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Working with Northern Communities to Build Collaborative Research Partnerships: Perspectives from Early Career Researchers

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INTRODUCTION

PARTNERSHIPS BETWEEN NORTHERN COMMUNITIES and academics have existed for decades, yet new attitudes regarding northern scholarship have shifted the research paradigm towards one that is more collaborative, interdisciplinary, and reflective of northern people's priorities (Gearhead and Shirley, 2007; Wolfe et al., 2011; Adams et al., 2014). These shifting priorities have been largely driven by comprehensive land-claim agreements (e.g., the Yukon Umbrella Final Agreement, several land-claim agreements in the Northwest Territories, Nunavut, and northern Quebec, and the Labrador Inuit Land Claims Agreement) that have led to various types of natural resource management, from co-management through self-government. Community involvement is an important component of licensing requirements for research in the three Canadian territories, and communities are calling for increasing participation—at every level—in research programs that take place in their region (First Nations Centre, 2007a, b; ITK and NRI, 2007; Nickels and Knotsch, 2011), including a role for indigenous researchers (McGregor et al., 2010).

This growing impetus for local community involvement in northern research is often driven by the rapid environmental, socioeconomic, and developmental changes affecting northern communities and ecosystems (Berkes and Jolly, 2002; Armitage et al., 2011; Ford et al., 2013). The result has been efforts to form community-collaborative research programs across disciplines ranging from health (Jardine and Furgal, 2010; Wesche et al., 2011) and environmental sciences (Marcoux et al., 2011) to social sciences (Nahanni, 1977; Ryan and Robinson, 1990; Caine et al., 2007; Lyons, 2013), although many academic practices are still adapting to this paradigm shift.

Community-collaborative research, for the purposes of this paper, is an overarching term that encompasses different approaches to research (e.g., community-engaged research, community-based participatory research, community-based monitoring) that involves engaging local communities and individuals in the research process with the goal of sharing or co-generating knowledge to understand complex problems and bring about change through policy.

Several models of community-collaborative research have been adopted, which differ in the degree of community engagement (St. Denis, 1992; Whitelaw et al., 2003; Armitage, 2005; Danielsen et al., 2009). Regardless of the framework or approach used, the very core of community-collaborative research is developing a partnership between communities and visiting researchers and involving communities in the research process in a meaningful way.

Collaborations between visiting researchers and local communities are important, not only to advance northern scholarship, but to address the needs of local communities, build capacity, and inform local decision makers. Social and natural science research in the Arctic often directly and indirectly affect communities, whether through the research process itself, or through the implications of the research for policy and management (Pearce et al., 2009; Ogden and Thomas, 2013; Audla and Smith, 2014). Thus, it is an ethical responsibility to involve local communities in any research that is within their traditional territory. From a practical perspective, communities can also provide logistical support and local expertise through expert knowledge of the socio-ecological landscape and local protocols for respectful research, which is essential to most northern research programs. Furthermore, the inclusion of traditional and local knowledge in northern studies is becoming increasingly valuable for evolving Arctic research and advancing collaborative partnerships between researchers and northern communities (Reidlinger and Berkes, 2001; McGregor et al., 2010; Knopp et al., 2012; Kokelj et al., 2012; Robus, 2012; Simmons et al., 2012; Smith et al., 2012).

Including community-collaborative approaches in study design can inform and advance northern research programs (Mallory et al., 2003; Gilchrist et al., 2005) and decision making (Armitage, 2005). For example, community-collaborative approaches have been successful in identifying health determinants (Jardine and Furgal, 2010; Durkalec et al., 2014); characterizing food security (Lardeau et al., 2011); informing monitoring and management of caribou (Parlee et al., 2005), waterfowl (Gilchrist et al., 2005), and marine mammals (Armitage, 2005; Brook et al., 2009); and guiding archaeological research (Robinson, 1996; Lyons, 2011). Although research licensing authorities and organizations representing indigenous groups in Canada have

set guidelines for community-collaborative research (First Nations Centre, 2007a, b; ITK and NRI, 2007; NAHI and IT, 2009; Aurora Research Institute, 2011; Government of Canada, 2013; Yukon Research Centre, 2013), community stakeholders (residents, local governments, and regulatory authorities) have indicated that there is room for improvement (Aurora Research Institute, 2013; Audla and Smith, 2014). Accordingly, northern researchers are increasingly encouraged to familiarize themselves with best practices for integrating community collaboration into their research programs.

