

# RESEARCH NEWSLETTER

*January, 2011*

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**RESEARCH NEWSLETTER**

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## FOREWORD

This first issue of the University Research Newsletter for the Academic Year 2010-2011 provides up-to-date information about the research and other scholarly activities undertaken by the University faculty members for the half-year period from July 2010 to December 2010. 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 the 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

### 1. Project No. IN101001

**Principal Investigator: Dr. Mubarak Al-Mutairi**  
**Co-Investigator: Dr. Lawan Mohammad**  
**(Hafr Al Batin Community College)**

**Title: Information and Communication Technologies (ICT) [Bookwriting Project]**

#### **Abstract**

The continuously accelerating advances in Information and Communication Technologies (ICT) research create a necessity to possess a concise list of current research on emerging opportunities, issues, and challenges in the field. This will not only enable fresh researchers to get started with their research but will also enable instructors of ICT research courses to better prepare their students—especially at the postgraduate level. To achieve this, the book provides a collection of the innovative current research on a variety of topics related to ICT. This book widens the horizon of ICT research by providing chapters from world-renowned leaders in ICT research along with chapters from junior researchers who bring interesting new perspectives to ICT research. The comprehensive up-to-date reference to the full range of concepts, issues, methods, technologies, trends and future research direction associated with the field, as such it should serve as an excellent literature review for graduate students wishing to select a fresh research work on ICT. The primary goal of this book is to bring together different researchers in the field of computing and communication technologies from a variety of disciplinary and methodological perspectives with a focus on the current research trends, possible obstacles, and future directions. The book distinguishes itself from other computing research books available in the market, by providing practical examples of how the authors used different tools to solve many day-to-day computing problems, as well as covering future research direction in the field. This should make the book more interesting to read, more useful, and more noticeable in the market. The book aims to be valuable reading material for every postgraduate student in this field, and of particular interest to students preparing for doctoral research.

### 2. Project No. IN101002

**Principal Investigator: Dr. N. Tatar (Math)**

**Title: On a Fractional Differential Problem with Hilfer Fractional Derivatives**

#### **Abstract**

This proposal is concerned with basic fractional differential equations with appropriate initial condition and involving a new fractional derivative introduced by Hilfer. This type of fractional derivative interpolates the well-known Riemann-Liouville fractional derivative and the Caputo fractional derivative. It is worth noting that the same problem with the Riemann-Liouville fractional derivative is always investigated separately from the one with Caputo fractional derivative. There are at least two main reasons: first the corresponding initial conditions for both equations are very different (we consider the usual initial conditions, of integer order in the case of Caputo fractional derivative. This is not the case for the Riemann-Liouville fractional derivative). Second, the underlying location of solutions is also different. The Caputo fractional differential problem requires the solutions to be much more regular

than in the case of Riemann-Liouville fractional derivative. In addition to these two main differences singularities causing considerable difficulties arise all along the arguments. We will treat some well-posedness, stability and blow up issues. Moreover, motivated by the Hilfer fractional derivative, we will introduce a similar one interpolating the Hadamard fractional derivative and its Caputo counterpart. Then we address the same questions.

### **3. Project No. IN101003**

**Principal Investigator: Dr. Mohd. Islam Mustafa**  
**Co-Investigator #1: Dr. Mohd. Mustafa Kaffini**  
**Co-Investigator #2: Dr. Salim Messaoudi**

**Title: Uniform Stabilization for Thermoelastic Systems with Internal or Boundary Delay**

#### **Abstract**

In this project we consider thermoelastic systems with constant or distributed delay, and we treat both cases of internal or boundary delay. In the absence of delay, these systems have been extensively studied in the literature and their uniform stability has been established. Introducing a delay term in internal or boundary feedbacks of these thermoelastic systems makes the problem different from that considered in the literature. The presence of a delay term may be a source of instability as shown in many other cases. Our goal is to study thermoelastic systems with delay, establish the well-posedness of the systems, investigate the effect of time delay on their stability, and determine necessary and sufficient conditions for the uniform rate of decay of the energy solution.

### **4. Project No. IN101004**

**Principal Investigator: Dr. Abraham Abraham**  
**Co-Investigator #1: Dr. Haider Madani**

**Title: The Price Discovery Process in the Saudi Stock Market**

#### **Abstract**

The process of price discovery in financial markets raises interesting questions, including that of the importance of specific stocks or sectors within the market that aid in the assimilation of information shocks. Recent advances in time series analysis has enabled researchers to focus on the issue of information flow between international markets, between spot and contingent markets, and between multiple exchange listed securities. In this study we propose to examine the price discovery process in an important emerging market, that of Saudi Arabia – the largest equity market in the Middle East. The Saudi Arabian stock market has taken on special significance to international investors, with the move by the Capital Market Authority to permit foreign investors to participate in the local market thru the medium of custodians. It is evident that certain stocks or industries or sectors are the object of focus and attention of the investment community. Such stocks are commonly referred to as “bell weather stocks” and arguably act as leading indicators of the state of the market, being early recipients of information signals. This is of particular significance in emerging markets that suffer from infrequent trading and lack of transparency in firm specific information. These bell weather stocks or sectors can therefore play an important role in the transmission of information through the system. Lagging sectors or firms could be encouraged by policy makers to adopt the methods and practices of the bell weather firms in terms of timely release of information and the reporting of accounting data. Using daily data for the 15 major sectors (Banking,

Petrochemical, Cement, Retail, Energy, Agriculture, Telecommunication, Insurance, Multi investment, Industry, Building, Real estate, Transportation, Media, and Hotel.) This study plans to employ a Vector Error Correction Model (VECM) in a Cointegration framework to determine which sector does the price discovery in the Saudi Equity Market. Variance decomposition of the system will be carried out to indicate the relative importance of individual sectors in the price discovery process.

**5. Project No. IN101005**

**Principal Investigator: Dr. Amer A. El-Batta**

**Co-Investigator #1: Dr. Musa M. Musa**

**Co-Investigator #2: Dr. Oussama Elbjeli**

**Title: Synthesis of Functionalized Five Membered Rings: Building Blocks in Therapeutic Agents**

**Abstract**

The heterocyclic diols derived from L-dimethyl tartrate are important chiral synthons in organic synthesis. In particular, L-threosolactone and L-threosolactam structures are important precursors for the synthesis of antiviral and antibiotic drugs. The proposed synthetic methodologies would help to establish facile and cost effective synthetic pathways to access these functionalized five-membered rings in larger quantities. As the demand is increasing to generate more important substances for biological use, we wish to accomplish simple steps starting from inexpensive materials toward the synthesis of lactone and lactam ring derivatives. The proposed research is for 20 months after the approval and commencement of the work. The PI and Co-PI will be implicated in all responsibilities of the project and one graduate student will be hired as needed to be involved in all stages in the second year of the project. The anticipated cost for the project is ~SR 320,000. That includes a man power cost of SR 74,000 (investigators, graduate student, and lab technician), and SR 218,000 for chemicals, glassware, and instruments. There will be a need of SR 28,000 for foreign conferences and stationary related items.

**6. Project No. IN101006      Principal Investigator: Dr. Mohammad Sadiq Sohail**

**Title: Mall Patronage, Shopping Attitudes and Purchase Patterns: A Study on the Influence of Demographics**

**Abstract**

The proposed study aims to examine issues relating to the influence of demographic and other variables on shopping mall patronage, shoppers' attitude, and purchase patterns in the shopping malls of Saudi Arabia. The proposed research aims to empirically classify mall shoppers into heavy, medium, and low volume shoppers. Based on this, the study proposes to examine the differences based on shoppers' demographics, shopping orientations, values, lifestyle, and shopping attitude. The significance of malls in retail research is particularly important for countries like Saudi Arabia. This is mainly because malls provide not only the basic environment to attract customers, but also provide an avenue of entertainment. This research makes an important contribution because a number of new malls are coming into existence in Saudi Arabia with almost similar offerings. As competition intensifies, it is necessary for malls to differentiate their offerings to help them building building a strong patronage. Findings of the proposed study will be helpful for mall operators to identify and build target customers and succeed in a competitive industry.

**7. Project No. IN101007      Principal Investigator: Dr. Mohammad Jamil Qazi****Title: Relationships of the Self-Directed Expatriates with Home and Host Country:  
A Study of the Academics in Saudi Arabia****Abstract**

This purpose of this project is to explore and investigate the relationship patterns of self-directed expatriate academics in the Saudi Arabian context by drawing on an existing model of expatriate managers allegiances to home and host countries. As a large number of expatriates working in Saudi Arabia as well as other GCC countries come under the category of self-directed expatriates, this paper contributes to the expatriate management literature in the Saudi Arabian context. Using a qualitative methodology and thematic analysis, the study will be based on interviews with 50 expatriate academics from Asia, Africa, North America, & Europe currently working in Saudi Arabian Universities. This study will extend our understanding of self-directed and general expatriates and has inherent implications for both theory and practice.

**8. Project No. IN101008      Principal Investigator: Dr. Mohammad Khamsi  
Co-Investigator: Dr. Mohammad Abu-Sbieh****Title: New Fixed Point Results for Multivalued Maps in Discrete Sets and Applications****Abstract**

The goal of this project is to study the existence of fixed points of multivalued mappings in discrete sets, ordered sets, and oriented graphs. Our main focus will be on order preserving set-valued mapping of a tree like partially ordered set, taking externally complete values. We will try to show that a single valued selection which is order preserving exists. Then this will be used to prove some fixed point theorems. The case of oriented graphs will also be discussed.

**9. Project No. IN101009      Principal Investigator: Dr. Soliman Alhomidan****Title: NonSmooth Vector Variational Inequalities****Abstract**

The theory of vector variational inequalities is one of the most elegant and powerful tools in the of study vector optimization problems and Nash equilibrium problems for vector-valued functions. In the recent past, a large number of papers have appeared in the literature on this topic. In most of the literature, the objection function in vector optimization problems is differentiable (componentwise). A vector optimization problem may have a non-smooth objection function. In view of such objective functions, the nonsmooth vector variational inequalities (NVVI) are defined by means of the upper Dini derivative in \cite{AL10,CGR08,LM05}. Some necessary and sufficient conditions for a nonsmooth vector optimization problem are also studied. In this project, we intend to introduce nonsmooth weighted variational inequalities (NWVI) and study their relationships with nonsmooth vector optimization problems (NVOP). We intend to study relationships between nonsmooth weighted variational inequalities (NWVI) and nonsmooth vector variational



inequalities (NVVI). We intend to establish existence results for solutions of (NVVI) and (NWVI) by using different kinds of fixed point theorems. As applications of our results, we intend to establish existence results for solutions of (VOP) for nondifferentiable functions by using the equivalence relations among (NVVI), (NWVI) and (VOP). We also intend to introduce systems of vector variational(-like) inequalities (SVV(L)I) and to establish some existence results for solutions of these systems by using some kind of fixed point theorems for a family of set-valued maps. We shall study the equivalence between the system of vector variational(-like) inequalities and Nash Equilibrium Problems for nonsmooth vector-valued functions. Then by using such equivalence relations and existence results for solutions of systems of vector variational(-like) inequalities, we intend to establish existence results for solutions of Nash Equilibrium Problems for nonsmooth vector-valued functions.

**10. Project No. IN101010****Principal Investigator: Dr. Marwan Al-Quran****Co-Investigator: Dr. Abdallah M. El-Amin****Title: The Consumer Buying Decision-Making Process: A Cross Cultural Study****Abstract**

The lack of previous relevant international consumer behavior research in Arab countries and namely in Saudi Arabia, together with the need to test the generalizability of Western consumer buying decision-making models suggested in the literature, generated and promoted the need for the current investigation. As a result, this study investigates the consumer buying decision-making process for specialty products adopted by international consumers within a single country, i.e., Saudi Arabia. Two aspects are elaborated on: the nature of the buying decision-making process and the influences on the buying decision. Initially, in-depth interviews with Saudi and international academics of King Fahd University of Petroleum & Minerals will be conducted using an interview guide. The findings of the interviews will be used to construct a conceptual framework and then develop a questionnaire. Theoretically, the findings of the research are expected to enrich and provide significant contribution to the literature on international consumer behavior. Practically, seeing that a car buying decision will be investigated in the current study, the research findings will significantly assist Saudi automobile businesses in better understanding international consumer's buying behavior and, accordingly, improve their sales activities and efforts.

**11. Project No. IN101011****Principal Investigator: Dr. Hassan Qudrat-Ullah****Co-Investigator #1: Dr. Haider Madani****Co-Investigator #2: Dr. Jamal Al-Zayer****Title: Improving Decision Making in Dynamic Tasks Through Debriefing:  
An Experimental Investigation****Abstract**

This project aims at advancing the science of 'decision making' by proposing and using a comprehensive research model aimed at evaluating the effectiveness of structured and systematic debriefing on both the decision making process and the decision outcome in an interactive learning environments. Many managerial decisions routinely made are dynamic in

nature: (i) a number of decisions are required rather than a single decision, (ii) decisions are interdependent, (iii) feedback is available on prior decisions, and (iv) the decision making environment changes. Managers need ways to test their decision strategies before a costly and often irreversible implementation follows. Computer simulation-based interactive learning environments (ILEs) provide a potential solution for this need. ILEs supported with debriefing improve performance in dynamic tasks. A debriefing is a time to reflect on the learning experiences gained from an ILE. Debriefing is delivered in various forms and methods including oral discussions, debriefing games, process-oriented debriefing, and outcome-oriented debriefing. Prior research on debriefing has explored, only theoretically, how debriefing may contribute to decision making processes. To realize the potential of debriefing-based ILEs as decisional aids several issues require resolution: (i) measures of effectiveness of debriefing lack a comprehensive framework, (ii) the effects of different forms of debriefing are unknown, (iii) there is no empirical evidence on how debriefing effects the decision making process. To evaluate the impact of debriefing on the decision making process, we will focus on two factors: decision strategies and cognitive styles. Specifically, we will seek answers to these questions: Will debriefing improve performance in dynamic tasks? How does debriefing impact decision makers' decision strategies? How does debriefing influence decision makers' cognitive styles? To seek answers, we will conduct a laboratory experiment where subjects will manage a dynamic task in a controlled simulated environment, FishBankILE. An experimental approach is chosen to control the hypothesized debriefing that would have influenced the decision makers' decision strategies and cognitive styles. A pre-test questionnaire will be used to control subjects' background education, knowledge, cognitive styles, and demographics. FishBankILE will record users' decisions data and task performance. A post-test questionnaire will help assess structural and heuristic knowledge. Findings of this project will benefit both the researchers and the practitioners. First, in general, consistent decision strategies are useful in many dynamic tasks such as fire fighting, medical decision making, air traffic control, and managing a firm. Due to this study, process-oriented debriefing could become the first known external source of consistency in decision makers' strategies. Second, by realizing the impact of consistency, one could classify the types of learning outcomes available from consistent decision strategies and train the individuals accordingly. Third, if consistent decision strategies lead to efficient decision making then educators and trainers might well adopt the debriefing supported training tools instead of standalone unaided tools. Fourth, making technologies more useful is critical for all the stakeholders: designers, developers, and users. Finally, researchers can use our model to evaluate the effectiveness of other ILEs and DSSs, an innovative contribution to the science of 'evaluation'.

**12. Project No. IN101012      Principal Investigator: Dr. Mohammad Shamsuzzoha  
Co-Investigator: Dr. Abdallah Al-Shammari**

**Title: PI/PID Controller Tuning of Open-Loop Unstable Process with Time Delay:  
A Comparative Study and New Design Approach**

### **Abstract**

The proportional-integral-derivative (PID) control algorithm has three-term functionality enabling the treatment of both transient and steady-state responses; it provides a generic and efficient solution to real world control problems. The wide application of PID control has stimulated and sustained research and development in order to "get the best out of PID", and the search is on to find the next key technology or methodology for PID tuning. Many of the

important chemical processing units in industrial and chemical practice are open-loop unstable processes that are known to be difficult to control, especially when there is a time delay, such as in the case of continuous stirred tank reactors, polymerization reactors and bioreactors which are inherently open loop and unstable by design. Therefore, in this study, we have planned to investigate PID control methods for unstable processes with time delays. The main motivation should be to make a comprehensive set of control performance specifications for the most recently reported method in literature. Their applicability and achievable performance should be indicated with regard to different cases of normalized time delay for ease of the user's choice of methods. By analyzing these methods' merits and demerits, a modified analytical method will be developed for unstable and integrating processes to reduce the demerits and implementation problems of an available method. A closed-loop time constant,  $c$ , guideline should be recommended for a wide range of time-constant/ time-delay ratios. An extensive simulation study will also be performed for both unstable and integrating delay processes to show the superior performance of the proposed method for both nominal and perturbed processes.

**13. Project No. IN101013****Principal Investigator: Dr. Abdellatif Ibdah****Title: Computational Study on the Reactivity Mechanism of Xanthine Oxidase Enzymes****Abstract**

Molybdenum-containing enzymes are efficient oxidoreductive catalysts owing to their electronic configuration, versatility in bond-making and bond-breaking, and relative ease of accepting and releasing electrons of their molybdenum centers. This project concentrates on electronic structure calculations of geometry of the molybdenum centers found in these enzymes, as well as the reaction parameters of the reductive half reaction. The computational studies will be performed on active-site models of the molybdenum centers which are relevant to the enzyme active sites. The influence of the  $\text{Mo}=\text{E}$  ( $\text{E}=\text{O}, \text{S}, \text{Se}$ ) on the enzyme reactivity will be studied with a series of substrates. Computational study is the only way to examine the structural and chemical changes that accompany the functioning of the enzyme, specifically with regard to the intermediates and transition states in the course of the reaction. These transition states and intermediates can not be characterized and isolated experimentally.

**14. Project No. IN101014****Principal Investigator: Dr. Kenan Hazirbaba****Co-Investigator: Dr. Talat Bader****Title: Stabilization of Eolian Sand with Geofiber and Synthetic Fluid****Abstract**

Eolian sands are widely present in arid and semi-arid regions. However, without proper stabilization they lack the required engineering properties to suffice as pavement base courses, subbase courses, subgrades and as a foundation-support layer under buildings and various structures. Traditional stabilization techniques require large amounts of additives to improve the engineering properties of soils. Moreover, many of these techniques require

specialized skills and equipment to ensure adequate performance. Recently, geofibers and synthetic fluid have been used to improve very loose sandy soils. This technology is new, nontraditional and requires minimal installation equipments. We propose to investigate this technology through a systematic experimental study for use with eolian sand. This study will directly benefit a wide range of construction projects. The technology to be investigated is very promising as it allows engineers to use locally available materials, and thus provides a significant reduction in overall construction costs. Potential uses of this new technology include highway embankment/road construction, unstable slope management, construction of stable roads and runways in the Kingdom of Saudi Arabia with widely available salina soils.

