



## Faculty Profile: Jacqueline Binyamin

by Hailey Robichaud

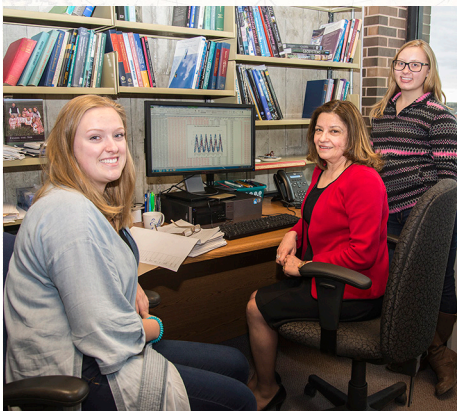
In fifth grade, Dr. Jacqueline Binyamin became very interested in weather and climate when her class started to learn about day length, precipitation, and temperatures for different seasons. She participated in a group project in climate that was chosen for a provincial science fair. Her first job was working as an observer in a meteorological station. Jacqueline completed her Masters at Reading University, and her Ph.D at McMaster University, where she focused her research on atmospheric chemistry and modelling spectral and broadband UV-B irradiance for Canada. She joined the U of W in 2007.

Jacqueline's research interests are radiation climatology, surface-atmosphere interactions, climate change, and more recent light use efficiency research. Dr. Binyamin has published research in UV-B modeling, energy balance modeling in lakes and climate change. She encourages her students to complete individual projects and

learn to research in the course Topics in Climatology.

Currently she is involved in collaborative research with Professor Altaf Arain from Climate Change Research Program of McMaster University, Hamilton, Ontario. Their work involves examining Eddy Covariance flux measurements of energy, water vapour and carbon dioxide, and other meteorological variables over three temperate pine plantations near Turkey Point in southern Ontario. Her current project purpose is to examine the light use efficiency response to drought using MODIS data. She is also working with two research assistants, Hailey Robichaud and Robyn Ploquin, on examining the trends and age effect of the three forest plantations on gross ecosystem productivity, net ecosystem productivity, respiration, and the absorbed fraction of photosynthetically active radiation.

Jacqueline teaches Intro Atmospheric Science, Climatology, Meteorology, and Topics in Climatology. Any student that is interested in climatology and meteorology should knock on Jacqueline's door to talk about opportunities.



Dr. Jacqueline Binyamin (centre) with research assistants Robyn Ploquin (left) and Hailey Robichaud (right). (photo: W. Hiebert)

In this issue of **GeoMatters** we profile the research of Dr. Jacqueline Binyamin while Dr. Chris Storie talks about food security. Dr. Marc Vachon provides an update on the department activities including research, conferences and faculty engagement, and Jeremy Leathers updates us on GESA activities. Three of our students, Rosie Blais, Steve Kurz and Geneva Cloutis, wrote about their experiences with study-away programs this past year which enriched their lives at different locations. The Department's Students Colloquium will feature presentations from Steve Coutts, Adrienne Ducharme, Hailey Robichaud, and Kimberly Thomson. All students are welcome to attend the Colloquium to learn about student research or about the thesis experience.

Please feel free to pass this newsletter to anyone with an interest in geography. Individuals can also see **GeoMatters** at the Geography website, or keep up with us on Facebook (Department of Geography, University of Winnipeg) or on Twitter (@UWGeography).

If you have any suggestions for future newsletter articles, please feel free to contact us at: [geography@uwinnipeg.ca](mailto:geography@uwinnipeg.ca)

Editors: Joni Storie & Weldon Hiebert

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THE UNIVERSITY OF WINNIPEG  
DEPARTMENT OF GEOGRAPHY

<http://geography.uwinnipeg.ca>



by Rosie Blais

I'm currently embarked on a six-month journey abroad, of which five months are focussed on the city of Tours, France where I am studying as an exchange student. I can't think of a better subject to be studying while abroad than geography. Many of the concepts taken up in the classroom, both here and back at the University of Winnipeg, have been quite valuable for enriching my experience as a geographer-in-training and more importantly, as a human being.

