. Shafique A. Khan   |
|    | Topic   | : | Development of the R-Criterion for Crack Initiation  |
|    | Date    | : | March 25, 2008   |
| 5. | Speaker | : | Stanley J. Bandoski  |
|    | Topic   | : | The Latest Hampden Engineering Technologies in Mechanical Science  |
|    | Date    | : | April 01, 2008   |
| 6. | Speaker | : | Dr. M.A. Antar   |
|    | Topic   | : | Experiences in Using Technology to Implement the Seven Principles of Good Practice in Education  |
|    | Date    | : | May 06, 2008   |
| 7. | Speaker | : | Mr. Attia Khalifa  |
|    | Topic   | : | Experimental and Numerical Investigation of Flow Induced Vibration in High Pressure-Split Volute Water Centrifugal Pumps               |
|    | Date    | : | May 13, 2008   |
| 8. | Speaker | : | Mr. Sarfaraz A. Furquan  |
|    | Topic   | : | Effect of Branch Type and Blend Ratio of LLDPE with LDPE on the Processability and the Mechanical Properties of Blown Films            |
|    | Date    | : | May 13, 2008   |

9.     Speaker       :     Mr. Elaf Mahrous  
        Topic        :     A Continuum Model for Elastic Waves in Embedded CNTs  
        Date         :     May 20, 2008
10.    Speaker       :     Mr. M. A. Al-Suwaiyel  
        Topic        :     Water Wave Propagation on Non-uniform Bottom Machinery  
        Date         :     May 20, 2008
11.    Speaker       :     Mr. Ismail Al-Hindi  
        Topic        :     Parametric Study of Short Periodic Speed Control Humps on a  
                               Road Vehicle Dynamic  
        Date         :     May 21, 2008

#### Chemistry Department

1.     Speaker       :     Mr. Atif Fazal  
        Topic        :     Global Warning  
        Date         :     1 January, 2008
2.     Speaker       :     Mr. Alaaeddin Alsbaiee  
        Topic        :     Ionic Liquids as Alternative Green Solvents for Organic  
                               Synthesis  
                               Biologically Important Legends  $CD^{2+}$  and  $Hg^{2+}$  Ions  
        Date         :     6 January, 2008
3.     Speaker       :     Mr. Wadah Jawich  
        Topic        :     Gas Separation membranes: Properties, Synthesis &  
                               Applications  
        Date         :     13 January, 2008
4.     Speaker       :     Mr. Khaled Arafeh  
        Topic        :     Molecular Devices and Machines: A Journey into the  
                               Nanoword  
        Date         :     15<sup>th</sup> January, 2008
5.     Speaker       :     Mr. Shoaib Quraishi  
        Topic        :     Searching Citations Using Web of Knowledge & Scopus  
                               Database  
        Date         :     23<sup>rd</sup> March, 2008
6.     Speaker       :     Mr. Bassem Abdullatif Al-Maythalony  
        Topic        :     Trans-Platinum(II) Complexes in Tumor Treatment  
        Date         :     22<sup>nd</sup> April, 2008
7.     Speaker       :     Mr. Nidal Abu-Thabit  
        Topic        :     Interpenetrating Polmer Networks  
        Date         :     27<sup>th</sup> April, 2008
8.     Speaker       :     Mr. Bassem Moosa

- Topic : The Chemistry of Carbon Dioxide  
Date : 29<sup>th</sup> April, 2008
9. Speaker : Mr. Mouheddin Al-Haffar  
Topic : Supported Ionic Liquid Catalysts (SILCA)  
Date : 13<sup>th</sup> May, 2008
10. Speaker : Mr. Khizar Hayat  
Topic : Corrosion Protection of Metals by Metal Nano-Particles  
Date : 27<sup>th</sup> May, 2008

