

Nashaat N. Nassar

University of Calgary
Department of Chemical & Petroleum Engineering
Alberta Ingenuity Centre for In Situ Energy
2500 University Drive, NW
Calgary/AB/Canada T2N 1N4
Home: (403) 284-0970/Office: (403) 210-9772
Email: nassar@ucalgary.ca, web: www.ucalgary.ca/~nassar

I. ACADEMIC RECORDS

Doctor of Philosophy in Chemical Engineering 2005-present

Specialized in Environmental Engineering, University of Calgary

- Dissertation Title: A Water-in-Oil Microemulsion Approach for *In-Situ* Preparation of High Concentrations of Colloidal Metal Oxide Nanoparticles

Masters of Science in Chemical Engineering 2003

McGill University (CGPA: 4.0/4.0)

- Thesis Title: Melt Exfoliation of Montmorillonite/Polystyrene Nanocomposites

Bachelor of Science in Chemical Engineering 2000

An-Najah University, Palestine (CGPA: 90%)

- Thesis Title: Solid Olive Waste in Environmental Cleanup: Oil Recovery and Carbon Production for Water Purification

II. PROFESSIONAL CERTIFICATES

- Advanced courses in **Business** and **Project Management**, University of Calgary 2008; including: Fundamentals of Project Management, Leadership Fundamentals, Engineering Economy
- **University Teaching Certificate (UTC)**, Teaching and Learning Center, University of Calgary, Canada November, 2007
- **Instructional Skills Certificate**, Teaching and Learning Center, University of Calgary, Canada September-October, 2006

III. DISTINGUISHED ACHIEVEMENT AWARDS AND SCHOLARSHIPS

1. **NSERC Nano-Innovation Platform travel grant award** to Trends in Nanotechnology conference (September 3rd-7th)/San Sebastian, Spain, May 2007
2. **Queen Elizabeth II Doctoral Scholarship, Open Graduate Competition Award**, Faculty of Graduate Studies, University of Calgary, AB, Canada May 1, 2007
3. **Graduate Teaching Fellowships**, Faculty of Graduate Studies, University of Calgary, AB, Canada, Winter, 2007
4. **Ursula & Herbert Zandmer Graduate Award**, Faculty of Graduate Studies, University of Calgary, AB, Canada September 18, 2006
5. **Schulich School of Engineering Travel Award**, University of Calgary, June 2006 (to attend the 56th Canadian Chemical Engineering Conference, Sherbrooke, October 15-18, 2006)
6. **J. B. Hyne Graduate Scholarship Award, Open Graduate Competition Award**, Faculty of Graduate Studies, University of Calgary, AB, Canada April 17, 2006

7. **Graduate Teaching Fellowships**, Faculty of Graduate Studies, University of Calgary, AB, Canada, Fall, 2006
8. **Faculty of Graduate Studies, Graduate Travel Award** University of Calgary, Calgary, Canada November 14, 2005. (to attend the 55th Canadian Chemical Engineering Conference, Toronto, October 15-18, 2005)
9. **Best PhD Students Poster Award**, Trends in Nanotechnology 2005 Conference; Oviedo, Spain, August 31st, 2005
10. **NSERC Nano-Innovation Platform travel grant award** to Trends in Nanotechnology conference/Oviedo, Spain, June 2005
11. **Best Presentation Award**, Faculty of Engineering, University of Calgary, May 3rd, 2005
12. **Tuition Fee Waiver Award** for two Semesters, McGill University, Montreal, Canada 2001-2002
13. **Best Graduation Project Award**, An-Najah National University, Nablus, Palestine, June 2000
14. **Dean's List of Honor** for Six Semesters, An-Najah National University, Nablus, Palestine, 1995-2000

IV. EDUCATIONAL ACTIVITIES

09/04—Present **Instructor**, Department of Chemical and Petroleum Engineering, University of Calgary, Calgary Canada.

Taught the following undergraduate courses:

1. Effluent Treatment Processes for Energy Industry (ENEE 505). Structured course materials and exams, developed assignments and quizzes, offered tutorials, and graded students' exams.
2. Chemical Engineering Process Development (ENCH 423). Offered tutorials, evaluated students' reports and structured and graded students' final exams.
3. Chemical Engineering Laboratory (ENCH 551). Supervised two groups on spray drying and chemical reaction kinetics.
4. Heat and mass transfer (ENCH 403). Offered tutorials, evaluated students' reports, supervised and assisted groups of students on lab work, and graded students' exams. In addition, supervised TAs for the laboratory work, and distributed duties for TAs.
5. Thermodynamics (ENGG 311). Offered tutorials, supervised and assisted groups of students on lab work, and graded students exams and reports.
6. Chemical Engineering Process Calculations (ENCH 315). Offered tutorials, helped explaining the concepts for the students, and guided them through their homework load, and graded students midterm and final exams.

