

DHOFAR UNIVERSITY

UNIVERSITY RESEARCH BOARD

Annual Report

2009 – 2010

September 2010

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1 Introduction

This report presents the activities performed by the University Research Board (URB) during the academic year 2009–2010. The URB activities included revision of the URB guideline and policies, evaluation of internal and external grant applications, and reviewing internal and external questionnaires distributed to students or staff of the university. A detailed description of each activity will be shown in this report. The research output and publications of DU faculty members for the academic year 2009-2010 are also listed in this report (Appendix A).

The URB consists of a chair, two faculty members from each college and a faculty member from the foundation program as shown in Table 1.

Table 1 Current URB members.

Faculty Name	College
Dr. Naser Nawayseh, Acting Chair	CE
Dr. Hocine Merabet	CAAS
Dr. Marielle Risse	CAAS
Dr. Syed Jamil	CCBA
Dr. Shanker Menon	CCBA
Dr. Thabit Mohammed	CE
Dr. Aref Wazwaz	CE
Dr. Khader Nawaz Khan	FP

2 URB Activities

2.1 URB Guidelines and policies

This year the URB revised the guidelines and policies related to short-term faculty development grants, seed grants and regular research grants. One of the reasons for the revision was to motivate faculty members to apply for external funds (e.g. from the Research Council, TRC) and to increase their publication in refereed journals. For example, application for funding from TRC has been stated as a main requirement for a successful application for a seed grant or a regular grant from the URB.

The URB has produced a checklist to help College Research Committees evaluate research grants applications before passing the applications to the URB. All application forms have been updated to accommodate the new guidelines and policies of the URB. The new application forms and the checklist can be downloaded from DU website.

2.2 Short-Term Faculty Development Grant Applications

Short-term faculty development grants cover the travel expenses for faculty members who are presenting research papers or exhibitions in local, regional, or international venues. Papers accepted for poster presentation are not funded by the URB. The amount covered is usually up to RO 975.

Nine short-term faculty development grant applications were submitted to the URB for evaluation. Eight applications were for presenting a research paper at national or international conferences and one application was for an exhibition. Five applications were funded by the URB (Table 2).

Table 2 Short-term faculty development grants for 2009-2010.

	Faculty Name	College/ Department	Conference Details	Paper Title	Amount [RO]
1	Dr. Heba Hasan	CE/ ECE	The International Conference on Electric Power and Energy Conversion Systems (EPECS'09), American University of Sharjah, Sharjah, UAE, November 10-12, 2009.	Enhancement of FACTS stability through robust adaptive control	805
2	Dr. Ramez Al-Bainy	CAAS/ Translation	2 nd International Conference on Translation: Translation in the New Millennium, University of Sharjah, UAE, 28 & 29 March, 2010	Addition and Omission in Literary Translation	538
3	Mr. Mohammed Zaidan	CE/ GDIA	3rd Annual International Conference Computer Games, Multimedia & Allied Technology (CGAT 2010), Singapore, Singapore, April 6-7, 2010	Improving the Animation of Virtual Humans (VH) by Embedding Human Emotions, Moods and Personality	975
4	Dr. Naser Nawayseh	CE/ ME	17th Congress of the European Society of Biomechanics, Edinburgh, United Kingdom, July 5-8, 2010	Power absorbed by seated people during whole-body fore-and-aft vibration	234
5	Dr. Abbas Abu Saleh	CAAS/ Social Sciences	Cultural and Historical Heritage of Mount Lebanon (Al- Shouf), Lebanon.	Al – Shouf in confrontation with Ottoman Tyranny	448
Total					3000

2.3 Seed Grant Applications

Seed Grants are intended to provide start-up funds for newly appointed faculty members. Lecturers or instructors who are newly promoted to a professorial rank are also entitled to apply for a seed grant.

Four seed grant applications were submitted to the URB for evaluation. Three of the four applications were approved by the URB (Table 3). The applicant of the rejected application was encouraged to use her department resources to carry out her study and to seek fund from her college or DU (not from URB) to present her work in an exhibition (Table 3).

Table 3 Seed Grants during 2009-2010

	Faculty Name	College	Department	Topic	Amount [RO]
1	Dr. Mounira Boudjema	CAAS	Science and Mathematics	Numerical Studies of NMR Relaxation in Porous Media	1000
2	Dr. Thabit Mohammed	CE	ECE	Applying a Neural Network for Stereo Matching	1000
3	Dr. Aref Wazwaz	CE	CHE	Optical Modeling of the Selective Coatings Made Up of Composite and Non-Composite Layers	1000
Total					3000

2.4 Applications for Funds from The Research Council (TRC)

The URB has been assigned by the Vice Chancellor and the University Council to handle applications for research support from external bodies such as The Research Council (TRC) of Oman. The Research Council accepts proposals for research grants from scholars and researchers of all academic institutions in Oman.

Five applications from different colleges were discussed by the URB and were approved for submission to TRC (Table 4). For each application, the URB prepared a set of recommendations to the applicants to improve their proposals and enhance their chance of securing a fund from TRC.

