It is with great enthusiasm that I use this opportunity to send you all my best wishes for the year we are just starting. 2017 promises to be full of nourishing and exciting experiences for all of us, since the collaborations we have been building will certainly continue growing. The numerous partnerships that we all have been constructing, propelled by a shared commitment to fight food insecurity and undernutrition, are in line with an approach that positions sustainability as an essential component of our common efforts. More than ever it is clear to all of us that eradicating hunger, as stated by the Sustainable Development Goal (SDG) number 2, can be achieved only if we are able to connect our work to the fight against poverty and inequality (SDGs 1 and 10) as two of the main determinants of global food insecurity. Better education, women’s empowerment, clean water, decent work, and peace and justice (SDGs 4, 5, 6, 8, 16) represent essential pillars in the construction of sustainable cities and communities, and for the protection of life on land and below water (SDG’s 11, 14, 15), as essential elements for food security. Achieving a world free of hunger goes hand in hand with the responsible consumption and production of food and goods, with sustainable and inclusive industries conscious of the need for climate action, and the generation of clean energy (SDGs 12, 9, 13, 7). Subsequently, food security is an unavoidable milestone towards a human society in good health and well-being (SDG 3). Last but not least, the SDG 17 constitutes the platform we have been collectively building: a global partnership for sustainable development. Thank you very much to you all for your collegiality and friendship, and for allowing us to be part of your work and of your dreams.
HEdLINES

CARE/McGill Projects in Ethiopia, Malawi, Zambia and Mozambique

The McGill Institute for Global Food Security was awarded CAD $1.6M to conduct 2 research projects in Africa. The Growing Nutrition for Mothers and Children (GROW) project in Ethiopia and the Southern African Nutrition Initiative (SANI) project in Malawi, Zambia and Mozambique. These projects are funded by Global Affairs Canada (GAC) through CARE Canada. (See pg. 4 for more)

New collaboration with the Quebec Government and the FAO

The McGill Institute for Global Food Security was awarded 2 internships for graduate students to go to FAO headquarters in Rome, Italy and FAO African regional office in Accra, Ghana. These 6-month internships are administered and co-funded by the Ministry of International Relations and La Francophonie in Quebec. (See pg. 4 for more)

New emerging partnership with the UN-World Food Programme

Through this partnership, the McGill Institute for Global Food Security was awarded 4 to 6-month internships for graduate students to travel to WFP selected sites (mainly in Africa). Also, this partnership will open new doors for the Institute staff to visit WFP offices in Rome and in Brazil (Centre of Excellence) for sabbatical stay or for short intensive training courses related to Food and Nutrition Security.

RECENT & UPCOMING EVENTS

Margaret A. Gilliam Lecture Series: Shenggen Fan

In his presentation, Dr. Fan provided an overview of the state of global food security and nutrition and discussed how to reshape the global food system to feed the world healthily and sustainably.

World Food Programme Seminar

The Macdonald Campus Faculty of Agriculture and Environmental Science and the McGill Institute for Global Food Security in collaboration with the World Food Programme hosted a thought provoking seminar on Global Perspectives and Partnerships in the Fight Against Hunger.

"Big Week in Ottawa:" Aid for Agriculture

The coalition of organizations and signatories on the "Aid for Agriculture" proposal met with civil servants from Global Affairs Canada, southern partners from communities directly impacted by aid for agriculture, Canadian media, and parliamentarians in order to build understanding and support for this issue. Dr. Cortbaoui from the McGill Institute for Global Food Security provided the concluding remarks at the meeting.

Exchange Meeting for the Internship Program in International Governmental Organizations

To launch the new partnership between McGill University, the Ministry of International Relations and La Francophonie of Quebec (MRF), and the Food and Agriculture Organization of the United Nations (FAO), Anh Bui and Dr. Patrick Cortbaoui attended the exchange meeting in Quebec City, Quebec.

International Workshop

The McGill Institute for Global Food Security in collaboration with the National University of Colombia organized a workshop: Food security and nutritionally-sensitive agriculture: Knowledge at the service of public policies. This workshop was funded by the Canadian international Food Security Research Fund of IDRC.

