



## INTER-AMERICAN INSTITUTE FOR GLOBAL CHANGE RESEARCH

### DATA-SHEET 2017 IAI - Canada

This document has been prepared by the IAI Directorate on 1 March 2018

Note: This document compiles IAI activities involving Canada, existed in 2017 (regardless if they started in 2017 or before). This document does not contain information on activities completed before 2017.

The Canadian Government ratified the Agreement Establishing the IAI in 1993 and is represented by Environment Canada. The agreement implies a commitment to mutual cooperation, i.e. support of science in Canada by the IAI and support of the Institute's operations by Canada.

Since January 2018, the Canadian permanent representative to the IAI is Ms. Viletta Diamantopoulos, Acting Director General, Science and Technology Policy Strategies, Environment and Climate Change Canada.

#### 1. RESEARCH PROGRAM

Canada participates in the following projects of the 3rd Collaborative Research Network Program (CRN 3) 2012 – 2018:

Code	Project title	Budget	Canadian researcher	Institution	Additional funds	Participating countries
CRN 3025	Tropi-Dry II: Enhancing knowledge exchange for conservation and management of tropical dry forests in the Americas	882.500	Arturo Sanchez-Azofeifa (PI)	University of Alberta	1.930.357	Brazil, Canada, Chile, Costa Rica, USA
			Benoit Rivard	University of Alberta		
			Peter Musile	University of Alberta		
			Mike MacGregor	University of Alberta		
CRN 3038	Sensing the America's Freshwater Ecosystem Risk (SAFER) from climate change	902.100	James Rusak	Queen's University	3.597.808	Chile, Colombia, Uruguay, USA
			Maria Isabel Velez Caicedo	University of Regina		
CRN 3105	Interdisciplinary Science Team Skill Building Through the Study of Socioecological Impacts from Bioe	200.000	Dana Wilson	Laurentian University	3.003.681	Argentina, Brazil, Canada, Mexico, Uruguay, USA

\*Additional funding is reported by the scientists and refers to funds granted by funding agencies (others than IAI) towards the project. Amounts are expressed in American dollars and refers to funds received by the project and not only by Canada.

For the Third Collaborative Research Network Program (period between 2012-2018), agreements have been signed between the IAI and Canadian researchers and institutions to grant USD 440,600.

More information: [http://www.iai.int/?page\\_id=4118](http://www.iai.int/?page_id=4118)

## 2. SCIENTIFIC PUBLICATONS

In 2017, within the framework of CRN3, Canadian researchers were author or co-authors of six publications:

### Project CRN3025:

- ✓ Identifying tropical dry forests extent and succession via the use of machine learning techniques  
International Journal of Applied Earth Observation and Geoinformation, Vol. 63 (December 2017), pp. 196-205, doi:10.1016/j.jag.2017.08.003  
by W. Li, S. Cao, C. Campos-Vargas, A. **Sanchez-Azofeifa**
- ✓ Modeling seasonal surface temperature variations in secondary tropical dry forests  
International Journal of Applied Earth Observation and Geoinformation, Vol. 62 (October 2017), pp. 122-134, doi:10.1016/j.jag.2017.06.008  
by S. Cao, A. **Sanchez-Azofeifa**
- ✓ Comparing MODIS and nearsurface vegetation indexes for monitoring tropical dry forest phenology along a successional gradient using optical phenology towers.  
Environmental Research Letters, Vol. 12, No. 10. (09 October 2017)  
by C. Rankine, A. **Sanchez-Azofeifa**, J. A. Guzman, M. M. Espirito-Santo
- ✓ Lianas Abundance is Positively Related with the Avian Acoustic Community in Tropical Dry Forests  
Forests, Vol. 8, No. 9. (25 August 2017), 311, doi:10.3390/f8090311  
by B. Hilje, S. Stack, A. **Sánchez-Azofeifa**
- ✓ El renacimiento del monitoreo ambiental dentro de nuevos paradigmas científicos y operacionales  
Revista de Ciencias Ambientales, Vol. 51, No. 2. (29 June 2017), 215, doi:10.15359/rca.51-2.12  
by A. **Sánchez-Azofeifa**
- ✓ Twenty-first century remote sensing technologies are revolutionizing the study of tropical forests  
Biotropica, Vol. 49, No. 5. (September 2017), pp. 604-619, doi:10.1111/btp.12454  
by A. **Sanchez-Azofeifa**, J. A. Guzmán, C. A. Campos, et al.

