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Application for a Grant

Identification

This page will be made available to selection committee members and external assessors.

Funding opportunity	Funding Stream
Insight Grants	A ($7,000 to $100,000)

Joint or special initiative

Application title

Exploring Blackfoot digital literacy through the Piikani Cultural and Digital Literacy Camp Program

Applicant family name	Applicant given name	Initials
McMahon	Rob	D

Org. code	Full name of applicant's organization and department
1480111	University of Alberta Faculty of Extension

Org. code	Full name of administrative organization and department
1480111	University of Alberta Faculty of Extension

Preferred Adjudication Committee

435-16

Does your proposal involve Aboriginal Research as defined by SSHRC?	Yes ●	No ○
Does your proposal involve human beings as research subjects? If "Yes", consult the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* and submit your proposal to your organization's Research Ethics Board.	Yes ●	No ○

Does any phase of the proposed research or research-related activity:

A. Constitute a physical activity carried out on federal lands in Canada, as defined in sub-section 2(1), in relation to a physical work and that is not a designated project;	Yes ○	No ●
B. Constitute a physical activity carried out outside of Canada in relation to a physical work and that is not a designated project;	Yes ○	No ●
C. (i) Permit a designated project (listed in the CEAA 2012 Regulations Designating Physical Activities (RDPA)) to be carried out in whole or in part;	Yes ○	No ●
C. (ii) Depend on a designated project (listed in the RDPA) that is, or will be, carried out by a third party?	Yes ○	No ●

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Total funds requested from SSHRC	33,324	33,324	33,324	0	0	99,972

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2017/10/13

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Family name, Given name
McMahon, Rob

Participants

List names of your team members (co-applicants and collaborators) who will take part in the intellectual direction of the research. Do not include assistants, students or consultants.

Role
Co-applicant ◯   Collaborator ◉

Family name	Given name	Initials
Whiteduck	Tim	TL

Org. code	Full organization name
1	First Nations Education Council

Department/Division name
Technology

Role
Co-applicant ◯   Collaborator ◉

Family name	Given name	Initials
Ginther	Don	

Org. code	Full organization name
1	First Nations Technical Services Advisory Group Inc.

Department/Division name
IT

Role
Co-applicant ◯   Collaborator ◉

Family name	Given name	Initials
Good Rider	Crystal	Lee

Org. code	Full organization name
1	Peigan Board of Education

Department/Division name
Piikani Nation Secondary School

Role
Co-applicant ◯   Collaborator ◉

Family name	Given name	Initials
Many Guns	Herman	T

Org. code	Full organization name
1	Piikani First Nation

Department/Division name
Blackfoot Traditional Elder

Role
Co-applicant ◉   Collaborator ◯

Family name	Given name	Initials
Fletcher	Fay	L.

Org. code	Full organization name
1480111	University of Alberta

Department/Division name
Faculty of Extension

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sciences humaines du Canada

Family name, Given name
McMahon, Rob

Participants (cont'd)

Role	
Co-applicant ⦿	Collaborator ◯

Family name	Given name	Initials
Gow	Gordon	A

Org. code	Full organization name
1480111	University of Alberta

Department/Division name
Communications and Technology Graduate Program

Role	
Co-applicant ◯	Collaborator ⦿

Family name	Given name	Initials
Janes	Diane	P

Org. code	Full organization name
1480111	University of Alberta

Department/Division name
Faculty of Extension

Role	
Co-applicant ◯	Collaborator ◯

Family name	Given name	Initials

Org. code	Full organization name

Department/Division name

Role	
Co-applicant ◯	Collaborator ◯

Family name	Given name	Initials

Org. code	Full organization name

Department/Division name

Role	
Co-applicant ◯	Collaborator ◯

Family name	Given name	Initials

Org. code	Full organization name

Department/Division name

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Research Activity

The information provided in this section refers to your research proposal.

Keywords

List keywords that best describe your proposed research or research activity. Separate keywords with a semicolon.

digital literacy; broadband adoption; community informatics; Indigenous; First Nations; scholarship of engagement; community development; OCAP; Indigenous language and cultural resurgence

Disciplines — - Indicate and rank up to 3 disciplines that best correspond to your activity.

Rank	Code	Discipline	If "Other", specify
1	50606	Communication Technology, Informatics	
2	50624	Communication Development	
3			

Areas of Research

Indicate and rank up to 3 areas of research related to your proposal.

Rank	Code	Area
1	242	Information Technologies
2	240	Indigenous peoples
3	120	Communication

Temporal Periods

If applicable, indicate up to 2 historical periods covered by your proposal.

From	To
Year BC AD	Year BC AD
_____ ○ ○	_____ ○ ○
_____ ○ ○	_____ ○ ○

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McMahon, Rob

Research Activity (cont'd)

Geographical Regions
If applicable, indicate and rank up to 3 geographical regions covered by or related to your proposal. Duplicate entries are not permitted.

Rank	Code	Region
1	1130	Western Canada
2		
3		

Countries
If applicable, indicate and rank up to 5 countries covered by or related to your proposal. Duplicate entries are not permitted.

Rank	Code	Country	Prov./ State
1	1100	CANADA	AB
2			
3			
4			
5			

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McMahon, Rob

Response to Previous Critiques - maximum one page

Applicants may, if they wish, address criticisms and suggestions offered by adjudication committees and external assessors who have reviewed previous applications.

We thank last year's reviewers for their helpful comments, which helped us develop and improve our proposal in collaboration with Piikani colleagues. We have significantly refined the scope of the project, improved our theoretical and methodological frameworks, solidified our budget (and submitted a proposal for third-party funding for the Digital Literacy Camp in 2018-2019), and gained operational experience by holding a pilot project in July 2017 that established the logistical, budgeting, and partnership elements this revised proposal builds on.

Specifically, in summer 2017 we developed and implemented a pilot project with Piikani First Nation in southern Alberta. We focus this three-year SSHRC proposal on refining and expanding this pilot, while also exploring opportunities to adapt it with other groups, such as Gwich'in Tribal Council and the First Mile Connectivity Consortium (FMCC). To this end our proposal involves the project team co-developing research questions, governance resources, learning materials, and a program format that can be adapted by Indigenous communities in other regions of Canada. This revised focus aims to build a foundation that we can use for future comparative research, learning activities, and knowledge-sharing across multiple sites, as well as support project sustainability. Upon the conclusion of this 3-year project, we plan to transfer the program to Piikani Secondary School.

We will continue our existing relationship with existing FMCC partners through ongoing meetings and information-sharing; however, we decided to re-focus our activities to a single community, Piikani. In doing so, the project more clearly reflects the time commitments of both university-based and community-based partners. It also builds capacity with our Piikani team, which includes partners at several community organizations (Peigan Board of Education, Piikani Nation Secondary School, and Piikani Traditional Knowledge Services). These changes are reflected in an updated methodology, budget justification, project scope, and research/administration strategy. The pilot project also refined our understanding of Indigenous approaches to digital literacy from both theoretical and applied perspectives. We added new elements to our literature review, more clearly highlighting the project's grounding in social shaping theories of technology and Indigenous methodologies, which provides guidelines for Blackfoot learning strategies. Following Blackfoot protocol, in Oct 2017, Elder Herman Many Guns formally launched and named this project (see: see: http://bit.ly/2kL3Hxi).

With regards to learning resources, we grounded our project in existing Piikani and Blackfoot initiatives, showcasing local successes. We also adapted existing materials provided by organizations such as Media Smarts and the Internet Society. We pilot-tested these resources in July 2017, and will further develop and contextualize them in the course of this project. This work is supported through our engagement with both elected and traditional Piikani leadership, who provide us with advice and guidance. These relationships improved our understanding of reciprocal research, Indigenous ways of knowing and project co-governance, which were other suggestions made by the review committee. We feel these revisions much better reflect this project's strong grounding in community. Finally, our revised proposal clarifies student training and involvement, including in research production, dissemination and public outreach activities.

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Family name, Given name

McMahon, Rob

Summary of Proposal

The summary of your research proposal should indicate clearly the problem or issue to be addressed, the potential contribution of the research both in terms of the advancement of knowledge and of the wider social benefit, etc.

Too often, Indigenous youth face a false choice between learning digital skills or participating in cultural activities grounded in their communities. This dilemma arises in classrooms every day, including through digital literacy curricula that typically focus on the technical interests of groups and users situated in metropolitan centres. While we are seeing increasing recognition of Indigenous innovation in examples of community broadband networks, language app development, digital content created by Indigenous peoples, and a host of other activities, most digital literacy courses are still taught in ways that reflect mainstream modes of learning. In such settings, Indigenous and locally-held knowledge is often positioned as 'traditional' or 'old-fashioned' -- the oral teachings of the past. This problem may not be a conscious decision on the part of course developers, but is rather a hidden bias of mainstream teaching and learning.

The Truth and Reconciliation Commission's Calls to Action (2015) stress that contemporary educational activities involving Indigenous peoples must not repeat the failures of the past. One area this tension arises is in the development of digital literacy. As is taught by Indigenous theorists of Indigenous resurgence, all kinds of practices contribute to the continual renewal of Indigenous communities. For example, Blackfoot scholars are developing land-based teachings at Red Crow College (Enlivened Learning, 2015) and using digital tools for language learning (see: http://blackfoot.atlas-ling.ca/). But despite this strong research in the use of digital ICT to support culture and language revitalization, a knowledge gap exists regarding digital literacy pedagogies and resources that best enable such outcomes. To address this gap, we require research on ties between digital ICT and the social practices that enable their effective design and use in situated community settings.

In this context, our three-year project takes a strengths-based approach to exploring and developing appropriate forms of Blackfoot (Piikani) digital literacy. Community partners -- students, facilitators, and administrators from Piikani First Nation in Southern Alberta -- collaborate with university-based researchers to investigate, adapt, and test digital literacy practices and resources. We reflect on the intersections between digital literacy and Piikani ways of knowing, and on culture and self-determination more broadly, through the following research questions:

* What are appropriate ways of teaching digital literacy to Blackfoot (Piikani) youth?
* How can digital literacy learning support Blackfoot community-building and resurgence?
* How can we adapt lessons learned in Blackfoot initiatives to other Indigenous communities?

