

# Cultivating Agriculture, Food & Health

*Learn, contribute and collaborate*



June 19-21, 2013  
Dalhousie Agricultural Campus  
Truro, NS



*Faculty of Agriculture*

Dear Agriculture, Food & Health Stakeholder,

On behalf of Dalhousie University, thank you for participating in the Cultivating Agriculture, Food and Health Forum held at our agricultural campus in June.

The Forum was an extremely valuable conversation about agriculture, food and health that crossed many boundaries and sectors – we heard from people in the government, university, industry and non-profit sectors, we heard from people in several different provinces, and of course we heard from people involved in agriculture, food and health – that is, food production, processing, marketing, socio-economics, population health and policy.

This was not the first conversation about agriculture, food and health in the Atlantic region, but we're very pleased that it was one that connected so many new stakeholders that are as informed, concerned and active as you are across so many sectors. We hope you will agree that the Forum provided both practical information and ideas to carry forward to our daily business in the agriculture, food and health sectors.

In the following pages, we've provided a summary of the Forum discussions. In the months that have elapsed since the forum, we've seen some developments:

- An exploratory working group consisting of representatives working from Dalhousie and St Francis Xavier Universities, the province of Nova Scotia's Departments of Agriculture and Fisheries and Health, regional health boards and others has evolved. This group is keeping each other informed on strategies and activities in Nova Scotia and beyond, with particular emphasis on connecting local agricultural production and food literacy for at-risk populations
- A research and outreach alliance between Dalhousie, StFX, McGill, Nova Scotia, Quebec and Ontario has emerged to develop proposals such as prescription fruit and vegetable programs, elementary school fruit & vegetable promotion, university student diet transitions, fruit & vegetable coupon programs, convenience store promotion of health eating, local food hubs, and others.

In closing, it's been fantastic to be part of such an exciting dialogue on such important topics, and we thank you, our sponsors, speakers and participants, for engaging in the Cultivating Agriculture, Food and Health Forum.

Respectfully submitted,

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# **CULTIVATING AGRICULTURE, FOOD AND HEALTH**

## **SUMMARY REPORT**

**JUNE 19-21, 2013**

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## TABLE OF CONTENTS

### Table of Contents

<b>EXECUTIVE SUMMARY</b> .....	3
<b>A. FORUM OVERVIEW</b> .....	4
<b>Rationale</b> .....	4
<b>Forum Concept</b> .....	5
<b>Themes &amp; Key Questions</b> .....	5
<b>B. THE FORUM</b> .....	6
<b>Summary of Presentations and Discussions</b> .....	6
Day 1 - Morning .....	6
Day 1 - Afternoon .....	7
Day 2 - Morning .....	8
Day 2 – Afternoon .....	9
Day 2 – Evening .....	10
Day 3 – Morning .....	10
<b>Attendees</b> .....	10
<b>Evaluation Summary</b> .....	12
<b>FORUM OUTCOMES &amp; NEXT STEPS</b> .....	13
<b>Agriculture, Food, &amp; Health - Taking Action</b> .....	13
<b>ACKNOWLEDGMENTS</b> .....	17
<b>Organizing Committee</b> .....	17
<b>APPENDIX A. MORE ON AGRICULTURE, FOOD AND HEALTH/WELL-BEING AT THE FACULTY OF AGRICULTURE</b> .....	18
<b>APPENDIX B. FORUM AGENDA</b> .....	19
<b>APPENDIX C. PRESENTER AND PARTICIPANT BIOS</b> .....	23
<b>APPENDIX D. LIST OF ATTENDEES</b> .....	34

## EXECUTIVE SUMMARY

There are many organizations around the globe currently weighing in on the discussion surrounding the links between agriculture, food and health. The volume of related publications and events has exploded in recent years as the public develops a greater awareness of the links between food and health and as stakeholder concern over the rising cost of an unhealthy population increases.

*Cultivating Agriculture, Food and Health* gathered key players from the Atlantic region to explore the ways in which our agricultural and food systems can be re-invented to improve the health of Atlantic Canadians. It was designed as a multi-sectoral forum that would bring these key stakeholders together for discussion and critical analysis. The driving force behind this forum was the recognition that while food and nutrition are linked firmly to health, there is still work to do in order to bring agriculture and primary food production into the discussion. The desired outcome was a sharing of the interests of key stakeholders and the identification of strategic actions that could result from collaboration.

This post-forum report summarizes the material presented and presents a list of possible actions discussed by the participants. The presentation themes were varied and thus showed the multi-dimensional nature of the topic and the challenges faced when problem solving at a cross-sectoral interface. The challenges in supplying Atlantic Canadians with the nourishment they need to survive and thrive were outlined and analyzed from many dimensions. The topics covered included the current status of health in the region, our current food production systems, the role of innovation and technology in future food, and the complexity of consumer behavior.

The evaluations indicated that although participants clearly appreciated the opportunity to come together to discuss the broad issues in agriculture, food and health, they would have liked the opportunity for more dialogue on this important topic. Also, in the facilitated discussions there was a strong indication that these key stakeholders are looking to government to take a leadership role in effecting change for the health of Atlantic Canadians through policy and programs in agriculture, health and education. The need for multi-sectoral collaborations and action by NGOs, organizations, citizens and consumers appeared to be the next largest categories of recommendations from the forum.

## A. FORUM OVERVIEW

### Rationale

*“The creation of new ideas within one field may be limited, but opportunities to innovate are multiplied when players from different fields intersect.”*

*Frans Johansson, The Medici Effect*

Many individuals and organizations have recognized that there are a number of problems that have arisen from the disconnect between agriculture, food and health. Countries must now contend with rising rates of obesity and chronic disease, yet in many countries, hunger and malnutrition remain, despite the scientific and technological accomplishments of our agricultural and food systems. Problems of food security and food access persist in all countries, and the now global nature of our environmental problems poses an added challenge to all regions and ecosystems. Our agriculture and food production systems are in the paradoxical position of being integral and part of these problems, and at the same time the most vulnerable to their consequences.

Within our communities there are countless individuals and groups - from our agriculture, nutrition and health professionals to community garden groups, healthy eating groups, and food security and policy networks - that are working to bring agriculture, food and health closer together so that everyone can enjoy access to safe, nutritious food. The volume of related publications and events has exploded in recent years as the public develops a greater awareness of the links between food and health and stakeholder concern over the rising cost of an unhealthy population has increased. But everywhere around the world people remain optimistic that the solutions to these problems are within the potential of our agricultural and food systems, and within the potential of the expertise that we hold in our institutions, our communities, and our societies. Most importantly, they remain optimistic that a collective re-visioning of agriculture, food and health will not only solve problems, but will also create opportunities for the agriculture and food system to better contribute to good nutrition and disease prevention around the world. **Appendix A** outlines the recent work Dalhousie University, (and previously NSAC), has initiated in this area.

Within this context, *Cultivating Agriculture, Food and Health* gathered key players from the Atlantic region to explore the ways in which our agricultural and food systems can be re-invented to improve the health of Atlantic Canadians. The driving force behind the idea was the recognition that while food and nutrition are firmly linked to health, there is still work to do in order to bring agriculture and primary food production into the discussion. Over 60 participants, speakers and committee members gathered at the Agriculture Campus in Truro, NS, from June 19-21 to work towards the outcome of a healthier Atlantic Canada. The format included presentations and open discussions to address key questions around the forum themes.

## Forum Concept

The forum delivered a demanding, high-value schedule of presentations and discussions from leaders in their fields (**Appendix B**). There was a considerable effort to: (1) provide a well-rounded representation of the opportunities and challenges for the intersection of agriculture, food and health; and (2) provide an opportunity to work with influencers from across sectors to more effectively collaborate and move initiatives forward. Also, to provide the right environment for professionals to build working relationships, thought-provoking presentations were balanced with facilitated discussions.

The forum was founded on the premise that real change can only occur as a result of a structured and systematic approach. Therefore, the forum concept includes a commitment to post-forum follow-up and support, to help participants formulate and then implement ideas and strategies generated in the forum. Section C contains a summary of the ideas brought forward and suggested next steps.

