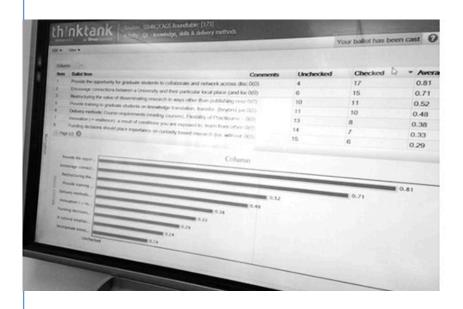




IMAGINING CANADA'S FUTURE: FUTURE CHALLENGES

Queen's University and RMC SSHRC/CAGS Roundtable

Hosted at Queen's University in Kingston, Ontario $\label{eq:continuous} \text{April 21}^{\text{st}}, 2015$



Sara Pavan Queen's University

Introduction

Canada, like many other countries, is at a turning point in the way its education system, especially higher education, is conceptualized, structured and delivered in light of the knowledge and skills required for the 21st century. Debates are emerging in the research community and other sectors regarding the best way to deliver that learning. On April 21st, 2015, twenty-seven graduate students (both at the Master's and PhD level) and post-doctoral fellows from a broad range of disciplines, including the Humanities, Social Sciences as well as several students from the STEM disciplines, and from four different institutions (Queen's, the Royal Military College, Trent University and the University of Ottawa), met at Queen's University to discuss the future of Canadian graduate education (for a full list of participants, see the Appendix to this document). This report will describe how they understand the challenges and opportunities that global social and technological changes pose to higher education and what role they think SSHRC can play in helping graduate studies transition into the future.

Discussion Method

The strategic planning session was conducted using an electronic meeting system, called the Executive Decision Centre, developed at Queen's, with the aim of facilitating the generation and consolidation of ideas into concrete recommendations. The facility consists of a network of laptops accessing software that facilitates group discussion and deliberation. By enabling participants to make notes of key ideas that emerge during discussion and debate within their groups using this software system, the

The technology used at the Queen's/RMC roundtable supported the free-flow of ideas around each table, followed by the consolidation of ideas within each subgroup, culminating in a large group discussion and decision-making exercise that formulated concrete recommendations and priorities.

findings of each group can be swiftly displayed to the plenary group and so facilitate another layer of discussion.

In the session, participants were assigned to four concurrent roundtables, each having its own doctoral student or post-doctoral fellow facilitator. Participants at each roundtable represented a cross-section of disciplines and were at different stages of their graduate studies. They were all asked to suggest answers to the four questions posed by CAGS/SSHRC described in this report, one at a time. For each question, participants typed the answers generated in the group discussion on the laptops present on every table. After 20 minutes of brainstorming, each roundtable's facilitator asked the group to categorize all the ideas into common themes. The three issues that each group

considered most salient were then displayed to participants in the other roundtables. All twenty-seven graduate students and post-doctoral fellows present at the meeting then selected what they considered to be the most important three answers to the question. This process was repeated four times, that is, for each of the questions posed by CAGS/SSHRC. After the first two questions were addressed in the morning session, all participants were asked to change tables for the afternoon sessions. At the end, a plenary discussion took place, in which participants could comment on the results of the voting process as well as on the nature of the questions to which they were asked to provide answers.

One of the PhD candidates involved in the roundtable defined this methodology as an "interactive, and I guess you would say polling technology" and as "very effective, from the standpoint that we've heard many different perspectives on the four questions that SSHRC has posed us".





In this short video clip, participants reflect on how the roundtable brought voices together from across many research areas.

Click image to open the video or follow the link below. Opens browser window.

https://www.youtube.com/watch?v=oCHp 58Zk5fg&feature=youtu.be

Roundtable Discussion

The four questions posed by CAGS/SSHRC:

- 1. What knowledge, skills and delivery methods are required in order for the public education system to create an innovative, resilient and culturally rich society?
- 2. What conditions are needed for new models of research particularly, cocreation of knowledge with the public, private and/or not-for-profit sectors to flourish?
- 3. What roles will emerging and/or disruptive information and communication technologies play in learning for individuals, institutions and society?
- 4. What role should individuals, institutions and governments play in responding to the aspirations and expectations of a global citizenry? Your answer should account for work environments, jobs, and labour markets.

1

What knowledge, skills and delivery methods are required in order for the public education system to create an innovative, resilient and culturally rich society?

Increased international competition for human capital raises the question of how Canada can position itself at the forefront of the competition and foster a resilient society. Participants in the Queen's/RMC roundtable felt that graduate studies have an important role to plan in this transition. In particular, they identified an improvement in communication by researchers across disciplines, universities, as well as to non-academic stakeholders (such as industry,

The use of social media such as Facebook and Twitter allows us to disseminate our research and to share our discoveries with a larger audience.

Kyle Stepa, PhD Candidate, Queen's university

government and non-governmental actors, and the general public) as a crucial ingredient for Canada's success in the current global context.

While participants in the roundtable felt that innovation and resilience are different goals, they maintained that knowledge creation, sharing and mobilization play an important part in achieving them both.

There is a need for strengthening the link between the universities, and industry or community. There were suggestions, for instance, of having liaison offices located within the universities, which actually help graduate students to form links with industry, be able to benefit from the input of practitioners in the field ... so as not isolate research.