We will answer these questions through a participatory action research project grounded in Indigenous methodologies and built around the Piikani Cultural and Digital Literacy Camp. In 2016-17, the project team piloted this approach. We secured support from local Elders and the Peigan Board of Education (PBOE), developed the project team (including facilitators), created draft learning materials (planning documents, student workbook, and facilitator handbook), and worked out event logistics and budgeting. At the 3-day/3-night camp, grade 9/10 students from Piikani Secondary School learned about Piikani culture while documenting their experience using digital ICT. We covered digital literacy topics through classroom activities and learning resources. In this project we will refine, expand, implement, and test digital literacy resources and practices, and explore ways to adapt these elements to other communities.

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Detailed Description: *Exploring Blackfoot digital literacy*

1. Objectives

Indigenous communities express both concerns and hopes for emerging digital information and communication technologies (ICT). Broadband connectivity, and the digital applications and services it makes possible, can be shaped to enable self-determined development outcomes, including supports for culture and language. Emerging ICT also threaten new forms of colonialism, including economic dependencies, an influx of English-language content, and increased surveillance. In this context, our three-year project (2018-2021) takes a desire-based approach (Tuck, 2009) to exploring and developing appropriate forms of Blackfoot (Piikani) digital literacy. We build on the important work done by Blackfoot educators to develop land-based teachings at Red Crow College (Enlivened Learning, 2015) and use digital tools to document language (see: http://blackfoot.atlas-ling.ca/). Students, facilitators, and administrators from Piikani First Nation in Southern Alberta will collaborate with university-based researchers to investigate, adapt, and test digital literacy practices and resources. Through collaborative focus groups, surveys and interviews, we reflect on the implications of digital ICT on Piikani culture and language, and on self-determination more broadly. We explore the following research questions:

- What are appropriate ways of teaching digital literacy to Blackfoot (Piikani) youth?
- How can digital literacy learning support Blackfoot community-building and resurgence?
- How can we adapt lessons learned in Blackfoot initiatives to other Indigenous communities?

We will answer these questions through a participatory action research project grounded in Blackfoot ways of knowing (Bastien, 2004) and built around the Piikani Cultural and Digital Literacy Camp. In 2016-17, the project team piloted this approach. With support from local Elders and the Peigan Board of Education (PBOE), we developed the project team (including facilitators), created learning materials (student workbook and facilitator handbook), and generated logistics planning and budgeting. At the 3-day/3-night camp, grade 9/10 students from Piikani Secondary School learned about Piikani culture while documenting their experience on the land using digital technologies.[1] We covered digital literacy topics through classroom activities and learning resources. Evaluations conducted through focus groups, surveys and interviews indicated strong interest in the program, and ideas to expand on. The PI also held a pilot with Gwitch'in Tribal Council (NWT) in 2016; a related project that benefits from this initiative.[2]

In the three years funded by this proposal, we will refine, expand, implement, and test digital literacy resources and practices to support Piikani First Nation to use ICT to strengthen their language and culture, and enable broad self-determined initiatives. We will also explore ways to adapt and transfer the resources and planning tools developed in this project to other communities. Project objectives are:

1. To generate findings from participatory action research with Piikani First Nation about appropriate digital literacy approaches, resources, and practices that support community development and cultural resurgence (Archibald, 2008; Downing, 2002). This includes the six areas of inquiry elaborated on below. Findings contribute to community informatics, an area of research and practice that investigates how ICT support community development goals. The project draws on a foundation of research on Indigenous-led technology development established through the SSHRC-funded VideoCom, First Mile,

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[1] See: http://firstmile.ca/piikani-first-nation-and-first-mile-researchers-host-3-day-cultural-and-digital-literacy-camp/
[2] See: http://firstmile.ca/first-mile-research-hosts-digital-literacy-workshop-with-gwichin-tribal-con/

and First Nations Innovation (FNI) projects (2005–present). It follows an approach to SSHRC-funded technology workshops developed at the UofA's Faculty of Extension (Gow et al., 2015; Waidyanatha et al., 2015). The project is informed by the Métis Life Skills Journey Program (Fletcher, Salenieks, & Hibbert, 2016), and Blackfoot knowledge (Blackfoot Gallery Committee, 2013; Blood, 2005; Raczka, 1979) and Indigenous methodologies (Kovach, 2009; Tuhiwai Smith, 1999; Wilson, 2008).

2. To document and share digital literacy learning practices and resources developed with Piikani First Nation in hard copy and digital formats. Resources developed through the project will guided by UofA's IP policy and owned by the Peigan Board of Education (PBOE) and Piikani Traditional Knowledge Services (TKS), but made publicly available on the project website. They feature Blackfoot scholars and educators who are showcasing local history, knowledge, and cultural revitalization activities (ex. Blood, 2010; Hsiung, 2016). We will work with local organizations to manage and preserve these materials.

3. To develop traditional protocols and Western planning documents to support sustainability of the Piikani Digital Literacy Cultural and Digital Literacy Camp. The pilot was guided by both traditional and contemporary forms of Piikani Nation governance (Bastien, 2004; Conaty, 2015). We build on that work to co-develop governance materials that are adaptable and made available as templates for others.[3] In October 2017, Elder Herman Many Guns led protocol for the project (see: https://goo.gl/wAZbYp).

4. To develop appropriate learning outcomes in collaboration with PBOE. The Camp will provide participating students with Career & Technology Studies (CTS) course credits.[4] We will design the program to support three (3) CTS course credits: media, telecommunications, and project management.

5. To conduct ongoing program evaluations to measure success and support continual improvement. To collect formative and summative evaluation data, we will conduct surveys, focus groups and exit interviews with program participants (students, administrators and facilitators). Findings will be incorporated into the program to ensure continual improvement. These methods will also be used for project research, and to measure any changes in attitude/understanding over time.

6. To share program resources and research findings through webinars held with Indigenous organizations and other stakeholders, including government departments and civil society organizations. We will document and share materials with groups such as Gwich'in Tribal Council, K-Net, First Nations Education Council (Quebec), First Nations Technology Council (B.C.), Internet Society, and others. We will also disseminate our findings through academic venues, including conferences and peer-reviewed journals. All publications will include an Indigenous/community co-author.

2. Context

Digital ICT can support cultural resurgence activities and self-determined development initiatives undertaken by Indigenous people living in rural and remote communities (Alia, 2010; Bredin, 2001; Dyson & Grant, 2006; Gibson et al, 2012; Roth, 2013; Salazar, 2007; Valaskakis, 1992; Wemigwans, 2016). For example, community data centres house digitized cultural resources; mobile phones connect people to emergency services while they are on the land; videoconferencing units link doctors and patients across distances (Sandvig, 2012); and language mobile apps are used by people of all ages (Duarte, 2017; O'Donnell et al., 2016). But along with potentially positive outcomes, digital ICT also

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[3] We will engage the Alberta First Nations Information Governance Centre in this work. See: http://www.afnigc.ca/
[4] See: https://education.alberta.ca/career-and-technology-studies/programs-of-study/?searchMode=3

introduce challenges, including the dominant use of English in online content, the ongoing maintenance and upgrade costs of technologies and infrastructures, digital access divides, and digitally-supported surveillance activities (Beaton & Campbell, 2014; Iseke-Barnes & Danard, 2007; Tallbear, 2013). There are a number of reasons why residents of rural and remote First Nations face these significant challenges in accessing and adapting digital ICT to meet their self-determined interests. These include supply-side challenges (such as availability and cost) and demand-side challenges (such as appropriate forms of digital literacy). Over the past decade, the PI was part of a SSHRC-funded research team that investigated this issue. Most of this research focused on supply-side dynamics – how First Nations set up and manage digital ICT to address the inequalities their communities face compared to urban centres (McMahon, Gurstein et al., 2014; Philpot, Beaton, & Whiteduck, 2014; Whiteduck, J., 2008). In industry-driven telecommunications projects, these communities are typically framed as the "last mile" of development. Through this research, we developed an approach called the "First Mile" that puts communities at the centre and the start of any digital ICT development process (McMahon et al., 2011).

Following the guidance of our First Nations partners, we are now proposing to build on these findings to focus on demand-side challenges – specifically to collaborate to generate appropriate forms of digital literacy tailored to the interests of partner communities. The Truth and Reconciliation Commission's *Calls to Action* (2015) stress that contemporary educational activities involving Indigenous peoples must not repeat the failures of the past. This tension is linked to the development of digital literacy (Haas, 2014). Digital literacy affords us the opportunity to contribute to models of education more appropriate to Indigenous ways of knowing and teaching (Loft & Swanson, 2014; O'Connor, 2013; Molyneaux et al., 2012). However, it also threatens to undermine Indigenous resilience and self-determination by creating new dependencies on externally-owned and managed ICT infrastructures, applications, services, resources and data, and introducing a wave of English-language content. In this context, we frame appropriate forms of digital literacy as grounded in Blackfoot knowledge and growing cultural revitalization activities, while supporting technical understanding and skills acquisition. Through this approach, we combine digital literacy skills development with showcasing and documenting the rich cultural teachings and resources developed by Blackfoot scholars (Blood, 2010).

We define digital literacy as the creation, shaping, and use of digital assets (technologies and associated social practices) emerging from the self-determined needs of communities. We recognize that knowledge and activities associated with digital literacy are constantly changing, but we will focus on the six thematic pillars outlined below. Taken together, they incorporate a critically-oriented socio-technical understanding of digital technologies and their affordances (Anderson & Adams, 2008; Castells, 2009; Feenberg, 2002; Harding, 2008; Winner, 1999). This responds to recent developments in the study and teaching of digital literacy that stress the need to encompass social practices as well as technical skills (Gillen & Barton, 2010; Ventimiglia & Pullman, 2016). From this perspective, digital literacy is grounded in local cultures and understandings. It emerges from and is sustained by the ways people make meaning through daily interactions with ICT (Media Smarts, n.d.; Rheingold, 2012). By organizing digital literacy learning around Blackfoot cultural revitalization activities led by local Elders, we will explore ways to emphasize cultural knowledge and modes of learning through ICT skills development.

We adopt the critical framework of community informatics, which foregrounds social practices of community development, capacity building, network formation, and effective use as well as technical knowledge and skills (Gurstein, 2003/2012). This framework extends ICT development beyond an individual's ability to use a computer, software like Microsoft Office, or social media to include planning, managing, shaping, implementing, maintaining, and evaluating a range of digital assets. We will work with community partners – Piikani and Blackfoot Elders, Knowledge Keepers, and facilitators – to collaboratively shape this approach to support the cultural revitalization goals of Piikani.