Margaret A. Gilliam Lecture Series: Bruce Moore

In his presentation, Bruce Moore discusses the multi-functionality of land, and how when land issues and rights take multi-functionality as their starting point, the potential for a more inclusive, equitable and sustainable outcome rises significantly.

International Symposium on Food Security within Climate Change

Organized by the Quebec Ministry of International Relations, La Francophonie, and the FAO, the next International Symposium on Food Security within Climate Change will take place next September in Quebec City, Quebec.
**PUBLICATIONS**


Malard JJ. Impacto en la salud colectiva de la producción de alimentos desde una modalidad participativa. Invited talk to the VI Congreso Internacional Ciencia y Tecnología de los Alimentos Córdoba (GCyTAC). Córdoba, Argentina, Nov 2-4 2016.


Tedoff P. Presentation to the students that are part of the Graduate Award Program (GAP) at McGill’s Institute for Health and Social Policy (IHSP) about the scope of research for her thesis.


Sinclair, Kate is writing a paper entitled “Rural Women: the most vulnerable to food insecurity and poor health in the Global South” with Davod, which is to be published in a special gender issue for the Journal of Global Food Security. This study will also be presented at the 2017 Experimental Biology Conference.

**AWARDS**

Farzaneh Barak
-2016 Dietetics and Human Nutrition Award

Nathaly Garzon Orjuela
-Research Prize Jose Felix Patiño
-Congress of the Colombian Association of Nutrition, Cartagena, Colombia Oral presentation; Second Place

Kate Sinclair
-IDRC Doctoral Award
-IICA Research and Internship Assistance Program
-Walter M. Stewart Postgraduate Scholarship in Agriculture
-Canadian Home Economics Association Fellowship

Ernest Habanabakize
-2016 MasterCard Foundation Scholar at McGill
CARE/McGill Projects in Ethiopia, Malawi, Zambia and Mozambique

The McGill Institute for Global Food Security and CARE Canada are working in partnership to conduct 2 projects in 4 African countries. The first project, titled Growing Nutrition for Mothers and Children (GROW) is taking place in Ethiopia. The second project, South African Nutrition initiatives (SANI) is taking place in Malawi, Zambia, and Mozambique. The ultimate goal of these 2 projects is to contribute to the reduction of maternal and child mortality in targeted regions in these countries. To do so, GROW and SANI aim to improve the nutrition status of women of reproductive age (15-49 years) and children under-5 years, while working with local health authorities and communities in these countries. Both projects are funded by Global Affairs Canada and aligned with the key global initiatives such as the Scaling Up Nutrition (SUN) Initiative, and with the maternal, newborn and child health priorities of Global Affairs Canada. Both projects are four-years in duration, starting in 2016. The projects have three stages; carrying out the baseline study, conducting the intervention activities, and lastly, evaluating the impact of the 2 projects at the end of the study. By ensuring the quality of data collected is of top quality, students are able to conduct research using the data to help inform areas for intervention. We are grateful to the government and local officers in these countries who have strived to help in all logistics to succeed in our mission there.

Seminar: Rethinking the Global Food and Nutrition Security for a Sustainable Future

Notre Dame University invited Dr. Patrick Cortbaoui in collaboration with McGill Institute for Global Food Security to host a seminar on global food and nutrition security. Despite significant technological and productive advances in agriculture, recent estimates indicate that 1.5 billion individuals experience food insecurity, of which 800 million have no access to minimal caloric intakes. In his seminar at Notre Dame University, Dr. Cortbaoui provided an overview of the new agricultural framework, new farming philosophy, resource-use efficiency in value chains and sustainable processing technologies and discussed how to rethink the global food and nutrition security for many generations to come.

New Student Internships at the Food and Agriculture Organization of the United Nations (FAO) offices in Accra and Rome

Thanks to the collaboration between McGill University, the Ministry of International Relations and La Francophonie of Quebec (MIRF), and the Food and Agriculture Organization of the United Nations (FAO), internship opportunities have been formed for graduate students in Rome, Italy and Accra, Ghana. Through these opportunities, interns will have the chance to collaborate with various professionals in the field of agriculture and nutrition, travel to different regions offices of the FAO, and engage in projects that promote food security and sustainable development. With FAO’s main goal of achieving food security for all, interns are asked to help develop its Nutrition and Food Systems Division (ESN). This division aims at protecting, promoting, and improving nutrition-sensitive food systems. As such, during their time abroad, the interns will help integrate nutrition in FAO’s strategic plan of action, including develop and launch nutrition and food systems e-learning modules, follow-up on the 2nd International Conference on Nutrition (ICN2), implement the Decade of Action on Nutrition initiatives, and collaborate with other sectors within the organization, as well as other regional and national offices.
Hugo Melgar Quinonez
MD, Dr. Sci.
Associate Professor
Margaret Gilliam Faculty Scholar in Food Security
Director, McGill Institute for Global Food Security

