



The Annual Report

2008/2009

Sultan Qaboos University College of Engineering





Prepared by Publication/Web committee:

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Dr. Fahad Bait Shiginah (Department of Electrical and Computer Engineering)

Dr. Jamil Nasser (Department of Petroleum and Chemical Engineering)

Dr. Mounir Bouzeguenda (Department of Electrical and Computer Engineering)

Dr. Salim Ferwati (Department of Civil and Architectural Engineering)

Mr. Mohammed Al-Shuaili (Director of Administration, College of Engineering)

Mr. Mohammed Reyaas Rafeideen (Dean's office)

Eng. Jamil Al-Yaqoobi (Department of Civil and Architectural Engineering)

Direction by:

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Department of Petroleum and Chemical Engineering

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The opening ceremony of the International Conference on Communication, Computer & Power (ICCCP'09) under the patronage of His Excellency Maqbool bin Ali bin Sultan, Minister of Commerce and Industry.



Dr. Ali Salem Al-Harthy, Associate Professor
Dean of the College of Engineering
PhD, University of Colorado.

EXECUTIVE SUMMARY

- The College offers Bachelor of Engineering degrees in eight undergraduate programs: Civil, Mechanical, Electrical & Computer, Petroleum & Natural Gas, Architectural, Industrial, Chemical & Process, and Mechatronics. All our academic programs are internationally recognized. In addition, the College offers a joint program in Agricultural Engineering with the College of Agriculture and Marine Science (CAMS).
- A team of accreditation assessors from ABET visited our College for a week in November 2008 to evaluate the Architectural, Industrial, Chemical & Process, and Mechatronics programs. The team comprised four assessors and a team chair. As a result, in August 2009, the College received from ABET the official accreditation of these programs. The Civil, Mechanical, Electrical & Computer, Petroleum & Natural Gas had been recognized by ABET as substantially equivalent programs in 2006.
- The number of students admitted in 2008-2009 was slightly more than 450 students, not a significant change from the 2007-2008 admission. The total number of students enrolled in the College remains at around 2500 undergraduate students. The number of engineering students who graduated in the November 2008 commencement was 340 students, an increase of about 40 % over 2007-2008 academic year. This was a record figure in the history of the college and the highest in the Science based colleges.
- The total external research contracts granted in 2008 reached almost one million Omani Rials, while 16 internal research projects were granted by the University with a budget of nearly 70,000 Omani Rials. The College also received one Strategic Project from His Majesty Research Grants on environmental assessment with a budget of 90,000 Omani Rials.
- During the faculty recruitment trips, the Dean visited the University of Waterloo and the University of Maryland, as part of a University delegation to find out about community services programs, IT education and quality audit works.
- The Dean also participated in the GCC Deans of Engineering Meeting in Dhahran in April 18-20 2009 and attended a workshop on Quality management at the State Council (Feb 1-2, 2009)
- The College organized its retreat on October 23rd, 2008 to prepare its 3 year-Work Plan 2008-2011. H.E. Dr Ali Bemani, VC, H.E. Dr Hilal Al-Hinai, Secretary General, TRC, Prof. Amer Al Rawas, DVCPS&R, Dr Said Al Yahyaee, DVCAA&CS and Prof David Clayton Assistant Dean, Deanship of A&R also contributed to the discussions.



- The College organized its second Alumni Day on April 21st, 2009. It was very well attended.
- The College organized a Workshop on May 6th to discuss and finalize its Strategic Planning document.
- A meeting in Al Ain was held on May 19th, 2008 between faculty members and Deans from the College of Engineering and the College of Engineering (United Arab Emirates University). The purpose of the visit was to get the faculty from the two colleges to better know each others, exchange information on research interests and activities, and to develop a stronger research relationship between the two institutions.
- The Construction of a three New Lab Building (Block C) has been completed in early Spring 2009. The laboratory fixed furniture is expected to be completed in 2009-2010 academic year.
- The Engineering Research Lab was opened on June 6th by H.E Dr Ali Al-Bemani, VC. The ceremony was also attended by Mr. John Malcolm, Managing Director of PDO. The building houses 5 important projects that are funded by PDO.

Dr. Ali Salem Al-Harthy
Dean, College of Engineering



The opening ceremony of the Engineering Research Lab.
The Lab was opened by H.E. Dr Ali Al-Bemani, VC. The ceremony was attended by Mr. John Malcolm, Managing Director of PDO.

ADMINISTRATION, FACULTY, TECHNICAL AND SUPPORT STAFF**Dean**

Dr. Ali Salem Al-Harthy, Associate Professor

Assistant Deans

Khalifa Al-Jabri, Associate Professor
Assistant Dean for Postgraduate Studies and Research

Hamoud K. Al-Hadrami, Assistant Professor,
Assistant Dean of Undergraduate Studies

Mansoor Al-Harthy, Assistant Professor
Assistant Dean for Industrial Training & Alumni

Director of Administration

Mohsin Al-Hinai, Director

Mohammed Al-Shuaili, Deputy Director

College Administration Coordinators & Clerks

Syed Muneer Uddin (Dean's Office)

Ibrahim Matar Al-Saifi (ADPSR)

Abdullah Omar Al-Ojaily (ADITA)

Sophie Tayco-Soldevilla (ADUS)

Amal Juma Al-Amry (College Administration)

Abdulrahim Yousuf Al-Maimani (College Administration).

College Computer Engineers

Khalfan Salem Al-Abri

Mahmood Nasser Al-Tobi

College Messengers

Issa Salim Al-Fori

Ghareeb Khalfan Al-Mazrouey

Khalfan Masi Al-Rubkhi



STAFF

New Academic Staff

Department of Civil and Architectural Engineering

Dr. Shaibu Garba, Assistant Professor

Department of Electrical and Computer Engineering

Dr. Eyad Al-Feilat, Associate Professor

Dr. Naser Al-Tarhuni, Assistant Professor

Department of Mechanical and Industrial Engineering

Dr. Mohammed Fanni, Assistant Professor

Dr. Ibrahim Garbie, Assistant Professor

Dr. Salih Akour, Associate Professor

Department of Petroleum and Chemical Engineering

Dr. Jamil Nasser, Assistant Professor

Dr. Gholam Reza Vakili, Associate Professor

Dr. Mohammed Al-Abri, Assistant Professor

New Technical and Administrative Staff

Department of Civil and Architectural Engineering

Mr. Nafeer Abul Huda, Technician

Ms. Wafa Al-Nabhani, Coordinator

Department of Mechanical and Industrial Engineering

Mr. Yahia Mohammed Al-Aghbari, Technician

Ms. Sheikha Al-Hatmi, Engineer

New Lecturers and Demonstrators

Department of Civil and Architectural Engineering

Ms. Hanan Al-Khatri, Demonstrator

Academic Staff on ScholarshipsDepartment of Civil and Architectural Engineering

Mr. Ghazi Al Rawas, Lecturer

Mr. Mohammed Al Shahri, Lecturer

Department of Electrical and Computer Engineering

Mr. Ali Al-Shidhani, Lecturer

Mr. Amir M. AbdulGhani, Lecturer

Mr. Mohamed Al-Nadabi, Lecturer

Mr. Mohammed Hamdan Al-Badi, Lecturer

Mr. Mohammed Bait-Suwailem, Lecturer

Mr. Rashid Al-Abri, Lecturer

Mr. Samir Al-Busaidi, Lecturer

Department of Mechanical and Industrial Engineering

Mr. Mahmoud A. Al-Kindi, Lecturer

Mr. Majid H. Al Moharbi, Lecturer

Mr. Nassr H. Al Hinai, Lecturer

Department of Petroleum and Chemical Engineering

Mr. Abdul-Aziz Rashid Al-Hashmi, Lecturer

Technical and Administrative Staff on ScholarshipsDepartment of Civil and Architectural Engineering

Mr. Salim M. Al-Ruzaiqi, Technician

Mr. Taiseer M. Al-Riyami, Technician



College Committees

| Committees | Members | |
|--|----------------------------|--|
| College Board | Dr. Ali Salem Al-Harthy | Chair |
| | Dr. Hamoud Al-Hadhrami | Assistant Dean for Undergraduate Studies (ADUS) |
| | Dr. Khalifa Al-Jabri | Assistant Dean for Postgraduate Studies & Research (ADPSR) |
| | Dr. Mansoor Al-Harthy | Assistant Dean for Industrial Training & Alumni (ADITA) |
| | Prof. Ramzi Taha | HoD, Civil and Architectural Engineering (CAE) |
| | Dr. Adel Gastli | HoD, Electrical and Computer Engineering (ECE) |
| | Dr. Ashraf Shikdar | HoD, Mechanical and Industrial Engineering (MIE) |
| | Dr. Ibrahim Ashour | HoD, Petroleum and Chemical Engineering (PCE) |
| | Prof. Awni Shaaban | Invited Member, CAE |
| | Dr. Afaq Ahmad | Invited Member, ECE |
| | Dr. Ahmed Al-Futaisi | CAE |
| | Dr. Hadj Bourdoucen | ECE |
| | Dr. Nabeel Al-Rawahi | MIE |
| Mr. Mohsin Al-Hinai | Director of Administration | |
| Syed Muneer uddin | Secretary | |
| Executive | Dean | Chair |
| | Assistant Deans | |
| | Heads of the Departments | |
| | Director of Administration | |
| | | |
| Postgraduate Studies & Research | Dr. Khalifa Al-Jabri | ADPSR, Chair |
| | Dr. Khaled Al-Shamsi | CAE |
| | Dr. Mahmoud Abdel Goad | PCE |
| | Dr. Mahmoud Tahat | MIE |
| | Dr. Hadj Bourdoucen | ECE |
| Computing | Dr. Talal Al-Wahaibi | PCE, Chair |
| | Dr. Ayman El-Naggar | ECE |
| | Dr. A.W. Hago | CAE |
| | Dr. Maki Rashid | MIE |
| | Mr. Mohammed Al-Shueily | Dy. DoA |
| | Mr. Mahmood Al-Toubi | Computer Eng |
| Accreditation | Dr. Ali Al-Harthy | Dean, Chair |
| | Dr. Hamoud Al-Hadhrami | ADUS |
| | Dr. Mansoor Al-Harthy | ADITA |
| | Prof. Ramzi Taha | CAE |
| | Prof. Awni Shaaban | CAE |
| | Dr. Ibrahim Ashour | PCE |

| | | |
|----------------------------------|----------------------------|-----------------|
| | Dr. Jamil Naser | PCE |
| | Dr. Tasneem Pervez | MIE |
| | Dr. Ashraf Shikdhar | MIE |
| | Dr. Maki Rashid | MIE |
| | Dr. Adel Gastli | MCE |
| | Dr. Joseph Jervase | ECE |
| | Dr. Khalid Metwally | MCE |
| Industrial Training | Dr. Mansoor Al-Harthy | ADITA, Chair |
| | Dr. Hossam Hassan | CAE |
| | Dr. Saleh Al-Alawi | ECE |
| | Dr. Khalid Metwally | MCE |
| | Dr. Abdullah Al-Shabibi | MIE |
| | Dr. Adel Ajmi | PCE |
| | Mr. Mohsin al-Hinai | DoA |
| HSE | Dr. Khalifa Al-Jabri | ADPSR, Chair |
| | Dr. Siegfried E. Trautwein | MIE |
| | Mr. Mohammed Al-Hadhrami | MIE |
| | Dr. AbdulAziz Al-Hashmi | PCE |
| | Mr. Nasser Al-Mandhari | PCE |
| | Dr. Ayman El-Naggjar | ECE |
| | Mr. Saleh Al-Yazidi | ECE |
| | Mr. Suleiman Al-Kindi | CAE |
| | Mr. Juma Al-Ruzaiqi | CAE |
| | Mr. Mohsin Al-Hinai | DoA |
| Technical Staff Committee | Dr. Mansoor Al-Harthy | ADITA, Chair |
| | Dr. Siegfried E. Trautwein | MIE |
| | Mr. Mohammed Al-Hadhrami | MIE |
| | Dr. AbdulAziz Al-Hashmi | PCE |
| | Mr. Nasser Al-Mandhari | PCE |
| | Dr. Ayman El-Naggjar | ECE |
| | Mr. Saleh Al-Yazidi | ECE |
| | Mr. Suleiman Al-Kindi | CAE |
| | Mr. Juma Al-Ruzaiqi | CAE |
| | Mr. Mohsin Al-Hinai | DoA |
| Publication & Web | Dr. Nabeel Al-Rawahi | MIE, Chair |
| | Dr. Salim Ferwati | CAE |
| | Dr. Fahad Bait Shiginah | ECE |
| | Dr. Lazhar Khriji | ECE |
| | Dr. Yahya Al-Wahaibi | PCE |
| | Mr. Mohammed Al-Shueily | Deputy Director |
| | Engr. Jamil Al-Yaqoubi | CAE |
| | Mr. Iftaquaruddin Mohamed | ECE |
| | Mrs. Amal Al-Amry | Dean's Office |
| | Mr. Idris Al-Hooti | CET |
| Curriculum | Dr. Hamoud Al-Hadhrami | ADUS, Chair |
| | Dr. Yahia Mohammedzein | CAE |
| | Dr. Cemal Inceruh | CAE |
| | Dr. Afaq Ahmed | ECE |
| | Dr. Joseph Jervase | ECE |



Dr. Jamil Abdo MCE
 Dr. Faical Mnif MCE
 Dr. Hamdi Bashir MIE
 Dr. Baba Jibril PCE
 Dr. Rashid Al-Maamari PCE

Engineering Society Advisors and Social Activity

Dr. Adel Al-Ajmi PCE, Chair
 Dr. Mohammed Al-Aghbari CAE
 Dr. Amer Al-Hinai ECE
 Dr. M. Khadem MIE
 Dr. Hamoud Al-Hadhrami Invited Member
 Engr. Jamil Al-Yaqoubi CAE
 Mr. Mohsin Al-Hinai DoA

Staff/Student Liaison

Dr. Ali Al-Harthy Chair
 Dr. Hamoud Al-Hadhrami ADSAA
 Dr. Abdullah Al-Saidy CAE
 Dr. Ali Al-Lawati ECE
 Dr. R.A. Siddiqui MIE
 Dr. Mansoor Al-Harthy PCE

College Strategic Planning and Development

Dr. Ali Al-Harthy Chair
 Dr. Sabah Al-Sulaiman MIE, Coordinator
 Dr. Khalifa Al-Jabri ADGSR
 Dr. Hamoud Al-Hadhrami ADUS
 Dr. Mansoor Al-Harthy ADITA
 Dr. Ali Al-Nuaimi CAE
 Dr. Adel Gastli ECE

College Academic Promotions

Dr. Ali Al-Harthy Chair

Steering Committee for Mechatronic Engineering Program (MCE)

Dr. Adel Gastli Co-Chair, Coordinator
 Dr. Ashraf Shikdar Co-Chair
 Dr. Hamoud Al-Hadhrami ADUS
 Dr. Hadj Bourdoucen ECE
 Dr. Khaled Metwally ECE
 Dr. Faical Mnif ECE
 Dr. Farid Touti ECE
 Dr. Mohamed Fanni MIE
 Dr. Amer Al-Yahmadi MIE
 Dr. Tasneem Pervez MIE

Agriculture-Engineering Program Committee

Dr. Hamoud Al-Hadhrami ADUA
 Dr. Zahid Qamar MIE
 Dr. Khalid Hamed CAE

University Committees

| Committees | Representatives |
|--|-------------------------------|
| Academic Promotions Committee | Prof. Ramzi Taha |
| Library Committee | Dr. Sabah Al-Sulaiman |
| Course & Instructor Evaluation | Dr. Hamoud Al-Hadhrani (ADUS) |
| PDO/SQU Liaison Committee | Dr. Khalifa Al-Jabri (ADGSR) |
| Student Grievances Committee | Dr. Abdullah Al-Badi |
| University Curriculum & Academic Policies Committee | Dr. Joseph Jervase |
| Safety and Security Committee | Dr. Khalifa Al-Jabri (ADGSR) |
| Technical Committee Earthquake Monitoring Centre | Dr. Khalifa Al-Jabri (ADGSR) |



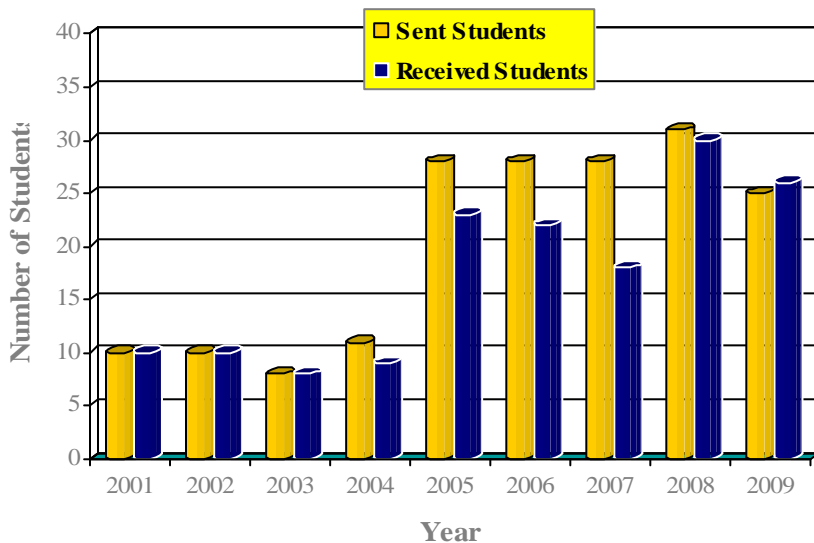
SUMMARY OF INDUSTRIAL STUDENT TRAINING (2008-2009)

Every year, the College of Engineering provides an industrial student training for all level-4 students either locally in Oman or abroad. The period of the training varies from 2 to 3 months. Local trainings are monitored by Department advisors (8) who make regular sight visits to their students. During Summer 2009, several International exchanges with a total number of 12 countries within IAESTE and 3 countries outside IAESTE were made.

Statistics of Industrial Training, (Summer 2009)

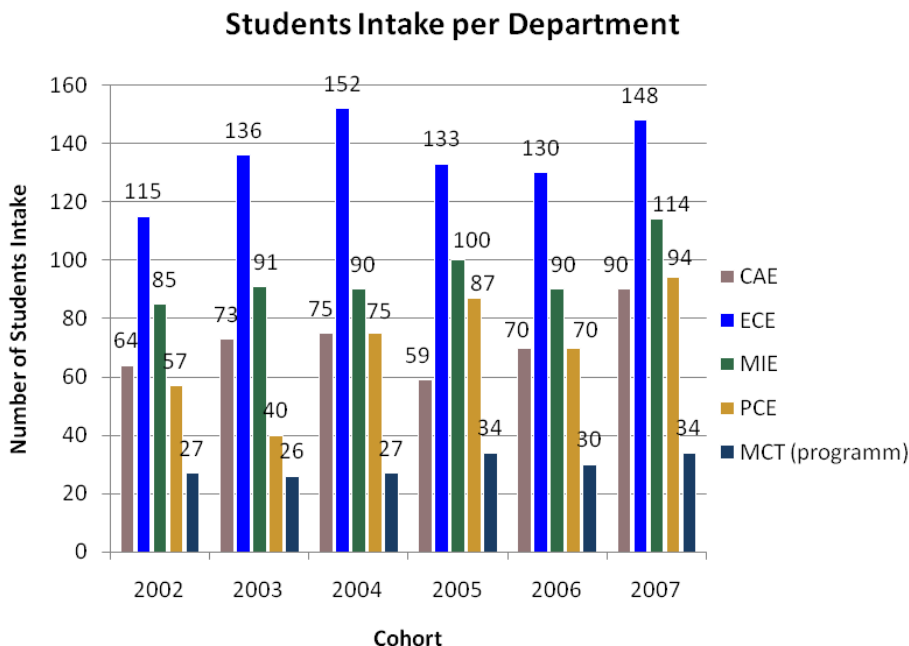
| Dept. Training | | CAE | ECE | MIE | PCE | MCT | Total |
|-------------------|--------|-----------|------------|------------|-----------|-----------|------------|
| | Local | local | 55 | 134 | 121 | 80 | 21 |
| Abroad | IAESTE | 4 | 10 | 3 | 5 | 3 | 25 |
| | Other | 1 | 6 | 7 | 3 | 4 | 21 |
| Sub Total | | 60 | 150 | 131 | 88 | 28 | 457 |

Number of students' exchange within IAESTE Program since 2001

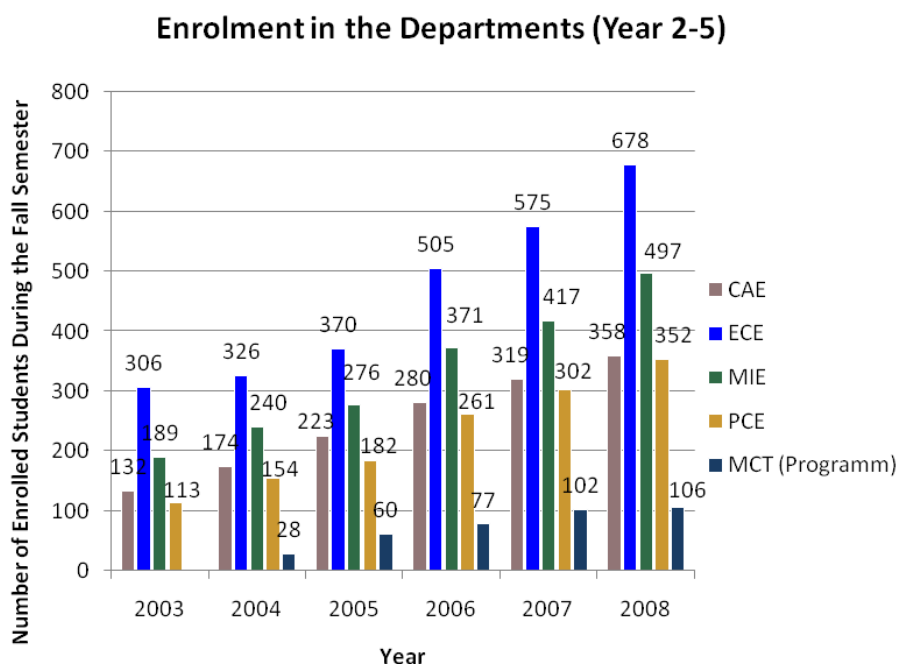


SUMMARY OF STUDENTS ENROLMENT (2008-2009)

The College of Engineering has grown rapidly since its start in 1986 and currently the student population has increased to 2691 students during the academic year 2008-2009, compared to only 92 students in 1986.

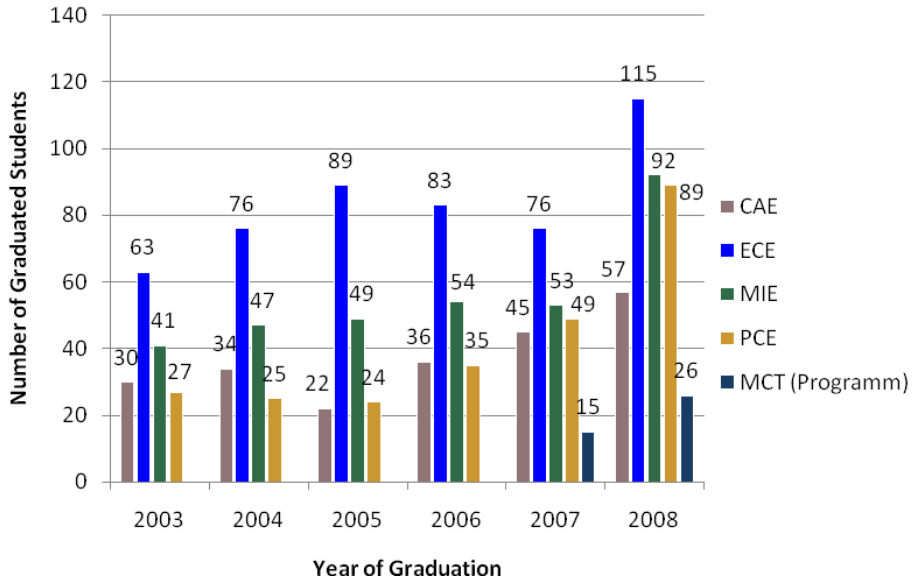


*For 2006: Numbers not complete yet (withdrawn & transfer out are not known yet)

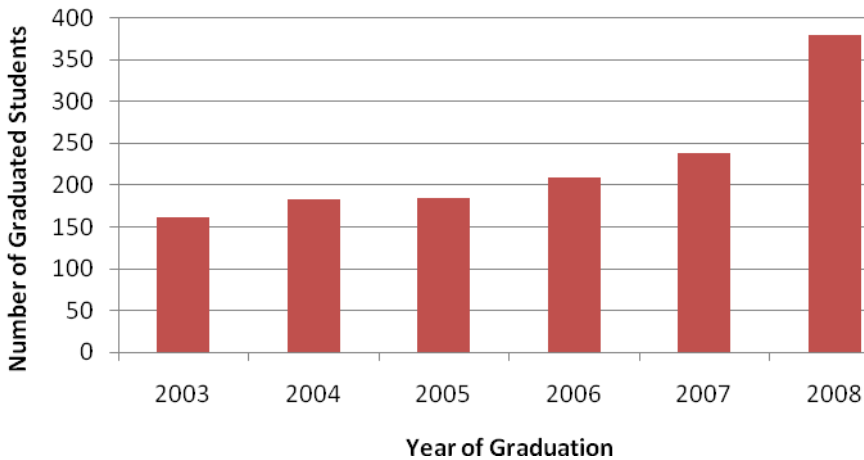




Graduates per Department



College's Graduates





Abdul Wahid Hago, Associate Professor

Head of the Department

Ph.D., Glasgow University, UK

SUMMARY

The Department of Civil and Architectural Engineering (CAE) took its new name in 2002 to reflect its recent diversification. It has restructured its undergraduate programs to introduce an Environmental Engineering stream, a Construction Engineering stream and an Architectural Engineering Program.