Our focus is inspired by scholars who are highlighting the many ways that Indigenous communities thrive despite the challenges of settler colonialism (Borrows, 2010; Irlbacher-Fox, 2009). Indigenous theorists of resurgence illustrate how daily practices contribute to the continual renewal of Indigenous communities (Alfred & Corntassel, 2005; Simpson, 2011). For example, Corntassel (2012) writes about the links between Indigenous resurgence, relationships, and responsibilities, arguing that "If colonization is a disconnecting force, then resurgence is about reconnecting with homelands, cultures, and communities" (p. 97). But despite strong research in the adoption of digital ICT by Indigenous groups to support culture and language revitalization (ex. Wemigwans, 2016), a knowledge gap exists with regards to the appropriate digital literacy pedagogies and resources that enable such outcomes. As O'Donnell et al. (2016) explain, "new services, information and data can not only give community members more choices for beneficial new opportunities but also support them to continue to live traditional lifestyles in a more sustainable, safe, secure and healthy manner" (p. 3). Shaping digital literacy initiatives to meet these goals requires more than access to digital ICT like mobile phones and tablets; it must also closely tie to cultural practices that enable their effective design and use in situated community settings.

In this context, we will collaborate to develop appropriate digital literacy resources and practices for Piikani First Nation. We will source existing digital literacy curriculum through Media Smarts and ISOC, and Blackfoot culture and language content through partners in Piikani, and adapt these resources through the reflexive planning and enactment of the Piikani Cultural and Digital Literacy Camp. Existing local knowledge and capacities will be used to create appropriate digital literacy resources. ICT skill-building activities like video production, community-based data management (McMahon, LaHache et al, 2015), broadband networking, and mobile app content development will be used as a means for students to learn about and document the culture and language revitalization activities taking place in Piikani.

3. Methodology

Our research design adopts a "whole community" methodology that engages the individual, household, community, and technical factors involved in the development and effective use of digital literacy (O'Donnell et al., 2016). Piikani community members drive all aspects of project development and implementation; they are co-developers of research design, project administration, program format, and learning resources. This approach builds on our past work employing participatory and Indigenous methodologies to co-develop and share digital literacy research and materials with Indigenous community and organizational partners (see for example McMahon et al, 2017). This project also builds on two years of development work with Piikani First Nation, who expressed their strong interest to continue working with the university-based partners. Project governance follows traditional protocols and Western partnership agreements, and is endorsed by traditional Elders and by PBOE. It is integrated in Piikani Secondary School, and participating Grade 9/10 students receive CTS course credits.

First Nations are diverse in their creation and use of digital technologies, and in their approaches to and understandings of digital literacy. This diversity requires a flexible approach to research design and workshop planning that is grounded in the specific interests, desires and protocols of Piikani First Nation. We have already co-created pilot research and workshop activities that fit the desires of Piikani First Nation. The methodology employed to do this was developed through the SSHRC-funded First Nations Innovation and First Mile projects, which also provide a research foundation about technology development in rural and remote First Nations (Beaton et al, 2016; O'Donnell et al, 2016). We build on this through community-based digital literacy research and learning activities in the following areas:

1. Develop Appropriate Piikani Digital Literacy Resources: We will facilitate the creation and sharing of digital language and cultural resources by Piikani community members. Camp participants gain hands-on experience using digital ICT such as digital cameras and GIS mapping applications, and complete learning modules to reflect on their relationships between digital ICT and cultural revitalization. Digital media activities will be taught by Indigenous facilitators hired by the project, while curriculum will showcase existing Blackfoot learning resources (ex. Bastein, 2004; Blood, 2005; Raczka, 1979).

2. Local Digital Asset-Mapping to Support Community Development: Working with Alberta First Nations Technical Services Advisory Group, we will develop a process students can use to identify digital assets held by Piikani First Nation that we can share in learning resources and project research. Assets to be explored include: technology support organizations, broadband capacity, technical expertise, online applications, digital archives, language resources, and data management initiatives.

3. Building and Sustaining Community Networks: Participants learn different digital networking technologies and gain experience setting up and testing broadband networks. This includes hands-on technical activities, such as building prototype wireless local area networks (LAN) for on-the-land connectivity. Connectivity activities will be taught by Indigenous facilitators hired by the project.

4. Supporting Community Technology Organizations: This explores business cases, policy supports, regulatory frameworks, and funding initiatives that sustain community-owned and operated digital infrastructure and services. Digital access is important, but it should be accompanied with opportunities for local and regional organizations to secure resources to meet community development goals. We will identify ways that community organizations engage in this development work at the 'First Mile'.

5. Policy and Regulatory Advocacy for Digital Self-Determination: We will facilitate community members in contributing to policy and regulatory decisions associated with appropriate technology development initiatives. We will explore how Indigenous voices contribute to decision-making in both public and NGO sectors, and identify barriers to participation. This includes critically interrogating initiatives aimed to address digital divides to ensure they reflect local interests and desires.

6. Managing Community-Owned Data: Community members already capture, organize, manage, and use a variety of data through digital ICT including photos, videos, and data management systems. We will develop resources showcasing local ownership and control of this digital data, including for digitized Indigenous knowledge and self-government resources such as health and education data (Schnarch, 2004). We will coordinate these activities with Alberta First Nations Information Governance Centre.[5]

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[5] See: http://www.afnigc.ca/main/index.php?id=home

This project requires ongoing and regular community visits for the PI and Research Assistants: a total of 21 community visits (7 per year) – including the annual Camp. Visits consist of Piikani protocol, project planning, research, outreach, and teaching activities. They include meetings with leadership and community members to discuss research agreements, protocols, methodologies, outcomes, and co-authorship. This work also includes reviewing digital ICT needs and interests; building a social network or "community of practice"; and identifying support organizations, policies, and funding programs.

These activities will be facilitated by the community liaison (Elder Herman Manyguns) and local staff members from PBOE and TKS. An iterative, collaborative planning framework ensures the project involves community partners in knowledge generation and research/learning development, helps build capacity in partner organizations, and supports students and facilitators on an ongoing basis. Regular, ongoing in-person interactions among project staff identify local needs and interests, support the co-construction of knowledge, and fulfill project goals regarding how best to integrate appropriate forms of digital literacy in community contexts (Beaton et al, 2016; Gratton & O'Donnell, 2011).

We begin in January 2018 by conducting an information environmental scan (Rathi, Shiri & Cockney, 2016) to expand our existing Piikani learning resources, with reference to curriculum created by Media Smarts, ISOC, and Blackfoot scholars. This work, which incorporates research research and community visits (including interviews and focus group discussions) is funded through the PI's current SSHRC project (ending March 2018). Along with data collection on the six topics noted above, we will review 2017 program evaluation data, and refine the format and governance framework. We will present our activities to local leadership on an ongoing basis, to ensure both elected (PBOE) and traditional (Elder's Council) leadership endorse the project. Following the OCAP™ principles (Ownership, Control, Access and Possession) we will establish data ownership and sharing protocols, and develop resources to support community management of project data (workbooks, videos, and A/V recordings). This collaborative planning and evaluation cycle will be repeated for each of the three (3) years of the project to support continuous improvement. We will revise project scope, curriculum and activities as necessary.

Each year we will hold the three-part digital literacy Camp for students from Piikani Nation Secondary School. Following CTS requirements, each course credit involves 25 hours of instruction. The Camp covers 3 CTS courses (media, telecommunications, and project management) organized into three interconnected learning/research phases covering 7 learning modules (6 in-class; 1 on-site). Pre- and post-camp activities involve blended (classroom/online) modules covering topics like cultural appropriation, online safety, and data stewardship. The Camp, held in late July, consists of hands-on activities with a variety of digital ICTs, including cameras, GIS mapping apps, and wireless networking equipment. We will pre-load learning modules and required software onto tablets provided by TSAG.

Research methods to be employed include surveys, focus groups, interviews and talking circles with Piikani community members. In the past, these methods worked well for all partners. We will follow established survey, focus group and interview research methods, and involve Piikani partners in data analysis to better understand local assets and needs. Our data collection plan for each year includes the following activities: 2 focus groups with project facilitators and administrators (1 planning; 1 summative); 15 to 20 interviews; 1 online survey; and 2 talking circles held during Camp. The team will jointly develop research instruments (interview questions, discussion protocol, etc.), and analyze data using qualitative content analysis and descriptive statistical analysis.

List of References: *Exploring Blackfoot digital literacy*

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Knowledge Mobilization Plan: *Exploring Blackfoot digital literacy*

Our approach to knowledge mobilization draws on the scholarship of engagement (Barker, 2014). This involves collaborations between community-based and university-based partners to generate knowledge, and to document and theorize research and project design, governance, sustainability, management, and outreach. This project showcases how Piikani First Nation is shaping digital literacy resources and learning practices in ways that enable and support cultural resurgence across a range of sectors. Findings and resources will be scaled up and contextualized for use by other groups in future projects. Therefore, knowledge mobilization is directed at two primary audiences: a) Piikani First Nation; and b) External groups (Indigenous groups like Gwitch'in Tribal Council; researchers; educators; government).

Knowledge Mobilization Activities Directed at Piikani First Nation

Partners from Piikani First Nation will collaborate with university researchers to develop, apply and disseminate culturally-appropriate digital literacy resources and activities through an iterative process of participatory action research tied to the Camp Program. Our team includes a cohort of Piikani facilitators from several local organizations who will share resources, lessons learned, challenges, and best practices with one another, with university-based researchers, with students, and with the community at large.

Each year the team will refine and expand digital literacy resources (facilitator handbook and student workbook), as well as research, governance and planning documents. Blackfoot (Piikani) specific content and data, such as culture and language resources and student videos, will be owned by Piikani organizations. Research, planning and public outreach materials generated through the project, such as the digital literacy materials noted above, will be publicly disseminated through the First Mile website (www.firstmile.ca), to support uptake and modification by other groups. This may include online courses and/or learning modules that can be adapted in future projects involving other Indigenous communities.