Dr. Hugo Melgar QUIÑONEZ has been a food security advisor on to several countries in Latin America. He has conducted food security research in 20 countries in Africa, Asia and the Americas, and maintains a strong collaboration with the United Nations Food and Agriculture Organization (FAO) as a researcher in the project Voices of the Hungry which incorporates 150 countries. Dr. Hugo Melgar QUIÑONEZ’s Research concentrates in understanding the causes of hunger in developing countries and in vulnerable populations in industrialized countries, and its consequences to human health. He also works closely with development agencies and governmental programs fighting hunger, helping them to assess the impact of their programs.

Patrick E. Cortbaoui
PhD., Ag.Eng.
Academic Associate & Project Manager,
McGill Institute for Global Food Security

Dr. Cortbaoui received his PhD in Bioresource Engineering from McGill University. His research was to develop an innovative methodology to effectively quantify post-harvest losses of fresh produce along the supply chain. Measuring these losses was an essential operational strategy to enhance post-harvest management and to curtail quality loss of fresh horticultural commodity throughout the different segments in the supply chain. Dr. Cortbaoui is currently serving as an Academic Associate and Project Manager at the McGill Institute for Global Food Security, strengthening the Institute’s leading role and partnership between academia, the private sector and governments. He is also a Food Security and Vulnerability Assessment Consultant to a USAID project, using qualitative-quantitative research methodology to tackle issues on food insecurity, poverty and community resiliency in the Democratic Republic of Congo. On a similar note, he is enrolled as an Agricultural Engineer Consultant to the United Nations, addressing issues dealing with green value chain analysis in Western Asia.
Abdulla, Majd
PhD.
Research Associate
Dr. Majd got her Ph.D. in Sustainable Agriculture with minor in statistics. Her dissertation tackled the impact of landownership on conducting agricultural conservation practices in Iowa. During her Ph.D., she obtained a GIS certificate that she believes will help in viewing agriculture from different perspectives. Dr. Abdulla serves as a research associate at McGill. Currently she is working on SANI and Grow projects.

Abdi, Tasnim
M.Sc. Human Nutrition candidate
Tasnim holds an undergraduate degree in nutrition with a specialization in global nutrition from McGill University. She previously was a research assistant examining the literature on the health and socio-economic outcomes of different refugee groups in Canada. Her research interests include examining the determinants of food insecurity through a multidisciplinary focus.

Amarnani, Ekta
APD, RD
PhD. Human Nutrition candidate
Farzaneh’s research involves an impact evaluation of integrated nutrition education and agricultural interventions. More specifically, she is interested in developing a detailed understanding of farmers’ decision-making processes and its effect on the success of the intervention to tackle food insecurity.

Al-Duais, Mohammed
PhD.
Research Associate
Dr. Al-Duais has a strong interest in developing and validating novel methodologies and initiatives, with a comprehensive ecosystem approach, to tackling the many factors contributing to the cycle of poverty and malnurtition in developing countries, thereby increasing food availability, improving smallholder farmers’ incomes and public health in the most vulnerable communities.

Anh Bui
M.Sc. Human Nutrition candidate
Anh completed her undergraduate degree in nutrition and is now a Masters Candidate at McGill University. Using data from the Gallup World Poll, her research aims to bring the overlooked issue of food insecurity in the middle income class into light.

Habanabakize, Ernest
M.Sc. Bioresource Engineering candidate
Ernest is a MasterCard Foundation Scholar in Bio-resource Engineering at McGill University. He is passionate about improving the wellbeing of farming communities and addressing problems of climate change through technological and social innovations, particularly in agriculture. Ernest believes that obtaining his M.Sc. will be an opportune moment to extend his research interests in water and food security domains.