## 3. STUDENT PARTICIPATION IN IAI SCIENCE RESEARCH PROGRAM

The IAI projects enabled completion of graduation, master, doctoral and post-doctoral programs. Canadian students involved in IAI projects in 2017, completed four programs: two of these received full scholarships from the IAI, amounting USD 19,000.

Project	Student	Level	Expertise	Institution	Support
CRN 3038	Michael Lavender	PhD	Biology	Queen's University	-
CRN 3025	Ericka James	Undergraduate	not available	University of Alberta	5,000
CRN 3025	Iain Sharp	Master	not available	University of Alberta	14,000
CRN 3025	Kayla Stan	PhD	Spatial modeling	University of Alberta	-

Besides, in 2017 two Canadian, Iain Sharp and Kayla Stan from University of Alberta, participated in capacity building activities of CRN 3.

#### 4. CAPACITY BUILDING PROGRAM

The PDS are training activities designed to encourage network building, to promote the application of the training provided to pressing real-world issues that have a significant global change dimension, to foster multinational and multidisciplinary collaboration, and to develop proposal writing skills. The seminar will involve two sessions, each one a weeklong. Between sessions (1 year approx.), participants interact among themselves and with IAI staff and seminar instructors through Internet-based tools. Then the teams present results and products at the second session of the PDS.

Up to 25 participants from IAI Parties (Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Jamaica, Mexico, Panama, Paraguay, Peru, United States, Uruguay, and Venezuela) in each PDS below, covered a diversity of roles in decision-making and research including: (1) policy decision-makers from different tiers and sectors of government (e.g. agriculture, finance, science and technology, environment and natural resources, international affairs); (2) graduate students, early to mid-career scientists and faculty in the humanities, and social, natural and engineering sciences; (3) NGOs and community organization staff and (4) private sector employees.

Four Canadian were selected to participate in the seminars. The IAI covered the costs of their participation which amounted to USD 5.879, and the costs of six Canadian speakers which amounted to USD 13.100.

##### **PDS: Managing ecosystem services from Tropical forests (Chile). 8 – 12 May 2017 – Santiago, Chile**

The seminar developed an interdisciplinary approach based on theoretical, practical and social interaction with local communities and experts that have designed and implemented ecosystem service programs.

Canadian participants:

- Kayla Dawne Stan, University of Alberta. *Conservation strategies based on local perception of forest ecosystem services*: <http://www.iai.int/?p=22272&lang=en>
- Marissa Castro Magnani, University of Alberta. *Ecosystem services: evaluation and economic valuation of CO2 sequestration in forests and protected areas of the Guanacaste Conservation Area – ACG, Costa Rica*: <http://www.iai.int/?p=22236&lang=en>

More information: <http://www.iai.int/?p=22322&lang=en>

##### **PDS: Transdisciplinary approaches to integrating policy and science for sustainability (Canada) 3 – 7 October 2017 – Calgary and Banff, Canada**

Canadian participants, institution and proposal:

- Caitlin Quarrington, MindFuel (Science Alberta Foundation) and Jeremy Pittman. Their team presented the proposal *Native grassland sustainability for biodiversity conservation and livelihood security: a socio-ecological analysis*, final product of the PDS and work plan to submit the proposal to a funding agency.
- Naomi Krogman, University of Alberta. Her team presented the proposal *Strategies for Coping and Adaptation in Caribbean and South America Coupled Human-Natural Systems*, final product of the PDS and work plan to submit the proposal to a funding agency.