Table 4 Applications for TRC funds 2009-2010 (DU faculty members are indicated with bold letters)

	Applicant Name	College	Department	Topic
1	Dr. Farid Chaaban , Dr. Mahaad Shammis, and Dr. Heba Hassan	CE	ECE	Impacts of Socioeconomic Conditions in Setting Priorities for GHG Technology needs Assessment
2	Dr. Lakshmi Narayanan , Dr. Reem Abuiyada , and Mr. Hamid Swakroon	CAAS	Social Sciences	Education and Human Resources: Empowering Women in the South of Oman
3	Dr. Nafaa Jabeur , Nabil Sahli , and	CAAS	CS	Sensor Networks for an Enhanced and Personalized Management and

	Mohamad Badra			Use of Resources
4	Dr. Naser Nawayseh and Prof. Michael J. Griffin	CE	ME	Biodynamic Responses of Seated People Exposed to Whole-Body Vibration in a Multi-Axis Environment
5	Dr A. Wazwaz and Dr. Jaouad Salmi	CE	CHE	Multipurpose Solar Concentrated Parabolic Dish Collector for Solar Energy Conversion

2.5 Questionnaires

The URB evaluated four internal questionnaires (questionnaires submitted by a DU staff member) and three external questionnaires (questionnaires submitted by a non-DU faculty member). All internal questionnaires were approved for distribution while only two external questionnaires were approved for distribution (Table 5).

Table 5 Questionnaires Approved for Circulation in DU, 2009-2010

	Applicant Name	Institute	Topic
1	Dr. Khader Khan	DU	In defense of nonnative English speaking teachers administrators' perception.
2	Dr. Khader Khan and Mr Isamedin Ibrahim	DU	Vocabulary learning strategies
3	Dr. Marielle Risse	DU	Questionnaire for Department of Language and Translation upper level classes
4	Mr Isamedin Ibrahim	DU	Reading and writing tests and FLCAS questionnaire
5	Amin Bin Hujrah	Salalah College of Technology	A study of emotional intelligence and implication among academicians in Dhofar region
6	Mr. Suhail Al Awaed	المديرية العامة للتربية و التعليم بمحافظة ظفار	اتساق التفضيل المهني لطلاب الصف الثاني عشر في سلطنة عمان مع المتطلبات المهنية

Appendix A: DU Research and Publications (September 2009 – August 2010)

College of Arts & Applied Sciences

Department of Computer Science

Book Chapters

N. Jabeur and **N. Sahli**, "Spatial Knowledge", Scientific Data Mining and Knowledge Discovery: Principles and Foundations, Mohamed Medhat Gaber (Ed.), Springer, Chapter 7, pp: 141-172, 2010.

N. Sahli and G. Lenzini, "Trust-aware Recommender Systems for Open and Mobile Virtual Communities", Collaborative Computer Security and Trust Management, IGI Global, December, 2009.

N. Sahli and **N. Jabeur**, "Knowledge Discovery and Reasoning in Geospatial Applications", Scientific Data Mining and Knowledge Discovery: Principles and Foundations, Mohamed Medhat Gaber (Ed.), Chapter 10, pp: 151-168, 2009.

Refereed Journal Papers

M. Mekni, **N. Sahli**, B. Moulin, and H. Haddad, "Using Multi-Agent Geo-Simulation Techniques for the Detection of Risky Areas for Trains", Transactions of the Society for Modeling and Simulation International, 2010.

N. Sahli and B. Moulin, "EKEMAS, an Agent-Based Geosimulation Approach to Support Planning in the Real-World", Applied Intelligence, Vol. 31, pp: 188-209, 2009.

Activities in progress

B. Sayed, **N. Jabeur** and **N. Sahli**, "Knowledge Management Systems to Share Best Practices in an organization".

Summary: Employee turnover without capturing their knowledge is like blistering time and wealth of an organization. A constant turnover jeopardizes the organization's most valuable asset, its knowledge. Effective knowledge management system enables organizations to protect themselves from the losses experienced when employees and partners terminate their relationship with the company and also facilitates the proliferation of key ideas across organizational subunits and promotes collaboration within the organization. The idea of this paper is to design a portal prototype that is scalable and is capable of recuperating knowledge loss caused due to employee turnover. The system will foster the current and future employees to have the opportunity to professionally add to the body of knowledge, to add their ideas, to highlight and promote the most useful knowledge and in so doing, to generate new and better knowledge unique to their organization.

Research application for external fund

N. Jabeur, N. Sahli, and M. Badra, "Mobility in Wireless Sensor Network to Support Processing and Service Personalization Case study: Ocean observation and maritime navigation management" Date of application, November 2009.

Other research related activities

M. Badra and I., Hajjeh, "MTLS: Multiplexing TLS", draft-badra-hajjeh-mtls-05.txt, in progress.

Department of Education

Conference Papers

A. Elsayed, "Prisoners of silence (concept, causes, treatment proposals) ", Cultural Forum seventh province of Dhofar, Salalah, March 17-30, 2009.