## Themes & Key Questions

The program was designed with the following outcome as the goal:

*“At the end of the forum the participants will be able to identify actions to better link agriculture, food & health, with a focus on improving outcomes for Atlantic Canadians.”*

To work towards this outcome, speakers and participants were asked to address key questions around the forum themes. Participants then worked in facilitated sessions to bring their own perspectives and expertise to bear on the key questions:

### ***Challenges & Opportunities for Agriculture, Nutrition and Health:***

- *What are the current issues and linkages between agriculture, nutrition and health in Atlantic Canada?*
- *What are the opportunities for agriculture to have a more positive impact on human health?*
- *Can the use of technology and innovation help ensure agriculture and food production support better health outcomes?*

### ***The Power and Implications of Choice:***

- *How do choice and values influence agriculture, food and health outcomes?*
- *How can personal, organizational and institutional choice be used to improve the linkages between agriculture, food and health?*

### ***Moving Forward:***

- *What changes are needed to better link agriculture, food and health to bring about improved outcomes for Atlantic Canada?*

## B. THE FORUM

### Summary of Presentations and Discussions

The schedule delivered a host of high-calibre presentations and discussions from leaders in their fields. Representatives from all sectors of agriculture, food and health were on the docket and their experience and professional roles were as varied as the topics discussed. For a complete list of biographies of all committee members, presenters and discussion moderators, please see **Appendix C**. It should be noted that when putting the agenda together, the committee approached many potential presenters in nutrition and dietetics and also in primary production; however because of competing demands during the week of the forum, we were not successful in attracting these individuals.

The speakers and panelists were given the challenging task of guiding the group in a three day exploration of how our agricultural and food systems might be re-invented to improve the health of Atlantic Canadians. Although the schedule did not permit blocks of time for each key question, the speakers and panelists did an exceptional job of interweaving the forum's themes into the various talks and discussions. The summary below presents an overview of how the themes evolved over the three days and wherever possible, the presentation files were uploaded to the event website at [www.dal.ca/exl](http://www.dal.ca/exl).

#### Day 1 - Morning

The first speakers provided a broad, but also highly specific, overview of the issues and linkages between agriculture, food and health in Atlantic Canada and elsewhere.

To start the program, Leslie MacLaren reviewed some of the challenges and opportunities for linking agriculture, food and health, and the key questions to be addressed in the forum. She was followed by Frank Atherton, who focused the discussion on the status of health in Nova Scotia, including a discussion of the "Thrive" initiative as an example of efforts to reverse the trends. He then examined the links between food policy, health and agriculture and ended with a summary of the specific types of linkages we will need in the future: for supply- and demand-side action, building a health promoting environment, educating and empowering consumers, tackling anti-health products and messages, and tracking health indicators.

Phillip Lee Wing then took the discussion to the processing industry for a look at the history of food product development as it relates to consumer trends in nutrition and health. He also reviewed for the group the major trends that will impact product development for nutrition and health in the future, how these relate to the demand for specific products, and the challenges they present for a food industry tasked with responding to nutrition, health and consumer demand shifts. Gregg Curwin then zeroed in on the issues from an individual innovator's perspective. Speaking as someone who has

had a long history consulting for – and trying to effect change in – the health system, his insights covered the multiple dimensions of good health as well as the broad spectrum of current problems in the system and the technology his company is developing to bring healthier food to individuals. The innovation theme continued over lunch with a virtual tour of the Perennia Innovation Centre with Shane Petalakis. The tour highlighted the centre’s potential to harness the region’s innovation and scientific expertise to produce new health products and value chains, with examples from some of the successful projects currently underway at the centre.

## **Day 1 - Afternoon**

The first speaker of the afternoon - Jordan L. LeBel - shifted the focus to questions of choice, with an overview of the food retail landscape and how it is rapidly changing, and how it presents some rather large challenges for linking agriculture, food and health: targeting consumers, food choice literacy, and improving messaging and reach. Focusing on the supermarket as an avenue for facilitating dietary behavioural change, he then presented, with current examples, of how these challenges have been managed in successful product development and marketing strategies.

The first of the forum’s three panel’s was then given the challenging task of addressing the questions “What are the challenges and opportunities of feeding an increasing global population?” and “Is there potential for agriculture to have a more positive impact on human health in the process - regionally and globally?” The panelists – Derek Lynch, Claude Caldwell, Bruce Rathgeber, Eric Ritchie, and Jim Duston – represented perspectives from the organic, cereals and oilseeds, poultry, potato and organic sectors respectively. The group did an exceptional job of encapsulating the challenges and opportunities faced by our agricultural systems. Although there are global challenges faced by agriculture everywhere (land and soil degradation pressures, a lack of understanding of agriculture, the need for low carbon agriculture, and the need to balance the sustainable intensification with fairness in food systems), there are also huge opportunities. These include the enhancement of secondary metabolites and antioxidants and reduced pesticide residues through organic practices; the development of further-processed products from eggs and exploring the potential for their nutritional modification; and the production of high-quality protein and omega-3 fatty acids and the generation of rural economic activity from aquaculture. Challenges will include the prudent use of antimicrobials in poultry production and the control of pathogens to reduce food safety risks in poultry products, as well as developing a science-based approach to resolving controversies and developing best practices. Example of the latter were illustrated in a discussion of the current controversy around the perceived threats of aquaculture to coastal ecosystems and initiatives to bring a science-based approach to issues in potato production.

The first day ended with another expert panel, this one presenting views on whether the use of technology and innovation can help ensure agriculture and food production support better health outcomes. The panel – consisting of Raj Prithviraj, Chibuikwe Udenigwe, Vasantha Rupasinghe, and Shane Petalakis – represented perspectives from both applied research and business/innovation incubation support. Emphasizing the need for a paradigm shift in medicine from a “Medical Model” to a “Preventive model,” they then highlighted the tremendous potential for agriculture and food to help sustain that model. Using specific examples of how science is uncovering the links between food and health, the panel members also showed exciting examples of how these discoveries are being translated into consumer products and health interventions that can yield potential opportunities for agriculture. Some areas of challenge and opportunity highlighted include new fruit crops and cultivars; value-added food products; health food ingredients and additives; the development of natural health products with specific health claims; and novel fruit processing technologies to preserve bioactives.

## **Day 2 - Morning**

To begin Day 2, Steven Dukeshire returned to questions of choice and how the individual interacts with a food system in which some foods – particularly high calorie foods – have been subsidized and the food industries wield considerable political power and control over how we think about food. Steven provided compelling explanations of how consumers consider price over other factors when choosing food and how they are also socialized to take charge of their own health and well-being. This has led to the development of an “orthorexic society” in which our need to “eat correctly” conflicts with the information we receive from the food system.

Laurette Dubé’s presentation provided an inspiring overview of the possibilities for linking agriculture, food and health through the “nudge innovation” and “paths of convergence” models. Starting with a definition of eating as “a simple behavior whose determinants operate on different scales, and are woven into the fabric of everyday life,” she then went on to review strategies and case studies of how to get people to say yes to healthier choices. Her presentation called for the need to go beyond industrial models of innovation to engage divergent stakeholders to “effect meaningful transformation at all levels and to simultaneously achieve humanitarian and economic goals through a convergence of technological, organizational, social and institutional innovation.” Critical also in this model is the need for the process to “enable different types of actors to work independently as well as collaboratively toward well-integrated, time-bound, targeted, and achievable goals, and on a sustained, real-world basis, rather than only in conferences and workshops.”

Brian Rankine’s lunchtime address took participants through Capital Health’s journey from a position statement and district-wide healthy eating strategy in 2005, to a fully integrated choice initiative that goes beyond traditional policy and strategy to incorporate

educational initiatives as well as features such as a small urban farm and an on-site farmers market. One of the challenges they faced was the reality that it was not possible to have a healthy food only policy and a balanced operational budget, so they had to decide to invest in healthy food as an institution, and accept that traditional cost-recovery models might never fully justify that decision. Opportunities Brian identified for moving forward in that model include: removing current barriers to local products use; implementing provincial healthy eating policies for healthcare centres; defining healthy eating requirements with agriculture; educating consumers; committing to growing agriculture with consumers; and influencing health indicator trends.

