Industry Benefits

- ★ Exposure to a network of international experts in mathematical modeling.
- ★ Contact with highly talented and qualified graduate students.
- ★ Fresh insight into difficult problems that may give innovative solutions or ideas for new directions.
- ★ Develop long-term collaborations with academia for follow-up research.
- ★ Support industry-related university education.
- ★ Raise your company's profile within the broader academic community.

Workshop Info

This workshop is organized by the Pacific Institute for the Mathematical Sciences (PIMS). Participants include graduate students, post-docs, faculty members, and industry representatives. The participants split into teams to model and analyze problems brought forward by industrial companies.

The goal is to provide companies with useful ideas and tools to solve specific problems. Simultaneously, academics are exposed to relevant real world problems.

How to Participate

If you would like to participate, please formulate a specific problem that could be treated with mathematical modeling. Please contact Dr. T. Hillen (University of Alberta, (780) 492-3395, thillen@math.ualberta.ca) to discuss the proposed problem. If the problem is suitable for the IPSW we ask you to:

One

Provide a written project decription of about 2-3 pages,

Two

Give a 20 minute presentation on Day 1 of the workshop, and make a representative available for the duration of the workshop, or at least for the presentations on Days 1 and 5, and

Three

Support the workshop with about $2000cdn, depending on the availability of funds.

Workshop Format

GIMMC (June 5-9)

Students will be prepared for the industrial problem solving workshop through the Graduate Industrial Mathematical Modeling Camp (GIMMC).

IPSW (June 11-15)

Day 1 (June 11)

- ★ Presentation of several industry problems.
- ★ Students, academics, and industry representatives split into working groups (IPSW teams) and start brainstorming.

Days 2-4 (June 12-14)

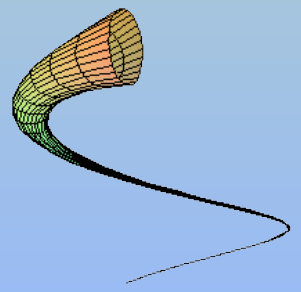
- ★ Problem solving, discussion, modeling, analysis, computation.

Day 5 (June 15)

- ★ Presentation of progress made.

After the workshop

- ★ Preparation of a high quality report that will be published in conference proceedings.



Past Problems

A Semiconductor Problem

Firebird Semiconductors produces crystal wafers for the semiconductor industry. The IPSW team developed a mathematical model for crystal growth and recommended modifications to *Firebird*'s existing procedures.

Optimization of Road Preservation

Applied Innovations Inc. is interested in managing governmental funds in an optimal way to achieve the best possible road quality. The IPSW team came up with an optimal road maintenance program that significantly improved on the current practice of road maintenance.

Modeling Forest Fires

The *Alberta Forestry Department* wanted to understand the strengths and shortcomings of an existing forest fire growth model "Prometheus". The IPSW team analyzed the model and suggested certain improvements and alternatives.

Contact Information

Questions regarding this workshop should be directed to:

Dr. Thomas Hillen,
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Email: thillen@math.ualberta.ca
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Alberta INNOVATION AND SCIENCE

AMI Applied Mathematics Institute

PIMS

UNIVERSITY OF ALBERTA

Eleventh PIMS

Industrial Problem Solving Workshop

IPSW

Connecting Industry to Solutions

June 11-15, 2007

University of Alberta
Edmonton, Alberta

www.pims.math.ca/ipsw