#### Earth Sciences Department

1. Speaker : Dr. Bassam Tawabini (KFUPM ESD)  
Title : Ozonating of water with high bromide content  
Date : January 01, 2008
2. Speaker : Dr. Abdullatif Al-Shuhail (KFUPM ESD)  
Title : Parameter Estimation of Velocity Function in Unconsolidated Sand via Semblance Velocity Analysis  
Date : March 18, 2008 (Special ESD Seminar)
3. Speaker : Prof. Mohammed El-Gebeily  
**Title : Continuous and discrete wavelet transforms based analysis of weather data of the NW region of Saudi Arabia**  
Date : May 20, 2008
4. Speaker : Dr. Bassam Tawabini  
Title : Remediation of MTBE-contaminated groundwater using advanced oxidation technology  
Date : June 09, 2008 (R&D, Saudi Aramco)
5. Speaker : Dr. Khalid Al-Ramadan  
Title : Linking Diagenesis and Porosity Preservation vs. Destruction to Sequence Stratigraphy of Gas Condensate Reservoir Sandstones, the Jauf Formation (Lower to Middle Devonian), Eastern Saudi Arabia  
Date : 30 April 2008 (The Geology Technology Team of the EXPEC Advanced Research Center, Saudi Aramco)

Department of Mathematics & Statistics

**Lecturers/Seminars by Math Faculty:**

**Regular Seminars**

1	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Ibrahim Rahimov Functional Limits of Branching Processes and Estimation of Parameters Tuesday, February 25, 2008
2	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Raja Mohammad Latif Applications of Fuzzy Points via Fuzzy $\theta$ -Open Sets and Fuzzy $\theta$ -Closure Operator Tuesday, March 4, 2008
3	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Prof. M. Aslam Chaudhry Remarks on the Proof of the Riemann Hypothesis Tuesday, March 25, 2008
4	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Ee Bernard Weakly Dispersive Hydraulic Exchange Flows in a Contraction-A Linear Stability Analysis Tuesday, April 1, 2008
5	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Raja Mohammad Latif Applications of $b$ -Open Sets and $(b, s)$ -Continuous Functions Tuesday, April 8, 2008
6	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Khairul Saleh Dynamics of a Predator-Prey Model with Non-Monotonic response Function Tuesday, April 22, 2008
7	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Mohammad Ashfaq Bokhari On Orthogonal Collocation Method with Movable Collocation Points (A method of approximate the solution of a Two-Point Boundary Value Problems) Tuesday, April 29, 2008
8	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Jaffar Al-Mutawa Identification of Errors-in-Variables Modules Using the EM Algorithm Tuesday, May 20, 2008
9	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Muhammad Yousuf Spectral Collection Method based on Gauss—Legendre Points for Numerical Solution of Second Order Linear Differential Equations Tuesday, May 27, 2008

**Math Education Seminars**

1	<b>Speaker</b> <b>Title</b>	:	Dr. Ali Moussa ( <i>Dammam Community College</i> ) Impossible Tuesday, May 13, 2008
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	<b>Date</b>		
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**Differential Equations Research Lab (DERL Seminar)**

1	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Salim Messaoudi General Decay in a Viscoelastic System Tuesday, February 26, 2008
2	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Kassem Mustapha Discontinuous Galerkin Method for an Evolution Equation with a Positive Type Memory Term Tuesday, March 18, 2008
3	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. Muhammad Islam Mustafa General Decay in Viscoelastic Systems of Timoshenko Type Tuesday, April 1, 2008
4	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Nasser-eddine Tatar Controllability by a Boundary Feedback of Fractional Type Tuesday, May 6, 2008
5	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. Ali Saeed Al-Gahtani (Math 699) & DERL Seminar Optimal Piecewise State Feedback Control for Impulsive Switched Systems Tuesday, May 20, 2008
6	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Khalid Al-Shammari (Part I) Absolute Continuity of Function Tuesday, May 27, 2008
7	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Khalid Al-Shammari (Part II) Absolute Continuity of Function Tuesday, June 3, 2008

**Research (Star) Colloquium Seminar**

1	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Mohammad H. Omar Some Properties of the Bivariate Dirichlet Distribution Sunday, March 16, 2008
2	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Hassen A. Muttlak Confidence Interval Estimation of the Location and Scale Parameters of the Logistic Distribution Using Pivotal Method Sunday, April 6, 2008
3	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Anwar H. Joarder A Discrete Distribution Based on the Coefficient of Linear Correlation and Its Application Sunday, May 25, 2008
4	<b>Speaker</b>	:	Dr. Hassen A. Muttlak

<b>r</b>	:	Estimating $P(Y < X)$ Using Ranked Set Sampling in Case of the
<b>Title</b>	:	Exponential Distributions
<b>Date</b>	:	Sunday, June 1, 2008