Experiencing a new city, new landscapes, and new cultures is quite thrilling. I'm constantly questioning and evaluating the space around myself, trying to decode its meanings, and inevitably attaching my own meanings to them. I find myself thinking about what feels "normal" to me in a situation and weighing it against the accepted social norms in the new spaces I occupy. My goal isn't to create a divide of me versus them, but rather to take this as an opportunity to evaluate why I do, what I do, when I do and, where I do.



There are so many things I wish I had the time to share about my first two months in Tours. Some of the main ideas I've been thinking about are the spectrum between tourist and "authentic" inhabitant, and between place (as a space with meaning) and "home". This little article is perhaps not the place to dive into all my internal brewing, however, I do want to say that despite having studied and grasped these ideas back in Winnipeg, removing myself from the only city I have lived in and called home has brought a more complete understanding of my construction of place and identity.

*Rosanne Blais is a third-year student at the University of Winnipeg working toward an Honours Bachelor of Arts in Geography, with a particular interest in food systems, transportation networks, and understanding sense of place. Next fall, she will be undertaking an undergrad thesis exploring, within the Winnipeg local food movement, how learning about food and food systems impact food decision-making.*



by Jeremy Leathers

It's hard to believe that we've almost reached the end of the term. Time seems to have flown right by, but for good reason. The 2015/16 school year was a busy one for GESA. In the previous year we were unable to find any appropriate candidates for our Eco-Grant; an award we give out every year to fund projects by University of Winnipeg students and community members that will help increase sustainability on campus. As a result, we doubled our efforts to find people and projects that we could support this year. The result of these efforts was a record number of applicants. There were many excellent proposals submitted and deciding which ones best deserved funding was a difficult decision. In the end we funded two projects and gave away over \$4000. The first was for a seed library being set up by students Maureen Hanlon and Charlie Crow of Ecopia (Ecological People in Action). Students will be able to borrow seeds for their gardens at home, then at the end of the growing season they can bring some of the seeds that they produce back in order to replenish the library's stores. They also intend to host workshops where students and community members will be able to learn more about seed collection and gardening. The second was for Cultivate UWinnipeg, a project by students Daniel LeBlanc, Matthew Nguyen, and Hailey Robichaud that will put gardens on the rooftop patios of Centennial Hall. This project aims to not only beautify the space, but also generate produce that could be sold to students for an affordable price. Contact GESA for more information.

In addition to giving away the Eco-Grant, GESA has also hosted a number of events. In November, our 3rd annual beer night was a great success and we raised over \$1800 for the 2016/17 Eco-Grant. In the same month we also hosted the first ever GESA GIS Pecha Kucha Night. It was a great event that brought together students and Manitoba GIS User Group (MGUG) members. A number of wonderful presenters showed off a variety of GIS applications, providing a very interesting and enjoyable evening. Finally, GESA has been doing catering for both geography and environmental lunchtime lectures. We've been able to provide a number of great homemade meals that are always a big hit. The combination of interesting lectures and delicious food has definitely made them some of the best talks at the university. All in all this has been an excellent year for GESA and I look forward to being part of another great one next year!



# 2015-2016 Geography Undergraduate Thesis Students

The Geography Students Colloquium will take place on Friday, April 1 at the University Club (4th floor Wesley Hall) from 1:30-4:30 pm. The following students will be making presentations:



## Steve Coutts

**Thesis Title:** Urban 'Food Deserts' in Canada: Discourse and representation

**Advisor:** Dr. Marc Vachon

**Summary:** My honours thesis explores how urban 'food deserts' are produced through media representations. While the academic literature on 'food deserts' has proliferated in the last decade, the term has also gained traction in popular media discourse. Using a post-structuralist approach, my research examines how the concept of the 'food desert' is deployed in Canadian news media and its connections to broader discourses around knowledge, power and urban revitalization. By focusing on representations of 'food deserts', rather than attempting to measure or quantify them, my research takes a critical look at the role language plays in shaping how we see our urban landscapes.