Canadian speakers:

Gabriela Alonso Yanez, University of Calgary  
Dawn Bazely, York University  
Jay Ingram, Discovery Channel  
Ramona Bighead, Blackfoot Nation, Kainai High School  
Dwayne Donald, Cree First Nations, University of Alberta

The seminar trained participants in transdisciplinary approaches in global change-related projects, such as agriculture, land use, public health, sustainable development, biodiversity, energy, water, air, and climate.

More information: <http://www.iai.int/?p=24364&lang=en>

### **São Paulo School of Advanced Science on Climate Change: Scientific basis, adaptation, vulnerability and mitigation. 3 – 15 July 2017 – São Paulo, Brazil**

Organized by the Interdisciplinary Climate Investigation Center (INCLINE) and the Inter-American Institute for Global Change Research (IAI), and sponsored by the São Paulo Research Foundation (FAPESP), Pró Reitoria de Pesquisa/University of São Paulo (PRP/USP), IAI and Santander.

This School was for graduate students and early career scientists. Priority was given to candidates currently enrolled in graduate programs (Masters/MSc and Doctoral/PhD courses) from different academic disciplines (natural, social and human sciences, engineering) provided their academic work and study is related to the themes of the school and related topics.

About 100 applicants, 67 from Brazil and 33 from other countries were selected to participate in the Advanced School. Participants were selected based on the merit of their application information, the relevance of the academic work and studies related to the school themes, and disciplinary, gender and regional balance considerations.

Canadian participants, institutions and poster presented:

Lidong Zou, Department of Earth and Atmospheric Sciences, University of Alberta. *Assessing vegetation drought for Tropical Dry Forest (TDFs) using Vegetation Condition Index (VCI) and Temperature Condition Index (TCI)*: [http://www.iai.int/wp-content/uploads/AMERICAS-Lidong-Zou\\_Poster.pdf](http://www.iai.int/wp-content/uploads/AMERICAS-Lidong-Zou_Poster.pdf)

Yunuén Temoltzin Loranca, University of Regina. *Late Holocene limnological and environmental reconstruction of lake Siscuní and its watershed, Colombia (South America)*: ([http://www.iai.int/wp-content/uploads/AMERICAS-Yunu%C3%A9nTemoltzinLoranca\\_Poster.pdf](http://www.iai.int/wp-content/uploads/AMERICAS-Yunu%C3%A9nTemoltzinLoranca_Poster.pdf))

The goal was to provide graduate students with advanced knowledge on climate change science and related topics: Observations and future projections; impacts; vulnerability; adaptation and mitigation; and the Paris Agreement: how to reach the 1.5°C target, including aspects of public policy. Participants discussed with renowned scientists important themes of the three IPCC Fifth Assessment Report Working Groups, in a multidisciplinary and multicultural context.

More information: <http://www.iai.int/?p=18546&lang=es>

## **5. PARTICIPATION IN THE IAI BODIES**

### **Science-Policy Advisory Committee (SPAC)**

The SPAC was established by the CoP in 2013 to provide advice to the CoP and the IAI Directorate regarding the application and design of science in policy and decision making.

There is one member from Canada in the SPAC:

James Rusak  
Group Leader  
Dorset Environmental Science Centre  
Ontario Ministry of the Environment and Climate Change  
Queen's University, Canada  
Appointment: 2015-2018

### **Executive Council (EC)**

The EC is composed of nine members, who are elected by the Conference of the Parties for two-year terms. The Executive Council develops policy recommendations for submission to and approval by the Conference of the Parties, and ensures that policies adopted by the Conference of the Parties are implemented by the Directorate. Canada is part of the current composition of the EC:

Composition 2016 – 2018:

Argentina, Bolivia, Brazil, **Canada**, Chile, Costa Rica, Panama, Paraguay, and the United States of America.