

SEAS Faculty Meeting

Graduate Education and Research: Update

presented by

1846

Paschalis Alexandridis

Acting Associate Dean for Research and Graduate Education

December 7, 2011

Graduate Academic Programs Committee

BME: Albert Titus

CBE: Mark Swihart

CSEE: Gilberto Mosqueda

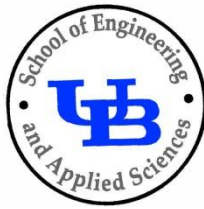
CSE: Jan Chomicki & Jinhui Xu

EE: Chu Ryang Wie & Weifeng Su

ISE: Victor Paquet

MAE: John Crassidis

SEAS: Jim Michalowski, Michelle Chasse', Sandy King



Graduate Education Initiatives

The overall goal of the graduate education initiatives is to ensure a high quality level of incoming graduate students and to deliver timely recognition and services to them.

GradVote Project

UB Senior Scholar Incentive Program

Student Ambassador Program

Stipend Top-Offs for Incoming Doctoral Students

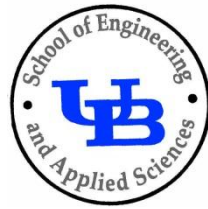
Welcoming Activities for New Graduate Students

Poster Competition

Job Fair for Graduate Students

Future-Faculty Workshop

Surveys



Graduate Education Initiatives

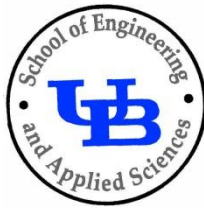
<http://www.eng.buffalo.edu/ge/qualityoflifeinitiatives/>

The screenshot shows a Microsoft Internet Explorer browser window displaying the website <http://www.eng.buffalo.edu/ge/qualityoflifeinitiatives/>. The page header includes the University at Buffalo logo and navigation links for 'ABOUT', 'ACADEMICS', 'RESEARCH', 'NEWS', and 'PARTNERS'. A search bar is located in the top right corner. The main content area is titled 'Graduate Education' and 'Quality of Life Initiatives'. It features a paragraph explaining the overall goal of the proposed graduate education initiatives, which is to ensure a high quality level of incoming graduate students and to deliver timely recognition and services to them. The text lists several aspects of graduate education: (i) recruitment, admissions, and monitoring (initiatives 1-4 and 7-8); (ii) quality of student life (initiative 1); (iii) education/ training progress and recognition (initiative 5); and (iv) exit readiness (initiatives 2 and 6). Below this text is a numbered list of nine initiatives:

1. [Welcoming activities for new graduate students](#)
2. [Job Fair for Graduate Students](#)
3. [Stipend Top-Offs for First Summer for Incoming Doctoral Students](#)
4. [Student Ambassador Program](#)
5. [Poster Competition](#)
6. [Future-Faculty Workshop](#)
7. [UB Senior Scholar Incentive Program](#)
8. [Graduate Vote Project](#)
9. [Surveys](#)

Below the list is a section titled 'Welcoming Activities for New Graduate Students' with the following details:

- **GOAL:**
Enhancement of quality of student life.
- **PROCESS:**
SEAS will partner with GSAs and student clubs of all departments to sponsor a welcoming social event for new graduate students early in the Fall semester of each year (e.g., Buffalo Harbor Cruise). The



Research Initiatives

The graduate research initiatives aim to provide:

- (i) opportunities for enhancement of interaction among students and faculty within a research area
- (ii) means for recognizing and enhancing group scholarly activity and productivity
- (iii) incentives for further/new research activities and new funding

SEAS Recognition for Significant Scholar Contribution

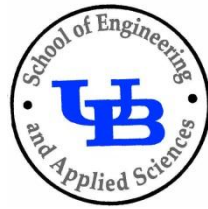
SEAS Funds for Group Research Activities

Travel Matching Funds (up to 50%)

Lecturer Cost Matching Funds (up to 50%)

Matching Funds for UB Visits by Program Managers

SEAS Supported Funding for External (pre)Evaluation of multi-investigator multidisciplinary large proposals



Research Initiatives

SEAS Recognition for Significant Scholar Contribution

GOAL: Student/faculty recognition of research.

PROCESS: Each area coordinator of each department nominates one paper in Spring semester.