## Adrienne Ducharme

**Thesis Title:** Transboundary water concerns and climate change in the Prairie Provinces

**Advisor:** Dr. Danny Blair

**Summary:** My Honours thesis will explore climate change in the Prairies and the impact these changes may have on the hydrological resources of the region. I will investigate how impacts might create supply and demand issues for freshwater resources that could result in increased tensions and conflict across borders within the region. Much of the existing legislation and policy does not consider climate change, let alone any mechanisms that may be required to resolve transboundary water resource conflicts. My thesis will highlight the importance of increased dialogue and action regarding legislation and policy updates to proactively incorporate impacts to the supply of, and increases in demand for, fresh water in the Prairie Provinces.



## Hailey Robichaud

**Thesis Title:** Impacts of climate change on seasonal watershed flow patterns in the Canadian boreal forest

**Advisor:** Dr. Nora Casson

**Summary:** The Canadian boreal forest is a sensitive system and is facing increasing change in areas such as streams and lakes. These water bodies are sensitive to climate changes, as alterations in the amount of precipitation and the timing of snow melt determine parameters such as the nutrient content of water. We used a 33 year record of meteorological and hydrological data from a long-term research site in northwestern Ontario (the Experimental Lakes Area) to assess trends in precipitation, temperature and streamflow, and identify relationships between climatic and hydrological variables. Relationships were tested for significance between total spring stream discharge, and the peak date of stream discharge to climatic indices. The Akaike information criterion was used to determine the best predictor models to describe the relationships. Results of this analysis shows that the best model in predicting total spring discharge and peak date of discharge are models of May climatic variables and North Atlantic Oscillation variables. Understanding these climate-streamflow relationships provides a framework for understanding the implications of changes in climate on water quality and the timing of stream discharge.



## Kimberly Thomson

**Title:** Comparing methods of obtaining chlorophyll concentrations from subarctic wetlands in Churchill, Manitoba

**Advisor:** Dr. LeeAnn Fishback

**Summary:** With Canada's north increasingly warming there has been evidence of increased temperature and nutrient loading into subarctic lakes and ponds in the Hudson Bay Lowlands. This mesocosm experiment in Churchill, Manitoba employed a 3X3 factorial design to create nine different treatment combinations with varying levels of temperature and nutrients. In particular, we looked at the response of phytoplankton productivity following increases in heat, nitrogen and phosphorus concentrations. Chlorophyll-a concentrations were measured every 12 days as a proxy for the quantity of algae in the water column. My research compares two methods of obtaining chlorophyll concentrations: 1) traditional ethanol extraction with absorbance reading using a spectrophotometer, and 2) an EXO probe. In contrast to the traditional method, the EXO probe has the capability to capture a greater volume of data points in a much shorter amount of time. It is hypothesized that there will be correlation between the two methods, and therefore the EXO probe could be used as a substitute for the traditional method for similar experiments in the future.



# Food Security in Churchill

by Chris Storie

Food security in northern communities continues to be a major concern for those affected. Understanding the underlying causes for food insecurity is therefore of critical importance. In 2012, as part of the Field Course held in Churchill, two students, Morrissa Boerchers and Matthew Metcalf, undertook a research project examining food security and consumer behaviour in Churchill. The goal of this project was not necessarily to dive directly into food security but to examine the general consumptive patterns of town residents. 30 interviews were conducted (see photo below) which asked questions dealing with where people shopped for their day to day needs, and why they shopped there. The findings of the research indicated that most town residents will purchase whatever they can outside of Churchill to reduce

their costs, but in the case of fresh foods (produce, meat) they have to purchase in town at much higher prices. The result of these higher prices and limited availability of fresh food options places Churchill at high risk for food insecurity. You can read the entire paper and its findings here - <http://pcag.uwinnipeg.ca/PP-Vol17.pdf>. More recently the province of Manitoba announced a pilot program to promote healthy foods in northern Manitoba. The Affordable Food in Remote Manitoba (AFFIRM) is meant to reduce the high costs and to ensure better access to foods for northern Manitobans. Churchill is one of the pilot communities that will be participating. While we can't say that our research informed this new program we can however take comfort knowing that our research conducted was on a topic that was timely and needed.