Oluwatobiloba (Tobi) Moody, PhD Candidate, Queen's University One of the participants' groups expressed that research that is most impactful and likely to generate innovation is inter-disciplinary. As a result, participants recommended that SSHRC supports universities in creating the space, funding and time for fostering inter-disciplinary conversations intentionally, for instance, by organizing inter-disciplinary focused grant workshops. In addition, it was suggested that universities capitalize on their internal social media systems (e.g., Yammer at Queen's) to help develop bridges between researchers at the same institution that have similar interests, whether substantive or methodological, to carry out collaborative research.

Just as communication needs to increase across disciplines, participants in the roundtable felt that solid bridges needs to be built between researchers based at different Canadian universities. One of the groups present at the roundtable suggested that universities could encourage the use and further development of online catalogues of their researchers, such as for instance the Web of Science or Community of Science, including a brief introduction of their research, skills and expertise.

Perhaps most importantly, all participants agreed that knowledge produced in universities (including graduate research) should be made accessible outside of the ivory tower as well. Accessibility both to the general public, and other stakeholders, could help mobilize the knowledge being created.

Collaborations between researchers, including graduate students, and industry, government and non-governmental actors need to be strengthened. It was recommended, for instance, that universities appoint liaison officers that help researchers connect with different types of stakeholders that might 1. Provide access to information needed for knowledge creation and 2. Help disseminate and increase the impact of the knowledge being created. It was also suggested that *practica* and internships be embedded in more programs in social sciences and humanities.

It was suggested that community-based research be encouraged. In the social sciences and humanities, communities are often the subject of research. However, much less often they are the audience for the new knowledge. It was proposed that community-research evolve to close the cycle between the production of knowledge and the mobilization of knowledge. As Erin Sutherland highlighted: "Acknowledgement of the validity of alternative knowledge keepers is necessary. Specifically, the importance of the addition of Elders and Indigenous community members as supports in SSHRC grants would allow for the mobilization of research that includes important Indigenous modes of knowing and knowledge dissemination."

In addition, importance should be given not only to scholarly articles, but also to research dissemination to non-academic audiences. Along the same lines, it was recommended that training be provided to graduate students on knowledge translation and transfer. For instance, it was suggested that, alongside the original research components, graduate programs begin to incorporate mandatory training on how to convey research in an "elevator pitch" or in a Three Minute Thesis talk. Also, participants proposed the incorporation of emotional intelligence and cross-cultural communication and leadership topics into graduate training.

"It would be valuable if alternative forms of knowledge production, such as project-based dissertations and research that involves community collaboration, were given equal support from SSHRC.

Support of alternative forms of research and researchers would allow for the mobilization of important and new knowledge for which it is, at this time, difficult to acquire funding."

Erin Sutherland, Queen's University

Participants felt that new technologies could help achieve our improved communication goals, be it within academia and beyond. They reckoned that delivery methods that are more inclusive and integrate more non-traditional academic knowledge be both innovative and culturally enriching.

Risks and Dilemmas

While all roundtable's participants agreed on the importance of improving communication within and outside of universities, they wondered whether this might lead to over-simplification in an effort to improve access to academic knowledge for lay audiences. While all agreed on the importance of eliminating jargon or specialized terminology to increase accessibility of academic knowledge, they however wondered whether the risk of oversimplification, and losing context and nuances, exists when liaising outside of academia or using new technologies to communicate research results.

Participants also identified a significant challenge to the increasing prevalence of collaborative models of research. While they all agreed that collaboration should be incentivized, in light of its potential for generating societal benefits, they questioned what the implication of this development might be for research that may not respond directly to a clearly-identified social need in the short term. Emily Murphy, one of the roundtable facilitators, suggested that "one of the issues that most participants felt was still important was whether or not our researched outputs need to be considered of use to a given area, whether they lead necessarily to jobs, whether the benefit of the research is the research itself and the knowledge itself, or whether it has some kind of outside utility". Along the same lines, some participants questioned the formulation of the question posed, which implied the instrumental utility of knowledge creation.

2

What conditions are needed for new models of research – particularly, co-creation of knowledge with the public, private and/or not-for profit sectors – to flourish?

While addressing the first question, all participants concurred on the importance of collaborative research to sustain innovation and increase impact. Addressing the second question made them delve deeper into the issue of what conditions need to be put in place for new collaborative models of research to flourish. Three types of conditions were identified:

- 1. Training, particularly at the graduate level
- 2. Infrastructural support
- 3. Changes in the academic rewards system.

Training

Participants suggested that SSHRC supports universities in fostering transferable graduate student skill development as part of the graduate program. In addition, the groups recommended that graduate students receive mentorship and support in the form of "innovation hubs" that foster Public-Private Partnerships, both as an online space and as a physical space. "Innovation hubs" were defined as spaces for contacts to be made between academics, industry, government and community groups in addition to other non-traditional partners for scholars. These "innovation hubs" are now most often found in

I was really glad to hear that...there is a real awareness of the need to emphasize and to teach transferrable skill sets. I like that there is a growing awareness that there is a desire to engage that, and to teach faculty and students alike, about how to place themselves in the job market, how to think about career paths, even as they're entering graduate school.