### Visitor Seminars

1	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Smii Boubaker ( <i>Al-jouf Univ., Saudi Arabia</i> ) Application of Generalized Parisi-Wu Graphs to Stochastic Equation Driven by Levy Noise Tuesday, February 19, 2008
2	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Prof. R. Islam ( <i>Dalhousie Univ., Canada</i> ) Knowledge-Based Reservoir Simulation Wednesday, February 27, 2008
3	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Prof. Boris Mordukhovich ( <i>Dept. Math., Wayne State Univ., Detroit, Michigan, USA</i> ) Variational Analysis in Optimization and Control Sunday, March 9, 2008
4	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Prof. Boris Mordukhovich ( <i>Dept. Math., Wayne State Univ., Detroit, Michigan, USA</i> ) Suboptimal Feedback Control Design of Constrained Parabolic Systems in Uncertainty Conditions Tuesday, March 11, 2008
5	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. Shoaib A. Qurashi (KFUPM Main Library) ISI Web of Knowledge Databases Tuesday, May 6, 2008
6	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Kahar El-Hussain ( <i>Dept. Math., Al-Jouf Univ., KSU</i> ) On the Ideals of the Group Algebra of the Heisenberg Group Tuesday, March 18, 2008
7	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. Ameer Seddik (DERL) <i>Dept. Math. KAU Univ.</i> On the Injective Norm and Characterization of Some Subclasses of Normal Operators by Inequalities or Equalities Tuesday, April 22, 2008

### Student Seminars

1	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. Abdulaziz A. Ben-Obaid ( <b>Math 699</b> ) Particular Overrings of PVMDs t-Regularity in Integral Domains Tuesday, April 8, 2008
2	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. Saeed Mohammed Salman ( <b>Math 599</b> ) Variational Problems Tuesday, April 22, 2008

### Ph.D Dissertation Defense

1	<b>Speaker</b> <b>Title</b>	:	Mr. Muhammad Islam Shafiq Mustafa General Decay Rate in Timoshenko-Type Systems Sunday, April 20, 2008
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	<b>Date</b>		
2	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. Khaled Al-Hazmy Reductions and Cores of Ideals Sunday, May 25, 2008
3	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. Saeed Mohammad Salman ( <i>Proposal of Thesis Defense</i> ) Study of interaction between frictional and viscoelastic damping in wave equations Sunday, June 01, 2008

**Commutative Algebra Weekly Seminar (Organizer: Dr. S. Kabbaj),  
March 2008–May 2008  
(Seminars given by the following faculty members)**

1	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. A. Ben-Obaid Clifford Regular Domains: Noetherian Case March 16, 2008
2	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Mr. A. Ben-Obaid Clifford Regular Domains: Integrally Closed Case March 23, 2008
3	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. I. Al-Rasasi Bhargava Rings over Subsets (I) March 30, 2008
4	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	I. Al-Rasasi Bhargava Rings over Subsets (II) April 6, 2008
5	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. M. Halic Strong Exceptional Sequences of Vector Bundles on Certain Fano Varieties (I) April 20, 2008
6	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. M. Halic Strong Exceptional Sequences of Vector Bundles on Certain Fano Variates (II) April 27, 2008
7	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. M. Halic Introduction to Vector Bundles (I) May 4, 2008
8	<b>Speaker</b> <b>Title</b> <b>Date</b>	:	Dr. M. Halic Introduction to Vector Bundles (II) May 11, 2008
9	<b>Speaker</b> <b>r</b>	:	Dr. J. Abuhlail On Zariski-like Topologies for Modules

	<b>Title Date</b>	:	May 18, 2008
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### Invited Talk

1. “Issues in Introducing an Actuarial Science Degree Program” An invited talk presented at Actuarial Mathematics Workshop, **Omar, M.H.**, National Center for Mathematics and Physics, King Abdul Aziz City of Science and Technology, Riyadh, Saudi Arabia, (April 27, 2008).