In Canada, early career researchers (ECRs) have a strong desire to meet the growing demand to work closely and collaboratively with northern communities, yet many ECRs are uncertain on how to proceed with this type of research design. Undertaking community-collaborative research can be a daunting task for ECRs who are often restricted by time and a lack of experience on how to effectively build and employ research collaborations with northern communities. Many ECRs report that they do not have enough mentorship within their institutions to support their community-collaborative research efforts, and they lack adequate skills and information required to undertake this task in a meaningful way. Despite the requirements and benefits of community-collaborative research, many researchers—even experienced ones—admit that they do not have the necessary contacts, experience, or resources to engage community members actively beyond the minimum permitting process.

To support ECRs in their efforts to conduct community-collaborative research and develop local community partnerships in northern Canada, the ArcticNet Student Association (ASA) and the Association of Polar Early Career Scientists (APECS) convened two “Community-driven Research” sessions during a two-day Career Development Workshop at the International Polar Year (IPY) 2012 Conference in Montreal, Canada. Here, we describe the sessions, report common themes that were addressed, and summarize the resulting discussions. We also provide our perspectives and lessons learned while working on community-collaborative research projects in northern Canada. We hope to provide insight from the experiences of ECRs that have been working towards the new northern research paradigm, and provide suggestions to guide new ECRs to conduct community-collaborative research successfully.

IPY CAREER DEVELOPMENT WORKSHOP SESSIONS: COMMUNITY-DRIVEN RESEARCH

More than 150 undergraduate, graduate, post-graduate, and post-doctoral researchers attended the IPY career development workshop entitled “From Knowledge to Careers,” which aimed to help ECRs develop skills needed for work and collaboration in international and interdisciplinary circumpolar research. During the two-day workshop,

a one-hour “community-driven research” session was held twice and led by APECS mentors (John Crump, Nikolaus Gantner, and Deborah Simmons) who have considerable experience working with northern indigenous communities. This mentor-based approach allowed for an iterative progression in framing the discussion and facilitated an informal dialogue during which ECRs could share their personal experiences, recommendations, and challenges and ask each other questions about how to work successfully within northern communities.

Over the two sessions, the discussion included voices of 46 ECRs from 28 different institutions in 10 countries: Argentina, Australia, Canada, Germany, France, Netherlands, New Zealand, Norway, Russia, and the USA. At the end of each session, participants were encouraged to write down recommendations or advice for future researchers and ask questions regarding community-collaborative research. Below we outline the key themes, resource gaps, and recommendations that emerged from the session discussions, 34 written responses, and subsequent conversations.

KEY THEMES FOR DEVELOPING NORTHERN COMMUNITY-COLLABORATIVE RELATIONSHIPS

Session participants recognized that the context and conduct of Arctic research are evolving towards greater engagement with local communities. They highlighted several fundamental and interrelated themes that they deemed essential to establishing positive research relationships: dedicating time, being present, communicating, listening, respecting, understanding, building trust, making genuine collaborative efforts, and exchanging knowledge (Fig. 1). While each northern community is unique, and relationship-building tools that work in one community may not always work in another, the concepts outlined in Figure 1 offer a guideline for enabling mutual collaborative efforts, facilitating knowledge exchange, and creating a forum for knowledge gain. ECRs recognize that achieving true community-collaborative research is a challenging task, especially in the very real context of ECR inexperience, lack of local knowledge, funding limits, and timeline constraints (e.g., short field seasons, program requirements) associated with most graduate programs. Yet, despite all the challenges and limitations, the collective experience of session participants indicated that with commitment and devoted effort—and with the assistance of knowledgeable and experienced local leaders and researchers—ECRs can successfully develop research collaborations with northern communities.