Dr. Daniel Heidt, Post-Doctoral Fellow, Trent University

the STEM disciplines rather than in the social sciences and humanities; however, participants in the roundtable argued that graduate students in the social sciences and humanities would benefit from these opportunities as well.

Infrastructural Support

A number of recommendations were formulated as regards the creation of structural changes in the design of graduate programmes. For instance, participants suggested that graduate students should be required to integrate public-facing aspects of dissemination, as well as knowledge application, into their research outputs. Along the lines of the recommendations elaborated in response to question #1, it was also suggested that universities support the personal development of graduate students to help ensure resilience, open-mindedness, cross-cultural competency and openness to collaborative relationships. Graduate students working in the arts suggested that the focus of graduate studies shift from the traditional thesis to different outcomes, such as for instance, arts-based projects, and that SSHRC should consider new funding opportunities for these types of endeavours. Some participants suggested that opportunities be developed to conduct research while employed with a non-academic stakeholder, as well as to apply for knowledge co-creation grants. Much interest was also expressed in the development of speaker series, seminar courses and colloquia featuring non-academic stakeholders. A need was also elaborated to encourage consultancy roles for academics within the community to address local needs/problems.

Rewards

Participants suggested that the current recognition system needs to change in order to support the expansion of collaborative research. This adjustment was felt as particularly urgent for those graduate students who are not electing to pursue academic careers,

and seek instead to establish credentials for speaking to diverse audiences. While the current system mostly rewards peer-reviewed publications, new systems need to be devised so that equally important consideration is given to the application of knowledge. For instance, rewards could be put in place for graduate students who engage with different stakeholders in the course of their dissertation work. In addition, the importance of non-academic knowledge should also be considered in grant application processes. All this suggests that a re-evaluation is in order of what knowledge we consider to be acceptable or reputable, when working with non-academic stakeholders and communities.

Risks and Dilemmas

Identifying the conditions for the development of collaborative research led the participants to discuss some dilemmas and risks associated with these new types of knowledge creation. Participants felt that it is important to address the risks of collaborative projects, particularly if the measurement of their impact is an immediate application to social problems. This might raise questions as to the sustainability of non-applied research, which might not have immediate social impact. In addition, collaborative models of knowledge creation require a discussion of timelines for project completion — while academic projects usually take years to develop, non-academic stakeholders require fast results. Furthermore, issues of mutual trust need to be addressed — academics are seen as outsiders for some stakeholders. Participants emphasized that the risks associated with new models of research should be taken into account and sufficient time for project improvement should be allowed. In general, the benefits that collaborative research generates for knowledge dissemination and mobilization, as well as policy impact, must be balanced against some of the potential risks and complications that it might create.

Definite benefits of collaborative research were identified such as a greater appreciation for the process of research, and the facilitation of interest in academic research by a variety of different actors. Participants recommended that initiatives be put in place, to capitalize on collaborative models of knowledge-creation, for example, team or cross-disciplinary publications. In addition, existing institutions (museums, for instance) could be used to display the outputs of collaborative research projects, allowing for further communication between the public and academia.





In this short video clip, participants highlight the benefits of collaborative research.

Click image to open the video or follow the link below. Opens browser window.

https://www.youtube.com/watch?v=lQTn1 DBbRjA&feature=youtu.be What roles will emerging and/or disruptive information and communication technologies play in learning for individuals and society?

It is desired to maintain current research standards while also incorporating new technologies and communications. So, for example, if we are engaging in short and accessible research dissemination we do still need to preserve the research in its other more in-depth formats and funding structures need to value different formats for different audiences.

The impact of new technologies on higher education, including graduate studies, is difficult to overstate. Participants in the roundtable concurred on this point. Discussing the third question that CAGS/SSHRC posed gave participants an opportunity to address the issue of *how* new technologies will impact the future of graduate education.

Some participants felt the need to discuss the changes and risks that ICT will bring about,

particularly with regards to open access. If the trend towards open access will continue to increase, a debate must take place on the impact of how research is currently conducted. Questions need to be addressed, such as: are archives procuring fewer acquisitions and limiting access to current collections as they currently stand? Or, if open access becomes a funding priority, how do we need to rethink how the place of publication is factored in current appraisal and merit systems.

Participants also suggested that, while open-access provides important opportunities for wider research dissemination, it should not create a financial burden or obstacle for graduate researchers.





Lots of different opinions on open-access & social media in grad study but we recognize it's here to stay #canadaresearch #sshrc

In addition to issues of open access and data dissemination, participants in the roundtable felt that two more areas need to be taken into consideration when discussing the impact of disruptive technologies on graduate studies. One of them has to do with the need to consider information and communication technologies as also providing new techniques to do research and subjects of scholarly research. For instance, the internet now provides new ways of doing research (online surveys, for instance). It also has created new areas of academic investigation (e.g., the study of how individuals use social media to develop – if at all- their social networks). As a result, participants suggested that graduate students be trained for disruptive research methodology, and be given adequate technological assistance. Graduate students and post-docs at the Queen's/RMC roundtable also recommended that partnerships be formed in order to be able to support graduate programs that might not have sufficient financial resources to afford the technological tools that graduate students need in the current context.