### 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. Ahmad Al-Garni (AE) Dr. Aymen H. Kassem (AE)</b>	Outdoor Economic Cooling System <b>(IN10001)</b>
Chemical Engineering	<b>Dr. Saleemur 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. Halim H. Redhwi Dr. M. Nahid Siddiqui</b>	Durability of Thermoplastic Nano-Composites under Local Weather Exposure and the Applicability of the Reciprocity Rule to their Ultraviolet Initiated Degradation <b>(IN100021)</b>
Chemical Engineering	<b>Dr. Mohammad Shamsuzzoha and Dr. Abdallah Al-Shammari</b>	PI/PID Controller Tuning of Open-Loop Unstable Processes with Time Delay: A Comparative Study and New Design Approach <b>(IN101012)</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>
Civil Engineering	<b>Dr. Salah Al-Dulaijan Dr. Mohammad Maslehuddin Dr. Mohammad Al-Zahrani</b>	Performance Evaluation of Corrosion-Resistant Reinforcing Steel Bars- Service Life Prediction and Service Life Cost <b>(CE/STEEL/465)</b>

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Civil Engineering	<b>Dr. Mohd. Maslehuddin Dr. Luai Al-Hadrami –ME Dr. Salah Al-Dulaijan-CE</b>	Evaluation of Mechanical Properties and Durability of Electric Arc Furnace Slag: Aggrégate Concrete [CE/ARC/472]
Civil Engineering	<b>Dr. Kenan Hazirbaba Dr. Talat Bader –CE</b>	Stabilization of Eolian Sand with Geofiber and Synthetic Fluid [IN101014]
Electrical Engineering	<b>Dr. Tarek Y. Al-Naffouri</b>	Broadcasting Data to Multiple User Groups: Information Theoretic Investigation of the wide Band Case (EE/Data/ 373)
Electrical Engineering	<b>Dr. Mohammad Abido Dr. Ibrahim El-Amin Dr. A.H. Abdur Rahim Dr. Ibrahim Habiballah</b>	Static Synchronous Compensator-based Stabilizer Design and Implementation (EE/DESIGN/450)
Electrical Engineering	<b>Dr. M.H. Shwehdi Dr. M.A. Gondal Mr. Khaled Al-Soufi Mr. Umar Johar</b>	Scrutinize Failure Causes of Real Distribution Underground Cable System of Saudi Electric Company (SEC) (IN100042)
Mechanical Engineering	<b>Dr. Mohammad Hawwa</b>	Ultrasonic Characterization of Inhomogeneous Cladded Plates (ME/Ultra/431)
Mechanical Engineering	<b>Dr. Mohammad Antar Dr. Rached Ben Mansour Dr. Salem Al-Dini</b>	Fluid Flow and Heat Transfer Characteristics in a Varying Speed Lid-Driven Cavity (ME/CAVITY/428)
Mechanical Engineering	<b>Dr. S.A.M. Said Dr. M.A. Habib Dr. T.Y. Ayinde</b>	Characterization of Natural Convection Heat Transfer in an Array of Discrete Heat Sources (ME/HEAT/438)

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Mechanical Engineering	<b>Dr. Mohammad Antar</b> <b>Dr. S.F. Ahmad</b>	Experimental and Theoretical Investigations of Knock Tendency and Emissions of a Spark Ignition Engine Fueled with Gasoline Octane 91 and 95 <b>(ME/SPARK/444)</b>
Mechanical Engineering	<b>Dr. S.A.M. Said</b> <b>Dr. M.A. Habib</b> <b>Dr. T.F. Ayinde</b>	Experimental Investigation of Flow Mal-Distribution in Air Cooled Heat Exchangers <b>(ME/Flow/447)</b>
Mechanical Engineering	<b>Dr. Abdesalam Al-Sarkhi</b> <b>Dr. Luai Al-Hadhrami</b>	Study of Oil-Water Flows in a Horizontal Pipeline <b>(ME/Oil-Water/448)</b>
Mechanical Engineering	<b>Dr. Mehmet Sunar</b> <b>Dr. Khalid Al-Dheyman</b>	Analysis of Functionally Graded Thermopiezoelectro-Magnetic Materials <b>(ME/MAGNET/451)</b>
Mechanical Engineering	<b>Dr. Ahmet Sahin</b> <b>Dr. Bekir Sami Yilbas</b>	The Effect of Viscosity Variation in Thermodynamic Analysis of Fluid Flow <b>(ME/FLUID FLOW/462)</b>
Mechanical Engineering	<b>Dr. Abdelsalam Al-Sarkhi</b> <b>Dr. Meamer El Nakla</b> <b>Dr. Wael Ahmed</b>	Effect of Drag Reducing Polymers in Multiphase Flow: Theoretical Approach <b>(ME/Drag/481)</b>
Mechanical Engineering	<b>Dr. Syed Fida Hassan</b> <b>Dr. Zuhair Gasem</b> <b>Mr. F. Patel</b>	Fatigue, Creep, and Corrosion Properties of New generation Magnesium Nanocomposites <b>(IN100013)</b>
Mechanical Engineering	<b>Dr. Adrian Bejan</b> <b>Dr. Bekir Sami Yilbas</b> <b>Dr. Ahmet Sahin</b>	Distributed Energy System: The Tapestry of Multi-Scale Design in the Globe <b>(IN100025)</b>

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Mechanical Engineering	<b>Dr. Numan Abu Dheir Dr. Shafique Khan Dr. Abdulrahman Shuaib</b>	Microforming Set up Development (IN100031)
Mechanical Engineering	<b>Dr. Samer F. Ahmed Dr. Mohammad Antar</b>	Combustion characteristics and emissions of a HCCI:- DI Diesel Engine Running with a Bio-Fuel Suitable for Saudi Arabian Environment (IN100033)
<b>College of Computer Sciences &amp; Engineering</b>		
Information & Computer Science	<b>Dr. Wasfi Al-Khatib Dr. Sabri A. Mahmoud</b>	Toward Content-Based Indexing and Retrieval of Arabic Manuscripts (ICS/INDEX/325)
Information & Computer Science	<b>Dr. Mohammad Al-Shayeb</b>	Classification of Aspect Oriented Refactoring Methods Based on Software Quality Attributes (ICS/Aspect/446)
Information & Computer Science	<b>Dr. M. Sarfraz Dr. Sabri A. Mahmoud</b>	Toward Content-Based Indexing and Retrieval of Arabic Manuscripts (ICS/Optical Test/337)
Information & Computer Science	<b>Dr. Khaled Salah Dr. Mohammad Sqalli</b>	Intelligent Firewall DoS Attacks and Countermeasures (ICS/Firewall/361)
Information & Computer Science	<b>Dr. Farag Azzedin</b>	I/O Request Handling in Web Servers: Issues and Solutions (ICS/WEB/430)
Information & Computer Science	<b>Dr. Farag Azzedin Dr. Sajjad Mahmoud</b>	Trust Model for Context-Aware Systems: An Aspect-oriented Approach (ICS/Trust/483)
Information & Computer Science	<b>Dr. Mohammad El-Attar Dr. Mohammad Elish Mr. Irfan Ahmed</b>	Improving the Quality of Misuse Case Models (IN100016)



College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Information & Computer Science	<b>Dr. Sajjad Mahmoud</b> <b>Mr. Mohammad Ali Khan</b>	An Integrated Requirement Analysis and Component Selection Approach for Component-Based Software Systems <b>(IN100023)</b>
Information & Computer Science	<b>Dr. Lahaouri Ghouti</b>	Digital Imaging and Computer Vision: Digital Copyright, Biometrics and Forensic Systems [Bookwriting project] <b>(IN100019)</b>
Information & Computer Science	<b>Dr. Mohammad Alshayeb</b> <b>Dr. Sajjad Mahmoud</b>	Integrated Unified Modeling Language (IUML) <b>(IN100046)</b>
Computer Engineering	<b>Dr. Aimen El-Maleh</b> <b>Dr. Ahmad Al-Yamani</b>	Transistor-Level Defect Tolerant Digital System Design at the Nanoscale <b>(COE/Nanoscale/387)</b>
Computer Engineering	<b>Dr. Uthman Baroudi</b>	Distributed Self-Healing Algorithms for Wireless Sensor and Actor Networks <b>(COE/Sensor/437)</b>
Systems Engineering	<b>Dr. Malick Ndiaye</b>	Locating Facilities with Various Distance Functions <b>(SE/ LOCATION/307)</b>
Systems Engineering	<b>Dr. Salih O. Duffuaa</b> <b>Dr. Mohammad Darwish</b> <b>Dr. Ahmed Haron</b>	Multi-Objective Mathematical Models for Process Targeting <b>(SE/MATH MODEL/321)</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>

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Systems Engineering	<b>Dr. Ammar Khoukhi</b> <b>Dr. Fouad Al-Sunni</b>	A Hybrid-Multi-Agent System for Intelligent Distributed Control of Collaborative Robots <b>(SE/HYBRID/441)</b>
Systems Engineering	<b>Dr. Moustafa El-Shafei</b>	Modern Distributed Computer Control Systems <b>(SE/Control/474)</b>
Systems Engineering	<b>Dr. Magdi Mahmoud</b> <b>Dr. Fouad Alsunni</b>	Development of Performance Analysis and Design Methods for Interconnected Control and Communications Systems <b>(IN100018)</b>
Systems Engineering	<b>Dr. Abdulwahid Saif</b> <b>Dr. Moustafa El-Shafei</b> <b>Dr. Mujahid Dhaifullah</b>	Integrated Guidance and Control of Unmanned Aerial Vehicle <b>(IN100036)</b>
<b>College of Industrial Management</b>		
Department of Management & Marketing	<b>Dr. Mansour Murad</b> <b>(Management &amp; 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 Management & Marketing	<b>Dr. Mourad Mansour</b> <b>Dr. Mustapha Achoui</b>	Gender and Job Satisfaction among Employees in Saudi Arabia <b>(MGT/Gender/381)</b>
Department of Management & Marketing	<b>Dr. Razali Matt Zin</b> <b>Dr. Obaid M. Al-Shuraidah</b>	Ethical Orientations Among Saudi and Malaysian Undergraduate Students: A Comparative Study <b>(CIM/ETHICAL/412)</b>

<b>College / Department</b>	<b>Principal Investigator / Co-Investigator(s)</b>	<b>Title of the Project and its Code</b>
Department of Management & Marketing	<b>Dr. M. Jamil Qazi</b>	Relationships of the Self-Directed Expatriates with Home and Host Country: A Study of the Academics in Saudi Arabia <b>(IN101007)</b>
Department of Management & Marketing	<b>Dr. Mohammad Sadiq Sohail</b>	Mall Patronage, Shopping Attitudes and Purchase Patterns: A Study on the Influence of Demographics <b>(IN101006)</b>
Department of Management & Marketing	<b>Dr. Salem Alghamdi</b>	The Impact of Globalization on the Auto Car Business: Empirical Investigation of Saudi Consumers <b>(CIM/Autocar/482)</b>
Department of Management & Marketing	<b>Dr. Abdallah M. El-Amin and Dr. Marwan Al-Quran</b>	Relationships among Organi-zational Justice, Trust and Organizational Citizenship Behavior: A Study of Employees in Private and State-Owned Manufacturing Enterprises in Saudi Arabia <b>(MGT/TRUST/488)</b>
Department of Management & Marketing	<b>Dr. Marwan Al-Quran Dr. Abdallah M. El-Amin</b>	The Consumer Buying Decision Making Process: A Cross Cultural Study <b>[IN101010]</b>
Department of Management & Marketing	<b>Dr. Mohammad Mahdi</b>	The Use of International Electronic Banking Services in Saudi Arabia <b>(IN100012)</b>
Department of Management & Marketing	<b>Dr. Hassan Qudrat-Ullah, Mgt &amp; Mkt Dr. Haider Madani, Act &amp; MIS and Dr. Jamal Al-Zayer, Mgt &amp; Mkt</b>	Improving Decision Making in Dynamic Tasks through Debriefing: An Experimental Investigation <b>(IN101011)</b>

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
<b>College of Sciences</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>
Chemistry	<b>Dr. Sasa Antonijevic (Chem) Dr. Zain Yamani (Physics)</b>	Probing Dynamics of Nanotubes: Water Molecules by 2H Solid-State NMR Spectroscopy <b>(CY/Nanotubes/465)</b>
Chemistry	<b>Dr. Abdulaziz Al-Saadi (Chem) Dr. Nissar Ullah (Chem)</b>	Conformational Properties and Vibrational Assignments of 2-methoxyresorcinol and 4,6-Dihaloeresorcinols: Experimental and ab initio study <b>[CY/AB-INITIO/471]</b>
Chemistry	<b>Dr. Abdulrahman Al-Arfaj Dr. M. Nahid Siddiqui</b>	Problem Solving for Freshman Chemistry I <b>[CY/Problems/470]</b>
Chemistry	<b>Dr. Basheer Chanbasha, Dr. Khalid Al-Hooshani and Dr. Abdulaziz Al-Sadi</b>	Development Application of Electro mediated Extraction (EME) followed by High-performance Liquid Chromatography Ultraviolet Detection for the Determination of Poenoxy Herbicides in Water <b>(CY/EXTRACTION/486)</b>

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Chemistry	<b>Dr. Anvarhusain Isab</b> <b>Dr. Mohammad Wazeer</b>	NMR Studies of Possible Interaction of Novel Potential Anticancer Gold(III) Complexes with Biologically Important L(IN100039)
Chemistry	<b>Dr. Amer El-Batta</b> <b>Dr. Musa M. Musa</b> <b>Dr. Oussama Elbjeirami</b>	Synthesis of Functionalized Five-Membered Rings: Building Blocks in Therapeutic Agents (IN101005)
Chemistry	<b>Dr. Abdullatif Ibdah</b>	Computational Study on the Reactivity and Mechanism of Xanthine Oxidase Enzymes (IN101013)
Mathematical Science	<b>Dr. Steven Binns</b>	Algorithmic Complexity and Effectivity Closed Classes (MS/IN080410)
Mathematics & Statistics	<b>Dr. Ahmed Bouketir</b> <b>Dr. H. Bahlouli (Physics)</b>	Intrinsic Localized Vectorsial Modes in BEC and Optical Waveguide Systems with Cubic-Quintic Nonlinearity (MATH/WAVEGUIDE/439)
Mathematics & Statistics	<b>Dr. Salim Messaoudi</b> <b>(Mathematics &amp; Statistics)</b>	General Boundary Stabilization in Thermo-Elasticity (MS/BOUNDARY/445)
Mathematics & Statistics	<b>Dr. Mohammad Aslam Chaudhry</b>	Extension of Ramanujan's Interpolation Formula and Applications of His Master Theorem (MS/Ramanujan/480)
Mathematics & Statistics	<b>Dr. Nasser-eddine Tatar</b>	Second Order Fractional Evolution Differential Equations (MS/ORDER/490)

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Mathematics & Statistics	<b>Dr. Jawad Abuihlail</b>	Monads and Comonads in Varieties <b>(MS/MONADS/491)</b>
Mathematics & Statistics	<b>Dr. Soliman Al-Homidan</b> <b>Dr. Qamrul Hasan Ansari</b> <b>(Consultant)</b>	Generalized Invexity, Nonsmooth Vector Optimization and Vector Variational-like Inequalities <b>(MS/Vector/492)</b>
Mathematics & Statistics	<b>Dr. A.S. Bonfah</b>	Dynamics of Singularly Perturbed Dissipative Evolution Equations <b>(IN100017)</b>
Mathematics & Statistics	<b>Dr. Assane Lo</b>	Phase Transitions in Higher Dimensional Kac-like Models <b>(IN100022)</b>
		A Generalization of Carmichael Numbers <b>(IN10026)</b>
Mathematics & Statistics	<b>Dr. Hassen Muttalak</b> <b>Mr. Salah Mohammad</b>	Group Sequential Testing for Binary Data Based on Ranked Set Sampling Methods <b>(IN100024)</b>
Mathematics & Statistics	<b>Dr. Othman Echi</b>	A Categorical Study of Some Typical Examples of Alexandroff Spaces <b>(IN100027)</b>
Mathematics & Statistics	<b>Dr. Uwe Schavz</b>	Projective and Affine Berlekamp <b>(IN100028)</b>
Mathematics & Statistics	<b>Dr. Nassereddine Tatar</b>	On a Viscoelastic Problem in Whole Space <b>(IN100030)</b>
Mathematics & Statistics	<b>Dr. Rajai Alassar</b>	Unsteady Heat Conduction From Spheroids <b>(IN100035)</b>

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Mathematics & Statistics	<b>Dr. Nassereddine Tatar</b>	On a Fractional Differential Problem with Hilfer Fractional Derivatives (IN1010002)
Mathematics & Statistics	<b>Dr. Muhammad Mustafa Dr. Mohd. Mustafa Kafini Dr. Salim Messaoudi</b>	Uniform Stabilization for Thermoelastic Systems with Internal or Boundary Delay (IN1010003)
Mathematics & Statistics	<b>Dr. Mohammad Khamsi Dr. Mohammad Abu-Sbeih</b>	New Fixed Point Results for Multivalued Maps in Discrete Sets and Applications (IN1010008)
Mathematics & Statistics	<b>Dr. Soliman Alhomidan</b>	Nonsmooth Vector Variational Inequalities (IN101009)
Physics	<b>Dr. A.K. Aksoy (Physics) Mr. Mohammad Raashid (Physics)</b>	Enhancement of the Technical Capability of the 14 MeV FNAA Facility at KFUPM (PH/FNAA Facility/357)
Physics	<b>Dr. Khalil Ziq Mr. A. Ghannam Mr. A.F. Salem</b>	Magnetic Properties of ZnO-TM Semiconductors (PH/Magnetic/364)
Physics	<b>Dr. Abdullah Alsunaidi</b>	Dynamics and Morphology of Phase Separating Liquid-Crystal/Polymer Blends (PH/Crystal/382)
Physics	<b>Dr. Khalil Ziq Dr. Nouar Tabet Mr. A. Ghannam Mr. A.F. Salem</b>	Oxygen Vacancies Effects on the Properties of ZnO-TM (IN100032)
Physics	<b>Dr. Khalil Harrabi Dr. Khalil Ziq Dr. Ahmed Salem</b>	Detection of Sudden Excitations by Nanometric Superconducting Films (DSENSF) (IN100034)

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Physics	<b>Dr. Basheer Haider Dr. S.M.A. Durrani Dr. M.F. Al-Kuhaili</b>	Growth and Characterization of a GaN by Pulsed Laser Deposition <b>(IN100040)</b>
Physics	<b>Dr. Abdulaziz Aljalal Dr. Ibrahim Nasser Mr. Khateeb-ur-Rahman</b>	Manual Editing Entitled General Physics: Multiple-Choice Questions: Waves, Thermodynamics, Electricity and Magnetism <b>(PH/Multiple Questions/384)</b>
Physics	<b>Dr. Mohammad Al-Kuhaili Dr. S.M.A. Durrani Dr. A.M. Al-Shukri</b>	Growth of Molybdenum Oxide Thin Films Using Pulsed Excimer Laser Deposition <b>(PH/FILM/434)</b>
Physics	<b>Dr. Mohammad Faiz Dr. Abdulaziz Al-Jalal Dr. Mohd. Kariapper</b>	Computer Aided Laboratory Manual for General Physics I [Bookwriting Project] <b>(IN100041)</b>
Physics	<b>Dr. Abdullah Al-Sunaidi Dr. Akhtar Naqvi Dr. M.I. Al-Jarallah Dr. Anvarhusain Isab</b>	Adsorption and Dissociation of Hydrogen Sulfide (H <sub>2</sub> S) on Functionalized ZnO Nanoparticles and Nanotubes: A Computational Study <b>(PH/NANO/435)</b>
Physics	<b>Dr. F.Z. Khiari (Phys) Mr. Khateeb-ur-Rahman, Mr. Rashid Mohammad, and Mr. Azad-ul-Islam</b>	Design and Testing of a 14 MeV Neutron Based Prompt Gamma Neutron Activation Analysis Set up to Determine H, C, N and O Element Concentration in Bulk Samples with Low Atomic Number (Z) <b>(PH/Neutron/464)</b>