## **Day 2 – Afternoon**

The afternoon panel was charged with leading discussion on the questions “What are some of the gaps between what consumers want and need?” and “What is advisable or possible?” Panel members included Ji Lu, a university researcher in food choice, Christine Johnson, representing Activating Change Together for Community Food Security, Edith Callaghan, representing the Nova Scotia Food Policy Council, and Phil Ferrero, representing the Institute for Bioregional Studies in PEI. The group presented a concise, but wide ranging, overview of the gaps and realities, which include: the reality of consumers as “naughty,” and not necessarily prepared or inclined to make healthy choices; problems with pesticide use and the associated disease risks; rising rates of obesity and chronic disease; increasing corporate control; the need to transform from a medical system to a preventative system; and the need for new models of corporate social responsibility. The discrepancy between the cost of a healthy food basket and the financial abilities of those in lower income households was also identified as a major gap between nutrition and reality. Opportunities for closing the gap include localism, organic, fresh, vegetarian and ethnic foods, food as medicine, urban gardens, and food policy councils.

To close the day, Dinand Ekkel provided the group with a European view of the possibilities for connecting and re-connecting Agriculture, Food and Health. After reviewing the familiar challenges in this area (intensive agriculture, chronic disease, increasing urbanization and decreased time for meal preparation), he posed the overarching challenge as “to develop, plan and realize new healthy and sustainable urban areas in which interaction with the green environment (nature, food) is the basic way of ‘being.’” Facing these challenges has brought academic program innovations that incorporate nature, the economy, the environment, health and urban issues, as well as applied research on the interaction of the green ambit on the nature and well-being of people. The key message was that Europe has only just begun to think about how to feed cities in a sustainable way, and that the entire spectrum of possibilities will need to be incorporated if that goal is to be realized. Within a framework that sees the dimensions

of health as chemical, physical, psychological, spiritual and social, the future will be one of “greening the city, feeding the city, energizing the city, and healthyng the city.”

## **Day 2 – Evening**

The second day ended with a special public talk by Ellen Gustafson on the theme “*Change Dinner, Change Health, Change Atlantic Canada.*” Co-Founder of Food Tank: The Food Think Tank, Ellen was well-credentialed to lead discussion on the wide ranging political, social and economic issues surrounding the disconnects between agriculture, food and health. Starting with the necessity for changing health by changing dinner, she went on to show how making better food purchase choices can have an impact on how food is both produced and consumed. She shared examples from a large international repertoire of grass roots initiatives linking agriculture food and health - from farmer’s markets to food banks to re-purposing KFC restaurants. The audience – a mixture of forum participants, university students, faculty and staff, community members and local food activist groups – remained for an engaging and open discussion with the presenter and each other.

## **Day 3 – Morning**

The opening talk of the third morning continued with an extension of Ellen Gustafson’s insights into the political, social and economic issues surrounding agriculture, food and health and examples of the many initiatives that are underway around the globe to connect these three spheres. Like the previous evening’s talk this was an open discussion, with participants learning from the work of others and examining with Ellen the realities and possibilities of food bank initiatives, urban agriculture, and farmers’ markets, as well as how to bring commercial agriculture into the discussion in a meaningful way. The final talk of the program, it provided the bridge between the presentations/panels and the final facilitated session to address the next steps.

## **Attendees**

The forum attracted an impressive list of change-makers and influencers from the Atlantic region. Several attendees could only participate for a single day, but the majority stayed for the entire event, with some choosing to stay even though they had not originally intended to do so.

A complete list of attendees willing to share their contact info is included in **Appendix D**. Attending the forum was a mix of government representatives, academics, community group representatives, agricultural organizations, consultants and students. It should be noted that both the organizers and the participants were appreciative of the

representation from the health sector and from other Atlantic provinces, but had been hoping for stronger sector and regional representation. Also, because of the timing, the forum did not attract any individual agricultural producers. Solutions to address these issues will be explored in further consultations.

**Table 1.** Breakdown of attendee demographics.

<b>Attendee by Region</b>	<b>Organizations Represented</b>	<b>Gender</b>
Nova Scotia	Government- federal and provincial, academia, community groups, agricultural organizations, consultants and students	7 Male 23 Female
Prince Edward Island	Federal government, Holland College, NGO & agricultural organization	3 Male
New Brunswick	Dept of Health Employee	Female



## Evaluation Summary

Participants were asked to fill out evaluation forms at the end of each day of the forum. Responses were analyzed for each day in order to get a feel for participant satisfaction as the event progressed. The feedback was overwhelmingly positive with great suggestions for how to improve a future event or what next steps are required for change. A selection of representative comments are presented in Table 2:

**Table 2.** Selected Comments from AFH Forum Participants.

What Participants Liked:	Suggestions for Improvement:
<ul style="list-style-type: none"> <li>•Great speakers and topics</li> <li>•Great to see a forum with all of these players together- excellent 1<sup>st</sup> step!</li> <li>•The discussion was great- standing on the previous day's topics, it felt as if real progress was made.</li> <li>•I came with fairly good understanding of these issues and was pleased to hear them being discussed by wider than usual range of stakeholders.</li> <li>•Great session! Love vision of bringing together sectors. Kudos to Dal Agriculture for starting this conversation.</li> <li>•Today was very informative, and leaves me excited knowing there is this group of dedicated enthusiastic people ready to lead.</li> </ul>	<ul style="list-style-type: none"> <li>•There were lots of presentations. Would like to see more opportunities for table discussions.</li> <li>•More introductions and background provided of participants</li> <li>•More opportunity for dialogue</li> <li>•Speakers had to come and go but it would have been nice to have more time with them.</li> <li>•Need to have more in-depth, diverse discussions which time did not permit</li> <li>•Thank you so much for the opportunity to come together for these conversations. The presenters and presentations were excellent! The only suggestion I would offer is more opportunity to dialogue between speakers. There was a lot of experience and knowledge in that room that could have been explored more fully.</li> </ul>

From the evaluations, it is evident that participants valued the information they received, are engaged in the idea, and want more of an opportunity to collaborate and work across sectors to address the challenges and opportunities. However, because of the many dimensions of the issues surrounding such a large topic, the schedule was heavy with presentations. Many of the evaluations alluded to this and also to the fact that more time for dialogue and discussion would have been appreciated. As this was an introductory event meant to skim the surface of the issues and opportunities, it is hoped that the desire to delve deeper will ignite the opportunity to keep the momentum going for future collaborations. Participants very much appreciated the expertise of the presenters, which is in fact the reason why they would have appreciated more of a chance for open dialogue.

## FORUM OUTCOMES & NEXT STEPS

### Agriculture, Food, & Health - Taking Action

The “Taking Stock” and “Taking Action” sessions yielded promising possibilities in actions and initiatives that could be pursued as a result of the forum. These are summarized and categorized by sector or stakeholder group in Table 3. Also included in the table are possible Dalhousie University Faculty of Agriculture follow-up actions and initiatives.

It should be noted that in some cases, participant input was re-phrased as possible actions, at the discretion of the AFH planning committee. Where partnerships are needed, this was also noted. This categorization of actions was based on the interpretation of the planning committee and may not be precisely how the participants would categorize strategic directions. The committee recognizes that some actions could be placed in a number of categories; however, single-category designations were thought to give a more clearly defined starting point for identifying possible follow-up.

Clearly from the table, the emphasis was on the role of government – whether it is an enabling or disabling force for connecting agriculture, food and health for healthy communities and healthy agriculture. The need for multi-sectoral collaborations and action by NGOs, organizations, citizens and consumers appeared to be the next largest categories of recommendations from the forum.