Every year the team will conduct the Piikani Cultural and Digital Literacy Camp. The camp integrates on-the-land learning with classroom modules, and is developed from the 2017 pilot and informed by a technology stewardship model developed at UAlberta (Gow et al., 2015; Waidyanatha et al., 2015). Facilitators and students work on learning modules and hands-on activities to examine, interpret, analyze, and discuss cultural revitalization activities while learning digital skills. We will evaluate the Program each year to support continuous improvement, and hire Indigenous technical experts and Knowledge Keepers to support the project and ensure that it reflects community interests and desires.

Knowledge Mobilization Activities Directed at Academic audiences

The team will collaborate to produce academic outputs aimed at researchers and educators. Conference presentations include community partners and (possibly) youth participants. The team will produce articles for peer-reviewed open access journals such as *International Journal of Communication* and *Engaged Scholar Journal.* News of published articles will be shared online, as well other project updates. To train graduate researchers, the PI will supervise a graduate-level course linked to the project.

Each year we will participate in events and host a public online webinar to connect project partners with Indigenous organizations, government, researchers, private sector organizations, and individuals to share successes and challenges, and raise awareness of the Piikani Program. This activity generates dialogue on challenges and opportunities, identifies future partners, and disseminates resources and findings.

Family name, Given name
McMahon, Rob

Expected Outcomes
Elaborate on the potential benefits and/or outcomes of your proposed research and/or related activities.

Scholarly Benefits
Indicate and rank up to 3 scholarly benefits relevant to your proposal.

Rank	Benefit	If "Other", specify
1	Enhanced curriculum	
2	Enhanced research collaboration	
3	Enhanced research methods	

Social Benefits
Indicate and rank up to 3 social benefits relevant to your proposal.

Rank	Benefit	If "Other", specify
1	Training and skill development	
2	Cultural outcomes	
3	Technological outcomes	

Audiences
Indicate and rank up to 5 potential target audiences relevant to your proposal.

Rank	Audience	If "Other", specify
1	Aboriginal Peoples	
2	NGO and community organizations	
3	Academic sector/peers, including scholarly associations	
4	Students	
5	Provincial/territorial government	

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Family name, Given name

McMahon, Rob

Expected Outcomes Summary
Describe the potential benefits/outcomes (e.g., evolution, effects, potential learning, implications) that could emerge from the proposed research and/or other partnership activities.

Our research builds on a pilot held with Piikani First Nation in July 2017. It also expands on the insights of the 10-year, SSHRC-funded First Nations Innovation research partnership, which explored how digital networks and technologies are evolving under the leadership of First Nations. Building on this foundation, we collaborate with Piikani First Nation to define, identify, and leverage digital literacy approaches, resources, and practices to learn how they best meet the desires of Piikani First Nation. This focus on adoption builds on our existing work on supply-side dynamics, and highlights community-led efforts to shape, adapt and use digital technologies to support culture and language revitalization and community development.

The research will establish and apply an engaged, co-management approach that helps address the recommendations of the Truth and Reconciliation Commission by working with community partners to ensure digital literacy initiatives reflect their interests. It positions the adoption and uptake of evolving technologies as supports for language and culture learning and community development. Working with partner organizations in Piikani, we investigate appropriate forms of Blackfoot (Piikani) digital literacy with the goal of refining a process and research foundation that can be further adapted and adopted by other Indigenous groups, including First Nations organizations who belong to the First Mile Connectivity Consortium.

We will also identify challenges, supports, and barriers facing Piikani First Nation as they develop locally- and culturally-relevant approaches to digital literacy. We employ participatory action research and Indigenous methodologies that are grounded in the frameworks developed by Indigenous scholars, and particularly those working in the area of Indigenous resurgence. This involves an iterative project co-development and implementation process that engages both traditional and elected leadership in Piikani, as well as local organizations such as Peigan Board of Education and Piikani Traditional Knowledge Services. Through ongoing planning and reflective research activities, we will establish an appropriate framework, format, and resources that will sustain the Program for years to come. In October 2017, Elder Herman Many Guns led protocol to launch this project (http://bit.ly/2kL3Hxi).

Through the annual Piikani Cultural and Digital Literacy Camp Program, we engage local high school students and facilitators. The three-part Program and associated research involves collaborating to document and share digital literacy resources that have been produced in Piikani and by Blackfoot scholars, and integrate them in a locally-situated digital literacy program. Our co-authored academic publications will illustrate our findings, which will also be highlighted at conferences and annual online webinars. These outcomes create spaces for ongoing dialogue among community-based, academic, and policy-focused participants, integrating diverse Indigenous and non-Indigenous perspectives to support ongoing project development. Participating graduate students benefit from training in community-engaged research, project management, knowledge mobilization, and workshop facilitation. They gain unique opportunities to work in collaboration with Piikani leadership and local institutions in an appropriate and respectful way. We will work to recruit Indigenous graduate students.

Piikani partners are co-authors on all publications, including academic articles and policy proposals. Other outputs include community-specific digital literacy learning resources, governance documents, a Camp financial sponsorship package, and CTS learning objectives.

Personal information will be stored in the Personal Information Bank for the appropriate program.

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Team, Output, and Student Training: *Exploring Blackfoot digital literacy*

Research Team
This project is driven by collaboration between University of Alberta and community partners, with graduate students engaged in all activities. Building on a strong partnership funded through the SSHRC-funded First Nations Innovation initiative, our team includes collaborators from the University of Alberta, Piikani First Nation (Blackfoot Traditional Elder Herman Manyguns), Piikani Nation Secondary School (PNSS), First Nations Technical Advisory Services Group in Alberta (TSAG), and First Mile Connectivity Consortium (FMCC). We will also work with the Peigan Board of Education (PBOE) and Piikani Traditional Knowledge Services (TKS). The Camp Program team, including facilitators and staff, was established in 2016/17 during the pilot project. UAlberta researchers have collaborated on other projects. All partner organizations will contribute in-kind resources, including staff, technical support, and facilities; some also contribute cash support (see Funds from Other Sources). The chart below summarizes research team members by organization, role, and proportion of time dedicated to this research project.

Organization	Team Member	Role	Time Contribution
University of Alberta, Faculty of Extension	McMahon Gow Fletcher Janes	Primary applicant Co-applicant Co-applicant Collaborator	PI: 40% CI: 5% CI: 5% CI: 5%
Blackfoot (Piikani) Traditional Elder	Manyguns	Collaborator	15%
Piikani Nation Secondary School	Good Rider	Collaborator	10%
Peigan Board of Education	Crowshoe	Collaborator	10%
First Nations (Alberta) Technical Services Advisory Group (TSAG)	Ginther	Collaborator	5%
First Mile Connectivity Consortium (FMCC)	Whiteduck	Collaborator	5%

<u>Faculty of Extension, University of Alberta:</u> Dr. Rob McMahon, Assistant Professor; Dr. Gordon Gow, Associate Professor and Director of MA in Communications and Technology Graduate Program; Dr. Fay Fletcher, Professor and Associate Dean; Dr. Diane Janes, Instructional Designer, LEO.

These university-based researchers all have considerable expertise in this subject area. All are engaged in community-based research projects involving Indigenous and/or international communities, and many include research on digital technologies. The Principal Investigator, Dr. Rob McMahon, is an emerging scholar who has worked on Indigenous-led technology development projects over the past eight years, first during his doctoral research at SFU as a research assistant, then in a postdoctoral capacity at UNB, and finally, for the last three-years, as a co-investigator of a SSHRC-funded project at the UofA. Dr. McMahon also coordinates the First Mile Connectivity Consortium, one of the project partners. He is responsible for the overall coordination and administration of this project, including the research, knowledge mobilization and workshop activities addressed in the Detailed Description document.

<u>Piikani First Nation:</u> Herman Manyguns, Traditional Blackfoot Elder; Crystal Good Rider, Principal of Piikani Nation Secondary School (PNSS); Lisa Crowshoe, Director, Peigan Board of Education (PBOE).

This project is grounded in the knowledge and expertise of Piikani First Nation; many of the collaborators on this project are First Nations organizations and individuals from that community. These partners joined the project in 2016/17, when they co-developed (with Dr. McMahon) the pilot Camp as project planners, researchers, and facilitators. These partners will continue to collaborate in the project by participating in strategic meetings, acting as liaisons between communities and university-based researchers, supporting research, knowledge and workshop activities, and helping with data collection, analysis and dissemination of results. They will also support the project through teaching and negotiating appropriate protocol and practices involved in working with Indigenous Knowledge. They will also contribute to finding appropriate long-term funding streams to sustain the Camp Program.

Working with our Piikani collaborators, we will hire several Indigenous facilitators and instructors to support the Camp Program and associated research. These people will be hired through matching funds provided by the Internet Society (Proposal submitted – funds to be confirmed in Fall 2017), and include camp facilitators; technical experts (digital media production, wireless networking and GIS mapping); and subject matter experts in areas like traditional sports and games; fire-making and storytelling; tipi set-up; traditional foods; boys/girls chaperones; and camp site preparation.

We will also draw on existing digital projects developed in collaboration with Piikani and other research partners. For example, we will feature the SSHRC-funded work undertaken by Dr. Inge Genee at the University of Lethbridge, which includes an online Blackfoot digital dictionary and associated learning resources (see: www.blackfoot.atlas-ling.ca and www.dictionary.blackfoot.atlas-ling.ca). We will also showcase the digital media produced by or featuring Blackfoot community members, such as the National Film Board documentary *Round Up* (https://www.nfb.ca/film/round_up/) and the film *Re-learning the Land: A Story of Red Crow College* (http://films.enlivenedlearning.com/re-learningtheland).

Respecting the entitlement of Intellectual Property in Indigenous Knowledge, as a component of this project we will develop governance resources (following Indigenous protocol and university requirements). Following OCAP™ principles, ownership of digital content will remain the property of Piikani First Nation organizations, while the digital literacy research and learning resources will be made freely available and adaptable by other like-minded groups. We will be working with the Alberta First Nations Information Governance Centre, with Piikani Traditional Knowledge Services, and with Piikani Traditional Elders, to support this work.

First Nations (Alberta) Technical Services Advisory Group (TSAG) provides technical services and training for First Nations in Alberta such as asset management, water and wastewater management, environmental management, housing support services, fire safety, information technology services and youth initiatives. TSAG is mandated by the Chiefs of Alberta and takes direction from a Chiefs Steering Committee and Board of Directors, which include representatives from Treaty 6, Treaty 7, and Treaty 8. TSAG's IT services are providing in-kind support for the project, as well as funding for equipment (tablets). We will use a mobile GIS asset-mapping tool developed by TSAG during the Camp Program.