### Seminars Outside by Math Faculty

1	Speaker Title Location Date	: : : :	Dr. Salim Messaoudi General decay in viscoelastic systems of Timoshenko type Mohammad Khaider University, Biskra, Algeria April 14, 2008
2	Speaker Title Location Date	: : : :	Dr. Jawad A. Abuihlail Corings and Comodules Dammam, Girls College April and May 2008 (8 hours)
3	Speaker Title Location Date	: : : :	Dr. Ashfaq H. Bokhari Symmetry classification and reductions of some classes of (2+1)- nonlinear heat equation Qassim Univ. Qassim May 27-28, 2008
4	Speaker Title Location Date	: : : :	Dr. Ashfaq H. Bokhari Graduate program of KFUPM, Part II: Achievements and Obstacles Qassim Univ. Qassim May 27-28, 2008
5	Speaker Title Location Date	: : : :	Dr. F.D. Zaman Review of Seismic Wave Scattering: Near Surface Seismic Investigation Consortium Annual Meeting Research Institute (KFUPM) February 27, 2008
6	Speaker Title Location Date	: : : :	Dr. F.D. Zaman Inversion of Sand Dune Structure using Seismic Wave Scattering Techniques: Near Surface Seismic Investigation Consortium Annual Meeting Research Institute (KFUPM) February 27, 2008

### Physics Department

1. “XPS/AES/SIMS and EDS techniques”, **N. Tabet**, Invited lecture, 7<sup>th</sup> June 2008, Physics Department, King Khaled University, Abha, Saudi Arabia.
2. “Synthesis and Applications of Nanostructured Zinc Oxide”, **N. Tabet**, 4<sup>th</sup> May, 2008, Physics day organized by the Physics Department, , Girls College, King Faisal University, Dammam, Saudi Arabia.
3. “Bulk and Surface Analytical Techniques: EDS, SIMS and XPS/AES” **N. Tabet**, March, 25<sup>th</sup>, 2008, Workshop on Characterization Tools for Condensed Matter, organized by Saudi Physics Society (SPS) and King Abdulaziz City of Sciences and technology (KACST), Riyadh, Saudi Arabia.
4. “Lectures on Semiconductors”, **N. Tabet**, Organized by Saudi Physics Society (SPS), Student Chapter, delivered through Internet, 24<sup>th</sup> April 2008.

5. Panel Discussion entitled "Nanotechnology: The opportunities, the challenges and the applications in the Kingdom" **N. Tabet**, organized by the Arabian International Chemical Sciences, a **Chapter of the American Chemical Society, (SAICSC-ACS)**, June 1, 2008, Gulf Meridian Hotel, Al-Khobar, Saudi Arabia.
6. "*Nanotechnology: The idea and its applications*" **N. Tabet**,; Invited Lecture, Imam University, Riyadh, 20 November 2007.
7. "*Nanomaterials and Nanodevices*", **N. Tabet**, **Invited Lecture**, 13-14 January 2008, International Workshop organized by Sultan Qaboos University, Muscat, Sultanate Oman.
8. "Principles of Magnetic Resonance Imaging" (3 lectures), **A. M. Al-Karmi**, King F Specialist Hospital in Dammam, 14, 21, 28 April 2008.
9. "Biological effects of ultrasound", **A. M. Al-Karmi**, Girl's College in Dammam, 4 May 2008.
10. "Principles of Diagnostic Ultrasound" (2 lectures), **A. M. Al-Karmi**, King Fahd Specialist Hospital in Dammam, 9, 16 June 2008.
11. "X-ray production". **N. Maalej**. King Fahd Specialist Hospital in Dammam, 17, March 2008.
12. "Scree Film Radiography". **N. Maalej**. King Fahd Specialist Hospital in Dammam, 24, March 2008.
13. "Image Qulaity". **N. Maalej**. King Fahd Specialist Hospital in Dammam, 31, March 2008.
14. "Mammography". **N. Maalej**. King Fahd Specialist Hospital in Dammam, 5, ay 2008.

#### **PHYSICS DEPARTMENT | SEMINAR SCHEDULE TERM 072**

Date	Speaker's name	Details of topics
9 Mar. 08	Mr. A.F. Salem	Magnetic & Superconducting Properties of $MgB_2$ doped with Aluminum
16 Mar. 08	Debate (Anchor: Dr. Gondal)	How to improve research at KFUPM
23 Mar. 08	Dr. Patrice LIGNEUL (Scientific Director of Schlumberger, Dhahran)	Fundamental of dielectric measurement for Formation Evaluation of oil reservoirs
30 Mar. 08	Mr. Tariq Mokheimer Schlumberger Dhahran	Quantum Trajectory Method in Quantum Optics
8 Apr. 08	Mr. Mohammed Firasat	How to use Front Page & Web Content