06/03-07/04 **Lecturer**, Department of Chemical Engineering, An-Najah National University, Nablus, Palestine

Taught the following undergraduate courses:

1. Heat Transfer (ECH 4334)
 - Covered topics related to heat transfer, such as: steady-state and unsteady-state conduction, principle of convection, relations for forced-convection, radiation, condensation and boiling, and heat exchanger design.
 - Supervised the laboratory work for this course
2. Fluid Mechanics (ECH 4333)

- Covered the concepts of fluid mechanics, such as fluid statics, Euler/Navier Stock/Bernoulli equations, velocity field, differential analysis of fluid flow, dimensional analysis, viscous flow, forces on immersed body, flow in porous media, piping system, pump design, etc.
- Supervised the laboratory work for this course
- 3. Numerical Analysis for Engineers (ECH 4203)
 - Covered topics related to methods for solving linear algebraic equations, non-linear algebraic equations, linear and nonlinear ordinary differential equations (ODE), linear and nonlinear partial differential equations (PDE). Classification of PDE's, stability, consistency and convergence. Interpolation and extrapolation, and Optimization.
- 4. Engineering Economy (ECH 4443)
 - covered topics related to basic cost concepts, time value of money and discounted cash flow calculations, comparing alternatives, replacement analysis and life-cycle costing, etc.
- 5. Examined ten graduate students' final projects. Discussed and evaluated the projects and the presentations.

05/01—06/03 **Teaching Assistant**, Department of Chemical Engineering, McGill University, Montreal, Canada

Contributed towards teaching the following undergraduate courses:

1. Introduction to Chemical Engineering (CHEE 200). Offered tutorials, evaluated students assignments and reports.
2. Fluid Mechanics (CHEE 314). Offered tutorials, helped explaining the concepts for the students, guided them through their homework load, supervised the laboratory work, and evaluated students reports.
3. Polymer Engineering (CHEE 582). Guided students through their homework load and evaluated their assignments.
4. Pulp and Paper Engineering (CHEE 438). Guided students through their homework load and evaluated their assignments.

09/00-01/01 **Teaching Assistant**, Department of Chemical Engineering, An-Najah National University, Nablus, Palestine

- Contributed towards teaching the following undergraduate courses:
 - Environmental Engineering, Fluid Mechanics, Heat and Mass Transfer, Reaction Engineering. Offered tutorials, helped explaining the concepts for the students, guided them through their homework load, supervised the laboratory work, and evaluated students assignments and reports.

V. SCHOLARLY ACTIVITIES

A. Research Support

1) *Funding Agencies*: Natural Sciences and Engineering Research Council of Canada, Nexen, Inc., Smart Camera, Inc., The City of Calgary, Schulich Activity Fund.

Dates: 2006, 2007, and 2008

Amount: (\$15,000 to 30,000 /yr)

Project title: The 3rd, the 4th, and the 5th Annual Schulich School of Engineering Graduate Students Research Conference

Investigators: Principle Investigator

B. Publications

Journal Papers (Peer Reviewed):

In preparation:

1. **N. Nassar**, 2008. Solubilization of metal oxides in (w/o) microemulsions, JCIS
2. **N. Nassar**, 2008. Removal of red dye from textile wastewater by nanoparticle adsorbents, JEM.
3. **N. Nassar**, 2008. Removal of heavy metals from wastewater by magnetic nanoparticles, JEM.
4. **N. Nassar**, 2008. Asphaltenes depositions into selected ultradispersed nanocatalysts, Fuel

Submitted:

5. **N. Nassar**, M. Husein and P. Pereira-Almao, 2008. Ultradispersed particles in heavy oil matrices: Part II, H₂S_(g) sorption, *Fuel Processing Technology* (Submitted).
6. **N. Nassar** and M. Husein, 2008. Ultradispersed particles in heavy oil matrices: Part I, Preparation and stabilization of iron oxide/hydroxide, *Fuel Processing Technology* (Submitted).
7. M. Husein, L. Patruyo, P. Pereira-Almao and **N. Nassar**, 2008. H₂S_(g) sorption from oil phases by means of ultradispersed sorbents, *Fuel* (submitted).