College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Islamic & Arabic Studies Department	<b>Dr. Abdul Karim Zahrani Dr. Moustafa El-Shafei Ahmed, Dr. Atef Al-Najjar, Dr. Essam Eid Abu-Gharbia, Dr. Saeed Ben Ali Al-Amri, Dr. Abdul-Majeed Al-Mubarak and Mr. Husni Al-Muhtaseb</b>	Automatic Voice Identification of Arabic Poetry Meters <b>(IAS/POETRY/426)</b>
General Studies	<b>Dr. Ahmed Bendania Dr. Abdullah El-Amin</b>	Relationship of Student Choice of Major and Career Orientation in Saudi State Owned and Private University Students in Arabia <b>(IN100029)</b>
Physics	<b>Dr. Khaled Gasmi</b>	Synchronous Fluorescence Spectroscopy of Edible Oil from Saudi Origin <b>(IN100043)</b>
<b>College of Environmental Design</b>		
Architecture Department	<b>Dr. Rabee Reffat (ARC) Dr. Emad El-Sebakhy (ICS)</b>	A Semantic Based Virtual Design Environment for Digital Designing in Architecture <b>(ARC/SEMANTIC/311)</b>
Architecture Department	<b>Dr. Rabee Reffat (ARC) Mr. Mir Sabeer Hamid Mr. Yaman Khaeruzzan (ICS)</b>	A Knowledge-Based Tool for Contextual-Based Assessment of Intelligent Buildings <b>(AR/Knowledge/405)</b>
City & Regional Planning	<b>Dr. Adel Aldosary Mr. Khan Mohammad Nahi-duzzaman Dr. Ali Al-Naser</b>	Socio-Cultural Analysis of Third Places Through GIS: A Case Study of Al-Khobar <b>(CRP/GIS/432)</b>
Construction Engineering and Management Dept.	<b>Dr. Ashraf El-Azzouni (CEM) Dr. Mohammad Abido (EE)</b>	Finance-Based Scheduling of Construction Projects Using Evolutionary and Heuristic Algorithms <b>(CEM/FINANCE/422)</b>

College / Department	Principal Investigator / Co-Investigator(s)	Title of the Project and its Code
Construction Engineering and Management	<b>Dr. Ashraf El-Azouni (CEM)</b>	Simulation Approach for Scheduling Based on Fund Availability for Sustained Saudi Contracting Business <b>(CEM/Schedule/479)</b>
<b>College of Applied and Supporting Studies</b>	<b>Dr. Shariefuddin Peerzada Dr. Abdulaziz Al-Assaf Dr. Koko Kaybi</b>	Imbalance Sequence in Digraphs <b>(CASS/Digraphs/475)</b>

**4. RESEARCH PROPOSALS SUBMITTED DURING  
THE FALL SEMESTER OF 2010-2011 UNDER REVIEW**

Project code	Title	PI Department	Investigators
IP101001	INNOVATION IN SAUDI TOP 100 COMPANIES	Management	Dr. M-Said Oukil, Management
IP101002	ENTREPRENEURIAL IMPACT: THE CASE OF KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS	Management and Marketing	Dr. M-SAID OUKIL, Management and Marketing Prof. M-SAID OUKIL, Management and Marketing Dr. SAMI ALWUHAIBI, Management and Marketing
IP101003	Nonsmooth Vector Variational Inequalities	Mathematical Science	Dr. Al-Homidan, Suliman, Mathematical Science
IP101004	The Price Discovery Process in the Saudi Stock Market	Finance and Economics	Dr. Abraham Abraham, Finance and Economics Dr. Haider AlMadani, Accounting
IP101005	Mall Patronage, Shopping Attitudes and Purchase Patterns: A Study on the Influence of Demographics	Management and Marketing	Dr. Prof. Mohammed Sadiq Sohail, Management and Marketing
IP101006	Isolation, Culturing and Genetic identification of Endolithic Cyanobacteria Found to Bore the Calcareous Sediment of the Arabian Gulf	Chemistry	Dr. Assad Al-Thukair, Chemistry  Dr. Raeid Abed, Chemistry

Project code	Title	PI Department	Investigators
IP101007	Uniform stabilization for Thermoelastic Systems with Internal or Boundary Delay	Mathematical Science	Dr. Muhammad Islam Mustafa, Mathematical Science Mr. Mohammad Mustafa Kafini, Dammam Community College  Prof. Salim Messaoudi, Mathematical Science
IP101008	Economic Order Quantity with Imperfect Quality and Destructive Testing Acceptance Sampling	Systems Engineering	Dr. Dr Muhammad Al-Salamah, Systems Engineering
IP101009	Quantitative Quality Measures for Network Based Schedules	Construction Engineering & Management	Dr. Mohsin Khalid Siddiqui, Construction Engineering & Management Mr. Muhammad Ali Khan, Mathematical Science  Dr. Christine Julien, Information and Computer Science
IP101010	Computational Study on the Reactivity and Mechanism of Xanthine Oxidase Enzymes	Chemistry	Dr. Abdellatif Ibdah, Chemistry
IP101011	Improving Decision Making in Dynamic Tasks through Debriefing: An Experimental Investigation	Management and Marketing	Dr. Hassan Qudrat-Ullah, Management and Marketing Prof. Haider Madani, Accounting Prof. Jamal Al-Zayer, Management and Marketing

Project code	Title	PI Department	Investigators
IP101012	NEW FIXED POINT RESULTS FOR MULTIVALUED MAPS IN DISCRETE SETS AND APPLICATIONS	Mathematical Science	Dr. Mohamed Khamisi, Mathematical Science Dr. Mohammad Z. Abu-Sbeih, Mathematical Science
IP101013	PI/PID Controller Tuning of Open-Loop Unstable Processes with Time Delay: A Comparative Study and New Design Approach	Chemical Engineering	Dr. Mohammad Shamsuzzoha, Chemical Engineering Dr. Abdallah Al-Shammari, Chemical Engineering
IP101014	Studies on Cellulosic Nanocomposites with Natural and Synthetic Rubbers	Chemical Engineering	Dr. Sadhan Kumar De, Chemical Engineering Dr. Muataz Ali Atieh, Chemical Engineering Dr. Selvin Thomas P, Chemical Engineering
IP101015	Biodegradation Studies of Nano-filler Reinforced Starch/Polyvinyl alcohol Composites	Chemical Engineering	Dr. Sadhan Kumar De, Chemical Engineering Dr. Mamdouh Al-Harhi, Chemical Engineering Dr. Sreekumar P.A, Chemical Engineering
IP101016	Copolymerization of Ethylene and Propylene in the Presence of Nanofillers Using Early Transition Metal Catalysts	Chemical Engineering	Dr. Mamdouh Al-Harhi, Chemical Engineering Prof. Sadhan Kumar De, Chemical Engineering Dr. Bijal Kotukkal Bahuleyan, Chemical Engineering
IP101017	Outcrop and Laboratory Investigations of Microbial Carbonate Deposits of Devonian Qasr Member, Northwestern Saudi Arabia	Earth Sciences	Dr. Khalid Al-Ramadan, Earth Sciences Prof. Wyn Hughes, Earth Sciences  Prof. Robert Riding, Earth Sciences

Project code	Title	PI Department	Investigators
IP101018	Re-designing the Community: Walkability as the Prime Determinant of Sustainability. A GIS Application in Doha District of Dhahran	City & Regional Planning	Dr. Muhammad Tauhidur Rahman, City & Regional Planning Mr. Kh. Md. Nahiduzzaman, City & Regional Planning
IP101019	The Study of $\delta$ -preopen and $\delta$ -preclosed Sets and Characterizations of Some Related Notions and Functions	Mathematical Science	Dr. Raja Mohammad Latif, Mathematical Science Dr. Saeid Jafari, College of Vestsjælland South, 4200 Slagelse, Denmark)
IP101020	The Effect of the Physical Education Program on the Physical Fitness Levels of the Orientation Students of KFUPM.	Physical Education	Dr. Syed Ibrahim, Physical Education Dr. Abdulhameed Al Ameer, Physical Education Dr. Kaukab Azeem, Physical Education Mr. Hassan Al Moslim, Physical Education Mr. Abbas AL Saif, Physical Education Dr. Ali Abu Saleh, Physical Education
IP101021	Stabilization of Eolian Sand with Geofiber and Synthetic Fluid	Civil Engineering	Dr. Kenan Hazirbaba, Civil Engineering Dr. Talat Bader, Civil Engineering
IP101022	On a Fractional Differential Problem with Hilfer Fractional Derivatives	Mathematical Science	Dr. Nasser-eddine Tatar, Mathematical Science
IP101023	Planar Motion Axes XY Design & Interface for a High Speed Micro-Machining Platform.	Mechanical Engineering	Dr. Samir Mekid, Mechanical Engineering

**5. JUNIOR FACULTY GRANT PROPOSALS RECEIVED  
IN THE FALL SEMESTER OF 2010-11 UNDER REVIEW**

Project code	Title	PI Department	Investigators
JP101001	Conservation Laws for Certain Classes of Nonlinear Wave Equation via a New Conservation Theorem	Mathematical Science	Dr. Ahmad Yousef Al-Dweik, Mathematical Science  Prof. Ashfaq H. Bokhari, Mathematical Science
JP101002	Linking Perceived Value of Context Awareness with Context Determinants in Mobile Environments	Management Information System	Dr. Yaser Mowafi, Management Information System  Dr. Ibrahim Al-Jabri, Management Information System
JP101003	Crystallization Kinetics and Chain Dynamics of Poly vinyl alcohol (PVA) in Thin Films: Polarized Optical Microscopy, AFM, and NMR Investigations at Polymer Solid Inter-phases	Chemistry	Dr. Salim Ok, Chemistry
JP101004	A Novel Reaction for the Synthesis of Piperadines, Azepines and Diazepinones	Chemistry	Dr. Dr Muhammad Yar, Chemistry  Prof. Shaikh Asrof Ali, Chemistry
JP101005	Volatility Transmission across Metal Futures Markets: Evidence from Gold, Silver and Copper	Finance and Economics	Dr. Ahmed Ali Abdel Alim Khalifa, Finance and Economics  Prof. Mohammed Ali Y Abido, Electrical Engineering
JP101006	Quantification of Plant Dynamic Endoplasmic Reticulum	Information and Computer Science	Dr. Abd-Nacer Bouchekhima, Information and Computer Science

Project code	Title	PI Department	Investigators
JP101007	Monitoring of Process Parameters Using Bayesian Methodology	Mathematical Science	Dr. Muhammad Riaz, Mathematical Science  Prof. Hassen A. Muttalak, Mathematical Science
JP101008	Codimension 2 subvarieties of non-projective varieties	Mathematical Science	Dr. Parsa Bakhtary, Mathematical Science
JP101009	Experimental Measurements of Seawater Thermal Conductivity	Mechanical Engineering	Dr. Mostafa H Elsharqawy, Mechanical Engineering  Prof. Syed M. Zubair, Mechanical Engineering
JP101010	Investigation of Artificial Neural Network and Neuro-Fuzzy Modeling for Hydrodynamic Studies in a Liquid-Solid Circulating Fluidized Bed Riser	Chemical Engineering	Dr. Shaikh Abdur Razzak, Chemical Engineering
JP101011	An integrated Economic Production Quantity (EPQ) and Machining Economics Model with Products Quality Consideration	Systems Engineering	Dr. Mohammad AlDurgam, Junior Faculty, Systems Engineering  Prof. Shokri Selim, undefined, Systems Engineering
JP101012	Designing Vehicle Routes for Integrated Forward and Reverse Logistics System	Systems Engineering	Dr. Yuvraj Gajpal, Systems Engineering
JP101013	Exploring the Prevalence and Impact of Student Entitlement in the Classroom	General Studies	Dr. Christopher Paul Garris, General Studies  Prof. Ahmed Bendania, General Studies
JP101014	Operations Research in Health Care: Mathematical Models and Simulation Modeling	Systems Engineering	Dr. Abdulrahim O Shamayleh, Systems Engineering



**BOOKWRITING PROPOSALS RECEIVED**  
**IN FALL THE SEMESTER OF 2010-11 UNDER REVIEW**

Project code	Title	PI Department	Investigators
BWP10101	Proceedings of the Eighth International Workshop on Agglutinated Foraminifera	Earth Sciences	Dr. Michael A. Kaminski, Earth Sciences  Prof. Sorin Filipescu, Earth Sciences
BWP10102	Computer-aided Laboratory Manual for General Physics II	Physics	Dr. Dr Shankar Kunwar, Physics Dr. Saleem Rao, Physics Dr. AbudlAziz Al-Jalal, Physics
BWP10103	Ranked Set Sampling	Department of Mathematics & Statistics	Dr. Hassen A. Mutlak

**SABBATICAL LEAVE RESEARCH PROPOSALS RECEIVED**  
**IN THE FALL SEMESTER OF 2010-11 UNDER REVIEW**

Project code	Title	PI Department	Investigators
SL101001	Modulation Of Surface-Plasmon-Polaritons Propagation In Optical Nanostructures	Electrical Engineering	Dr. Mohammad A Alsunaidi, Electrical Engineering  SABBATICAL INSTITUTE: KAUST, JEDDAH, Starting from February 2011
SL101002	Non-Isothermal Performance of Bubble Column Reactors	Chemical Engineering	Dr. Abdullah A. Shaikh, Chemical Engineering
SL101003	Robust State Estimation and Monitoring of Power System Networks	Electrical Engineering	Dr. Ibrahim Omar Habiballah, Electrical Engineering



**6. SABIC AND FAST TRACK PROPOSALS RECEIVED FOR FUNDING DURING  
THE FALL SEMESTER OF 2010-2011 FOR FUNDING**

Project code	Title	PI Department	Investigators
SF101001	A Printed Circular Antenna Array for Vehicular Direction Finding Systems	Electrical Engineering	Dr. Mohammad S. Sharawi, Electrical Engineering Prof. Daniel N. Aloï, Electrical Engineering
SF101002	Uniform Stability in Systems of Thermoelasticity with Second Sound	Mathematical Science	Dr. Salim Messaoudi, Mathematical Science Prof. Reinhard Racke, Mathematical Science
SF101003	Highly Charged Ion Induced Nano-Sized Surface Nanostructures	Physics	Dr. Ayman Sherif El-Said Abdo, Physics Dr. Saleh. I. Al-Quraishi, Physics
SF101004	Stabilization of Wave Equations and Timoshenko Systems by Viscoelastic Dampings	Mathematical Science	Dr. Salim Messaoudi, Mathematical Science Dr. Muhammad Islam Mustafa, Mathematical Science
SF101005	Testing Hypotheses and Interval Estimation for Replicated Ranked Set Samples	Mathematical Science	Dr. Hassen Muttlak, Mathematical Science Dr. Jaafat AlMutawa, Management
SF101006	An Approach Towards Integrated Campus Sustainability: Evaluation of the Current Campus Environmental Management Practices	City & Regional Planning	Dr. Habib M. Alshuwaikhat, City & Regional Planning Dr. JAYPRAKASH CHADCHAN, City & Regional Planning
SF101007	Minimal Matrix Representations of Five-Dimensional Lie Algebras	Mathematical Science	Dr. Ryad Ghanam, Mathematical Science

Project code	Title	PI Department	Investigators
SF101008	A Robust and Scalable Process to Select Features for High Dimensional Gene Expression Data	Information and Computer Science	Dr Md Rafiul Hassan, Information and Computer Science Dr. Adel F Ahmed, Information and Computer Science
SF101009	Conservation Laws for Geodesic Equations of the Canonical Connection between Lie Groups in Dimensions Two and Three.	Mathematical Science	Dr. Ryad Ghanam, Mathematical Science Prof. Ahmad Y. Al-Dweik, Mathematical Science
SF101010	Sedimentology and Diagenesis of Tertiary Burqan Sandstone in the Midyan Area, Saudi Arabia, Implications for Subsurface Reservoir Quality.	Earth Sciences	Dr. Khalid Al-Ramadan, Earth Sciences Prof. Ahmet Dogan, Earth Sciences Dr. Muhittin Senalp, Accounting
SF101011	Delay Equations Driven by Rough Paths - a Historic Frame Path aApproach	Mathematical Science	Dr. Michael Caruana, Mathematical Science
SF101012	Risk Assessment Framework for Assessing Impacts of Oil Pollution in the Arabian Gulf	Civil Engineering	Dr. Shakhawat Chowdhury, Civil Engineering Dr. Mohammed S. Al-Suwaiyan, Civil Engineering Dr. Mohammed H. Essa, Civil Engineering
SF101013	The Splitting of Vector Bundles on Higher Dimensional Varieties	Mathematical Science	Dr. Parsa Bakhtary, Mathematical Science Prof. Mihai Halic, Mathematical Science

Project code	Title	PI Department	Investigators
SF101014	Jointly Optimized Multiuser MIMO Systems	Electrical Engineering	Dr. Wessam Mesbah, Electrical Engineering Dr. Ali Hussein Muqaibel, Electrical Engineering
SF101015	Investigation into Laser Treatment of Zirconia Surfaces	Mechanical Engineering	Dr. Bekir Sami Yilbas, Mechanical Engineering Prof. Allan Matthews, Mechanical Engineering Prof. S. Sohail Akhtar, Mechanical Engineering
SF101016	Closed-loop Approach for Identification and PID Controller Tuning for Refinery and Petrochemical Industries	Chemical Engineering	Dr.mohammad Shamsuzzoha, Chemical Engineering Dr. Abdallah Al-Shammari, Chemical Engineering
SF101017	Exact Ray Tracing Coordinates for Through the Walls Propagation Applications to Pulse Propagation	Electrical Engineering	Dr. Essam E. Hassan, Electrical Engineering Prof. Hassan Ali Ragheb, Electrical Engineering
SF101018	Assessment of Pure Alanine for In Vivo Dosimetry in Radiation Therapy	Physics	Dr. Anan M. Al-Karmi, Physics Dr. Wamied Abdel-Rahman, Physics
SF101019	Holomorphic Sturm-Liouville Systems	Mathematical Science	Dr. Mihai Halic, Mathematical Science Prof. Hassan Azad, Mathematical Science
SF101020	Residual Stress Prediction for Spiral Welded Pipes	Mechanical Engineering	Dr. Yagoub Al-Nassar, Mechanical Engineering Prof. Abul Fazal M. Arif, Mechanical Engineering Dr. M. Sulaman Pashah, Mechanical Engineering Mr. M. Anis, Mechanical Engineering