	Ali & Mr. Malik M. Ali	Management
27 Apr. 08	F.Z. Khiari	Experience with Preparatory Physical Science (PYP001) at KFUPM
4 May 08	Mr. Mogtaba Mekki	How to secure your Computer?
11 May 08	Dr. Faycal Ben Adda Faculty of Sciences University of Hail	THE UNIVERSE; SHAPE AND FATE IN A NEW MATHEMATICAL MODEL -
18 May 08	Dr. Abdulhafez Selim	Use of Human Amniotic Stem Cells for Tissue Engineering; Common Bile Duct Reconstruction Using Vascularized Support of a Free Amnion Graft
25 May 08	Mr. Abdullah Baziyad	Cavity Ring Down Spectroscopy: Principles, Advances and Applications
25 May 08	Mr. Bader Al-Harthi	Magnetic Properties of $\text{Er}_{0.55}\text{Sr}_{0.45}\text{Mn}_{1-y}\text{Cr}_y\text{O}_3$ manganites
27 May 08	Prof. Riazuddin NCP, Pakistan	Baryon Genesis – Origin of Matter in the Universe
1 Jun. 08	Mr. Mahdi Al-Maghrabi	Zinc Oxide, properties, and fabrication
1 Jun. 08	Mr. Abdulaziz Al-Al-Aswad	Transparent heat mirror based on multilayer coating
1 Jun. 08	Prof. Riazuddin. NCP Pakistan	Reflections on Higher Education in a Rapidly Changing world
2 Jun. 08	Dr. Suhail Zubairi	Quantum interferometry: From quantum eraser to quantum lithography

### ICS Department

- Speaker : Dr. El-Sayed M. El-Alfy  
Topic : E-mail Spam Filtering via a Fuzzy Similarity Approach  
Date : March 30, 2008

Systems Engineering Department

1.     Speaker       :     Mr. Khaled Hashim Al-Shareef (G.A.)  
        Topic        :     “Integration of Taguchi’s Loss Function in the Economic  
                               Design of x-Control Charts with Increasing Failure Rate and  
                               Early Replacement”  
        Date         :     January 15, 2008
  
2.     Speaker       :     Mr. Anas Alghazi (G.A.)  
        Topic        :     “Economic selection of target values: Development  
                               Through history”  
        Date         :     January 15, 2008
  
3.     Speaker       :     Mr. Hosam A. Arabasy (R.A.)  
        Topic        :     “BPL: Broadband over power Lines; Tomorrow’s  
                               Technology”  
        Date         :     March 11, 2008
  
4.     Speaker       :     Mr. Adeniran, Ahmed (R.A.)  
        Topic        :     “A Shift in Neural Network Paradigms”  
        Date         :     May 21, 2008
  
5.     Speaker       :     Mr. M. Nadeemullah Shareef (R.A.)  
        Topic        :     “Control Performance Assessment Technology &  
                               Industrial Application”  
        Date         :     May 21, 2008

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

#### Mechanical Engineering Department

1.     Speaker       :     Dr. Nasser Al-Aqeeli  
        Topic        :     Developing Advanced Nanomaterials using Solid-State  
                               Synthesis  
        Location     :     Massachusetts Institute of Technology (MIT)  
        Date         :     18.06.2008

#### Petroleum Engineering Department

1.     Speaker       :     Engr. Arash Soleimani, Research Scientist  
                               Schlumberger Dhahran Carbonate Research Center  
        Topic        :     EOR in Heavy Oil and VAPEX Simulation  
        Date         :     14<sup>th</sup> January 2008
  
2.     Speaker       :     Dr. M. Rafiqul Islam, Professor of Civil & Resource  
                               Engineering, Dalhousie University, Halifax, Nova Scotia,  
                               Canada  
        Topic        :     Knowledge-Based Reservoir Simulation  
        Date         :     25<sup>th</sup> February 2008
  
3.     Speaker       :     Dr. Sunil Kokal, Petroleum Engineering Consultant  
                               EXPEC Advanced Research Center, Saudi Aramco  
        Topic        :     Crude Oil Emulsions: Everything You Wanted to Know but  
                               Were Afraid to Ask  
        Date         :     25<sup>th</sup> February 2008
  