Published:

8. M. Husein and **N. Nassar**, 2008. *Invited paper review*: Nanoparticle preparation using the single microemulsions scheme, *Current Nanoscience* 4(4), 370-380 (Impact Factor= 2.793).
9. **N. Nassar** and M. Husein, 2007. Study and modeling of iron oxide nanoparticle uptake in AOT (w/o) microemulsions, *Langmuir* 23, 13093-13103 (Impact Factor= 3.902).
10. **N. Nassar** and M. Husein, 2007. Effect of microemulsion variable on copper oxide nanoparticle uptake by AOT microemulsions, *Journal of Colloids and Interface Science* 316, 442-450. (Impact Factor= 2.233).
11. A. El-Hamouz, H. Hilal, **N. Nassar**, and Z. Mardawi, 2007. Solid olive waste in environmental cleanup: Oil recovery and carbon production for water purification, *Journal of Environmental Management* 84, 83-92 (Impact Factor= 1.210).
12. **N. Nassar** and M. Husein, 2006. Preparation of iron oxide nanoparticles from FeCl₃ solid powder using microemulsions, *Physica Status Solodi. (a)* 203, No. 6, 1324-1328. (Impact Factor= 1.221).
13. **N. Nassar**, L. Utracki, M. Kamal, 2005. Melt intercalation in montmorillonite/polystyrene nanocomposites, *International Polymer Processing* 20 (04), 423-431. (Impact Factor= 1.10)

Book Chapters (Peer Reviewed):

1. M. Husein and **N. Nassar**, *Nanoparticle uptake by (w/o) microemulsions*, in: Microemulsions: Properties and Applications, M. Fanun, Ed., Surfactant Science Series, Chapter 17, vol (144), pp 465-479. CRC Press, Taylor & Francis Group LLC, Boca Raton, FL, USA, 2008.
2. **N. Nassar** and M. Husein, *Maximizing the uptake of nickel oxide nanoparticles in AOT (w/o) microemulsions*, in: Recent Trends in Surface and Colloid Science, P.

K. Paul, Ed., Special Issue, World Scientific Publishing Co. Pvt. Ltd., Singapore, 2008, pp. xx-xx. (*In press*)

Papers Published in Conference Proceedings (Peer Reviewed):

1. **N. Nassar**, M. Al-Jabari and M. Husein, 2008. Investigation on asphaltene deposition onto different surfaces of ultradispersed catalysts, in: proceeding of the 8th World Congress of Chemical Engineering (WCCE8), Montreal, QC, Canada (submitted).
2. **N. Nassar**, M. Al-Jabari and M. Husein, 2008. Removal of asphaltenes from heavy oil by nickel nano and micro particle adsorbents, in: proceeding of International Association of Science and Technology Development (IASTED) Conference on Nanotechnology and Applications (NANA2008), Crete, Greece, September 2008.
3. M. Al-Jabari, **N. Nassar** and M. Husein, 2007. Separation of asphaltenes from heavy oil model-solutions by adsorption on colloidal magnetite nanoparticles, in: proceeding of the International Congress of Chemistry & Environment, *ICCE 2007*, Kuwait, Kuwait, November 2007 (CD-Proceedings).
4. **N. Nassar**, L. Utracki and M. Kamal, Melt exfoliation of montmorillonite in polystyrene, Proceeding in Polymeric Nanocomposites 2005 conference, Industrial Materials Institute, National Research Council Canada, Boucherville, Quebec, Canada, September 28-30, 2005 (CD-Proceedings).

Conference Presentations (Peer Reviewed Abstracts)