Table B1: Summary

| | 06/07 | 07/08 | 08/09 |
|-------------------------------------|-------|-------|-------|
| Faculty | 23 | 23 | 24 |
| <i>Support Staff</i> | 11 | 11 | 15 |
| <i>Total</i> | 34 | 34 | 39 |
| <i>On-Study leave</i> | 4 | 3 | 4 |
| Undergraduate Program | | | |
| <i>Enrolment (Y2-5)(Fall)</i> | 280 | 319 | 358 |
| <i>Graduates</i> | 32 | 56 | 61 |
| <i>Courses offered</i> | 73 | 65 | 82 |
| <i>Total number of registration</i> | 1948 | 1906 | 2031 |
| Graduate Program | | | |
| <i>Enrolment</i> | 14 | 15 | 20 |
| <i>Thesis completed</i> | 15 | 18 | 20 |
| Research | | | |
| <i>Grants</i> | 10 | 14 | 13 |
| <i>Contracts</i> | - | - | - |
| <i>Consulting</i> | - | 3 | 10 |
| Publications | | | |
| <i>Refereed Journals</i> | 27 | 43 | 21 |
| <i>Others</i> | 22 | 55 | 26 |

The Environmental and Construction Engineering Streams are not currently active. The Civil Engineering Program underwent a partial revision of its degree plan in the Spring 2006 semester. 48 undergraduate students completed their B. Eng. degrees in Civil Engineering in 2008/2009. 13 students in the Architectural Engineering Program completed their degrees in January/May 2009.

The Department has restructured its postgraduate programs too. It offers programs leading to the degrees of Master of Science in Civil Engineering and Master of Science in Civil Engineering (Water Resources) [M.Sc. (WR)]. Different areas of specializations including structural engineering, geotechnical engineering, environmental engineering and transportation engineering are emphasized in the M.Sc. offered in the Civil Engineering Program. A new Masters Program in Geomatics Engineering will start in Fall 2010 semester. During the academic year 2008-09, the Architectural Engineering

Program received an official accreditation visit by ABET in November 2008, and the program has now been accredited by ABET.



The Department is continuously endeavouring to expand and enrich its teaching staff. Professor Mohammad Qamaruddin, a visiting consultant, Department of Civil Engineering from ALiGARH Muslim University, India, joined the Department in Fall 2009 semester. Dr. Mohammed El Kamash (Water) and Dr. Maatouk Khokhi (Architectural) joined the Department in Fall 2009.

The faculty members were heavily engaged in teaching, research, conferences and other scholarly and community activities. They produced 24 International journal papers, 26 conference papers and technical reports during the year. The faculty members along with senior students and laboratory technicians were engaged in 13 sponsored research projects. Funds were provided by SOU internal grants and his Majesty Strategic Projects, and externally funded by PDO. The Department organized 3 short courses: on RC design, cost estimating, cultural style design, and a one day workshop on the progress of HM research project on the application of wastewater effluents and sludge.



Last year, the Department has formed a new Industrial Advisory Board with 4 faculty members from the Department and 6 members representing the public and private sectors. The Industrial Advisory Board lends advice to the Department on curriculum issues, students' training, accreditation, etc.



Faculty members of the Department were involved in various regional and international activities. In June 2009, Dr. Khalid Al-Shamsi attended the Oman Road Safety workshop, organized by the Oman Road Safety Association. He, and Dr. Khalifa Al-Jabri and Dr. Abdullah Al-Saidy attended the workshop on "Becoming an Effective Supervisor" workshop organized by the University. Dr. Khalifa Al-Jabri attended the workshop on "Seismic Hazard Assessment and Site Effects" in January /Febraury 2009. Dr. Abdullah Al-Saidy attended the worshop on Non-destructive testing of Concrete Structures, held in Cape Town, South Africa in November 2008. Dr. Ali Alnuaimi attended the 4th Conference on Computational Methods in UK in June 2009.

For consultancy, Professor Awni Shaaban and Dr. shaibu Garba participated in preparing the master plan for Al-Khodh Valley Science & Technology Park for the Research Council. Dr. Ali Alnuaimi took part in the design and supervision of construction buildings and infrastructure of the temporary (and also the permanent) campus of A'Sharqia University. He also participated in the preparation of the master plan and tender documents for some

extensions in the University. Professor Ramzi Taha was a member of the Institutional Quality Audit Panel organized by Oman Accreditation Council.





DEPARTMENT PROFILE

Faculty

Table B2: Academic Staff

| Name | Position | Specialization |
|--------------------------|--|---|
| Dr. Abdul Wahid Hago | Assoc. Professor and Head | <i>Pozzolanic materials, concrete properties, shear walls, computer aided design.</i> |
| Prof. Ramzi Taha | Professor | Highway materials; pavement design, maintenance and rehabilitation; recycling; soil stabilization. |
| Prof. Amer Al-Rawas | Professor and Deputy vice Chancellor for Postgraduate Studies and Research | Expansive soils, soil stabilization, calcined pozzolanic materials, use of by-pass waste materials and oil-contaminated soils. |
| Prof. Awni Shaaban | Professor, Architectural Eng. Program Coordinator | Environmental design, sustainable architecture, architecture in hot-arid regions. |
| Dr. Ali Al-Harthy | Assoc. Professor and Dean | Structural mechanics, reliability and optimization, concrete structures. |
| Dr. Khalifa Al-Jabri | Assoc. Professor and Assistant Dean for Postgraduate Studies and Research | Structures, structural dynamics, fire engineering, construction materials. |
| Dr. Hossam Hassan | Assoc. Professor | Pavement materials, mixtures evaluation and design, recycling of waste and by product materials, environmental effect on pavement performance; maintenance and rehabilitation of pavements. |
| Dr. Ali Al-Nuaimi | Assoc. Professor | Structural design and analysis. |
| Dr. Yahya Zain | Assoc. Professor | Soil-Structure interaction, expansive soils, earthquake engineering & soil dynamics, finite element analysis. |
| Dr. Salim Al-Oraimi | Assoc. Professor | Fibre reinforced concrete, fracture mechanics & high strength concrete, durability. |
| Dr. Ahmed Sana | Asst. Professor | Wave boundary layers, turbulence, sediment transport, hydroformatics, water resources management. |
| Dr. Mohammed Al-Aghbari, | Asst. Professor | Seepage problems in soil and under dams, bearing capacity of foundations with structural skirts |
| Dr. Abdullah Al-Saidy | Asst. Professor | Rehabilitation of structures, behaviour of RC, PC & composite structures, application of advanced fibre composites in civil engineering structures. |
| Dr. Issa Al-Harthy | Asst. Professor | Sound characterization of urban environment, Survey on community noise, Human behaviour in architectural facilities. |

| | | |
|-------------------------|-----------------|--|
| Dr. Ahmed Al-Futaisi | Asst. Professor | Applied environmental geoscience, physically-based pore-scale modelling, multiphase flow in porous media, hydrogeology and hydroinformatics, contaminant fate and transport, soil sorption to organics and heavy metals. |
| Dr. Hesham Eissa | Asst. Professor | Total building performance, building integrated systems, and computational visualization and simulation tools in lighting design. |
| Dr. M. Salim Ferwati | Asst. Professor | Architectural design, spatial behavioural factors, Islamic history, urban design, building construction methods. |
| Dr. Cemal Inceruh | Asst. Professor | Housing and environment design, urban and landscape design, and city beautification. |
| Dr. Khalid Al-Shamsi | Asst. Professor | Characterization of bituminous materials, pavement design and maintenance. |
| Dr. Mahad Bawaain | Asst. Professor | Environmental engineering, water and wastewater treatment technologies and fluid mechanics. |
| Dr. Alaa Mandour | Asst. Professor | Urban designer, theorist and place making professional. |
| Dr. Shaibu Bala Garba | Asst. Professor | Housing and neighbourhood design, culture environment and behavioural studies, urban design, planning and management. |
| Dr. Mohammed El-Kamash | Asst. Professor | Environmental fluid mechanics, coastal environment, water quality modelling, risk management in environmental applications |
| Dr. Maatouk Khokhi | Asst. Professor | Energy conservation in buildings, building science, solar energy, HVAC design, sustainable architecture. |
| Eng. Ghazi Al-Rawas | Lecturer | Remote sensing and geographical information system, hydrology. |
| Eng. Ahmed Qatan | Lecturer | Traffic and transportation engineering, transportation planning, traffic safety, driver behaviour, and accident analysis. |
| Eng. Mohammed Al-Shahri | Lecturer | Engineering surveying and GPS applications. |
| Eng. Saleh Al-Saadi | Lecturer | Energy conservation & management in buildings, HVAC systems design, total indoor environmental quality in buildings and its impact on occupants, renewable & sustainable energy applications in buildings. |



Technical and Support Staff

Table B3: Technical and Support Staff

| Name | Position | Specialization |
|------------------------------|-------------------|---------------------------|
| Mr. Suleiman Al-Kindi | Chief Technician | Engineer |
| Mr. Jamil Al-Yaqoobi | Technician | Engineer |
| Mr. Juma Al-Ruzaiqi | Technician | Engineer |
| Mr. Yaqoub Al-Alawi | Technician | Engineer |
| Mr. Sayed S. Rahman Zaini | Senior Technician | |
| Mr. Salem Al-Ruzaiqi | Technician | |
| Ms. Raya Al-Sharji | Technician | |
| Mr. Taiseer Al-Riyami | Technician | |
| Mr. Mohsen Ghanma | Technician | Architectural Engineering |
| Mr. Fouzel Ameer Marikar | Technician | |
| Mr. Nafeer Abu Alhuda | Technician | |
| Mr. Induka Nilupul Halwalage | Technician | |
| Mrs. Wafa Al-Nabhani | Coordinator | |

Committees

Table B4: Committee Membership.

| Committee | Members |
|---------------|--|
| Accreditation | Dr. Abdul Wahid Hago, Prof. R. Taha, Prof. Awni Shaaban (Arch. Coordinator), Dr. Abdullah Al-Saidy, Dr. Hesham Issa, Dr. Salim Ferwati, Dr. Cemal Inceruh, Dr. M. Alaa Mandour. Dr. Hossam Hassan (Civil Coordinator), Dr. Khalifa Al-Jabri, Dr. Mahad Bawain, Eng. Mobarak Al-Alawi |
| College Board | Dr. Abdul Wahid Hago, Prof. Awni Shaaban, Dr. Abdullah Al-Saidy |
| Computer | Dr. Ahmed Al-Futaisi |
| Curriculum | Dr. Abdul Wahid Hago, Dr. Yahiya Mohamedzein , Dr. Khalid Al-Shamsi, Dr. Abdullah Al-Saidy, Dr. Mohammed Alkamash, Dr. Hesham Eissa |
| Laboratory | Dr. Abdul Wahid Hago, Dr. Khalifa Al-Jabri (Structures), Dr. Shaibu Garba (Architectural Engineering), Dr. Yahia Mohamedzein (Geotechnical), Dr. Hossam Hassan (Highway & Surveying), Dr. Ahmed Al-Futaisi (Hydraulics & Public |

| | |
|--------------------------------------|---|
| | Health), Mr. Sulieman Al-Kindi (Chief Technician) |
| Final Year Projects | Dr. Issa Al-Harthy |
| Postgraduate Studies & Research | Dr. Khalid Al-Shamsi, Dr. Mohamed Al-Aghbari, Dr. Abdullah Al-Saidy, Dr. Mahad Bawain |
| Department Academic Promotion | Dr. Abdul Wahid Hago, Prof. R. Taha, Prof. Awni Shaban, Dr. Ali Al-Harthy, Dr. Khalifa Al-Jabri, Dr. Hossam Hassan, Dr. Ali Al-Nuaimi, Dr. Yahia Mohamedzein, Dr. Salim Al-Oraimi |
| Seminars | Eng. Mobarak Al-Alawi |
| Student Societies/ Social Activities | Dr. M. Al-Aghbari, Dr. S. Ferwati, Dr. Cemal Inceruh |
| Staff-Student Liaison | Dr. Abdullah Al-Saidy, Dr. Salim Al-Oraimi, Dr. Hesham Issa, +6 students |
| Industrial Training | Dr. Hossam Hassan |
| Textbooks Order | Dr. A. Sana |
| Timetabling | Dr. M. Alaa Mandour |
| Publication/Web | Dr. Salim Ferwati, Eng. Jamil Al-Yaqobi |
| Engineering Journal | Dr. Ali Al-Harthy, Dr. Hossam Hassan, Dr. Yahia Mohammedzein, Dr. Abdullah Al-Saidy |
| Executive Committee | Dr. Abdul Wahid Hago |
| Strategic Planning | Dr. Abdul Wahid Hago, Dr. Ali Al-Nuaimi, Prof. Awni Shaaban, Dr. Salim Al-Oraimi, Dr. Ahmed Sana, Dr. Mahad Bawain |
| HSE | Dr. K. Al-Jabri, Mr. S. Al-Kindi |
| Industrial Advisory Board | Dr. Abdul Wahid Hago, Dr. Ali Al-Nuaimi, Prof. Awni Shaaban, Dr. Salim Al-Oraimi. |
| Staff-Recruitment | Dr. Ali Al-Nuaimi, Dr. Salim Al-Oraimi, Dr. Ahmed Al-Futaisi, Dr. Mohammed Al-Aghbari |
| Iwan Publication/ Web | Dr. Salim, Dr. Shaibu Garba, Mr. Mohsen, Eng. Hanan |



POSTGRADUATE STUDIES

M. Sc. Students' Projects

Table B5: Students' Projects

| Project Title | Supervisor | Student Name |
|---|---------------------------------------|--|
| Textile Reinforced Mortar (TRM) for Strengthening of Concrete Members. | Dr Abdullah Al-Saidy | Sofia Al-Zadgali |
| Determination of Efficiency Factors for Some Concrete Supplementing Materials | Abdul Wahid Hago | Juma Sultan Al-Ruzaiqi |
| Potential use of Cement Kiln Dust as a Nano-Material in Cement Mortars, Student graduated in October 2009 | Ali S. Alnuaimi Co-supervisor | Mr. Hammad Abdullah Hammad Al-Nassri |
| Compliance of Reinforced Concrete Villa Designs In Muscat Area (during the period 1996-2005) With Some Of the Existing International Codes of practice – Part-II, Sep. 08- Present. | Ali S. Alnuaimi | Mr. Hamid Hafidh Mohammed Al-kind |
| Compliance of Reinforced Concrete Villa Designs In Muscat Area (during the period 1996-2005) With Some Of the Existing International Codes of practice – Part-III, Feb. 09- Present | Ali S. Alnuaimi | Khuola Moosa Al-Mazroui |
| Compliance of Reinforced Concrete Villa Designs In Muscat Area (during the period 1996-2005) With Some Of the Existing International Codes of practice – Part-I, Sep. 08- Present. | Ali S. Alnuaimi | Mr. Salim Mubarak Shaban Kora |
| Potential Use of Cement Kiln Dust as a Nano-Material in Cement Mortars | Professor Ramzi Taha | Hammad Abdullah Al-Nassari |
| Performance of Plastic Pipes Installed in Dune Sand | Yahia Mohamedzein | Daoud Suleiman Ali Al-Abri |
| Investigation of seepage in Al-Fullajj Dam | Yahia Mohamedzein Amer Al-Rawas | Salem Al-Hashmi |
| Improvement of Sabkha Soil Using a Combination of Geogrids and Geotextiles | Khalifa Al-Jabri Yahia Mohamedzein | Ibrahim Al-Balushi |
| Investigating the Applications of Wastewater Effluents in Oman. | Mahad Said Baawain | Abdulrahim Al-Omairi |
| Investigating the Applications of Wastewater Sludge in Oman | Mahad Said Baawain | Mohsin Al-Jabri |

RESEARCH

Grants and Contracts

Table B6: Grants Held by Faculty Members in the 2006-07 Academic Year.

| Research Title | Investigators | Budget R.O. | Funded By |
|--|---|----------------------------|---|
| Well bore Expandable Tubular Testing Rig. | Dr. Tasneem P.(P.I) Dr. Alnuaimi A. S. Dr. Troutwien | 48,174 (124,160 USD) | Petroleum Development Oman (PDO) |
| Evaluation of Warm Asphalt Mixtures Using Local Materials from Oman | PI: Dr. Khalid Alshamsi Co-PI: Dr. Hossam Hassan | 5,774 | SQU |
| Compressibility and Shear Strength of Al-Auzayba Sabkha Soils | Yahia Mohamedzein Amer Al-Rawas Mohammed Al-Aghbari | 3,780 | SQU |
| Reinforced Mortar (TRM) for Strengthening of Concrete Members. | Dr. Abdullah Al-Saidy Dr. Ali Al-Harathi Dr. Ali Al-Nuaimi Khalifa Al-Jabri Salim Al-Oraimi | 5,728 | SQU |
| Investigating the daylight adequacy of the functional needs in old Omani Citadels and Forts | P.I. Dr.Hesham T. Eissa C.I. Dr. Salim Ferwati | 2,263 | SQU |
| Three-Dimensional Modelling of Effluent Disposal by Marine Outfall at MaF | Baawain, M.S., A. Purnama, Y.V.B. Sarma, K. AlHashmi | 18,807 | PDO |
| Feasibility Study to Upgrade the Effluent Water Treatment Facility and Water Disposal System at the PDO MaF Terminal in Oman | Ahmed, M., Baawain, M.S., Mansour, M., Al- Haddabi, M., and Marikar, F. | 16,320 | PDO |
| Investigating the Applications of Wastewater Effluents and Sludge: Environmental Risk or Potential Energy Source. | Baawain, M.S., Al-Futaisi, A., Ashour, I., Al-Harathi, M., Al-Mashikhi, A., Al- Wahaibi, S., Al-Kindi, A., Khan, T., Al-Akhzami, and Ahmed, M. | 90,000 | HM Research Fund, Sultan Qaboos University |



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|--|-----------------|----------------------------|------------------------|
| Design of supervision of construction of Buildings and Infrastructure of temporary campus. | Ali S. Alnuaimi | | A'Sharqiyah University |
| Preparation of Tender documents for Consultancy Services for Design of Buildings and Infrastructure of permanent campus. | Ali S. Alnuaimi | 45,990 (118,533 USD) | A'Sharqiyah University |

Publications

Refereed Journal Papers

1. **Al-Aghbari, M.Y.** and Dutta, R.K. (2009) "Stabilization of sand with cement by-pass dust." *Journal of Geotechnics and Environment*, Vol. 1, No. 1, pp. 19-32.
2. **Al-Aghbari, M.Y.** and Dutta, R.K. (2009) "Regression Models for Sand Stabilized with Higher Dosages of Cement By-Pass Dust." *The Icfai University Journal of Structural Engineering*, Vol. II, No. 1, pp. 77-93.
3. **Al-Aghbari, M.Y., Mohamedzein, Yahia E-A and Taha, R.** (2009) "Stabilization of desert sands using portland cement and cement by-pass dust." *Journal of Ground Improvement*, Thomas Telford, Volume 162, No G13, pp 145-151.
4. **Al-Jabri K.S. Hago A. W., Taha R., Alnuaimi A.S. and Al-Saidy A.H.** (2009) "Strength and Insulating Properties of Building Blocks Made of Waste Materials." *Journal of Material in Civil Engineering*, ASCE, May, pp191-197.
5. **Al-Jabri, K. S., Al-Alawi, S. M., Al-Nuaimi A. S., and Al-Saidy, A. H.** (2009) "An Artificial Network Model For Semi-Rigid Joints Behaviour in Fire." *Advanced Steel Construction* 5(4):452-464.
6. **Al-Jabri, K. S., Hisada, M., Al-Oraimi, S. K., and Al-Saidy, A. H.** (2009) "Copper Slag as Sand Replacement for High Performance Concrete." *Cement and Concrete Composites*, 31:483-488
7. **Al-Jabri, K. S., Hisada, M., Al-Saidy, A. H., and Al-Oraimi, S. K.** (2009) "Performance of High Strength Concrete Made with Copper Slag as a Fine Aggregate." *Construction and Building Materials*, 23:2132-2140.
8. **Alnuaimi A. S., Taha R. A., Al-Mohsin M. and Al-Harathi A.** "Causes, effects, benefits and remedies of change orders on construction of public projects in Oman." *Journal of Construction Engineering and Management*, ASC, accepted on 16/9/2009.
9. **Alnuaimi A.S., Hago A.W., Al-Jabri K.S. and Al-Saidy A.H.** (2009) "Investigation on the Flexural Behaviour of Ferrocement Pipes and Roof Panels Subjected to Bending Moment, *The Structural Engineering and Mechanics*." *An International Journal*, v33, n4. Accepted September 8, [SEM3301].

10. **Al-Oraimi, S., Hassan, H.F., Hago, A.** (2009) "Recycling of Reclaimed Asphalt Pavement in Portland Cement Concrete." *The Journal of Engineering Research*, (Accepted, September 14, 2007, in press), Vol. 6, No.1, January, pp37-45.
11. **Al-Saidy A. H.,** Klaiber F.W., Wipf T.J., **Al-Jabri, K.S., Al-Nuaimi, A.S.** (2008) "Parametric Study on the Behavior of Short Span Composite Bridge Girders Strengthened with Carbon Fiber Reinforced Polymer Plates." *Construction and Building Materials Journal*, 22, 729-737.
12. **Baawain, M.S.,** and B. Al-Zidi. "Petrochemicals", *Water Environment Research*, Accepted (2009).
13. **Baawain, M.S.,** M. Gamal El-Din, and D.W. Smith. "PIV/PLIF Study of Impinging Jet Ozone Bubble Column with Mixing Nozzles." *Ozone: Science and Engineering*, Accepted (2009).
14. Cemal Inceruh & Oktan Nalbantoglu. "Rediscovering The Principles Of Eco-City As Spatial Attributes In Traditional Housing Settlement: The Case Of Urfa In Southeastern Anatolia." *ArchNet-IJAR: The International Journal of Architectural Research*, Vol. 3. Issue 3, Nov. 2009.
15. Dutta, R.K., **Al-Aghbari, M.Y.** and Parti, R. (2009) "Use of Oil Contaminated Sand in Rural Roads." *International Journal of Earth Sciences and Engineering*, Vol. 2, No. 1, pp. 73-80.
16. **Hassan, H.F., Al-Nuaimi, A., Al-Oraimi, S.,** and Jafar, T. (2008) "Development of Asphalt Binder Performance Grades for Omani Climate." *Construction and Building Materials Journal*, JCBM, Elsevier, Vol. 22, 2008, pp. 1684-1690 (doi:10.1016/j.conbuildmat.2007.06.016).
17. Natarajan Rajmohan, **Ahmed Al-Futaisi** and Said Al-Touqi. (2009) "Geochemical Process Regulating Groundwater Quality in A Coastal Region with Complex Contamination Sources: Barka, Sultanate of Oman." *Environmental Earth Sciences*, DOI 10.1007/s12665-009-0037-1, ISSN 1866-6280, January.
18. Ranjan, S.P., Kazama, S., Sawamoto, **M., Sana, A.** (2009) "Global scale evaluation of coastal fresh groundwater resources." *Ocean and Coastal Management*, Elsevier, Vol.52, pp. 197-206.
19. **Sana, A.,** Ghumman, A. R. and Tanaka, (2009) "Modeling of a rough-wall oscillatory boundary layer using two-equation turbulence models." *Journal of Hydraulic Engineering (ASCE)*, Vol.135, No.1, , pp. 60-65.
20. Shirh, A., **Adeeb, R. and Al-Jabri, K. S.** "Finite Element Analysis of Flush End-plate Bare Steel Connection at Elevated Temperature." *Advances in Structural Engineering*, 2009; 12(3):311-324
21. Suntoyo, Tanaka, H. and **Sana, A.** (2008) "Characteristics of turbulent boundary layers over a rough bed under saw-tooth waves and its application to sediment transport", *Coastal Engineering*, Elsevier, Vol.55, No.12, pp. 1102-1112.
22. **Taha, R. A.** (2008) "Using Petroleum Tank Bottom Sludge as an Asphalt Binder." *Asphalt Pro*, Vol. 2, No. 3, December, pp. 24-25 (invited article).