**Table 3.** Summary of Suggested Actions and Initiatives.

<b>Sector or Group:</b>	<b>Possible Actions or Initiatives:</b>
<b><i>Government – Agriculture: Policy &amp; Programs</i></b>	<ul style="list-style-type: none"> <li>• Institute a Department of Food</li> <li>• Second government staff to other depts. and outside partners (academia, NGOs)</li> <li>• Articulate policies for healthy agriculture (economic, ecological/environmental, social, etc.)</li> <li>• Devise plans for tax credits and insurance rebates for healthier purchases</li> <li>• Support “Choose Atlantic for Health” – with Organizations</li> </ul>
<b><i>Government – Agriculture: Farm/Industry Initiatives</i></b>	<ul style="list-style-type: none"> <li>• Devise systems to support the food to distribution chains</li> <li>• Partner with industry groups to rebuild local processing systems to support producers of all sizes</li> <li>• Invest in local ag. in partnership with NGOs/CEDEFs (e.g. pensions, farm bank)</li> <li>• Foster young/new farmers through mentorships, apprenticeships and professionalism</li> <li>• Provide support, with organizations/NGOs, for small and/or cooperative processors</li> </ul>

<b>Sector or Group:</b>	<b>Possible Actions or Initiatives:</b>
	<ul style="list-style-type: none"> <li>• Reduce crop insurance premiums for farmers who embark on sound soil management (e.g. Increased organic matter)</li> <li>• Opportunities for increasing localism, organic, fresh, vegetarian and ethnic foods, food as medicine, urban gardens, and food policy councils.</li> </ul>
<b>Government – Health</b>	<ul style="list-style-type: none"> <li>• Develop programs where doctors can prescribe fruits and veggies</li> <li>• Partner with producers, farmers’ markets to foster locally focused systems through institutional buying (e.g. capital health model)</li> <li>• Develop dietetic intern programs</li> <li>• Develop policies for food prescriptions, hybrid pharmacies, local food biofortification</li> <li>• Articulate what is needed in the medical curriculum concerning food/nutrition</li> <li>• Educate consumers on health options, the power of choice, citizenship and consumer power</li> <li>• Encourage breastfeeding – work with Health Canada to promote tools like Mama Milk Tatamagouche example</li> </ul>
<b>Government – Education</b>	<ul style="list-style-type: none"> <li>• With agriculture &amp; health, collaborate on education &amp; support schools; topics would be food as a right, farm-to- fork, curriculum for school gardens</li> <li>• With agriculture &amp; health, develop food plans for schools, gleaning programs (u-pick, school students), and school and community farms</li> <li>• Develop a Teacher Ed certificate in Ag, Food &amp; Science</li> <li>• Help kids participate in cooking &amp; eating communally</li> <li>• Develop free school lunch programs tied to school gardens</li> </ul>
<b>Multi-sector Systems</b>	<ul style="list-style-type: none"> <li>• Leverage social media data to find out what’s happening in the Atlantic Region –work with NGOs</li> <li>• Come together to find better mutually beneficial arrangements and collaboration</li> <li>• Articulate the value of healthy eating to society</li> <li>• Research Wholesome Wave ideas (coupons for fresh veggies; Rx for fresh veggies; local investment)</li> <li>• Develop market access mobile applications (PEI example)</li> <li>• Invite partners to participate in cross-sector dialogue to continue these purpose-driven conversations</li> <li>• Devise data sharing systems and practices so colleagues across Atlantic Provinces – governments and universities, with industry and community groups can be informed and collaborate on outcomes</li> <li>• Plan a strategy to engage in supply management discussions</li> <li>• Convene different types of actors to work independently as well as collaboratively toward well-integrated, time-bound, targeted, and achievable goals, and on a sustained, real-world basis, rather than only in conferences and workshops</li> <li>• Remove current barriers to local products use; implement provincial healthy eating policies for healthcare centres; define healthy eating</li> </ul>

<b>Sector or Group:</b>	<b>Possible Actions or Initiatives:</b>
	<p>requirements with agriculture; educating consumers; commit to growing agriculture with consumers; and influence health indicator trends.</p> <ul style="list-style-type: none"> <li>• Inspire/enable consumers to be more prepared or inclined to make healthy choices; consider pesticide use and the associated disease risks; collaborate to mitigate rising rates of obesity and chronic disease; discuss findings and implications of increasing corporate control; help transform from a medical system to a preventative system; and develop new models of corporate social responsibility</li> <li>• bring into the discussion in a meaningful way commercial agriculture, urban agriculture, food bank initiatives, and farmers’ markets</li> </ul>
<b>NGOs, Organizations, Citizens, &amp; Consumers</b>	<ul style="list-style-type: none"> <li>• Campaign for consumers to engage with the food systems</li> <li>• Farmworks to continue to raise money and invest</li> <li>• Develop community cooking education program</li> <li>• In partnership with government, develop family meal-a-week campaign to overcome “time poverty”</li> <li>• Identify weaknesses and devise enhancements to a better system and ensure it is an election issue</li> <li>• Make food a topic to be discussed as being of political and social and economic importance.</li> <li>• Research venture funds for start-ups (e.g. farm bank in PEI)</li> <li>• Buy local, organic</li> <li>• Shareholders ensure they have impact by holding companies, government to account.</li> </ul>
<b>University</b>	<ul style="list-style-type: none"> <li>• Develop curriculum (e.g. Food, Business &amp; Society), conduct related research, educate on strategies and stages of social change for the public good</li> </ul> <p><b>Specific Dalhousie Faculty of Agriculture Actions:</b></p> <ul style="list-style-type: none"> <li>• Convene a multi-sectoral working group to examine projects with the potential to yield commercial agricultural, economic, and health benefits</li> <li>• Continue to educate on the importance of, and intersections between, agriculture, food, health and more broadly, wellbeing; this necessitates considering individual &amp; community prosperity, vibrancy, sustainability &amp; resiliency</li> </ul>
<b>Research</b>	<ul style="list-style-type: none"> <li>• Research barriers to healthy choices and healthy eating</li> <li>• Research agriculture and food importance and role they play in society</li> </ul> <p><b>Specific Dalhousie Faculty of Agriculture Actions:</b></p> <ul style="list-style-type: none"> <li>• Continue research and development to inform all aspects of healthy food production and distribution and accessibility</li> <li>• Continue research and developments in biofortification and innovations in health enriching foods</li> </ul>
<b>Producers, Business</b>	<ul style="list-style-type: none"> <li>• Adopt environmentally healthy practices</li> <li>• Shift from primary production to value-added</li> </ul>

Sector or Group:	Possible Actions or Initiatives:
<b>&amp; Industry</b>	<ul style="list-style-type: none"> <li>• Define what a fair return is</li> <li>• Build healthy food value chains</li> <li>• Strengthen communication opportunities and channels with managers of grocery stores</li> <li>• Develop programs to rebate health insurance for fruit and veggie producers</li> <li>• Evaluate the Wisconsin example of reduced health premiums for CSA members</li> </ul>

### Post-Forum Follow-up

The forum was a valuable first step and provided a solid basis for future action. However, the large number of actions/initiatives suggested and the breadth that they would cover, indicates that a further “paring down” to specific, manageable actions might be useful. To assist in the effort to focus valuable resources and provide tangible activities for stakeholder follow-up, the AFH organizing committee is orchestrating a brief follow-up survey of the participants. The results of this concise survey is meant to provide interested stakeholders with data for further analysis of the issues, and for the identification of specific actions or initiatives. The results of the survey will be shared with forum participants and event sponsors as a resource for organizational project planning.

## ACKNOWLEDGMENTS

### Organizing Committee

Rosaria Campbell  
Jolene MacEachern  
Dr. Leslie MacLaren

### Faculty of Agriculture Program Committee

Rosaria Campbell	Curriculum Coordinator
Linda Jack	Instructional Systems Designer
Dr. Kathleen Kevany	Director of Extended Learning and Assistant Professor
Dr. Ji Lu	Assistant Professor
Dr. Derek Lynch	Associate Professor
Jolene MacEachern	Program Manager
Dr. Leslie MacLaren	Associate Dean Academic ( <i>on leave</i> ) and Professor
Dr. Balakrishnan Prithviraj	Associate Professor
Dr. Vasantha Rupasinghe	Associate Professor
Dr. Chibuikwe Udenigwe	Assistant Professor

The generous support of the following sponsors is greatly appreciated:



## **APPENDIX A. MORE ON AGRICULTURE, FOOD AND HEALTH/WELL-BEING AT THE FACULTY OF AGRICULTURE**

The Cultivating Agriculture, Food and Health forum evolved through of a number of related initiatives at the Faculty of Agriculture (formerly NSAC):

In 2010, Co-president and Vice President Academic of the former Nova Scotia Agricultural College, Dr. Leslie MacLaren, served on the Canadian Agri-Food Policy's Leadership Panel on Food and Wellness, in turn generating commitment to link agriculture, food and wellness for the benefit of Canadians. In 2010, Extended Learning (then Continuing and Distance Education) further identified Agriculture, Food and Health as a key area to pursue through an environmental scan of topics of upcoming importance to agriculture and adult learning.