1. **N. Nassar**, M. Al-Jabari and M. Husein, Removal of asphaltenes from heavy oil by nickel nano and micro particle adsorbents, NANA2008, Crete, Greece, September 2008.
2. **N. Nassar** and M. Husein, Maximizing the Concentration of Colloidal Nanoparticles in Microemulsions and their Application as Absorbents, International Symposium on Recent Trends in Surface and Colloid Science ISSCS-07, Kolkata, India November 15-16, 2007.
3. **N. Nassar**, M. Al-Jabari and M. Husein, Removal of asphaltenes from heavy oil by nickel nano and micro particle adsorbents, in: proceeding of International Association of Science and Technology Development (IASTED) Conference on Nanotechnology and Applications (NANA2008), Crete, Greece, September 2008.
4. **N. Nassar** and M. Husein, Single-Microemulsions for the Preparation of High Surface Area Colloidal Nanocatalysts, 57th Canadian Chemical Engineering Conference, Edmonton, Alberta, Canada, October 28-31, 2007.
5. **N. Nassar** and M. Husein, Stabilization of Copper Oxide Nanoparticles in (w/o) Microemulsions: Experimental and Modeling Results, Trends in Nanotechnology 7th conference, 2007 San Sebastian, Spain, September 3rd-7th, 2007.
6. **N. Nassar** and M. Husein, Reverse Micelle Synthesis of Metal Oxide Nanoparticles, The 4th Annual Schulich School of Engineering Graduate Student Research Conference 2007, University of Calgary, Calgary, AB, Canada, April 30- May 1, 2007.
7. **N. Nassar** and M. Husein, Preparation of FeOOH Nanoparticles from its Solid Powder in Aerosol-OT w/o Microemulsions, 56th Canadian Chemical Engineering Conference, Sherbrooke, Quebec, Canada October 15-18, 2006.
8. **N. Nassar**, A. El-Hamouz, H. Hilal, Z. Mardawi, Utilization of Olive Solid Waste (Jift) in Removing Chromium from Synthetic Wastewater, 56th Canadian

- Chemical Engineering Conference, Sherbrooke, Quebec, Canada October 15-18, 2006.
9. **N. Nassar** and M. Husein, Solubility of FeOOH powder in AOT Reverse Micelles, The 3rd Annual Schulich School of Engineering Graduate Student Research Conference 2006, University of Calgary, Calgary, AB, Canada, May 1-2, 2006.
 10. **N. Nassar** and M. Husein, Preparation of Iron Oxide Nanoparticle Catalysts Starting from Iron Chloride Powder Using Microemulsions, 55th Canadian Chemical Engineering Conference, Toronto, Ontario, Canada October 16-19, 2005.
 11. **N. Nassar**, L. Utracki, M. Kamal, Melt Exfoliation of Montmorillonite in Polystyrene, Proceeding in Polymeric Nanocomposites 2005 conference, Industrial Materials Institute, National Research Council Canada, Boucherville, Quebec, Canada, September 28-30, 2005.
 12. **N. Nassar** and M. Husein, Preparation of Iron Oxide Nanoparticle from FeCl₃ Solid Powder Using Microemulsions, Trends in Nanotechnology 5th conference, 2005 Oviedo, Spain, August 28-September 2, 2005.
 13. **N. Nassar** and M. Husein, Preparation of Iron Oxide Nanoparticle Using Microemulsions, The 2nd Annual Engineering Graduate Student Research Conference 2005, University of Calgary, Calgary, AB, Canada, May 2-3, 2005.
 14. **N. Nassar**, L. Utracki, M. Kamal, Paper competition: Polystyrene Nanocomposites" 54th Canadian Chemical Engineering Conference, Calgary, Alberta, Canada, October 16-19, 2004.
 15. **N. Nassar**, M. Kamal, S. Tanoue, L.A. Utracki, A. Garcia-Rejon, J. Tatibouet, K.Cole, Melt Compounding of Polystyrene with Organoclay, The SPE Asian Plastics Technology Conference, Nagoya, Japan, November 12-14, 2003.
 16. **N. Nassar**, L. Utracki and M. Kamal, Melt Processing of Polystyrene/Clay Nanocomposites Using Various Torpedo Attachments in a Single-Screw Extruder, Polymeric Nanocomposites 2003 conference, Industrial Materials Institute, National Research Council Canada, Boucherville, Quebec, Canada, October 2003.
 17. **N. Nassar**, J. Calderon, L. Utracki M. Kamal, Melt Processing of Polystyrene Nanocomposites, Polymeric Nanocomposites 2003 conference, Industrial Materials Institute, National Research Council Canada, Boucherville, Quebec, Canada, October 2003.
 18. **N. Nassar** and M. Kamal, Effect of Shear Stress and Elongational Deformation on Nanocomposite Compounding, Polymeric Nanocomposites Project Conference, McGill University, Montréal, Quebec, Canada, May 28, 2002
 19. **N. Nassar**, L. Utracki and M. Kamal, Mechanical Exfoliation of Monmorillonite in Molten Polystyrene, Polymeric Nanocomposites 2001 conference, Industrial Materials Institute, National Research Council Canada, Boucherville, Quebec, Canada, October 2001.