4.     Speaker       :     Engr. Saeed M. Al-Mubarak, SRM I-Field Champion  
                               Reservoir Management Department, Saudi Aramco  
        Topic        :     Role of Smart Wells and I-Field in the Saudi Aramco Fields,  
                               Realtime Reservoir Management Prospective  
        Date         :     17<sup>th</sup> March 2008
  
5.     Speaker       :     Dr. Mohamad Nasir Mohamad Ibrahim, Associate School of  
                               Chemical Sciences, Universiti Sains, Malaysia  
        Topic        :     Two Phase Relative Permeability Prediction Using a Linear  
                               Regression Model  
        Date         :     8<sup>th</sup> April 2008
  
6.     Speaker       :     Dr. Mohamad Nasir Mohamad Ibrahim, Associate Professor  
                               School of Chemical Sciences, Universiti Sains, Malaysia  
        Topic        :     Recycling Oil Palm Biomass into a Drilling Mud Thinner  
        Date         :     9<sup>th</sup> April 2008
  
7.     Speaker       :     Mr. Harmohan Gill, Petroleum Engineering Specialist  
                               Well Testing & Database Division, Reservoir Description &

- Simulation Department, Saudi Aramco  
 Topic : Exploration Well Testing in Saudi Aramco  
 Date : 5<sup>th</sup> May 2008
8. Speaker : Mr. Abdullah Al-Somali, Artificial Lift specialist  
 Saudi Aramco  
 Topic : Artificial Lift  
 Date : 12<sup>th</sup> May 2008
9. Speaker : Dr. Turgay Ertekin, Professor of petroleum and natural gas  
 engineering  
 Penn State University, USA  
 Topic : Can artificial expert systems make the life easier for asset teams in  
 their efforts towards engineering of the hydrocarbon reservoirs  
 Date : 27<sup>th</sup> May 2008
10. Speaker : Dr. Demin Wang, Professor Emeritus  
 Daqing Petroleum Institute, Daqing, Heilongjiang, China  
 Topic : Chemical EOR – The Daqing Experience  
 Date : 28<sup>th</sup> May 2008

#### Chemistry Department

1. Speaker : Dr. Hendrik Muller  
 Topic : Characterization of Nitrogen & Sulfur Compounds  
 In Hydrocracking Feedstocks by Fourier Transform -  
 Ion Cyclotron Mass Spectrometry  
 Date : 8<sup>th</sup> January, 2008
2. Speaker : Prof. Ian J Bruce  
 Department of Biosciences, University of Kent,  
 Canterbury, UK  
 Topic : Nanobiotechnology; the interface between 'nano and bio'  
 Date : 22<sup>nd</sup> January, 2008
3. Speaker : Dr. Richard R. Ernst (Nobel Laureate)  
 Laboratorium fur Physikalische Chemie ETH Zurich,  
 8093, Switzerland  
 Topic : My Pathway into Science and Beyond  
 Date : 24<sup>th</sup> February, 2008
4. Speaker : Dr. Mark Geoghegan, Department of Physics and  
 Astronomy  
 University of Sheffield UK  
 Topic : Controlling molecular motion and nanoscale devices  
 Date : 18<sup>th</sup> March, 2008
5. Speaker : Dr. Edward M. Cupoli,  
 College of Nanoscale Science and Engineering (CNSE)



- USA
- Topic : Nanotechnology, The Next Innovation Wave  
Date : 25<sup>th</sup> March, 2008
6. Speaker : Mr. Keijo Equechi,  
Jeol Tikyo, Janpan  
Topic : Recent Advances in NMR Techniques  
Date : 08<sup>th</sup> April, 2008
7. Speaker : Professor James Tour, Chao Professor of Chemistry  
Professor in MEMS and in Computer Science, of Chemistry,  
Rice University  
Topic : Passive, Active, and Hybrid Nanotechnology  
Date : 30<sup>th</sup> April, 2008
8. Speaker : Dr. Naim Akmal  
Research & Development Centre, Saudi Aramco  
Topic : Analytical Techniques and Their Most Effective  
Applications  
Date : 6<sup>th</sup> May, 2008
9. Speaker : Dr. Stephan Podzimek  
Wyatt Technology, USA  
Topic : Light Scattering: A powerful Tool for the Characterization  
of Polymers and Nanoparticles  
Date : 12<sup>th</sup> May, 2008