A. Elsayed, "Effectiveness of activities program according to Gardner's theory in the development of academic achievement and reduce mathematics anxiety among students in Sultanate of Oman", The Ninth scientific conference of the mathematics education: Technological innovations and developing the teaching of mathematics, Ain Shams University, August 4-5, 2009.

A. Elsayed, "Proposal imagine for mathematics and science curricula in Sultanate of Oman according to the idea of integration between the subjects", Sixteenth annual conference - eighth Arab for university education development center: Arab university education and its role in the development of pre-university education, Ain Shams University, November 15-16, 2009.

A. Elsayed, "Effectiveness of a training program based on web 2.0 in development the skills of e-learning production and the trend towards e-learning among students (Mathematics and information technology) in Dhofar University" , The second international scientific conference and fifth Arab one: Education and contemporary crises , Faculty of Education, Sohag University, April 28-29, 2010.

A. Elsayed, "Principles and strategies for teaching mathematics (from theory to application) " Cairo, Alam alkotop, 2010.

A. Elsayed, "Fundamentals of educational research" Cairo, Alam alkotop, 2010.

A. Elsayed, "Models and strategies of effective teaching", Cairo, Alam alkotop, 2010.

Completed research project

B. Faour. Mapping Early Childhood Services and Programmes in Seven Arab Countries. Funded by OSI- Open Society Institute, December 2009-February, 2010.

Summary: The study covered a selected set of countries, namely Egypt, Jordan, Lebanon, Morocco, Syria, and Yemen and programmes in Palestinian camp refugees. The study reviewed the status and trends in early childhood services and programmes. The research involved using the data findings from variety of documents to conduct a SWOT analysis and as a result present a set of recommendations for advancing the field of early childhood in the Arab countries. The study found that the children from birth to age 5 in these Arab countries continue to have limited access, supply, coverage, and quality. Yet, there are initiatives and commitments from the governments and the civil society and NGOs. The study highlighted innovative programmes especially for the least disadvantaged population (namely, those who are poor, in rural areas, illiterate) and those emergency programmes for the recent Iraqi refugees.

Other research related activities

B. Faour. “Mapping Early Childhood Services and Programmes in Arab Countries: Challenges and Opportunities”, Regional Consultative Workshop on Advancing the ECCD in the Arab World, Amman, Jordan, March 22-25, 2010

Department of Languages and Translation

Books

V. Thakur, “Discourse Analysis of a Novel: Theory and Method”, Lambert Academic Publishing, USA and UK, 2010.

Book Chapters

A. Sharma, “Effects of Regional Variations on Language Learning”, Swiftly Shifting Paradigms of English Language Teaching (ELT) in India, ed. A. K. Saini, Authors Press, New Delhi, In press, 2010.

A. Sharma, "Conscientious Methods of Evaluation: Some Pedagogical Issues and Concerns", English Language Teaching: New Perspectives, ed. A. K. Saini, Atlantic Publishers and Distributors, New Delhi, In press, 2010.

V. Thakur, “From Critical Discourse Analysis to Construction and Performance of Identities in Literature”, Building Bridges: Integrating Language, Linguistics, Literature and Translation in Pedagogy and Research, Sultan Qaboos University, 2009.

Refereed Journal Papers

A. Sharma, and **M. Roy,** “Smile for Sale: A Study of Relational Truths in Shashi Tharoor’s The Five Dollar Smile”, Labyrinth: The Bi-Annual Literary Journal of Post-Modernism, Vol. 1, pp: 7-12, 2010.

A. Sharma, and **M. Roy,** “The Grammar of Conflicts in Riot”, The Indian Review of World Literature in English, Vol. 6, pp: 1-7, 2010.

Conference Papers

L. Hayajneh, "Translating English Medical Reports", the seventh annual Symposium of Translation: Technical Translation within Undergraduate Translation Programmes, Sultan Qaboos University, Muscat, Oman, April 10-12, 2010.

M. Risse, "Camels, Halwa and a Snowy Day: Linking Arab and Western Texts in the Literature Classroom", Language, Linguistics, Literature and Translation Conference, Sultan Qaboos University, Muscat, Oman, March 10-12, 2010.

A. Sharma, "Making 'skill-getting' and 'skill-using' a reality: A suggested approach", Third CELC International Symposium, National University of Singapore, Singapore, May 26-28, 2010.

V. Thakur and J. James, "Engaging the Learners in Productive Learning: Some Pedagogical Gateways", 3rd CELC International Symposium on Global Perspectives, Local Initiatives: Reflections and Practices in ELT, National University of Singapore, Singapore, May 26 – 28, 2010.

Activities in progress

M. J. Bakir, "Against the Split-CP Hypothesis: Evidence from Iraqi Arabic", in Broselow, E. and Ouali, H. eds. *Perspectives on Arabic Linguistics XXII-XXIII*. Amsterdam/ Philadelphia: John Benjamins, in press.

M. J. Bakir, "Translation of Syntactic Theory by Geoffrey Poole, Beirut": Arab Organization for Translation, in press.

M. J. Bakir, "Notes on the Verbal System of Gulf Pidgin Arabic", *Journal of Pidgin and Creole Languages*, in press.

L. Hayajneh, The Translation of Allah-referring expressions into English.

M. Risse, "The Flora and Fauna of Dhofar," an on-going research project documenting with photographs the important animals, plants and landscapes of the Dhofar region.