The Internet Society (North American chapter) (ISOC) is a global cause-driven organization dedicated to ensuring that the Internet stays open and transparent. ISOC's Community Networks office is committed to network development and deployment around the world, including through training, funding support, and community-building initiatives. In September 2017, we applied to ISOC for two years of funding support (2018 and 2019) for the Camp component of the project (results announced in Fall 2017). ISOC will also help raise awareness through its extensive networks. Finally, ISOC has also developed digital literacy resources that will be adapted for the Camp Program, in collaboration with Piikani community members (see: https://www.internetsociety.org/what-we-do/inforum-learn-online).

First Mile Connectivity Consortium (FMCC) is a national non-profit association of Indigenous technology service providers. Tim Whiteduck, chair of FMCC, is the IT Manager with the First Nations Education Council in Quebec. Dr. Rob McMahon is a co-founder of FMCC, and continues to coordinate the organization, which is governed by a Board of regional First Nations partner organizations. FMCC members connect on a regular basis to share best practices and challenges with one another, and with government and other organizations. First Nations communities have set up FMCC member organizations to support their technology and community development initiatives. Their staff are composed of local community leaders and/or community members. FMCC will disseminate project research and learning resources on its website ([www.firstmile.ca)](www.firstmile.ca), and via policy and public outreach.

Relationships with communities will be guided by advice from our partners and the TCPS Chapter 9 (Tri-Council, 2014). Our project will adopt and adapt existing research governance protocols established through the SSHRC-funded First Nations Innovation (FNI) project (see http://firstmile.ca/resources/sharing-resources/). The team is committed to ethical principles of respectful Indigenous research (OCAP) (Schnarch, 2004; Assembly of First Nations, 2007), and the Tri-Council Guidelines for research with Indigenous communities (Tri-Council, 2014). We draw on guidelines developed in a chapter written by team members in an upcoming handbook on online research with Indigenous communities (Beaton, Perley et al., 2016, in press). We are also engaging the Alberta First Nations Information Governance Centre to address OCAP™ principles. Finally, the project follows traditional Blackfoot (Piikani) cultural protocols, including support from Elders and grounding the project in ceremony (Bastien, 2004; Conaty, 2015).

Previous Output
This project builds on 10 years of SSHRC-funded research through the VideoCom, First Mile, and First Nations Innovation (FNI) research projects. The PI, Dr. Rob McMahon, worked for all three projects, first as a PhD student, then postdoctoral fellow, and finally a Co-Investigator. As CI with the FNI project, Dr. McMahon developed a strong partnership with TSAG and Piikani First Nation, and in 2016/2017, co-organized and implemented the pilot Piikani Cultural and Digital Literacy Camp, which is the foundation of this proposal.

Through past research activities, Dr. McMahon and his colleagues investigated how a range of digital technologies and associated applications such as language software, video and audio blogs, interactive websites, and data management systems showcase the innovations led by First Nations entrepreneurs, organizations, and communities. For example, the FNI research team worked with the isolated community of Fort Severn Washaho Cree Nation in northwest Ontario to profile how community members communicate and share information (Gibson et al., 2012). Fort Severn's story (available at http://fortsevern.firstnation.ca/tech_showcase) is just one example from the FNI team's growing research on the desire for First Nations to secure self-determination over digital networks and technologies.

This research resulted in a number of positive outcomes in both academic and government contexts. In October 2016, the FNI/FMCC team was proud to receive a national *Award of Excellence* in the 'Aboriginal' category from the Canadian Race Relations Foundation.[1] The team was funded by Information, Science and Economic Development Canada to produce a report and methodology on *Digital Technology Adoption in Northern and Remote Indigenous Communities* (Beaton, et al., 2016). We also received funding from the Canadian Internet Registration Authority to produce a *Guide to Federal Funding for Indigenous Broadband in Canada* (Blake, McMahon, & Williams, 2016). We have mobilized research from these initiatives in various ways, including for presentations at academic conferences and to staff at federal government agencies, and during interventions before the Canadian

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[1] See: http://firstmile.ca/fmcc-and-fni-receive-award-of-excellence-from-canadian-race-relations-foundation/

Radio-Television and Telecommunications Commission (CRTC). Our knowledge mobilization work has supported the production of digital resources by First Nations communities and technology organizations (McMahon, LaHache et al, 2017). We build on this work through the Piikani project supported in this proposal, and intend to scale up the project processes and resources with FNI/FMCC partners.

The community benefits of First Nations–led digital innovations can be seen in a number of contexts, including First Nations control over digital education resources. For example, in Quebec the First Nations Education Council (an FMCC member organization) is leading a project, with the support of Université Laval, in Lac-Simon aimed at working with teachers on digital literacy skills to support learning. The elementary school project involves gathering local family histories to produce digital storybooks (Bertrand & Jérôme, 2016). In another FNEC-sponsored project in Timiskaming and Long Point, Dr. McMahon and colleagues trained and worked with local youth to conduct household surveys to collect and analyze data on digital literacy needs and interests (McMahon et., 2017). Finally, during a FNEC project in Kahnawake, Dr. McMahon and colleagues worked with youth to produce a video about ICT use in classrooms, and explored local education data management practices (McMahon, LaHache, & Whiteduck, 2015). This project continues to build on these successes.

Given the positive outcomes of these and other research projects, our team also engages in policy advocacy to support Indigenous-led digital innovation. In 2013, we founded the FMCC, a national non-profit association of First Nations technology service providers that is active in a number of policy activities. These include recent regulatory interventions before the CRTC arguing for equitable, affordable access to broadband infrastructure and services for all Canadians, and for funding supports to the community-based regional and local organizations providing digital access to remote and rural First Nations. We document these activities and make all resources publicly available, to support capacity building and knowledge sharing in the area of community-driven policy advocacy.

Student Training
This three-year project will hire 2 Master's-level Graduate Research Assistants (RA): 1 Project Planning and Research Assistant; 1 Public Outreach and Communications Assistant. The team will train and mentor these students, including through a graduate-level course supervised by Dr. McMahon. Students will participate in community-engaged project planning and administration, field research, and workshop planning and facilitation. They will also gain experience in public outreach activities, including participating in the Camp Program and contributing to associated learning resources (facilitator handbook and student workbook). Our approach to student training follows the successful practices developed in our past research and builds on pilot materials and processes established in 2016/2017. Students will also support the final report and Program evaluations, and will contribute to knowledge dissemination through conference participation, article publishing and community outreach.

Students will be recruited from the two Graduate programs currently offered at the Faculty of Extension: Master of Arts in Communication and Technology (MACT); and Master of Arts in Community Engagement (MACE). These programs provide opportunities for students to receive course-credit for community-engaged research projects, and also include Capstone and Thesis projects that are a good fit with proposed activities. This project may also be used to fulfill a MACE student's required 'Community Service Learning' component (160 hours); we will explore this opportunity in Spring 2018.

Finally, all participating students will be encouraged to take a 3-credit 'directed study' course on community-based and Indigenous forms of digital literacy, to provide background to support their research activities. We will also advertise the GRA positions with the Faculty of Native Studies and UAlberta North, given close ties between the focus of this project and those UofA groups.

| Family name, Given name |
| McMahon, Rob |

Funds Requested from SSHRC

For each budget year, estimate as accurately as possible the research costs that you are asking SSHRC to fund through a grant. For each Personnel costs category, enter the number of individuals to be hired and specify the total amount required. For each of the other categories, enter the total amount required.

Personnel costs	Year 1		Year 2		Year 3		Year 4		Year 5	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Student salaries and benefits/Stipends										
Undergraduate										
Masters	2	14,104	2	14,104	2	14,104	0	0	0	0
Doctorate										
Non-student salaries and benefits/Stipends										
Postdoctoral										
Other	1	4,500	1	4,500	1	4,500	0	0	0	0
Travel and subsistence costs	Year 1		Year 2		Year 3		Year 4		Year 5	
Applicant/Team member(s)										
Canadian travel	6,990		6,990		6,990		0		0	
Foreign travel										
Students										
Canadian travel	3,990		3,990		3,990		0		0	
Foreign travel										
Other expenses										
Professional/Technical services										
Supplies										
Non-disposable equipment										
Computer hardware										
Other										
Other expenses (specify)										
Conference travel for partner	1,740		1,740		1,740		0		0	
Honoraria/gifts	1,000		1,000		1,000		0		0	
Data analysis support (RSS)	1,000		1,000		1,000		0		0	
Total	33,324		33,324		33,324		0		0	

Personal information will be stored in the Personal Information Bank for the appropriate program.

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Budget Justification: *Exploring Blackfoot digital literacy*

A) Personnel Costs

Student salaries and benefits - $43,500

Personnel Costs	Yr 1	Yr 2	Yr 3	TOTAL
Graduate Research Assistant (GRA) 7 hpw X 40 weeks / year	12,040	12,040	12,040	**36,120**
Graduate Research Assistant (GRA) 4 hpw X 10 weeks / year	2,064	2,064	2,064	**6,192**

Over the 3-year project, we will recruit and hire **2 Master's students**. One student will plan and conduct research (environmental scan, interviews, focus groups, survey), participate in project governance, facilitate and teach during the Camp, present at conferences and prepare articles. The second student will produce digital literacy resources and support public outreach. As background, students will be required to take a graduate-level course supervised by Dr. McMahon and focused on community-based and Indigenous ICT development. Following the collective agreements of the University of Alberta, salary for Master's-level GRAs is $43 per hour (including 10% benefits). We budgeted for the research assistant to work 7 hpw (1 day) for 40 weeks per year ($13,760); and for the communications assistant to work 4 hpw (1 half-day) for 10 weeks per year ($2,064). Total cost for Master's students is: $42,312.

Non-student salaries and benefits - $10,500

Personnel Costs	Yr 1	Yr 2	Yr 3	TOTAL
Traditional Blackfoot Elder Herman Manyguns	4,500	4,500	4,500	13,500

Over the 3-year project, we will hire **Blackfoot Elder Herman Manyguns**. Herman was instrumental in planning and leading the first Piikani Cultural and Digital Literacy Camp Program, and will continue in this role. He will also participate by sharing his knowledge and facilitating the Camp Program. Following cost protocols developed by UofA, Herman will be paid $500 / day for: 3 planning days, 3 days at camp, and 3 post-camp days. Total cost to hire Herman is: $4,500 per year.