Jordan, Rennie
M.Sc. Integrated Water Resource Management candidate
Before starting her Master’s program, Rennie did an internship at a development research institute in Vietnam, where she worked on the report for the REDD+ program implementation in Vietnam and researched water management issues in the country. Her main research interest involves the relationship between water and food security, and the challenge of feeding growing populations with limited resources.
Kwofie, Mabel
M.Sc. Human Nutrition candidate

Mabel was a lecturer at the Department of Hospitality Management, Koforidua Technical University and a part-time lecturer at Kwame Nkrumah University of Science and Technology. Previously, Mabel’s research was in nutritional quality of children’s diet with a focus on the national school feeding programme in Eastern Region, Ghana. As part of a food security strategy, she worked on new product development including tropical drink from over ripe plantain and pawpaw.

Malard, Julien
PhD Bioresource Engineering candidate

Julien’s research centres on the use of participatory modelling to assess agricultural development sustainability, on the development of agroecological simulation models for integrated pest management design, and on analysing the interactions between these two spheres. This research includes two case studies of agricultural development, one sufficiency-based and one market-based.

Miller, Meghan
PhD Human Nutrition candidate

Meghan graduated from McGill University in 2015 with a Master’s degree in Nutrition. Her research explored the relationship between food security and different forms of social support. She plans to investigate the ways in which women with children manage social resources to achieve food security for their households, with a specific interest in the Indigenous population in Canada.

Nnebe, Nnedimma
PhD Human Nutrition candidate

Nnedi is currently contributing to the CARE/McGill project in Ethiopia, Malawi, Mozambique, and Zambia. The project’s main objective is to improve the food security and nutrition status of women of reproductive age (15-49 years) and children under 5 years in the 4 countries. Her specific research aim is to study the relationship between post-harvest loss, gender, and food security.

Orjuela, Nathaly
Research Intern

Nathaly is currently doing an internship at McGill’s Institute for Global Food Security, where her work is focused on assessing psychometric characteristic of the Food Insecurity Experience Scale (FIES) in three countries over three years using model Rasch analysis. Since 2015 She has been working with the Equity in Health group research at the National University of Colombia.

Park, Jae Yeon
M.Sc.Human Nutrition candidate

Jae Yeon completed her undergraduate studies in Plant Bioscience at Kyungpook National University, Korea in 2016. Her research was about functional analysis of hypothetical gene in Arabidopsis. Based on her knowledge of the fundamental role of agriculture in human health and society, she now researches how plants directly affect people in the world every day and how we can make nutritional changes in communities on the food security level.

Po, June
PhD. Natural Resource Science candidate

June’s background in global public health, psychology and biochemistry continue to enrich her doctoral research on women’s access to land resources and its relationships with household nutritional security in the semi-arid regions of Kambaland, Kenya. Through her experience conducting qualitative and quantitative research in Bangladesh, India, and Kenya, June has come to deeply value the interdisciplinary approaches to understanding complex social-ecological issues

Quazaq, Hussain
PhD. Human Nutrition candidate

In his PhD study, Hussain will explore the quality of the diet of obese food-insecure children aiming at drawing suggestions and evidence-based recommendations to rectify their food security status that will be reflected on their health and wellbeing. He has many publications about nutrition and health among school children, pregnant women and elderly during his work in the United Arab Emirates.

Sen, Akankasha
M.Sc. Human Nutrition candidate

Akankasha’s research interest involves nutritional anthropology and the interplay between human biology, cultural beliefs, nutritional status and food security, and how changes in the former affect the latter. Her research investigates how Household Food security is associated with child nutritional status and if maternal diet diversity score is mediated this effect by analyzing the data from project GROW that is funded by CARE Canada.
Sinclair, Kate
PhD Human Nutrition candidate
Kate’s research involves conducting a process evaluation of a scaling-up nutrition intervention. The project’s main objective is to scale up the adoption of improved potato varieties with high nutritional qualities for Colombian consumers and potato producers in an operational strategy that links agriculture to nutrition. She is also working on a global comparative study that investigates the relationship between women’s empowerment and food security status among women living in rural and urban areas.