Conference Papers

1. Al Alawi, A., Ramaswamy, M., **Al Jabri, K. S.**, and Gutgesell, H. (2008) "A feasibility Study to Operate a Primary Health Unit in Oman using Green Energy." International Conference on Harnessing Technology: Challenges and Opportunities in GCC states. 12-13 October, Muscat, Oman.
2. Al Alawi, A., Ramaswamy, M., Al-Jahwari, F. and **Al Jabri, K. S.** (2009) "A Feasibility Study to Use Solar Cooling System in one of the Typical Schools in Sultanate of Oman." In: Proceedings of the 4th International Exergy, Energy and Environment Symposium (IEEEES-4), 19 – 23 April, Sharjah, U.A.E. [ISBN 978-9948-427-13-1].
3. **Al Futaisi, A.** Rajmohan, N., and Al-Touqi, S. (2008) "Integrated Concept for Groundwater Evaluation and Protection: Barka (Oman) as Case Study." The International Conference in Water Resources and Environmental Engineering, 16-20 June, Malaysia.
4. **Al-Jabri, K. S.** (2009) "Analysis of Semi-rigid Joints in Fire using Different Numerical Modelling Methods." In: Proceedings of the Third International Conference on Modelling, Simulation and Applied Optimization (ICMSAO'09); Kucuk et al. (eds), January 20-22, Sharjah, United Arab Emirates. [ISBN 978-9948-427-12-4].
5. **Al-Jabri, K. S.** (2009) "Recycling of Copper Slag as a Construction Material." In: Proceeding of the 1st International Conference on Recycling and Reuse of Materials (ICRM 2009). Paper No. IL90 (Full paper in CD), 17-19, July, Kottayam, India.
6. **Al-Jabri, K. S.** and Al-Alawi, S. M. (2009) "AN ANN Model for Predicting the Behaviour of Semi-rigid Composite Joints at Elevated Temperature." In: Proceedings of the 5th International Symposium on Steel Structures; Choi, M. et al. (eds.), 12-14 March, Seoul, South Korea, pp. 292-298.
7. **Al-Jabri, K. S.**, Ramaswamy, M., Al Alawi, A., and Al-Jahwari, F. (2008) "Strategies for the Development of Sustainable Buildings in the Sultanate of Oman." In: Proceedings of the Pravara International Conference on Emerging Trends in Engineering 20th -22nd December, Loni, India.
8. **Alnuaimi A.S.** (2009) "Use of Copper Slag as Replacement to Fine Aggregate in RC Slender Columns." The Fourth International Conference on Computational Methods and Experiments in Material Characterisation, MC'09, 17 -19 June, New Forest, UK.
9. **Al-Saidy A.H., Al-Harthy, A.S. and Al-Jabri K.S.** (2008) "Effect of Damaged Concrete Cover on the Structural Performance of CFRP Strengthened Corroded Concrete Beams." *Proceedings of the International Conference on Concrete Repair, Rehabilitation and Retrofitting (ICCRRR 2008)*, 24 -26 November, Cape Town, South Africa.
10. **Baawain M.S.**, M. Gamal El-Din, D.W. Smith, and A. Mazzei. (2009) "Inline Multi-Jets Ozone Contactors: Performance and Scalability." International Ozone Association (IOA)/ International Ultra Violet Association Conference, Boston, MA, USA, May 3-6.
11. **Garba S.B.** (2008) "Time, Change and Tradition in Place Preservation and Conservation." In Salim E, Shatha M., & Jamal Q. (eds), Responsibilities and Opportunities in Architectural Conservation- Theory, Education and Practice. Proceedings of CSAAR 2008B Conference held at the College of Architecture and Arts, Petra University, Jordan, November, ISBN: 978-9957-8602-1, pp321-336.
12. **Garba S.B.** (2009) "The Challenge of Faculty Involvement in the Design and Implementation of Online Courses." In the Proceedings of the Edulearn09

- Conference, International Conference on Education and New Learning Technologies, Barcelona (Spain) 6-8 July, ISBN 978-612-9802-0, 2009, pp.2106-2114.
13. Habib, A., M. Gamal El-Din, **Baawain, M.S.**, and I. Buchanan. (2009) "Investigating the Performance of an Aerated Grit Chamber." In Proc. of Western Canada Water Conference, Winnipeg, Canada, September 20-23.
 14. **Hassan, H.** (2009) "Evaluation of Petroleum-Contaminated Soil Effect on the Properties of Hot-Mix Asphalt Concrete using Dynamic Modulus $|E^*|$ and Indirect Tensile Tests." Proceedings of the 7th International RIELM Symposium ATCBM09 on Advanced Testing and Characterization of Bituminous Materials. Rhodes, Greece, from May 27-29, pp.497-505, ISBN:978-0-415-55854-9.
 15. **Inceruh, C.** (2009) "Evaluation on the Effects of Climate Changes and Implemented Policies on Modern Muscat City-Oman." The International Conference on Globalism and Urban Change: City Futures in a Globalising World. 4-6 June, Madrid, Spain.
 16. **Sana, A.** (2008) Tanaka, H. and Suntoyo. "Turbulence modeling of wave boundary layers on a rough bottom." Proceedings of 31st International Conference on Coastal Engineering, Hamburg, Germany.
 17. **Sana, A.** (2009) "Verification of a turbulence model for rough oscillatory boundary layers." 33rd IAHR 2009 Congress, Vancouver, Canada (accepted).
 18. **Sana, A.** Al-Yaqoubi, A. and Tanaka, H. (2009) "Seawater quality in Gulf of Oman." 3rd International Conference on Estuaries and Coasts (ICEC 2009), Sendai, Japan, pp.167-174.
 19. T. Pervez and **R.A. Taha.** (2009) "Integration of Professional Practice and Ethical Issues in Engineering Curricula." Proceedings, Symposium on Engineering Education, Al-Ain, United Arab Emirates, April.
 20. **Taha, R.A., Shaaban, A. and Al-Harthy, A.** (2009) "The Process Towards the Accreditation of the Architectural Engineering Program at Sultan Qaboos University." Proceedings, Symposium on Engineering Education, Al-Ain, United Arab Emirates, April.

Technical Reports

1. **Alnuaimi A.S.**, Al-Hashmi S. Z., **Al-Yaqoobi A.O.** and Badawi A. "Report on the Sultan Qaboos University Master Plan for Buildings and Infrastructure Expansion. May 2009, pp. 2008 - 2025.
2. **Baawain, M.S.**, M. Ahmed, M. Mansour, F. Marikar, M. Al-Haddabi, A. Bahadori, H. B. Vuthaluru, A. Sathasivan, and B. Badruzzaman. "Feasibility Study to Upgrade the Effluent Water Treatment Facility and Water Disposal System at the PDO MaF Terminal in Oman." Final Report, Petroleum Development of Oman Company, April 2009.
3. **Shaaban, Awni K. & Garba, Shaibu Bala** "Stage-I for the Master Plan of the Al-Khodh Valley Science and Technology Park." Submitted to the Research Council, January 2009.
4. **Shaaban, Awni K. & Garba, Shaibu Bala** "Project Proposals for the Master Plan of the Al-Khodh Valley Science and Technology Park." Submitted to the Research Council, October 2008.



5. **Shaaban, Awni K. & Garba, Shaibu Bala** "Stage-II for the Master Plan of the Al-Khodh Valley Science and Technology Park." Submitted to the Research Council, June2009.

OTHER ACTIVITIES

Consultancy

1. **Alnuaimi A.S.** "Preparation of master plan for the area of SQU south, architectural design of four types of buildings and preparation of tender documents for investors (Land area = 0.5km²)." SQU male students' accommodation, April 09 – Present.
2. **Alnuaimi A.S.** "Preparation of master plan for the area of SQU west, architectural design of petrol station and car services, shopping centre and preparation of tender documents for investors (Land area = 55,700m²)." SQU Petrol station and shopping centre, April 09 – Present.
3. **Al-Saidy, A.** An expert member in the reconciliation and arbitration committee of Qurayat Court in the case of damages in the houses due to rock explosions in Sur-Qurayat road, June 2008.
4. **Garba , S.B.** Participant in Project for the Preparation of the Master Plan for the Research and Innovation Precinct (Al-Khodh Science Park) for the Research Council, Sultanate of Oman.
5. **Shaaban, A.K.** The Research Council/ The Al-Khodh Valley Science & Technology Park Master Plan, 2009.
6. **Taha, Ramzi,** Member of an Institutional Quality Audit Panel, Oman Accreditation Council. Quality audit of Scientific College of Design, May 24-26, 2009.

Short Courses Workshop

1. **Alnuaimi, A.S.** "Design of reinforced concrete structures." 6-10 June 2009, Sultan Qaboos University.
2. **Alnuaimi, A.S.** "Estimating construction cost." 30 May -3 June 2009, Sultan Qaboos University.
3. **Eissa, H.T.** "VESCiD (Visual Exploration of Cultural Style in Design) Workshop, as a member in an international collaborative project funded by **KAIST** (Korea Advanced Institute of Science and Technology)." Republic of Korea, September 2009.
4. **M.B. Baawain,** "One Day Workshop on the progress of the HM Research Project "Investigating the Applications of Wastewater Effluents and Sludge: Environmental Risk or Potential Energy Source" to Companies and partners related to and interested in the project." Civil and Architectural Engineering Department conference room, April 22, 2009.

Short-Courses and workshops attended

1. **Al-Jabri, K.** Becoming an Effective Supervisor Workshop, 24-25 January 2009, Sultan Qaboos University, Oman.
2. **Al-Jabri, K.** Seismic Hazard Assessment and Site Effects, 31 January – 4 February, 2009, Earthquake Monitoring Centre, Sultan Qaboos University, Oman.

3. **Al-Jabri, K.** Seminar on Intelligent and Sustainable Buildings, organized by Directorate General of Specifications, Ministry of Commerce and Industry, 22 October 2008, Muscat, Oman.
4. **Al-Jabri, K.** Workshop on Safety, 26 January 2009, College of Engineering, Sultan Qaboos University, Oman.
5. **Al-Saidy, A.** a workshop on "Becoming an Effective Supervisor" held at Sultan Qaboos University on 26 - 27 of January 2009.
6. **Al-Saidy, A.** a workshop on "Non-Destructive Testing of Concrete Structures" held at the University of Cape Town, South Africa on 27th of November 2008.
7. **Al-Saidy, A.** a workshop on "Strengthening of Structures with Composite Materials" held at the University of Cape Town, South Africa on 28th of November 2008.
8. **Alshamsi, K.** "Becoming an Effective Supervisor" workshop, 26th-27th January 2009. Sultan Qaboos University, Oman.
9. **Alshamsi, K.** "Oman Road Safety Workshop", 9th-10th June 2009. Oman Road Safety Association, Muscat, Sultanate of Oman.

Seminars

Table B7: Seminars

| Title | Presenter | Affiliation | Date |
|--|-----------------------------|--|--------------------|
| 1. Performance of Plastic Pipes Installed in Dune Sand | Eng. Daoud Suleiman Al Abri | M.Sc. Student | September 16, 2008 |
| 2. Performance of Plastic Pipes Installed in Dune Sand | Eng. Daoud Suleiman Al Abri | M.Sc. Student | October 21, 2008 |
| 3. Seepage Investigation in Al-Fulaij Dam using a Numerical Model | Eng. Salem Al-Hashmi | M.Sc. Student (Seminar 1) | November 18, 2008 |
| 4. The Engineer, The Contract, Claims and Disputes; A view from Driver Consult | Kevin McPhilomy | Driver Consult Oman LLC | December 17, 2008 |
| 5. Computational Design Applications in Architectural Engineering | Dr. Ji-Hyun Lee | Associate Professor, Graduate School of Culture Technology, KAIST, Korea, and | January 17, 2009 |
| 6. Earthquake and Seismic Assessment of Structures: The State of the Art | Prof. Erdal Safak | Head, Candidly Observatory and Earthquake Research Institute Bogazici University, Turkey | February 4, 2009 |
| 7. Investigation of Seepage Problem in Al-Fulaij Recharge Dam in Barka using a Numerical Model | Eng. Salem Al-Hashmi | M.Sc. Graduate Student | February 10, 2009 |



| | | | |
|--|---|--|-------------------|
| 8. Making a Difference with E-learning | Andrea Hall | Educational Designer in CET | February 16, 2009 |
| 9. Potential Use of Cement Kiln Dust as Nano-Material in Cement Mortars | Hammad AL-Nassri | M.Sc. Student | February 21, 2009 |
| 10. Recent Researches in Structural Engineering: Personal Experiences | Prof. Walid Abdulmalik Thanone | Nizwa University | March 7, 2009 |
| 11. The Effect of the Crusher Locations on the Strength of High Performance Concrete in Oman | Eng. Al-Moatasim Zahran Mohammed Al Abri | MSc Student Civil Engineering. | April 21, 2009 |
| 12. Introduction to Careers in Cost Management and Project Management | Mr. Alan Wallace, Associate, Davis Langdon | <i>Global Construction Consultants</i> | May 10, 2009 |

Visits

1. **A.S. Alnuaimi**, The Fourth International Conference on Computational Methods and Experiments in Material Characterisation, MC'09, 17 -19 June 2009, New Forest, UK.
2. **A.S. Alnuaimi**, Use of copper slag as replacement to fine aggregate in RC slender columns" the Fourth International Conference on Computational methods and experiments in material characterisation, MC'09, 17 -19 June 2009, New Forest, UK.
3. **Khalifa Al-Jabri**, 1st International Conference on Recycling and Reuse of Materials (ICRM 2009), 17-19, July 2009, Kottayam, India.
4. **Khalifa Al-Jabri**, 4th International Exergy, Energy and Environment Symposium (IEEES-4), 19 – 23 April 2009, Sharjah, U.A.E.
5. **Khalifa Al-Jabri**, 5th International Symposium on Steel Structures, 12-14 March 2009, Seoul, South Korea.
6. **Khalifa Al-Jabri**, Third International Conference on Modelling, Simulation and Applied Optimization (ICMSAO'09), January 20-22, 2009, Sharjah, United Arab Emirates.
7. **Taha, R.** Symposium on Engineering Education, Al-Ain, United Arab Emirates, April 16-18, 2009.
8. **Taha, R.** 6th International Conference on Maintenance and Rehabilitation of Pavements and Technological Control, Torino, Italy, July 8-11, 2009.

Cooperation with Local and Foreign Organizations

1. **Al-Jabri, K.** Adviser: Workshop on Safety, College of Engineering, SQU, 26 January 2009.
2. **Al-Jabri, K.** Invited Speaker, Directorate General of Specifications and Standardization, Ministry of Commerce and Industry, 22 October 2009.
3. **Al-Jabri, K. Invited Speaker:** 1st International Conference on Recycling and Reuse of Materials ICRM2009, 17-19 July 2009, Kottayam, India
4. **Al-Jabri, K. Invited Speaker:** 5th International Symposium on Steel Structures (ISSS'09), 12-14 March 2009, Seoul, South Korea.
5. **Al-Jabri, K.** Member: Advisory Board, Caledonian Journal of Engineering (ISSN 1999-9496).
6. **Al-Jabri, K.** Member: Editorial Board, Journal of Disaster Advances (ISSN 0974-262X).
7. **Al-Jabri, K.** Member: Editorial Board, Journal of Structural Fire Engineering.
8. **Al-Jabri, K.** Member: Workshop on Basic Safety Training, SQU, Spring 2009.
9. **Al-Jabri, K. Session Chair,** Recycling and Reuse of Polymers – I, 1st International Conference on Recycling and Reuse of Materials ICRM2009, 17 July 2009, Kottayam, India.
10. **Al-Jabri, K.** Session Chair: Session 3B-1: Civil Engineering – Structures V, The Third International Conference on Modeling, Simulation and Applied Optimization (ICMSAO'09), January 22, 2009, Sharjah, UAE.
11. **Alnuaimi A.S.,** Member, Foundation Committee, University of Buraimi, May 07 – May 09.
12. **Alnuaimi A.S.,** Member, Ministry of Commerce and Industry, Omani Standard for Construction Materials Committee, June 09 – Present.
13. **Alshamsi, K.** A member of the scientific committee of the Gulf Conference on Transportation, 2008, Dubai, UAE, 2008.
14. **Baawain, M.S.** attended “EnergyPact Conference” as one of the Omani delegation team led by His Excellency the Minister of Oil and Gas (March 15-18, 2009).
15. **Baawain, M.S.** external examiner for: MSc thesis of Ms. Mariam Said Nasser Al-Dagheishi, Department of Soils, Water and Ag. Eng. CAMS. Title: Effect of Sewage Sludge Application on Heavy Metals Movements in Calcareous Soil. August 30, 2009.
16. **Baawain, M.S.** participated in organizing the World Water Day at SQU on March 22, 2009.
17. **Baawain, M.S.** presentation: “Environmental Areas at College of Engineering, SQU” during college of Engineering/SQU visit to college of Engineering/UAEU on May 19, 2009. I also participated in the academic and research discussion related to environmental engineering field.
18. **Baawain, M.S.** presentation: “Feasibility Study to Upgrade the Effluent Water Treatment Facility and Water Disposal System at the PDO MaF Terminal in Oman” during PDO-SQU Collaborative Projects Presentations on June 2, 2009.



19. **Baawain, M.S.** presentation: "Proposed Common Areas of Cooperation between SQU and Ministry of Environment and Climate Affairs" during the visit of His Excellency the Minister of Environment and Climate Affairs to SQU on April 25, 2009.
20. Cemal Inceruh, "Designing Smart Building in Alkhoud-Muscat". Interview with Alwatan Daily News Paper. NO:(9545)-VOL 39, Thursday, 17 September, 2009, Sultanate of Oman.
21. **Ferwati,,M.S.** Chair of session 2 in the 4th AGCC Municipal Conference, The Ministry of Regional Municipalities and Water Resources, April, 19-21, 2009.
22. **Ferwati,,M.S.** Conference papers' referee and Member in the scientific committees of the 4th AGCC Municipal Conference, The Ministry of Regional Municipalities and Water Resources, April, 19-21, 2009.
23. **Ferwati,,M.S.** Member in the organizing committees of the 4th AGCC Municipal Conference, The Ministry of Regional Municipalities and Water Resources, April, 19-21, 2009.
24. **Inceruh, C.** "Designing Smart Building in Alkhoud-Muscat". Interview with Alwatan Daily News Paper. Issue 10334, Thursday, 17 September, 2009, Sultanate of Oman.
25. **Inceruh, C.** Chair of session 1 in the 4th AGCC Municipal Conference, The Ministry of Regional Municipalities and Water Resources, April, 19-21, 2009.
26. **Inceruh, C.** Conference papers' referee and Member in the scientific committees of the 4th AGCC Municipal Conference, The Ministry of Regional Municipalities and Water Resources, April, 19-21, 2009.
27. **Inceruh, C.** Member in the organizing committees of the 4th AGCC Municipal Conference, The Ministry of Regional Municipalities and Water Resources, April, 19-21, 2009.



Prof. Mohamed Ould-Khaoua, Professor
Head of the Department
PhD, University of Glasgow, UK, 1994.

SUMMARY

The Department of Electrical & Computer Engineering offers B.Sc, M.Sc. and PhD degrees in Electrical & Computer Engineering (ECE). In addition to this and in collaboration with the Mechanical & Industrial Engineering Department, it also offers a B.Sc. degree in Mechatronics Engineering (MCE). The third batch of students in the MCE program graduated this year. The MCE program has been fully accredited by ABET in November 2008.

Table C1: Summary

| | 2006-07 | 2007-08 | 2008-09 |
|-------------------------------|---------|---------|---------|
| Faculty | 39 | 39 | 39 |
| <i>Support Staff</i> | 13 | 13 | 13 |
| <i>Total</i> | 52 | 52 | 52 |
| <i>On Study Leave</i> | 7 | 8 | 9 |
| Undergraduate Program | | | |
| <i>Enrolment (Y2-5)</i> | 575 | 873 | 949 |
| <i>Courses offered</i> | 79 | 87 | 84 |
| <i>Graduate</i> | 94 | 75 | 79 |
| Graduate Program | | | |
| <i>Enrolment</i> | 19 | 29 | 41 |
| <i>Courses offered</i> | 12 | 13 | 12 |
| <i>Theses Completed</i> | 5 | 8 | 3 |
| Research | | | |
| <i>Grants</i> | 8 | 5 | 18 |
| <i>Contracts</i> | 4 | 13 | 6 |
| <i>Consulting</i> | 0 | 3 | 4 |
| Publications | | | |
| <i>Refereed Journals</i> | 41 | 58 | 52 |
| <i>Conference Proceedings</i> | 43 | 69 | 66 |

Despite the heavy teaching, advising, and administrative loads on staff that during this academic year, the ECE Department has successfully completed several externally funded research and consultancy projects and grants and conducted several seminars and short courses. The total number of projects and grants reached 28 projects with a total funding of O.R. 513,897. In addition, the department had successfully organized the International Conference on Communications, Computers and Power (ICCCP'09) which took place at SQU February 15 through February 18, 2009. On the other hand, students of the IEEE society conducted many activities including workshops, tutorials, design competitions, exhibitions and conference participation.

Finally, the 2008-2009 year was successful and the department is looking forward for another productive academic year.

DEPARTMENTAL PROFILE

Faculty

During the academic year 2008/09 one new faculty member joined the Department, Dr. Mounir Bouzguenda as an Associate Professor. In addition, the Department had 3 visiting consultants.



