Grand Opening

It has been over 4 years in the waiting but it did not disappoint! In attendance were members of parliament, University of Waterloo representatives, Mike and Ophilia Lazaridis, Doug Fregin, and the world renowned Stephen Hawking all gathered on September 21, 2012 for this momentous grand opening for the Mike and Ophilia Lazaridis Quantum Nano Centre (QNC).

Remarks from Feridun Hamdullahpur, Arthur Carty, Ray Laflamme, government officials, Mike Lazaridis, Stephen Hawking, and Nanofellowship holders spoke to the Centre’s excellence, now and for things to come.

Public Open House

On September 29, 2012, a week after the QNC opening ceremony, the doors of the QNC were opened for a public viewing of this magnificent building. Together IQC and WIN organized a day full of activities including a multi-stop tour of various labs that showcased nano and quantum research. The nanotechnology engineering undergraduate program student volunteers were on hand to inform/educate the public of the important and inspiring work that will be happening in the QNC. Over 3000 people went through the QNC getting a glimpse of the incredible architecture, learning about what it has to offer, and the societal impact it will have one day.
Over the last 5 years, starting in 2008, 160 graduate students have received WIN Nanofellowships. The Nanofellowship Awards are made possible by a donation from Douglas E. Fregin, exclusively for graduate fellowships in Nanotechnology. The Nanofellowships are prestigious awards highly sought after by graduate students in Nanotechnology.

**This year’s recipients are:**

Shiva Abbasszadeh | Brian Adams | Morteza Ahmadi | Seyyedeh Parinaz Akhlaghi | Daniel Bacinello | Erin Bedford | Robert Black | Alexander Brukson |
Milad Khoshnegar Shahrestani | Peter Lin | Shengyan (Sandy) Liu | Sheng Lu | Gregory Liu | Brendan McDonald | Nafiseh Moghimi | Leanne Murphy |
Nafiseh Nafissi | Chunyan Nan | Adam Neale | Baoliang Peng | Umar Shafique | Timothy Sipkins | Sibi Sutty | Morteza Torabi | Mohit Verma | Qi Wang |
Ting Wang | Andrew Ward | Kyle Willick | Hadis Zarrin | Yingjie (Mike) Zhang | Yan Zhao

On November 8, 2012 a reception was held in the QNC honouring these 45 graduate students for their excellence in nanotechnology. Drs. Rick Culham, Terry McMahon, and Arthur Carty congratulated all award winners and presented each with a plaque.

For more information on Nanofellowship: nano.uwaterloo.ca/nanofellowship
See images of the award winners: flickr.com/waterlooinstitutefornanotechnology

**ArboraNano and CelluForce**

Two WIN members, Michael Tam and Leonardo Simon, were recently awarded grants from Arbora Nano, a Business Led Networks Centre of Excellence (BLNCE). These grants will advance collaborative projects with CelluForce Inc., a world leader in the commercial development of NanoCrystalline Cellulose (NCC). The company is a joint venture between Domtar Corporation and FPInnovations to manufacture 1000kg/day of NCC in the world’s first demonstration plant located in Windsor, Québec. Tam’s Project focuses on, the “modification, functionalization and application of NCC in personal home care, coating and biomedical systems” and Simon’s project is entitled “NCC-reinforced polycarbonate for automotive applications”. CelluForce is also sponsoring an engineering design competition at Waterloo on the development of new products from NCC.

CelluForce is renting space in Tam’s laboratory and hiring graduate students to co-develop novel NCC systems for new applications.

For more information on ArboraNano: arboranano.ca
For more information on CelluForce: celluforce.com
For more information on the NCE opportunities: nce-rce.gc.ca

Dr. Arthur Carty
WIN’s first Endowed Chair has been awarded to Dr. Zbig Wasilewski, a physicist and internationally renowned expert in the field of Molecular Beam Epitaxy (MBE). Dr. Wasilewski is presently setting up the state of the art MBE laboratory at the QNC with a vision of transforming it over time into a thriving hub for epitaxial quantum nanostructures and devices. His research interests are novel III/V semiconductor compound photonic devices, structures for very low-power ultra-high-speed electronics and nanostructures for quantum computing applications.

Before accepting a position as a professor in the department of Electrical and Computer Engineering Dr. Wasilewski was a principal research officer at the National Research Council of Canada in Ottawa. He brings to WIN a portfolio of over 400 publications and the very high impact of his research is well-illustrated by more than 6,000 citations to his work.

Congratulations to Dr. Frank Gu who was awarded a Tier 2 Canada Research Chair in Advanced Targeted Delivery Systems on October 12, 2012. He will receive $200,000 for seven years. Dr. Gu’s research interests are in nano-biosystems and biomaterials, focused on synthesizing biodegradable nanoparticles for targeted delivery systems. Gu leads the Laboratory of Biopolymer and Nanomedicine, comprised of a multidisciplinary group of people aimed at using nanotechnology to resolve healthcare and medicinal challenges.