In 2011 the Faculty of Agriculture (then NSAC) hired Dr. Kathleen Kevany as Director of Adult Learning. Part of her portfolio was to conduct wider consultations and to develop a vision for faculty research, teaching and service in agriculture, food and health. The initial draft of this vision – which was expanded to Agriculture, Food and Well-being to reflect broader dimensions of individual, community and societal health - was completed and circulated in 2012.

In the summer of 2012 Extended Learning, with partial funding from the faculty administration and the Canada Summer Jobs program, funded two summer students – Jacob Soley and Jie Ma – to assist in research in Agriculture, Food and Health/Well-being. The research was broadened to include pilot studies on dimensions of community well-being in two Nova Scotia communities, one-on-one interviews, an online survey and an interactive Facebook page.

Also in the summer of 2012 Dr. Leslie MacLaren, Associate Dean, Academic, convened a planning committee to look into potential program offerings in Agriculture, Food and Health. The committee reviewed several models, and settled on this condensed format as an initial non-credit offering, along with a special topics graduate module in which students could attend the forum as a core activity.

In 2013 a faculty team received funding to develop an upper level course in Agriculture, Food and Well-being. The Faculty of Agriculture also applied for funding to support a research consortium in this area.

There are a number of faculty members that work on specific aspects of agriculture, food and health and agriculture food and well-being. Our forum committee members - and others at the faculty - work in areas such as bio-products, functional foods and nutraceuticals, consumer and societal choice, and agricultural production practices as they relate to health and well-being. Dr. Leslie MacLaren, the forum chair, is currently focusing on linking agriculture, food and health across sectors for the benefit of society.

## APPENDIX B. FORUM AGENDA

**Wednesday, June 19 2013**

**Riverview Room, Jenkins Hall, Dalhousie Agricultural Campus**

8:15- 9:00 a.m.

Participant Registration

- 8:30 a.m.      *Opportunities & Challenges for Agriculture, Food and Health*  
Dr. Leslie MacLaren, Professor, Dalhousie University
- 9:00 a.m.      *Health in Atlantic Canada: Issues & Directions*  
Dr. Frank Atherton, Deputy Chief Medical Officer for Health, Nova Scotia
- 10:00 a.m.     Refreshment Break
- 10:15 a.m.     *Value-added Food Product Development: Science, Consumer & Industry Challenges*  
Dr. Phillip Lee Wing, President, Canadian Institute of Food Science & Technology
- 11:15 a.m.     *An Innovator's Perspective*  
Gregg Curwin, President and CEO, TruLeaf Sustainable Agriculture Ltd.
- 11:45 a.m.     *Morning Wrap-up*  
Dr. Leslie MacLaren, Professor, Dalhousie University
- 12:00 p.m.     Lunch – Sponsored by the Dean's Office, Dalhousie Faculty of Agriculture  
*Introduction and Virtual Tour of Perennia Innovation Centre*
- 1:00 p.m.      *Communications and Marketing Challenges of Connecting Agriculture, Food and Health in Today's Cacophonous Hypermediatized Environment*  
Dr. Jordan L. LeBel, Associate Professor, John-Molson School of Business, Concordia University, Montreal
- 2:00 p.m.      Open Discussion: Ag & Food Systems Challenges & Opportunities for Health
- *What are the challenges and opportunities of feeding an increasing global population?*
  - *Is there potential for agriculture to have a more positive impact on human health in the process? Regionally and globally?*

Dr. Derek Lynch, Associate Professor, Dalhousie University (Chair)  
Dr. Claude Caldwell, Professor, Dalhousie University  
Dr. Bruce Rathgeber, Agriculture and Agri-Food Canada  
Mr. Eric Ritchie, Agriculture Manager NA - Corporate Social Responsibility, McCain Foods  
Dr. Jim Duston, Professor, Dalhousie University

3:30 p.m. Refreshment Break

3:45 p.m. Open Discussion: Ag, Food and Health in the Future

- *Can the use of technology and innovation help ensure agriculture and food production support better health outcomes?*

Dr. Raj Prithiviraj, Associate Professor, Dalhousie University (Chair)  
Dr. Chibuikwe Udenigwe, Assistant Professor, Dalhousie University  
Dr. Vasantha Rupasinghe, Associate Professor, Dalhousie University  
Mr. Shane Petalakis, Business Development, Perennia

5:15 p.m. Day 1 Wrap-up  
Dr. Leslie MacLaren, Professor, Dalhousie University

## **Thursday, June 20 2013**

**Riverview Room, Jenkins Hall, Dalhousie Agricultural Campus**

8:45 a.m. Day 2 Check-in and Introduction  
Dr. Leslie MacLaren, Professor, Dalhousie University

9:00 a.m. *Social Influences on Food Choices & Habits*  
Dr. Steve Dukeshire, Assistant Professor, Dalhousie University

10:00 a.m. Refreshment Break

10:15 a.m. *Nudge Innovation and Paths of Convergence for Agriculture, Food, Health and Wealth*  
Dr. Laurette Dubé, Professor, Desautels Faculty of Management, McGill

11:45 a.m. Morning Wrap-Up  
Dr. Leslie MacLaren, Professor, Dalhousie University

12:00 p.m. Lunchtime Address  
*Our Journey to Healthy Food and What it Means for Agriculture*  
Brian Rankine, Director, Managed Services, Capital Health

1:30 p.m. Open Discussion: Nutrition, Agriculture and Reality: Barriers and Intersections

- *What are some of the gaps between what consumers want and need, and what is advisable or possible?*

Dr. Ji Lu, Assistant Professor, Dalhousie University (Chair)

Christine Johnson, Assistant Professor, St Francis Xavier University

Dr. Edith Callaghan, Professor, Acadia University & NS Food Policy Council Rep

Mr. Phil Ferrero, Institute for Bioregional Studies Ltd.

3:00 p.m. Refreshment Break

3:15 p.m. *Agriculture, Food and Health- A European Perspective*

Dr. Dinand Ekkel, Senior Researcher

CAH Vilentum University, Almere, The Netherlands

4:00 p.m. Facilitated Session: Taking Stock

Dr. Kathleen Kevany, Assistant Professor, Dalhousie University

- *What critical areas of importance are we seeing emerge in the discussions?*
- *Recognize the role of identifying shared values and challenging assumptions as critical for effecting change.*

5:30 p.m. Extended Learning Dinner & Social

7:30 p.m. Special Public Talk:

*Change Dinner, Change Health, Change Atlantic Canada*

Ms. Ellen Gustafson, Co-Founder of Food Tank: The Food Think Tank

## **Friday, June 21<sup>st</sup> 2013**

**Riverview Room, Jenkins Hall, Dalhousie Agricultural Campus**

8:45 a.m. *Day 3 Check-in and Introduction*

Dr. Leslie MacLaren, Professor, Dalhousie University

9:00 a.m. *Building Bridges: Lessons From Around the Globe*

Ms. Ellen Gustafson, Co-Founder of Food Tank: The Food Think Tank

- Learning from the work of others, brainstorm post-forum projects, activities and follow-up that will enable us to effect change in agriculture, food and health.
- Given limited resources, where do we focus?

10:45 a.m. Refreshment Break

11:00 a.m. Facilitated Session: *Taking Action*  
Dr. Kathleen Kevany, Assistant Professor, Dalhousie University

- *Building on Ellen's session, what are the crucial next steps to better link agriculture, food and health to bring about improved outcomes?*

12:30 p.m. *Forum Conclusions, Next Steps and Evaluation*  
Dr. Leslie MacLaren, Professor, Dalhousie University

## APPENDIX C. BIOGRAPHIES OF PRESENTERS AND PARTICIPANTS

### DR. FRANK ATHERTON

Dr. Frank Atherton is the Deputy Chief Medical Officer of Health in the Department of Health and Wellness, Nova Scotia. Frank graduated in medicine from Leeds University, UK and worked in hospital and primary care posts around the North of England for a number of years before undertaking voluntary work as a District Medical Officer in Malawi. On his return to the UK, Frank completed specialist training in Public Health Medicine in the Yorkshire Region and then worked on international health and development issues for the WHO and the UK Department for International Development in postings to the Former Yugoslavia, Tanzania, and Bangladesh. From 2002 to 2012 Frank worked as a Director of Public Health in Lancashire and from 2008 to 2012 he also acted as President of the UK Association of Directors of Public Health (ADPH). He holds honorary academic appointments at Dalhousie University (Adjunct Assistant Professor) and Lancaster University (Honorary Lecturer). Frank is passionately interested in addressing inequalities in health at the global, national and local level.