B) Travel for research purposes

30 community visits for PI and Project Planning and Research Assistant - $22,500
As outlined in the schedule of project activities, this project requires ongoing community visits for the PI: 21 community visits (7 per year) – including travel to/from the annual Camp. We budgeted for one (1) GRA to accompany the PI on 9 community visits (3 per year): 1 pre-camp, 1 Camp, and 1 post-camp. Regular community visits consist of traditional protocol, project planning, research, outreach, and teaching activities. They include meetings with leadership and community members to discuss research agreements, protocols, outcomes, and co-authorship. Total number of visits: 10 per year (30 total).

The budget for each visit is based on 2 days/2 nights of travel to/from Piikani First Nation and follows UofA travel policies. It includes: travel by car ($300 for rental/gas or mileage); hotel rooms @ $150/night; and food/incidental per diem @ UofA rates of $60/day + $30/incidentals). We budgeted for $750 per person per community visit ($300 travel; $300 hotel; $120 per diem; $30 incidentals).

C) Travel for communication and knowledge mobilization purposes

3 conference presentations and team meetings for PI, GRA and Community Partner - $15,660
Travel to Congress of Humanities and Social Sciences or another conference for three members of the project team (PI, 1 GRA, 1 community partner). We include year 1 to present on existing pilot data. Per person: Average return airfare from to/from Canadian/international city: $700; hotel accommodation X 3 nights $450; conference fees avg. $200; Local travel / airport transfers X 2 transfers $50; UofA per diem X 4 days $240; incidentals/contingency $100. Total: $1,740 for each person X 3 people: $5,220 per year.

D) Other expenses

Honoraria for community participants - $3,000: Our budget is based on $1,000 per year ($700 for Elder honoraria and ceremonial supplies like tobacco and $300 for gifts for volunteers ($50 X 6ppl).

Data Analysis Support – $3,000: We will work with Research Support Services at the Faculty of Extension, University of Alberta. This unit has expertise in survey design, data analysis, and evaluation and reporting, and will support GRA training. We will contribute $1,000 / year to RSS ($50/hr X 20 hrs).

E) In-kind and cash supports – *Please see "Funds from Other Sources" for details*

Camp Program Staff – Cash Support – $10,000 ($5,000 / year for 2 years provided by ISOC)
This covers all Camp facilitators and support staff for 3 days: Camp cook and assistant; TKS facilitator; Elder facilitators (x2); Wi-Fi networking facilitator; Digital content creation facilitator; Boys facilitator and chaperone; Girls facilitator and chaperone; Camp site preparation assistants (x2).

Camp Program Staff – In-kind Support: $24,750 ($8,250 / year)
This covers program staff from PNSS, including: Camp coordinator (5 days); technical support (12 days); and a teacher (10 days) (27 days total per year X $250 day = $8,250 / year).

Project Administration – In-kind Support: $79,500 ($26,500/ year)
This covers Project Administration support from staff (collaborators) at TSAG and FMCC (1 day/month X 2 people X $1000 day) and Piikani Secondary (10 days X 1 person X $250 / day) = $26,500 / year.

Camp Food and Supplies – Cash Support: $20,000 ($10,000 / year for 2 years provided by ISOC)
This covers all supplies and food associated with the camp (30 people X 3 days/3 nights).[1] It includes the following items: Moccasins for students (10 X $150); Ceremonial honoraria and supplies (tobacco, etc); Campsite fee; Camp food and supplies; Graduation supplies (certificate, frame, eagle feathers: 10 X $50); Travel support for out-of-town facilitators; Contingency fund for camp.

Camp Digital Equipment and Software: $9,000 ($3,000 / year provided by TSAG)
Covers equipment and software for the project (ex. 10 tablets / year @ $300; GIS application at no cost).

Program Printing and Public Outreach Support: $3,000 ($1,000 / year provided by TSAG)
TSAG will support the printing of outreach materials (workbooks, handouts, and/or posters).

Project Support (General) – Cash Support: $3,000 ($1,000 / year provided by Faculty of Extension, University of Alberta). This covers any additional travel, staff and/or resources required by the PI.

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[1] During the 3-night camp, as noted in the 'Travel for Research Purposes' section, the PI & GRA will be staying 2 days/nights for planning and debrief/cleanup. However, their accommodation/per diem/etc. at the Camp is covered in the "Camp Food and Supplies" budget.

Funds from Other Sources

You must include all other sources of funding for the proposed research. Indicate whether these funds have been confirmed or not.

Full organization name Contribution type	Confirmed	Year 1 Year 5	Year 2	Year 3	Year 4
First Mile Connectivity Consortium In Kind	☒	12,000 0	12,000	12,000	0
First Nations (Alberta) Technical Services Advisory Group Cash	☒	16,000 0	16,000	16,000	0
Internet Society Cash	☐	15,000 0	15,000	0	0
Peigan Board of Education/Piikani Nation Secondary School Staff	☒	8,250 0	8,250	8,250	0
University of Alberta, Faculty of Extension Cash	☒	1,000 0	1,000	1,000	0
	☐				
	☐				
	☐				
	☐				
Total funds from other sources		52,250 0	52,250	37,250	0

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Family name, Given name

McMahon, Rob

Suggested Reviewers

List Canadian or foreign specialists whom SSHRC may ask to assess your proposal.

List keywords that best describe the assessor's areas of research expertise. Please refer to the Suggested Assessors section of the detailed instructions for more information on conflicts of interest.

Family name	Given name	Initials	Title

Org. code	Full organization name	Keywords

Department/Division name	Address

	Country code	Area code	Number	Extension	City/Municipality	Prov./State	Postal/Zip code

Telephone number

Fax number

Country

E-mail

Family name	Given name	Initials	Title

Org. code	Full organization name	Keywords

Department/Division name	Address

	Country code	Area code	Number	Extension	City/Municipality	Prov./State	Postal/Zip code

Telephone number

Fax number

Country

E-mail

Family name	Given name	Initials	Title

Org. code	Full organization name	Keywords

Department/Division name	Address

	Country code	Area code	Number	Extension	City/Municipality	Prov./State	Postal/Zip code

Telephone number

Fax number

Country

E-mail

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Canadä

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Internal use	CID (if known)
682054	199857

Identification

Only the information in the Name section will be made available to selection committee members and external assessors. Citizenship and Statistical and Administrative Information will be used by SSHRC for administrative and statistical purposes only. Filling out the statistical and Administrative Information section is optional.

Name

Family name	Given name	Initials	Title
McMahon	Rob	D	Dr.

Citizenship - Applicants and co-applicants must indicate their citizenship status by checking and answering the applicable questions.

Citizenship status	⦿ Canadian	◯ Permanent resident since (yyyy/mm/dd) _____	◯ Other (country) _____	Have you applied for permanent residency? ◯ Yes ◯ No

Statistical and Administrative Information

Birth year	Gender	Permanent postal code in Canada (i.e. K2P1G4)	Correspondence language	Previous contact with SSHRC? (i.e. applicant, assessor, etc.)
1979	◯ F ⦿ M	T6M1B5	⦿ English ◯ French	⦿ Yes ◯ No

Full name used during previous contact, if different from above

Contact Information

The following information will help us to contact you more rapidly. Secondary information will not be released by SSHRC without your express consent.

Primary telephone number				Secondary telephone number			
Country code	Area code	Number	Extension	Country code	Area code	Number	Extension
	780	248-1110					

Primary fax number				Secondary fax number			
Country code	Area code	Number	Extension	Country code	Area code	Number	Extension

Primary E-mail	rdmcmaho@ualberta.ca
Secondary E-mail	dr.rob.mcmahon@gmail.com

Personal information will be stored in the Personal Information Bank for the appropriate program.

Checked

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2017/10/13

Identification

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Canada

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Family name, Given name

McMahon, Rob

Current Address

Use only if you are not affiliated with a department at a Canadian university. (If you are affiliated with a department at a Canadian university, the department's mailing address will be used.) If you wish to use another address, specify it under the Correspondence Address.

Correspondence Address

Complete this section if you wish your correspondence to be sent to an address other than your current address.

Address

_____

_____

_____

City/Municipality	Prov. / State	Postal/Zip code

Country

Address

_____

_____

_____

City/Municipality	Prov. / State	Postal/Zip code

Country

Temporary Address

If providing a temporary address, phone number and/or E-mail, ensure that you enter the effective dates.

Address

_____

_____

_____

City/Municipality	Prov./ State	

Country

Permanent Address in CANADA

Address

83 Gariepy Cres NW

_____

_____

City/Municipality	Prov./ State	Postal/Zip code
Edmonton	AB	T6M1B5

Country

Start date (yyyy/mm/dd)	End date (yyyy/mm/dd)	Temporary telephone/fax number
		Country code Area code Number Extension

Temporary E-mail

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Address

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Family name, Given name

McMahon, Rob

Research Expertise (optional)

The information provided in this section refers to your own research expertise, not to a research proposal. Filling out the following 4 sections is optional. This page will not be seen by selection committee members and external assessors. This section will be used for planning and evaluating programs, producing statistics, and selecting external assessors and committee members.

Areas of Research

Indicate and rank up to 3 areas of research that best correspond to your research interests as well as areas where your research interests would apply. Duplicate entries are not permitted.

Rank	Code	Area
1	120	Communication
2	240	Indigenous peoples
3	242	Information Technologies

Temporal Periods

If applicable, indicate up to 2 historical periods covered by your research interests.

From			To		
Year	BC	AD	Year	BC	AD
——————	◯	◯	——————	◯	◯
——————	◯	◯	——————	◯	◯

Geographical Regions

If applicable, indicate and rank up to 3 geographical regions covered by your research interests. Duplicate entries are not permitted.

Rank	Code	Region
1	1000	North America
2	1140	Northern Canada
3		

Countries

If applicable, indicate and rank up to 5 countries covered by your research interests. Duplicate entries are not permitted.

Rank	Code	Countries	Prov./State
1	1100	CANADA	
2	1200	UNITED STATES	
3			
4			
5			

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Curriculum Vitae

Family name, Given name
McMahon, Rob

Language Proficiency

	Read	Write	Speak	Comprehend aurally	Other languages
English	☒	☒	☒	☒	
French	☐	☐	☐	☐	

Work Experience

List the positions, academic and non-academic, you have held beginning with the current position and all previous positions in reverse chronological order, based on the start year.