Dedicating Time

Session participants most often identified investing the time needed to build trusting relationships as the first essential step in community-collaborative research. The conceptual model shown in Figure 1 shows that time is necessary

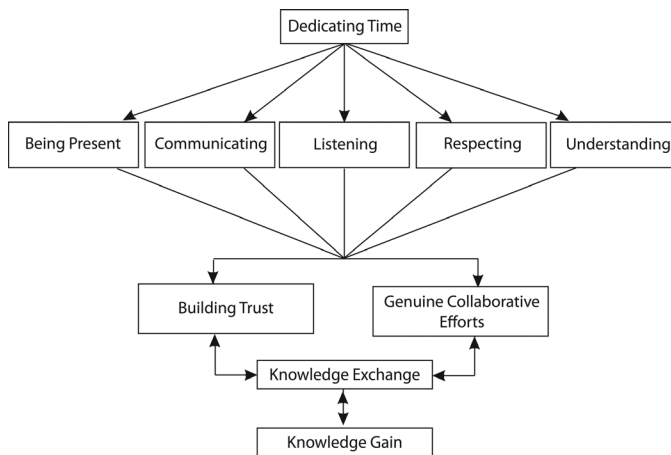


FIG. 1. Conceptual model of the key themes important to developing community-collaborative research relationships.

for being present in a community, as well as for developing ways to communicate with a community, listening to community members, and understanding and respecting local culture and history. Spending time with people in these ways demonstrates a sincere interest in working with communities, and not just in them: it helps to build trust, earn respect, and establish relationships that are long-term commitments to northern communities. Many elements (e.g., ongoing communication, understanding local culture) are important for developing community relationships, and an investment of time before, during, and after visits to communities is essential. For example, because social media have become a very popular mode of communication in the North, investing time in these media can be an effective tool for staying connected and engaged even at a distance.

Being Present

An extended presence in a community can help develop communication pathways, create opportunities to listen, and help ECRs learn, understand, and appreciate northern community cultures. Session participants identified physical presence in a community as central to nurturing meaningful relationships. Spending an additional few days in the community at the beginning and end of trips can provide opportunities to attend community meetings and cultural events, learn about issues important to the community, engage in open and honest dialogue about research, and develop rapport with the community. An extended presence in a community helps give a face to research and is a step towards building trust with individuals, community organizations, and researchers. Most importantly, ECRs should take the initiative to ensure their presence is noticed within the community by participating or volunteering in local activities and community events, arranging formal and informal meetings with local leaders and knowledge holders, and communicating about research activities as discussed below and in Table 1. Spending time in communities outside of the context of one's research project

demonstrates dedication and commitment to the community (i.e., a vested interest beyond the scope of research) and provides an opportunity to share knowledge in a less formal context.

Communicating

ECRs identified local communities as a critical audience for communicating northern research; however, scientific research is often reported in a language geared toward academic audiences. Northern licensing guidelines call for improved communication between researchers and communities, including (but not limited to) the proposal of research objectives, dissemination of results and conclusions, and discussion of implications for the community. To share information and keep community members up to date with research, it is important to host community workshops, schedule face-to-face meetings, deliver presentations, and develop short, easy-to-read documents such as posters, newsletters, pamphlets, short reports, and on-line posts. Session participants stressed the importance of preparing research reports in clear, accessible language to ensure mutual understanding of what is being communicated. A useful guide to plain language writing has been published by the NWT Literacy Council (2003). In addition, working with community researchers to find appropriate terms, concepts, and examples in the local language will help develop effective communication. Aboriginal communities will appreciate efforts to understand and document key concepts and terminology in their own language. This process is not always easy, and ECRs may require the assistance of a community language specialist for proper spellings, but it is well worth the effort (NWT Species at Risk Committee, 2014).