Project code	Title	PI Department	Investigators
SF101021	Effect of Composite Fin Profile on Thermal-Structural Performance of Heat Sinks	Mechanical Engineering	Dr. Prof. Abul Fazal M. Arif, Mechanical Engineering Prof. Syed M. Zubair, Mechanical Engineering Dr. M. Sulaman Pashah, Mechanical Engineering Dr. M. Inam, Mechanical Engineering
SF101022	Development of High Pressure and High Temperature Fiber Optic Sensors	Electrical Engineering	Dr. Dr Khurram Karim Qureshi, Electrical Engineering
SF101023	Microtremor Assessment as a Tool for Hydrocarbon Exploration	Earth Sciences	Dr. Aldo Vesnaver, Earth Sciences Dr. SanLinn I. Kaka, Earth Sciences Dr. Elio Poggiagliolmi, Earth Sciences
SF101024	Development of an Appropriate Protocol for Sustainable Management of Drilling Wastes Using the Analytical Hierarchy Process (AHP)	Petroleum Engineering	Dr. M. Enamul Hossain, Petroleum Engineering Dr. Abu Nasser Khondaker, Research Institute Dr. Abdulaziz A. Al-Majed, Petroleum Engineering Dr. Syed Masiur Rahman, Civil Engineering
SF101025	Planar Motion axes XY Design & Interface for High Speed Micro-Machining Platform.	Mechanical Engineering	Dr. Samir Mekid, Mechanical Engineering
SF101026	Early High Availability Requirement Modeling and Analysis Using User Requirement Notation (URN)	Information and Computer Science	Dr. Jameleddine Hassine, Information and Computer Science
SF101027	Flame-Pressure Interactions Using Implicit Solvers	Mathematical Science	Dr. Nadeem Malik, Mathematical Science

Project code	Title	PI Department	Investigators
SF101028	Formal Modeling and Analysis of Malicious Attacks against the TOR (Onion Routing) Protocol	Information and Computer Science	Dr. Sami Zhioua, Information and Computer Science Dr. Zubair Baig, Computer Engineering
SF101029	Numerical Investigation of Heat Transfer Characteristics of Photovoltaic Panels with Cooling	Mechanical Engineering	Dr. Haitham Bahaidarah, Mechanical Engineering Prof. Gandhidasan, Mechanical Engineering Mr. Hasan Baig, Research Institute
SF101030	A Structured Bayesian Approach for Block Sparsity Recovery	Electrical Engineering	Dr. Tareq Y. Al-Naffouri, Electrical Engineering Mr. Ahmed Abdul Quadeer, Electrical Engineering
SF101031	Pliocene to Pleistocene Benthic Foraminifera from IODP Expedition 323 Cores in the Southern Bering Sea: The role of Sea-level Change, Oxygenation, and Productivity	Earth Sciences	Dr. Michael Kaminski, Earth Sciences Dr. Severyn Kender, Earth Sciences
SF101032	Turbulent Diffusion using Kinematic Simulations	Mathematical Science	Dr. Nadeem Malik, Mathematical Science
SF101033	Computer-Aided Modeling and Flow Simulation of Self-Compacting Concrete	Civil Engineering	Dr. M. H. Baluch, Civil Engineering, Dr. M. K. Rahman, Centre of Engineering Research Dr. A. H. Al-Gadhib, Civil Engineering and Dr. M. A. Shazali, Civil Engineering

Project code	Title	PI Department	Investigators
SF101034	Seismic Evaluation of Multi-storey Structures for Moderate Seismic Regions Using Pushover Analysis	Civil Engineering	Dr. M.H.Baluch, Civil Engineering, Dr. M. K. Rahman, Centre of Engineering Research Dr. A. H. Al-Gadhib, Civil Engineering Dr. H. J. Al-Gahtani, Civil Engineering Dr. Alper Ilki, Civil Engineering
SF101035	Efficient Adaptive Sampling for Mapping of Environment Fields Using a Robotic Sensor Network	Systems Engineering	Dr. Muhammad Faizan Mysorewala, Systems Engineering and Dr. Lahouari Cheded, Systems Engineering
SF101036	A Protocol for Selective Reductive Amination of Aldehydes with Primary Amines	Chemistry	Dr. Musa M. Musa, Chemistry Dr. Amer El-Batta, Chemistry
SF101037	Development of Novel (Ultrafine) Nanosized Mixed Molybdenum Metal Oxides Based Catalysts for Partial Oxidation of Toluene to Benzaldehyde	Research Institute	Dr. Nabil Othman Al-Yassir, Research Institute Dr. Abdullah Mohamed Aitani, Research Institute



**7. LIST OF RESEARCH GROUP PROPOSALS SUBMITTED FOR FUNDING  
DURING THE FALL SEMESTER OF THE ACADEMIC YEAR 2010-2011**

Project code	Title	Research Group	PI and Department	Investigators
CRG101001	Retrofitting of Exterior Beam-Column Joints in Reinforced Concrete Buildings	Concrete Research group	Prof. M.H. Baluch, Civil Engineering	Dr. Muhammad Kalimur Rahman, Centre of Engineering Research Dr. Ali H. Al-Gadhib, Civil Engineering Dr. Alper Ilki, Civil Engineering
DCRG101001	DECENTRALIZED NETWORKED CONTROL SYSTEMS (DNCS)	Distributed Control Research Group	Prof. Magdi S. Mahmoud Systems Engineering	Dr. Abdul-Wahed Saif, Systems Engineering. Dr. Marwan Abo-Amara, COE Prof. Mostafa ElShafei, SE
DCRG101002	DISTRIBUTED CONTROL OVER WIRELESS NETWORKS	Distributed Control Research Group	Dr. Abdul-Wahid A. Saif Systems Engineering	Dr. Uthman Baroudi, COE Prof. Magdi S. Mahmoud, SE Dr. Marwan Abo-Amara, COE Prof. Mostafa ElShafei, SE
ISRG101001	Design of Pattern Recognition Systems for Multimode Biometric Authentication	Intelligent Systems Research Group	Dr. Zubair Ahmed Baig Computer Engineering	Dr. El-Sayed El-Alfy, ICS Prof. Radwan AbdelAal, COE

Project code	Title	Research Group	PI and Department	Investigators
LRG101001	Synthesis and Characterization of Novel Nanocomposite Materials Based on Poly(styrene-co-methyl Methacrylate) or Poly(styrene-co-ethyl Methacrylate) Copolymers and Organomodified Clay	Laser Research Group	Dr. Mohammad Nahid Siddiqui, Chemistry	Prof. Halim Hamid Redhwi, Chemical Engineering Prof. Mohammad Ashraf Gondal, Physics Dr. Dimitris S. Achilias, Chemistry
LRG101002	Effect of Laser Irradiation on the Structure and Valence States of Transition Metal Ions in Phosphate, Tellurite and Borate Glasses	Laser Research Group	Prof. G. D. Khattak, Physics	Prof. M. A. Gondal, Physics Dr. M. S. Kariapper, Physics
RCRG101001	Theoretical Research on Scaling of Reservoir Properties. Pt. 1. Data-driven Upscaling to Improve Conventional and Fractured Carbonate Reservoir Performance Predictions	Reservoir Characterization Research Group	Dr. Arun Kumar T.A, Petroleum Engineering	Dr. Enamul Hossain, Petroleum Engineering Dr. Abee Awotunde, Petroleum Engineering

Project code	Title	Research Group	PI and Department	Investigators
RCRG101002	Characterization and Prediction of Reservoir Heterogeneity and Quality Using Outcrop Analogs for the Palaeozoic Glacial and Fluvial Reservoirs, Saudi Arabia	Reservoir Characterization Research Group	Dr. Osman Abdullatif, Earth Sciences Department	Dr. Mohammad H. Makkawi, ES Prof. Ahmet Umran Dogan, ES Dr. Gabor Korvin, ES Prof. Khalid Al Ramadan, ES Prof. Sadoon Morad, ES
RCRG101003	Reservoir Characterization by Active and Passive Seismic Integration	Reservoir Characterization Research Group	Dr. Aldo Vesnaver, Earth Sciences	Dr. Sanlinn I. Kaka, ES Dr. Abdullatif Al-Shuhail, ES Dr. Giulio Vignoli, ES Dr. Giovanni Menanno, ES Prof. José Carcione, ES
RCRG101004	Theoretical Research on Reservoir Petrophysics. Pt. 1. Theoretical Scaling Laws for a Fractal Model of Fractured Reservoir Rock	Reservoir Characterization Research Group	Dr. Gabor Korvin, Earth Sciences Department	Prof. Bernard Zinszner, ES
TPG101001	J-Matrix Method of Scattering for Potentials with Inverse Square Singularity	Theoretical Physics Research Group	Dr. Bahlouli, Physics Department	Prof. Abdelmonem, Physics Prof. Nasser, Petroleum Engineering Prof. Alhaidari, Physics
TPG101002	Transport of Dirac Fermions in Graphene Systems	Theoretical Physics Research Group	Dr. Bahlouli, Physics Department	

Project code	Title	Research Group	PI and Department	Investigators
TPG101003	Stability, Dynamics, and Applications of two- and multi-soliton molecules	Theoretical Physics Research Group	Dr. Saeed Al-Marzoug, Physics Department	Prof. Saeed Al-Amoudi, Physics Dr. Bahlouli, Physics Prof. Ahmed Bouketir, Math
WRG101001	Management of Water Resources for Sustainable Development of the Kingdom of Saudi Arabia	Water Research Group	Dr. Shakhawat Chowdhury, Civil Engineering	Dr. Muhammad Abdallah Al-Zahrani, Civil Engineering Prof. Tahir Husain, Accounts

## **8. PUBLICATIONS IN REFEREED JOURNALS REPORTED AFTER JULY 2010**

### **College of Engineering Sciences**

#### **Civil Engineering**

1. "Use of Cement Kiln Dust in Blended Cement Concrete," **Maslehuddin, M., Al-Amoudi, O.S.B., Rehman, M.K., Shameem, M. and Ibrahim, M.**, Proceedings of the Institution of Civil Engineers (ICE), Construction Materials Journal, Vol. 163, Issue CM3, August 2010, pp. 149-156.
2. "Experimental & Computational Modeling of Low Cycle Fatigue Damage of CFRP Strengthened Reinforced Concrete Beams," **Khan, A.R., Al-Gadhib A. H. and Baluch M.H.**, International Journal of Damage Mechanics, 2010.
3. "Controlling Groundwater Pollution from Petroleum Products Leaks," **Al-Suwaiyan, M.S.**, Environmental Toxicology III, eds. V. Popov and C.A. Brebbia, WIT Transactions on Ecology and the Environment, Vol 132, WIT press: Southampton, pp 91-99, 2010.
4. "Modeling DBPs Formation in Drinking Water in Residential Plumbing Pipes and Hot Water Tanks," **Chowdhury S., Rodriguez MJ. Sadiq R. and Serodes J.**, Water Research 45(1): 337-347, 2010.
5. "Model Development for Predicting Changes in Dbps Exposure Concentrations During Indoor Handling of Tap Water," **Chowdhury S., Rodriguez M. and Serodes J.**, Sci. of the Total Environment 408(20): 4733-4743, 2010.
6. "Adsorption of Lead, Ethylenediaminetetraacetic Acid and Lead-Ethylenediaminetetraacetic Acid Complex Onto Granular Activated Carbon," **Vohra, M.S.**, Int. J. Environ. Sci. Tech., 7 (4), p. 687-696, 2010.
7. "Adsorption and Stabilization of Phenol by Modified Local Clay," **Belarbi, H and Al-Malack, M. H.**, Accepted in the International Journal of Environmental Research, 2010.
8. "Effect of Coarse Aggregate Type on the Performance of Concrete," **Shamsad A. and Alghamdi, Saeid A.** Accepted for publication in The Arabian Journal for Science and Engineering, 2010.
9. "Non-Destructive Analysis of Concrete for Corrosion Using Nuclear Technique," **Naqvi, A.A., Nagadi, M.M., Garwan, M., Al-Amoudi, O.S.B., Maslehuddin, M., Khateeb-ur-Rehman and Raashid, M.**, Atoms for Peace, an International Journal, Vol. 3, No. 2, 2010, pp. 65-83.
10. "Effect of Silica Fume Addition on the PGNAA Measurement of Chlorine in Concrete," **Naqvi, A.A., Maslehuddin, M., Garwan, M.A., Nagadi, M.M., Al-Amoudi, O.S.B., Raashid, M., and Khateeb-ur-Rehman**, Journal of Applied Radiation and Isotopes, Vol. 68, 2010, pp. 412-417.

11. "Use of Cement Kiln Dust in Blended Cement Concrete," **Maslehuddin, M., Al-Amoudi, O.S.B., Rehman, M.K., Shameem, M. and Ibrahim, M.** Proceedings of the Institution of Civil Engineers (ICE), Construction Materials Journal, Vol. 163, Issue CM3, 2010, pp. 149-156.
12. "Chemical Stabilization of a Saudi Calcareous Marl Soil," **Al-Amoudi, O.S.B., Khan, K., and Al-Kahtani, N.S.,** Construction and Building Materials, 2010, in press.
13. "Performance of Blended Cement Concretes Prepared with Constant Workability," **Al-Amoudi, O.S.B., Maslehuddin, M., Ibrahim, M., Shameem, M. and Al-Mehthel, M.H.,** Cement and Concrete Composites, in press.
14. "Sensitivity Enhancement at 594.8 nm Atomic Transition of Cl for Chloride Detection in Reinforced Concrete using LIBS," **Gondal, M.A., Dstageer, M., Maslehuddin, M., Al-Nehmi, A.J. and Al-Amoudi, O.S.B.,** Journal of Environmental Science and Health, Part A, 2010, in press.
15. "Estimation of Minimum Detectable Concentration of Chlorine in the Blast Furnace Slag Cement Concrete," **Naqvi, A.A., Maslehuddin, M., Garwan, M.A., Nagadi, M.M., Al-Amoudi, O.S.B., Khateeb-ur-Rehman, and Raashid, M.,** Journal of Nuclear Instruments and Methods in Physics Research B, Vol. 269, 2010, in press.

#### Chemical Engineering

1. "Pyrolysis of Mixed Plastics for the Recovery of Useful Products", **M. Siddiqui and H. Redhwi,** Fuel Processing Technology, 90, 545-552, 2009.
2. "Hydrolytic Depolymerization of PET in a Microwave Reactor", **M. Siddiqui, D. Achilias, H. Redhwi, D. Bikiaris, KA Katsogiannis, and G. Karayannidis,** Macromolecular Material and Engineering, 295, 575-584, 2010.
3. "Glycolytic Depolymerization of PET Waste in a Microwave Reactor", **D. Achilias, H. Redhwi, M. Siddiqui, A. Nikolaidis, D. Bikiaris, and G. Karayannidis,** Journal of Applied Polymer Science, Vol. 118, 3066-3073, 2010.
4. "The setpoint overshoot method: A simple and fast closed-loop approach for PID tuning", **M. Shamsuzzoha and Sigurd Skogestad,** Journal of Process Control 20 (2010) 1220-1234.

#### Electrical Engineering

1. "Pole Placement Approach for Robust Optimum Design of PSS and TCSC-Based Stabilizers Using Reinforcement Learning Automata", **M. Kashki, M. A. Abido, and Y.L. Abdel-Magid,** Journal of Electrical Engineering, Vol. 91, No. 7, DOI 10.1007/s00202-010-0147-5, 2010, pp. 383-494.
2. "Optimal Power Flow using Differential Evolution Algorithm", **A. A. Abou EL Ela, M. A. Abido, and S. R. Spea,** Electric Power Systems Research, Vol. 80, No. 7, July 2010, pp. 878-885.

3. "Precedence-preserving GAs operators for scheduling problems with activities' start times encoding", **M. A. Abido** and **Ashraf Elazouni**, Journal of Computing in Civil Engineering, Vol. 24, Issue 4, July 2010, pp. 345-356.
4. "Multiobjective Particle Swarm Optimization With Nondominated Local and Global Sets", **M. A. Abido**, Journal of Natural Computation, A Special Issue on Swarm Intelligence, Vol. 9, No. 3, September 2010, pp. 747-766.
5. "Designing Integrated Guidance Law for Aerodynamic Missiles by a Hybrid Multi-Objective Evolutionary Algorithm and Tabu Search", **Hanafy M. Omar** and **M. A. Abido**, Journal of Aerospace Science and Technology, Vol. 14, No. 5, 2010, pp. 356-363.
6. "Differential Evolution Algorithm for Emission Constrained Economic Power Dispatch Problem", **A. A. Abou EL Ela**, **M. A. Abido**, and **S. R. Spea**, Electric Power Systems Research, Vol. 80, No. 10, October 2010, pp. 1286-1292.
7. "Oscillation Damping Enhancement via Coordinated Design of PSS and FACTS-Based Stabilizers in a Multimachine Power System", **M. A. Abido** and **Saleh M. Bamasak**, International Journal of Swarm Intelligence Research (IJSIR), Vol. 1, No. 3, 2010, pp. 1-18.
8. "Performance of a Grid-Connected Wind-generation System with a Robust Susceptance Controller", **A.H.M.A. Rahim** and **E.P. Nowicki**, Electric Power Systems Research, Vol. 81, 2011, pp. 149-157.
9. "Mobile Localization under Non-Line-of-Sight Propagation using Scatterer Information", **M. Zhaounia**, **M.A. Landolsi**, **R. Bouallegue**, Springer Journal of Wireless Information Networks, 17:1-10, DOI 10.1007/s10776-010-0117-x.
10. "A Platform for LDPC Code Design and Performance Evaluation," **E. AlGhonaim**, **A. El-Maleh**, **M.A. Landolsi**, and **S. Sait**, Arabian Journal of Science & Engineering, Vol. 35, No. 2B, Oct 2010, pp.135-152.
11. "Experimental approach for robust identification of RF power amplifier behavioural models using polynomial structures", **S. Saied-Bouajina**, **O. Hammi**, **M. Jaidane-Saidane**, and **F. M. Ghannouchi**, IET Microwaves, Antennas and Propagation, Vol. 4, Issue: 11, 2010, pp. 1818-1828.
12. "Metrics and methods for benchmarking of RF transmitter behavioural models with application to the development of a novel hybrid memory polynomial model", **O. Hammi**, **M. Younes**, and **F. M. Ghannouchi**, IEEE Trans. Broadcast., Vol. 56, Issue: 3, 2010, pp. 350-357.
13. "Tuneable polarization maintaining fiber Bragg grating based OSNR monitor", **K. K. Qureshi**, **J. Zhao**, **C. Lu**, **H. Y. Tam**, and **P.K.A. Wai**, Optical Fiber Technology, Vol. 16, 2010, pp. 222-224.
14. "Signed frequency offset measurement for direct detection DPSK system with a chromatic dispersion offset," **J. Zhao**, **A. P. T. Lau**, **K. K. Qureshi**, **C. Lu**, **X.R. Ma**, **H.Y. Tam**, and **P.K.A. Wai**, Optics Express, Vol. 18, no. 23, 2010, pp. 23829-28836.