Participants in the roundtable also noted that disruptive technologies have much potential to make graduate studies more accessible. The development of information and communication technologies can make graduate studies accessible to individuals living in remote areas, individuals with disabilities or individuals with life styles that are not compatible with the traditional delivery of graduate programs. They also facilitate alternate ways of learning, accommodating different learning styles, and they make it possible to tailor learning and pedagogy to specific individuals. In order to harness the potential of ICT in democratizing graduate studies will, however, require addressing the unequal access to technology present in Canada, like in other advanced societies.

Risks and Dilemmas

Participants in the roundtable identified some risks and dilemmas that the introduction of disruptive technology on graduate studies is likely to precipitate. First, while ICTs provide new ways of obtaining information and conducting research, they pose ethical problems in distinguishing private vs. public information, in ways that ethics boards will need to understand further. Also, while ICTs make it easier to share research, researchers need to be careful how to navigate such technologies, making sure that research results remain in context. Finding the right balance between the use of ICTs to communicate research to larger audiences, generate societal interest and stimulate debates, and the risks of losing integrity and context is something that researchers will have to learn how to manoeuver.

Participants in the roundtable also recommended that SSHRC provides researchers (including graduate students) with training in risk management when using disruptive technologies. In particular, the areas of research ethics (i.e., maintaining confidentiality), online peer-review and ownership of research results while maximizing openness, are the elements that participants felt as most urgent.

Finally, disruptive technologies were identified as likely to continue changing the delivery of higher education. Some participants felt that the new virtual world has the potential to revolutionize learning at the graduate level, by connecting graduate students into global networks of learning and research, and fostering interdisciplinary connections through online learning. Some participants also felt that ICTs can promote the sharing of research and resources, for instance, by facilitating the setup of provincial or national electronic university library systems. However, the very same participants also noted that disruptive technologies might shrink the process of deep thinking that occurs in students' minds, where the diffusion of rapid blog and twitter updates might hinder "big picture" thinking. While it will be increasingly important to incorporate online courses into traditional mediums of higher education, face-to-face components will need to remain a crucial component of course completion. And while using ICTs might entice students to pay attention, it might not provide opportunities for students to develop a motivation to engage in deep learning. Similarly, while ICTs might help researchers better communicate to larger audiences, they might not work as well to make the public engage with research results.

4

What role should individuals, institutions and governments play in responding to the aspirations and expectations of a global citizenry? Your answer should account for work environments, jobs, and labour markets.

As a graduate student, I would say one or two of the key findings from today would be that emphasis on collaborative research and getting people from the different disciplines to sit down and really parse out some of the issues they are facing. It's not only about our graduate programs here at Queen's but also about other research programs at any other university, because they are universal issues.

Colin Khan, PhD Candidate, Queen's University Participants in the roundtable felt that the government should play a primary role in the transition towards an even more globalized world, providing funding for research and ensuring academic independence and freedom, while promoting public policy and creating societal awareness of global issues. Participants also maintained that the government should support international students' ability to work and conduct research, pursue funding options, receive adequate healthcare; more generally, mobility for scholars should be supported, and inequalities in access to graduate education should be reduced.

One of the areas where participants felt that the impact of this changing world is the strongest is the transformation of labour markets. Participants felt that universities should play a major role in connecting researchers to jobs and labour markets, informing them of supply and demand dynamics, and training them to market their knowledge. It was recommended that universities' career services mandates be adjusted, placing more emphasis on positions in higher education and international labour markets.

felt Participants that graduate students themselves should increasingly be seen as global citizens, having multiple roles outside academia. As a result, they recommended that graduate students be encouraged to have a very wide range of skill-sets. Delivering effective presentations, leading workshops, networking and business skills were considered to be among the most urgent needs for graduate students. Participants also recommended that universities provide guidance to researchers for conducting research abroad, clarifying laws and jurisdiction for research in places other than Canada. They identified a responsibility for graduate students to learn language skills and cultural nuances, strengthen skills for community-based research and receive directions/guidance from that community, developing an awareness of the

Increasingly, there is a need to see research or what we do in our universities in Canada, in the bigger picture of what's going on around the world as global citizens... the opportunities to actually disseminate research across borders, to benefit from participation across borders, to contextualize our research....For me personally, my research, which focuses on protecting traditional knowledge, I think this kind of discussion really just blows open up whole new possibilities for research.

Oluwatobiloba (Tobi) Moody, PhD Candidate, Queen's University

possible political implications of their research as well as a sense of responsibility towards community members.

In this increasingly internationally competitive environment, where the exchange of ideas is becoming global, just like many of the pressing issues countries are now facing, participants recommended that SSHRC foster research that continues after university. As one participant noted, "graduation is not the destination". Participants felt it would be helpful if SSHRC developed professional grants, for instance, for recent graduates in the humanities and social sciences to continue research post-graduation and potentially outside of academia (or in partnership with other stakeholders outside of universities).

Risks and Dilemmas

Participants in the roundtable identified a pressing dilemma marking the role of governments on the future of graduate studies. Some participants felt that the government has a responsibility to recognize the needs of the job market and where labour may be needed, and thus should amend (or limit) student numbers in graduate

programs to correspond to labour demands. Other participants, however, expressed the need for SSHRC to continue supporting research that does not necessarily meet labour market demands. Reconciling these two concerns will shape the future of graduate studies.