# Message from the Chair

by Marc Vachon

The Department of Geography had another busy year. In August 2015, under the leadership of Dr. Bill Buhay and Weldon Hiebert, fourteen participants (including eight students) had a very successful and interesting fieldtrip in Iceland. Because geographers are always wanting more, Dr. Buhay is leading a field course (GEOG4801: Geography Field Seminar) which will held at the CSU's Desert Studies Center near Baker, California in May 2016.

In September 2015 we co-hosted, with Lakehead University, the Prairie Division of the Canadian Association of Geographers (PCAG) meeting in Kenora. By all accounts a resounding success, with over 100 people attending the conference. I would like to thank the organizers, especially Gina Sylvestre, for all their hard work, and all of those, faculty and student, who participated to the success of the PCAG.

Furthermore, many of us were very active in organizing various conferences/workshops/media interviews in our specialties ranging from CBC Quirks and Quarks, Lake Manitoba workshop, Building a Community Network for Water workshop, Uniter professor-profile, Enbridge Line 3, Berlin Film festival, Beyond Climate, Dr. Suzuki talk, contributions to the provinces Environmental Bill of Rights, etc. Not an exhaustive list as the members of this department have organized or participated in many events the last two semesters. That being said, the department was actively engaged in the diffusion of geographical knowledge within academia and the public sphere.

On the research front, a new centre was created, The Prairie Climate Centre, co-directed by Dr. Danny Blair, Dr. Ian Mauro and Dr. Hank Venema from the International Institute for Sustainable Development. Dr. Ed Cloutis has an instrument on the ExoMars Trace Gas Orbiter which was launched March 14, 2016. Dr. Nora Casson is collaborating with Dr. Alix Contasta (University of New Hampshire) and Dr. Sarah Nelson (University of Maine) on a project for Winter Climate Change in the Northern Forest funded by state and federal North-Eastern States Research Cooperative. Hopefully, these projects will lead to many opportunities for student education and research.



Morrissa Boerchers and Matthew Metcalf interview a Churchill resident about food security and consumer behaviour. (Photo: C. Storie)



# Universiteit van Amsterdam (UvA) Summer Programme: Planning and Living in Cities, 2015

by **Stephen Kurz**

Thanks to various geography courses I had taken for my Environmental Studies degree (with a Human Geography minor) I acquired a growing interest in urban geography and city planning. To further this interest, last spring I made the great decision to apply to the Planning and Living in Cities Summer Programme at the University of Amsterdam.

The city itself is much too commonly known just for its coffee shops (very different than its cafés) and red-light district. It is a world-class cycling city that is buzzing with innovative urban projects and developments. The Netherlands also represent an extensive religious, colonial, and artistic history that has had a large impact on the way its cities have developed.

This one-month program gave me great exposure to European urban policy and planning in one of the most metropolitan cities in the world. The program was divided between in-class lectures given by professors or PhD candidates specializing in the topic, which usually took place in the

mornings, followed by an excursion in the afternoon to explore hands-on what was discussed in the lecture. With about 30 students in the program from all over the world, lectures and excursions were the perfect size, making lessons feel more like a large group conversation rather than strictly a formal lecture. Not only did we explore Amsterdam, we also had the chance to visit Utrecht, Rotterdam, as well as do a group overnight trip to Brussels and Charleroi

Among the many topics discussed, my favourites were Dutch Social Housing Policy and its extensive history, as well as a topic called “open planning” presented by a renowned Dutch urban planner named Zef Hemel. Our visit to Charleroi, which is commonly labelled as the ugliest city in Europe, was extremely fascinating and served as great case study of urban issues.