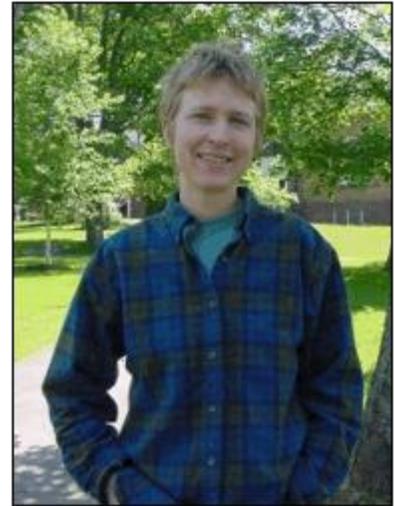
### DR. CLAUDE CALDWELL

Dr. Claude Caldwell is a professor in the Department of Plant and Animal Science in the Faculty of Agriculture, Dalhousie University and presently Acting Dean of the Faculty. By formal training he is an ecologist and plant biophysicist. However, he has been active in agriculture since 1980, when he started as a research scientist with AAFC in Alberta. He has particular expertise in cropping systems, new crop development and agroecology. Claude has more than 15 years of extensive international experience, including the provision of technical and facilitation services in training, extension and curriculum development under various projects in Cambodia, China, the Gambia, Vietnam, The Philippines, Jamaica, Trinidad and Tobago, Indonesia, Tanzania and Ethiopia. He presently teaches Agroecology at Dalhousie University and the Fujian Agriculture and Forestry University in Fuzhou, China. Recently, in co-operation with his colleague in China, he has published a textbook on *Agroecology in China*, which should be available in North America soon. His major research interest at present is on the development of camelina as the next big oilseed crop for Canada.



### **DR. EDITH CALLAGHAN**

Dr. Edith Callaghan is a Professor at the F.C. Manning School of Business, Acadia University. She teaches in the School of Business and in the Environment and Sustainability Studies program. Her focus is on business strategy, corporate social responsibility, ethics, sustainable community development, and community engagement. She is currently working on research projects that examine values-based food purchasing and understanding the power of community engagement for sustainable community development and rejuvenation. As an active community member she is a board member of The Center for Rural Sustainability, an advisor for FarmWorks, and the Chair of the Nova Scotia Food Policy Council. Edith has been trained and registered by Natural Step Canada as a Natural Step Associate.



### **ROSARIA CAMPBELL**

Rosaria Campbell works as a curriculum coordinator for Extended Learning at the Dalhousie University Faculty of Agriculture. In this role she is responsible for curriculum assessment, design and development for adult learning programs in agriculture and related fields. She also does program research, needs assessment and idea development for the Extended Learning group. Rosaria holds a B.Sc. Agr. in Animal Science from McGill University and an M.Sc. in Ruminant Nutrition from the University of Manitoba. Also a writer and editor, she holds a B.A. in English from St. Mary's University and is a member of the Writers' Federation of Nova Scotia.

### **MR. GREG CURWIN**

Mr. Gregg Curwin is an entrepreneur with over 20 years of experience in healthcare innovation industries, including medical devices, biologics, and health-related retail. He has consulted for hospitals and governments in the broad area of health design, with a recent focus on the role of food production in disease prevention. Gregg is a past board member of Partners for Care, and initiative of Halifax's Capital District Health Authority, and is a co-founder of the Food Alliance of Nova Scotia. He holds a Bachelor of Commerce from Saint Mary's University in Halifax.



### **DR. LAURETTE DUBÉ**

Dr. Laurette Dubé is Full Professor and holds the James McGill Chair of consumer and lifestyle psychology and marketing at the Desautels Faculty of Management of McGill University, which she joined in 1995. She is also the founding chair and scientific director of the McGill Center for Convergence of Health and Economics, a unique initiative to promote convergence between academic disciplines, innovations, and initiatives by individuals, communities, enterprises and governments at all levels to tackle the most pressing societal problem through systemic change. Her lifetime research interest bears on the study of effects and behavioral economic processes underlying consumption and lifestyle behavior and how such knowledge can inspire more effective health and marketing innovations. At the top of the discipline of marketing in Canada and among the world leaders in her areas of expertise, she has made outstanding theoretical contributions while working creatively and rigorously on issues of managerial and social significance. Laurette received her Ph.D. in marketing from Cornell University, Ithaca, New York, U.S.A. (1990). She holds a research career award jointly funded by the Canadian Institutes of Health Research and the Social Sciences and Humanities Research Council of Canada. She is a Fellow of the Royal Society of Canada.



### **DR. STEVEN DUKESHIRE**

Dr. Steven Dukeshire joined Dalhousie University (then NSAC) eight years ago where he teaches first year psychology and sociology. He is a born and raised Nova Scotian, who in the Maritime tradition, moved to Ontario to complete his education at the University of Waterloo before returning back home. His educational background is primarily in health psychology and decision making. Upon arriving at Dalhousie University (NSAC), he embarked on two separate research streams, one examining factors that influence food shoppers' decisions at point of purchase and the other examining alternative methods of food production and distribution. Recently, Steven's research has evolved to assessing the impact of the food system itself on consumer decision making and how the opacity of today's food system influences consumer thinking. In particular, he is interested in how purchasing a product without direct knowledge of where it comes from or how it is made involves a leap of faith and trust in the food system. Steven views front of package information, branding, and alternative food production systems as ways consumers may obtain the information they need to make informed dietary decisions and to (re)gain trust that the food they choose is healthy and safe.



### **DR. JIM DUSTON**

Dr. Jim Duston is a Professor in the Department of Plant and Animal Sciences at the Dalhousie University Faculty of Agriculture. He received his B.Sc. (Honours) in Applied Biology in 1982 from the University of Bath (UK), and his Ph.D. in Fish Physiology in 1987 from the University of Aston in Birmingham (UK). He came to Canada in 1987. Most of his research, which has been conducted in collaboration with commercial aquaculture industry, has been on the environmental physiology of salmonids and striped bass. Jim is the coordinator of the Aquaculture Centre at the Dalhousie University Agricultural Campus and teaches part of the B.Sc. (Agr.) Aquaculture Major program. He also serve on the editorial board of two respectable journals: *North American Journal of Aquaculture* and *Aquaculture*.



### **DR. DINAND EKKEL**

Dr. Dinand Ekkel studied Animal Sciences at Wageningen University. He graduated in 1988 and obtained his Ph.D. in 1996 at the Veterinary Faculty of Utrecht University, with a thesis on the behaviour and welfare of pigs. Afterwards he worked as a senior scientist at Wageningen University and Research Centre for many years. Since 2006 he has worked at the Professional University CAH Vilentum in Dronten and Almere, teaching Animal Welfare and Animal Health. He became Program Director of the educational innovation program “Green Knowledge for Citizens” and with this program he broadened his knowledge of the relationship between the environment and the health and wellbeing of humans. Since 2011 he has been Professor of the Chair for Natural and Healthy Living of CAH Vilentum Almere, studying the contribution of the green environment, food and animals to the health and wellbeing of humans.



### **MR. PHIL FERRARO**

Phil Ferraro has been serving as PEI ADAPT Council’s Executive Director since it was formed in 1999. He has over twenty five years of experience as an educator and leader in the fields of sustainable land use planning, community development, social enterprise, and ecological approaches to food production. His Masters degree in Social Ecology included a thesis on creating food and energy self-reliance in Northern climates, with studies in aquaponics, agriculture, sustainable community development and social responsibility. In 1995, he founded the Institute for Bioregional Studies Ltd. (IBS). The Institute offers consultation services in social responsibility and scenario planning, and sustainable community development. In 2012 Phil started “PEI Farm Works Investment Cooperative,” a social enterprise with a mission to connect local people to

investment opportunities that can help to increase sustainable, local food production and have a positive impact on the regional economy.