[In] an instrumental view of graduate-level education, graduate-level education and the research it involves are taken to be valuable only to the extent that they can be demonstrated to issue in immediate and easily quantifiable benefits, either for the economy or for the student as a prospective member of the work-force. There is nothing inherently wrong with expecting education to promote these kinds of goals. However, it is crucial that graduate-level education also be recognized and supported as inherently valuable, both for graduate students, and for the society in which it is practiced. This must include recognition of the importance of curiosity-based research – the pursuit of knowledge and insight for its own sake.

Jeremy Butler, PhD Candidate, Queen's University





In this video, participants weigh in on different forms of social impact.

Click image to open the video or follow the link below. Opens browser window.

https://www.youtube.com/watch?v=Abi1E UVqJj4&

Summary of the Plenary Discussion

After discussing the four questions above, all twenty-seven participants in the Queen's/RMC roundtable engaged in a plenary discussion on the impact that the exercise had on them, on the nature of the questions posed to us by CAGS/SSHRC and on the final recommendations on which they would like CAGS and SSHRC to focus in the near future.

First of all, participants concurred on the personal impact of the session. In the words of a PhD candidate at Queen's University, "Sitting down and actually unpacking the questions that we had, it really had such a huge influence to me as a person, for which I'm really grateful." Another participant mentioned the importance of having follow-up sessions,

explaining that "what would be very critical to repeat the session ... bring these researchers back, and see where their research has gone and what changes, if any, have been made".

Second, participants questioned whether the way the questions were posed by CAGS/SSHRC allowed for as open a debate as the organizers may have wished. In particular, it was felt by some that the questions primed respondents to take for granted the changes already underway in the creation of scholarly knowledge and the funding structure. The issue of how to define and measure the social impact of research, and the need to differentiate short-term utility from long-term impact required, in the opinion of many roundtable participants, further discussion.

Recommendations

1. SSHRC and universities should focus on fostering and supporting **collaborations and partnerships at different levels.** Participants referred to "collaborative university ecosystems" that challenge the silos-based approach to doing research, and create bridges between departments, universities, as well as between universities and industry, NGOs and policy makers.

While all agreed on the importance of collaboration with different stakeholders, the methods we can use to achieve the goal are still up for discussion. Issues of resource distribution, and of ownership of research results in the context of collaborative research will have to be addressed. A new research infrastructure will have to be put in place to support processes for establishing research goals and questions when different stakeholders participate in knowledge creation.

Critically, if collaborative research models will prevail in the future, the issue of funding for research that is non-applied will have to be discussed. Some participants in the roundtable expressed concerned that new research models might jeopardize research that might be very impactful in the future but whose applicability is difficult to foresee.





Learning lots about #sshrc #canadaresearch @queensu roundtable

- 2. SSHRC and universities should focus on fostering **research dissemination strategies**. Participants in the roundtable recommended that researchers as well as universities increase their effort to raise their profile in public discourse. Researchers will also increasingly need to engage non-academic communities by disseminating their research to them. As a result, it was suggested that training be developed that helps researchers adapt dissemination strategies to reach different audiences and communities. This will be particularly important if project-based dissertations, engaging a variety of stakeholders, become increasingly predominant. In addition, guidance will be needed for researchers to acquire the skills to master the use of technology to disseminate the results of their research.
- 2. SSHRC and universities should focus on fostering **research dissemination strategies**. Participants in the roundtable recommended that researchers as well as universities increase their effort to raise their profile in public discourse. Researchers will also increasingly need to engage non-academic communities by disseminating their research to them. As a result, it was suggested that training be developed that helps researchers adapt dissemination strategies to reach different audiences and communities. This will be particularly important if project-based dissertations, engaging a variety of stakeholders, become increasingly predominant. In addition, guidance will be needed for researchers to acquire the skills to master the use of technology to disseminate the results of their research.
- 3. SSHRC and universities should focus on developing and supporting **transferable skills for use inside and outside of academia.** Participants perceived that national consultations such as the one currently organized by CAGS/SSHRC will help create what one PhD candidate called "a dataset of opinions" about transferrable skills that graduate researchers perceive as most urgent in the current labour market.
- 4. SSHRC and universities should implement strategies to promote and recognize graduate students' involvement with communities and industry. Increasing the scope of disciplines in which *practica* and field work provide relevant training opportunities was perceived as a way in which graduate researchers can contribute to making their knowledge creation efforts matter in the real world.
- 5. SSHRC and universities should encourage and enable students to reflect on the ways their research has social impact in the short and long-term. In addition, SSHRC and universities should promote researchers' awareness of the expected and unexpected implications of their research over time. Researcher's scholarly programs might change over time, or might have impact that was not anticipated at the time of design. As a result, it was recommended that funding agencies recognize innovative research, even riskier and more difficult to frame in short-term utility terms.
- 6. Related to the previous recommendations, participants encouraged SSHRC and

universities to discuss and problematize **the issue of the social relevance of research.** Non-applied research might be more difficult to lend itself to collaborative projects; however, it might have significant applications when viewed from a long-term perspective. Funding agencies should encourage non-applied research along with new models of collaborative research. Funding strategies will not only require diachronic change; they will also need to envision different co-existing models of knowledge creation.