In short, Amsterdam is much more than just a hedonistic tourist destination. The city and the program solidified my interest in urban studies and city planning and I hope to pursue my masters in this area.



Amsterdam, where cars and bicycles live in harmony. (Photo: S. Kurz)

# GESA Trivia Night

by **Weldon Hiebert**

Which Canadian drove in the final spike completing Canada's transcontinental railroad at Craigellachie, B.C. in 1885? This was one of the many challenging questions asked at GESA's annual Trivia Night, held on Thursday, March 10 at Garbonzos UofW AnX.

Trivia Night is one of the fundraisers organized by GESA (the other being Beer Night in the fall semester) to raise funds for its GESA Eco-Grant. The grant is offered to students of the University of Winnipeg and Collegiate, faculty members, staff or community member (anyone with an affiliation to the University of Winnipeg) that wish to submit a project proposal on how to make the University campus more sustainable. The grant is offered annually and has a value of \$2000.

A large crowd of students, faculty and trivia lovers showed up to test their trivial knowledge. The night offered three rounds of fifteen questions from a variety of categories from 80s video games to World War I history. The team of “Sorry, I’m a B.A.” defeated a highly competitive field by correctly answering 34 of the 45 questions. Congratulations to Robert, Adam, Alex, Andrew, John and Chris who won beer and pizza.

Who drove in the final spike? It was Donald Smith, a CPR railroad financier (always the rich guys!). Thanks to GESA for hosting a very successful and fun evening, and stuffing our heads with more useless trivia!



Trivia night winners “Sorry, I’m A B.A.” (back row, from left: Robert, Adam, Alex, John, Andrew; front row 2nd from right: Chris) along with GESA executive members Matt Nguyen (far left, front row), Jeremy Leathers (2nd from left, front row) and Kimberly Thomson (first row, far right). (Photo: W. Hiebert)



# Haida Gwaii Learning Experience

by Geneva Cloutis

Last fall I was fortunate enough to participate in the Natural Resource Sciences Semester of the Haida Gwaii Higher Education Society (HGHEs) on Haida Gwaii, BC. I was able to live and learn on Haida Gwaii (formerly the Queen Charlotte Islands) taking courses accredited by the UBC.

In 4 block courses and one seminar course, I was exposed to some of the issues faced by coastal, indigenous, resource-dependent communities while studying some of the scientific aspects of natural resources. Each course was taught by an academic or professional in their respective field, and their expertise enhanced the overall semester content. The classes were all heavily field based, with at least half of the class time spent out in the field collecting data or observing the natural environment. Whether it was examining the decomposition of salmon on river banks, hiking one of the largest mountains on the islands to examine biogeoclimatic zones, or walking through the forest assessing habitat suitability for endemic species, each day was filled with new activities and experiences.

All courses incorporated Haida culture in some way, which enhanced my understanding of the connection between the Haida and their natural environment. Learning about Haida culture simultaneously to the physical science created a more comprehensive learning experience and helped solidify the concept of how culture is tied to place, and that science and culture should always be considered simultaneously when looking at natural resources.

The course work was also very hands-on and interactive. My class helped write a Wikipedia article on coastal sand dunes on Haida Gwaii, we hosted a public debate on whether or not the introduced deer population should be managed, and we wrote management strategies for other introduced species that will be used to dictate further research. I also learned about some of the challenges the people of Haida Gwaii face, including historic logging disputes to current conflicts regarding Aboriginal title and pipeline development.

Haida Gwaii is one of the most beautiful places on the planet, and getting the chance to learn in the temperate rainforest for 4 months is something that I would encourage everyone to check out. If you would like more specific information about the program, you can check out the program website at [www.hghes.ca](http://www.hghes.ca).



Geneva Cloutis cannot “Haida” in this picture! (Photo courtesy of G. Cloutis)

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*“Geographers never get lost. They just do accidental field work.”*

Nicholas Chrisman, Professor of Geomatic Sciences, Université Laval