M. Risse, "John Clare Looks Good in a Dishdash: Linking John Clare to Middle Eastern Poetry," Paper accepted at the Modern Language Association Conference, Jan 6-9, 2011.

Other research related activities

M. Risse, "Finding Sonnets about Camels: Using Local Voices in Literature Classrooms," Essay submitted to *College English Association Critic*, March, 2010.

A. Sharma, Examination of the PhD thesis: A. Mauda, "Postmodernism and Feminism with special reference to Selected Works- Canadian Fiction", Madras University, Madras, India, 2010.

Mathematics and Sciences Unit

Book Chapters

W. Ahmed, M. J. Jackson and **I. Ul Hassan**, “Nanotechnology to Nanomanufacturing”, Emerging Nanotechnologies for Manufacturing, William Andrew Applied Science Publishers, pp: 1-15, 2009.

Refereed Journal Papers

M. Trassinelli, S. Bari, H. M. Dang, S. Geyer, E. Lamour, L. Maunoury, **H. Merabet**, J. Mérot, F. Mezardi, J.-Y. Pacquet, B. Pascal, C. Prigent, J.-M. Ramillon, R. Reuschl, J.-P. Rozet, Th. Schlathölter, S. Steydli, and D. Vernhet, J. “Collisions of Ar¹⁷⁺ ions with gaseous and solid targets at a few tens of keV/q probed by X-ray spectroscopy”, Journal of Physics, Conference Series 194, 2009.

M. H. Hamarsheh, **E. A. Rawashdeh**, “Numerical Method for Solution of Semidifferential Equations”, Matematicki Vesnik, Vol. 62, pp: 117-126, 2010.

Research work in progress

Mounira Boudjema, "Numerical studies of NMR relaxation in porous media", Funded by URB seed grant, Dhofar University, January 2010.

Summary: This work is mainly focused on using Boltzmann numerical approach to simulate the time evolution of fluid magnetization in a number of model materials with an arbitrary complex geometry and under a variety of experimental situations. The goal is to understand the connection between the pore-space structure and the behavior of the fluid magnetization. Currently, the work is in phase 1 of the project proposed in the seed grant application. This phase includes designing and numerically generating some interesting model materials that would be able at some extent to portray a real model system. Examples of such model materials are disordered systems, systems containing a collection of connected or disconnected pores, and systems with fractal pores. Many studies have suggested that a fractal representation might be appropriate in describing porous systems. The focus is to explore the suitability of the numerical model for determining the fractal nature and properties for such interesting geometries. The essential improvements of the numerical procedure for a better modeling of the magnetization in porous media, mostly fractals, are to be investigated.

Department of Social Sciences

Refereed Journal Papers

S.A. Musa, A.A.R Hamid, M.A. Alghorani, and **R. Abu Eiyada**, “Humanitarian Work Practice and the Necessity for Academic Discipline”, Vol. 1, pp: 212 – 215, November, 2009.

College Of Commerce and Business Administration

Department of Accounting and Finance

Book Chapters

A. Muawya, "Energy and Sustainable Development: Environmental Impacts of Energy Use In Africa". Survival and Sustainability: Environmental Concerns in the 21st Century, Springer, May 31, 2010.

Refereed Journal Papers

M. Hanaa, and **A. Muawya**, "Impact of Education in Infant and Child Mortality in Sudan: Case of Central Region", Journal of US-China Public Administration Vol. 7, No. 3, pp: 84-102, March, 2010.

Conference Papers

S. A. Jamil and **S. Saleh**, "Scope of Enterprise risk management in higher education sector of Oman", 2nd International conference On higher education and quality assurance, Mazoon University college, Oman, April 6-7, 2010.

A. Muawya, "Climate Change Impacts on East Africa", International Climate 2009 Conference, Research and Transfer Centre "Applications of Life Sciences", Hamburg University of Applied Sciences, Germany, November 2-6, 2009.

S. Saleh and **S. A. Jamil**, "Scope of Enterprise risk management in higher education sector of Oman", 2nd International conference on higher education and quality assurance, Mazoon University College, Oman, April 6-7, 2010.

Manuscripts accepted but not yet published

S. A. Jamil, and **S. Saleh**, "Women Investor's perception towards investment options- a case of Oman", Review of Finance, a journal of European management association.

M. Hanaa and **A. Muawya**, "Market Returns to Women Education in Sudan; A case of Central Region", Journal of International Politics and Development, accepted for publication in June, 2011.

A. Muawya, "Social Impacts of Environmental policies in Arab countries" Journal of International Politics and Development, accepted for publication in January 2011.

Activities in progress

S.A. Jamil, "Investment behaviour, trends and patterns- A case of Omani Investor".

A. Muawya, "Social Impacts of Environmental Policies in Arab countries", Social impact of environmental policy, School of Public and Environmental Affairs at Indiana University Kokomo, United States, 2011.