Listening

A recurring theme highlighted by session participants was the need to listen. Listening to community members means not only receiving information, but paying thoughtful attention in order to hear what is really being said—a key skill that is often overlooked by ECRs, who are used to academic, one-way styles of communication (e.g., teaching, lecturing, presenting). Aboriginal learning methods and protocols in the North often strongly value listening skills, and researchers who listen respectfully and show that they are learning usually earn respect in return. Formal and informal meetings, gatherings, and community events can provide opportunities to listen. It is also important to consider that community members may relay information, questions, or concerns in the form of a story (Legat, 2012). Listening is critical to identifying and understanding the context and valuable message(s) embedded in community-based information.

Respecting and Understanding

Learning local history and culture and trying to operate respectfully within community cultural norms are also fundamental building blocks for developing relationships and engaging communities. Participants stressed the need for ECRs to learn and understand as much as possible about communities before visiting and to continue to learn during visits, in order to engage in a way appropriate to community-specific cultural norms. For example, providing food and refreshments during community meetings is a common tradition in most northern communities, but individual communities may have specific preferences about the types of food offered. In addition, practicing local customs and protocols during research visits creates a sense of familiarity and comfort between researchers and can lead to increased participation of community members in research-related events. Efforts to learn and practice the local language and cultural skills also help foster relationships and establish trust.

Northern communities are complex, and social structures may include recognized roles and protocols for community members of different genders and age groups and those with specialized knowledge. Respect for the livelihoods and historical traditions of those who live where research is being conducted should be combined with an understanding of local experiences and interest in adapting new technologies and practices to address issues. For example, Elders are recognized for their high degree of knowledge and experience and have earned the right to pass knowledge on to others and are thus addressed with the utmost respect. At the same time, younger people are recognized for their knowledge and innovative practices. Understanding also includes learning about prior or current research that has been conducted with a community. This learning will not only develop a platform of knowledge gained from prior research, but will ensure that research is not duplicated and help identify community partners and potential collaborative research teams or initiatives.

Building Trust for Collaborative Efforts and Knowledge Exchange

A strong relationship built on a foundation of mutual trust is essential for creating and maintaining genuine collaborative efforts and facilitating knowledge exchange. ECRs identified various ways to engage local residents in all phases of the research process: design, data collection, analysis in some cases, interpretation of results, conclusions, and recommendations (summarized in Table 1). ECRs emphasized that engaging with a community at the beginning of a research project to discuss objectives and project design is important for building trust and achieving successful community-collaborative research.

Working with local organizations and community members in a joint intellectual effort to realize shared goals generates research that will have a greater application and

relevance to the community. ECRs shared their experiences of different approaches to community-collaborative research that involved education and outreach opportunities for local youth (Fig. 2a, b, and c) and collaboration with communities on research projects (Fig. 2d, e, and f). Overall, participants in these sessions agreed that including local residents in the research process generates mutual respect, results in further engagement and interest in the research project, and often sets the stage for knowledge exchange.

IMPORTANT RESOURCES FOR ECRs CONDUCTING NORTHERN RESEARCH IN CANADA

Northern peoples in Canada have the need and ability to carry out research in their own communities, yet the influx of well-intentioned ECRs keen to carry out collaborative and locally relevant research can be overwhelming for the communities (Roburn and Tr'ondek Hwech'in Heritage Department, 2012). This is especially true at the start-up phase of a research project, when ECRs are learning about permitting processes and local politics, social norms, and resources; meeting local experts; identifying local expert collaborators; and becoming familiar with the ethics and protocols that surround working with human subjects and traditional knowledge. To help facilitate the added influx of northern researchers during the 2007–09 IPY period, the IPY, ArcticNet, Inuit Tapiriit Kanatami (ITK), the Nasivvik Centre for Inuit Health and Changing Environments (Nasivvik), and the Northern Contaminants Program developed the Inuit Research Advisor and IPY coordinator positions for all northern regions in Canada (ITK and Nasivvik, 2010).