Table C2: Academic Staff

| Name | Position | Specialization |
|--------------------------|---|---|
| Dr. Ibrahim Metwally | Professor | Electromagnetic fields, coronas, transients in power systems, power quality, overvoltage protection, gas-insulated switchgear and lines, stray-current corrosion, hazards of lightning strikes. |
| Dr. Mohamed Ould Khaoua | Professor | Computer Networking, Wireless Mobile Networks, Parallel Architectures, Performance Modelling and Evaluation. |
| Dr. Abdullah H. Al-Badi | Associate Professor | Electrical machines, drives, power electronics, power quality, interference and high voltage. |
| Dr. Abdulnasir Y. Hossen | Associate Professor | Digital signal processing, Biomedical signal processing, digital communication, artificial intelligence and neural networks. |
| Dr. Adel R. Gastli | Associate Professor, Head of the Department | Power electronics, electric drives, renewable energy, and power system analysis |
| Dr. Afaq Ahmad | Associate Professor, Assistant Head | Digital system design & test; Fault-tolerant computing; System modelling & analysis; Coding theory & error detection. |
| Dr. Ahmad M. Al-Naamany | Associate Professor | Applied computer control and artificial intelligence, Networking. |
| Dr. Arif S. Malik | Associate Professor | Energy policy and planning. |

| | | |
|-------------------------|---------------------|--|
| Dr. Ayman I. Elnaggar | Associate Professor | Networking, multimedia information networks, multimedia systems, e-learning, home automation. |
| Dr. Eyad Feilat | Associate Professor | High Voltage Engineering, Power Quality, Application of Signal Processing to Power Systems |
| Dr. Faical Mnif | Associate Professor | Control systems and robotics. |
| Dr. Farid Touati, | Associate Professor | Design and simulation of digital & analogue circuits. |
| Dr. Hadj Bourdoucen | Associate Professor | Fiber optic communication & optical networking, integrated electronics, computerized instrumentation and measurement. |
| Dr. Joseph A. Jervase | Associate Professor | Microwave antennas & propagation. |
| Dr. Lazhar Khriji | Associate Professor | Signal and image processing and analysis, nonlinear filtering, adaptive filtering, image coding, Artificial Intelligence, hardware implementation of DSP algorithms. |
| Dr. Mounir Bouzguenda, | Associate Professor | Renewable energy, power systems planning, power systems production, energy management. |
| Dr. Saleh M. Al-Alawi | Associate Professor | Forecasting, prediction, optimization & application of artificial intelligence techniques |
| Dr. Ali Al-Maqrashi | Assistant Professor | Power system protection, high voltage and power systems economics |
| Dr. Ali M. Al-Lawati | Assistant Professor | Fiber optic sensors & communication, image processing, wavelet transforms & applications |
| Dr. Amer Al-Habsi | Assistant Professor | Computer arch., statistical signal processing, adaptive signal processing |
| Dr. Amer Al-Hinai | Assistant Professor | Power systems: control and operation, multi-agent systems: application of control to power systems, optimization techniques and applications to power systems |
| Dr. Asaad Elmoudi | Assistant Professor | Power Systems, Power Quality. |
| Dr. Dawood Al-Abri, | Assistant Professor | Communication and computer networks. |
| Dr. Fahad Bait-Shiginah | Assistant Professor | Modelling and Simulation, Discrete Event System Specification (DEVS), Cellular space modelling, Artificial Intelligence, database and Software Engineering |
| Dr. Tariq Jamil | Assistant Professor | Computer architecture and information technology |
| Dr. Zia Nadir | Assistant Professor | Electromagnetic compatibility and RF communications system |
| Mr. Ahmed Al-Maashari | Lecturer | Computer networking, microprocessors and software developments |
| Mr. Ali Al-Shidhani | Lecturer | Computer engineering, computer networks & security |
| Mr. Amir M. AbdulGhani | Lecturer | Wireless and mobile communication, signal processing and information technology |



| | | |
|-----------------------------|--------------|---|
| Mr. Hassan Al-Lawati | Lecturer | Antennas and Propagation, Wireless Communication. |
| Mr. Mohammed Bait-Suwailem | Lecturer | Communication systems and Antennas. |
| Mr. Mohammed Hamdan Al-Badi | Lecturer | Power quality and power systems. |
| Mr. Muhammad Al-Nadabi | Lecturer | Digital signal processing (DSP). |
| Mr. Rashid Al-Abri | Lecturer | Power electronics |
| Mr. Samir Al-Busaidi | Lecturer | Telecommunications |
| Mr. Salem Al-Hinai | Demonstrator | Control |

Technical and Support Staff

Table C3: Technical and Support Staff

| Name | Position | Specialization |
|---------------------------|-------------------|--|
| Daniel Adutwun | Senior Technician | Electronics |
| Jaber M. Al-Balushi | Senior Engineer | Electronics and Communications |
| Khalaf Al-Ufi | Senior Engineer | Control, Electronics and Instrumentation |
| Mohammed Habib Al-Harrasi | Technician | |
| Saleem S. Al-Rashdi | Senior Engineer | Electrical and Electronics Eng. |
| Saleh Al-Yazidi | Senior Engineer | Electrical and Electronics Eng. |
| Suleiman Al-Sinani | Engineer | Electrical and Electronics Eng. |
| Yousef Al-Shuaili | Engineer | Electrical and Electronics Eng. |
| Iftaquaruddin Mohammed | Software Engineer | Electrical and Electronics Eng. |
| Abbas Eissa Teirab | Engineer | Electrical and Electronics Eng. |
| Nabil Al Bachir Hamza | Lab Supervisor | Electrical Eng |
| Suleiman Al-Kalbani | Lab Supervisor | Electrical Eng |
| Laila Al-Hasani, | Coordinator | Information Technology |
| Fakhriya Al-Rahbi | Coordinator | Information Technology |

Committees

Table C4: Departmental Committees membership

| Committee | Members |
|---|---|
| Industrial Advisory Board | Dr. Adel Gastli, Dr. A. Al-Badi, Dr. A. Al-Naamany |
| Student Staff Liaison | Dr. Adel Gastli, Dr. Ali Al-Lawati, Students from each cohort |
| Student Advising | Dr. Afaq Ahmed, Dr. D. Al-Abri Dr. A. Al-Badi, Dr. Zia Nadir, Dr. A. Elnaggar, Dr. J. Jervase, Dr. F. Touati |
| Human Resources | Dr. A. Al-Badi, Dr. Adel Gastli, Dr .S. Al-Alawi, Dr. H. Bourdoucen, Dr. A. Al-Naamany, Dr. A. Al- Lawati, Dr. A. Al-Magrashi |
| Student Society & Social Activities | Dr. A. Al-Hinai, Dr. D. Al-Abri, Dr. N. Tarhuni, Mr. S. Al-Hinai, Mr. Y. Al-Shueili, Mr. S. Al-Rashdi |
| Research & Postgraduate Studies | Dr. H. Bourdoucen, Prof. M. Ould Khaoua, Dr. S. Al-Alawi, Prof. I. Metwally, Dr. A. Hossen, Mr. A. Tirab |
| Industrial Outreach & Community | Dr. S. Al-Alawi, Dr. A. Elnaggar, Dr. A. Hossen, Dr. A. Al-Naamany, Dr. A. Al-Magrashi, Dr. A. Al-Hinai, Dr. A. El-Moudi, Mr. S. Al-Sinan |
| Final Year Projects | Dr. A. Malik, Prof. I. Metwally, Dr. K. El-Metwally, Dr. J. Jervase, Dr. A. Al-Habsi, Mr. H. Al-Lawati, Mr. J. Al-Belushi, Mr. K. Al-Oufi |
| HSE & Teaching Facilities | Dr. A. Elnaggar, Dr. F. Touati, Dr. N. Mohammed, Dr. A. El-Moudi, Mr. S. Al-Hinai, Superintendent, HSE Officer |
| Publications & Web | Dr. L. Khriji, Dr. Arif Malik, Dr. A. Al-Naamany, Dr. F. Baitshighnah, Dr. N. Tarhuni, Mr. H. Al-Lawati, Mr. I. Moh'd, Mr. D. Adutwun |
| Accreditation, Curriculum & Timetabling | Dr. J. Jervase, Dr. Afaq Ahmed, Prof. M. Ould Khaoua, Dr. A. Al-Badi, Dr. F. Mnif, Dr. T. Jamil, Dr. Z. Nadir, Dr. A. Al-Habsi, Superintendent |
| Strategic planning | Dr. Adel Gastli, Dr. Afaq Ahmed, Prof. M. Ould Khaoua, all committees' chairs, Superintendent |

POSTGRADUATE STUDIES

M. Sc. Students' Project

Table C5: Students' Projects

| Project Title | Supervisors | Student Name |
|---|---------------|-------------------------------------|
| Radio Resource Management for Wireless Networks | N. Tarhuni | Daud Khalfan Abdullah Al Brashdi |
| Automated Cells Connection Optimizer for Photovoltaic Arrays | Adel Gastli | Yousef Al-Shueily |
| Design and Characterization of Spacers used in High-Voltage Gas-Insulated Lines and Switchgear. | I.A. Metwally | S.S. Al-Sinani |



| | | |
|---|-------------------|----------------------------------|
| Reduction of Distribution system Losses in Mazoon Electricity Company | I.A. Metwally | Y.M. Al-Mahroqi |
| Modeling and Design of the Unified Power Flow Controller | A. Al-Hinai | Khalid Al-Wahaibi |
| Power-System Stability Study of Interconnecting Salalah Grid with Oman Main Interconnected Transmission System (MITS) | A. Al-Hinai | Mahmood S. Al-Ismaili |
| Design of 3.1-4.8 GHz UWB Low-Noise Amplifier for WPANs IEEE 802.15.3a Standard Receivers. | F. Touati, | Khalid AL-Zeedi |
| Empirical MPL (Maximum Permissible Loss) modeling for outdoor wireless links. | Z. Nadir | Mahmood Al Rashdi |
| Design of a TFI-OFDM Ultra-Wideband Standard Receiver. | F. Touati | Salem Al Arafati |
| QoS Architecture in MPLS networks | M. Ould-Khaoua | Ismail Al-Shaqsi |
| Performance Comparison of Routing Protocols in MANETs | M. Ould-Khaoua | Zahra Al Balushi |
| OFDM Peak-to-Average Power Ratio Reduction Techniques | N. Tarhuni | Mohammed Masoud Ali Kashoub |
| Radio Resource Management for Wireless Networks | N. Tarhuni | Daud Khalfan Abdullah Al Brashdi |
| Design of Text-Independent Speaker Identification for telephone lines | Abdulnasir Hossen | Shaikha Al-Hajri |

Ph.D. Students' Projects

Table C6: Students' Projects

| Project Title | Supervisor | Student Name |
|---|----------------|------------------------------------|
| Counter-Based Probabilistic Broadcasting in Mobile Ad Hoc Networks | M. Ould-Khaoua | A. Mohammad (Glasgow University) |
| Dynamic Counter-Based Broadcasting in Mobile Ad Hoc Networks | M. Ould-Khaoua | S. Al-Humoud (Glasgow University) |
| Traffic Locality Oriented Route Discovery Algorithms for Mobile Ad Hoc Networks | M. Ould-Khaoua | M. Al Rodhaan (Glasgow University) |

RESEARCH**Grants and Contracts**

Table C7: Grants held by faculty members in the 2008-2009 academic year.

| Project Title | Investigators | Fund (O.R.) | Sponsor |
|--|---|--------------------|--|
| Analysis & Setting of Protective Devices at Selected Distribution Feeders in Muscat Electricity Distribution Company Network | A. Al-Hinai | 6,135 | MEDC |
| Artificial Intelligence Techniques-Based Autonomous Mobile Robot Navigation | F. Touati and L. Khriji and A. Al-Yahmadi | 3,900 | SQU |
| Automated Cell Connection Optimizer for Photovoltaic Arrays | A. Gastli, H. Bourdoucen and H. Al-Lawati | 9,434 | SQU |
| Automation Cost/Benefit Study for Muscat Distribution Company | Arif Malik | 2,750 | SQU |
| Control of localization of underactuated nonholonomic ships. | F. Mnif, F.Touati and A. Al-Yahmadi | 4,200 | SQU |
| Customer Satisfaction Survey for Electricity Consumers in Oman | A. Al-Badi | 2,560 | Integrated Technology Services Company |
| Design of an Early Warning Flood Detection System Based on Wireless Sensor Networks | Afaq Ahmed and Amer Al- Habsi | 4,039 | SQU |
| Design of high-Performance UWB Receivers for Smart-Traffic Control Systems | L. Khriji and F. Touati | 4,900 | SQU |
| Designing Highly Efficient Power Amplifiers for Communication Industry | Z. Nadir, F. Touati and J. Jervase | 4,905 | SQU |
| Design and Testing of a Sand Detector | H. Bourdoucen, A. Naamany and M. Meribout | 4,673 | SQU |
| Design and Optimization of High-speed Optical Modulators and Systems | H. Bourdoucen, A. Al Lawati (SQU), B M A Rahman and K T V Grattan (UK) | 25,476 | British Council UK |



| | | | |
|--|--|---------|--|
| Development of Information Technology Training and Research Infrastructure | Ahmed Al Naamnay, Hadj Bourdoucen, J. Jervase | 184,100 | Strategic Research HM Funds |
| DSP/Microcontroller based Efficiency Optimization of Induction Motor | A. Al-Badi, A. Gastli and K. Elmetwally | 5,225 | SQU |
| Electromagnetic Field Measurements | A. Al-Badi | 9,797 | Authority for Electricity Regulation |
| Error Detection and Correction Schemes for Fault-Tolerant Memory Systems | Afaq Ahmad, and Tariq Jamil, and Zia Nadir | 2,268 | SQU |
| Fiber Optic Sensing and Integration into Optical Communications Systems | A. Al-Lawati and H. Bourdoucen | 4,500 | SQU |
| Kauther Phase II: Harmonics Study | A. Al-Hinai | 30,000 | PDO |
| Losses Reduction in Abnormally and Normally Loaded Distribution Transformers | A. Al-Badi, A. Al-Mudi and I.A. Metwally | 8,315 | Mazoon Electricity Company |
| Monitoring and Diagnostics of Power Transformers | L. El Moudi and A. Gastli | 3,000 | SQU |
| Optimal VAR Compensation for Electrical Distribution Systems Using Particle Swarm Optimization, Application to SQUH Distribution Network | A. Al-Hinai and A. Al-Badi | 5,706 | SQU |
| Performance Evaluation of Flooding in Wireless Mobile Ad Hoc Networks (MANETs) | M. Ould-Khaoua | 2,900 | SQU |
| Power System Study for Occidental of Oman-Block 9 Electrical Power Network | A. Al-Hinai | 66,500 | Occidental of Oman |
| Renewable Energy Business Opportunities in Duqum-Oman | A. Gastli, S. Al Aalwi, H. Bourdoucen, A. Malik, F. Touati, A. Al Lawati, A. Al Badi | 15,364 | Daewoo Shipbuilding & Marine Engineering |

| | | | |
|---|---------------------------------|-------|--------------|
| Soft-Decision Wavelet Technique: Analysis and Applications | Abdulnasir Hossen | 3,000 | SQU |
| The Development of an ICT Literacy Program for Children with Chronic Disease During Their Hospitalization | Ali Al-Lawati and Ayman Elnggar | 1,300 | PetroGas LLC |
| Wireless biotelemetry system for real time healthcare monitoring | Lazhar Khriji, F. Touati | 3,950 | SQU |

Table C8: Inter College and Department Grants

| Project Title | Investigators | Fund (O.R.) | Sponsor |
|--|---|--------------------|------------------------------|
| Acceleration Water Evaporation | S. Prathapar, Ali Al-Lawati, Mahad Baawain; Mahmoud Tahat; Hayder Rahman and Tangka Julius. | 15,000 | PetroGas LLC |
| Developing Microfluidic Systems for Routine Analysis of Pharmaceutical samples | Haider Al-Lawati, Suliman Fakhr Eldin, Salma M. Z Al-Kindy, Ali Al Lawati, Imad Eldin Mohamed Nour, Stephen J Haswell | 80,000 | Strategic Research, HM Funds |



Publications

Refereed Journal Papers

1. Abdulai, J. and **Ould-Khaoua, M.** (2009) L.M. Mackenzie, Adjusted probabilistic Route discovery in mobile ad hoc networks, Journal of Computers and Electrical Engineering, vol. 35, no.1, January, pp. 168–182, ISSN: 0045-7906.
2. **Ahmad, A.**, (2008), "Investigation of Typical Properties of Some LFSR Structures", Journal of System Science and Engineering, vol. 17, no. 1, June 2008, pp. 65 – 69, 2008, (ISSN: 0972-5032).
3. **Ahmad, A.**, (2009), "Performance Study of Various Levels during Small / Large - Read / Write Operations", Journal of Engineering (Indian Centre for Advanced Scientific and Technological Research - ICASTOR), vol. 2. no. 3, pp. 271 -276, 2009, (ISSN-0974-407X).
4. **Ahmad, A.**, and Al-Maashri, A., (2008), 'Investigating Some Special Sequence Length Generated Through an External Exclusive-NOR Type LFSRs," International Journal Electrical and Computer Engineering, (PERGAMON, Elsevier Science), vol. 34, 2008, pp. 270 – 280, (ISSN: 0045-7906).
5. **Ahmad, A.**, and Mohammed M. Bait Suwailam, (2009): "A More Economical Algorithmic Procedure for Computing Gray Codes", The Journal of Engineering Research, vol. 7, no. 2, pp. 12 -19, 2009, (ISSN: 1726-6009).
6. **Al Lawati, A.** and **Bourdoucen, H.** (2009) "Integrating of FBG Strain Sensors in DM Networks, Effects on Quality Factor", The Journal of Engineering Research, vol. 6.
7. **Al-Abri, D.** and McNair J. (2008) "On the Interaction Between Localization and Location Verification for Wireless Sensor Networks," Elsevier Computer Networks Journal, vol 52, issue 14, pp. 2713-2727, October.
8. **Al-Badi, A.** and Salam, M.A. (2009) "A Finite Element Approach for Modeling the Capacitive Coupling in Conductors Installed nearby AC Power Lines" International Journal of Computer Sciences and Engineering Systems (IJCSSES), Vol.3, No.1, January, pp. 29-34.
9. **Al-Badi, A. H., Al-Alawi, S.,** Ellithy, K.A. (2009) " Prediction of Voltages on Mitigated Pipelines Paralleling Electric Transmission Lines Using an Artificial Neural Network", International Journal of Computers and Applications, Accepted on 17 March.
10. **Al-Badi, A. H.,** Ghania, S.M., EL-Saadany, E.F. (2009) "Prediction of Metallic Conductor Voltage owing to Electromagnetic Coupling Using Neural Fuzzy Modeling", IEEE Transactions on Power Delivery, Vol. 24, No. 1, January, pp. 319-327.
11. **Al-Badi, A. H., Malik, A., Al-Arami, K.** and **Al-Mamari, A.** (2009) "A Power Sector in Oman Today and Tomorrow", Renewable & Sustainable Energy Review, Accepted on 25 March.
12. **Al-Badi, A., Malik, A.** and **Gastli, A.** (2009) "Assessment of Renewable Energy Resources Potential in Oman and Identification of Barrier to their Significant Utilization", Renewable & Sustainable Energy Reviews (RSER), Vol. 13, No. 9, Dec., pp. 2734–2739.

13. **Al-Lawati, A.** and **Bourdoucen, H.** (2009) "Integration of FBG Strain Sensors in WDM Networks, Effects on Quality Factor", The Journal of Engineering Research, Volume 6, No.1, January 2009.
14. **Al-Naamany, A.** and **Bourdoucen, H.** (2009) "Design and Simulation of a Fuzzy Logic Bandwidth Controller for Users' Classification and Priorities Allocation", the International Journal of Computers and Applications, vol. 31, no. 1.
15. **Al-Naamany, A.** and **Bourdoucen, H.**, and **El Mandhari, W.** "Modeling and Simulation of Quality of Service in VoIP Wireless LAN", Journal of Computing and Information.
16. Bani-Mohammad, S., **Ould-Khaoua, M.**, Ababneh, I., and Mackenzie, L.M. (2009) "Comparative evaluation of contiguous allocation strategies on 3D mesh multicomputers", Journal of Systems and Software, vol. 82, no. 2, pp. 307-318, Feb., ISSN: 0164-1212.
17. **Boudabous, A.**, **Ben Atitallah, A.**, **khriji, L.**, **Kadionik, P.**, **Masmoudi, N.** (2008) "HW/SW Design-Based Implementation of Vector Median Rational Hybrid Filter", The International Arab Journal of Information Technology, IAJIT, Accepted.
18. **Boudabous, A.**, **Khriji, L.**, **Masmoudi, N.** (2008), "DSP Implementation of Vector Directional Distance Rational Hybrid Filter", The International Arab Journal of Information Technology, IAJIT, Accepted.
19. **Bourdoucen, H.** (2008) "Effect of seasonal temperature fluctuations on performance of 160 Gbps transmission with adjustable chromatic dispersion compensation", Journal of High Speed Networks, vol. 17, no 1, pp 51-57.
20. **Bourdoucen, H.** and **Alhabsi, A.** (2009) "Improvement of Bit-Error-Rate in Optical Fiber Receivers ", International Journal of Electronics and Communication Engineering, vol. 3, no 1, pp 1-4.
21. **Bourdoucen, H.** and **Gastli, A.** (2008) "Tuning of PV Array Layout Configurations for Maximum Power Delivery", International Journal of Electronics, Circuits & Systems, vol. 2, no 4, pp 210-216.
22. **Bourdoucen, H.**, **Al Naamany, A.**, and **Al Kalbani, A.** (2009) "Impact of Implementing VPN to Secure Wireless LAN", Int. J. Computer, Information, and Sys Science, and Eng., vol 3, no 1, pp 17-22.
23. Douss, S. **Touati, F.** and Loulou, M. (2008) "An RF-LO current-bleeding doubly balanced mixer for IEEE 802.15.3a UWB-MB-OFDM standard receivers", The International J. of Electronics and Communications (AEUE, Elsevier Science), Vol. 62, pp. 490-495.
24. **Elfadil, N.** and **Hossen, A.** (2009) "Identification of Patients with Congestive Heart Failure Using Different Neural Networks Approaches", Technology and Health Care Journal, Vol.17, No.4, 2009, pp.305-321.
25. Elkalashy, N.I., **Tarhuni, N.G.**, and Lehtonen M. (2009) "Simplified probabilistic selectivity technique for earth fault detection in unearthed MV networks" IET Generation, Transmission & Distribution, Volume 3, Issue 2, p. 145-153, February.
26. **Elmusrati, M.**, **Tarhuni, N.**, and Jäntti, R. (2009) "Performance analysis of random uniform power allocation for wireless networks in Rayleigh fading channels," European Transactions on Telecommunications, p 457-462, Volume 20 Issue 4 (June).



27. **Elnaggar, A.**, Aboelaze, M., and Musleh, M. (2008) "A New Call Admission Control protocol for Multimedia Cellular Networks," International Journal of Networks, Academy Publisher, Vol. 3, No. 8, Fall.
28. **Feilat, E. A.** (2009) "Dynamic stability assessment using Prony analysis," Accepted for publication, the Journal of Electrical Engineering (JEE).
29. **Feilat, E.A.** (2009) "Fast estimation of synchronizing and damping torques coefficients using Adaline," Journal of Electrical Engineering, Vol. 9, No. 1, pp. 101-108.
30. **Feilat, E.A.** (2009) "Performance Comparison of adaptive estimation techniques for power system small-signal stability assessment," Accepted for publication, The Journal of Engineering Research (TJER).
31. **Feilat, E.A.** and **Hammad, A.** (2009) "Fuzzy logic based estimation of synchronizing and damping torques coefficients," Abhath Al-Yarmouk: Basic Sci. & Eng., Vol. 18, No. 1, pp. 585-593.
32. **Gastli, A.** and **Metwally, I.A.** (2008) "Computation of Eddy-Current Density on ESP Motor and Well Casings under Different Operating Conditions", Journal of Simulation Modeling Practice and Theory, Vol. 16, pp. 483-493.
33. Ghommam, J., **Mnif, F.**, and Derbel, N. (2009)" Nonsingular based Serret-Frenet path following for underactuated marine surface vessels ASME Transactions, Journal of Dynamic Systems Measurement and Control, vol. 131 vol. 131, March. 0210061-8.
34. Ghommam. J. and **Mnif, F.**, (2009) "Coordinated path following control for a group of Underactuated Surface Vessels" IEEE, Transactions on Industrial Electronics, Vol. 56, No 10, pp 3951-63.
35. **H. Bourdouden, H.** and Zitouni, A. (2009) "Data acquisition, parameter extraction and characterization of active components by using integrated instrumentation system", The Journal of Semiconductor Physics, Quantum Electronics and Optoelectronics, vol. 12, no 2, pp-178-186.
36. Himri, Y., **Malik, A.**, Stambouli, A., Himri, S. and Draoui, B. (2009) "Review and Use of the Algerian Renewable Energy for Sustainable Development", Renewable and Sustainable Energy Reviews, Vol. 13, No. 6-7, August-September 2009, pp. 1584-1591.
37. **Hossen, A.**, and Al Ghunaimi, B. (2009) "A Pattern Recognition Technique for Identification of Patients with Congestive Heart Failure", TJER, Vol.6, no.2, June 2009, pp.40-46.
38. Loucif, S. and **Ould-Khaoua, M.** (2009) "Analysis of deterministically-routed bi-directional torus with non-uniform traffic distribution, Future Generation Computer Systems, vol. 25, no. 5, pp. 489-498, ISSN: 0167-739X.
39. **Malik, A** and **Al-Badi, A. H.** " Economics of Wind Turbine as an Energy Fuel Saver – A Case Study for Remote Application in Oman", Energy Journal, Accepted on 2nd July 2009.
40. **Metwally, I.A.** (2009) "Thermal and Magnetic Analyses of Gas-Insulated Lines", Journal of Electric Power Systems Research (JEPSR), Vol. 79, No. 8, pp. 1255-1262.