DETAILS: One award per research area per semester for papers co-authored by faculty and students published or accepted for publication in archival journals or peer reviewed conference proceedings in the previous calendar year. Coordinators will be asked to submit a description of current area research activity, area membership, and selection process of the best paper. It is expected that the selection process be student-centric. There will be a nominal monetary prize associated with each award.

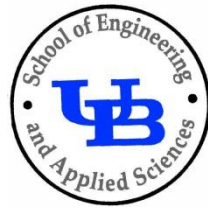
SEAS Funds for Group Research Activities

GOAL: Recognition and enhancement of group research activities.

PROCESS: Productive research areas are recognized and awarded SEAS funds to support group research related activities.

DETAILS: Each active research area within a Department is offered SEAS seed funds. Funds can be used for group research related activities that would benefit all faculty and graduate students within the research area. Examples of possible activities supported by this initiative include building and maintaining a research area website, sponsoring invited seminars and/or workshops within the thematic scope of the research area, purchasing of equipment for common use, graduate student recruiting, etc. It is expected that this initiative will contribute to maintaining a strong high-quality graduate student population and a stimulating research environment.

Funds for Group Research Activities



CSE Theory Group



Supported Activities:

Invited Speakers:



Richard Lipton
(GaTech)



Pavan Aduri
(Iowa State)



Jonathan Lenchner
(IBM Watson)



Martin Strauss
(Michigan)



Jonathan Buss
(Waterloo)

The visits:

Started **2 new research projects***

* 1 UBCSE Ph.D. student involved in each

Helped **continue 3 research projects**

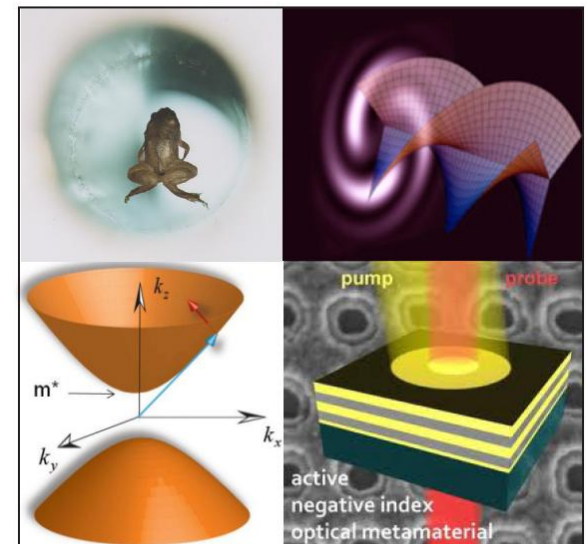
Contributed ideas to **2 current grant proposals**

Paid registration fee for 9 grad and 2 undergrad UBCSE students to attend EaGL workshop



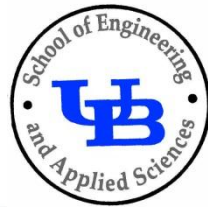
EE Optics & Photonics Area

WORKSHOP
BEYOND THE IMAGINATION
OF NATURE:
SPIN, QUANTUM OPTICS,
AND METAMATERIALS



SEPTEMBER 19-20, 2011 BUFFALO, NY

Funds for Group Research Activities



CBE Bioengineering Area

- Research Initiative Funds (\$5000) were used in combination with research grant funds (\$7000) toward the purchase of a *Thermo Scientific MaxQ 8000* incubator



Signals, Communications, and Networking area Department of Electrical Engineering

Faculty: Stella N Batalama, Nick Mastronarde, Tommaso Melodia, Dimitris A Pados (Area Coordinator), Aldo Scutari, Weifeng Su

Expenditures: 2 USRP2 programmable radios by Ettus Research (\$3,520); joint EE/CSE Spring 2011 Seminar Series (\$690.66); balance \$789.04 to be used toward USRP2 support equipment.

Impact: 1) Joint EE/CSE seminar series had unprecedented success in research exchange activities among faculty and PhD students; presentations given by faculty had attendance over 30 students/faculty per evening; efforts under discussion by EE and CSE faculty program offered necessary seed funding for support the submission of one SBIR and one proposal (both successful and both likely at Phase II); major AFRL cognitive radios proposed.