Other research related activities

S. A. Jamil, Invited to chair a session in the conference: "Managing in the new world order: strategies for sustainable business development", Sur College of Applied Sciences, Sur, Oman, February 21-22, 2010.

Department of Marketing, Management and Information Systems

Books

S. Azzawi, "The culture of business organizations: concepts, principles and applications", Book printed with the support of the Institute of Public Administration, Riyadh, Saudi Arabia, 2009.

Refereed Journal Papers

A. Alaraji, "Designing Arab Local Environmental Organization Through Nanotechnology & Knowledge Management Technology: Untraditional Perspective" Arab Journal of Administration, Vol. 29, December, 2009.

A. Alaraji, "Arab Universities Role in Knowledge Globalization Through Scientific Dialogue Among Civilizations", Magallat Ittihad AL Jamiat AL-Arabiyya, Vol. 54, December, 2009.

A. Al-Dujaily, M. J. Al-Fallogi, "Implementation of Extramural Learning Mode within the Gulf Region: An Analytical Study for Dhofar University". The International Journal for Digital Society (IJDS), Vol.1, 2010.

S. Azzawi, "The impact of market knowledge to heads of households in loyalty to the brand: an exploratory study, Arab Academic of Management, Cairo, Egypt, Vol. 29, 2010.

S. Azzawi, "Physical environment of the shopping centers and their impact on realizing the added value to the customer: an exploratory study in the moles of Amman", Jerash University Journal for Studies & Research, 2010.

T. Eltayeb, S. Zailani and W. L. Filho. "Green Business among Certified Companies in Malaysia towards Environmental Sustainability: Benchmarking on the Drivers, Initiatives and Outcomes", International Journal of Environmental Technology and Management, Vol. 12, pp 95-125, 2010.

S. Menon and L. Narayanan, "Cultural Intelligence: An Empirical Examination of Strategic Models", Journal of Applied Business Research, In press, 2010.

Conference Papers

A. Alaraji, "Arab Universities Role in Human Resources Development: linear and Non-linear Models", The Second Arab Conference for Human Resources Development, Muscat, Oman, 21-23 February, 2010.

A. Al-Dujaily, M. Al-Fallogi, and J. Pfahler, "Arab Females Desire for Extramural Study: A Case Study in Sultanate of Oman", In T. Bastiaens et al. (Eds.), Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, Vancouver, Canada, October 26-30, 2009.

S. Azzawi, "The Impact of Career Alienation in Scientific Achievement: Case Study", The Second Arab Conference for Human Resources Development, Muscat, Oman, 21-23 February, 2010.

Manuscripts accepted but not yet published

A. Alaraji, "Nano-Technology: Molecular Perspective in Contemporary Organization Development", Al rafiedian Journal, accepted for publication, 2010.

A. Alaraji, "University Role in Training Planning and Programming in the context of Linear-Dynamics and Nonlinear Dynamics", accepted for publication in the Indian Journal of Public Administration, 2009.

S. Azzawi, "Intellectual capital: Quantitative and Qualitative Indicators to measure", Journal of Aledari, Muscat, Oman, 2010.

S. Azzawi, "Knowledge management and its impact on achieving the business value of high Jordanian pharmaceutical Companies: Empirical Study", Journal of Al-adari, Muscat, Oman, 2010.

Activities in progress

A. Al-Dujaily, "Am I Extravert or Introvert? The Personality Effect in Using Computer-Based Learning System", Submitted to Journal of Educational Technology.

A. Al-Dujaily, and H. Y. Ryu, "Survey of the effect of learning style on students learning", Funded by Massey University, New Zealand.

T. Alhousary, "Introducing Knowledge-oriented Virtual Teams into Banking Organizations in Oman".

Summary: This research aims to provide a framework to implement a new form of conducting knowledge-intensive team work by Banks in Oman. The overall benefit are: extended organizational knowledge, less costs, faster actions, and stronger competitive advantage of banks. To conduct this research there is a need to research the status quo of these banks in terms of the available information technology (ITI), the team working culture, virtual teams (VTs), and the knowledge management (KM) practices. There will be use of the research results in the field of innovation diffusion

and adoption to help in designing the final framework to adopt such a new mode of work.

S. Azzawi, "Effectiveness of Crisis Management & its Role in Reducing Injuries and Traffic Accidents: a field study".

S. Azzawi, "Knowledge Assets and Their Relationship to Business incubator: field study on business incubators in Jordan".

S. Azzawi, "The Relationship of vocational adjustment and Adaptation: a field study on Jordanian hospitals".

S. Azzawi, "Test the validity of a comprehensive measure of information technology in business organizations".

S. Azzawi, "The Impact of Material Culture on the Responses of the Consumer Entertainment: an exploratory Study on a Sample of Office-goers cellular Phones, Internet, Cafes and Fast-Food".

S. Azzawi, "The negative effects of information technology Workers: a field Study on a Sample Government Employees to Jordan".

Other research related activities

S. Azzawi, "Analysis of Trends in the Development of Organizational structures: from the Mechanism in the Traditional Management to the Virtual in the electronic administration", Magazine of IPA, Qatar, 2010.