For more information on Frank Gu and his research team visit nanomedicine.uwaterloo.ca

Welcome to our new WIN members and staff!

Kyle Daun
Zhongchao Tan
Mikko Karttunen
Lisa Pokrajac
Zbig Wasilewski

Dr. Arthur Carty received the Queen Elizabeth II Diamond Jubilee Medal in celebration of Her Majesty Queen Elizabeth II’s life service and in recognition of significant achievement. Carty has also received a Doctorate of Science Honoris Causa for his contributions to science and innovation in Canada from the University of Western Ontario.

Garry Rempel received the Award of Excellence in Graduate Supervision from the University of Waterloo.

Mohit Verma received the Governor General’s silver medal for his undergraduate academic excellence. He is also a recipient of the 2012 Nanofellowship for his work with Dr. Frank Gu.
2012 Nano Ontario Conference

The 3rd annual NanoOntario conference was held in the QNC on October 11 & 12, 2012, which was the first official conference held in the building. The successful 2-day event included keynote speakers (Linda Nazar, WIN; John Rogers, University of Illinois at U/C; Chris Ober, Cornell; and Ted Sargent, University of Toronto) who delivered engaging presentations about their research. Also, ten highlighted presentations given by Ontario's next-generation researchers, and an interactive industry panel session by business leaders in Ontario (Steven Bloemergen, EcoSynthetix Inc.; Savvas Chamberlain, EXEL Research Inc.; Paul Chan, Opalux Inc.; and Fazila Seker, MaRS Innovation).

The 200 registered attendees had the opportunity to interact with sponsors and exhibitors (MITACS, NSERC, University of Waterloo, ArboraNano, Canadian Micosystems Corporation, Canadian Standards Association, Systems for Research Inc., Angstrom, and Xerox), receive a tour of the QNC, participate in the networking reception sponsored by MITACS, and view and vote for their top 3 picks from over 100 posters for prizes.

The poster winners were:
1. Timothy Sipkens (University of Waterloo)
2. Heather Filiatrault (University of Windsor)
   and 3. Hamed Shahsavan (University of Waterloo) (tie)
   and 3. Andrew Chia (McMaster University) (tie)

Look forward to seeing you next year!

For more information on NanoOntario: nanoontario.ca

WIN seminars

Dr. Martin Moskovits | Department of Chemistry at the University of California, Santa Barbara, USA - “Putting Plasmons to Work: Electronic and Solar Conversion Opportunities”
Dr. Mervyn Miles | University of Bristol | “Touching and Feeling the Nano World”

WIN Joint Seminars

WIN/ICR | Dr. Zhenyu Zhang | University of Science and Technology of China | “Squeezing Electrons in Conventional Metal Films and Topological Insulator Heterostructures”

WIN Seminars

Dr. T. Lazar Mathew | “MEMS for Medical Applications: Current Scenario in India”
Dr. Paul A. Charpentier | University of Western Ontario | “Supercritical Fluids: A Tool for Sustainable Nanotechnology”
Dr. Arokia Nathan | Cambridge University, UK | “Transparent Oxide Semiconductors: Will They Ever See the Light?”
Dr. Mohamed Rezeq | Khalifa University of Science, Technology and Research, UAE | “Fabrication of nano-tips with a single atom apex and their applications in nanotechnology”
Dr. Steven Holdcroft | Simon Fraser University | “Sleeping Policemen on the Hydrogen Highway: Addressing Challenges in PEM Fuel Cell Technology through Basic Research”
Dr. AliReza Nojeh | University of British Columbia | “Carbon Nanotubes, Photons and Electrons: Still Full of Surprises After Two Decades of Research”

Upcoming Events at WIN...

November 29, 2012 | WIN-Seminar | Dr. Giovanni Fanchini (University of Western Ontario)
December 2-7, 2012 | Brazil-Canada Workshop (Sao Paulo, Brazil)
December 5-7, 2012 | WIN-Taiwan Workshop (National Dong Hwa University)
December 13, 2012 | WIN-Seminar | Dr. David Mitlin (University of Alberta)
January 18, 2013 | WIN-DLS Dr. Hongjie Dai (Stanford University)
January 29 & 30, 2013 | Japan-Canada Workshop (Tokyo Big Sight, Japan)
February 21, 2013 | WIN-Seminar | Christopher Schultz (University of Duisburg-Essen)
March 21, 2013 | WIN-DLS | Dr. Bill Milne (University of Cambridge)
April 11, 2013 | WIN-Seminar | Dr. Sarbajit Banerjee (University of Buffalo)