CBE bio labs in multiple research projects:

as been used on a daily basis to produce lentiviral on of lentiviruses (LV) which are used to generate LV II differentiation in real-time. LV are also used to as in almost every project in the lab. This incubator lts that were included in 11 publications this year (7 revision).

imids for gene expression and protein production in heterologous systems requires a shaker incubator that can operate at fixed

f the projects in

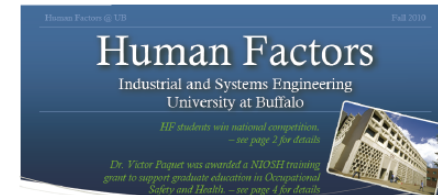
Industrial & Systems Engineering

• Brochure Highlighting Research in Human Factors Engineering

- posted on ISE website
- distributed at conferences

• Four invited seminar speakers

- The inc
- Results
- A Research Symposium on Health and HealthCare is planned for the 2011-2012 AY



NIOSH funds Biomechanics research on posture

Dr. Gwanseob Shin, Assistant Professor, was recently awarded a research grant from the National Institute for Occupational Safety and Health to conduct low back biomechanics research. In this two-year research project, Dr. Shin and his students will conduct various experiments to understand how maintaining a stooped posture can trigger low back injuries.

Workers in agriculture and construction industries often maintain stooped postures for a prolonged period of time to harvest crops or perform manual works below knee height. Previous research has indicated that workers frequently report low back pain or injuries after repetitive exposures to the stooped postures even without any heavy lifting, but the injury mechanism has not been well studied. Dr. Shin's research focuses on understanding the injury mechanism and developing proper work-rest cycles (stooping-standing cycle) to reduce the risk of injury.

Dr. Shin will further expand this research topic to investigate the effects of prolonged sitting on low back health. For more information contact him at gshin@buffalo.edu.

Recent HF Publications

The ability of limited exposure counting to detect effects of microtubules that reduce the occurrence of pronounced trunk inclinations. E. Mathiassen, V. Paquet, *Applied Ergonomics*, 2010, 41, 295 - 304

Emergency department status boards: A case study in information system transition. A. Bouatt, P. Pincus, T. Gier, R. P. Pincus, S. Perry, J. Zverev, and R. Wynn, *Journal of Cognitive Ergonomics and Assessment*, 2010, 4, 39 - 48.

EMG activity of low back extensor muscles during cyclic flexion/extension. G. Shin, C. P. Sibley, *Journal of Electromyography & Kinesiology*, 2010, 20, 742 - 9.

The Effects of Heavy Drinking and Socio-Economic Status on Safety Driving Behavior. G. Zhao, C. Wu, R. Houston, and W. Cheng, *Transportation Injury Prevention*, In press.

Outrigger aviation maintenance: Human factors implications, specifically for communication. C. Drey, K. Gray, C. Wrenner, *International Journal of Aviation Psychology*, 2010, 20, 124 - 143.

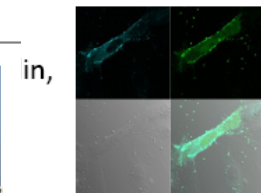


Figure 1

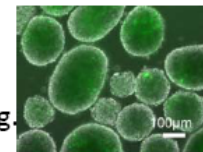
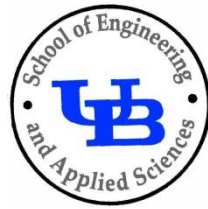


Figure 2



Research Initiatives

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The objective of the proposed graduate research initiatives outlined below are to provide (i) opportunities for enhancement of interaction among students and faculty within a research area (initiative 1), (ii) means for recognizing and enhancing group scholar activity and productivity (initiative 2), and (iii) incentives for further/new research activities and new funding (Initiatives 3-6). We are excited with the prospects of these initiatives. We believe that they will assist in creating a stimulating competitive research environment for our graduate student body and contribute to our School's fundamental and continuous endeavor to create and nurture a tradition of research excellence as measured by high quality graduate student training and high quality research output/publications. Our initiatives are listed below.

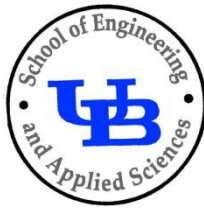
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Thank you!

We are looking forward to your participation!



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