15. "A new 555-timer based phase-to-voltage converter", **M.T. Abuelma'atti** and **Husam Al-Shammari**, Electronics World, Vol. 116, Issue #1894, October 2010, p. 43.
16. "Identification of a class of two CFOA-based RC oscillators", **M.T. Abuelma'atti**, Analog Integrated Circuits and Signal Processing, Vol. 65, 2010, pp. 419-428.
17. "Design and Implementation of Embedded Printed Antenna Arrays in Small UAV Wing Structures", **M. S. Sharawi**, **D. N. Aloï**, and **O. A. Rawashdeh**, IEEE Transactions on Antennas and Propagation, Vol. 58, No. 8, August 2010, pp. 2531-2538.
18. "Dual Element Monopole Antennas Embedded in Small UAV Wing Structures with Beam-Steering Capabilities", **M. S. Sharawi**, Journal on Electromagnetic Waves and Applications (JEMWA), Vol. 24, No. 11-12, August 2010, pp. 1633- 1645.
19. "Convergence Analysis of a Mixed Controlled I2-Ip Adaptive Algorithm", **A. Zidouri**, EURASIP Journal on Advances in Signal Processing, Vol. 2010, Article ID 893809, 10 pages, 2010. doi:10.1155/2010/893809.
20. "On Multiple Typeface Arabic Script Recognition", **A. Zidouri**, Research Journal of Applied Sciences, Engineering and Technology, Maxwell Science Publication, Volume 2, Issue 5, pp; 428-435, 2010.
21. "Exact Performance analysis of the NLMS algorithm for colored circular Gaussian inputs", **T. Y. Al-Naffouri** and **M. Moinuddin**, IEEE Trans. on Signal Processing, vol. 58, no. 10, pp. 5080-5090, October 2010.
22. "Opportunistic Random Beamforming with Optimal Precoding for Spatially Correlated Channels", **T. Y. Al-Naffouri**, IEEE Communications Letters, no. 11, November 2010.
23. "Design of Simple CVTL Bandstop Filter", E. E. Hassan, **Sheikh S. Iqbal**, **Y. F. Al-Sharif**, Microwave and Optical Technology Letters (MOTL), December (2010), Doi:10.1002/mop.25749.
24. "A Microwave Technique for Detecting Water Deposits in Air Flow Pipelines", **Sheikh S. Iqbal** et al, Applied Computational Electromagnetic Society (ACES) Journal, July (2010), Vol. 25, No.7, pp. 647-651.
25. "Analogue/Digital Ferrite Phase Shifter for Phased Array Antennas", **Sheikh S. Iqbal** et al. IEEE-Antennas and Wireless Propagation Letters (AWPL), (2010), Vol. 9, pp. 319-321.

#### Mechanical Engineering Department

1. "Parametric Analysis of Entropy Generation due to Laminar Developing Mixed Convection between Differentially Heated Isothermal Vertical Parallel Plates", **Mokheimer, E. M. A.**, International Journal of Heat and Fluid Flow, Vol. 20 No (8), 2010, 941 – 971.



2. "Heat Transfer Enhancement and Pressure Drop Reduction due to Mixed Convection between Two Vertical Parallel Plates", **Mokheimer, E. M. A., S. Samivullah and B. S. Yilbas**, International Journal of Heat and Fluid Flow, Vol. 20 No (8), 2010, 867-896.
3. "Feasibility of using Ground-Coupled condensers in A/C systems", **Said, S. A. M., Habib, M. A., Mokheimer, E. M. A.**, GEOTHERMICS Vol. 39, No. 2, 2010, pp. 201-204.
4. "Power Law Correlation for Two Phase Pressure Drop of Gas/Liquid Flows in Horizontal Pipelines", **Al-Sarkhi, A. and Sarica, C.**, SPE Projects, Facilities & Construction Vol. 5, No. 4, SPE 138516-PA, pp. 176-182, Dec., 2010.
5. "Drag Reduction with Polymers in Gas-Liquid/Liquid-Liquid Flows in Pipes: A Literature Review," **Al-Sarkhi, A.**, Journal of Natural Gas Science and Engineering 2, pp. 41-48, 2010.
6. "E.M. Prediction of Slug Frequency for High-Viscosity Oils in Horizontal Pipes", **Gokal, B., Al-Sarkhi, A.S., Sarica, C., and Al-Safran.**, SPE Projects Facilities & Construction 5 (3): 136-144. SPE-124057-PA. (2010).
7. "Laser Surface Treatment of Inconel 718 Alloy: Temperature and Stress Analysis", **Yilbas B.S., Akhtar S., and C. Karatas**, Optics and Lasers in Engineering, Vol. 48, n 7-8, pp. 740-749, 2010.
8. "Nitriding of Aluminum Extrusion Die: Effect of Die Geometry", **Akhtar S. S., Arif A. F. M., Yilbas B.S.**, Journal of Materials Engineering and Performance, Vol. 19, n 3, pp. 401-412, 2010.
9. "Influence of Surface Preparation for Gas-Nitrided AISI H13 Steels used in Extrusion Dies", **Akhtar S. S., Arif A. F. M., Yilbas B.S., Sheikh, A.K.**, Journal of Materials Engineering and Performance, Vol. 19, n 3, pp. 347-355, 2010.
10. "Laser cutting of Rectangular Blanks in Thick Sheet Steel: Effect of Cutting Speed on Thermal Stresses", **Yilbas B.S., Arif A.F.M. and Abdul Aleem B.J.**, Journal of Materials Engineering and Performance, Vol. 19, n 2, pp. 177-184, 2010.
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12. "Evaluation of Gas Nitriding Process with In-process Variation of Nitriding Potential for AISI H13 Tool Steel", **Akhtar S.S., Arif A.F.M., Yilbas B.S.**, International Journal of Advanced Manufacturing Technology, Vol. 47, n 5-8, pp. 687-698, 2010.
13. "Laser Pulse Heating and Phase Change Process: Comparison of Volumetric Heat Source and Surface Heat Source", **Shuja S.Z., Yilbas B.S., Ayar Z.**, Proceedings of the IMechE, Part C, Journal of Mechanical Engineering Science, Vol. 224, No. 8, pp. 1697-1706, 2010.
14. "Laser Welding of Dissimilar Metals and Efficiency Analysis", **Sahin A.Z., Ayar T., and Yilbas B.S.**, Lasers in Engineering, Vol. 19, No. 3-4, pp. 139-152, 2010.

15. "Analytical Solution for Temperature Distribution in a Coated Solid Substrate: an Effective Boundary Condition Approach", **Al-Qahtani H.** and **Yilbas B.S.**, Lasers in Engineering, Vol. 19, No. 3-4, pp. 239-253, 2010.
16. "Short Pulse Heating of Silicon Film with the Presence of Metallic Substrate", **S.B. Mansour** and **B.S. Yilbas**, Current Applied Physics, Vol. 10, No. 5, pp. 1243-1248, 2010.
17. "Analytical Solution for Electron and Lattice Temperatures due to Laser Induced Non-Equilibrium Energy Transport in Gold and Copper", **Al-Theeb H.M.** and **Yilbas B.S.**, Canadian Journal of Physics, Vol. 88, No.7, pp. 479-491, 2010.
18. "Laser Gas-Assisted Nitriding of Steel: Residual Stress", **Yilbas B.S.**, **Arif A.F.M.**, **Karatas C.**, **Abdul Aleem B.J.**, **Tabet N.**, Industrial Lubrication and Tribology, Vol. 62, n 4, pp. 214-223, 2010.
19. "Laser Welding: the First and Second Law Analysis", **Sahin A.Z.**, **Ayar T.**, **Yilbas B.S.**, International Journal of Exergy, Vol. 7 (5), pp. 535-546, 2010.
20. "The Closed Form Solutions for Cattaneo and Stress Equations due to Step Input Pulse Heating", **Al-Qahtani H.** and **Yilbas B.S.**, Physica B, Vol. 405, No. 18, pp. 3869-3874, 2010.
21. "Laser Nitriding of Tool Steel: Thermal Stress Analysis", **Yilbas B.S.**, **Arif A.F.M.**, **Karatas C.**, **Akhtar S.** and **Abdul Aleem B.J.**, International Journal of Advanced Manufacturing Technology, Vol. 49 (9-12), pp. 1009-1018, 2010.
22. "Effect of Process Variables on Gas Nitriding of H13 Tool Steel with Controlled Nitriding Potential", **Arif A.F.M.**, **Akhtar S.** and **Yilbas B.S.**, International Journal of Surface Science and Engineering, Vol. 4, No.4/5/6, pp. 396 - 415, 2010.
23. "Laser Cutting of 7050 Alloy Reinforced with Al<sub>2</sub>O<sub>3</sub> and B<sub>4</sub>C Composites", **Yilbas B.S.**, **Khan S.**, **Raza K.**, **Keles O.**, **Ubeyli M.**, **Demir T.**, **Karakas M. S.**, International Journal of Advanced Manufacturing Technology, Vol. 50 (1-4), pp. 185-193, 2010.
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29. "On Exergy Calculations of Seawater with Applications in Desalination Systems", **M.H. Sharqawy, J.H. Lienhard V, S.M. Zubair**, International Journal of Thermal Science, 50, 187 – 196, 2011
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35. "Numerical Investigation of Thermal and Physical Characteristics of circulating Flow in Boiler Risers using a nonlinear dynamic model", **M. A. Habib, H. E. Emara-Shabaik and I. Al-Zaharnah**, Computational Thermal Sciences, 2(1), 1–17, Volume 2, Number 1, 2010.
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18. “Multiobjective evolutionary finance-based scheduling: the entire projects' portfolio”, **M. A. Abido** and **Ashraf Elazouni**, proceedings of the International Conference on Computing in Civil and Building Engineering (ICCCBE), Nottingham, UK, June 30 - July 2, 2010.
19. “Optimal autonomous control of an inverter-based microgrid using particle swarm optimization”, **M.A. Hassan** and **M.A. Abido**, proceedings of the IEEE International Symposium on Industrial Electronics (ISIE-2010), Bari, Italy, pp. 2247-2252, July 4 – 7, 2010.
20. “Supercapacitor-Based Energy Storage System for Effective Fault Ride Through of Wind Generation System”, **Ahsanul Alam**, **A. Rahim**, and **M. A. Abido**, proceedings of the IEEE International Symposium on Industrial Electronics (ISIE-2010), Bari, Italy, pp. 2481-2486, July 4 – 7, 2010.
21. “Evaluation of Voltage Stability Indices (VSI) Using Genetic Algorithm,” **M. Al-Hajri** and **M. A. Abido**, *Proceedings of the IEEE Energycon*, Manama, Bahrain, December 18-22, 2010.
22. “Multi-objective Differential Evolution Algorithm For Environmental-Economic Power Dispatch Problem”, **S. Spea**, **A. A. Abou El-Ela**, and **M. A. Abido**, proceedings of the IEEE Energycon, Manama, Bahrain, December 18-22, 2010.
23. “Study of Solar Energy for PV Implementation in Saudi Arabia”, **Rakibul Hassan Sagor** and **M. A. Abido**, proceedings of the IEEE Energycon, Manama, Bahrain, December 18-22, 2010.
24. “Application of Phasor Measurement Units (PMUs) for Fault Location in SEC-EOA Interconnected Network”, **A.H. Al-Mohammed**, **M.M. Mansour**, and **M.A. Abido**, proceedings of the IEEE Energycon, Manama, Bahrain, December 18-22, 2010.
25. “Supercapacitor Based Energy Storage System for Effective Fault Ride Through of Wind Generation System”, **M. Ahsanul Alam**, **A.H.M.A. Rahim**, **M. A. Abido**, IEEE Int. Symposium on Industrial Electronics (ISIE-2010), Bari, Italy, July 2010.
26. “Integration of Induction Generator Dynamics in Multimachine System Transient Analysis”, **A.H.M.A. Rahim**, **E.P. Nowicki**, International Simulation Multiconference, Proc. SCSC 2010, pp. 9-16, Ottawa, July 2010.



27. "Voltage Stability Control of a Wind Generation System", **A.H.M.A. Rahim, M.AhsanulAlam,** et al, IEEE International Energy Conference (ENERGYCON2010), Bahrain, Dec. 2010.
28. "Evaluation of Damping Controls of A Unified Power Flow Controller", **M. Al-Ghazwi, A.H.M.A. Rahim** and **I. M. El-Amin**, IEEE International Energy Conference (ENERGYCON2010), Bahrain, Dec. 2010.
29. "Noise Constrained Diffusion Least Mean Squares Over Adaptive Networks", **M.O. Bin Saeed, A. Zerguine,** and **S.A. Zummo**, PIMRC – 2010, pp. 288-292, Istanbul, Turkey, September 26-29, 2010.
30. "A Reduced Complexity Chip-Level SOR-SIC Multiuser Detector for Long-Code CDMA Systems", **A. Bentrchia, A. Zerguine,** and **M. Benyoucef**, International Conference on Signal Processing and Communication Systems (ICSPCS 2010), Gold Coast, Australia, December 13-15, 2010.
31. "Exact tracking analysis of the NLMS algorithm for circular complex correlated Gaussian inputs", **M. Moinussin, T. Y. Al-Naffouri** and **M. S. Sohail**, proceedings of the IEEE Int. Symposium on Signal Processing and Information Technology (ISSPIT), Luxor, Egypt, December 2010.
32. "Data-aided DOA estimation of single source with time-variant Rayleigh amplitudes", **H. Abeida** and **T.Y. Al-Naffouri**, European Signal Processing Conference (EUSIPCO), Denmark, August 2010.
33. "Multilayer Unequal Microstrip Power Divider", **Sheikh S. Iqbal,** et al., Proceedings of 2010 IEEE International Symposium on Antennas and Propagation (APS), ISSN 1522-3965, Toronto, Canada July (2010), pp 1-4.
34. "Aperture-Coupled Phased Array with Novel Phase Shifter", **Sheikh S. Iqbal,** et al., Proceedings of Progress in Electromagnetic Research Symposium (PIERS'10), July (2010), Cambridge USA, pp 346.
35. "Aperture-Coupled Multilayer Microstrip Power Divider", **Sheikh S. Iqbal,** et al., Proceedings of Progress in Electromagnetic Research Symposium (PIERS '10), July (2010), Cambridge USA, pp 443.

#### Mechanical Engineering Department

1. "Entropy Generation Due To Mixed Convection Between Vertical Parallel Plates Under Isoflux/Isothermal Boundary Conditions", **Mokheimer, E.M.A.,** HEFAT2010, 7<sup>th</sup> International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, 19-21 July 2010, Antalya, Turkey
2. "Liquid Entrainment in Annular Gas/Liquid Flow in Inclined Pipes", **K.L. Magrini, C. Sarica, A. Al-Sarkhi,** SPE, and H.-Q. Zhang, 2010 SPE Annual Technical Conference and Exhibition held in Florence, Tuscany, Italy, 20-22 September, 2010, SPE paper # 134765

3. "Entropy Generation Rate in Forced Convection Flow about Inclined Surfaces in a Porous Medium", **Tashtoush, B** and **Yilbas, B.S.**, ASME/JSME 8th Thermal Engineering Joint Conference, Honolulu, Hawaii, March 13-17, 2011.
4. "Heat Transfer Enhancement in Microchannel Flow: Presence of Microparticles in a Fluid", **Alquaity A.B.S.**, **Al-Dini1 S.A.**, **N. Wang E.N.**, **Shuja S.Z.**, **Yilbas B.S.**, **Suabedissen K.J.**, Proceedings of ASME 2010 3rd Joint US-European Fluids Engineering Summer Meeting and 8th International Conference on Nanochannels, Microchannels, and Minichannels, August 1-5, 2010, Montreal, Canada..
5. "Design and Testing of Large Fog Collectors for Water Harvesting in Asir Region, Kingdom of Saudi Arabia", **Abualhamayel, H.I.** and **Gandhidasan, P.**, 5<sup>th</sup> International Conference on Fog, Fog Collection and Dew, Munster, Germany, 25-30 July 2010, pp. 116-119.
6. "Significance of Blend Ratios of h-LLDPE and LDPE on the Tear Properties of Blown Films" **K. Mezghani; S. Furquan; R. Ben-Mansour**, 26th annual meeting of the Polymer Processing Society (PPS-26), July 4-8, 2010, Banff, Canada.
7. "Formulation of Seawater Flow Exergy Using Accurate Thermodynamic Data", **M.H. Sharqawy, J.H. Lienhard V** and **S.M. Zubair**, Proceedings of International Mechanical Engineering Congress and Exposition IMECE-2010, Vancouver, British Columbia, Canada, November 12-18, 2010.
8. "On Thermal Performance of Seawater Cooling Towers", **M.H. Sharqawy, J.H. Lienhard V**, and **S.M. Zubair**, Proceedings of ASME International Heat Transfer Conference IHTC14, Washington, DC, USA, August 8-13, 2010.
9. "A Study on Thermal Stresses in Thick-Walled Cylinders Subjected to a Periodic Moving Heat Source", **I.T. Alzaharnah**, Accepted for presentation in the International Conference on Advances in Materials & Processing Technologies – AMPT2010 - Paris, France, Oct. 24-27, 2010.
10. "Optimization of the Swing Rate of Steam Generation Units Using Genetic Algorithm", **Moustafa Elshafei, Mohamed A. Habib, Iyad. Al-Zaharnah**, Proceedings of the 12<sup>th</sup> IASTED International Conference Control and Applications (CA 2010), July 15-17, 2010, Banff, Alberta, Canada. 357-363.
11. Transport across sub-nanometer zeolite pores for water desalination", **T. Humplik, T. Laoui, E.N. Wang**, 8<sup>th</sup> ASME International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM2010), Montreal, Canada, August 2010, pp.1-5.
12. "Optimizing Microporous Ceramic Substrate as a Support for Nanostructured Multilayered Membranes for Water Treatment" **T. Laoui, F. Patel** and **M.A. Baig**, Abstract in 3<sup>rd</sup> Oxford Water and Membranes Research Event/Conference, Oxford, UK, September 2010, p. 1.

13. “Vapor-trapping Membrane for Reverse Osmosis”, **Jongho Lee, Sean O’Hern, Rohit Karnik, Tahar Laoui**, Proceedings of the ASME 2010 International Mechanical Engineering Congress & Exposition, IMECE2010, Vancouver, British Columbia, Canada, November 2010, pp. 1-5. Won the **Grand Prize in the Best Poster Competition** at the 2010 ASME society-wide Micro/Nano Technology Forum.
14. “Nanostructured membranes for water desalination”, **Tahar Laoui, Syed Fida Hassan, Rohit Karnik, Evelyn Wang, Khalid Al-Hooshani, Faizur Rahman, Muataz Ali Atieh, Thomas Humplik, Jongho Lee, Batya Fellman, Sean O’Hern, Mirza Aqeel Baig, and Faheemuddin Patel**, Proceedings of the 7<sup>th</sup> International Membrane Science & Technology Conference/6<sup>th</sup> Conference of the Aseanian Membrane Society (AMS6/IMSTEC10), Sydney, Australia, November 2010, pp. 1-8.
15. “Processing of alumina substrate for nanostructured multilayered ceramic filter”, **T. Laoui, F. Patel and M.A. Baig**, Proceedings of the 7<sup>th</sup> International Membrane Science & Technology Conference/6<sup>th</sup> Conference of the Aseanian Membrane Society (AMS6/IMSTEC10), Sydney, Australia, November 2010, pp. 1-8.