College of Engineering

Department of Chemical Engineering

Refereed Journal Papers

A. Wazwaz, J. Salmi, and R. Bes, "Solar Net Collective Flux and Conversion Efficiency of the Nickel-Pigmented Aluminium Oxide Selective Absorber Prepared by Alternate and Reverse Periodic Technique in Different Prototype Volumes", Jordan Journal of Mechanical and Industrial Engineering, Vol. 4, pp: 177-192, 2010.

A. Wazwaz, J. Salmi, and R. Bes , "The Effects of Nickel-Pigmented Aluminium Oxide Selective Coating over Aluminium Alloy on the Optical Properties and Thermal Efficiency of the Selective Absorber Prepared by Alternate and Reverse Periodic Plating Technique", Journal of Energy Conversion and Management, Vol. 51, pp: 1679-1683, 2010.

Conference Papers

A. Wazwaz, J. Salmi, and R. Bes, "Solar Net Collective Flux and Conversion Efficiency of the Nickel-pigmented Aluminium Oxide Selective Absorber Prepared by Alternate and Reverse Periodic Technique in Different Prototype Volumes", International Conference and Exhibition on Green Energy & Sustainability (ICEGES 2009), Amman, Jordan, November 10-12, 2009.

A. Wazwaz, "Accelerated Heat Degradation Testing and Characterization of Nickel-Pigmented Aluminium Oxide Selective Absorber", 2nd International Conference on the Palestinian Environment, Nablus, West Bank, Palestine, October 13-15, 2009.

Research work in progress

A. Wazwaz, R. Qawasmi, and M. Awad, "Biomedical Solar Autoclave", Funded by Palestine Polytechnic University.

Summary: A concentrated parabolic solar collector designed to be used in the conversion of solar irradiations into thermal energy. This solar energy is used as a source of energy for the medical autoclave. The solar autoclave is used to sterilize the medical equipments, drinking water, etc. There are different parameters to be optimized to have the best results.

A. Wazwaz, "Optical Modeling of the Selective Coatings Made Up of Composite and Non-Composite Layers", Funded by URB seed grant, Dhofar University, January, 2010.

Summary: The purpose of the project is how to design a selective coating of certain optical properties for certain purposes. This depends on: 1. Type of material of each layer. 2. Order of layers over substrate. 3. Thickness of each layer. 4. Number of layers. These four parameters should be optimized to have certain optical properties for certain purposes. The optical constants of the composite layers can be calculated

from the Effective Medium Theories. There are two common theories to be used for the calculation of the optical constants which are Maxwell-Garnett and Bruggeman theories.

Research application for external fund

A. Wazwaz, and J. Salmi, "Multipurpose Solar Concentrated Parabolic Dish Collector For Solar Energy Conversion", The Research Council (TRC), Date of submission: March 13, 2010.

Department of Electrical and Computer Engineering

Refereed Journal Papers

S. Sheik Mohammed, K. Ramasamy, T. Shanmuganatham, "Wireless Power Transmission - A Next Generation Power Transmission System", International Journal of Computer Application, Number 13-Article 18, February 2010.

S. Sheik Mohammed, K. Ramasamy, T. Shanmuganatham, "A Sierpinski Fractal Based Microstrip Patch Antenna for Wireless Power Transmission System" International Journal of Computer Application, Number 13-Article 19, February 2010.

Conference Papers

W. F. Al-Azzo, B. Mohd. Ali, S. Khatun, and N. K. Noordin", PAPR Reduction in OFDM Systems using Smoothing Technique", MICCC09 IEEE international conference, Kuala-Lumpur, Malaysia, December, 2009.

F. B. Chaaban, and **H. Hassan**. "Modeling and measurements of the electromagnetic field of high voltage transmission lines: A practical case in Lebanon". International Conference on Electrical Energy and Industrial Electronics Systems, EEIES, Penang, Malaysia, December 7-8, 2009.

S. Al-Shahaimi, A. Al-Qadhi, M. Shamas and **H. Hassan**, "Electrical power network design for an urban city in Oman", The 2nd Annual Undergraduate Research Conference on Applied Computing (URC 2010), Zayed University, Dubai, UAE, May 5 - 6, 2010.

H. Hassan, "The deployment of FACTS in high voltage networks: A case study in Oman", The 5th IET International Conference on Power Electronics, Machines and Drives (PEMD 2010), Brighton, UK, April 19 - 21, 2010.

H. Hassan, "The electrical power network in Oman and the need for FACTS", The 16th International Scientific Conference of the Lebanese Association for the Advancement of Science, Beirut Arab University, November 13 - 15, 2009.

H. Hassan, M. El Metwally and A. Bendary, "Enhancement of FACTS stability through robust adaptive control", The International Conference on Electric Power and Energy Conversion Systems (EPECS'09), American University of Sharjah, Sharjah, UAE, November 10-12, 2009.

H. Hassan, M. El Metwally and A. Bendary, “Dead-Zone robust adaptive controller for FACTS using quadratic and non-quadratic Lyapunov functions“, The 8th IEEE International Conference on Power Electronics and Drive Systems (PEDS’09), Taipei, Taiwan, November 2 - 5, 2009.

