NSERC CREATE Training Program in Arctic Atmospheric Science

Third Annual Summer School in Arctic Atmospheric Science

Welcoming Remarks

Nottawasaga Inn
Alliston, Ontario
15-19 July 2013
Session Outline

Kimberly Strong
• Overview of our CREATE Training Program
• A Very Short Introduction to CANDAC, PEARL, and PAHA
• Summer School Logistics

Felicia Kolonjari
• Overview of the CREATE Trainees Advisory Committee (TAC)

Dan Weaver
• Overview of the Career Panel
NSERC’s **Collaborative Research and Training Experience (CREATE)** Program supports the training of teams of highly qualified students and postdoctoral fellows from Canada and abroad through the development of innovative training programs.

Our CREATE Training Program began in April 2010 and will run for six years, to March 2016.

Our CREATE Training Program aims to provide training in Arctic atmospheric science, including the use of state-of-the-art instrumentation and analysis of large data sets.

Takes advantage of the unique capabilities of the Polar Environment Atmospheric Research Laboratory (PEARL).

Goal is to enhance the educational opportunities in polar, atmospheric, and climate sciences, enabling trainees to build collaborations and networks, and to develop scientific, technical, communications, and organizational skills relevant to future employment.

Regardless of the source of their stipend funding, all students and post-doctoral fellows who are supervised by CREATE Investigators and working in Arctic atmospheric science are considered to be CREATE trainees and are eligible to participate in the opportunities offered by the Program.
Our PEARL Near the Pole

- PEARL began operations in 2005, run by the Canadian Network for Detection of Atmospheric Change (CANDAC)
  - Many funding agencies: AANDC, AIF/NSRIT, ARIF, CFCAS, CFI, CSA, Dal, EC, GOC-IPY, NSERC, NSTP, OIT, ORF, PCSP, SEARCH, UofT
- Formerly Environment Canada’s Arctic Stratospheric Ozone Observatory (established 1992, mothballed 2002)
- May 2013: new NSERC CCAR funding announced, PEARL/PAHA was one of seven proposals funded
  - This provides $1M/year for five years for PEARL science (2013-2018)
  - CREATE will complement PAHA funding for the next three years
Located at Eureka on Ellesmere Island in Nunavut
- 1100 km from the North Pole
- 15 km from Environment Canada’s Eureka Weather Station
The PEARL Site

• PEARL is home to ~25 instruments
• Three laboratories:
  ➢ PEARL – at 610 m
  ➢ ØPAL – Zero Altitude PEARL Auxiliary Laboratory, at sea level
  ➢ SAFIRE – Surface and Atmospheric Flux, Irradiance, Radiation Extension Site
• Affiliated with many networks
  ➢ International Arctic Systems for Observing the Atmosphere (IASOA), NDACC, NDMC, TCCON, BSRN, AERONET, MUSICA
• Objective is to measure the atmosphere from 0-100 km as comprehensively as possible
  ➢ Air quality, stratospheric ozone, climate change
CREATE Science Team

11 Co-I’s from 8 Canadian universities:

- **Kim Strong** (U Toronto)
- **Jim Drummond** (Dalhousie; CANDAC/PEARL PI)
- Tom Duck (Dalhousie)
- Alan Manson (U Sask)
- Norm O’Neill (U Sherbrooke)
- Marianna Shepherd (York U)
- Bob Sica (UWO)
- Jim Sloan (U Waterloo)
- Kaley Walker (U Toronto)
- **William Ward** (UNB)

11 Collaborators:

- Stephen Argall (Fanshawe College)
- Doug Degenstein (U Sask)
- Pierre Fogal (EC)
- Wayne Hocking (UWO)
- David Hudak (EC)
- **Tom McElroy** (York U)
- Gordon Shepherd (York U)
- Kevin Strawbridge (EC)
- Taneil Uttal (NOAA/SEARCH)
- **Ed Eloranta** (U Wisconsin)
- Von Walden (U Idaho)