Unpublished Reports

1. **Nashaat Nassar**, "Nanoparticles, Preparation and Applications" Department of Chemical and Petroleum Engineering, University of Calgary, Calgary, AB, January 10, 2005. (50 pages).
2. **Nashaat Nassar**, "Microemulsions, Preparation and Applications" Department of Chemical and Petroleum Engineering, University of Calgary, Calgary, AB, September 8, 2004. (40 pages).

3. **Nashaat Nassar**, "Preparation of Iron Oxide Nanoparticles Using Microemulsions for Environmental and Energy Applications" Department of Chemical and Petroleum Engineering, University of Calgary, Calgary, AB, May 23, 2005. (42 pages).
4. **N. Nassar**, "Heat Transfer Laboratory Manual" Chemical Engineering Department, An-Najah University, 2004 (50 pages).
5. **N. Nassar**, "Fluid Mechanics Laboratory Manual" Chemical and Mechanical Engineering Departments, An-Najah University, 2004 (60 pages).
6. **N. Nassar** and M. Shuhadeh, "Reaction Engineering Laboratory Manual", Chemical Engineering Department, An-Najah University, 2004 (30 pages).

C. Invited Talks

1. Nanotechnology and The Environment, Polymer Engineering (ENCH 539), Department of Chemical and Petroleum Engineering, University of Calgary, Calgary, Canada, April 1st, 2008
2. Preparation of Nanoparticles Using Microemulsion Techniques, In-Situ Upgrading and Heavy Oil Research Group, Calgary, Canada, September 2004

D. Research Interest

1. **Wastewater Treatment:**

- Precipitation of heavy metal and organic contaminants from industrial wastewater.
- Use magnetic nanoparticle adsorbents for removal of heavy metals and organic contaminants from produced water.
- Removing red dye from textile wastewater using nano-adsorbents.

2. **Decreasing the Environmental Impact of Heavy Oil Upgrading:**

Contributed to *in-situ* heavy oil upgrading through nanotechnology, such as:

- *In-situ* formed ultradispersed nanocatalysts for heavy oil upgrading in the SAGD process
- Use of nanocatalysts as adsorbents for the removal of gaseous hydrogen sulfide
- Application of nanocatalysts as adsorbents for removing asphaltenes from heavy oil

3. **NanoTechnology:**

- Preparation of different kinds of nanoparticles for environment and energy applications.
- Preparation of polymer nanocomposites for automobile industry.

Research Experience

11/07-Present **Research Associate**, Alberta Ingenuity Centre for In-Situ Energy, Calgary, AB, Canada

- Initiated a creative idea for asphaltenes removal from heavy oil matrix by employing novel *in-situ* prepared nano-adsorbents, which reduced the equilibrium time from days to less than 2 hours for more than 90% removal efficiency.
- Applied the *in-situ* prepared nano-sorbents for removal of H₂S_(g) at simulated heavy oil reservoir condition, which resulted in 100% removal efficiency with a cost-

effective technique in addition to decreasing the environmental impact of heavy oil upgrading.

- Developed new technology for removal of heavy metals and organic contaminants from industrial wastewater using nano-adsorbents. Accordingly, 95 to 100% removal efficiency was achieved in less than 2 hours in comparison of 2 to 7 days for classical techniques.
- Negotiated agreements for state-of-the-art laboratory instruments and material supplies, which ensured high degree of quality and services with cost savings.
- Prepared applications and proposals, which received grant of \$30,000 for research conference program.
- Trained 5 new staff members who met high technical research standards within 4 months.
- Submitted 8 comprehensive research articles which were approved for publications in leading international peer-reviewed journals.
- Led a team of 12 people to plan an engineering research conference, which resulted in largest event in 4 years.