Although both the Inuit Research Advisors and the IPY coordinators greatly increased the resources available to researchers working with communities in the North, session participants identified a need for improved access to resources on how to approach, initiate, and maintain meaningful community-collaborative research. In response, a list of key resources has been compiled by the authors to assist ECRs in this process. To make these resources readily available and easily accessible to all interested parties, we have created a special page on the APECS website (<http://www.apecs.is/en/get-involved/national-committees/apecs-canada-sp-1927085779/canadian-resources/ccr-resources>).

RECOMMENDATIONS FROM ECRs ON HOW TO FACILITATE RELATIONSHIP-BUILDING PROCESSES IN NORTHERN COMMUNITIES

As the second-largest polar nation, Canada has developed a Northern Strategy that emphasizes leadership in science and technology through a collaborative, interdisciplinary, and community-oriented research paradigm (Government of Canada, 2009). Although community-

TABLE 1. Suggested ways for ECRs to work toward community-collaborative research.

Actions	Activities
Join in community life	<ul style="list-style-type: none"> • Attend community events such as potlatches and feasts, recreational activities (e.g., baseball or hockey), and youth events. • Go on a travel, hunting, or fishing trip when invited (offer to contribute funds or supplies to help with costs, bring appropriate gear, food for sharing, proper permits for your activity). • Take part in traditional activities such as story-telling, music, dancing, and food preparation. • Take the time to listen to stories from Elders. • Take the time to visit with community members. • Invite people over for tea or food and engage in conversation. • Volunteer at community events. • When at community events, take the opportunity to discuss your research and answer questions in an informal setting. • Work with a community leader to help you navigate community politics and cultural norms.
Involve local community members in your research	<ul style="list-style-type: none"> • Host a community workshop or hold open meetings to discuss your research. • Work directly with local health, social, education, wildlife, and environment organizations. Choose collaborative organizations appropriate to your area of study. • Contact communities, especially Elders, local researchers, and knowledge holders when identifying research questions and planning your research project. • Hire local assistants to help you collect samples. • Hire local guides or community members to provide safety and transportation for fieldwork. • Partner with local community members to conduct interviews and surveys. • Plan ahead and ensure you have enough funding to reimburse people for services rendered. Payment can include money or gifts. Find out what is normal before arriving in the community and budget for this when applying for funding to ensure you can cover the expected costs. • Include community members in project design. • Acknowledge community members that participated in the research project in peer-reviewed publications and reports, and co-author or co-present with community members where appropriate. • Obtain funding to bring community members to work in your lab analyzing samples or invite them to a conference.
Communicate your research to the community	<ul style="list-style-type: none"> • Offer to give a presentation about your research to community organizations (e.g., First Nations or Inuit Government, Renewable Resource Councils, or Community Corporations). • Meal sharing in some communities is very important and having a meal at your presentation will help motivate people to attend, listen, and participate. Also consider offering door prizes as a way to thank your audience for their participation. • Talk about your research on a local radio station. • Present your research to the community when maximum audience participation is possible; plan things that do not conflict with community activities like hunting. • Submit draft papers or reports to local organizations and governments that have a vested interest in the research project for an opportunity to review and provide comment. • Disseminate results to the community in a straightforward manner, through presentations, community meetings, posters, and non-technical documents. Use plain language suitable for the general public. • Provide translations of both project materials and presentations into the local language to include all community members.

TABLE 1. Suggested ways for ECRs to work toward community-collaborative research – *continued*.

Actions	Activities
Share your knowledge	<ul style="list-style-type: none"> • Work with local collaborators to organize or facilitate community knowledge-sharing events such as a Science and Traditional Knowledge Camp. These events actively engage youth and knowledge holders in the community and serve as a way to link traditional, local, and scientific knowledge. • Make arrangements with teachers at the local school to go into classrooms and teach youth about your area of expertise and your research. • Hold public training events and workshops that relate to your project. • Bring educational materials to leave in the community (e.g., in schools, libraries, government and agency offices, colleges).
Be visible and available	<ul style="list-style-type: none"> • Be aware that northern communities work on different schedules than those to which you might be accustomed. Be flexible in your work hours and meet with community members at times that are convenient for them. • Do some of your work (e.g., assembling field equipment, organizing samples) outdoors to allow curious members of the community an informal opportunity to ask questions and engage in discussions. • Spend as much time in view of the community as possible to give people the opportunity to see you and approach you. • Be aware of costs associated with staying in the community and keep in mind that food and accommodation prices are high in remote areas. • Use online tools like social media for both outreach and keeping in touch with people while you are not present in the community. • Leave handouts and posters about your research and contact information where people can reach you when you are back at your research institution. Include your mailing address, phone number, email, and if possible, a personal cell phone number. • Leave self-addressed envelopes in the community so people can send you mail.