Blue – will be attending this week
Training Program Committee

- **Dr. Catharine Banic**, Executive Director, Air Quality Research Division, Atmospheric Science & Technology Directorate, Science & Technology Branch, Environment Canada Representative
- **Dr. Jacques Giroux**, Business Development Manager, Remote Sensing, ABB Bomem, Industrial Representative
- **Professor David Hik**, University of Alberta, President of the International Arctic Science Committee (IASC), Academic Representative
- **Ms Felicia Kolonjari**, PhD Student, University of Toronto, Trainees' Representative
- **Professor Kimberly Strong**, Training Program Director, University of Toronto, Non-voting Member
- **Professor Michael Luke**, Chair, Department of Physics, University of Toronto, Administration Representative and **Training Program Committee Chair** (incoming chair: Prof. Stephen Julian)
Training Program Components

1. Graduate student stipends and supervision
   - 17 supported so far, with six new recruits for September

2. Undergraduate Summer Internship Program
   - 4 interns in 2011, 7 in 2012, 8 in 2012, and 8 in 2013

3. Research Symposia
   - Halifax in 2010, Toronto in 2012; CREATE trainees contribute talks

4. Exchange Program
   - Has supported 25 trips: collaborative visits and conference attendance

5. Industrial Partnership Program
   - Has supported 4 trips: visits to companies providing instrumentation

6. Outreach activities
   - Trainees have participated in many outreach visits and initiatives

7. Annual Summer School
After the Summer School, we will be posting the program, lecture slides, posters, and photos on the website.
Summer School Logistics

Daily
• 7-9 AM Buffet breakfast in the Riverview Dining Room
• 9 AM Lectures start **promptly** in room 10
• 12:30-1:30 Buffet lunch
• 7 PM Table service supper

Special Events
• 8:30 PM, Mon, Tues, Thurs Evening recreational events
• 11-12:30, Tuesday Poster session (room 10A)
• 3-6:30 PM, Wednesday Interview/CV workshop (room 10)
• 8:30-9:30 PM, Wednesday Lecture (room 10)
• 5-6:30 PM, Thursday Career panel (room 10)
• 11-12, Friday TAC presentation and survey

Departure
• 11 AM, Friday Check-out time
• 1:30 PM, Friday Bus leaves for Toronto
Poster Session

• Posters will be displayed in Room 10A from Monday through Friday (coffee breaks will also be held in this room)
• Poster boards should be set up now - please mount your poster today and take it down on Friday morning
• The formal poster session is at 11:00-12:30, Tuesday
• Please stay near your poster for your assigned session, as judges will be visiting during this time:
  Session A  →  11:00-11:45
  Session B  →  11:45-12:30
• Awards will be given to the best posters! (at 6:30 Thursday)
• Judges for MSc, PhD and PDF posters:
  ➢ Ed Eloranta, Udo Friess, Glen Lesins, Ray Nassar
• Judges for undergraduate posters:
  ➢ Session A: Jennifer Beale and Camille Viatte
  ➢ Session B: Stefan Kowalewski and Kevin Olsen
Poster Layout

Session A → 11:00-11:45    Session B → 11:45-12:30
You will be also able to review posters Monday to Thursday afternoon from 8:30AM – 7:00PM.

Note: Movers brought short poster boards, so layout has changed slightly. You may have to let your poster hang out!
Recreational Activities

• 8:30 PM, Monday
  ➢ Welcoming “Icebreaker” sponsored by COM DEV
  ➢ Includes filming of videos and cocktail social
  ➢ Begins at 8:30 PM at room 10 and continues at ~9:30 PM at the lower patio (see page 26 for map)

• 8:30 PM, Tuesday
  ➢ Bonfire and s’mores at the fire pit (see page 25 for map)

• 8:30 PM, Thursday
  ➢ Outdoor sports (soccer, volleyball, ultimate frisbee) at field 9 (page 25)