### **MS. ELLEN GUSTAFSON**

Ms. Ellen Gustafson is a sustainable food system activist, innovator and social entrepreneur. She is the Co-Founder of Food Tank: the Food Think Tank, a new organization that is highlighting innovative ideas in agriculture and food systems that help alleviate hunger, obesity and poverty.

As an early innovator in the social entrepreneurship field and now a system-change thought leader in the food movement, Ellen speaks to a new way to look at problems and solutions. Ellen founded the 30 Project and Change Dinner campaigns, which connected hunger and obesity issues over the dinner table and are now part of Food Tank. She is also the Co-Founder of FEED Projects, LLC, a charitable



company that creates consumer products which help feed the world, and Co-Founder and former Executive Director of FEED's non-profit partner, the FEED Foundation. Under Ellen's leadership, FEED provided more than 65 million school meals to children around the world—at no cost to them. Previously, Ellen was a U.S. Spokesperson for the U.N. World Food Program, a terrorism research reporter in the ABC News Investigative Unit and a research associate for the Military Fellows at the Council on Foreign Relations. She has a B.A. in International Politics from Columbia University and is pursuing a Master's Degree in Food Studies at New York University. Amongst her many public speaking accomplishments, Ellen has given multiple TED talks, keynoted to the Italian Parliament, lectured at Harvard, New York University, Columbia University, The U.S. Naval Academy, Feeding America, and Davos.

### **MS. CHRISTINE JOHNSON**

Ms. Christine Johnson completed her B.Sc. in Human Nutrition with Honours from St. Francis Xavier University (St.F.X.) in 2000. She went on to complete an M.Sc. in Applied Human Nutrition and the Dietetic Internship Education Program at Mount Saint Vincent University, graduating in 2004. Her thesis research focused on the capacity building experiences of women involved in participatory research related to the cost and affordability of a nutritious diet. Before returning to St.F.X. as a faculty member she worked as a research assistant and project coordinator with the Nova Scotia Participatory Food Security Projects, which she is still actively involved with today.



Christine's current research focuses largely on community-university partnerships for food security. Her research has been internally and externally funded and includes recent funding from the Canadian Foundation for Dietetic Research and SSHRC's CURA funding to co-lead Activating Change Together for Community Food Security (<http://www.foodsecurityresearchcentre.ca/cura/>). Christine is actively involved in many local,

regional and national nutrition and food security groups and was recognized for her leadership in community engaged scholarship by receiving the St.F.X. University Outreach Award in December 2008.

#### **DR. KATHLEEN KEVANY**

Dr. Kathleen Kevany has fulfilled wide ranging posts as the Director of cross-cultural organizations and community-building consortiums, such as Vibrant Communities. She has also been a Program Consultant in the Government of Ontario. Kathleen has focused her working life on the study and enhancement of human capabilities and compassion. She holds a Masters in counseling and cross-cultural relations and a Doctorate in community building and learning from the University of Toronto. She held a post-doctoral fellowship at the United Nations University in Tokyo and has taught at a number of colleges and universities. As an Assistant Professor in Business and Social Sciences with the Faculty of Agriculture at Dalhousie University in Truro,



Kathleen teaches Leadership and Social Action as well as a course in Communications and Conflict Resolution. She also is the Director of Extended Learning and Associate Director of the Rural Research Centre. Her recent research has been on factors that mediate rural well-being and she is conducting studies in shared actualization and social transformation.

#### **DR. JORDAN L. LABEL**

Dr. Jordan LeBel is an Associate Professor in the Department of Marketing at the John Molson School of Business (Concordia University) in Montreal where he teaches Food Marketing and Experience Design and Marketing. He is the director of the Luc Beaugard Center of Excellence in Communications Research. He draws from his past in the foodservice industry as inspiration for his research, which focuses on the role and definition of pleasure in consumers' food choices. Jordan is a founding member of Concordia's Food Culture Research Group and he is a member of the Concordia Centre for Sensory Studies. He writes the branded column "Parlons plaisirS" for *Le Must*, an independent French consumer-focused food magazine in Quebec. He is the co-spokesperson and head of the jury for the newly created DUX award program recognizing the food industry's efforts to move towards a healthier food supply. He has consulted on the development of national and local communication campaigns for food manufacturers both in Canada and in the United States. He has won numerous teaching awards, including the 3M National Teaching Fellowship. He co-developed and teaches the award-winning online course "Marketing Yourself." He currently serves as Vice-President of the Board of Directors of Youth Employment Services, a Montreal-



based non-profit organization that each year helps over 4,500 young people find employment and launch their career.

#### **DR. PHILLIP LEE WING**

Dr. Phillip Lee Wing is the President of The Food Development Group (FDG), a technical support and product development company located in Toronto. After graduating with a Ph.D. from the Food Science Department at the University of British Columbia, he joined CPC International, then later led a research group at Weston Ltd. in Toronto. With more than twenty five years in the food industry and over seventeen years as the owner of FDG, he has conducted projects for all types of companies in the food sector, ranging from multinationals to start-up entrepreneurs. He is the Chair of the Baking Association of Canada (Ontario Section), as well as the Past President of the Canadian Institute of Food Science and Technology (CIFST) National.



#### **DR. JI LU**

Prior to becoming a faculty member in the Faculty of Agriculture of Dalhousie University (formerly NSAC), Dr. Ji Lu received his Ph.D. in Marketing from McGill University in 2011. His research primarily focuses on food consumption and eating behaviours. In the context of healthy eating promotion, he has been studying social-cultural influences, personalities, lifestyles, and contextual and environmental factors that moderate consumers' food choice and eating patterns. Ji's research is rooted in psychological theories of food-related decision making, and he takes a "brain to society" approach in studying consumers' everyday food choices. One stream of his research has contributed to the understanding of the individual "brain" guiding food choice, including the perceptions, attitudes, emotions, and motivations that are related to eating behavior. Another stream of his work studied various social factors that influence eating patterns, including culture differences, dietary beliefs, lifestyle choices, and the marketing environment. Beyond the food consumption area, he is eager to extend his research to any lifestyle behaviors that are related to self-control and that may have health or societal impacts, such as increasing physical activity and cutting back household energy consumption.



## **DR. DEREK H. LYNCH**

Dr. Derek Lynch is an Associate Professor, and since 2005, Canada Research Chair (CRC) in Organic Agriculture at the Dalhousie University Faculty of Agriculture (DFA). Derek is currently president-elect of the Canadian Society of Agronomy. His academic and prior consulting career, experience in sustainable agriculture and resource management includes training in both agronomy (B.Sc., M.Sc. from McGill University) and soil science (Ph.D. from University of Guelph). Managing highly interdisciplinary and collaborative research projects has been a defining characteristic of Derek's very active CRC research program, which spans sectors as diverse as organic dairying, field crops and blueberry production. A significant proportion of his research is conducted in partnership with commercial organic farms and an assessment of the environmental or ecological impact of the production system is a common feature. His research has resulted in forty five peer-reviewed publications, invitations to deliver thirty five invited talks nationally and internationally, and completed or ongoing training of three postdoctoral fellows, five Ph.D. and ten M.Sc. students. Derek teaches on soil and nutrient management at the undergraduate and graduate level at DFA. He has served for many years on national sector committees such as the Organic Value Chain Round Table and was closely involved in the drafting of the Canadian certified organic production standards now referenced within federal regulations.



## **JOLENE MACEACHERN**

Jolene is spending 2013 in the temporary position of Project Manager for Strategic Initiatives with Extended Learning at the Faculty of Agriculture. She has taken on this role for a one year period to roll out several new initiatives for the unit including the delivery of an online skills training program and the coordination of Cultivating Agriculture, Food and Health. Also in development for the current year is business skills training for agricultural producers.

Jolene is a BSc graduate of the former Nova Scotia Agricultural College and is a member of the NS Institute of Agrologists. Her professional training includes conflict and program management and she is particularly interested in the role agriculture plays in Community Economic Development. Jolene and her husband own and operate a dairy farm in Glenholme, NS and are excited to provide their three children the opportunity to see what is involved in growing food for the world.