41. **Metwally, I.A.** and **Al-Badi, A.** (2009) "Effectiveness of the Pulse Cathodic-Protection Systems used for Well Casings", The Journal of Materials and Corrosion, Accepted on 6 March (in press).
42. **Metwally, I.A.** and **Al-Badi, A.** (2009) "Factors Affecting Pulse-Cathodic Protection Effectiveness for Deep Well Casings", Journal of Anti-Corrosion Methods and Materials, Vol. 56, No. 4, pp. 196-205.
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44. **Metwally, I.A.** and Heidler, F. (2009) "Lightning Transients in Low-Voltage Installations inside Different Types of Class II Lightning Protection Systems", IEEE Transactions on Power Delivery (PWRD), Vol. 24, No. 2, pp. 930-938 April.
45. Min, G. and **Ould-Khaoua, M.** (2009) "Advances in system performance modelling, analysis and enhancement", Simulation Modelling Practice and Theory, vol. 17, no. 9, pp. 1468-1484, 2009, ISSN: 1569-190X.
46. **Mnif, F.**, (2008) "New Tuning rules for PI-Like Controllers with Transient Performances for Monotonic Time-Delay Systems" ISA Transactions. Vol. 47, No 4, 401-406.
47. Safaei, F., Khonsari, A., Fathy, M., and **Ould-Khaoua, M.** (2009) "Adaptive wormhole routing in tori with faults: A Mathematical approach", Simulation Modelling Practice and Theory, vol. 17, no. 9, pp. 1468-1484, ISSN: 1569-190X.
48. **Shiginah, F.A.** and Zeigler, B.P. (2009) "A New Cell Space DEVS Specification: Reviewing the Parallel DEVS Formalism Seeking Fast Cell Space Simulations," Submitted to Simulation: Transactions of the Society for Modeling and Simulation International.
49. **Touati, F.** Douss, S., and Loulou, M. (2008) "A High-Performance Doubly-Balanced Mixer in 0.35- μm CMOS for Mode-1 MB-OFDM UWB Receivers", Wireless Personal Communications (Springer), Vol. 46, pp. 351-363.
50. Wu, Y., Min, G., **Ould-Khaoua, M.**, Yin, H., and Wang, L. (2009) "An analytical model for torus networks in the presence of batch message arrivals with hot-spot destinations", International Journal of Automation and Computing, vol. 6, no 1, pp. 38-47.

Books/Chapters Publication

1. Hossen, A. and Al Ghunaimi, B. (2008) "Different Techniques of Screening of Patients with Congestive Heart Failure", Published as a chapter in a book by NOVA Publisher: Artificial Intelligence Research, USA.

Conference Papers

1. **Abouda, A.** and **Tarhuni, N.** (2009) "MIMO Channel Gain Mechanisms Relative to SISO Channel," ICCCP09, Muscat, 15-18 February.
2. **Ahmad, A.** and **Al-Abri, D.** (2009) "Design of Dynamic Test Tool in the Area of Digital System Testing", ICCCP'09, Oman, 15 -18 February.
3. **Ahmad, A.** and Hayat, L. (2008), "Algorithmic Polynomial Selection Procedure for Cyclic Redundancy Check for the use of High Speed Embedded Networking



- Devices”, Accepted for presentation at the International Conference on Computer and Communication Engineering 2008, (ICCCE'08) held at Kulliyah Engineering, IIUM, Kuala Lumpur, Malaysia - on 13-15 May, Paper ID 283.
4. **Ahmad, A.**, (2008), 'Are We Equipped To Update Our Knowledge Due To Change of the New ISBN System', Proceedings ICOET2008 (International Conference of Education Technology 2008), held at Sultan Qaboos University, Oman, March 02 - 05, pp. 1 – 9.
 5. **Ahmad, A.**, (2008), 'Design of a Low Cost Simulation Environment Platform for Teachings of the Topics of Digital System Testing and Fault-Tolerant Computing', Accepted for presentation in the International Conference on Engineering Professional Ethics and Education 2008 (ICEPEE'08) held at Kulliyah Engineering, IIUM, Kuala Lumpur, Malaysia - on 13-15 May, Paper ID 64.
 6. **Ahmad, A.**, (2008), 'Design of an Efficient and Cost Effective Signature Analyzer for the use in Built-In Self Test Technique', Accepted for presentation at the International Conference on Systems Engineering (ICSEng'2008) held in Las Vegas, NV, USA during August 19-21, Paper ID 129.
 7. **Ahmad, A.**, (2008), 'Investigation of Some Interesting Divisibility Situations in a Signature Analyzer”, Accepted for presentation for presentation in the American Computing Conference 2008 (ACC'08) held at Massachusetts Institute of Technology - MIT, Cambridge, USA, April 21 - April 23, 2008 ID: WSEAS - 576-545.
 8. **Ahmad, A.**, (2008), 'On Issue of Evaluating the Reliability of Microprocessor Based Mechatronic Systems', Accepted for presentation at the 3rd International Conference on Mechatronic (ICOM'08) held during December 18-20, Kuala Lumpur, Malaysia, Paper ID 817.
 9. **Ahmad, A.**, Al-Abri, D., (2009), 'Design of Dynamic Test Tool in the Area of Digital System Testing', Proceedings International Conference on Computer Communication and Power (ICCCP'09) held at Oman, Feb 15 -18, 2009, pp. 1 – 4 (Computer and Network Systems) ISSN: 1813 – 419X
 10. **Al-Abri, D.** and McNair, J. (2009) "A Contention-based Service Scheduling Protocol for Multi-node, Multi-server Wireless Sensor Networks," IEEE MILCOM'08, San Diego, CA, November.
 11. **Al-Badi, A., Malik, A., Al-Areimi, K., Al-Mamari, A.** (2009) "Existing and Potential Future Energy Resources for Power Generation in Oman", Int. Conf. on Communication, Computer and Power (ICCCP'09, Muscat, Oman, Feb.
 12. **Al-Badi, A., Malik, A., and Gastli, A.** (2009) "Renewable Energy Resources Potential and Limitation in Oman", Global Conference on Power Control and Optimization (PCO'2009), 1-3 June, Bali, Indonesia. Proceedings published on CD.
 13. **Alhabsi, A. and Bourducen, H.** (2009) "Improvement of Bit-Error-Rate In Optical Fiber Data Transmission", International Conference on Communication, Computer and Power (ICCCP'09), February 15-18, Muscat, Oman.
 14. **Alhabsi, A. and Bourducen, H.** (2008) " Improvement of WDM Transmission Performance by Enhancement of Signal Detection.", The Fourth Advanced International Conference on Telecommunications (AICT 2008), Athens, Greece, June.
 15. Al-Wehaibi, O., Al-Mukhaini, B., Al-Maashari, R., Kashoob, M., and **Bourducen, H.** (2009) "Design of a Remote Capacitive Sensing System”, International Conference on Communication, Computer and Power (ICCCP'09), February 15-18, Muscat, Oman.

16. **Alzeidi, N., Ould-Khaoua, M.**, (2009) "Deep versus parallel buffers in wormhole Switched k-Ary n-Cubes", Proc. International Conference on Communication, Computer and Power (ICCCP'09) Sultan Qaboos University, Sultanate of Oman, February 15-18.
17. Bani-Mohammad, S., Ababneh, I., and **Ould-Khaoua, M.** (2009) "A Performance comparison of the non-contiguous allocation strategies in 2D mesh connected multicomputers", Proc. International Conference on Communication, Computer and Power (ICCCP'09) Sultan Qaboos University, Sultanate of Oman, February 15-18.
18. **Ben Amor, B., Khraief, N. and Mnif, F.** (2009) "Controllability Analysis of 1-DOF Juggling System" IEEE SSD'09.
19. Boudabous, A., Ben Atitallah, A., **Khriji, L.**, Kadionik, P., and Masmoudi, N. (2009) "Fast FPGA implementation of Vector Directional Distance Filter", ICECS'09, Tunisia, Dec.
20. **Bouzuenda, M.**, Abduljabbar, K., Al Fazzari M., and Al-Hashmi, M. (2009) "Design of an Intelligent Control System for Solar Photovoltaic and Sterling Dish Trackers", Global Conference on Power Control and Optimization (PCO'2009), Bali-Indonesia, 1-3 June.
21. Dhawyani, M., **Mahrooqi, Q., Rahbi, F., Kalbani, A., Touati, F., Nadir, Z.** (2008) "Improvement in the efficiency of class-E power amplifier for RF", IEEE-Multi conference on systems, signals and Devices, SSD-2008, Philadelphia University, Amman, Jordan, July 20-23.
22. Dhawyani, M., **Mahrooqi, Q., Rahbi, F., Kalbani, A., Touati, F., Nadir, Z.** (2008) "Design of High-Efficiency Switching Mode Power Amplifier for RF", The Fifth International Conference in Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI-CON08), Krabi, Thailand, May 14-17.
23. Dhawyani, Mahrooqi, Q., Rahbi, F., Kalbani, A., **Touati, F.**, and Nadir, Z. (2008) "Improvement in the Efficiency of Class-E Power Amplifier for RF", The Fifth International Multi-Conference on Systems, Signals and Devices (IEEE SSD'08), 20-23 July, Amman, Jordan.
24. Elkalashy, N., Lehtonen, M., and **Tarhuni, N.** (2009) "DWT and Bayesian Technique for Enhancing Earth Fault Protection in MV Networks" IEEE/PES, Power Systems Conference and Exposition, PSCE2009, 15-18 March, Seattle, Washington, USA.
25. **Elmoudi, A.**, (2009) "Thermal Modeling and Simulation of Transformers", IEEE General Meeting 2009 Calgary Canada 26-31 July-2009.
26. **Elmoudi, A., Tarhuni, N., and Mnif, F.** (2009) "Modified Top oil model of Distribution Transformer", IEEE SSD'09 March, Tunis.
27. **Feilat, E.A.** (2009) "Comparison of computation algorithms for synchronizing and damping torque coefficients," International Conference on Communication, Computer and Power (ICCCP'09), Muscat, Oman, February 15-18.
28. **Gastli, A., Al-Abri, D., and Al-Habsi, A.** (2008) "Novel Assessment Tools of Program/Course Outcomes", Oman National Quality Conference, Muscat, Oman, 28-29 October.
29. **Gastli, A., Al-Hinai, A.,** Bimani, A. (2009) "Effectiveness of Well-Casing Pulse Cathodic Protection and Proposed Improvement ", Proceedings of the 2009 ESP Workshop, The Woodlands, Texas, USA, 29 April – 1 May.



30. Ghommam J., Calvo., **O. Mnif, F.** (2009) "Adaptive Output Feedback for Manoeuvring Control of Marine Craft" Mediterranean Control Conference.
31. Ghommam, J., **Mnif, F.**, and Calvo, O. (2009) "Formation Control of Multiple Marine Vehicles Based on Passivity Control Design", IEEE SSD'09.
32. Ghommam, J., **Mnif, F.**, and Saad, M. (2008) "Formation Path Following Control of unicycle-type mobile Robots" IEEE, International Conference on Robotics and Automation, ICRA, Los Angeles.
33. **Hamza, N., Khriji, L., and Touati, F.** (2008) "Co-design implementation of wireless Bio-Implant for Real-time control and monitoring", The First International Conference on Embedded Systems & Critical Applications (ICESCA'08), March 13-15, Tunis, Tunisia.
34. **Hamza, N., Khriji, L., and Touati, F.** (2009) "Multi-purpose HealthCare monitoring System based on ISM band communication link support", 2nd Int. Conf. on Information and Communication Technologies and Accessibility ICTA'09, May 07-09, 2009, Hammamet, Tunisia.
35. **Hamza, N., Khriji, L., and Touati, F.** (2009) "Wireless Healthcare Monitoring System", 4th IEEE International Design and Test workshop IDT'09, November 15-17, Riyadh, Saudi Arabia.
36. **Hamza, N., Touati, F., and Khriji, L.** (2008) "An optimized embedded architecture for multi-purpose wireless biomedical system using ZigBee Technology", 2nd International conference on Signals, Circuits & Systems (SCS'08), November 7-9, Hammamet, Tunisia.
37. **Hamza, N., Touati, F., and Khriji, L.** (2008) "Novel Bio-implant with Reverse Telemetry: Prototype Design and Implementation", Premier Atelier International sur les Systèmes d'Ingénierie, Conception & Application (SENDA 2008), Monastir, Tunisia, March 16-18.
38. **Hamza, N., Touati, F., and Khriji, L.** (2009) "Wireless Biomedical System Design Based on ZigBee Technology for Autonomous Healthcare", ICCCP09, 15-19 February, SQU, Muscat, Oman.
39. **Hossen, A.** (2008) "Towards Knowledge Based Diagnosis: Biomedical Signal Classification Expert Systems" Knowledge Based Industries and Nanotechnology Conference, Doha, Qatar, February.
40. **Hossen, A., Al-Ghunaimi, B.** (2008) "Identification of Patients with Congestive Heart Failure by Recognition of Sub-Bands Spectral Patterns" Fifth International Conference on Medical Informatics and Biomedical Engineering, Venice, Italy, October.
41. Jaradat, M., Garibeh, M., and **Feilat, E.A.** (2009) "Dynamic motion planning for autonomous mobile robot using fuzzy potential field," Proceeding of the 6th International Symposium on Mechatronics and its Applications (ISMA09), Sharjah, UAE, March 24-26.
42. **Khriji, L., Hamza, N., and Touati, F.** (2008) "Co-design implementation of wireless Bio-Implant for Real-time control and monitoring", 2nd International conference on Signals, Circuits & Systems (SCS'08), November 7-9, Hammamet, Tunisia.
43. Mahjoub, S., **Mnif, F.**, Derbel, N. (2008) "Variable structure control for set-point stabilization of 2-DOF underactuated manipulators" 5th International Multi-Conference on Systems, Signals and Devices, 2008. IEEE SSD, Amman, Jordan.
44. Mahjoub, S., **Mnif, F.**, Derbel, N. (2009) "Robust Sliding Mode Control Applied to

- Double Inverted Pendulum System“, Accepted in the 2nd Mediterranean Conference on Intelligent Systems and Automation (CISA'09), Zarzis, Tunisia.
45. **Malik, A.** (2009) “Systems approach and discounting: a need to think globally and act globally”, SysCon 2009 – IEEE International Systems Conference, Vancouver, Canada, Mar 23-26.
 46. **Malik, A., and Al-Badi, A.** (2009) ”Economics of Wind Turbine as an Energy Fuel Saver – A Case Study for Remote Application in Oman”, The IEEE EUROCON 2009 International Conference, St. Petersburg, RUSSIA, May 18-23, pp.605-610.
 47. **Metwally, I.A. and Al-Badi, A.** (2009) “Effectiveness of Pulse-Cathodic Protection Systems Used for Deep Well Casings”, Proceedings of 10th Inter. Conf. on Chemistry and its Role in Development (ICCRD'10), Mansoura-Sharm El-Sheikh, Egypt, 16 – 21 March.
 48. **Metwally, I.A.,** (2009) “Mitigation of Lightning Strike Hazards for Buildings, Overhead Power Lines and Aircrafts”, German-Middle East International Conference, Amman, Jordan, 10-11 May.
 49. **Mohammad, A., Ould-Khaoua, M., and Mackenzie, L.M.** (2009) “An improved rebroadcast probability function for an efficient counter-based broadcast scheme in MANETs”, 25th Annual UK Performance Engineering Workshop (UKPEW'09), University of Leeds, 6- 7 July.
 50. **Mohammad, A., Ould-Khaoua, M., Mackenzie, L.M., Perkins, C., and Abdulai, J.** (2009) “Probabilistic counter-based route discovery for mobile ad hoc networks”, Proc. International Conference on Wireless Communications and Mobile Computing: Connecting the World Wirelessly (IWCMC'09), Leipzig, Germany, June 21-24. ACM 2009, ISBN 978-1-60558-569-7.
 51. **Nadir, Z. and Touati, F.,**(2009) “Design Of High Efficiency Switching Mode Power Amplifier For RF And Microwave”, ICT'09, Marrakech, Morocco.
 52. **Nadir, Z., Elfadhil, N., and Touati, F.,** (2008) “Pathloss determination using Okumura-Hata model and spline interpolation for missing data for Oman” World Congress on Engineering, IAENG-WCE-2008, Imperial College, London, United Kingdom, 2-4 July.
 53. **Nadir, Z., Elfadhil, N., and Touati, F.,** (2008) “Pathloss Determination using Okumura-Hata Propagation Model Suitable For Salalah-Oman”, The International Conference on Computer & Communication Engineering (ICCCE08), Kuala Lumpur, Malaysia, May 13-15.
 54. **Tami, A. Bouzguenda, M., Ferrah, A., and Bani Younis, J.A.** (2009) “Overcurrent Relays Setting, Coordination and Performance in an Interconnected Power System”Int. Conf. on Communication, Computer and Power (ICCCP'09), Muscat, Oman, Feb.
 55. **Touati, F., Khriji, L., and Hamza, N.** (2008) “Microcontroller-Based Embedded System for Real-Time Reverse Telemetric Biomedical Implant”, STA08, the 9th international Conference on Sciences and Techniques of Automatic control & computer engineering. December 20-22, Sousse, Tunisia.
 56. **Turki, K., Smaoui, M., Thomasset, D., Mnif, F., and Derbel, N.,** (2009) “A Passivity Based Control of an Electropneumatic Actuator with Mass Variation” IEEE SSD'09, Djerba, Tunisia.



Technical Reports

1. **Al Naamany, A., Bourdoucen, H., and Jervase, J.**, "Development of IT Training and Research Infrastructure", part I and II, 2009. Report submitted to SQU.
2. **Al-Badi, A., Al-Moaid, A., and Metwally, I.** "Losses Reduction in Abnormally and Normally Loaded Distribution Transformer", Final Report, Mazoon Electricity Company, May 2009.
3. **Al-Hinai, A., Al-Badi, A.** "Customer Satisfaction Survey for Electricity Consumers in Oman", Final report, Integrated Technology Services Company, May 09.
4. **Al-Hinai, A., Al-Badi, A., and Al-Hinai, S.** "Harmonics Measurements at Mina Al Fahal Computer Building (Main LV Switchboard)", PDO, June 2009
5. **Al-Hinai, A., and Al-Hinai, S.** "Harmonics Measurements at Health Information System Building (SQUH)", SQUH, July 2009.
6. **Al-Hinai, A., and Al-Hinai, S.** "Kauther Phase II Harmonic Study Report", PDO, June 2009
7. **Bourdoucen, H., and Al Habsi, A.** "Design and Performance Evaluation of IP over WDM Optical Networks", 2008. Report submitted to SQU
8. **Gastli, A., Al Alawi, S., Bourdoucen, H., Malik, A., Touati, F., Al-Lawati, A., and Al Badi, A.** "Renewable Energy Business Opportunities in Duqum-Oman," Submitted to Occidental of Oman, SQU, Feb. 2009.
9. **Gastli, A., Al Alawi, S., Bourdoucen, H., Malik, A., Touati, F., Al Badi, A., and Al-Lawati, A.** "Renewable Energy Business Opportunities in Oman", Final Report submitted to Daewoo Ship Building and Marine Engineering Co. LTD, February 2009.
10. **Gastli, A., Bourdoucen, H., and Al-Lawati, H.,** "Automated Cell Connection Optimizer for Photovoltaic Arrays", Final Report submitted to SQU, December 2008.
11. **Gastli, A., Bourdoucen, H., and Al-Lawati, H.** "Automated Optimization of Cell Connections in PV Array Design", 2009. Report submitted to SQU.
12. **Hossen, A.** "Classification of Biomedical Signals", Final Report of Internal research Grant Project.

OTHER ACTIVITIES

Workshops & Seminars

1. **Al-Badi,** "SQU-ECO House" SQU, department of ECE, 29th April, 2009.
2. **Al-Lawati, A. ,**Research Management Workshop 2008, Malaysia.
3. **Elnaggar, A. ,**Building the ICT4D Research Capacity in the MENA Region, Carnegie Mellon University, Doha Qatar, April 2008.
4. **Gastli, A.** "Continuous Quality Improvement Process (CQIP)", Sultan Qaboos University, College of Arts and Social Sciences: February 17, 2008
5. **Gastli, A.** "Continuous Quality Improvement Process (CQIP)", Sultan Qaboos University, College of Commerce & Economics: February 19, 2008
6. **Gastli, A.** "Continuous Quality Improvement Process (CQIP)", Sultan Qaboos University, College of Science: February 20, 2008

7. **Gastli, A.** "Continuous Quality Improvement Process (CQIP)", Sultan Qaboos University, College of Education: February 24, 2008
8. **Gastli, A.** "Continuous Quality Improvement Process (CQIP)", Sultan Qaboos University, College of Medicine: February 25, 2008
9. **Gastli, A.** "Continuous Quality Improvement Process (CQIP)", Sultan Qaboos University, College of Agricultural & Marine Sciences: February 27, 2008
10. **Gastli, A.** "Oman Renewable Energy Resources", Renewable & Sustainable Energy Research Group (RASERG), Sultan Qaboos University, May 31, 2008.
11. **Gastli, A.** "Preparation of Course File to Meet Requirements for Accreditation" College of Agricultural & Marine Sciences, Sultan Qaboos University Grand Tulip Hotel Muscat, February 27, 2008
12. **Gastli, A.** "RASERG: past, present and future", Renewable & Sustainable Energy Research Group (RASERG), Sultan Qaboos University, May 31, 2008.
13. **Gastli, A.** "Student Learning by Coursework Programs", Quality Audit Committee, Sultan Qaboos University, January 23, 2008.
14. **Gastli, A.** "The West and the East are Moving Toward Extensive Use of Green Energy – how about the Middle East?", Department of Electrical & Computer Engineering, College of Engineering, Sultan Qaboos University, January 22, 2008.
15. **Gastli, A.** Attended the 2nd Workshop on Quality Assurance in the Arab Universities and Quality Audit Processes, Amman, Jordan, November 23-24, 2008.

Short-Courses.

1. **Jervase, J.A.** IT Essential I: PC Hardware & Software. January 2008 & June 2009. Organised for the teachers of the Ministry of Education as part of a Strategic Project.
2. **Khrijji, L.** Electromagnetic waves and applications, 21th short course for the Omani Defense, Nov. 2008.
3. **Ould-Khaoua, M.** Introduction to Computer Networks, January 2009.
4. **Touati, F.** Signals, Radars and Optics", 21st short course for the Omani Defense, 6 of November 2008.

Visits

1. **Hossen, A.** May 2009-June 2009: DAAD Invitation to University of Kiel-Germany, Prof. Ulrich Heute, Biomedical Signal Processing Research with the Hospital of Kiel University.
2. **Metwally, I.A.**, Research leave at Institute of High-Voltage Technology, TU Darmstadt, Landgraf-Georg-Str. 4, D-64283 Darmstadt, Germany. June-July 2009.

Consultancy

1. **Al-Badi, A., Elmoudi, A., and Metwally, I.** "Losses Reduction in Abnormally and Normally Loaded Distribution Transformers", Funded by Mazoon Electricity Company.
2. **Al-Hinai, A., Al-Badi, A. and Al-Hinai, S.** Harmonics Measurements at Mina Al Fahal Computer Building (Main LV Switchboard), PDO, June 2009, (Total fund: RO. 4,000).



3. **Al-Hinai, A., and Al-Badi, A.** Customer Satisfaction Survey for Majan Electricity Company, ITEC, July 2009, (Total fund: RO. 2,600).
4. **Elnaggar, A.** The Development of Entrepreneurship Program for Low Income Women", in collaboration with the CIRC at SQU.
5. **Jervase, J.A.** The development of the Strategic plan and administrative structure for the research council, The SQU Quality Assurance Team.

National / International Event Organization

1. **Ahmed, A.,** Associate Editor, Member Editorial Advisory Board , NED University Journal of Research, Pakistan
2. **Ahmed, A.,** Associate Editor, The Journal of Engineering Research (TJER)
3. **Ahmed, A.,** Co-Chair, Program Committee (Registration), International Conference on Computer Communication and Power (ICCCP'09), held at Oman, Feb 15 -18, 2009.
4. **Ahmed, A.,** Editor, Enformatika's Journals/Books
5. **Ahmed, A.,** Member Technical Program committee (TPC) of IEEE International Conference on Multimedia, Signal Processing, And Communication Technologies (IMPACT-2009) held at AMU, Aligarh (India) on 14-16 March 2009.
6. **Ahmed, A.,** Reviewer, 2008 IEEE International Symposium on Circuits and Systems held at Seattle, Washington, USA
7. **Ahmed, A.,** Reviewer, International Conference on Computer Communication and Power (ICCCP'09), held at Oman
8. **Ahmed, A.,** Reviewer, International Conference on Multimedia, Signal Processing, And Communication Technologies (IMPACT-2009) held at AMU, India
9. **Al-Abri, D.** Publicity committee co-chair, ICCCP'09, February 15-18, 2009, Oman.
10. **Al-Lawati A.** Chair, Plenary Sessions, 4th IEEE GCC Conference and Exhibition, Bahrain.
11. **Al-Lawati A.,**Organizing Committee Member, ICCCP '09. SQU, Oman.
12. **Bouzuenda, M.** Member of the International Steering Committee of ICCCP'09, February 2009.
13. **Bouzuenda, M.** Reviewer for the SQU TJER.
14. **Gastli, A.,** ICCCP'09
15. **Jamil, T.** Scientific Program Committee Member for International Conference on Computing, Communications and Control Technologies (CCCT'09), Orlando (FL, USA), July 10-13, 2009.
16. **Jamil, T.** Scientific Program Committee Member for International Symposium on System-on-Chip (SoC'08), Tampere (Finland), November 5-6, 2008.
17. **Jamil, T.** Tutorials co-chair for International Conference on Communication, Computers and Power (ICCCP'09), Muscat (Oman), February 15-18, 2009.
18. **Khrijji, L.** Associate Editor of TJER.
19. **Khrijji, L.** Chair; publication Committee of ICCCP'09.