• 1:30-3:00 PM and after 9:30 PM Weds. evening are free time
  ➢ See pages 24-26 of your program book for a full list of on-site facilities and maps
# Today’s Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker/Organizer</th>
<th>Topic</th>
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<tbody>
<tr>
<td>10:00 – 11:30</td>
<td>Chartered bus departs Holiday Inn (280 Bloor Street West, Toronto, ON) for the Nottawasaga Inn. Please be there and ready to leave promptly at 9:45 AM.</td>
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<td>11:30 – 12:00</td>
<td>Arrival and check-in at Nottawasaga Inn (6015 Ontario 89, Alliston, ON)</td>
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<td>12:00 – 1:30</td>
<td>Lunch (Riverview Dining Room)</td>
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<td>1:30 – 1:45</td>
<td>Welcoming remarks Kim Strong</td>
<td>Introduction to the CREATE Training Program in Arctic Atmospheric Science and CANDAC/PEARL</td>
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<td>1:45 – 1:50</td>
<td>Felicia Kolonjari</td>
<td>Overview of the CREATE Trainees’ Advisory Committee (TAC)</td>
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<td>1:55 – 2:00</td>
<td>Dan Weaver</td>
<td>Overview of the Career Panel</td>
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<td>2:00 – 3:45</td>
<td>Jamboree All attendees</td>
<td>Student and speaker research jamboree (two minutes and one slide per attendee)</td>
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<td>3:45 – 4:15</td>
<td>Coffee break (room 10A)</td>
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<td>4:15 – 5:00</td>
<td>Lecture A Ray Nassar</td>
<td>The carbon cycle</td>
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<td>5:00 – 5:45</td>
<td>Lecture B Tom McElroy</td>
<td>History of ozone column measurement and Canada’s global role in ozone monitoring</td>
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<td>5:45 – 6:30</td>
<td>Lecture C Glen Lesins</td>
<td>Clouds and aerosols</td>
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<td>6:30 – 6:35</td>
<td>Icebreaker introduction Emily McCullough and Dan Weaver</td>
<td>Description of video icebreaker activity</td>
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<td>6:35 – 7:00</td>
<td>Free time (except for poster judges – they will meet in room 10)</td>
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<tr>
<td>7:00</td>
<td>Dinner (Riverview Dining Room)</td>
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<td>8:30</td>
<td>Welcoming Icebreaker CREATE Trainees’ Advisory Committee (TAC)</td>
<td>Sponsored by COM DEV Includes filming of videos and cocktail social</td>
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Trainees' Advisory Committee for the CREATE program in Arctic Atmospheric Science

- Represents the interests of students, both undergraduate and graduate, and post-doctoral fellows. Advises the Training Program Committee on trainee affairs from the trainees' perspective.

- Promotes interactions between the young researchers & CANDAC
  - Social and research events
  - Networking Opportunities
    - mailing list, social networking, etc
  - All trainees can contribute their thoughts and ideas
Trainees’ Advisory Committee

We are aiming for membership continuity from year to year. Members are at a variety of academic stages.

Current Members

- Felicia Kolonjari, Chair (PhD, University of Toronto)
- Zen Mariani, Secretary (PhD, University of Toronto)
- Christian Akpanya (MSc, University of New Brunswick)
- Debora Griffin (PhD, University of Toronto)
- Emily McCullough (PhD, University of Western Ontario)
- Chris Perro (PhD, Dalhousie University)
- Cristen Adams, Secretary (PhD, University of Toronto)
- Richard Damoah (PDF, University of Waterloo)
- Jonathan Franklin (PhD, Dalhousie University)
- Robin Wing (MSc, University of Western Ontario)

Past Members

- Dan Weaver, Social Media Coordinator (PhD, University of Toronto)
- Liviu Ivanescu (PhD, Université de Sherbrooke / Université du Québec à Montréal)
- David Daou (PhD, Université de Sherbrooke)
- Xiao Yong Xu (PDF, University of Saskatchewan)
Communication

- Mailing List: create_trainees@candac.ca
- Social media
New Blog!

createarcticscience.wordpress.com
The moral of this story: please let any of us know if you have any suggestions/feedback for the program!
Career Panel

Thursday

90 minutes

Dan moderates the session

Submit written questions using box:

There is a question submission form included with your name badge

Ask questions & discuss during session
2013 Career Panel

Ray Nasser
Environment Canada

Craig Haley
COM DEV

Ivan Smeniuk
The Globe and Mail

Jennifer Murphy
University of Toronto

Thomas Davis
Canadian Space Agency

Noel McDermott
Queen’s University