#### Petroleum Engineering Department

1. “The Real Challenges in Reservoir Simulation”, **Hossain, M.E.** (2010), presented at 2<sup>nd</sup> Saudi Meeting on Oil and Natural Gas Exploration and Production Technologies (OGEP 2010), paper ID: OGEP 2010-076, December 18 – 20, 2010, King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia.
2. “Evaluation of Drilling Designs for Smart MRC Wells Applied in Saudi Aramco”, **Al-Amri, K.M., Al-Majed, A.A., Doklah, M.A., and Al-Marhoun, M.A.**, presented at the 2<sup>nd</sup> Saudi Meeting on Oil and Natural Gas Exploration and Production Technologies (OGEP 2010), December 18 – 20, 2010, 2010, King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia.
3. “Uncertainly Analysis of Archie’s Parameters Determination Techniques in Carbonate Reservoirs”, **Hamada, G.M., Al-Majed, A.A., Okasha, T.M. and Al-Gathe, A.A.**, presented at the 2<sup>nd</sup> Saudi Meeting on Oil and Natural Gas Exploration and Production Technologies (OGEP 2010), December 18 – 20, 2010, 2010, King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia.
4. “Different Features of GIS and their Applications for Petroleum Industry Practices”, **Hossain M.E., and Rahman, S.M.** (2010). Conducted at the 2<sup>nd</sup> Saudi Meeting on Oil and Gas Exploration and Production Technologies (OGEP – 2010), KFUPM, Dhahran, Saudi Arabia.

#### Aerospace Engineering Department

1. Efficient Neural Network Modeling for Flight Dynamics Equations”, **Ayman Kassem**, Proceedings of the 2010 International Conference on Modeling, Simulation & Visualization Methods, MSV 2010, Las Vegas, Nevada, USA, July 13-16, (2010).

**College of Sciences****Chemistry Department**

1. "Asymmetric synthesis of phenyl-ring-containing alcohols using Prelog and anti-Prelog Thermoanaerobacter ethanolicus secondary alcohol dehydrogenase mutants", **Musa, M.M., Philips, R.S.**, Abstract of papers, 11<sup>th</sup> Eurasia Conference on Chemical Science. Dead Sea, Jordan, (October 6-10, 2010).
2. "Rate Accelerated Wittig Reactions Using Water as a Medium and Employing Stabilized Ylides and Aldehydes," **Bergdahl, M., El-Batta, A., Jiang, C., Cooksy, A.L.**, 240<sup>th</sup> Annual American Chemical Society National Meeting, Boston, USA, August 22-26, 2010.
3. "Ultrafine GDC Electrolyte Slurries for Intermediate Temperatures Microtubular SOFC Applications", **M.H. Zahir**, Proceeding, 20th Annual Saudi-Japan Symposium (Dec. 5-6, 2010), Catalysts in Petroleum Refining & Petrochemicals, Dhahran, Saudi Arabia.
4. "The effect of electrode microstructure on the performance of SOFCs", **T. Suzuki, M.H. Zahir, Y. Funahashi, T. Yamaguchi, Y. Fujishiro and M. Awano**, 22nd Fall Meeting of The Ceramic Society of Japan, Tokyo, Japan, 2010.

**Earth Sciences Department**

1. "Application of Artificial Neural Network for Reservoir Characterization, Case Study from Oil Field in South Algeria". M. Sitouah, **G. Korvin, A. Al-Shuhail, O. Abdullatif**, OGEP2010, KFUPM, Dhahran, December 18-20, 2010.
2. "Two-way Academia-Industry Collaboration to Enhance KFUPM Student Learning Experience", **A.A. Al-Shuhail**, OGEP2010, KFUPM, Dhahran, December 18-20, 2010.
3. "Recent advances and current plans in Europe about CO<sub>2</sub> geological storage". **A. Vesnaver** and S. Persoglia. OGEP2010, KFUPM, Dhahran, December 18-20, 2010.
4. "Sandstone Reservoir Porosity-Permeability Prediction from Petrographic Data using Artificial Neural Network, A Case Study from Wajid Sandstone, Saudi Arabia", **A. Adetunji, O. Abdullatif, and M. Sitouah**, OGEP2010, KFUPM, Dhahran, December 18-20, 2010.
5. "Integrated Diagenesis and Sequence Stratigraphic Study of Tidal Sandstones: the Adedia Formation (Cambro-Ordovician), Sinai, Egypt" **K. Al-Ramadan**, Geo2010, Bahrain.
6. "Environmental Management of Drilling Fluid Wastes: An Overview". **B. Tawabini**. The 3<sup>rd</sup> Joint SQU-JCCP Environmental Symposium. Sultan Qabous University, Oman. 19-21 Dec. 2010.

7. "Quantitative aspects of medical mineralogy: Erionite series minerals" **A.U. Dogan**, International Conference on Medical Geology & Short Courses, Ankara, Turkey, July 10-11, 2010.
8. "Quantitative aspects of zeolite group minerals: Clinoptilolite to erionite" **A.U. Dogan** and **M. Dogan**, Invited presentation, Zeolite 2010 – 8<sup>th</sup> International Conference of the Occurrence, Properties, and Utilization of Natural Zeolites, Sofia, Bulgaria, 10-18 July, 2010.
9. "Erionite exposure in North Dakota is comparable to that found in Turkish villages which experience a high incidence of mesothelioma" **M. Carbone, Y.I. Baris, P. Bertino, B. Brass, A.U. Dogan, S. Emri, G. Gaudino, M. Gultekin, S. Jube, S. Kanodia, J. Locky, C.R. Partridge, C. Rinaudo, Z. Rivera, P.H. Ryan, M.A. Sens, I. Steele, M. Tuncer, S. Way, H. Yang, and A. Miller**, 2010 Meeting on Thoracic Oncology in Chicago, USA.
10. "Comprehensive review of Pleistocene to Recent volcanics of Italy using classical geochemical-petrological discriminant diagrams" **A.U. Dogan, M. Dogan, A. Tibaldi, I.H. Kuleci, Z. Dogruel, O. Unsal, and Y.Y. Senyurt**, ILP's Second Potsdam Conference, Potsdam, Germany, October 6-8, 2010.
11. "Comprehensive review of Pleistocene volcanics of Italy using classical geochemical-petrological discriminant diagrams" **M. Dogan, A.U. Dogan, A. Tibaldi, F.I. Yesilyurt-Yenice, S.S. Ozbay, and M. Akkus**, ILP's Second Potsdam Conference, Potsdam, Germany, October 6-8, 2010.
12. "Chemostratigraphy concept as applied to some volcanostratigraphic units at Cappadocia, Central Anatolia, Turkey" **A.U. Dogan, M. Dogan, and D. Peate**, ILP's Second Potsdam Conference, Potsdam, Germany, October 6-8, 2010.
13. "Chemostratigraphy as applied to some volcanostratigraphic units at Ihlara valley, Central Anatolia, Turkey" **M. Dogan, A.U. Dogan, and T. Balic-Zunic**, ILP's Second Potsdam Conference, Potsdam, Germany, October 6-8, 2010.
14. "Environmental Management of Drilling Fluid Wastes: An Overview". **B. Tawabini**. The 3<sup>rd</sup> Joint SQU-JCCP Environmental Symposium. Sultan Qabous University, Oman. 19-21 Dec. 2010.

#### Department of Mathematics & Statistics

1. "Sufficiency and duality in nondifferentiable multiobjective programming under generalized dI univexity," **Ahmad, I., and Al-Homidan, S.,** International Conference on Computational and Mathematical Methods in Science and Engineering, Almeria, Spain, (June 22-28, 2010).
2. Attended Siam Conference on "Nonlinear Waves and Coherent Structures", **Bokhari, A.H.,** Philadelphia, Pennsylvania, USA, (August 15-19, 2010).
3. Presented poster on "Lie point symmetries and Wave Equations on Manifolds" **Bokhari, A.H.,** Siam Conference on Nonlinear Waves and Coherent Structures, (August 15-19, 2010).

4. "Stochastic differential equation and their graphs applications" **Boubaker, S.**, 34 Conference on stochastic processes and their application, Osaka, Japan, (September 6-10, 2010).
5. "Application of the generalized Feynman graphs to SPDE's driven by Lévy noise", **Boubaker, S.**, Satellite Summer school In Braunschweig-Germany, (July 22-24, 2010).
6. "Summability of the solution of the generalized KPZ equation", **Boubaker, S.**, 6th International Conference on Lévy Processes: Theory and Application, Dresden-Germany, (July 26-30, 2010).
7. "73rd Annual Meeting of the Institute of Mathematical Statistics", **Caruana, M.**, The conference was held at the Chalmers University of Technology, Gothenburg, Sweden. (August 9–13, 2010).
8. "About the Rigidity of Curves on K3 Surfaces", **Halic, M.**, Center de Recerca Matematica, Barcelona, Spain, (June 28- July 3, 2010).
9. "Three Ways to the Probability of Selection of a Ball in Sampling Without Replacement", **Joarder, A.H.**, Department of Mathematics, Khulna University, Bangladesh, (10 July 2010).
10. "Distribution of Sum, Product and Ratio of Correlated Chi-Square Variables" **Joarder, A.H.**, Department of Statistics, Jahangir Nagar University, Bangladesh, (July 12, 2010).
11. "Weak convergence of Ishikawa iterates for nonexpansive maps", **Khan, A.R.**, International Conference of Applied and Engineering Mathematics, Imperial College, London (1 July, 2010).
12. "Weak and strong convergence of an iteration process in convex metric spaces", **Khan, A.R.**, 11-th International Conference on p-adic Functional Analysis, Université Blaise Pascal, Clermont-Ferrand, France, (6 Jul, 2010).
13. "Convergence of implicit iterates without fast rate of convergence condition", **Khan, A.R.**, Summer Conference in Mathematics, Lahore University of Management Sciences, Lahore, Pakistan, (27 Jul, 2010).
14. Characterizations of Weaker Forms of Fuzzy Alpha-Continuous and Fuzzy Alpha-Open Functions in Fuzzy Topological Spaces", and "Fuzzy Supra Alpha-Functions" **Latif, R.M.**, ICMS 2010, International Conference on Mathematical Sciences, Bolu, Turkey, (November 23-27, 2010).
15. "General decay of solutions of thermoelasticity with second sound and viscoelastic boundary conditions", **Messaoudi, S.A.**, Putra World Trade Centre, Kuala Lumpur, Malaysia, (November 30 - December 2, 2010).
16. "A generalized Erdos-Turan-Koksma inequality and its applications", **Niederreiter, H.**, Workshop on Uniform Distribution Theory, Strobl (Austria), (July 4-9 2010).

17. "The discrepancy of hybrid sequences", **Niederreiter, H.**, International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing, Warsaw (Poland), (August 15-20, 2010).
18. "Well-posedness for an abstract second order fractional differential equation, Dynamic Days Europe", **Tatar, N-e.**, University of Bristol, United Kingdom, (September 6-10, 2010).
19. "Preconditioned Krylov Subspaces Methods for Incompressible Viscous Flow," **Fairag, F.** and **Tawfiq, H.**, 10th ICFD Conference on Numerical Methods for Fluid Dynamics, University of Reading, U.K. (2010).
20. "On a Nonlinear Tumor Monitoring Model", **Zaman, F.D.**, LUMS summer conference, Lahore, Pakistan, (July, 2010).
21. "On a mathematical model of brain tumor", **Zaman, F.D.**, Fourth International Conference On "Recent Developments in Fluid Mechanics" Fluid Dynamics Group, Islamabad, Pakistan, (August 03-05, 2010).
22. "Motivating Bilingual Arab University Students to Learn Mathematics Through Grouping and Academic Advising", **Yushau, B.**, **Omar, M.H.**, **Al-Attas, H.S.**, and **Al-Absi, B.I.**, 45<sup>th</sup> National Meeting of Korean Society of Mathematical Education, Gyeongju, South Korea, pp. 43-57, October 2010.

#### Physics Department

1. 'Synthesis of Nanostructured Oxides and their Applications in Photocatalysis and Gas Sensing ', **N. Tabet**, Saudi International Nanotechnology Conference 2010", Riyadh, 29-30 November 2010.
2. "Fractal Dimension in Amorphous Silicon Thin Films", **Sebastián Castro-Galnares**, **N. Tabet**, **M. Bertoni**, **A.A. Abdallah**, **S.A. Said**, **T. Buonassisi**, 25th European Photovoltaic Solar Energy Conference and Exhibition (25th EU PVSEC) / 5th World Conference on Photovoltaic Energy Conversion (WCPEC-5), 6-10 Sept. 2010, Valencia, Spain.
3. "Growth of Zinc Oxide Nanostructures via Thermal Oxidation of DC-Sputtered Zinc films" **A. Abdallah**, **N. Tabet**, **M. Dastageer** and **S.Said**, International Workshop on "Beam Injection Assessment of Microstructure in Semiconductors (BIAMS)", 4-8 July 2010, Halle, Germany.
4. "AFM Study of the Microstructure of Amorphous Silicon PECVD Thin Films" **N. Tabet**, **S. Castro-Galnares**, **T. Buonassisi**, **A.A. Abdallah** and **S.A. Said**, International Workshop on "Beam Injection Assessment of Microstructure in Semiconductors (BIAMS)", 4-8 July 2010, Halle, Germany.
5. "Magnetic Properties of Human Erythrocytes", **A.M. Al-Karmi**, 6th World Congress of Biomechanics, 1-6 August 2010, Singapore, IFMBE Proceedings, C.T. Lim and J.C.H. Goh (eds.), **31(2)** (2010), pp. 458-460.

6. "Indoor Radon in Saudi Arabia", **M.I. Al-Jarallah**, 6<sup>th</sup> Conference on Protection Against Radon at Home and at Work, Prague, Czech Republic, Sep. 13-17, 30110.
7. "Dielectric study and ac conductivity of iron sodium silicate glasses", **F. Salman** and **A. Mekki**, presented at the 11<sup>th</sup> International Conference on Non-Crystalline Materials, Paris, France 28 June-2 July 2010.
8. "Determination of Chloride Content at 594.85 nm in Concrete for Corrosion Control Using LIBS", **M.A. Gondal**, **A. Dastageer**, **M. Maslehuddin**, **A.J. Alnehmi**, **O. S. B. AL-Amoudi**, Sixth International Conference on Laser-Induced Breakdown Spectroscopy 2010 (LIBS 2010) Memphis (September 13-17, 2010) Tennessee, USA.
9. "Laser-Induced Photo-Catalytic Removal of Chromium Using ZnO Semiconductor Catalyst", **M. A. Gondal**, **M. Qamar**, **Z.H. Yamani**, International Conference on Environmental Quality and Health, Galway (27th June-2nd July, 2010) Ireland.
10. "Comparative study of nano and micro ZnO in Antimicrobial activity using Laser-induced photo-catalytic Process", **M.A. Gondal**, **A. Khalil**, **A. Dastageer** and **Z.H. Yamani**, International Conference on Environmental Quality and Health, Galway (27th June- 2nd July, 2010) Ireland.
11. "Photocatalytic Degradation Of Health-Hazardous MTBE in Water", **M.N. Siddiqui**, **M.A. Gondal**, International Conference on Environmental Quality and Health, Galway (27th June- 2nd July, 2010) Ireland.
12. "Determination of Hazardous Trace Metals in Mixed Plastics Waste", **Siddiqui, M. N.** and **Gondal, M. A.** and **Nasr, M.M.**, 3rd International Conference For Young Chemists 2010 (ICYC2010), Penang, Malaysia, June 23-25,2010.
13. "Laser Desulfurization of Crude Oil (Hydrocarbon Fuel)", The 8th International Conference and Exhibition on Chemistry in Industry, **M.A. Gondal**, **J. Pola** and **M.N. Siddiqui**, Manama (October 18 - 20, 2010) Bahrain.
14. "Laser-Based Techniques for Preparation of Nanostructured Materials", **M.A. Gondal**, **Q.A. Drmosh**, **Z. H. Yamani** and **T.A. Saleh**, The 8th International Conference and Exhibition on Chemistry in Industry, Manama (October 18 - 20, 2010) Bahrain.
15. "Latest trends in waste water treatment using laser (key note speech)", **M.A. Gondal**, The 8th International Conference and Exhibition on Chemistry in Industry, Manama (October 18 - 20, 2010) Bahrain.
16. "Removal of Phenol From Waste Water Using Different Types of Semiconducting Catalysts", **Z. Seddigi** and **M. A. Gondal**, Third International Syrian Chemical Conference, Aleppo (27-29 - October 2010) Syria.
17. "Synthesis of Nano-ZnO<sub>2</sub> Using Pulsed Laser Ablation Technique and its Application in Cyanide Sensing", **M.A. Gondal**, **Tawfik A. Saleh**, **Q.A. Drmosh** and **Z.H. Yamani**, Fifth Saudi Physical Society Annual Meeting, October 25-27, 2010, Abha, Saudi-Arabia.



18. "Preparation of nanostructured metal oxides and their activity in disinfection of water using laser-induced photo-catalysis", **M. A. Gondal, M. A. Dastageer, A. Khalil and Z.H. Yamani**, Fifth Saudi Physical Society Annual Meeting, October 25-27, 2010, Abha, Saudi Arabia.
19. "Observation of Spectral Red Shift in the Ag 2+ Doped Cd2+S Quantum Dots", **M.A. Gondal, A.Bagabas and M.A. Dastageer**, Fifth Saudi Physical Society Annual Meeting, October 25-27, 2010, Abha, Saudi-Arabia.
20. "A fast geodesic active contour model for medical images segmentation using prior analysis" **Al Sharif, S.M.S.; Deriche, M.; Maalej, N**, 2nd International Conference on Image Processing Theory, Tools and Applications (IPTA 2010), Paris France, 5 pp., Published: 2010.