Current position	Start date (yyyy/mm)
Assistant Professor	2015/7

Org. code	Full organization name
1480111	University of Alberta

Department/Division name

Faculty of Extension

Position type	○ Tenured	○ Non-tenure	Employment status	⦿ Full-time	○ Part-time
	⦿ Tenure-track	○ Non-academic		○ Non-salaried	○ Leave of absence

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Junior Evaluator	2014/6	2015/1

Org. code	Full organization name
3000371	International Development Research Centre

Department/Division name

Information and Communication Technologies for Development (ICT)

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Co-ordinator	2013/1	

Org. code	Full organization name
1	First Mile Connectivity Consortium

Department/division name

First Mile Connectivity Consortium

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Postdoctoral fellow or associate	2013/6	2015/7

Org. code	Full organization name
1130211	University of New Brunswick

Department/Division name

Sociology

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Family name, Given name
McMahon, Rob

Work Experience (cont'd)

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Co-ordinator	2011/4	2013/6

Org. code	Full organization name
1590611	Simon Fraser University

Department/Division name
Centre for Policy Research on Science & Technology

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Researcher	2010/8	2010/12

Org. code	Full organization name
1590611	Simon Fraser University

Department/Division name
Centre for Policy Research on Science & Technology

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Visiting Scholar	2010/1	2010/5

Org. code	Full organization name
9933102	University of Pennsylvania

Department/Division name
Center for Global Communication Studies (CGCS)

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Research Assistant	2009/5	2010/10

Org. code	Full organization name
1590611	Simon Fraser University

Department/Division name
School of Communication

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Teaching Assistant	2007/9	2012/5

Org. code	Full organization name
1590611	Simon Fraser University

Department/Division name
School of Communication

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Family name, Given name

McMahon, Rob

Work Experience (cont'd)

Position	Start date (yyyy/mm)	End date (yyyy/mm)
Federal government employee	2005/5	2006/4

Org. code	Full organization name
1	Indian and Northern Affairs Canada

Department/Division name

Federal Treaty Negotiation Branch

Position	Start date (yyyy/mm)	End date (yyyy/mm)

Org. code	Full organization name

Department/Division name

Position	Start date (yyyy/mm)	End date (yyyy/mm)

Org. code	Full organization name

Department/Division name

Position	Start date (yyyy/mm)	End date (yyyy/mm)

Org. code	Full organization name

Department/Division name

Position	Start date (yyyy/mm)	End date (yyyy/mm)

Org. code	Full organization name

Department/Division name

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Canada

Family name, Given name

McMahon, Rob

Academic Background

List up to 5 degrees, beginning with the highest degree first and all others in reverse chronological order, based on the start date.

Degree type	Degree name	Start date (yyyy/mm)	Expected date (yyyy/mm)	Awarded date (yyyy/mm)
Doctorate	PhD	2007/09		2013/05

Disc. code	Discipline	Did SSHRC support enable you to get this degree?
50600	Communications and Media Studies	● Yes ○ No

Org. code	Organization
1590611	Simon Fraser University

Country	CANADA

Degree type	Degree name	Start date (yyyy/mm)	Expected date (yyyy/mm)	Awarded date (yyyy/mm)
Master's		2003/09		2005/05

Disc. code	Discipline	Did SSHRC support enable you to get this degree?
50610	Journalism, Broadcasting	○ Yes ● No

Org. code	Organization
1590111	The University of British Columbia

Country	CANADA

Degree type	Degree name	Start date (yyyy/mm)	Expected date (yyyy/mm)	Awarded date (yyyy/mm)
BA Gen.		1997/09		2003/05

Disc. code	Discipline	Did SSHRC support enable you to get this degree?
51099	History/Writing (Double Major with Distinction)	○ Yes ● No

Org. code	Organization
1590711	University of Victoria

Country	CANADA

Degree type	Degree name	Start date (yyyy/mm)	Expected date (yyyy/mm)	Awarded date (yyyy/mm)

Disc. code	Discipline	Did SSHRC support enable you to get this degree?
		○ Yes ○ No

Org. code	Organization

Country	

Degree type	Degree name	Start date (yyyy/mm)	Expected date (yyyy/mm)	Awarded date (yyyy/mm)

Disc. code	Discipline	Did SSHRC support enable you to get this degree?
		○ Yes ○ No

Org. code	Organization

Country	

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Family name, Given name
McMahon, Rob

Credentials

List up to 6 licences, professional designations, awards and distinctions you have received and feel would be the most pertinent to the adjudication of your application. List them in reverse chronological order, based on the year awarded.

Category	Name	Source or Country	Duration (Months)	Value / Year awarded
Fellowship	SSHRC Postdoctoral Fellowship (Declined)	Federal Government CANADA	24	$81,000 2015
Academic Prize	Dean's Convocation Medal	University	0	$0 2014
Graduate Scholarship	CanWest Global Graduate Fellowship in Communicatio	Private Sector CANADA	12	$14,500 2012
Fellowship	Doctoral Fellowship (SSHRC)	Federal Government CANADA	24	$40,000 2009
Graduate Scholarship	Shahrgon Award in Critical Independent Journalism	Private Sector CANADA	0	$1,000 2009
Academic Prize	Van Horne Award - Best Student Paper	Canadian Communications Association	1	$1,000 2008

Research Expertise

The information provided in this section refers to your own research expertise, not to a research proposal.

Keywords

List keywords that best describe your areas of research expertise. Separate keywords with a semicolon.

Communication; Critical Media Studies; Community Informatics Research and Practice; Indigenous Peoples and ICT; Telecommunications Policy and Regulation; Digital Media and Infrastructures; Policy Advocacy

Disciplines

Indicate and rank up to 5 disciplines that best correspond to your research interests. Duplicate entries are not permitted.

Rank	Code	Discipline	If Other, specify
1	50600	Communications and Media Studies	
2	50624	Communication Development	
3	50608	Communications Policy	
4	50606	Communication Technology, Informatics	
5	63400	Sociology	

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Family name, Given name
McMahon, Rob

Funded Research

List up to 8 grants or contracts you have received from SSHRC or other sources. List them in reverse chronological order, based on the year awarded. If you are not the applicant (principal investigator), specify that persons' name.

Org. code	Full name of funding organization	Year awarded (yyyy)	Total amount (CAN$)
1	Canadian Internet Registration Authority (CIRA)	2017	$30,000

Role		Completion status ☐ Complete
Applicant		

Project title	Supporting Digital Literacy Learning and Resources with Gwich'in Tribal Council

Applicant's family name	Applicant's given name	Initials
McMahon	Rob	

Org. code	Full name of funding organization	Year awarded (yyyy)	Total amount (CAN$)
3010325	Social Sciences and Humanities Research Council of Canada	2016	$28,600

Role		Completion status ☐ Complete
Co-applicant		

Project title	Beyond Infrastructure: Strategies to Support Adoption and Realize Benefits of Broadband in Rural Canada

Applicant's family name	Applicant's given name	Initials
Halstrom	Lars	

Org. code	Full name of funding organization	Year awarded (yyyy)	Total amount (CAN$)
1	Government of NWT	2016	$11,700

Role		Completion status ☒ Complete
Applicant		

Project title	Exploring digital literacy with Gwitch'in Tribal Council

Applicant's family name	Applicant's given name	Initials
McMahon	Rob	

Org. code	Full name of funding organization	Year awarded (yyyy)	Total amount (CAN$)
3010325	Social Sciences and Humanities Research Council of Canada	2015	$81,000

Role		Completion status ☒ Complete
Applicant		

Project title	(DECLINED): SSHRC Postdoctoral Fellowship: Indigenous Nations in the Network Society

Applicant's family name	Applicant's given name	Initials
McMahon	Rob	

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Funded Research (cont'd)

Org. code	Full name of funding organization	Year awarded (yyyy)	Total amount (CAN$)
1	Canadian Internet Registration Authority (CIRA)	2015	$30,000

Role	Co-applicant	Completion status [X] Complete

Project title	.CA Community Investment Program: Serving the unserved: Shaping digital policy to support community broadband with remote First Nations across Canada

Applicant's family name	Applicant's given name	Initials
McMahon	Rob	

Org. code	Full name of funding organization	Year awarded (yyyy)	Total amount (CAN$)
1	Government of Alberta (Ministry of Economic Development and Trade)	2015	$17,500

Role	Co-applicant	Completion status [X] Complete

Project title	Development of Alberta Broadband Toolkit

Applicant's family name	Applicant's given name	Initials
McNally	Michael	

Org. code	Full name of funding organization	Year awarded (yyyy)	Total amount (CAN$)
1	Kule Institue for Advanced Study (KIAS). Funding program: Create Research Archives for Tomorrow	2015	$10,000

Role	Co-applicant	Completion status [X] Complete

Project title	DigiCom (Digital Communities Broadband Portal)

Applicant's family name	Applicant's given name	Initials
McNally	Michael	

Org. code	Full name of funding organization	Year awarded (yyyy)	Total amount (CAN$)
3010325	Social Sciences and Humanities Research Council of Canada	2012	$496,380

Role	Co-applicant	Completion status [ ] Complete

Project title	Impact Grant - First Nations Innovation (Broadband-enabled community services in remote and rural First Nations)

Applicant's family name	Applicant's given name	Initials
O'Donnell	Susan	

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McMahon - Research Contributions: *Exploring Blackfoot digital literacy through the Piikani Cultural and Digital Literacy Camp Program*

1. Relevant Research Contributions Over the Last Six Years (October 2011 - October 2017)
Co-authors on the publications listed below include First Nation partners, community members, and academic colleagues.