07/04-11/07 **Research Assistant**, University of Calgary, Calgary, Canada

Preparation of Metal Oxide Nanoparticles by Using a Novel Microemulsion for Environment and Energy Applications; the work aimed at:

- Developed a novel and cost-effective technique for *in-situ* formation and stabilizing metal oxide nanocatalysts in light crude oil for environment and energy applications.
- Investigated the effect of oil conditions and operation variables on the maximum concentration and stability of *in-situ* formed nanocatalysts.
- Extended the developed technique to the formation of in-situ ultradispersed catalysts in heavy crude oil. This resulted in 95% removal of asphaltenes, 100% adsorption of $H_2S_{(g)}$ and enhanced heavy oil upgrading.
- Used the prepared colloidal nanoparticles for heavy oil upgrading and wastewater treatment
- Won more than 10 prestigious prizes and awards (more than \$ 30,000 in total) for research accomplishment that led to 4 journal articles and 10 conference proceedings.

05/01-06/03 **Research Assistant**, McGill University, Montreal, Canada

- Conducted a comprehensive literature review pertaining to polymeric nanocomposites that resulted in optimizing different alternative methods for production of nanocomposites.
- Designed and constructed torpedo attachment in a single screw extruder (SSE) to study the effect of various mixing arrangements on the quality of nanocomposites. This resulted in optimized process parameters that used to produce high quality of nanocomposites with cost effective process.
- Wrote 2 publications and 5 conference presentations

Industrial Experience

03/99-03/01 **Quality Engineer**, PalTech for Computer & Trading, RamAllah, Palestine

- My duties involved producing specifications for computer software and hardware, ensuring that the materials in stoke meet the specifications, and following material site testing and monitoring.

06/98-08/98 **Trainee**, the Jordanian Phosphate Company, Al-Aqaba, Jordan
(University Sponsored)

- Obtained field and control room experience of all the processes such as: wastewater treatment sector, sulfuric acid, and phosphoric acid sectors.

VI. SERVICE ACTIVITIES

University of Calgary Services:

1. Helped in the ISEEE/AICISE booth during: Global Petroleum Show Conference, Calgary, AB (June 2008)
2. **Editor for the Eye on Ideas magazine:** interview faculties, postdoctoral and graduate students about their ideas of research, edit their articles, etc. (January 2006-present)
3. **U of C Campus fair:** participated in the representing committee of the department of chemical and petroleum engineering in the annual U of C campus fair for the years 2005, 2006, and 2007.
4. **Grad Rep:** represented graduate students in the steering committee of the Institute for Sustainable Energy, Environment and Economy (ISEEE) building. (October 2006)

Faculty Services:

1. **Chairman** of the 3rd, the 4th, and the 5th Annual Schulich School of Engineering Graduate Student Research Conference for the years 2006, 2007 and 2008, University of Calgary, Calgary, AB, Canada. My duties included: supervision, organization of steering committee meeting, assigning responsibilities for the organizing committee members, contacting industry for fundraising, sending calls for abstracts, editing the book of abstracts, constructing the conference website, etc.

Department Services:

1. **Secretary** of the Chemical and Petroleum Engineering Graduate Students' Association (CPEG) of the University of Calgary for two occasions, 2004-2005 and 2005-2006. Duties included: organization of executive and general meetings, fields trips, contacting industry for fundraising, preparing agenda and writing minutes for executive meeting, etc.

In the news:

1. Interview with the Eye on Ideas magazine for Graduate Studies office, Global Issue, vol 2, issue 2, Winter 2008.
2. Interview with the Schulich Engineer magazine, Leadership Issue, Fall 2007.
3. Interview with the Schulich School of Engineering communication office about leading the graduate student research conference, April 2007.

4. Interview with NSERC-Prairies office rep about leading the graduate student research conference, May 2006.

Journal Reviews:

Acted as a referee for the following journals:

- 1) **Journal of Colloid and Interface Science, JCIS** (November 2008)
- 2) **Current Nanoscience, CNano** (October 2008)
- 3) **Materials Chemistry and Physics, MCP** (August 2008)
- 4) **Nanotechnology, NT** (November 2008)

Conference Organization:

1. **Chairman** of the 5th Annual Schulich School of Engineering Graduate Student Research Conference 2008, University of Calgary, Calgary, AB, Canada, May 5th-May 6th, 2008.
2. **Chairman** of the 4th Annual Schulich School of Engineering Graduate Student Research Conference 2007, University of Calgary, Calgary, AB, Canada, April 30th-May 1st, 2007.
3. **Chairman** of the 3rd Annual Schulich School of Engineering Graduate Student Research Conference 2006, University of Calgary, Calgary, AB, Canada, May1-2, 2006.
4. **Member** of the organizing committee for the International Workshop on System on Chips Conference (IWOSC 2005), Banff, AB, Canada, July 19-22, 2005. This conference was organized by the department of electrical and computer engineering at University of Calgary.
5. **Member** of the organizing committee for the International Conference on MEMS, NANO, and Smart Systems (ICMENS 2005), Banff, AB, Canada, July 24-27, 2005. This conference was organized by the department of electrical and computer engineering at University of Calgary.
6. **Member** of the Organizing committee for the 2nd Annual Engineering Graduate Students Research Conference 2005, University of Calgary, Calgary, AB, Canada, May1-2, 2005.