20. **Khrijji, L.** Editor of VLSI Journal, Hindawi.
21. **Metwally, I.A.** Technical Committee Chair of Power Systems & Energy in the International Conference on Communications, Computer and Power (ICCCP), SQU, Oman, 2009.
22. **Ould-Khaoua, M.** General Co-Chair, 8th International Workshop on Performance Modelling, Evaluation, and Optimization of Ubiquitous Computing and Networked Systems (PMEO-UCNS'09), in conjunction with IEEE IPDPS'09, Rome, Italy, May 25-29, 2009.
23. **Ould-Khaoua, M.** General Co-Chair, International Workshop on Performance Modeling and Analysis of High Speed Interconnects (MAHSI'09), in conjunction with IEEE ScalCom 2009, Sept. 2009 Dalian, China.
24. **Touati, F.** Chair of Registration Committee and Member of Technical & Publications Committees of ICC'09
25. **Touati, F.** Technical Committee Member and Reviewer for: E-MediSys 2008, SETIT09, ICCCP09, IDT09.

ECE Students' Activities for 2008-2009.

1. Seminars, workshops, competitions (Solar Car, PSpice, Labview, Proteus, Solar Cells).
2. Assistance and organization of the FYP projects.
3. IEEE society website and IEEE-SQU Magazine.
4. Recreation trips, sport activities.
5. New student orientation.
6. ICCCP'09 conference, February 2009.
7. Engineering gathering, spring 2009.
8. Best engineering project competition.
9. 2nd generation solar car design competition.
10. Smart car design competition.
11. Eid Al Fitr gathering.
12. Sports tournaments.
13. Cultural activities.
14. IEEE society activities and projects reports & documentation throughout 2008-2009.





Photos from ICCCP conference



Dr. Ashraf A Shikdar, Associate Professor

Head of the Department

Ph.D., Dalhousie University, Halifax, Canada, 1991

SUMMARY

Welcome to the Department of Mechanical & Industrial Engineering, College of Engineering at Sultan Qaboos University, Sultanate of Oman. The Department offers Mechanical Engineering and Industrial Engineering programs at Bachelor, Master and Doctoral levels. In addition, the Department offers a joint degree program in Mechatronics Engineering with the Department of Electrical and Computer Engineering. The aim of this booklet is to provide the constituents with the information about the Department.

Table D1: Summary

| | 06-07 | 07-08 | 08-09 |
|--|-------|-------|-------|
| Faculty | 19 | 17 | 24 |
| <i>Support Staff</i> | 19 | 23 | 23 |
| <i>Total</i> | 40 | 43 | 53 |
| <i>On-Study leave</i> | 4 | 4 | 4 |
| Undergraduate Program | | | |
| <i>Enrolment (Y2-5)(Fall)</i> | 371 | 417 | 498 |
| <i>Courses offered</i> | 80 | 68 | 80 |
| <i>Total number of registration</i> | 3717 | 3865 | 4906 |
| <i>Graduates</i> | 49 | 58 | 78 |
| Graduate Program | | | |
| <i>Enrolment</i> | 15 | 16 | 9 |
| <i>Courses offered</i> | 7 | 5 | 6 |
| <i>Total number of registration</i> | 51 | 46 | 54 |
| <i>Theses completed</i> | 6 | 3 | 1 |
| Research , Active Projects | | | |
| <i>Grants (Internal)</i> | 11 | 14 | 7 |
| <i>Contracts and Grants (external)</i> | 7 | 12 | 6 |
| Publications | | | |
| <i>Refereed Journals</i> | 27 | 44 | 44 |
| <i>Others</i> | 32 | 32 | 70 |

Our curriculum is designed to produce graduates who can become future leaders for industry, academia, government and society in Oman whose vision is founded upon fundamental knowledge, creative and analytical skills, local/regional perspective and ethics. Through a nice blend of course work and projects, the Department endows students with the ability to apply knowledge of science, mathematics and engineering to work effectively in multidisciplinary teams, provide leadership and technical expertise, and practice engineering with concern for society and environment. Our undergraduate programs are of world class standard and ABET accredited. In Fall 2008, the Department started to offer Ph.D. programs in Mechanical and Industrial Engineering.

Our staff is actively engaged in fundamental and applied research works. The research projects are either internally funded by the university or externally by the industries of Oman. Some of key projects in-progress include Well-bore

Tubular Expansion, Multiphase Flow Metering, Solar Car, Soccer Playing Robot, Swellable Elastomers, Environmental Pollution, Smart Systems, Project Management, Simulation, Ergonomics, etc. In Spring 2009, a 'Test-Rig' a unique facility was inaugurated in the Engineering Research Lab to support the oil industry. In addition, faculty members and staff



are involved in providing consultancy services to the industries, particularly on environmental issues.

Our goal is to provide students with a balance of intellectual and practical experience that enables them to serve a variety of societal needs. We also strive to provide avenues for excelling in research to our faculty/staff to serve society. The Department is proud of its alumni, many of whom are holding leading positions at government ministries, major national and international companies and corporations, academic institutions in Oman and the region.



DEPARTMENTAL PROFILE

Faculty

The Department has grown from a small Department of 9 faculty and 8 undergraduate students in 1986 to a group of 24 faculty and 498 students in 2008/2009.



Table D2: Academic Staff

| Name | Position | Specialization |
|--------------------------------------|-----------------------|--|
| Dr. Ashraf A Shikdar | Assoc. Professor, HoD | Ergonomics, Methods Engineering and Work Measurement, Industrial Safety |
| Dr. Tasneem Pervez | Assoc. Professor | Engineering Design & Analysis, Composite Materials, FEM, Vibration Analysis |
| Dr. Rafiq Ahmad Siddiqui | Assoc. Professor | Materials Science, Manufacturing Processes |
| Dr. Mahmoud A Tahat, | Assoc. Professor | Thermo-Fluids, Renewable energy |
| Dr. Sabah A. Abdul-Wahab Al-Sulaiman | Assoc. Professor | Chemical Engineering, Process and Environment. |
| Dr. Maki Rashid | Assoc. Professor | Computer integrated manufacturing, mechatronics, computer aided design |
| Dr. Saif Abdullah Al-Hiddabi | Assoc. Professor | Nonlinear Systems Analysis & Control, Flight Mechanics Guidance and Navigation |
| Dr. Jamil Abdo | Assoc. Professor | Contact / Friction, Engineering Design, Solid Mechanics, Robotics |
| Dr. Khalid Al Zebdeh | Assoc. Professor | Project Management, Design, Nano-Composites |
| Dr. Salih | Assoc. Professor | Mechanical Systems, Design and Optimization |
| Dr. Saeed Ali Al-Araimi | Asst. Professor | Engineering Management, Engineering Economics |
| Dr. Khamis R. Al-Balushi | Asst. Professor | Turbomachinery, condition monitoring and diagnostics |
| Dr. Amur S. Al Yahmadi | Asst. Professor | Modeling and Simulation, Control of Dynamic Systems and Robotics. |
| Dr. Abdullah M. Al-Shabibi | Asst. Professor | Contact Problem, FEM |
| Dr. Nabeel Z. Al-Rawahi | Asst. Professor | Fluid Mechanics, Computational Fluid Dynamics, Multiphase flow |
| Dr. Hamdi Bashir | Asst. Professor | Facilities Design, Manufacturing systems, Quality Control and Reliability |



| | | |
|------------------------|-----------------|---|
| Dr. Sayyad Zahid Qamar | Asst. Professor | Engineering Design, Applied materials and manufacturing, Failure analysis and reliability |
| Dr. Mohammed Khadem | Asst. Professor | Operations research, Production planning and control, Simulation Models. |
| Dr. Mohammed Fanni | Asst. Professor | Machine Design, Control, Machine Dynamics, Robotics |
| Dr. Ibrahim Garbie | Asst. Professor | Manufacturing Systems Design, Agility and reconfiguration |
| Nasser Al Azri | Lecturer | Pursuing Doctoral Program in USA |
| Mahmoud A. Al-Kindi | Lecturer | Pursuing Doctoral Program in USA |
| Majid H. Al-Moharbi | Lecturer | Pursuing Doctoral Program in USA |
| Nasr Al-Hinai | Lecturer | Pursuing Doctoral Program in Canada |
| Issam Mahfoodh | Lecturer | Preparing for Doctoral Program |

Technical and Support Staff

Table D3: Technical and Support Staff

| Name | Position | Specialization |
|--------------------------|---------------------------|--|
| Dr. Siegfried Trautwein | Technical Expert | Mechanical Engineering |
| Dr. Sulaiman Al-Obaidani | Research Engineer | Al-Hail Desalination Lab |
| Hilal Al-Ismaily | Research Assoc. | Fluids Mechanics & Thermodynamics |
| Mohammad A. Al-Hadhrami | Department Superintendent | Solid Mechanics, Ergonomics and CIM Labs |
| Saeed Nasser Al-Mughairy | Senior Engineer | Materials Lab, Al-Hail Desalination Lab |
| Mohammad Ali Al-Hadhrami | Lab Engineer | Fluid Mechanics Lab |
| Faisal H. Al-Khatri | Lab Supervisor | Thermodynamics Lab |
| Sami Al-Sulti | Lab Engineer | Mechanical Systems, Control & MIE Computer Lab |
| Abdullah Al-Omrani | Lab Engineer | CIM Lab and Ergonomics |
| Sheikha Al-Hatmi | Lab Engineer | Mechantronics |
| Nasser Al-Azizi | Lab Engineer | Al-Hail Desalination Lab |
| Hadid Subeit Al-Alawi | Senior Engineer | Workshop |
| Abdulaziz Al-Harasi | Senior Support Engineer | Workshop |
| Ahmed Sayed Faiz | Asst. Mechanics | Workshop |
| Moosa H. Al-Ramadani | Technician | Workshop |
| Mohammed K. Al-Salmi | Support Engineer | Workshop |
| Mahfoudh Saeed Al-Sharji | Technician | Workshop |
| Abdulbaset Al-Kindi | Trainee Technician | Workshop |
| Hamood k. Al-Mahrizi | Carpenter | Workshop |
| Saleh Al-Malki | Technician | Workshop |
| Yahia Al-Agbari | Technician | Workshop |
| Marshal Miranda | Technician | Workshop |
| Moadh A. Al-Zadjali | Storekeeper | Department's store |
| Basma S. Al-Farsi | Coordinator | |

Committees

Table D4: Departmental Committees membership

| Committee | Members |
|--|--|
| Department Board | A. Shikdar (Chair), M. Khadem (Secretary) All faculty members |
| IE Program Accreditation Committee | A. Shikdar (Chair), T. Pervez, M. Rashid, H. Bashi, M. Khadem, K. Al-Zebdeh, I. Garbie |
| Strategic Planning Implementation | K. Al-Zebdeh (Chair), T. Pervez, S. Al-Sulaiman, |
| MIE Industrial Advisory Board | A. Shikdar (Chair), T. Pervez, K. R. Al-Balushi, H. Bashi, A. Al-Yahmadi, Z. Qamar, S. Trautwein |
| Recruitment | A. Shikdar (Chair), R.A. Siddiqui, T. Pervez, A. Al-Shabibi, |
| Timetabling & Degree Plan | Bashi (IE coordinator), J. Abdo (ME coordinator), R.A. Siddiqui, S. Akour, H. |
| Final Year Projects | M. Rashid (IE), |
| Staff / Student Liaison | R.A. Siddiqui (Chair), S. Akour, A. Al-Shabibi, |
| Publication and Web | N. Al-Rawahi (Chair), J. Abdo, K. Al-Zebdeh, I. Garbie |
| Students Society | A. Al-Yahmadi (SME 1), Z. Qamar (SME 2), I. Garbie (IE) |
| Postgraduate Coordinators | A. Al-Shabibi (ME), K. Al-Zebdeh (IE) |
| Department Social Activity | R.A. Siddiqui (Chair), M. A. Tahat, |
| ME Program Assessment & Evaluation Committee | M. A. Tahat (Chair), S. Al-Sulaiman, Z. Qamar, |
| Laboratory and HSE | S. Trautwein (Chair), R.A. Siddiqui, M. A. Tahat, M. Rashid, M. Khadem, M. Fanni, M. Al-Hadhrami |



POSTGRADUATE STUDIES

M.Sc. Students' Projects

Table D5: Students' Projects

| Project Title | Supervisor | Student Name |
|---|-------------------------------------|--|
| Study of the Performance of the Inverted Solar still Integrated with a Refrigeration Cycle. | Sabah .A. Abdul-Wahab | Yousef Yacoub Al-Hatmi |
| Parametric Investigation of Pop-Out Phenomenon in Solid Expandable Tubulars (in-progress) | Dr Tasneem Pervez Dr Zahid Qamar | |
| Interpretive Structural Modeling for Budget Overrun Problem In Construction projects | Khalid Zebdeh | Sulaiman Al-Siyabi |
| Design Feasibility Study of using Renewable sources of Energy as an alternative power supply to Musandam Island | Dr. M. Tahat | Abdullah Nabhan Abdulrahman Al-Kharousi |
| Minimizing Pop-out Phenomenon Effect in Solid Expandable Tubular Systems | Tasneem Pervez, Sayyad Z. Qamar | Idris Al-Siyabi |
| Transient Dynamic Analysis of Laminated Composite Plates Based on HSDT | Tasneem Pervez | Rashid Al-Maamri |

Ph.D. Students' Projects

Table D6: Students' projects

| Project Title | Supervisor | Student Name |
|--|--|--------------|
| The Study of the Condenser Design, Fabrication and Testing for Humidification-Dehumidification Desalination System Using Solar Energy. | Sabah Abdul-Wahab (SQU) Hilal Al-Hinai (SQU) Bettahar Ahmed (UHBC) | Toufik Tahri |
| Material Characterization of Expandable Tubular (Tentative) | Tasneem Pervez, Sayyad Z. Qamar, Saif Al-Hiddabi | Rashid Khan |

RESEARCH**Grants and Contracts**

Table D7: Grants held by faculty members in the 2008-2009 academic year.

| Research Title | Investigators | Budget R.O. | Funded By |
|---|---|-----------------------------|--|
| A Study of Productivity in the Manufacturing Sector of Oman | Hamdi Bashir, Khalid Alzebdeh | R.O. 3,300 | SQU |
| A Study of Productivity in the Manufacturing Sector of Oman | Hamdi .A. Bashir, Khaled Alzebdeh and Ali Al-Maqrashi | 2,116 | SQU |
| An Investigation into Issues Related to the Implementation of ISO 9000 Standards in Omani Organizations | Hamdi .A. Bashir and Maki Rashid | 1386 | SQU |
| Automation of Photoelasticity | Dr. Salih Akour (SQU), Professor Jamal Nayfeh (UCF) | 60,000 RO (up to this time) | University of Jordan and University of Central Florida |
| Characterization and Longevity Testing of Swellable Elastomers | Qamar SZ (PI), Pervez T (Co-PI), Hiddabi SA and Trautwein S | 88,462 OR (230,000 USD) | Petroleum Development Oman |
| Characterization and Longevity Testing of Swellable Elastomers (2009-2010) | Dr Zahid Qamar Dr Tasneem Pervez | 88,462 | PDO |
| Design and construction of nano and micro scales pin-on-disc testing machine | Jamil Abdo | 6,027 | SQU |
| Design and fabrication of an ergonomically correct sit-stand computer workstation | Dr Ashraf Shikdar Dr Mohammad Khadem | 4,100 | SQU |



| | | | |
|--|---|-------------------------|----------------------------|
| Experimental and computational study of different types of cyclone liquid-gas Separation | Dr. Nabeel | 4339 | SQU |
| Experimental Study of Solar Stills under Oman Climatic Conditions: Inverted Absorber Solar Stills for Production of Fresh Water in Remote Areas. | Dr Sabah A. Abdul-Wahab | 15,041 USD (5,785 RO) | SQU Internal |
| Feasibility Design Study of a Novel Evaporative Air cooler for space cooling for Sultanate of Oman. | Dr. M. Tahat | 4947 | SQU |
| Low Cost Expandable Research | Pervez T (PI), Qamar SZ (Co-PI), Hiddabi SA and Trautwein S | 84,231 OR (219,000 USD) | Petroleum Development Oman |
| Low Cost Expandable Research (2009-2010) | Dr Tasneem Pervez Dr Zahid Qamar | 84,231 | PDO |
| Material Characterization of Swelling Elastomer Seals for Zonal Isolation (2008-2009) | Dr Tasneem Pervez Dr Zahid Qamar | 105,769 | PDO |
| Material Characterization of Water-Swelling and Oil-Swelling Elastomer (2008-2009) | Dr Zahid Qamar Dr Tasneem Pervez | 10,577 | Maersk Oil, Qatar |
| Modeling, Simulation and Optimization of Job Shop Manufacturing Systems | Dr. Mohammad Khadem Dr. Ashraf Shikdar | 3654 | SQU |
| Multi-Scale Modeling of Polymer Nano-Composites | Khalid Alzebdeh | 8500 | SQU |

| | | | |
|--|--|----------------------------|--|
| Performance Evaluation and Optimization of the Barka MSF Desalination Plant in 2008. | Dr Sabah .A. Abdul-Wahab | 20,000 USD (7720 RO) | The Middle East Desalination Research Center (MEDRC) |
| Phasing-out the Consumption of Hydro Chlorofluorocarbons (HCFCs) in Oman: Preparation of the HCFC Phase-Out Management Plans (HPMPs) in 2008 | Dr Sabah .A. Abdul-Wahab | 13,800 USD (5299 RO) | United Nations Industrial Development Organization (UNIDO) |
| Short-Term Characterization of a Quick-Swelling Elastomer (2008) | Dr Zahid Qamar Dr Tasneem Pervez | 6,539 | Baker-Hughes and PDO |
| Urban Climate and Air Pollution in Muscat: Multi-Scale Approaches. | Yassine Charani (P.I) Dr Sabah A. Abdul-Wahab (Co-Investigator) | 153,400 USD (59,000 RO) | SQU H.M. Research Fund |





Publications

Refereed Journal Papers

1. **Abdo, J. and Al-Yhmadi, A.**, (2009) "The effect of controlled frequency and amplitude on vibration on friction", *Solid State Phenomena*, Vol 147, pp 380-385.
2. **Abdul-Wahab S.A.**, Al-Hinai H., Al-Najar K.A. and Al-Kalbani M.S. (2009) "Fog and Rain Water Collection from Trees in the Dhofar Region in the Sultanate of Oman", *The Journal of Engineering Research (TJER)*, 6(1), 51-58.
3. **Abdul-Wahab S.A.** (2009) "A Preliminary Investigation into the Environmental Awareness of the Omani Public and their Willingness to Protect the Environment", *American Journal of Environmental Sciences (AJES)*, 4(1), 39-49.
4. **Abdul-Wahab S.A.** (2009) "Two Case Studies of Air Pollution from Oman and Kuwait", *The International journal of Environmental Studies*, to be published in April-May.
5. **Abdul-Wahab S.A.** and Al-Weshahi M.A., (2009) "Brine Management: Substituting Chlorine with On-Site Produced Sodium Hypochlorite for Environmentally Improved Desalination Processes", *Water Resources Management*, Article in Press.
6. **Abdul-Wahab S.A.** and Jupp B.P. (2008) "Levels of Heavy Metals in Subtidal Sediments in the Vicinity of Thermal Power/Desalination Plants in Oman", *Desalination*, accepted on 8 June.
7. **Abdul-Wahab S.A.** and Lea V. (2008) "Causal Factors for Nighttime Increases in Temperature Observed at a Coastal Meteorological Station", *Environmental Engineering Science*, 25(6), 791-796.
8. **Abdul-Wahab S.A.** and Lea V. (2008) "Reviewing Fog Water Collection Worldwide and in Oman", *The International journal of Environmental Studies*, 65(3), 485-498.
9. **Abdul-Wahab S.A.**, Al-Mammari K.h., Al-Kindi N.K. and Al-Sawafi A.R. (2009) "Smart ship system: Protection of the marine environment", *Environmental Engineering Sciences*, 26(3), 501-508.
10. **Abdul-Wahab S.A.**, and Al-Alawi S.M, (2008) "Prediction of Sulfur Dioxide (SO₂) Concentration Levels from Mina Al-Fahal Refinery of Oman Using Artificial Neural Networks", *Special issue, American Journal of Environmental Sciences (AJES)*, 4(5), 473-481.
11. **Abdul-Wahab S.A.**, Elkamel A., Al Balushi A.S., and **Siddiqui R.** (2008) "Modelling of Nitrogen Oxides (NO_x) Concentrations Resulting from Ships at Berth", *Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering*, 43(13), 1706-1716.
12. **Abdul-Wahab S.A.**, Elkamel A., Al-Damkhi A. M., Al-Habsi I.A., Al-Rabiei H.S., Al-Battashi A.K., Al-Tamimi A.R., Al-Mamari K.H. and Chutani M.U. (2009) "Omani Bedouins' readiness to accept solar thermoelectric refrigeration systems", *International Journal of Energy Technology and Policy*, 7(1),127-136.
13. **Abdul-Wahab S.A.**, Elkamel A., Al-Damkhi A. M., Al-Habsi I.A., Al-Rabiei H.S., Al-Battashi A.K., Al-Tamimi A.R., Al-Mamari K.H. and Chutani M.U. (2009) "Design and Experimental Investigation of Portable Solar Thermoelectric Refrigerator", *Renewable Energy*, 34, 30-34.
14. **Akour, S. N.**, Defense Hole Design for Uniaxial Dominant Hybrid Load for Infinite Plate, *Advances in Structural Engineering (ASE, international Journal)* (in publication).

15. Al-Alawi S.M., **Abdul-Wahab S.A.**, and Bakheit C.S. (2008) "Combining Principal Component Regression and Artificial Neural Networks for more Accurate Prediction of Ground-Level Ozone", *Environmental Modelling & Software*, 23, 396-403.
16. **Al-Azri, N.**, Al-Thubaiti, M. and El-Halwagi, M. (2009) "An algorithmic approach to the optimization of process cogeneration", *Clean Technologies and Environmental Policy*, Volume 11, Issue 3, Page 329.
17. Al-Damkhi, A.M. and **Abdul-Wahab, S.A.** (2009) "Review and Development of Environmental Impact Statements in Kuwait: A Step Towards Mitigation of Environmental Crisis Associated with Major Projects", *Journal of Environmental Assessment Policy and Management*, Article in Press.
18. Al-Damkhi, A.M., **Abdul-Wahab, S.A.** and Al-Nafisi, A.S. (2009) "On the Need to Reconsider Water Management in Kuwait", *Clean Technologies and Environmental Policy*, Article in Press.
19. Al-Damkhi A.M., **Abdul-Wahab, S. A.**, Al-Khalaf, B. N., and Al-Nafisi, A. S. (2008) "Developing Environmental Impact Statement (EIS) Guidelines for the Management of Environmental Quality at Major Projects in Kuwait", *Management of Environmental Quality: An International Journal (MEQ)*, 19(6), 670-689.
20. Al-Damkhi, A. M., Khuraibet, A. M., Al-Attar, Al-Attar, **F. A.** and **Abdul-Wahab, S. A.** (2008) "Integrating Environmental Impact Assessment within Kuwait Master Plans as a Tool for Human and Ecological Risk Control", *Human and Ecological Risk Assessment: An International Journal*, 14(5), 1070-1085.
21. Alkhateb H., Al-Ostaz A., **AlZebdeh K.** (2008) "Developing a Stochastic Model to Predict the Strength and Crack Path of Random Composites", *Composites: Part B*, in press.
22. **Al-Shabibi, A. M.** and Barber, J. R. (2009) 'Transient Solution of the Unperturbed Thermoelastic Contact Problem', *Journal of Thermal Stresses*, Vol. 32(3), pp. 226-243.
23. **Alzebdeh K.**, Al-Ostaz A., and Alkhateb H. (2008) "Parametric Evaluation of Progressive Damage in Polymer Concretes: Size Effect and Statistics", *Journal of Engineering Analysis with Boundary Element*, 32(4), 336-352.
24. **Bashir H.A.**, **AlZebdeh K.**, and **Abdo, J.** (2008) "An Eigenvalue Based Approach for Assessing the Decomposability of Interdependent Design Tasks", accepted for publication, *Concurrent Engineering: Research and Applications (CERA Journal)*, in press.
25. **Bashir, H A.** and Karaa, S. (2008) "Assessment of Clustering Tendency for the Design of Cellular Manufacturing Systems", *Journal of Manufacturing Technology Management*, Vol. 19, No.8, 1004-1014.
26. **Bashir, H.A.** (2008) "Modeling of Development Time for Hydroelectric Generators Using Factor and Multiple Regression Analyses", *International Journal of Project Management*, Vol. 26, pp.457-464.
27. **Bashir, H.A.**, **AlZebdeh, K.**, and **Abdo, J.** (2009) "An Eigenvalue Based Approach for Assessing the Decomposability of Interdependent Design Tasks", to appear, *Concurrent Engineering: Research and Applications (CERA Journal)*, Vol. 19, No.1, pp. 35-42.\
28. Charabi Y. and **Abdul-Wahab S.A.**, (2009) "Synoptic Aspects of the Summer Monsoon of Southern Oman and its Global Teleconnections", *Journal of Geophysical Research*, 114, D07107, doi: 10.1029/2008JD010234.