Tedoff, Pauley
PhD Epidemiology candidate
For her doctoral research, Pauley is thrilled to be working with the Institute on its collaboration with CARE Canada, implementing a four-county study in Southern Africa. More specifically, her analysis will apply advanced psychometric methods to elucidate the complex interrelations between social determinants, food security status, and nutrition status of children under five and their mothers.

Trempe, Stephanie
M.Sc. Animal Science candidate
Stephanie’s current research draws largely on the sheep feed substitution projects that were performed in 2013 and 2014. The by-product feed recipe developed in this study will have several key attributes including: meeting the nutritional needs of the livestock, being sustainable, and being economically viable, thus allowing for economical, social and environmental benefits for both local farmers and the Barbadian public.

Happy Belly collects food from nearby grocery stores and farms consisting mainly of perishable items near the end of their shelf life that would otherwise be discarded but are still safe to eat. Every week, they cook and serve a free healthy lunch for students and staff. Contact: http://bit.ly/2iFFFXg

Communications Volunteers
The McGill Institute for Global Food Security is looking for volunteers to help manage their communication tools. Savvy with social media, graphic design, or videography? Join us! Contact: info.gfs@mcgill.ca

Summer Internships
We offer internships in food security projects through promotion of local agricultural technologies by communities themselves and participatory model-building for policy design. Current study regions are in Mayan Guatemala and South India; note that all research communication (internal and external) is conducted in the host region’s language. Contact: julien.malard@mail.mcgill.ca

INVOLVEMENT OPPORTUNITIES
Food Security around the World

Edible Insects: A solution for food and feed security?

Trends towards 2050 predict a steady population increase to 9 billion people, forcing an increased food/feed output from available agro-ecosystems resulting in an even greater pressure on the environment. Scarcities of agricultural land, water, forest, fishery and biodiversity resources, as well as nutrients and non-renewable energy are foreseen.

Edible insects contain high quality protein, vitamins and amino acids for humans. Insects have a high food conversion rate, e.g. crickets need six times less feed than cattle, four times less than sheep, and twice less than pigs and broiler chickens to produce the same amount of protein. Besides, they emit less greenhouse gases and ammonia than conventional livestock. Insects can be grown on organic waste. Therefore, insects are a potential source for conventional production (mini-livestock) of protein, either for direct human consumption, or indirectly in recomposed foods (with extracted protein from insects); and as a protein source into feedstock mixtures.

Since 2003, FAO has been working on topics pertaining to edible insects in many countries worldwide.


Aquaculture: Meeting future needs

As the human population continues to grow, the need for sustainable food sources also grows. It is expected that traditional fisheries alone will not be able to keep up with the increasing demand for fish, shellfish and marine plants.

Integrated Multi-Trophic Aquaculture (IMTA) is one solution that encourages greater environmental stewardship while increasing economic benefits for growers and communities. IMTA is a different way of thinking about aquatic food production that is based on the concept of recycling. Instead of growing only one species (monoculture) and focusing primarily on the needs of that species, IMTA mimics a natural ecosystem by combining the farming of multiple, complementary species from different levels of the food chain. For example, one form of IMTA is to grow fish, invertebrates (like mussels and sea cucumbers) and seaweeds close together for the benefit of each crop and the environment.

Although IMTA in Canada is still largely in its developmental stage, collaborative research results are being used to establish best practices and improve technologies that are already being used on the farm.


Global food losses and food waste

Dr. Sonesson (SIK) explains the findings of the study on global food losses.

Roughly one third of the food produced in the world for human consumption every year — approximately 1.3 billion tonnes — gets lost or wasted.

Every year, consumers in rich countries waste almost as much food (222 million tonnes) as the entire net food production of sub-Saharan Africa (230 million tonnes).

The amount of food lost or wasted every year is equivalent to more than half of the world’s annual cereals crop (2.3 billion tonnes in 2009/2010). Food loss and waste also amount to a major squandering of resources, including water, land, energy, labour and capital and needlessly produce greenhouse gas emissions, contributing to global warming and climate change.

In developing countries food waste and losses occur mainly at early stages of the food value chain and can be traced back to financial, managerial and technical constraints in harvesting techniques as well as storage —and Thus, a strengthening of the supply chain through the support farmers and investments in infrastructure, transportation, as well as in an expansion of the food —and packaging industry could help to reduce the amount of food loss and waste. cooling facilities.