Research work in progress

P. Varahram, S. Mohammady , B. Mohd Ali, and **W. F. Al-Azzo**, “PAPR Reduction Using DSI-PTS Technique in WiMAX Systems”.

F. Afrati, **N. Al-Said**, “On Approximation Algorithms for Data Mining Applications”, Submitted to the International Arab Journal of Information Technology, Jordan, 2010.

N. Al-Said, “Mining Student and Faculty Data at Dhofar University ”, Funded by URB seed grant, Dhofar University, October 2008.

Summary: Applying data mining algorithms and techniques to mine useful and hidden information from a database. Data about students and Faculty are stored in the database.

T. S. Mohammed, “Applying a Neural Network for Stereo Matching”, Funded by URB seed grant, Dhofar University, January 2010.

Summary: Approaches for image matching can be broadly classified into two categories: the intensity-based matching and the feature-based matching techniques. A technique from the second category is adopted in this work, where a neural framework is applied for region matching of stereo photographs. Two different types of neural networks will be used in this framework, the radial basis network, (RB) for learning clustering, and the back propagation (BP) network for learning image matching.

Research application for external fund

F. Chaaban, M. Shammam and **H. Hassan**, "Impacts of socioeconomic conditions in setting priorities for GHG technology needs assessment", The Research Council (TRC), November 2009.

Other research related activities

W. F. Al-Azzo, B. Mohd. Ali, S. Khatun, and N. K. Noordin, “Concatenated Multi-Dimensional Modulation for BER Improvement and PAPR Reduction in Digital Communication Systems”, Patent, registration (in Malaysia) in progress (PI Number: 2010700015).

N. Al-Said, “Using Data Mining to analyze student Behavior”, Technical Report, Ministry of Education, Greece, 2009.

Department of Graphic Design and Interior Architecture

Conference Papers

M. Zaidan and Siham Gaber, "Improving the Animation of Virtual Humans (VH) by Embedding Human Emotions, Moods and Personality", 3rd Annual International Conference Computer Games, Multimedia & Allied Technology (CGAT 2010), Singapore, Singapore, April 6-7, 2010.

Exhibitions

S. AlHroub, "Black Balloon", Solo Exhibition, Omani Culture Center, Salalah, Oman, May 15-19, 2010.

Other activities

S. AlHroub, Invited to attend: "Public Awareness Forum", Arab Countries Water Utilities Association, Belvedere, Tunis, May 23 - 28, 2010.

Department of Mechanical Engineering

Books

Y. A. Gharbia, "Fabrication of Microlenses on Optical Fibers". VDM Verlag Dr. Muller, New York, 2009.

N. Nawayseh, "Biodynamic Responses to Vibration: Characteristics and Modelling", VDM Verlag Dr. Muller, In press, 2010.

Refereed Journal Papers

R. Al-Waked, "Effect of ventilation strategies on the infection control inside operating theatres", Journal of Engineering Applications of Computational Fluid Mechanics, Vol. 4 (1), pp: 1-16, 2010.

R. Al-Waked, "Crosswinds effect on the performance of natural draft wet cooling towers", International Journal of Thermal Sciences, Vol. 49, pp: 218–224, 2010.

N. Nawayseh and M. J. Griffin, "Power absorbed by seated subjects exposed to vertical whole-body vibration", Journal of Sound and Vibration, Vol. 329, pp: 2928-2938, 2010.

Conference Papers

N. Nawayseh and M. J. Griffin, "Power absorbed by seated people during whole-body fore-and-aft vibration", 17th Congress of the European Society of Biomechanics, Edinburgh, United Kingdom, July 5-8, 2010.

Research work in progress

Y. A. Gharbia, “Direct steam generation using parabolic Solar collector” (Unfunded)

Summary: The purpose of this proposed project is to use sun energy to directly convert water into steam. The steam can then be used to spin a model turbine/generator assembly to produce electricity. In remote areas where electricity is unavailable or unreliable with help of absorption chiller, the access heat could also be utilized for refrigeration and air conditioning purposes as well as water desalination. The technology could also be used for reducing cooling, heating, and refrigeration loads in big buildings such as shopping malls or university campuses by installing the system on buildings’-rooftops. This will be of particular interest, due to the strong correlation between the peak energy demand and the intensity of sun heat.

N. Nawayseh, “Effects of posture, backrest, and footrest on the power absorbed by people exposed to whole-body fore-and-aft vibration”. (Unfunded).

Summary: Absorbed power by the human body is a biodynamic response that has just recently attracted the attention of investigators in the human vibration field. In this project, the characteristics of the absorbed power and the effects of using a footrest and a backrest on the power absorbed during whole-body fore-and-aft vibration are being investigated. The importance of this investigation comes from the possible link between absorbed power and health problems associated with the exposure to vibration. Apparent mass data published in a previous work by the same investigator are being reanalyzed to obtain the absorbed power.

Completed research project

N. Nawayseh, "Solar water desalination based on humidification-dehumidification cycle", Funded by URB regular research grant, October 2008 – February 2010.

