Contact:
Canadian Director: Jon Veinot  jveinot@ualberta.ca
Canadian Program Coordinator: Leah Veinot  veinot@ualberta.ca

uab.ca/ATUMS
April 11–15, 2010

Eruption of Eyjafjallajökull
April 14, 2010

All air traffic in EU airspace
April 15 – 20, 2010.

Veinot Sabbatical at TUM 2012-13
Our Objectives

1. To **train** Canada's next generation of leaders in hybrid functional materials with a focus on efficient energy storage.

2. To **develop** a cohort of Canadian researchers with an international view of research and world-class research excellence training.

3. To **enhance** international cooperation in material science research (in particular with Germany).

4. To **foster** a group of researchers with international contacts in nanomaterial science and device fabrication.

5. To **train** students to be leaders in academia, government, polymer/materials chemistry industries and/or to work in the energy, optics, and microelectronics industrial sectors, or as entrepreneurs.

Build a community and network!
- The “ATUMS Family” -
Financial Support for ATUMS

NSERC – CREATE

Alberta Innovates – Strategic Projects

Canada First Research Excellence Fund (Future Energy Systems)

University of Alberta
Vice President Research and Innovation
Faculty of Science
Faculty of Graduate Studies
Chemistry Department

German Research Foundation – IRTG

Technical University of Munich
IGSSE
ATUMS is a joint initiative of the University of Alberta and Technische Universität München that provides **international** and **interdisciplinary** training of elite scientists and engineers.
ATUMS Canada “By the Numbers”

- 80 Canadian trainees total (since April 2015)
- 27 Canadian Students (currently)
- 11 Canadian trainees graduated (3 more imminent)
- 9 Canadian ATUMS faculty members
- 38 Research Exchanges completed (as of March 2020)
- 229 Journal articles
- 2 Patents
- 2 Spin-off Companies
- 368/119 conference presentations/posters
- 109 Awards/Scholarships
- 100% Employment Rate 6 months post graduation
Students and the ATUMS Program (Canada)

**U of A Departments**: Chemistry, Physics, Electrical & Computer Engineering

**Language of instruction**: English

**Enrollment**: Approximately 11 incoming students per year (excluding scholarship students). Current Canadian Enrollment: 45. Current German Enrollment: 18.

**Chemistry Student TA Responsibilities**: Yr. 1 full load; Yrs 2 and beyond decreased load, possibility of complete buy-out for top candidates

**Academic Courses**: Standard departmental requirements.

**Short Courses**: Technical (M.Sc. 3; Ph.D. 6) and Soft-skills (M.Sc. 3; Ph.D. 6)

**Travel requirements**: 1 x 3 months M.Sc.; 2 x 3 months Ph.D.

**Supervision**: Joint (interdisciplinary/international supervision)

**Target Time In Program**: 2.5 (M.Sc.) and 4.5 (Ph.D.) years
Scientific Scope of ATUMS

ATUMS researchers are targeting projects related to hybrid functional materials with applications in efficient energy management.

Expertise includes nanomaterial, polymer, inorganic and solid-state chemistry, catalysis, optics, ultra-fast spectroscopy, electronics, as well as device design and fabrication.
Students and the ATUMS Program

Hands-on training (Canada)

Technical short courses will be offered in collaboration with experts at the UofA Nanofab. e-beam lithography, CVD and PVD, LPCVD and PECVD deposition, deep Si etch processes, micro/nano embossing, XPS, TOF-SIMS, cleanroom protocols, and a He ion microscope.
Students and the ATUMS Program

Canadian Course Offerings

Academic Courses (Selected, Subject to Availability)

Canadian Short Course Offerings (Selected, Subject to Availability)

Selected German Short Course Offerings
Specialized/Individualized Professional Development

- Take Charge of Your Career
- Land the Job You Want
- Master the Skills Employers Want
- Make the Leap from Campus to Workplace

+ Career Coaching
  - Networking with Professionals
  - Recognition of Completion on CCR
ATUMS Students and TUM IGSSE

TUM Science & Study Center
Raitenhaslach (Burghausen)
Annual Meetings - International Networking

[Images of people networking at events]
Experience living and working in a different country.

MSc 3 months; PhD 6 months
ATUMS Passport to Innovation

Upon completion of degree requirements ATUMS Graduates receive the ATUMS Passport to Innovation.
Dr. Dasog and her team received the best presentation award at an IGSSE Retreat. She was honored by the German government with a 2013 “Green Talents” award. She is currently a Professor at Dalhousie U.

Dr. Yang is currently a Professor at and 100 Talents Award Winner at Sun-Yat Sen University

They are convinced that ATUMS:
“provided them with a global perspective not available through long-distance collaborations”, “built their international professional network”
“broadened the impact of their research”.
“broadened my professional network and made me realize how important a Ph.D. is to my career targets”
The ATUMS scope of Influence.

Facilitated a joint UofA – TUM Ph.D. Program – Every UofA Faculty of Science Graduate Student has an opportunity to pursue a joint Ph.D. degree.

Established a state-of-the-art P.D. Program adopted by the UofA Chemistry Department and provided a basis for the P.D. requirements of the UofA Faculties of Science and Graduate Studies Programs.

Established a Community of no less than 100 Professionals.

Two successful Spin-off Companies arose directly from ATUMS research and currently are led by and/or employ ATUMS graduates.

ATUMS has provided a foundation on which no fewer than two successful CREATE Programs.

ATUMS started in 2015 as a 5-year program... we have successfully secured funding through 2024 and are working to extend our timeline.
Would I do it again?.....  YES!!!

What would I do differently?....
- define more narrow research priorities
- assign more operational tasks to the other PIs and the HQP

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