29. Ettouney R.S., **Abdul-Wahab S.A.** and Elkilani A.S. (2009) "Emissions Inventory, ISCST, and neural Network: Modelling of Air Pollution in Kuwait", The International Journal of Environmental Studies, to be published in April-May..
30. Kacimov AR, Marketz F and **Pervez T** (2008), "Analytical Solutions for One-phase Seepage Flows Impeded by Wellbore Seals", Journal of Petroleum Science and Engineering, doi:10.1016/j.petrol., 12.005.
31. **Khadem, M.**, Ali, A. and Seifoddini, H. (2008), "Efficacy of Lean Metrics in Evaluating the Performance of Manufacturing system", International Journal of Industrial Engineering, Vol 15 no 2, p (176-184).
32. Mahmoudi H., **Abdul-Wahab S.A.**, Goosen M.F.A., Sablani S.S., Perret j., Ouagued A., and Spahis N. (2008) "Weather Data and Analysis of Hybrid Photovoltaic-Wind Power Generation Systems Adapted to a Seawater Greenhouse Desalination Unit Designed for Arid Coastal Countries", Desalination, 222, 110-127.
33. Meribout, M., **Al-Rawahi, N. Z.**, Al-Naamany, A. M., Al-Bimani, A., Al-Busaidi, K., and Meribout, A. (2009) "An accurate Machine for Real-Time Two-Phase Flowmetering in Laboratory-Scale Flow Loop" IEEE Transaction on Instrumentation and Measurement, August, 58(8), 2686-2696.
34. **Pervez T, Al-Zebdeh K.** and Al-Jahwari FK, "Effects of Boundary Conditions for Laminated Composite Plates Using Higher Order Shear Deformation Theory", accepted for publication by Applied Composite Materials.
35. **Pervez T, Qamar SZ, Al-Hiddabi SA**, Al-Jahwari FK, Marketz F, Al-Houqani S, v.d. Velden M "Tubular Expansion in Irregularly Shaped Boreholes – Computer Simulation and Field Measurements," accepted for publication by Petroleum Science and Technology.
36. **Pervez T, Qamar SZ**, Seibi AC, Al-Jahwari FK (2008) "Use of SET in Cased and Open Holes: Comparison between Aluminum and Steel," Materials and Design, **29**, p 811-817.
37. **Pervez T, Qamar SZ, Siddiqui RA**, van de Velden M (2009) "Effect of Exposure on Material Response of a Swelling Elastomer," Archives of Materials Science and Engineering, World Academy of Materials and Manufacturing Engineering, **37** (2), June, p 77-84.
38. **Qamar SZ** (2009) "Effect of Heat Treatment on Mechanical Properties of H11 Tool Steel," Journal of Achievements in Materials and Manufacturing Engineering, World Academy of Materials and Manufacturing Engineering , **35** (2), August 2009, p 115-120.
39. **Qamar SZ** (2009) "FEM Study of Extrusion Complexity and Dead Metal Zone," Archives of Materials Science and Engineering, World Academy of Materials and Manufacturing Engineering, **36** (2), April, p 110-117.
40. **Qamar SZ**, Arif AFM, Sheikh AK, **Pervez T** (2008) "Effect of Process Parameters on Metal Flow and Dead Metal Zone in Extrusion," Archives of Materials Science, World Academy of Materials and Manufacturing Engineering, **28** (1-4), p 118-123.
41. **Qamar SZ, Hiddabi SA, Pervez T.**, Marketz F (2009) "Mechanical Testing and Characterization of a Swelling Elastomer," Journal of Elastomers and Plastics, **41** (5), September.
42. **Qamar SZ**, Sheikh AK, Arif AFM (2008) "A CVN-K_{IC} Correlation for H13 Tool Steels," International Journal of Materials and Product Technology (IJMPT), **33** (4), p 421-432.

43. **Qamar SZ**, Sheikh AK, Arif AFM, Younas M, **Pervez T.** (2008) "Monte Carlo Simulation of Extrusion Die Life," *Journal of Materials Processing Technology*, 202, p 96-106.
44. Seibi AC, Karech A, Boukadi F and **Pervez T.** (2009), "Wellbore Path Estimation Using Measurement While Drilling Techniques: A Comparative Study and Suggestions for Improvements", *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 31:14, 1205- 1216
45. Seibi AC, **Pervez T.** and Gastli A. (2008), "Finite Element Modeling of Aboveground Wavy Pipelines: Practical Approach", *Journal of Transportation Engineering*, 134 (8), 1-8.
46. **Siddiqui R.A.**, Bakheit C.S., and **Abdul-Wahab S.A.** (2008) "Investigating the Variation in the Properties of Hydrogenated 0.31% Carbon Steel", *Materials & Design*, 29, 922-927.
47. **Siddiqui RA**, **Qamar SZ**, **Abdul-Wahab SA**, **Pervez T** (2008) "Hydrogen Embrittlement in Low Carbon Steel," *Archives of Materials Science, World Academy of Materials and Manufacturing Engineering*, 28 (1-4), p 136-142
48. **Siddiqui, R. A.**, **Abdul Wahab, S. A.**, **Pervez, T.**, (2008) 'Effect of Ageing Time and Temperature on Fatigue and Fracture Behaviour of 6063 Aluminium Alloy Under Seawater Influence', *Materials and Design 29*", p70-79.
49. Tahri T., **Abdul-Wahab S.A.**, Bettahar A., Douani M., Al-Hinai H. and Al-Mulla Y. (2009) "Simulation of the Condenser of the Seawater Greenhouse, Part I: Theoretical Development", *Journal of Thermal Analysis and Calorimetry (JTAC)*, 96, 35-42.
50. Tahri T., **Abdul-Wahab S.A.**, Bettahar A., Douani M., Al-Hinai H. and Al-Mulla Y. (2009) "Simulation of the Condenser of the Seawater Greenhouse, Part II: Application of the Developed Theoretical Model", *Journal of Thermal Analysis and Calorimetry (JTAC)*, 96, 43-47.

Books/Chapters Publications

1. Elkamel A. and **Abdul-Wahab S.A.**, (2009) "Intelligent Air Quality Monitoring Using Connectionist Models", Chapter 3, In: *Environmental Chemistry Research Progress*, Editors: P. Robinson and R. Gallo, ISBN 978-1-60741-055-3, Nova Science Publishers, Inc.

Conference Papers

1. **Abdo, J.** and **Tahat, M.** (2009) "The Effect of Excitation Frequencies on Stick-Slip Amplitude", *Integrity, Reliability, and Failure 'IRF' 2009*" Conference, 20-24 July, Porto, Portugal.
2. **Abdul-Wahab S.A.** (2008) "Oil Production and its Impacts on the Ecological Footprint of the Arabic Cities: Environmental Management of Marine Pollution", *The Seventh Arab Environmental Management Conference* organized by the Arab Administrative Development Organization (ARADO), League of Arab States, Cairo, Egypt, 22-24 December.



3. **Abdul-Wahab S.A.** (2008) "The Growth of populations and Development projects and its Impacts on the Ecological Footprint of the Arabic Cities: Growth and Proliferation of pollution", The Seventh Arab Environmental Management Conference organized by the Arab Administrative Development Organization (ARADO), League of Arab States, Cairo, Egypt, 22-24 December.
4. **Abdul-Wahab S.A.** (2009) "Environmentally Friendly Projects", Environmental Auditing Conference, Organized by Institute of Public Administration and Ministry of Environment and Climate Change, Sultanate of Oman, 19-20 April (Arabic).
5. **Abdul-Wahab S.A.**, Charabi Y., Al-Abdulsalam M.A., Al-Yahmadi S.A., and Al-Maamari N.S. (2009) "Design and Construction of Air Pollution Monitoring Station", Environmental Auditing Conference, Organized by Institute of Public Administration and Ministry of Environment and Climate Change, Sultanate of Oman, 19-20 April (Arabic).
6. **Al-Rawahi, N.** (2009) "Designing a Multi-Phase Flow Loop", International Conference on Computational and Experimental Engineering and Sciences (ICCES,09), Phuket, Thailand, 8-11 April.
7. **Al-Rawahi, N. Z.**, Meribout, M., Al-Naamany, A. M., Al-Bimani, A., and Meribout, A. (2009) "A small Multi-Phase Flow Loop used in Training a Neural Network Algorithm for Density Measurement", 22nd Canadian Congress of Applied Mechanics (CANCAM '09), Halifax, Canada, May 31 – June 4.
8. **Al-Shabibi, A. M.** (2009) "Solution of a Non-linear Heat Conduction Problem in Automotive Clutch and Brake Systems", ASME 2009 Heat Transfer Summer Conference, July 19-23, San Francisco, California USA.
9. **Bashir, H.A.** (2009) "A Minimum-edge Diagraph Model for Evaluating Project Schedule Complexity" Forthcoming, Proceedings of the 20th IASTED International Conference on **Modelling and Simulation**, Banff, Alberta, Canada, July 6-8.
10. Bashir, H.A., AlZebdeh, K., **Rashid, M.K.** (2008) "Survey results on knowledge, perception and attitude of consumers towards ISO 9001:2000 quality management standards" **IIE Annual Conference and Expo**, Pages 1766-1771.
11. **Fanni, M** , Gowid, S., and Shabara, M. (2009) "Design and Analysis of a Multistage Pantograph Mechanism for Scraping Sulfur in Petroleum Industries", 9th International Conf. on Production Engineering, Design and Control (PEDAC), Alexandria.
12. **Garbie, I.H.**, (2009) "A Vision for Reconfiguring Industrial Organization due to the Global Recession", Proceedings of the 39th of International Conference on Computers and Industrial Engineering, France, pp. 658-663, July 6-8.
13. **Garbie, I.H.**, and **Shikdar, A.A.** (2009) "Determination of Complexity Levels in Industrial Firms", Proceedings of the International Conference of Industrial Engineering Research (IERC), Miami, Florida, USA, pp. 1423-1428, May 30- June 3.
14. **Garbie, I.H.**, and Parsaei, H.R., "Reconfiguring Job Shops Manufacturing Systems to Cellular Systems", Proceedings of the International Conference of Industrial Engineering Research (IERC), Miami, USA, pp. 1429-1434, May 30- June 3, 2009.
15. **Khadem, M.** and Ali, A. (2008), "Modelling and Simulation for Car Battery Manufacturing for Cost Effectiveness" , the IASTED International Conference on Intelligent Systems and Control, November 16-18, Orlando, USA.

16. **Khadem, M.** and Ali, A. (2008), "Shop Floor Modelling And Simulation For Performance Improvement For Car Battery Manufacturing" , Proceedings of the 13th Annual International Conference on Industrial Engineering Theory, Applications and Practice Las Vegas, Nevada, September 7-10.
17. **Khadem, M.**, Bashir, H.A., Al-Azri, F., and Al-Lawati (2008), "Evaluating the Layout of the Emergency Department of a Public Hospital Using Computer Simulation Modeling: A Case Study" , The Proceedings of IEEE International Conference on Industrial Engineering and Engineering Management, Singapore, December 8-12.
18. **Pervez T, AlZebdeh K.** and Al-Jahwari FK, "Comparative Study Between an Efficient Higher Order Theory for Laminated Plates and Commercial Software", Proceedings of Seventh International Conference on Composite Science and Technology (ICCST/7), Jan 19-21, UAE.
19. **Pervez T, Qamar SZ** (2009) "Finite Element Analysis of Tubular Ovality in Oil Well," accepted for presentation at International Conference on Advances in Materials and Processing Technologies (AMPT 2009), 26-29 October, Kuala Lumpur, Malaysia.
20. **Pervez T, Qamar SZ, Siddiqui RA,** van de Velden M (2009) "Effect of Exposure on Material Response of a Swelling Elastomer," 17th International Scientific Conference on Achievements in Mechanical and Materials Engineering (AMME-2009), World Academy of Materials and Manufacturing Engineering, 14-17 June, Gdansk, Poland.
21. **Pervez, T,** and Taha R. (2009) "Integration of Professional Practice and Ethical Issues In Engineering Curricula", Proceedings of Symposium on Engineering Education, May 16-18, UAE.
22. **Qamar SZ** (2009) "Effect of Heat Treatment on Mechanical Properties of H11 Tool Steel," 17th International Scientific Conference on Achievements in Mechanical and Materials Engineering (AMME-2009), World Academy of Materials and Manufacturing Engineering, 14-17 June, Gdansk, Poland.
23. **Qamar SZ** (2009) "FEM Study of Extrusion Complexity and Dead Metal Zone," 17th International Scientific Conference on Achievements in Mechanical and Materials Engineering (AMME-2009), World Academy of Materials and Manufacturing Engineering, 14-17 June 2009, Gdansk, Poland.
24. **Qamar SZ,** Arif AFM, Sheikh AK, **Pervez T** (2008) "Effect of Process Parameters on Metal Flow and Dead Metal Zone in Extrusion," 12th International Research/Expert Conference on "Trends in the Development of Machinery and Associated Technology" (TMT 2008), Istanbul, Turkey, 26-30 September, 2008, p 1403-1406.
25. **Qamar SZ,** Arif AFM, Sheikh AK, **Pervez T** (2008) "Effect of Shape Complexity on Metal Flow and Dead Metal Zone in Extrusion," 12th International Research/Expert Conference on "Trends in the Development of Machinery and Associated Technology" (TMT 2008), Istanbul, Turkey, 26-30 September, 2008, p 1399-1402.
26. **Qamar SZ, Siddiqui RA, Pervez T** (2008) "Improvement of Die Design and Prevention of Die Failure in Metal Extrusion," 12th International Research/Expert Conference on "Trends in the Development of Machinery and Associated Technology" (TMT 2008), Istanbul, Turkey, 26-30 September, 2008, p 869-872.
27. **Qamar SZ, Siddiqui RA, Pervez T** (2009) "Effect of Heat Treatment on Mechanical Properties of H13 Steel," accepted for presentation at 13th International Research/Expert Conference "Trends in the Development of Machinery and Associated Technology" (TMT 2009), 16-21 October, 2009, Hammamet, Tunisia.



28. **Rashid, M. K.** (2009), "Switching Modeling and Simulation of Intelligent Cutting Tools," The **20th IASTED International Conference** on Modeling and Simulation, June 7 – August 7, Banff, Alberta, Canada –MS 2009.
29. **Shikdar, A., Khadem, M., Al-Harthy, S** (2008), "An Ergonomics Intervention Study of Reducing Health Complaints among Office Employees" , The Proceedings of IEEE International Conference on Industrial Engineering and Engineering Management, Singapore, December 8-12.
30. **Siddiqui RA, Abdul-Wahab SA, Pervez T, Qamar SZ** (2008) "Hydrogen Embrittlement in Low Carbon Steel," 12th International Research/Expert Conference on "Trends in the Development of Machinery and Associated Technology" (TMT 2008), Istanbul, Turkey, 26-30 September, p 1381-1384.

Technical Reports and Consultancy

1. **Abdul-Wahab S.A**, Phasing-out the Consumption of Hydro Chlorofluorocarbons (HCFCs) in Oman: Preparation of the HCFC Phase-Out Management Plans (HPMPs), Final Report, Project Number AS/ENG/MIED/08/01, February 2009, Sultan Qaboos University, Sultanate of Oman.
2. **Fanni, M.**, A Novel Flying/Walking Service Robot, Arabic organization for innovation and creation, scientific and technical area, 2009.
3. **Nabeel Al-Rawahi**, (2009) "Multiphase Flow Loop Auditing by NEL: Phase I", Petroleum Development Oman (PDO).
4. **Pervez T, Qamar SZ** (June 2009) "Research Database for SET Testing," Petroleum Development Oman (PDO).
5. **Pervez T, Qamar SZ, Trautwein SE** (June 2009) "Fast-Swell Testing in Shallow Aquifer," Petroleum Development Oman (PDO).
6. **Qamar SZ, Pervez T, Hiddabi SA** (August 2008) "Characterization of Swelling Elastomers: Short-Term Test #1," Petroleum Development Oman (PDO).
7. **Qamar SZ, Pervez T, Hiddabi SA** (February 2009) "Characterization of Swelling Elastomers: Short-Term Test #2," Petroleum Development Oman (PDO).
8. **Qamar SZ, Pervez T, Hiddabi SA** (September 2008) "Characterization of Swelling Elastomers: Long-Term Test #1," Petroleum Development Oman (PDO).
9. **Qamar SZ, Pervez T, Hiddabi SA** (January 2009) "Characterization of Swelling Elastomers: Long-Term Test #2," Petroleum Development Oman (PDO).

OTHER ACTIVITIES

Workshops and Short Courses

1. **Abdul-Wahab, S. A.**, Phase-out the consumption of hydro chloro fluorocarbons (HCFC) in Oman: Highlights from the National HCFC survey. National Workshop for Launching of the HCFC Phase-Out Management Plan (HPMP) of Oman. Organized by the Ministry of Environment & Climate Affairs, United Nations Industrial Development Organization (UNIDO) and United Nations Environment Programme (UNEP). Muscat, Sultanate of Oman, on 23 May 2009.

2. **Abdul-Wahab, S. A.**, The use of ODSs as solvents, aerosol industry and in MDIs applications. Capacity Building Workshop for Iraqi Experts on Implementation of the Montreal Protocol. Organized by United Nations Environment Programme (UNEP/ROWA) & United Nations Industrial Development Organization (UNIDO). Beirut, Lebanon, 22-26 September 2008.
3. **AlZebdeh, K.**, Instructor for the short course “Evaluation of Industrial Projects from the Perspective of National and Economical Standpoint”, Organized by the Ministry of Industry and Commerce of Oman in collaboration with the ARAB industrial Development and Mining Organization (AIDMO) and the **United Nations Industrial Development** Organization (UNIDO), Salalah, Oman August 16-26, 2008.
4. **AlZebdeh, K.**, Instructor for the short course “Feasibility Studies and Evaluation of Industrial Projects”, Organized by the Ministry of Industry and Commerce of Oman in collaboration with the ARAB industrial Development and Mining Organization (AIDMO) and the **United Nations Industrial Development** Organization (UNIDO), Salalah, Oman August 16-26, 2008.
5. **Fanni.M**, Workshops about the usage of ADAMS software. They were organized by Mechatronics-student-committee at SQU, 2009.
6. **Pervez, T.** “Design of Gears for Heavy Machinery Using AGMA Standard and Finite Element Method”, Kuala Lumpur, Malaysia, (December 2008)

Visits

1. **Pervez T**, Visiting Professor, Institute of Light Weight Composite Structures, Aachen University, Aachen, Germany, (July-August 2008).
2. **Shikdar** , Visit to UAE University, Department of Mechanical Engineering, May 2009

Cooperation with Local and Foreign Organizations

1. **Pervez T**, “Research and Development in Solid Expandable Tubular and Mechanical Profile Control”, Shell Expandable Technology Forum, Jan 13-14, 2009.

Students' Activities

1. Mechanical engineering students' football league, September 2008, SME.
2. Ramadhan Competition, September 2008, SME.
3. Ramadhan Iftaar gathering, September 2008, SME.
4. ANSYS software course, October 2008, SME.
5. Discussion lecture (1), October 2008, SME.
6. Engineering society's exhibition, October 2008, SME.
7. ABET lecture, October 2008, IES.
8. Discussion lecture (2), November 2008, SME.
9. Car technology workshop November 2008, SME.
10. Participation in collage of commerce and economy: Omani entrepreneurs and human resources, November 2008, IES.
11. AutoCAD course, November 2008, IES.
12. Major's week activity, November 2008, IES.
13. Trips to different companies, November 2008, IES.
14. Meeting and discussion with industrial engineering graduate students, November 2008, IES.
15. Challenge Sun gathering in Sohar, December 2008, SME.
16. Solidworks software course, March 2009, SME.
17. Mechanical Corners, March 2009, SME.
18. The First Industrial Training Gathering, March 2009, SME.
19. Trip to Badiya, March 2009, IES.
20. AutoCAD software course, April 2009, SME.
21. MatLab software course, April 2009, SME.
22. The Third Engineering Society Exhibition, April 2009, SME.
23. Competition among students, April 2009, IES.
24. Lecture in ethics, April 2009, IES.
25. Multimedia course: Windows Movie Maker and Ulead Video Studio11.5, June 2009, IES.
26. AutoCAD course, July 2009, IES.





Dr. Ibrahim Ashour, Associate Professor

Head of the Department

Ph.D., Lund University, Sweden, 1989

SUMMARY

To cope with societal evolvement and ever growing industrial demands, the Department has undergone a major restructuring. Two new programs have emerged: one in Petroleum and Natural Gas Engineering (PNGE) and the other in Chemical and Process Engineering (CHPE). Since then, the student intake to the Department has reached 80 for 2005 cohort, from average figures of 20 to 30 previously.

Responding to local demands has directed the Department into the universal new trends: student learning based education. The Petroleum and Natural Gas Engineering program obtained substantial equivalency to the corresponding petroleum programs in US for 6 years while the Chemical and Processing Engineering program recently has been accredited fully similar to any US University.

Since last year 2008, PCE has started development of integrated curriculum for both CHPE, and PNGE Programs. In this curriculum, the knowledge will be attached to domain of

Table E1: Summary

| | 2006-07 | 2007-08 | 2008-2009 |
|--------------------------------------|---------|---------|-----------|
| Faculty | 16 | 18 | 19 |
| <i>Support Staff</i> | 10 | 9 | 10 |
| <i>Total</i> | 26 | 27 | 29 |
| <i>On Study Leave</i> | 3 | 2 | 1 |
| Undergraduate Program | | | |
| <i>Enrolment (Y2-5)(Fall)</i> | 261 | 302 | 380 |
| <i>Courses Offered</i> | 48 | 48 | 43 |
| <i>Graduates</i> | 49 | 52 | 45 |
| Graduate Program | | | |
| <i>Enrolment</i> | 10 | 24 | 28 |
| <i>Courses Offered</i> | 5 | 5 | 4 |
| <i>Theses Completed</i> | 2 | 2 | 1 |
| Research | | | |
| <i>Grants</i> | 3 | 4 | 3 |
| <i>Contracts and Support Service</i> | 14 | 12 | 13 |
| <i>Consulting</i> | 3 | 1 | 3 |
| Publications | | | |
| <i>Refereed Journals</i> | 33 | 41 | 30 |
| <i>Others</i> | 33 | 29 | 11 |

courses instead of single course. The flow of knowledge within each domain will be presented to the students from the beginning. The evaluation of each domain will be conducted separately and then all domains will contribute to the overall assessment of the program.

The Department has started M Sc of Petroleum and Natural Gas (PNGE) since 2003, and Ph D programs for Chemical and Processing Engineering CHPE and PNGE recently starting from academic year 2009/2010. M Sc (with courses option) for both CHPE and PNGE programs was approved by SQU. CHPE M Sc (with thesis option) is in processing.

Faculty as well as technicians have also taken part in doing research, providing laboratory services and consultancy. The Department is currently working



hand in hand with the College Administration and the Oil and Gas Research Centre to expand the Engineering Research Laboratories (ERL). ERL will be hosting three major research projects of Thermally-Assisted Gas-oil Gravity Drainage, Formation Damage and Chemical Profile Control (CPC). In chemical engineering, a modern gas-solid reactor and a sophisticated GC are in function. Thus the strong infrastructure and tradition of engaging in quality research have resulted in a number of publications in renowned international journals and conference proceedings.



DEPARTMENTAL PROFILE

Faculty

Currently, the Department consists of a total of 20 academics consisting of 5 associate professors, 13 assistant professors and one lecturers.