7. SSHRC and universities should incentivize the creation of alternative forms of knowledge, other than dissertations. Taking into account the magnitude of the SSRHC mandate, encompassing the social sciences as well as the creative industries, opportunities and funding should be put in place to experiment with a variety of new graduate pathways, ranging from art projects to community-based research, to publishing outlets beyond peer-

Acknowledgements

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- Laura Penstone for design and technical support (http://laurapdesign.com)
- Dean and Vice-Provost Brenda Brouwer, Associate Dean Sandra den Otter and Dr. Rebecca Hügler

Appendix Participant Biographies

Suchit Ahuja



Suchit Ahuja is a PhD Candidate in Management Information Systems at Queen's School of Business, Queen's University. He holds MSc and BSc degrees from the Department of Computer & Information Technology at Purdue University (West Lafayette, IN). Suchit is studying emergent models of IT-enabled business innovation in emerging economies. His research explores the process of low-cost, IT-enabled innovation in order to understand the underlying business, technological, and social dimensions, so that firms in

developed economies can replicate it within their own contexts with renewed focus on affordability, sustainability, and value co-creation. He was awarded the 2014 D.D. Monieson Doctoral Fellowship for academic excellence while contributing to usable knowledge on important business issues. His work has also been published in national and international conferences such as the International Conference on Information Systems, Americas Conference on Information Systems, Administrative Sciences Association of Canada, Conference on Advanced Information Systems Engineering, ACM, and IEEE.

Mary Chaktsiris



Mary Chaktsiris' research, published and forthcoming, explores connections between masculinity and warfare within the context of First World War Canada. Chaktsiris, who is completing her SSHRC-funded PhD in the Department of History at Queen's University, is the recipient of an award for teaching excellence, is actively involved with history education research communities through THEN/HiER, and is pursuing a career in higher education policy and research. Currently, she is working with the Council of Ontario

Universities (COU) on the Research Matters campaign. More broadly, she is interested in the exploring the changing nature of humanities research, including the Digital Humanities and current debates about open access. New technologies such as the cloud open critical pathways for teaching and research within the humanities and help shape the knowledge needed as we define - and redefine - 21st century economies.

Allison Chong



Allison Chong received her Bachelor's Degree in Mechanical Engineering with a Professional Internship from Queen's University (Sc'13). She is currently pursuing a Master of Applied Science degree in Mechanical Engineering with a focus on Engineering Education at Queen's. Her research aims to provide insight into how to support high school students in their learning about engineering as a career option. Allison greatly enjoys her experience as a teaching assistant for the

engineering design courses. These courses were her favourite parts of her undergraduate experience. As a teaching assistant, she enjoys encouraging students to appreciate the courses, and to learn as much as they can from them. She also values her role as a Career Services Peer because she can help students reflect on their experiences to help them in their professional development.

Karen Everett



Karen Everett is a SSHRC-funded PhD Candidate in the Canadian Studies program at the Frost Centre for Canadian Studies and Indigenous Studies at Trent University. Her research interests follow contemporary Canadian immigration policy, border security and Canada's relationship with the United States in a post 9/11 setting. While recognizing that both security and human rights are important, her research suggests they do not need to be mutually exclusive. Through

an understanding of Canadian immigration and security policies, Karen will look towards the future of Canada's policy making role in an ever changing political environment.

Francesca Fiore



Francesca Fiore is a PhD candidate in the Department of French Studies at Queen's University. She earned her B.A (Hons.) and M.A at the University of Toronto. Her doctoral thesis, in French Literature, focuses on women's resistance to masculine, monarchial and ecclesial mediation — specifically Church practice and discourse, from the post-Tridentine era to the Enlightenment period. Other research interests include Women Studies and contemporary French Literature. Ms. Fiore is also

an instructor in the Department of French Studies, having taught several undergraduate French courses.

Alana Fletcher

Alana Fletcher is a doctoral candidate in the department of English Language and Literature at Queen's University. Her recently-completed dissertation examines how literary adaptations have both altered and amplified the claims made by residents of a Northern Indigenous community that nearby mining resulted in cancer deaths and ongoing environmental degradation. Her work has appeared in SCL, PBSC, Canadian Literature, Victorian Review, and elsewhere.

Lorraine Godden



Lorraine Godden is a fourth year doctoral candidate in education policy and cultural studies at Queen's University, with research interests primarily centered in exploring the role of documents within career development policy implementation in secondary schools. She is also more broadly interested in workplace learning, educational and professional development for teachers, mentoring, and educational leadership. Lorraine is the project manager for Dr. Benjamin

Kutsyuruba's SSHRC funded research project "Understanding teacher retention and attrition: The role of new teacher induction and mentorship programs."

Dr. Daniel Heidt



Daniel Heidt is a SSHRC postdoctoral fellow at Trent University. His doctoral research concerning18th and 19th century federalism in Upper Canada / Ontario, demonstrates that asymmetrically large provinces / states can stabilize and destabilize federal politics. Heidt also has a strong interest in the relationships between science, the environment, and Canadian foreign policy. His Arctic research explores how Canadian-American relations worked out in practice. His

research thus spans the diplomatic, logistic, scientific, and leadership aspects of Arctic stations. He has published on the Distant Early Warning (DEW) Line and is in the process of completing a co-authored history of the Joint Arctic Weather Stations (JAWS) with P. Whitney Lackenbauer. His research on Howard Green investigates the impacts individual agency and scientific knowledge to development Canadian foreign policy and nuclear weapons policy in particular.