Summary: Solar desalination with a humidification-dehumidification process has proven to be an efficient means of utilizing solar energy for the production of fresh water from saline or sea water. The process used in this work is a closed air cycle type, in which air is circulated in the unit by natural draft between a humidifier and a condenser. A small desalination unit has been built at the College of Engineering of Dhofar University. The effects of water flow rate and input power on the produced fresh water have been studied experimentally. The production increased with increasing the input power (at constant water flow rate) but decreased with increasing the water flow rate (at constant input power). A computer programme has been written in MATLAB to predict the air mass flow rate inside the unit as well as the temperature of water and air at different locations in the unit. The predicted values were in good agreement with the measured values.

Research application for external fund

N. Nawayseh and M. J. Griffin, “Biodynamic responses of seated people exposed to whole-body vibration in a multi-axis environment”, The Research Council, Date of submission: November 25, 2009.

Other research related activities

N. Nawayseh, examination of the MSc thesis: S. Aye, “Evaluation of operator whole-body vibration and shock exposure in a South African open cast mine”, University of Pretoria, Pretoria, South Africa, 2010.

N. Nawayseh, “Importance of Scientific Research: Basics & Benefits”, article in Al Shabiba newspaper, published on the occasion of the Sultanate of Oman 39th National Day, 2009.

N. Nawayseh, Invited to be a Lead Guest Editor for a special issue for the Advances in Acoustics and Vibration journal, 2010.

Foundation Program

English Language Unit

Refereed Journal Papers

S. Jayaraman, "Acquisition of Pronunciation of Consonant Clusters by Arabic Speakers of English as a Second Language", *Sino-US English Teaching Journal*, Vol. 7, pp: 46-56, January 2010.

Conference Papers

S. Jayaraman, "Pronunciation problems in Language Learning – A study at the Phonetic Level in a Multilingual situation", *International Conference on Multilingualism and Education, Global Practices, Challenges and the Way Forward*, Kenyatta University, Nairobi, Kenya, July 22-23, 2010.

S. Jayaraman, "Acquisition of Pronunciation of Consonant Clusters by Arabic Speakers of English as a Second Language", *First International Conference on Foreign Language Learning and Teaching, (FLLT 2009)* Bangkok, Thailand, October 16-17, 2009.

K. Khan and I.A .Ibrahim, "Vocabulary Learning Strategies of EFL students at Dhofar University: A Case Study", *19th MELTA International Conference*, Kuala Lumpur, Malaysia, June 7-8, 2010.

K. Khan, "In Defense of Non-native English Speaker Teachers" *Oman International ELT Conference, 10th Annual Conference, Current Perspectives in ELT: New Methodologies, Research, and Best Practices*, Sultan Qaboos University, Muscat, Oman, April 21-22, 2010.

Manuscripts accepted but not yet published

S. Jayaraman, "Phonetic Environment and F1-F2 frequencies of Oral Vowels in French", (Monograph Publication), VDM Publishing House Ltd., Germany, in Press.

K. Khan, "Integrating Local Cultures in English Language Teaching, The Omani ELT Symphony: Maintaining Linguistic and Socio-Cultural Equilibrium", in *Al Mahrooqi, R &. Tuzlukova, V. (Eds.)*, Sultan Qaboos University Oman, in press, 2010.

A. Vennakkadan, "ELT, Misspelling and E-resources", *The Omani ELT Symphony: Maintaining Linguistic and Socio-Cultural Equilibrium*, in press, 2010.

A. Vennakkadan. "Combating Spelling Difficulties with Comprehensive Approach", *Learning and Teaching in Higher Education: Gulf Perspectives*, in press, 2010.

Research work in progress

A. Vennakkadan. “Internet for Spelling Mastery”, Perspectives, TESOL Arabia, (under review).The article delves deep into the sources of materials available on the internet for facilitating mastery of the complex system of English orthography and examines the need of giving due weight to spelling instruction in ELT curriculum.

A. Vennakkadan. “Texting Versus spelling”, The study explores the impact of textspeak, a language remarkable for its common text abbreviations, dropping letters, using letter and number homophones and using non-conventional phonetic spelling on learners’ spelling skills in English.

Other research related activities

S. Burns, “Effective Assessment Tools to Measure/Evaluate Learning Outcomes – English”, Oman Quality Network Seminar on Learning by Sharing: Implementation of the Oman Academic Standards for General Foundation Programmes, Muscat, Oman, March 17, 2010.

S. Jayaraman, "Duration and Geminate Consonants in Tamil", Proceedings of Confluence - International Seminar on 'Innovations in Language Teaching in Technical Education', (Confluence – TGPCET-ACE), held by TGP College of Engineering and Technology, in Association with Abha College of Engineering & Technology Nagpur, India, February 26, 2010.

Mathematics and IT Unit

Refereed Journal Papers

K. Daqrouq, E. Khalaf, A. Al-Qawasmi, and **T. Abu Hilal,** "Wavelet Formants Speaker Identification Based System via Neural Network", International Journal of Recent Trends in Engineering, Vol. 2, November, 2009.