Refereed Contributions - scholarly refereed journals
McMahon, R., Whiteduck, T., Chasle, A., Chief, S., Polson, L. & Rodgers, H., (2017). Indigenizing digital literacies: Community informatics research with the Algonquin First Nations of Timiskaming and Long Point. *Engaged Scholar Journal* 2(1).
McMahon, R., LaHache, T., & Whiteduck, T. (2015). Digital data management as Indigenous resurgence in Kahnawà:ke. *International Indigenous Policy Journal* 6(3).
McMahon, R. (2014). From digital divides to the First Mile: Indigenous peoples and the network society in Canada. *International Journal of Communication* 8(1).
McMahon, R., Hudson, H.E. & Fabian, L. (2014). Indigenous Regulatory Advocacy in Canada's Far North: Mobilizing the First Mile Connectivity Consortium. *Journal of Information Policy* 4(1).
McMahon, R., Gurstein, M., Beaton, B., O'Donnell, S., & Whiteduck, T. (2014). Making Information Technologies Work at the End of the Road. *Journal of Information Policy* 4(1).
McMahon, R. & Mangiok, T. (2014). From the First Mile to Outer Space: Tamaani Satellite Internet in Northern Quebec. *Journal of Community Informatics* 10(2).
McMahon, R. Philpot, D. O'Donnell, S., Beaton, B. Whiteduck, T., Burton, K. & Gurstein, M. (2014). Introduction to the Special Issue: The First Mile of Broadband Connectivity in Communities. *Journal of Community Informatics* 10(2).
O'Donnell, S., Johnson, L., Kakepetum-Schultz, T., Burton, K., Whiteduck, T., Mason, R., Beaton, B., McMahon, R., & Gibson, K. (2013). Videoconferencing for First Nations Community-Controlled Education, Health and Development. *Electronic Journal of Communication* 23(1-2).
McMahon, R., O'Donnell, S., Smith, R., Walmark, B., Beaton, B., & Simmonds, J. (2011). Digital Divides and the 'First Mile': Framing First Nations broadband development in Canada. *International Indigenous Policy Journal* 2(2).
McMahon, R. & Chow-White, P.A. (2011). News Media Encoding of Racial Reconciliation: Developing a Peace Journalism Model for the Analysis of 'Cold' Conflict, *Media, Culture & Society* 33(7).
McMahon, R. (2011). The Institutional Development of Indigenous Broadband Infrastructure in Canada and the U.S.: Two Paths to 'Digital Self-Determination'. *Canadian Journal of Communication* 36(1).

Refereed contributions - book chapters
McMahon, R., Hudson, H.E. & Fabian, L. (2017). Canada's Northern Communication Policies: The Role of Aboriginal Organizations in N. Mulé & G. DeSantis (eds.), *The Shifting Terrain: Public Policy Advocacy in Canada*, Montreal and Kingston: McGill-Queen's University Press.

Chow-White, P. A. & McMahon, R. (2012). Examining the 'Dark Past' and 'Hopeful Future' in Representations of Race and Canada's Truth and Reconciliation Commission in I. S. Shaw; R. A. Hackett & J. Lynch (eds.), *Expanding Peace Journalism*. Sydney: Sydney University Press.

Non-refereed contributions - 'notes from the field', published research reports

Smith, T.J., McMahon, R. & Whiteduck, T. (2017). *An Open Source GIS and Mapping Methodology for Internet Access in Remote and Rural Indigenous Communities*. First Mile Connectivity Consortium. February. 43 pages.

McNally, M.B., McMahon, R., Rathi, D., Pearce, H., Evaniew, J., & Prevatt, C. (2017). *Understanding Community Broadband: The Alberta Broadband Toolkit. University of Alberta*. January. 50 pages.

McMahon, R. (2016). Book Review for 'Coded Territories: Tracing Pathways in New Media Art'. *BC Studies*.

Blake, S., McMahon, R. & Williams, D. (2016). *A Guide to Federal Funding for Indigenous Broadband in Canada. First Mile Connectivity Consortium*. April. 44 pages.

Beaton, B., McMahon, R., O'Donnell, S., Hudson, H., Whiteduck, T. & Williams, D. (2016) *Digital Technology Adoption in Northern and Remote Indigenous Communities*. Prepared for Industry Canada (contract 5027687) January. 165 pages.

McMahon, R., Whiteduck, T., & Timiskaming First Nation (2015). First Mile Methodologies in Community Informatics Research: Learning from First Nations (Notes from the Field), *Journal of Community Informatics*, 11(3).

Reilly, K.M. & McMahon, R. (2015). *Quality of Openness: Evaluating the Contributions of IDRC's Information and Networks Program to Open Development*. Ottawa: Information and Networks Program: International Development Research Centre, March. 97 pages.

McMahon, R. (Spring 2014). Creating an Enabling Environment for Digital Self-Determination, *Media Development*.

McMahon, R., Hudson, H., & Fabian, L. (2014). The First Mile Connectivity Consortium and Digital Regulation in Canada (Notes from the Field), *Journal of Community Informatics* 10(2).

Forthcoming contributions

McMahon, R., Smith, T.J., & Whiteduck, T. (Accepted for Publication, 2017). Reclaiming Geospatial Data and GIS Design for Indigenous-led Telecommunications Policy Advocacy: Mapping Broadband Availability in Remote and Northern Regions of Canada. *Journal of Information Policy.*

McMahon, R. (Forthcoming, 2017). Book Review for 'Journalism in Crisis: Bridging Theory and Practice for Democratic Media Strategies in Canada'. *Canadian Journal of Communication*.

McMahon, R. (Accepted for Publication, 2017). Satellite Internet in B. Wharf (eds.), *The SAGE Encyclopedia of the Internet* (3rd edition).

2. Other Research Contributions

Since becoming involved in research with Indigenous communities in 2010, I have worked with Indigenous partners to bridge community-academic knowledge through research co-creation. Academic publications are one important goal of research, but another is working together with community

partners to co-develop and translate knowledge and findings in ways that meet their needs. This is reflected in activities that led to the work described in this proposal:

1. Co-develop research tools and resources with partners. For example, First Nations Innovation/First Mile project partners expressed interest in co-developing Digital Literacy resources and Community ICT Research Toolkits that can be adapted and used by First Nations to collect and manage their own technology projects – an area to be explored and developed in this proposed project through a partnership with Piikani First Nation, and through a related project with Gwich'in Tribal Council.

2. Co-develop knowledge mobilization activities, such as through policy advocacy and producing community stories. For example, I am collaborating with partners to develop different ways that Indigenous communities (and others) can be involved in deliberations about communication policy and regulation. This involves working to address structural barriers to participation – from institutional frameworks and overly technical language, to geographic challenges that restrict participation in public hearings, such as those held by the CRTC.

3. Most Significant Career Research Contributions
1) I see my most significant research contributions as publications in peer-reviewed journals that have also informed policy proposals. I am most proud of our team's work in contributing evidence-based policy recommendations to federal agencies and departments, including the CRTC, Innovation, Science and Economic Development (ISED), and Indigenous and Northern Affairs Canada (INAC). In 2015–17, we mobilized our team's work at national regulatory hearings held by the CRTC (CRTC 2015-134, "Review of basic telecommunications services"). During these public hearings, we presented our research in both written and oral form – including during a panel that featured several participants from First Nations technology organizations and communities. Along with other Indigenous and public interest interveners, this work supported the Commission's decision to establish a new $750M infrastructure fund to support broadband deployment in unserved and under-served areas. Our submission was cited in the Commission's decision 9 times.[1] I think that this work is significant because it demonstrates both academic and applied research, as reflected in several articles and chapters listed in my "Research Contributions." Further, I am honoured that our work on this project received a national Award of Excellence from the Canadian Race Relations Foundation in October 2016.

2) Since its publication in December 2011, an article I led ("Digital Divides and the 'First Mile': Framing First Nations broadband development in Canada") has been downloaded over 2,500 times. The article helped generate a framework to mobilize existing research on First Nations broadband development in Canada. The international application of the First Mile concept and approach was explored in a special issue of the *Journal of Community Informatics* (2014), and the First Mile has been referenced in federal government reports on northern connectivity, interventions during CRTC public hearings, and during our team's 2016 Award of Excellence (noted above). Across Canada, rural and remote First Nations face a significant "digital divide." As self-determining autonomous nations, they are undertaking locally driven broadband initiatives to address these challenges. The First Mile approach argues these projects offer evidence why policy-makers must support the situated needs of these

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[1] See: http://www.crtc.gc.ca/eng/archive/2016/2016-496.htm

communities in ways that move beyond the historical context of paternalistic, colonial-derived broadband development policies.

3) My article with Peter Chow-White, "News Media Encoding of Racial Reconciliation: Developing a Peace Journalism Model for the Analysis of 'Cold' Conflict," makes a contribution to the theory and practice of Peace Journalism (PJ). Theoretically, we argued that PJ must be revised to support analyses of "cold" conflicts, such as representations of race, by incorporating insights drawn from critical race theory. To facilitate this focus on structural conflicts, we argued that PJ theory must be operationalized to incorporate both agenda-setting and framing theory, and developed an analytical model that researchers can use to critically examine mediated representations of racial conflicts. After publication, the article was revised and published as a chapter in the edited volume *Expanding Peace Journalism*. Since then, the article and book chapter have been cited by people writing on PJ initiatives in Britain, Finland, Fiji, South Africa, and elsewhere in Canada. The framework developed through this work has also informed graduate research projects, including a recent Master's thesis from the Department of Media and Communications at the London School of Economics.

4. Career Interruptions and Special Circumstances
N/A

5. Contributions to Training
My training contributions are reflected in my activities at the university and through engaging with partner communities and organizations.

1) Starting in 2015, I have supervised graduate studies through the Master of Arts in Communication and Technology (MACT) and Master of Arts in Community Engagement (MACE) programs at the University of Alberta. As of October 2017, I have supervised to completion the final Capstone projects of 11 MACT students.

2) Since 2011, I have co-supervised (with FNI and First Mile colleagues) 3 undergraduate and 6 graduate research assistants through research and public outreach projects funded by SSHRC, the Canadian Internet Registration Authority (CIRA), and others. This work generated a number of publications, including at national and international conferences. I recently supervised a PhD student to produce a report on Funding for Aboriginal broadband in Canada, and two Graduate students to support Digital Literacy projects in Inuvik (Gwich'in Tribal Council) and with Piikani First Nation. I also supervised the production of over 80 community stories and videos published on the FirstMile.ca website.

3) Since 2010, I have worked closely with First Nations partners on research, public outreach, and policy advocacy projects. This included supporting their participation on several panels during regulatory interventions before the CRTC, and at academic conferences. I attended some of these events in person, while others involved working with partners to present on our team's behalf. I have also collaborated with First Nations community and organizational partners to produce community stories, short documentary-style videos, publications, and presentations at academic conferences, data collection, and analysis procedures and tools, and toolkits to support community-based research activities.