#### Earth Sciences Department

1. Speaker : Dr Saleh Saleh(Saudi Aramco)  
Title : Advances in Seismic Imaging  
Date : February 26, 2008
2. Speaker : Prof. Warren Wood (Department of Geological Sciences,  
Michigan State University, USA)  
Title : The Ozone Hole and Bromide from Coastal Sabkhat  
Date : March 11, 2008
3. Speaker : Prof. Brian Evans (Curtin University , Perth , Western  
Australia)  
Title : Sensing fluid morphology during migration using seismic  
data  
Date : March 23, 2008
4. Speaker : Prof. Tadeusz J. Ulrych (University of British Columbia)  
Title : The role of amplitude and phase in processing and inversion  
Date : March 25, 2008 (EAGE Student Lectures)

5. Speaker : Mr Roy Burnstadt (Saudi Aramco)  
 Title : Seismic Processing for Fractured Reservoir Characterization  
 Date : April 1, 2008
6. Speaker : Khalid Al-Rufaii (Saudi Aramco)  
 Title : Land Seismic Suppression: Tough Challenge, Smart Implementation  
 Date : May 27, 2008
7. Speaker : Prof. Rudy Wenk (U. of California, Berkeley)  
 Title : Anisotropy of Shales  
 Date : June 01, 2007

Seminars delivered by invited speakers:

- Speaker : **Professor Khaled Elleithy**  
 Associate Dean for Graduate Programs  
 School of Engineering  
 University of Bridgeport, U.S.A.
- Seminar # 1 :** “Research, Graduate Study and Scholarships Opportunities in the University of Bridgeport”  
 Date and Time: Saturday, May 24, 2008 - 10:00 a.m.  
 Location : COE-KFUPM
- Seminar # 2 :** “Advances in Mobile and Wireless Communications”  
 Date and Time: Saturday, May 24, 2008 - 1:00 p.m.  
 Location : COE-KFUPM
- Speaker : **Professor Mostafa Abd-El-Barr**  
 Department of Information Science and  
 Vice Dean for Academic Affairs, CFW  
 Kuwait University, Kuwait.
- Seminar # 1 :** “Fault Tolerance and Reliability Analysis of *Hypercube* Multi-Computer Networks”  
 Date and Time: Sunday, May 18, 2008 - 1:30 p.m.  
 Location : COE-KFUPM
- Seminar # 2 :** “Fault Tolerance and Reliability Analysis of *Mesh* Multi-Computer Networks”  
 Date and Time: Monday, May 19, 2008 - 2:30 p.m.  
 Location : COE-KFUPM

Systems Engineering Department

1. Speaker : Prof. Thomas J. Greene (Massachusetts Institute of Technology, USA.  
 Topic : “Web One, Two, and Three Should there be a Web Science”  
 Date : January 14, 2008

2.     Speaker       :     Prof. Thomas J. Greene (Massachusetts Institute of Technology, USA.  
           Topic       :     “A New Mission of the University: Students Learning to Learn”  
           Date        :     January 15, 2008
  
3.     Speaker       :     Prof. Thomas J. Greene (Massachusetts Institute of Technology, USA.  
           Topic       :     “Global Research & Education Networks: A Case Study of LHC Data Network”  
           Date        :     January 16, 2008
  
4.     Speaker       :     Prof. John Hooker (Tepper School of Business, Carnegie-Mellon University, Pittsburgh, USA.  
           Topic       :     “A Tour of Modeling Techniques”  
           Date        :     March 18, 2008
  
5.     Speaker       :     Prof. John Hooker (Tepper School of Business, Carnegie-Mellon University, Pittsburgh, USA.  
           Topic:       :     “A Framework For Ethical Decisions”  
           Date        :     March 19, 2008
  
6.     Speaker       :     Prof. Thomas J. Greene (Massachusetts Institute of Technology, USA.  
           Topic       :     “Global Research and Collaboration : A case Study of LHC Data Network”  
           Date        :     April 27, 2008
  
7.     Speaker       :     Prof. El-Kebir Boukas (Ecole Polytechnique de Montreal, Quebec, Canada.  
           Topic       :     “New Approach for Control of Markovian Jump Systems With partially known Jump rates”  
           Date        :     May 27, 2008