### **College of Computer Science and Engineering**

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

1. "Identification of Question and Non-Question Segments in Arabic Monologue Based on Prosodic Features Using Type-2 Fuzzy Logic Systems", **Olatunji, S.O., Cheded, L. and Al-Khatib, W.G.**, In Proceedings of the Second International Conference on Computational Intelligence, Modeling and Simulation, 2010, pp. 149-153.
2. "Printed Arabic Text Database (PATDB) for Research and Benchmarking", **Amin G. Al-Hashim and Sabri A. Mahmoud**, Proceedings of the 9th WSEAS International Conference on Applications of Computer Engineering (ACE'10), 2010, pp. 62-68.
3. "Recognition of Handwritten Arabic (Indian) Numerals Using Freeman's Chain Codes and Abductive Network Classifiers", **Isah Abdullah Lawal, Radwan Abdel-Aal and Sabri Mahmoud**, the 20th International Conference on Pattern Recognition, pp. 1884-1887, 23 - 26 August, 2010, Istanbul, Turkey.
4. "Arabic Handwritten Alphanumeric Character Recognition using Fuzzy Attributed Turning Functions", **Mohammad Tanvir Parvez and Sabri A Mahmoud**, The 1<sup>st</sup> International Workshop on Frontiers in Arabic Handwriting Recognition, pp. 9-14, Istanbul, Turkey, 22nd August 2010.
5. "Writer Identification of Arabic Handwritten Digits", **Sameh Owaidah and Sabri Mahmoud**, the 1st International Workshop on Frontiers in Arabic Handwriting Recognition, pp. 21-26, Istanbul, Turkey, 22nd August 2010.
6. "Extending the UML Metamodel for Sequence Diagram to Enhance Model Traceability", **Misbhauddin, M. and M. Alshayeb** The Fifth International Conference on Software Engineering Advances, ICSEA 2010, August 22-27, 2010 - Nice, France.
7. "A Geometric View of Mutual Information: Application to Anonymity Protocols", **Zhioua, Sami**. In proceedings of the 2010 International Symposium on Information Theory and its Applications (ISITA 2010). pp 60-65. October, 2010.

8. "Intelligent Agent for Information Extraction from Arabic Text without Machine Translation", CEUR, **Tarek Helmy, Abdirahman Daud**, Vol. 687, November 2010.
9. "Towards Designing Application Specific Trust Treated Model", **Farag Azzedin and Sajjad Mahmood** In Proceedings of the 3rd International Conference on Network Security and Applications, pp. 548 - 557, Springer Press, 2010.
10. "Developing Precise Misuse Cases with Security Robustness Analysis", **El-Attar, M.**, 22nd International Conference on Software Engineering & Knowledge Engineering (SEKE'2010), Redwood City, San Francisco Bay, CA, USA, July 1 - July 3, 2010.
11. "Exploring the Relationships between Design Metrics and Package Understandability: A Case Study," **Mahmoud Elish**, Proceedings of the 18th IEEE International Conference on Program Comprehension, pp. 144-147, 2010.
12. "Extending the UML Metamodel for Sequence Diagram to Enhance Model Traceability", **Misbhauddin, M. and M. Alshayeb**, The Fifth International Conference on Software Engineering Advances, ICSEA 2010, August 22-27, 2010 - Nice, France.
13. "A Hierarchical Group Method of Data Handling Polynomial Neural Network for Handwritten Numeral Recognition," **El-Alfy, E.-S. M.**, Proceedings of the IEEE/INNS International Joint Conference on Neural Networks (IJCNN 2010), Barcelona, Spain, July 18-23, 2010. Available at <http://ieeexplore.ieee.org/>
14. "A Bio-Inspired Image Encryption Algorithm Based on Chaotic Maps," **Al-Utaibi, K. and El-Alfy, E.-S. M.**, Proceedings of the IEEE Congress on Evolutionary Computation (CEC 2010), Barcelona, Spain, July 18-23, 2010. Available at <http://ieeexplore.ieee.org/>

#### Computer Engineering Department

1. Generalized Algorithms For Binary Modulo Multiplication And Multiplication-Division," **Alaeldin Amin**, Journal of Circuits, Systems, and Computers, Vol.19, No.8, pp. 1797-1815, December 2010.
2. "High-Radix Multiplier-Dividers: Theory, Design, and Hardware," **Alaeldin Amin, and M. W. Shinwari**, the IEEE Transaction on Computers, Vol.59, No.8, pp. 1009-1022, August 2010.
3. "Self-Adaptive Routing for Ambient-Oriented Wireless Sensor Networks," **Khaled Daabaj, Tarek Sheltami, Hussein Mouftah**, to appear The International Conference on Ambient Systems, Networks and Technologies (ANT-2010), Paris, France, November 8-10, 2010.
4. "A Contention-Free Multi-Channel MAC Protocol with Improved Negotiation Efficiency for Wireless Ad-hoc Networks," **Abdallah Arafah, Feras Chikh Oughali, Tarek Sheltami, Ashraf Mahmoud, Khaled Daabaj**, to appear The International Conference on Ambient Systems, Networks and Technologies (ANT-2010), Paris, France, November 8-10, 2010.

5. "Self-Adaptive Routing for Ambient-Oriented Wireless Sensor Networks," **Khaled Daabaj, Tarek Sheltami, Hussein Mouftah**, The International Conference on Ambient Systems, Networks and Technologies (ANT-2010), Paris, France, November 8-10, 2010, pp. 42-52.
6. "Routing Prediction of Probabilistic Mobility Model Using Extreme Learning Machine for Ad-Hoc Networks," **Mohammed Rafiq Rahil, Tarek Sheltami, Lahouari Ghouti, Ashraf Mahmoud**, to appear The International Conference on Ambient Systems, Networks and Technologies (ANT-2010), Paris, France, November 8-10, 2010, pp. 165-172.
7. "A Contention-Free Multi-Channel MAC Protocol with Improved Negotiation Efficiency for Wireless Ad-hoc Networks," **Abdallah Arafah, Feras Chikh Oughali, Tarek Sheltami, Ashraf Mahmoud, Khaled Daabaj**, to appear The International Conference on Ambient Systems, Networks and Technologies (ANT-2010), Paris, France, November 8-10, 2010, pp.173-180.
8. "Detecting Misbehaving Nodes in MANETs," **Nan Kang, Elhadi Shakshuki, Tarek Sheltami**, to appear the 12th International Conference on Information Integration and Web-based Applications & Services (iiWAS2010), Paris, France, November 8-10, 2010, pp. 214-220.
9. "On the Use of Unified And-Or Fuzzy Operator for Distributed Node Exhaustion Attack Decision-making in Wireless Sensor Networks," **Khan, S. A. and Baig, Z. A.**, IEEE World Congress on Computational Intelligence, Barcelona, Spain, July, 2010.
10. "Performance Modeling and MPI Evaluation Using West mere-based Infiniband HPC Cluster" **Basem Al-Madani**, the 4th IEEE European Symposium in Mathematical Modeling and Computer Simulation, Pisa, Italy, November, 2010
11. "Security Issues in Industrial Real Time Systems", **Basem Al-Madani**, The 3<sup>rd</sup> International Conference on Computational Intelligence and Industrial Application (PACIA2010), Wuhan, China, December 4-5, 2010

#### Systems Engineering Department

1. "Coordinated Control of Waste Water Treatment Process", **Magdi S. Mahmoud**, Proceedings of the World Congress on Engineering 2010, London, UK, June 30-July 2, published by IAENG, pp. 2341-2346.
2. "Reliable Decentralized Control of Interconnected Discrete Delay Systems", **Magdi S. Mahmoud**, Proceedings of the 12<sup>th</sup> IFAC Symposium of Large-Scale Theory and Applications, Lille, France, July 12- July 14, 2010, Session of Decentralized Control and Estimation II, Paper 1340.

3. "Optimal Maintenance Scheduling for N-Vehicles with Time-Varying Reward Functions and Constrained Maintenance Decisions," **Mohammad Aldurgam** and **Moustafa Elshafei**, International Conference on Operation Research, OR2010, Munich, August, 2010.
4. "Optimization of the Swing Rate of Steam Generation Units Using Genetic Algorithm" **Moustafa Elshafei**, **Mohamed A. Habib**, **Iyad. Al-Zaharnah**, Proceedings of the IASTED Conference on Control Applications CA2010, Alberta, Canada, July, 2010.
5. "Auto-Syringe System for Chemical Applications Using Micro-Controller", **Abdul-Wahid A. Saif**, **Abdelrahman S. Shbair** and **Wael K. Zaitouni**, ICCAIE 2010 Conference, Dec. 5-7, 2010, Kuala Lumpur, Malaysia.
6. "Automatic Monitoring and Speed Violation Ticket System", **Abdul-Wahid A. Saif**, **Haytham Sammak**, **Diya Matar** and **Omar Al-Midani**, IEEE International Conference on Systems, Man, and Cybernetics: SMC 2010 10-13 October 2010, Istanbul, Turkey.
7. "H<sub>2</sub> and H<sub>00</sub> Control of Blood Gases during Extracorporeal Circulation", **Magdi S. Mahmoud**, Proceedings of the 2010 IEEE Systems, Man and Cybernetics Conference, Istanbul, Turkey, October 9-13, 2010
8. "xxx" 24<sup>th</sup> European Conference on Operational Research, **Dr. Muhammad Al-Salamah**, from July 11-14, 2010, Lisbon, Portugal.
9. "xxx" International Conference on Operations Research 2010, **Dr. Amar Khoukhi**, from September 1-3, 2010, Munich, Germany.
10. "Optimization of the Swing Rate of Steam Generation Units Using Genetic Algorithm", **Moustafa Elshafei**, **Mohamed A. Habib**, **Iyad. Al-Zaharnah**, Proceedings of the IASTED Conference on Control Applications CA2010, Alberta, Canada, July 2010.
11. "Optimal Maintenance Scheduling for N-Vehicles with Time-Varying Reward Functions and Constrained Maintenance Decisions", International Conference on Operations Research : Mastering Complexity, **Dr. Mohammad Aldurgam**, September 1-3, 2010, Munich, Germany.
12. "H<sub>2</sub> and H<sub>00</sub> Control of Blood Gases during Extracorporeal Circulation", Proc. 2010 IEEE International Conference of Systems, Man and Cybernetics, **Dr. Magdi Mahmoud**, July 9-13, 2010, Istanbul, Turkey.
13. "An Intelligent Multi-Agent System for Mobile Robots Navigation and Parking in IEEE" International Workshop on Robotics and Sensors, **Dr. Amar Khoukhi**, October 15-16, 2010, Phoenix, Arizona, USA
14. Stochastic Parameters Identification and Localization of Mobile Robots in IEEE International Workshop on Robotics and Sensors, **Dr. Amar Khoukhi**, October 15-16, 2010, Phoenix, Arizona, USA

15. "A Distributed multi-robot adaptive sampling scheme for complex field estimation, International Conference on Control, Automation, Robotics and Vision, ICARCV, 2010; **Dr. Faizan Mysorewala**, December 7-10, 2010, held in Singapore
16. 12<sup>th</sup> IASTED International Conference on Control and Applications, **Dr. Moustafa El-Shafei**, July 15-17, 2010, Banff, Canada.

### **College of Industrial Management**

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

1. "Determinants of Primary Segmental Disclosure: A Case of Malaysian Public Listed Companies", **Talha, M.** and **A. Selahuddin**, Paper presented in 22<sup>nd</sup> Asian Pacific Conference on International Accounting Issues held in Jupiter Casino Hotel on November 7 - 9, 2010, Gold Coast, Australia. The full paper has also been published in Conference Proceedings.

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

1. "Effects of Organizational Justice on job satisfaction and organization commitment in a non-Western setting", **Elamin A. M.**, The 2010 International Conference in Innovation and Management Proceedings. Penang, Malaysia (2010), July 7-10, pp 1-18.
2. "Qualitative Analysis of Participation in Decision Making (PDM) and Organizational Commitment (OC): A Saudi's Case. **Razali, M.Z.** Paper published in the Proceedings of 12<sup>th</sup> Annual International Conference of Global Business and Technology Association, South Africa, July 5-9, 2010.
3. "Barriers Towards Business Entrepreneurship: A Focus on Businesswomen in Saudi Arabia and Bahrain", **Sadi, M.A.**, held by Newcastle University, Australia and Superior University Pakistan from December 2-4, 2010.
4. "Barriers Towards Businesswomen Across the Kingdom of Saudi Arabia", **Sadi, M.A.**, 2nd South Asian International Conference of COMSAT Institute of Technology in Pakistan from July 22-24, 2010.
5. "Barriers Towards Women Entrepreneurship in Saudi Arabia: A Case of Gender Comparison" **Sadi, M.A.**, Academy of Global Business Advancement Awards International Conference in Kedah, Malaysia December 29, 2009.
6. "Franchising and Small Medium Size Enterprises (SME) in Industrializing Economies: A Saudi Arabian Perspective" **Sadi, M.A.**, International Conference of Eastern Academy of Management at Portland, Main USA, from May 12-15, 2010.
7. "Breaking Bridges Between Sciences, Engineering and Business management", **M-Said Oukil**, International Conference on the Role of Social Sciences and Humanities in Engineering, (ICoHSE), Nov. 12-14, Palau, Malaysia, 2010.

## **College of Applied and Support Studies**

### **General Studies Department**

1.      “Social Sciences in a Technical University: the Case Study of the Department of General Studies at KFUPM”. **Aldamer, S.** and **Almatrodi, D.** The 2nd International Conference on the Role of Social Sciences and Humanities in Engineering (ICoHSE), Penang, Malaysia, November 12-14, 2010.
2.      “Exploring the Role of Student Entitlement in the Classroom”. **Garris, C. P.** The International Conference on Education and Educational Psychology, Kyrenia, Cyprus. December 2-5, 2010.
3.      “High School Students’ Curriculum and the Required Skills for the 21<sup>st</sup> Century: a Comparative Research Analysis”. **Khedair, S. K.** and **Jiang, G. P.** The 17<sup>th</sup> International Conference on Learning. Hong Kong, China, July 6-9, 2010.

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

### Electrical Engineering Department

1. Iterative forward-backward Kalman filtering for data recovery in (multi-user) OFDM communications”, **T.Y. Al-Naffouri, M. S. Sohail and A. A. Quadeer**, Kalman Filter, InTech, ISBN: 978-953-307-094-0, May 2010, pp. 249-270.
2. ”Seasonal and annual lightning thunderstorms day maps for Saudi Arabia”, **M.H. Shwehdi**, Scientific Journal of Centre of Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre), New Delhi, India, 2009

### Systems Engineering Department

1. “Switched Time-Delay Systems”, **Magdi S. Mahmoud**, Springer-Verlag, Boston, July 2010. **ISBN 978-1-4419-6393-2**
2. “Decentralized Control and Filtering in Interconnected Dynamical Systems”, **Magdi S. Mahmoud**, (CRC Press Taylor and Francis Group), New York, November 2010. **ISBN 9781439838143**.
3. “Artificial Intelligence Techniques In Reservoir Characterization”, Ahmed Adeniran, **Moustafa Elshafei**, and **Gharib Hamada**, Publisher: VDM Verlag Dr. Muller Aktiengesellschaft &Co. KG, 2010

### Aerospace Engineering Department

1. “الكوكب الوضاء في الطيران والفضاء”, **A.Z. Al-Garni and W.G. Abdelrahman**, A book under publication by Obaikar Research and Development, 2010.

### Earth Sciences Department

1. "Environmental Management & Technologies" Proceedings of the First International Conference on Environmental Technology. Amman 1-3 Nov. 2010. Edited by M. Sievers, **B. Tawabini** and **M. Al-Sharif**. Al-Atheen. Amman, Jordan. ISBN: 978-9957-546-00-7, Nov. 2010.

### Department of Mathematics & Statistics

1. "Sampling Methods and Data Collection", **Muttlak, H.**, Obeikane Publisher, Riyadh, KSA, (2010).
2. "Ranked Set Sampling, Cambridge Scholars Publishing", **Muttlak, H., Ahmad, M.** and **Hanif**. Editors, UK, (2010).
3. "Hypergeometric distribution and its application in statistics", **Joarder, A.H.**, International Encyclopedia of Statistical Science, Miodrag Lovric Editor, Springer Verlag.

Physics Department

1. “Laser-Induced Photocatalytic Inactivation of Coliform Bacteria in Water Using Pd-Supported on Nano-WO<sub>3</sub> Catalyst I book entitled Scientific Bases for the Preparation of Heterogeneous Catalysts” **A. Bagabas, M. A. Gondal**, et al (: edited by E. M. Gaigneaux (edition 2010), ISBN13: 9780444536013 ISBN10: 0444536019, Elsevier.

General Studies Department

1. “Make My Day: Affective Consequences of Engaging in Aggressive Behavior for the Aggressor”. **Garris, C. P.**, and **Harris, M. J.**\_ Advances in Psychology Research, Volume 11. Nova Publisher.

Information & Computer Science Department

1. شبكات الحاسب والإنترنت، الجزء الأول: أسس د. السيد الألفي ود. رضوان عبد العال، مكتبة العبيكان 2010 ومبادئ الشبكات والإنترنت (Arabic Translated Book of: Computer Networking, 4/Edition, 2008, Kurose & Ross, ch.1-ch.; by **El-Alfy, E.-S. M., Abdel-Aal, R. E.**)
2. شبكات الحاسب والإنترنت، الجزء الثاني: مفاهيم د. السيد الألفي ود. رضوان عبد العال، مكتبة العبيكان 2010 وتقنيات متقدمة (Arabic Translated Book of: Computer Networking, 4/Edition, 2008, Kurose & Ross, ch.6-ch.9; by **El-Alfy, E.-S. M., Abdel-Aal, R. E.**)
3. “A New Information Leakage Measure for Anonymity Protocols”, **Zhioua, Sami.** Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering. Vol.50 (Security and Privacy in Communication Networks), Part 8, 2010, pp. 398-414. Springer.
4. “Personalized Web Services Selection”, **Tarek Helmy, Ahmed Al-Nazer.** Book Chapter # 7, pp. 115-133, of a book titled “Developing Advanced Web Services through P2P Computing and Autonomous Agents: Trends and Innovation”, IGI-Global, Publisher of the Information Science Reference, October 2010, ISBN 978-161520973-6.



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

### **College of Engineering**

#### **Electrical Engineering Department**

1. “Distributed Generation Integration for Optimal Operation and Improved Performance of Distribution System”, **M.H. Shwehdi**, 2009.
2. “Identifying Causes of Low Voltage Cable- Outages”, **M.H. Shwehdi**, (IN080427), 2009.
3. “Design of Active 24-GHz Microstrip linear phased array antenna for microwave sensors’, **Sheikh S. Iqbal** (PI), S. Al-Sharani and U. Johar, Final report, KFUPM funded project (IN-07-0345), December 2010.

#### **Mechanical Engineering Department**

1. US Patent filed #12/554,726 “Water separation under reduced pressure”, **M.H. Sharqawy**
2. US Patent filed #12/573,221 “Water separation under varied pressure”, **M.H. Sharqawy**

#### **Technical Reports**

1. "Exploring the effect of thickness on the crack tip plastic zone and crack initiation angles," **S. M. A. Khan** and **N. Merah**, DSR SABIC/FAST TRACK Project # SB 080020, Final Report, Dec 2010.

#### **Earth Sciences Department**

1. "Geological and Geostatistical Aquifer Characterization of Outcrop Analog of Wajid Sandstone in South West Saudi Arabia", **O. Abdullatif** and **M. Makkawi**, KACST Final Report # 25-65, 2010: 322 p.

#### **Physics Department**

##### **Patents**

1. “ X-ray tube having a rotating and linearly translating anode” Inventors: **Al-Sadah; Jihad Hassan**, Mansour; Ezzat Abbas, **Maalej; Nabil**, Number: **U.S. Patent 7,852,987**, dated: December 14, 2010.
2. “X-ray tube comprises evacuated shell having X-ray permeable window, cylindrical solid anode rotatably mounted on frame and selectively and controllably translated along longitudinal axis, and cathode selectively producing electron beam” \_**Sadah; Jihad Hassan, Mansour; Ezzat Abbas, Maalej; Nabil**, Patent Number: **US2010290595-A1**.