Chloe Hudson



Chloe Hudson is currently completing her MSc in Clinical Psychology at Queen's University. She received her BAH in Psychology at the University of Guelph in 2012. Her research focuses on the relation between victimization and depression in adolescents, and more specifically, the factors that influence this relation. She is active in the Queen's community through organization such as Queen's Health Interprofessional Society and Let's Talk Science. She also stays involved with the Kingston

community by volunteering for local agencies such as Kingston General Hospital and Youth Diversion. Chloe believes that this community involvement exposes her to the priorities of the public to ensure that her research is driven by the needs of those it intends to help.

Colin Khan



Colin Khan works on resilience theory, ecosystem services and green infrastructure. He is currently in his second year as a PhD candidate at the School of Environmental Studies at Queen's University. He believes that managing for regionally-specific ecosystem services is an optimal way to enhance social-ecological resilience and that this can be achieved by integrating more "green infrastructure" into urban design. His SSHRC-funded work includes natural capital accounting,

valuation, and relevance for green infrastructure policies and projects. He also studies how concepts of ecosystem services, resilience, and green infrastructure are perceived by different demographic groups. By integrating criteria from resilience, sustainability, and social innovation he hopes to create a complete social-ecological data set that can be used to help shape future urban planning and land use management policies.

Hermann Kuitche



Hermann Kuitche is a teaching and research assistant at the University of Ottawa, in Ontario Canada. He is currently a PhD candidate in Political philosophy and Ethics, specialising in Canadian studies. He is working on "neo-republicanism", specifically on the implicit importance of diversity to a neo-Roman philosophy of the republic. He has recently published two articles: 1) « Esthétique environnementale: du déplacement au dépassement », in Nouvelle revue d'esthétique

1, n° 13, 2014, p. 35-44; and 2) "Multiculturalism, Ethnicity and the Postcolonial State", in P. Imbert (ed.), Multicultural Interactions. Canada and the World. Politics and Literature, Ottawa, University of Ottawa Research Chair: "Canada: Social and Cultural Challenges in a Knowledge-Based Society", 2014, p. 145-186.

Dr. Asa McKercher (Facilitator)



Asa McKercher is a SSHRC Post-Doctoral Fellow in the Department of History, Queen's University and completed his PhD in History at the University of Cambridge. His book Camelot and Canada: Canadian-American Relations in the Kennedy Era is forthcoming from University of Toronto Press and his latest writings have appeared in journals such as Diplomatic History, International History Review, and Canadian Historical Review. An assistant editor of the Canadian Journal of

Latin American and Caribbean Studies, his next project explores the political, cultural, and ideological underpinnings of US foreign policy toward Cuba.

Stefan Merchant



Stefan completed his undergrad in Physics at UBC before landing a job at a particle physics lab. After two years of mesons and pions he realized that pure science was not for him and then completed B.Ed. to become a physics teacher. The move was a fortuitous one as it turns out that education is his real passion. He completed his M.Ed. in Educational Administration at UBC before leaving Canada to work in Singapore and Indonesia, and after 10 years away from

academia decided to complete his Ph.D. in educational assessment at Queen's University.

Oluwatobiloba Moody



Oluwatobiloba (Tobi) is a Vanier Scholar and doctoral candidate at Queen's University, Canada. Under the supervision of Prof. Bita Amani, his research focuses on the development of effective solutions to the protection of traditional knowledge through a coherent implementation of the Nagoya Protocol and the global intellectual property regime. He holds an LLM in International Trade and Investment Law, cum laude, from the University of the Western Cape, South Africa and an LLB from the University of

Ibadan, Nigeria. He has gained valuable work experience in both the public and private sectors of Nigeria as well as international organizations including the World Trade Organization (WTO) and the World Intellectual Property Organization (WIPO). During his time at WIPO he served as the coordinator of WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore. He has been invited as a guest lecturer/presenter to several graduate programs and conferences round the world, has supervised and examined research projects, and has advised several governments with respect to the implementation of related legislation. A member of the Nigerian Bar, he continues to serve as an expert external consultant to WIPO.

Rylend Mulder



Rylend Mulder earned a B.Sc (Honours Life Science) at McMaster University and is currently a Ph.D. candidate (Microbiology and Immunology) at Queen's University. His research focuses on understanding the role of macrophages in antiviral immune responses, which holds implication for rational vaccine design. He is also interested in augmenting traditional graduate level training with professional development programs to ensure graduate trainees are competitive candidates for alternative

careers. In this vein he is the Queen's University Student Ambassador for the Science to Business Network (S2BN), a not-for-profit organization that promotes life science commercialization and provides graduate student professional development opportunities to insure they can achieve their potential as innovators.

Emily Murphy (Facilitator)



Emily C. Murphy is a doctoral candidate in the Department of English at Queen's University. Her dissertation project focuses on representations of female literary celebrity and mental illness in the modernist period, a project that has cultivated interests in modernist journalism, political activism, and public and private writing. She attempts to mobilize the ephemeral materials that produced these discourses through digital humanities methodologies. She has published an article on Samuel Beckett

and the afterlife of hysteria in English Studies in Canada. She has taught courses on digital humanities methodologies at the Digital Humanities Summer Institute, the British Library Digital Scholarship Training Programme, and the Digital Humanities Field School at Herstmonceux Castle. She is a doctoral fellow with the Canada and the Spanish Civil War project, directed by Dr. Emily Robins Sharpe and Dr. Bart Vautour.