Table E2: Academic Staff

| Name | Position | Specialization |
|-----------------------------|--|--|
| Dr. Ibrahim Ashour | Assoc. Professor, Head of the Department | Applied thermodynamics and separation processes, Green Engineering, natural gas, Chemical Engineering education |
| Dr. Ali Soud Al-Bemani | Assoc. Professor | Well testing, reservoir engineering, rock and fluid properties and computer application in petroleum engineering |
| Dr. Gholamreza Vakili-Nejad | Assoc. Professor | Applied Statistical and Chemical Thermodynamics, Applied Hydrocarbon Thermodynamics, Characterization of Petroleum Fluids, Nanofluids, Nanothermodynamics |
| Dr. Mahmoud Abdel-Goad | Assoc. Professor | Polymer engineering, composite materials, expanded graphite. |
| Dr. Rashid S. Al-Maamari | Assoc. Professor | EOR, wettability, hydrocarbon contamination of groundwater, treatment and utilization of oilfield produced water. |
| Dr. Khalid Hilal Al-Rawahy, | Asst. Professor | Mineral resources, geology, genesis, supply and demand analysis, modeling, and forecasting techniques. |
| Dr. Hamoud K. Al-Hadrami | Asst. Professor | Simulation modeling and geological modeling. Drilling engineering. Formation evaluation. |
| Dr. Majid A. Al-Wadhahi | Asst. Professor | Reservoir simulation, 3-phase flow in porous media, artificial neural network |
| Dr. Baba El-Yakubu Jibril | Asst. Professor | Heterogeneous catalysis, adsorption |
| Dr. Yahya M. Al-Wehaibi | Asst. Professor | Reservoir Simulation, multi contact miscible gas injection, first-contact miscible WAG injection, thermal injection, neural magnetic resonance |
| Dr. Adel M. Al-Ajmi | Asst. Professor | Mining engineering and rock mechanics |
| Dr. Talal K. Al-Wahaibi | Asst. Professor | Multiphase flow and mixing, Flow in porous media, Drag reducing polymers |
| Dr. Mansoor H. Al-Harhi | Asst. Professor | Risk and Uncertainty, Integrated reservoir management, Economic Evaluation of Oil and Gas Projects, Stochastic Integrated Asset Model, Decision Making under Uncertainty, Portfolio Management, Project Management |
| Dr. Ilham Kirm | Asst. Professor | Heterogeneous Catalysis and Catalytic Reactors |



| | | |
|-----------------------------|-----------------|---|
| Dr. Abdul Aziz R. Al-Hashmi | Asst. Professor | Petroleum reservoir engineering and petrochemical engineering. |
| Dr. Jamil Naser | Asst. Professor | Environmental Engineering, Desalination, Adsorption, Engineering Education |
| Dr. Mohammad Al-Abri | Asst. Professor | Water Treatment, Nanotechnology and Green Engineering |
| Mr. Rashid S. Al-Hajri | Lecturer | Heterogeneous catalysis, petroleum reservoir engineering and petrochemical engineering. |



Technical and Support Staff

Table E3: Technical and Support Staff

| Name | Position | Specialization |
|----------------------------|---------------------------|---|
| Said Soud Al-Omeiri | Chief Technician | PhD, Metallurgy, Msc, Mining. BSc, Petroleum Geology. |
| Yathrib Mohammed Al-Riyami | Chief Technician | MSc Petroleum Engineering |
| Nasser Al-Mandhari | Senior Engineer | BSc Mining Engineering |
| Sabri Salam Al-Khusaiby | Department Superintendent | BSc. Petroleum Geology |
| Hamdan Bin Saif Al-Amri | Lab Supervisor | HND Petroleum Engineering |
| Ike Fernandez Siruno | Senior Engineer | BSc Mining Engineering |
| Nayyar Afzal | Lab Supervisor | MSc Geologist |
| Salim Ali Al-Mazrui | Lab Supervisor | B-Tech Engineering |
| Adel Al-Rubkhi | Technician | BSc Chemistry |
| Sheikha Salim Al-Hajri, | Coordinator | Administration |

Committees

Table E4: Committee membership

| Committee | Members |
|--|---|
| DAPC/ Chair | Dr. Ali Al-Bemani Dr. Ibrahim Ashour |
| PCED Postgraduate Studies & Research Committee | Dr. Mahmoud AbdulGoad Dr. Yahya Al-Wahaibi Dr.Gholamreza Vakili-Nejad |
| PCED Appointment Committee | Dr. Ibrahim Ashour (Chair) Dr. Rashid Al-Maamari Dr. Yahya Al-Wahaibi Dr. Mansour Al-Harhi Dr.Gholamreza Vakili-Nejad |
| PCED Advising | Dr. Rashid Al-Maamari |
| PCED Board Secretary | Dr. Abdul Aziz R. Al-Hashmi |
| PCED Book and Library Coordinator | Dr. Mansour Al-Harhi |
| PCED Chief Technician & Labs Supervisor | Mr. Nasser Al-Mandhari |
| PCED Curriculum and Accreditation Committee | Dr. Ibrahim Ashour (Chair) Dr. Rashid Al-Maamari Dr. Jamil Naser Dr. Baba Jibril |
| PCED Exam Review Committee | Dr. Ibrahim Ashour Dr. Rashid Al-Maamari Dr. Jamil Naser |
| PCED In-house Industrial Training Coordinator | Dr. Aadel Al-Ajmi Dr. Yahya Al-Wahaibi |
| PCED Seminar Coordinator | Dr. Abdul Aziz R. Al-Hashmi Dr. Ilham Kirm |
| PCED SPE Representative | Dr. Hamoud Al-Hadrami |
| PCED Student Society Advisor (SPE/CHEME) | Dr. Hamoud Al-Hadrami |
| PCED Timetabling Officer | Dr. Rashid Al-Maamari Dr. Baba Jibril |

POSTGRADUATE STUDIES

M. Sc. Students' Projects

Table E5: Student projects

| Project Title | Supervisor | Student Name |
|--|---|--------------------|
| Developing a correlation between permeability and porosity using Geostatistics | Dr. Hamoud Al-Hadrami Dr. Adel Al-Ajmi | Harith Al-Muqbbali |
| A Water Coning Correlation for an Omani Fractured Carbonate Reservoir – A Case Study | Rashid Al-Maamari Majid Al-Wadhahi | Ibrahim Al-Sinani |



| | | |
|--|---|------------------|
| Morpholoical and Cultural Characterization of Hetrotrophic and Sulfate Reducing Bacteria Isolated From Bahja Oil Field in Oman | Dr. Saif Al-Bahry Dr. Yahya Al-Wahaibi Dr. Ali Al-Bemani Dr. Abdulkadir Elshafie | Aidah Al-Lawati |
| Morpholoical and Cultural Characterization of Hetrotrophic and Nitrate Reducing Bacteria Isolated From Bahja Oil Field in Oman | Dr. Saif Al-Bahry Dr. Yahya Al-Wahaibi Dr. Ali Al-Bemani Dr. Abdulkadir Elshafie | Ratiba Al-Muaini |

Ph. D. Students

Table E6: Student projects

| Project Title | Supervisor | Student Name |
|--|---|--------------------|
| Microbial Enhanced Oil Recovery Application in Omani Oil Fields | Dr. Yahya Al-Wahaibi, Dr. Ali Al-Bemani, Dr. Saif Al-Bahry, Dr. Abdulkadir El-Shafie | Hanaa Al-Sulaimani |
| Experimental and Numerical Investigations of Oil Recovery by VAPEX | Dr. Yahya Al-Wahaibi Dr. Ann Muggerdige (Imperial College-London) | Abdullah Al-Kindi |
| Effect of Drag Reducing Polymers in Horizontal Oil-Water Flow | Dr. Talal Al-Wahaibi Dr. Yahya Al-Wahaibi Dr. Adel Al-Ajmi Dr. A.S. Olawale (Ahmadu Bello University, Nigeria) | Nurudeen Yusuf |

RESEARCH**Grants and Contracts**

Table E7: Grants held by faculty members in the 2008/2009 academic year

| Research Title | Investigators | Budget R.O. | Funded By |
|--|---|-------------|--------------------------------------|
| Effect of DRP in horizontal oil-water flows | Dr. Talal Al-Wahaibi Dr. Yahya Al-Wahaibi Dr. Adel Al-Ajmi Dr. Abdulaziz Al-Hashmi Dr. Mahmoud AbdeGoad | 4000 | SQU |
| Polymer Technology for Improved Oil Recovery in Omani Fields | Rashid Al-Mamaari (PI) Mahmoud Abdel-Goad (Co-investigator) Abdul-Aziz Al-Hashmi (Co-investigator) | 889,171 | PDO |
| Feasibility Study on Installing a Central Mud Plant for PDO Oil Fields | Dr. Adel Al-Ajmi Dr. Mansoor Al-Harathi | 38,600 | PDO |
| PVT Measurements and Analysis (Phase-I) | Dr. Adel Al-Ajmi Dr. Yahya Al-Wahaibi Dr. Talal Al-Wahaibi Dr. Ali Al-Bemani | 388,900 | PDO |
| Effect of Drag Reducing Polymer in Horizontal Oil-Water Flows | Dr. Talal Al-Wahaibi Dr. Adel Al-Ajmi Dr. Yahya Al-Wahaibi | 4,000 | SQU |
| Technical Evaluation of Production Chemicals | Dr. Talal Al-Wahaibi Dr. Adel Al-Ajmi Dr. Yahya Al-Wahaibi | 27,000 | PDO |
| Investigating the Implication of Reusing Wastewater Effluents and Sludge on Public Health and the Environment: Risk Assessment and Quality Control | Ashour, I Mahad S. Baawain et al. | 94,000.0 | Strategic Project, SR-ENG-CIVL-08-01 |
| Levels of Total Mercury in Traditional Medicine, Herbal Remedies and Generic Pharmaceuticals Available in Oman | Ilham Kirm Jamil Naser (co-Invest) | 4800 | SQU |
| Evaluation of non-intrusive Hydro steel technique for detecting sour corrosion | Dr. Mahmoud Abdel-Goad (PI) Dr. Ashraf Al-Hanai Dr. Baba Jibril | US \$ 47990 | PDO |



| | | | |
|--|--|---------------|-----|
| Evaluation of Microcor advanced electrical resistance technique for corrosion monitoring | Dr. Mahmoud Abdel-Goad (PI) Dr.Ashraf Al-Hanai Dr. Baba Jibril | US \$ 31993 | PDO |
| Detecting sour corrosion using different techniques | Dr. Mahmoud Abdel-Goad (PI) Dr.Ashraf Al-Hanai Dr. Baba Jibril | US \$ 36457.2 | PDO |
| Detecting sour corrosion and evaluation of Microcor advanced electrical resistance technique | Dr. Mahmoud Abdel-Goad (PI) Dr.Ashraf Al-Hanai Dr. Baba Jibril | US \$ 29645 | PDO |
| Polymer Technology for Improved Oil Recovery in Oman Fields | Dr.Mahmoud Abdel-Goad, Dr.Abdul-Aziz Al-Hashmi Dr.Rashid Al-Maamari (PI) | US \$ 2311845 | PDO |
| Excellence in Enhanced Oil Recovery: pH-Sensitive Polymers for Novel Improving Reservoir | Dr. Yahya Al-Wahaibi(PI) Dr.Talal Al-Wahaibi Dr.Mahmoud Abdel-Goad | US \$ 334,620 | PDO |
| Effect of Drag Reducing Polymers in Horizontal oil Water Flow | Dr.Talal Al-Wahaibi(PI) Dr.Mahmoud Abdel-Goad | US \$ 13000 | SQU |
| Microbial Enhanced Oil recovery (Phase-II) | S. Al-Bahry, Y. Al-Wahaibi, A. Al-Bemani | 380,000 | PDO |
| PVT Measurements and Analysis (Phase-I) | Y. Al-Wahaibi, A. Al-Ajmi, A. Al-Bemani, T. Al-Wahaibi | 385,000 | PDO |
| Microbial Enhanced Oil Recovery Applications in Omani Oil Field | El-Shafie, S. Al-Bahry, Y. Al-Wahaibi, A. Al-Bemani | 112,000 | HM |
| Drag Reducing Polymers for Two-Phase Oil/Water Flow | T. Al-Wahaibi, Y. Al-Wahaibi, A. Al-Ajmi, M. Abdelgoad | 4,000 | SQU |

Publications

Refereed Journal Papers

1. **Abdel-Goad, M.**, (2009) "Dynamic Mechanical Moduli of Residual Softwood-Filled Polystyrene", the Journal of Engineering Research (TJER), V 6, No.1, PP.59-65, Jan.
2. **Abdel-Goad, M.**,(2009) "Waste Plastic-modified Bitumen: Rheological Study", the Journal of Engineering Research (TJER), V 6, No.1, PP.76-81, Jan.
3. **Al-Abri, M.** and Hilal, N. (2008) "Artificial neural network simulation of combined humic substance coagulation and membrane filtration" Chemical Engineering Journal, 141, 27-34.
4. **Al-Ajmi, AM**, Zimmerman, RW. (2009) „A New Well Path Optimization Model for Increased Mechanical Borehole Stability". J Pet Sci Eng; 69(1):53-62.
5. **Al-Harthy, M.** and **Al-Ajmi, A.** (2009). How to economically evaluate a drilling fluid plant? A systematic approach. Int. J. Oil, Gas and Coal Technology, Vol. 2, No. 3, pp.280–296.
6. Al-Kindi, A., **Al-Wahaibi, Y.M.** (2009)" Bijeljic, B., Muggeridge, A.: 'The Influence of Diffusion and Dispersion on Heavy Oil Recovery by VAPEX", Accepted for publication in Journal of Contaminant Hydrology.
7. Al-Kindi, A., Muggeridge, A., **Al-Wahaibi, Y.M.** (2009) 'Experimental and Numerical Studies of Heavy Oil Recovery via VAPEX', Accepted for publication in SPE Journal.
8. Alkindi, AS, **Al-Wahaibi, YM**, Muggeridge, AH (2008) "Physical Properties (Density, Excess Molar Volume, Viscosity, Surface Tension, and Refractive Index) of Ethanol plus Glycerol", J CHEM ENG DATA, Vol: 53, Pages: 2793 - 2796, ISSN: 0021-9568
9. **Al-Maamari, R.S.**, Hirayama, A., Sueyoshi, M.N., Abdalla, O.A., **Al-Bemani, A.S.**, and Islam M.R. (2009) "The Application of Air-Sparging, Soil Vapor Extraction and Pump & Treat for Remediation of a Diesel-Contaminated Fractured Formation," Energy Sources, Part A: Recovery, Utilization, and Environmental Effects,31:11,911 — 922.
10. Al-Mamari, F, Al-Shuraiqi, H, and **Al-Wahaibi, YM.** (2008) 'Experimental and Numerical Studies of Discontinues Shale Effects on First-Contact Miscible Water Alternating Gas Injection', Manuscript ID: ESO/08/066, Accepted for publication in Journal of Energy Sources.
11. **Al-Wahaibi, T., Abdel-Goad, M., Al-Wahaibi, T.,** and Al-Shurji, H. (2008) "Use of a Novel pH-Triggered Polymer-Gel System for Optimal Mobility-Control Applications" **Journal of Applied Polymer science**, Manuscript ID:APP-2008-09-3191, Submitted July. 12.
12. **Al-Wahaibi, T.,** Angeli, P. (2009) "Onset of entrainment and degree of dispersion in dual continuous horizontal oil-water flows". Exp. Therm. Fluid Sci., 33, 774-781.
13. **Al-Wahaibi, T.,** Angeli, P. (2009) "Predictive Model of the Entrained Fraction in Horizontal Oil-Water Flows. Chem. Eng. Sci. (64) 2817-2825.
14. **Al-Wahaibi, T.,** Angeli, P., (2008) "Droplet Size and Velocity in Dual Continuous Horizontal Oil-Water Flows". IChemE, Part A, 86, 83-93.



15. **Al-Wahaibi, Y. M.** and Al-Hadhrami, A.K. (2009) 'Oil Recovery Mechanisms via Multicontact Miscible Gas Injection Process within Lensed Systems', *Petroleum Science and Technology*, 27:15, 1744 — 1756, ISSN: 1091-6466
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38. Zidelkheir, B. and **Abdel-Goad, M.** (2008) "Effect of Surfactant Agent upon the Structure of Montmorillonite: X-ray diffraction and thermal analysis", *Journal of thermal analysis and calorimetry*, Vol. 94, PP.181-187.

Books/Chapters Publications

1. **Al-Wahaibi, Y.M.** "Oil and Gas in Oman". A chapter in the 'Omani Encyclopedia', under press

Conference Papers

1. **Abdel-Goad, M.,** Al-Hashmi, A., and Al-Maamari, R. "Evaluation of viscoelastic properties of a high molecular weight polyacrylamide-based polymeric material", 2009 Multilingual Interdisciplinary Conference on Chemical, Mechanical and Materials Engineering (2009 ICCMME), 07-20.12.2009, Australia
2. **Abdel-Goad, M.,** Kretzschmar, B., Pötschke, P., Al-Maamari, R.S., and Heinrich, G. "Rheological Characterization of Melt Compounded Polypropylene/clay



- Nanocomposites” the 2008 NSTI Nanotechnology Conference and Trade Show, June 1-5, 2008, Boston, Massachusetts, U.S.A.
3. Al Hasani, M.A., Al Khayari, S.R., **Al Maamari, R.S.**, and **Al Wadhahi, M.A.** “Diagnosis of Excessive Water Production in Horizontal Wells Using WOR Plots,” IPTC-11958, International Petroleum Technology Conference, Kuala Lumpur, Malaysia, 3-5 December 2008.
 4. Al-Kindi, A., **Al-Wahaibi, Y.M.**, Branko B., Muggeridge, A. ‘Experimental Measurements of Longitudinal and Transverse Dispersion in Miscible Fluids with a High Viscosity and Density Contrast’, Presented at the AGU 2008 Fall Meeting.
 5. Al-Kindi, A., **Al-Wahaibi, Y.M.**, Muggeridge, A. ‘An Experimental Investigation into the Influence of Diffusion and Dispersion on Heavy Oil Recovery by VAPEX’, Presented at the 2008 SPE International Petroleum Technology Conference.
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 7. Al-Wahaibi, Y., **Abdel-Goad, M.**, **Al-Wahaibi, T.**, and Al-Shurji, H. “pH-SENSITIVE POLYMERS FOR NOVEL IMPROVING RESERVOIR SWEEP AND CONFORMANCE CONTROL APPLICATIONS”, SPE April 2008, Muscat
 8. **Al-Wahaibi, YM**, and Al-Hadrami, A. “Mechnisms of oil recovery via multi-contact miscible gas injection within lensed systems”, SPE 110163, Presented at the 2008 IOR conference, 2008, Tulsa, USA.
 9. **Ashour, I.**, Naser, J.T. “Adopting problem solving approach in chemical engineering thermodynamics”. Symposium on Engineering Education 2009, May 17-18, 2009, Al-Ain, UAE.
 10. **Ashour, I.**, Naser. J.T., Sawalha, F., and Maraqah M. “Experimental investigation of phenol removal from refinery synthetic wastewater”. International Conference on Sustainable Energy and Environmental Protection, August 12-16, 2009, Dublin, Ireland.
 11. Okamura, K. Tasaki, M., Sueyoshi, M., and **Al-Maamari, R.** “Study on Treatment and Utilization of Oilfield Produced Water in Oman,” Proceedings of the The 4th Joint KISR/JCCP Environment Symposium “Water Resources in the GCC and Environmental Challenges”, State of Kuwait, 2nd – 4th February 2009.

Technical Reports and Consultancy

1. **Abdel-Goad, M.**, Al-Hinai, A. and **Jibril, B.** “Evaluation of non-intrusive Hydro steel technique for detecting sour corrosion”, submitted to PDO, April, 2009.
2. **Al-Ajmi A.M.**, Industry project to examine 250 wellbores from five regions around the world conducted by Halliburton (Drilling division, Knowledge System, Inc., USA.). The research project entitled “Practical wellbore stability prediction, 2008.
3. **Al-Ajmi A.M.**, SQU research project entitled “pH-Sensitive polymer for Novel Improving Reservoir Sweep and Conformance Control Applications (Phase-I)”, 2008.
4. **Al-Ajmi, A.M.** State of the Art Report on Rock Failure Criteria. Drilling Division, Halliburton, USA, May 2008.

5. Al-Bahry, S., **Al-Wahaibi, Y.**, and **Al-Bemani, A.** "Microbial Enhanced Oil Recovery", Petroleum Development Oman Approved Phase-II 2nd Report, August 2008.
6. Al-Bahry, S., **Al-Wahaibi, Y.**, and **Al-Bemani, A.** "Microbial Enhanced Oil Recovery", Petroleum Development Oman Approved Phase-II 3rd Report, December 2008.
7. Al-Bahry, S., **Al-Wahaibi, Y.**, and **Al-Bemani, A.** "Microbial Enhanced Oil Recovery", Petroleum Development Oman Approved Phase-II 4th Report, June 2009.
8. **Al-Maamari, R.S., Abdel-Goad, M.** Al-Hashmi, A., and Zaitoun, A. "Polymer Technology for Improved Oil Recovery in Omani Fields," Progress Report I, CR/DVC/OGRC/08/01; March 2009.
9. **Al-Wahaibi Y.** and Al-Wahaibi T. "pH-Sensitive Polymers for Novel Improving Reservoir Sweep and Conformance Control Applications" (Final Report), Petroleum Development Oman, Muscat, Oman, December 2008.
10. **Al-Wahaibi Y., Al-Bemani A., Al-Ajmi A., and Al-Wahaibi T.** "PVT Measurements and Analysis", 2nd Report, Petroleum Development Oman, December 2008.
11. **Al-Wahaibi Y., Al-Bemani A., Al-Ajmi A., and Al-Wahaibi T.** "PVT Measurements and Analysis", 3rd Report, Petroleum Development Oman, April 2009.
12. **Al-Wahaibi Y., Al-Bemani A., Al-Ajmi A., and Al-Wahaibi T.** "PVT Measurements and Analysis", 4th Report, Petroleum Development Oman, August 2009.
13. **Al-Wahaibi Y., and Al-Bemani A.** "Understanding of Three-Phase Flow during Water Alternating Gas Injection and other EOR Techniques" (Final Report), Shell Technology Oman, Muscat, Oman, August 2008.
14. **Aoudia, M. and Al-Maamari, R.S.** "Feasibility Study for Using Surfactants as an EOR Option for Lekhwair Field in Oman," CR/SCI/CHEM/08/01," Final Report, CR/SCI/CHEM/08/01; November 2008.

OTHER ACTIVITIES

Workshops and Short Courses

1. Theory and Practice of Seawater Reverse Osmosis Systems, 28-30 March, 2009, MEDRC Muscat, Oman
2. Water Chemistry in Reverse Osmosis and Nanofiltration, 20-23 December, 2008, MEDRC Muscat, Oman

Cooperation with Local and Foreign Organizations

1. **Al-Abri, M.** Member of Review Panel of Desalination Journal.

Visits

1. **Al-Wahaibi, T.** Visit to discuss research and exchange results on the area of two-phase flows with additives at the Department of Chemical Engineering at University College London (7-13 July 2009).



Students' Activities

Chemical Engineering Fourth Open Day:

The chemical engineering fourth open day, which carried the name of "An Islamic city with an engineering fragrance", was held after the success of the previous three open days. It consisted of: a huge area with contributions made earlier by Muslims Scientists, modern contributions, department professors' contributions, and a section about Chemical Engineering department. Also there was an entertainment section that consisted of: the tent, a theatre and a restaurant. The students and faculty attendance was excellent and the attendees expressed their appreciation to the effort made by the organizers and the quality of the work and presentations.



Panel Discussions:

The society of chemical engineering has organized a number of panel discussions, which have had a significant effect on the students. The first panel was with Dr. Issa Al Harthi; it was about the different student societies and groups within the campus, and the benefits that students gain from joining these societies. The second panel was with Ahmed Al Shabli, a fresh graduate from the college of commerce and economics with good experience in projects; the subject was about the importance of projects to the university students.



SPE Evening:

The SPE Evening was about the Engineering dream (Engineering students ambitions and dreams) which were presented to the spectators by a small play with other parts.

SPE Eid Party

The SPE Eid party was conducted for children in the hospital. The party included competitions, songs and gifts were given to the children on the Eid day.

Oil and Gas Exhibition: An exhibition which talks about the whole journey of oil and gas starting from origin, exploration, drilling, production ...etc.

Graduates Evening:

An evening for honoring the graduates and active members of SPE for that year and celebrating their graduation.

Short Courses:

Two short courses were conducted in the summer by SPE one was a Matlab Course presented by a faculty member from the College of Engineering and the other course was about using Photoshop software, presented by Engineering students.