Submittee: Michael Lamoureux
Date Submitted: 2015-07-13 11:35
Title: The CRM/Fields/PIMS Industry Discussion Panel
Event Type: Industrial-Activity

Location:
Waterloo Ontario //
Wilfrid Laurier University //
Site of the AMMCS-CAIMS Annual General Meeting

Dates:
June 9, 2015

Topic:
Industrial/Academic Collaborations

Methodology:
Two-hour panel discussion, including mathematical researchers who are involved with startup companies, and representatives from NSERC, Mitacs and OCE, followed by a reception. Panel members shared their experiences, answered questions from the audience, and discussed programs available for students and faculty members interested in starting their own companies. The event is part of the Industrial Math theme, jointly organized by CAIMS, CRM, Fields, and PIMS. ///

We assembled a panel of 8 experts on industry/academic collaborations to answer questions from an audience of academic researchers, attendees of the joint meeting of the Canadian Applied and Industrial Math Society, and the Applied Mathematics, Modeling and Computational Science group. Some questions were submitted in advance, but most were presented directly from the audience. The event was moderated by Dr. Michael Lamoureux, PIMS Industrial Coordinator and Professor of Mathematics. The panel included researchers who had left academia to start up their own companies, researchers who had joint appointments in academia and in industry, and representatives from funding agencies that fund such collaborations. The audience was made up of professors, postdoctoral fellows and graduate students, mainly in mathematics, from across the country. Held in the evening during the annual meeting of CAIMS/AMMCS, we were able to attract a broad audience of applied mathematicians, with pizza served to facilitate an evening of interaction.

Objectives Achieved:
We reached a wide audience of researchers from across the country who have expertise and interest in the industrial applications of mathematics. The two hours was filled with questions, focused on the risks and rewards in seeking industrial opportunities for applying one's research expertise. Also significant were the presentations made by the research funders (MaRS, Mitacs, NSERC) who have funding available specifically for these types of industrial ventures. Big, challenging questions were addressed, such as: ///

"When is the right time to start a large industrial initiative or start up -- during grad school, after a degree, after achieving tenure, or when?" ///

"How do you balance academic responsibilities (teaching, publishing research) with the demands of running a start-up company?" ///

"Where do you get funding for these ventures?" ///

"Where do you find the people with the right expertise to hire?" ///

"What about students, interns, and the like for employment?" ///

"How do you encourage graduate students and postdoctoral fellows to take part in such initiatives?" ///

"What about intellectual property and other legal matters?" ///

"How can universities successfully encourage industrial initiatives, which are often very high risk, with a large chance of failure?" ///

"Failure can be good -- how do we encourage people to take these risks, when we know many will fail, but some will succeed spectacularly?" ///

Given the breadth of experience on the panel, some very insightful answers were received. A clear challenge is how to get faculty involved, and how to get the universities to recognize and reward these industrial ventures. Some noted that the change is coming, as at the University of Toronto where annual reports (for merit increments) now ask specifically about accomplishments in this area. Panelists expressed their strongly-held view that these ventures are worthwhile and a valuable contribution to the research community. The funders pointed out the value to the economy and to bolstering the argument to government that funding research at all levels is valuable to them as well.

Scientific Highlights:

We had excellent examples of industrial start-ups with a strong math connection -- a researcher from MapleSoft which makes mathematical software tools, a researcher from R2 Financial which develops mathematically-based investment tools, the CEO of Crowdmark which makes a system to automate the collection and grading of math exams, a researcher in data analytics, and another in solar energy. ///

We had participation from Directors and/or Deputy Directors from each of the three mathematics research institutes CRM, Fields and PIMS, demonstrating to the community the importance they attach to the Industrial Innovation Platform. We also had a high level of participation from MaRS, Mitacs and NSERC, with representatives who are very familiar with innovation activities across disciplines, and how mathematics could fit in. (Unfortunately, the representative from OCE had to cancel at the last minute.)

Organizers:

Huang, Huaxiong, Fields Innovation Coordinator //
Lamoureux, Michael, PIMS Innovation Coordinator //

Marcotte, Odile, CRM Deputy Director (Innovation) //
Wilson, Tyler, Field Industry Liaison //

Speakers:

1. Dan Rosen - President, R2 Financial, and Professor UToronto //
2. Laurent Bernardin - Exec VP, Maplesoft //
3. Jim Colliander - Crowdmark, and Professor UBC //
4. Mohammad Samani - COO, PRISED Solar Inc. //
5. Shiva Amiri - Chief Product Officer, Real Time Data Solutions Inc. //
6. Joel Liederman - Vice President, MaRS Innovation //
7. Jennifer Bean - Innovations Manager, NSERC //
8. Alison Ewart - Director of Accelerate and Elevate, Mitacs //
9. Lenny Freilich - Business Development Officer, Ontario Centres of Excellence

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Links:

http://www.fields.utoronto.ca/programs/cim/14-15/AMMCS-CAIMS/index.html

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Comments / Miscellaneous:

We had an excellent participation from attendees of the AMMCS/CAIMS meeting at Waterloo, and are grateful to the annual meeting organizers for hosting our panel discussion during their event. The 8 panelists were great, and the success of the event is really due to their great insights and experience.