Sara Pavan (Facilitator)



Sara Pavan is a PhD Candidate in the Department of Political Studies at Queen's University. Sara investigates the effects of immigrant integration policies in Canada and the United States on the composition of the social network of immigrants and on their levels of political engagement. Sara conducted a comparative survey study with immigrants from India and El Salvador in the Greater Toronto Area, Canada and in Silicon Valley, United States from September 2013 to December 2014.

Over 500 participants were included in the study, which was run in three languages.

Sara is a Vanier Canada Graduate Scholar and a Trudeau Scholar. She was also the recipient of the 2013 Mandelbaum Award for Excellence in the Arts, Humanities and the Social Sciences. In the fall of 2012, Sara was an Ontario Visiting Graduate Scholar at the University of Toronto, Department of Sociology. From May to December 2014, she was a Visiting Student Researcher in Canadian Studies, at the University of California, Berkeley.

Matthew Porges



Matthew Porges is an MA Candidate in War Studies at Royal Military College. He has previously worked for a geostrategic analysis group based in Washington, D.C., and at the Institute of Peace and Conflict Studies in Delhi, India. He has conducted field research in Morocco and Western Sahara. His research interests are wide-ranging but tend to centre on the relationship between people and institutions of power. Geographically, he is

particularly interested in the trans-Sahara region, the Levant, and the Horn of Africa.

Anthony Pugh



Anthony Pugh is an L.L.M. candidate at Queen's University. He received his JD degree from the University of British Columbia in 2014. His research is on how a judge's expertise influences the way they review the decisions of administrative decision makers.

Carla Sbert



Carla Sbert is a doctoral candidate in the Faculty of Law at the University of Ottawa. She was born in Mexico City and has lived in Canada since 1998. Carla has an honours degree in law from the Mexican university ITAM and a Masters in Law from Harvard Law School. Over nearly twenty years, Carla worked in diverse settings with a focus on sustainable development, environmental law and policy. While rich, challenging and engaging, Carla's professional experience has led her to deeply

question the ability of environmental law to address the deepening ecological crisis. Through her doctoral research — supported by a SSHRC-Joseph Armand Bombardier Canada Doctoral Scholarship and a University of Ottawa Excellence Scholarship — Carla hopes to contribute to the development and debate of ecological law, exploring the role law can play in the transition from the current economic-growth-based society to one based on ecological justice and ecological integrity.

Kyle Stepa



Kyle Stepa is currently a PhD candidate in the French Studies Department at Queen's University. His research explores different ways in which collective identity and memory manifest themselves through literature and folklore. During his Masters at Dartmouth College he compared Québécois literature from the Quiet Revolution with Algerian francophone literature written after Independence. His doctoral thesis explores the points of convergence between tradition and

immigrant identity in the works of Régine Robin, Dany Laferrière and Ying Chen. He is particularly interested in examining how the references to folklore in the works of immigrant authors reveals a renewal of how tradition operates in the pluralist context. For his research, he uses the work of folklorists like Alan Dundes, Richard Dorson and Simon Bronner to look more closely at how different groups interact with the collective memory.

Erin Sutherland (Facilitator)



Erin Sutherland is a SSHRC-funded PhD candidate in Cultural Studies at Queen's University. Erin's Dissertation Project "Talkin' Back to Johnny Mac" is a Performance Series with David Garneau, Peter Morin, Adrian Stimson, Leah Decter and Tanya Lukin Linklate that examines MacDonald's role in indigenous/settler relationships. Erin Sutherland is also an independent curator of contemporary Indigenous art.

Jennifer Turnnidge



Jennifer Turnnidge is a fourth year SSHRC-funded PhD student in the School of Kinesiology and Health Studies at Queen's University. She completed a Master's degree in Sport Psychology, a Bachelors degree in Science, and a Bachelors degree in Physical Health and Education at Queen's University. Her research interests are in transformational coaching, peer relationships, and positive youth development in sport. More specifically, she is interested in how social interactions can promote positive development in youth, both in able-bodied and

disability sport environments.

Mandi Veenstra



Mandi Veenstra is a sociology graduate student at Queen's University, and a mother of three young children, with a passion for research in the fields of motherhood and mothering, including specific interests in challenging social constructions and embedded dichotomies within Canadian social policy. Mandi's current research project is a case study examining manufactured ideologies of the "bad" mother within the Ontario child welfare system.

Christine Vidt



Christine Vidt (née Esselmont) holds a PhD in Philosophy from Queen's University. She is currently a Master of Public Administration Candidate, 2015 in Queen's School of Policy Studies. She is also an alum of the University of Winnipeg where received her BA (Hons.). She is interested in public policy, ethics and in the relationship between the two.

Sophia Zweifel



Sophia Zweifel is currently completing her final year in the Queen's Master of Art Conservation Program, artifacts stream. Sophia completed her undergraduate degree in Art History and Chemistry at the University of British Columbia in Vancouver, and went on to complete an MA in Art History at University College London. She has carried out pre-program and curriculum internships at the Vancouver Art Gallery, the UCL Special Collections Library, and the Canadian Museum of

History. She is very much looking forward to her internship this upcoming summer at the Canadian Conservation Institute.