### Technical Reports

1. “Applications Of Nanoscale Materials (Metal Oxides) Using Laser Induced Photo-Catalytic Process” **M.A Gondal**, NSTP Project # 08-NAN93-4; Annual report submitted, September, 2010, (Sep 2009 – Jan 2012).
2. “Identifying the Causes of Saudi Arabia Low Voltage Cable Outages by Applying Explicit Measures and Laser-Induced Breakdown Spectroscopy (LIBS)”, **M.A Gondal**, IN080427, Final report submitted November, 2010, (January 2009-December 2010).
3. “Disinfection of Contaminated Water by Laser Induced Photo-catalysis Process using Semiconductor Catalysts” **M.A Gondal**, KACST Project # KAC 28-40, six monthly report submitted, August, 2010.
4. “Pulsed Laser Ablation for Synthesis of Nanostructured ZnO and ZnO<sub>2</sub>” **M.A Gondal**, Project # SB090023, Final report submitted, September 2010 .
5. “Laser Induced Breakdown Spectrometer for Trace Elemental Analysis”, **M.A. Gondal**, Project# In-080401, Semiannual report submitted, April October 2010.
6. “Removal Of Methyl Tertiary Butyl Ether (MTBE) From Water Using Laser Based Photo-Oxidation Process”, **M.A. Gondal**, Project # SB 090020, Final report submitted, December 2010.

### Information & Computer Science Department

1. “Multi-Criteria Adaptive Traffic Engineering for Differentiated Services MPLS Networks Using Evolutionary Algorithms”, **El-Alfy, E.-S. M.**, Technical Report, DSR-KFUPM, August 2010.
2. “Building Computer-Adaptive Testing via Reinforcement Learning,” **El-Alfy, E.-S. M.**, Technical Report, DSR-KFUPM, July 2010.

### Systems Engineering Department

1. “EPQ Model with Stock-Level Dependent Demand Rate and Variable Holding Cost”, **H. Alfares**, submitted to the Deanship of Scientific Research, KFUPM, on the Fulbright-sponsored research project conducted at the University of North Carolina, Charlotte, USA, October 2010.

**College of Sciences****Chemistry Department**

1. "Chemical Recycling of Model and Waste Polyethylene Terephthalate (PET) into Industrially Useful Products", **Mohammad Nahid Siddiqui** and **Halim H. Redhwi**, KACST AR-27-101, Duration: 24 Months, (March 2008-February 2010). Completed and submitted November 2010.
2. "Low temperature fuel cells operate using zirconia electrolyte", **T. Suzuki** and **Collaborators M. H. Zahir, T. Yamaguchi, Y Fujishiro' M. Awano**, AIST Today, Vol. 10, No. 6, 2010.

**Department of Mathematics & Statistics**

1. "Some Properties of Bivariate Chi-Square Distribution and Their Applications", **Omar, M. H.** and **Joarder, A. H.**, Technical Report# 414, (June 2010).
2. "Polynomial Solutions of Differential Equations", **Azad, H., Laradji, A.** and **Mustafa, M. T.** Technical Report# 415, (2010).
3. "A Note on the Jordan Canonical Form", **Azad, H.**, Technical Report# 416, (June 2010).
4. "On the Product of Two Correlated Chi-Square Variables" **Joarder, A.H.** and **Omar, M.H.**, Technical Report# 417, (June 2010).
5. "The Distribution of the Sum of Two Correlated Chi-Square Variables." **Joarder, A.H.** and **Omar, M.H.**, Technical report # 418, (December 2010).
6. "Group Sequential Methods Based on Ranked Set Samples", **Muttlak, H.A.**, and **E. Al-Sawi, E.**, Technical Report# 419, (January 2011).



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

### Mechanical Engineering Department

1. Speaker : Dr. Husain Al-Mohsen  
Topic : Designing and Manufacturing Practical Nano/Micro  
Devices using Molecular/Boltzmann Flow Simulation  
Tools  
Date : October 19, 2010
2. Speaker : Mr. Nadeem Ebrahimi  
Topic : Introduction to Wiley platform  
Date : October 24, 2010
3. Speaker : Dr. Patrice Lignuel  
Topic : Introduction to Fluid Dynamics and Applications  
Date : Nov. 17, 2010
4. Speaker : Mr. Adeel Khalid  
Topic : Degradation Mechanisms of Thermal Barrier Coatings  
Used in Land-Based Gas Turbine Blades Exposed to  
Low-Grade Fuel Impurities  
Date : Nov. 30, 2010
5. Speaker : Mr. Saad bin Mansour  
Topic : Non-Fourier Heat Conduction in Thin Dielectric Flms  
Date : Nov. 30, 2010
6. Speaker : Dr. Reinhard Radermacher  
Topic : Application Centered Research in Air-Conditioning and  
Refrigeration  
Date : Dec., 07, 2010
7. Speaker : Mr. Mirza Aqeel Baig  
Topic : Development of Gradient Multilayered Ceramic  
Membrane  
Date : Dec., 14, 2010
8. Speaker : Mr. Awad Bin Saud Al-Quaity  
Topic : Modeling of Thermal Performance of Liquid Flow with  
Nanosized Phase Change Material Particles in  
Microchannels  
Date : Dec., 14, 2010
9. Speaker : Mr. Oke Wasiu Adeyemi  
Topic : Balancing of Flexible Rotors at Low Speeds  
Date : Dec., 26, 2010

10. Speaker : Mr. Iqbal Hussain  
Topic : Performance Evaluation of Seawater Counter Flow Cooling Towers  
Date : Dec., 26, 2010
11. Speaker : Mr. Muneer Al-Qadhi  
Topic : Development and Characterization of Epoxy-clay Nanocomposites  
Date : December 26, 2010

#### Computer Engineering Department

1. Speaker : Dr. Z.A. Baig  
Topic : Protecting Intellectual Property in Hardware  
Date : December 26, 2010

#### Systems Engineering Department

1. Speaker : Mr. Masood Husain, R.A.  
Title : Estimation and Validation of Wing Flutter for an F-18 Aircraft using Identification Techniques  
Date : November 2, 2010
2. Speaker : Prof. Uday Kumar  
Lulea University of Technology, Lulea, Sweden  
Title : Maintenance Performance Management and Measurement Issues and Challenges  
Date : November 7, 2010
3. Speaker : Prof. Uday Kumar  
Title : "Maintenance Centers of Excellence at Lulea University of Technology, Lulea, Sweden"  
Date : November 8, 2010
4. Speaker : Dr. Hassan K. Khalil  
Title : "Singular Perturbation Methods in Control"  
Date : December 26, 2010
5. Speaker : Dr. Hassan K. Khalil  
Title : "High Gain Observers in Nonlinear Feedback Control"  
Date : December 27, 2010
6. Speaker : Dr. Hassan K. Khalil  
Title : "Conditional Servo/Integral Action in Nonlinear Control"  
Date : December 26, 2010
7. Speaker : Mr. Abdulrahman Sulaiman Al-Essa  
Title : Evaluating the effectiveness of methods for converting ranking into weights with application for maintenance contractor selection  
Date : October 16, 2010

8. Speaker : Mr. Muneeb Akram Akram  
Title : Process Enhancement Through Integrated Statistical and Automatic Process  
Date : 19 December 2010

#### Earth Sciences Department

1. Speaker : Dr. M. Kaminski  
Title : The Recolonization of the South China Sea by benthic foraminifera following the 1991 eruption of Mt. Pinatubo  
Date : October 05, 2010
2. Speaker : Dr. M. Hariri  
Title : e-Learning at KFUPM: when, why, and what?  
Date : November 09, 2010
3. Speaker : Dr. B. Tawabini  
Title : Environmental Impacts of Drilling Wastes Disposal in Sabkha Areas. Waste Management Middle East Forum.  
Date : December 5-6, 2010
4. Speaker : Prof. A. Vesnaver  
Title : Workshop 5: "3D tomography by active and passive seismic data"  
Date : December 21, 2010

#### Department of Mathematics & Statistics

##### Regular Seminars

1. Speaker : Dr. Muhammad A. Bokhari  
Title : New Faculty Orientation Program: A Presentation for New Faculty of the Dept.  
Date : September 26, 2010
2. Speaker : Dr. Othman Echi  
Title : The Categories of Flows in SET and TOP  
Date : Tuesday, October 5, 2010
3. Speaker : Dr. Issam Louhichi  
Title : Roots and Commutativity of Toeplitz Operators on the Bergman Space  
Date : Tuesday, October 12, 2010
4. Speaker : Mr. S. Khan and Mr. I. Salem (IT Committee)  
Title : AISYS, Webpages and Smart Classrooms  
Date : Tuesday, October 19, 2010
5. Speaker : Dr. Ryad Ghanam  
Title : Representations of Low Dimensional Lie Algebras and Applications  
Date : Tuesday, November 2, 2010

6. Speaker : Dr. Caruana Michael  
Title : An Introduction to Rough Path Theory  
Date : Tuesday, November 9, 2010
7. Speaker : Dr. Parsa Bakhtary  
Title : On the topology of isolated singularities, and the cohomology of simple normal crossings divisors on Kahler manifolds.  
Date : Tuesday, November 30, 2010
8. Speaker : Muhammad A. Bokhari  
Title : Preparation of an effective Powerpoint presentation: A presentation for KFUPM Graduate Students  
Date : December 12, 2010
9. Speaker : Dr. Mohammad El-Gebeily  
Title : Characterization of Self Adjoint Ordinary Differential Operators  
Date : Tuesday, December 14, 2010

#### **Chair Professors.**

1. Speaker : Prof. Roberto Triggiani, (Dept. Mathematics, Univ., Virginia, USA)  
Title : Inverse Problems for Single and Coupled PDEs  
Date : Tuesday, January 04, 2011
2. Speaker : Prof. Irena Lasiecka, (Univ. Virginia, Charlottesville, USA)  
Title : Nonlinear Semigroups and Attractors in 2-D Kirchhoff-Houssinesq  
Date : Sunday, January 9, 2011

#### **Adjunct Professors.**

1. Speaker : Prof. Mohamed Amine Khamsi (Texas Univ. El-Paso (USA))  
Title : On idea, Different examples, Different publications  
Date : Tuesday, December 21, 2010

#### **Visitors' Seminars**

1. Speaker : Dr. B.K. Sinha (Univ. Maryland, USA)  
Title : Statistical Meta-Analysis: Inference about a Common Mean of Several Independent Normal Populations  
Date : Tuesday, October 26, 2010
2. Speaker : Dr. B.K. Sinha (Univ. Maryland, USA)  
Title : Generalized P-values with Applications  
Date : Saturday, October 30, 2010
3. Speaker : Dr. M. Thiyagarajan  
(Professor of Computer Science in SASTRA Univ., India.)  
Title : Wavelet as Denoising Technique in Image Analysis  
Date : Tuesday, December 7, 2010



**Students Seminar**

1. Speaker : Mr. Adel Waleed Hussain Fadhl  
 Title : The Pythagorean Theorem and Its Analog in Hyperbolic Geometry  
 Date : Tuesday, October 19, 2010

**Analysis Day**

An Analysis Day was held on Tuesday, December 28, 2010 in which Distinguished Chair Professors / Adjunct Professors and visitors gave talks in their areas of specialization. The following seminars were given.

1. Speaker : Dr. Ravi Agarwal (Univ. Florida, USA)  
 Title : Singular and nonsingular boundary value problems on infinite intervals
2. Speaker : Dr. Roberto Triggiani (Univ. Virginia, USA)  
 Title : Well-Posedness and sharp uniform decay rates at the  $L^2$ -level of the Schrodinger equation with non-linear boundary dissipation
3. Speaker : Dr. Irena Lasiecka (Univ. Virginia, USA)  
 Title : Nonlinear Semigroups and Long Time Behavior of Weak Solutions in Dynamic Elasticity with Critical Exponents
4. Speaker : Dr. Abbas Bahri (Rutgers Univ., USA)  
 Title : Critical Points at Infinity in Conformal Geometry: an overview
5. Speaker : Dr. Abdul-Hamid Kara (Univ. Witwatersrand, Johannesburg)  
 Title : Symmetry structures and variational conservation laws of the wave on some 'non flat' manifolds, in particular, the Vaidya manifold
6. Speaker : Dr. M. Amine Khamsi (Univ. El-Paso, USA)  
 Title : Are Banach and Knaster-Tarski fixed point theorems related?

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

1. Speaker : Mr. M. Jarrar  
 Title : Amalgamated algebras along an ideal (1)  
 Date : Sunday, October 3, 2010
2. Speaker : Mr. M. Jarrar  
 Title : Amalgamated algebras along an ideal (2)  
 Date : Sunday, October 10, 2010
3. Speaker : Dr. J. Abuhlail  
 Title : Zariski topologies on coprime and second submodules (1)  
 Date : Sunday, October 17, 2010

4. Speaker : Dr. J. Abuihlail  
Title : Zariski topologies on coprime and second submodules (2)  
Date : Sunday, October 24, 2010
5. Speaker : Dr. Othman Echi  
Title : On reflective subcategories  
Date : Sunday, October 31, 2010
6. Speaker : Dr. A. Mimouni  
Title : The rings  $R(X)$  and  $R\langle X \rangle$  and the trace properties  
Date : Sunday, December 5, 2010
7. Speaker : Dr. Othman Echi  
Title : The envelope of a subcategory  
Date : Sunday, December 12, 2010
8. Speaker : Dr. Othman Echi  
Title : On the spectralification of a hemispectral  
Date : Sunday, December 19, 2010
9. Speaker : Mr. K. Adarbeh  
Title : Finitistic weak dimension of arithmetical rings  
Date : Sunday, December 26, 2010
10. Speaker : Dr. I. Al-Rasasi  
Title : Closure of Bhargava rings  
Date : Sunday, January 2, 2011
11. Speaker : Mr. K. Adarbeh  
Title : Bazzoni-Glaz conjecture on weak dimension of Gaussian rings  
Date : Sunday, January 23, 2010

#### **Invited Lectures / Seminars:**

1. "Describing Polynomials as Equivalent to Explicit Solutions" **Shauz, U.**, ALCOMA 2010, Thuonaa Germany, (April 2010).

#### Physics Department

1. Speaker : Dr. N. Tabet  
Topic : Solar cells: Quest for Efficiency  
Date : 4<sup>th</sup> August 2010
2. Speaker : Dr. Mohammad Gondal  
Topic : Laser-Induced Breakdown Spectroscopy and its Applications  
Date : 22<sup>nd</sup> November 2010
3. Speaker : Dr. Mohammad Gondal  
Topic : Synthesis of Nanostructural Metal Oxides like ZnO Using Pulsed Laser Ablation in Liquids  
Date : 23<sup>rd</sup> November 2010

4. Speaker : Dr. Anan Al-Karmi  
Title : Magnetic Properties of Human Red Blood Cells  
Date : Sunday, 24 October 2010
  
5. Speaker : Dr. Ahmad Mansour  
Title : Intrinsic Disorder Effects on the Vortex Structure and Persistent Current of  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  Thin Films  
Date : Sunday, 05 December 2010
  
6. Speaker : Dr. Shankar Kunwar  
Title : Scanning Tunneling Microscopy (STM) Studies of an Electron-doped High-Tc Superconductor,  $\text{Pr}_{0.88}\text{LaCe}_{0.12}\text{CuO}_{4-\delta}$  (PLCCO)  
Date : Sunday, 12 December 2010



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

#### Electrical Engineering Department

1. Speaker : Joern Hoepfner, Cem Hosgor, Tektronix GmbH  
 Topic : Real-Time Spectrum Analysis and Arbitrary Waveform Generation  
 Date : November 30, 2010
  
2. Speaker : Max Maier, Solution Manager, Synopsys Professional Services, Pietro Correlli, Executive Account Manager, MEA, Egidio Marzorati, Sales Consultant  
 Topic : Synopsys University Bundle of CAD tools  
 Date : October 25, 2010

#### Aerospace Engineering Department

1. Speaker : Dr. Wael G. Abdulrahman  
 Title : Advances in Neural Network Modeling of Aircraft Systems Reliability  
 Venue : Department of Aerospace Engineering, Cairo University  
 Date : August 5, 2010

#### Chemistry Department

1. Speaker : Dr. Jean-Pierre Korb  
 Title : Using multi-frequency NMR relaxation for probing Wettability in multimodal porous rocks  
 Date : 09 November, 2010

#### Earth Sciences Department

1. Speaker : Dr. Mohammad Al-Jarallah, Physics department  
 Title : Indoor Radon in Hail Region in Saudi Arabia  
 Date : October 19, 2010
  
2. Speaker : Dr. L.O. Babalola, Research Institute  
 Title : Late Holocene Paleoclimatic and Paleoceanographic variability in Anoxic Basins, Seymour-Belize Inlet Complex, Central Coastal Mainland, British Columbia  
 Date : December 28, 2010

Petroleum Engineering Department

1. Speaker : Mr. Alain Labastie, SPE President &  
Regional Director, SPE  
Topic : Oil & Gas Industry Outlook  
Date : 6<sup>th</sup> October 2010
2. Speaker : Dr. Raj Mehta and Dr. Gordon Moore,  
University of Calgary, USA  
Topic : An Overview of Petroleum Engineering Research at UoC  
Date : 7<sup>th</sup> November 2010

Physics Department

1. Speaker : Dr. Patrice Ligneul, Schlumberger  
Title : Introduction to Fluid Dynamics and applications  
Part I: Equations of Navier Stocks and Notion of Turbulence  
Date : Sunday, 3 October 2010
2. Speaker : Dr. W. E. (Liam) Kieser, University of Ottawa  
Title : Accelerator Mass Spectrometry  
Date : Sunday, 10 October 2010
3. Speaker : Dr. Patrice Ligneul, Schlumberger  
Title : Introduction to Fluid Dynamics and applications (Part II) Part II: Some  
examples of practical application of Fluid Mechanics  
Date : Sunday, 17 October 2010
4. Speaker : Dr. Nouredine Zettili, Jacksonville State University  
Title : Guided Inquiry in Teaching Physics  
Date : Sunday, 31 October 2010
5. Speaker : Prof. Avinash Khare, Institute of Physics, Bhuvaneswar, India  
Title : Linear Superposition for Nonlinear Equations and New Identities for  
Jacobi Elliptic Functions  
Date : Sunday, 7 November 2010
6. Speaker : Prof. K.L. Chopra, Former Director, Indian Institute of Technology,  
Kharagpur  
Title : Tailored Thin Films and Nanomaterials  
Date : Sunday 28 November 2010
7. Speaker : Prof. Ervin B. Podgorsak, Faculty of Medicine, McGill University  
Title : Medical Physics as Science and Profession  
Date : Sunday 19 Dec 2010
8. Speaker : Dr. Sabre Kais, Purdue University, USA  
Title : Quantum Information and Quantum Computation  
Date : Sunday, 26 December 2010