## **DR. LESLIE MACLAREN**

Dr. Leslie MacLaren is a professor in the Department of Plant and Animal Sciences, on administrative leave from the position of Associate Dean Academic in the Faculty of Agriculture, Dalhousie University. A reproductive physiologist, her more recent focus has been collaboration with other agricultural leaders and scientists addressing two broad objectives: linking agriculture, food and health across sectors for the benefit of society, and building our capacity in agriculture to mitigate the influences of climate change so that we may sustainably meet the world's food needs in future. Leslie was co-president and vice president academic of the Nova Scotia Agricultural College until its merger with Dalhousie University in 2012, a time characterized not only by complex governance change but also by student-focused improvements in academic services, high enrolment growth and internationalization of the campus. Prior to becoming VP Academic in 2005, she was the college's first Dean of Research. Dr. MacLaren has been a professor at the Truro campus since completion of her NSERC-Industry postdoctoral fellowship at the University of Guelph in 1994. Her university education began at Guelph with a B.Sc. (Agr.) in Animal Science in 1981, and then continued with an M.Sc. in Animal Genetics at the University of Alberta and a Ph.D. in Animal Physiology at the University of California, Davis.



## **MR. SHANE PATELAKIS**

In his 17-year career, Shane Patelakis has acquired a diverse range of experience in industry, government, entrepreneurship, technology development and mentorship. Shane has both a B.Sc. (Acadia, 1996) and an M.Sc. (Dalhousie, 1999) in Food Science and Technology. In 2006 he was awarded the Business Development Bank of Canada's Young Entrepreneur Award for most promising new start-up and West Jet's Creative Mind Award for Canada. In 2010 he became a Certified International Trade Professional through the Forum for International Trade Training (FITT). Shane began his professional career in 1998 as a Food Scientist at PEI's BioFoodTech Centre where he led more than 70 value-added projects ranging from value-added agri-bio/seafood projects to development of extraction processes for novel plant bioactives. In 2001, he was assigned to the Atlantic Canada Opportunities Agency where he performed project technical assessments during the first round of the Atlantic Innovation Fund. Shane was later seconded to various private international companies involved in the development and commercialization of valued-added seafood products, cosmeceuticals, and nutraceuticals, to assist them in establishing operations from Maritime Provinces. In 2004, Shane started up his own bio-science firm, Progressive BioActives Inc. As President and CEO, he led product research and development activities and raised more than \$3 million to commercialize a pilot production plant to produce the company's natural antibiotic replacement for livestock and aquaculture. In 2006, Shane acquired licensing rights to a novel USA nutraceutical spray-drying technology and raised over \$1.5 M to capitalize his second start-up, Maritime Pulse Drying Inc. (MPD). In 2009, as Senior Planning & Development Officer at the Nova Scotia Department of Agriculture, Shane was tasked



to develop and foster a business-focused approach to assist industry clients strengthen, fund and position themselves to capture new and expanding markets. In spring of 2012 Shane was seconded to the new Perennia Innovation Centre as the Director of Business Development to lead the integration of divisional business operations, the development of corporate policy, and the recruitment of tenants for their innovation suites.

#### **DR. BALAKRISHNAN PRITHIVIRAJ**

Dr. Balakrishnan (Raj) Prithiviraj is an Associate Professor and Plant Stress Physiology Research Chair at the Dalhousie University Faculty of Agriculture. He holds a B.Sc. in Agriculture from Annamalai University in India an M.Sc. and Ph. D. in Mycology and Plant Pathology from Banaras Hindu University in India. His research interests are in marine bio-products in plant and animal health, plant-microbe interactions, and natural anti-infective compounds, and his research collaborations include a number of industry, university and government researchers from Canada and the U.S. Raj has published widely in a number of international journals, has given presentations at, and participated in, many international conferences, and published three book chapters. He is a member of the Nova Scotia Institute of Agrologists, the American Association for Advancement of Science, the American Society of Plant Biologists, the Indian Phytopathological Society, and the Indian Society of Cell Biology.



#### **MR. BRIAN RANKINE**

Brian has worked for Capital Health in Halifax for 24 years, initially as Director Business Development and most recently as Director of Managed Services. His career included developing the not for profit entity “Partners for Care” (PfC) focusing on commercial and social enterprises. Under PfC the VG (Victoria General) Farmers Market was created four years ago and operates year-round every Friday. In summer it is located in the front of the Victoria General Hospital site. In winter it operates in the main cafeteria. Additional developments include the Mindful Mango Café located in Bayer’s Rd. Centre, providing “healthy food” while employing individuals living with mental health illnesses. In 2012, the Common Roots Urban Farm was founded at the former site of the QE High School. The primary objective of Common Roots is to teach people how to grow healthy food, particularly those whose income limits the purchase of healthy food. With now over one hundred and twenty plots and more to come, individuals and groups grow products with the aid of an onsite farmer and many volunteers. The Urban Farm team is now planning how to convert other green space into edible landscapes in the upcoming years. Brian also leads the transition to healthy food only within the district’s retail food operations. Healthy food is a primary element of healthy people.



### **MR. ERIC RITCHIE**

As Agriculture Manager North America, Corporate Social Responsibility for McCain Foods (Canada), Eric Ritchie is responsible for farm food safety and sustainability of raw agricultural commodities, including potatoes, onions, sweet potatoes and various other vegetable crops. A native of Bath, New Brunswick, Mr. Ritchie earned a Bachelor of Science degree in Agriculture from Dalhousie University in 1989. He is currently enrolled in a Master of Science in Sustainable Food Systems program from Green Mountain College in Vermont. Joining McCain Foods in 1989, Eric held a wide range of positions with the manufacturing group, from waste treatment to production and maintenance to plant services. In 1997 he joined the agriculture group as senior supervisor of Valley Farms. In 2004 he was promoted to extension agronomist. He transferred to McCain Foods USA, Inc. in 2007 as Agriculture Manager before returning to Canada in 2011 in his current role. Eric was awarded a Nuffield Agricultural Scholarship in 2005. As a scholar he was able to investigate agricultural marketing and trade issues, review technical aspects related to production farming, and experience both social and cultural differences with host families through international travel.



### **DR. H.P. VASANTHA RUPASINGHE**

Dr. Vasantha Rupasinghe is an Associate Professor and Canada Research Chair in Fruit Bioactives and BioProducts at the Faculty of Agriculture of Dalhousie University. He also serves as the chair of the Canadian Institute of Food Science and Technology (CIFST) Atlantic Section. At the Dalhousie Agricultural Campus, he has developed a new research program in the emerging area of medicinal biochemistry of fruit bioactives and value-added fruit processing. His research team has been using human cell culture and experimental animal systems to investigate the disease fighting properties and mode of action of unique bioactives present in cool climate fruits and fruit processing wastes.



### **DR. BRUCE RATHGEBER**

Dr. Bruce Rathgeber received his B.Sc. in Agriculture from the Department of Animal & Poultry Science at the University of Saskatchewan. He went on to work for Shaver Poultry Breeding Farms and then with Cuddy Chicks before entering an M.Sc. program in the Poultry Science Department at the University of Arkansas. He returned to the University of Saskatchewan to earn a Ph.D. in Food Science. Bruce became a faculty member in the Department of Plant & Animal Sciences at the Nova Scotia Agricultural College in 2000. After six years in this position he joined Agriculture & Agri-Food Canada as a Research Scientist, and has remained at the Dalhousie Agricultural Campus. His current research interests include projects that focus on the influence of production practices, bird nutrition and genetic background on product safety and quality, including both meat and eggs.



### **DR. CHIBUIKE UDENIGWE**

Dr. Chibuikwe Udenigwe is an Assistant Professor in the Department of Environmental Sciences at the Faculty of Agriculture, Dalhousie University. He has a diverse background, with academic degrees in food science, human nutrition, chemistry and biochemistry. His research program in food biosciences is focused on linking the structure and health-related function of bioactive food-based polymers with the goal of enhancing the value of underutilized agri-food resources, thereby promoting agri-based economies and positively impacting the health of Canadians. Dr. Udenigwe has co-authored over 40 papers in peer-reviewed journals and books, serves on journal editorial boards, and has received prestigious recognition for excellence, including the International Union of Food Science and Technology Young Scientist Award.



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