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May 4, 2005

Graduate Student Research on Display

Calgary – The Second Annual Faculty of Engineering Graduate Student Research Conference ran May 2-3 this year and featured the research 129 graduate students in the Faculty. During the conference students gave presentations of their on-going research. In order to promote multi-disciplinary interactions, the presentations were grouped by broad research area (and not by department), and spanned 12 thematic areas encompassing the various engineering disciplines.

“It is a great chance for graduate students to interact and network with each other and an excellent opportunity for the Faculty to showcase it’s excellence at the graduate student level”, says Dr. Anil Mehrotra of the event.

Award winners from the 2nd Annual Graduate Student Research Conference are as follows:

<table>
<thead>
<tr>
<th>Session</th>
<th>Student Name &amp; Presentation Title</th>
<th>Department</th>
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</table>
| Biomedical Engineering – I | C.A. Bodnar  
Expansion of pancreatic stem cells in suspension bioreactors to treat diabetes | Chemical & Petroleum Eng |
| Biomedical Engineering – II | B.S. Toun  
Expansion of stem cells in suspension bioreactors for the development of breast cancer therapeutics | Chemical & Petroleum Eng |
| Controls | J.J. Scarlett  
A non-engineering approach to control system communication | Mechanical & Manufacturing Eng |
| Energy & Environment – I | H.G.C.K. Haththotuwa  
Control of greenhouse gas emissions from oil industry using actively aerated biofilters: VOC interaction effects on solution gas treatment | Civil Eng / CEERE |
| Energy & Environment – II | K. Perdikea  
Methane oxidation in a full-scale pilot bioreactor landfill | Chemical & Petroleum Eng / CEERE |
| Engineering Design | H. Yang  
An evolutionary design database model for CAD systems | Mechanical & Manufacturing Eng |
| Engineers & Society | J. Krahn  
Leadership skills for engineers | Civil Eng / Project Management |
| Imaging – I | R.W.T. Cheng  
Registration of joint surfaces for the study of osteoarthritis based on magnetic resonance imaging | Geomatics Eng |
| Imaging – II | K. McLaughlin  
Patellofemoral joint congruence in healthy subjects | Mechanical & Manufacturing Eng |
| Industrial Engineering & Operations Research – I | S.A. Maurice  
Decision support for value-based software release planning | Electrical & Computer Eng |
| Industrial Engineering & Operations Research – II | A.W. Schellenberg  
Cumulant based probabilistic/stochastic optimal power flow | Electrical & Computer Eng |
| Instrumentation & MEMS | M.J. Cyca  
Noninvasive mapping of fluid temperature and flow in microsystems | Mechanical & Manufacturing Eng |
| Mathematical Techniques – I | K.C. Goss  
Alternate mode of optical data storage | Electrical & Computer Eng |
| Mathematical Techniques – II | M. Welgelt  
Aspects on gravity field recovery for Canada from satellite-to-satellite tracking missions | Geomatics Eng |
| Mechanics & Materials – I | M.O. Elselly  
First year ice ridge loads and failure mechanisms | Civil Eng |
| Mechanics & Materials – II | A.S. Nanayakkara  
Geo-hydropneumatic response in slope over-burden due to sub-surface fluid injection | Civil Eng |
| Mechanics & Materials – III | R. Villanueva  
Vibrations of Euler’s disk | Mechanical & Manufacturing Eng |
| Signal & Information Processing – I | D. Majumdar  
Wideband communication systems based on chaotic ergodicity | Electrical & Computer Eng |
| Signal & Information Processing – II | B. Zheng  
GPS software receiver enhancements for indoor use | Geomatics Eng |
| Transport Processes – I | A.D. Harris  
Reducing middle cerebral artery blood flow variability | Electrical & Computer Eng |
| Transport Processes – II | N. Nassar  
Preparation of iron oxide nanoparticles using microemulsions | Chemical & Petroleum Eng / CEERE |