Extra-Curricular:

- **Judge** in the City Youth Science Fair, Calgary, Alberta, Canada (March 4, 2008)
- **Help** newly accepted students at Canadian Universities to get acquainted to the life at the university and Canada as a member of the BUDDY program.
- **Tutor** undergraduate and graduate students in Engineering
- **President** of the chemical engineering club at An-Najah National University, Palestine (1996-1999).

Professional Development Courses/Workshops:

1. Getting Started with **Breeze workshop**, hosted by the Teaching and Learning Centre, The University of Calgary (September 16, 2008)
2. 2008 Schulich School of Engineering Teaching Development Workshops, **Faculty Workshop II: The Professor's Art**. University of Calgary, Alberta, Canada (July 31, 2008).
3. Training course on **H₂S Alive[®] course**, ENFORM H₂S Alive[®], Calgary Training Centre, Calgary, Alberta Canada (July 10th, 2008)
4. **Faculty Teaching Certificate**, Teaching and Learning Center, University of Calgary, Canada (November, 2007).

5. **Instructional Skills Workshop**, Teaching and Learning Center, University of Calgary, Canada (September-October, 2006).
6. University Workshop on using **Blackboard as a course web environment** (May 2006).
7. Workshop on **Advanced Process Modeling in gPROMS**, CSChE 2005, Toronto, Canada (October, 2005)
8. Training Course on **Advanced Teaching Assistance**, University of Calgary, Calgary, Canada (August, 2005)
9. Workshop on **WinProp**, Computer Modeling Group Ltd. CSChE 2004, Calgary, Canada (October, 2004)
10. Workshop on **F.A.S.T. VirtuWell™** from Fekete Associates Inc., software which is specialized for oil and gas production analyses. CSChE 2004, Calgary, Canada (October, 2004)
11. Workshop on **Academic Writing**, University of Calgary, Calgary, Canada (September, 2004)
12. Training Course on **Workplace Hazardous Materials Information System (WHMIS)**, Calgary, Canada (September 2004)
13. Training Course on **Good Manufacturing Practice (GMP) in pharmaceutical industries**. Continuing Education Centre An-Najah National University, Nablus, Palestine

INSTRUMENTS

Experienced in using the following analytical instruments:

Atomic Absorption (AA), *Expert*; Inductively Coupled Plasma (ICP), *Expert*; Transmission Electron Microscopy (TEM), *Expert*; Scanning Electron Microscopy (SEM), *Expert*; X-Ray Diffractometer, *Expert*; Differential Scanning Calorimetry (DSC), *Expert*; Thermo Gravimetric Analyzer (TGA), *Expert*; Fourier Transform Infrared Spectroscopy (FTIR), *Intermediate*; Capillary Rheometer, *Expert*; Rheometric Scientific Rotational Rheometer (Advanced Rheometric Expansion System), *Intermediate*; Karl Fisher (KF), *Expert*; Ultra Violet Spectroscopy (UV), *Expert*; Dynamic Light Scattering (DLS), *Expert*.

COMPUTER SOFTWARE SKILLS

- PeopleSoft
- Sigma Plot, Flash5, Reference Manager, Dreamweaver CS4
- Simulation and Design software – HYSYS, FEMLAB, AUTOCAD
- Office tools – Microsoft Word, Excel, PowerPoint, Visio, Outlook
- Programming languages – Matlab, Fortran

PROFESSIONAL AFFILIATIONS

I am currently a member of:

- Canadian Society for Chemical Engineering (CSChE).
- American Institute of Chemical Engineers (AIChE).
- Polymer Engineering Society (PES).
- Petroleum Engineering Society (PES)
- Center for Environmental Engineering Research and Education (CEERE)
- Alberta Ingenuity Center for In-Situ Energy (AICISE)

LANGUAGES: Arabic, English, and Hebrew; Fluent. French, Spanish, Persian, and Greek; poor