collaborative research can be a challenging task, ECRs who participated in the 2012 IPY community-driven research sessions recognized and valued the importance of collaborating with northern communities and thereby empowering them to make evidence-based decisions regarding their culture, land, and resources. Here, we expand on the session discussions summarized above and recommend further practical actions that can be taken by ECRs to enable the integration of northern community collaboration into the ECR experience.

1. Actively Pursue Funding for Community-Collaborative Research

As discussed above, fostering and building truly collaborative partnerships requires an investment of both time and money. Financial constraints can limit the number of visits and length of stays at northern research locations. ECRs should make it a priority to seek funding that will allow for longer stays within communities (Balasubramaniam, 2009; Tondou, 2011), including travel for community collaborators to forums where they can share research results. A list of major funding resources for ECRs within Canada can be found in the resource table on the APECS website (<http://www.apecs.is/en/research/funding-resources>). In addition, funding and scholarship agencies must acknowledge and

appreciate the time commitment that is needed to establish collaborative relationships between researchers and northern communities.

2. Incorporate Community-Collaborative Research Sections into Theses

The methods used to initiate and maintain collaborative partnerships should be documented as part of the work undertaken to generate research results. To highlight these efforts, ECRs can dedicate a chapter or appendix to emphasizing the significance of community-collaborative research, and describe how this method added value to their thesis outcomes. These thesis sections can include a formal analysis of information contributed by communities (e.g., Robus, 2012) or can report how the community was involved in data collection and other activities throughout the research. Formally incorporating these types of contributions into theses will encourage more supervisors and departments to acknowledge these activities officially. Through such efforts ECRs can take an active role in ensuring that community-collaborative research efforts are formally recognized on a broader scale within their academic fields.



FIG. 2. Examples of early career researchers (ECRs) working collaboratively with northern communities: a) a youth science camp in Old Crow, Yukon: a program initiated by the Vuntut Gwitchin Government, which ECRs helped to coordinate and organize; b) a marine bird dissection workshop held at Nunavut Arctic College in Iqaluit, Nunavut, led by ECRs in partnership with Carleton University and Environment Canada; c) an inaugural Youth Conference on Climate Change in Old Crow, Yukon, where ECRs worked with community leaders to provide workshops; d) community-based plant collections near Sanikiluaq, Nunavut, organized by ECRs and community members; e) Lake trout samples drying in Sahtú traditional territory collected from Great Bear Lake in partnership with community members from Déline, NWT; and f) working with Inuit hunters from Gjoa Haven to conduct non-invasive surveys of polar bear tracks in the M'Clintock Channel, Nunavut. Photo credits: Leila Sumi, Jenn Provencher, Kevin Turner, Lucy Mary Tookalook, Louise Chavarie, Pamela Wong.

3. Publish Peer-Reviewed Papers that Describe Community-Collaborative Research Efforts

Beyond incorporating community-collaborative research methods into theses, ECRs can also take an active role in sharing their experiences and community-collaborative research projects with the wider research community (e.g., Balasubramaniam, 2009; Knopp, 2010; Tondou, 2011; Knopp et al., 2012; Provencher et al., 2013). Several research journals, including *Arctic* (InfoNorth), *Northern Review*, and *Meridian*, actively seek contributions reflecting on work that integrates community-collaborative programs. Publishing in these journals allows ECRs to both share their successes and lessons learned and gain citable references to add to their publication records, and it provides an opportunity to co-publish with northern partners and strengthen the collegial nature of the community-researcher relationship. Co-authorship is also a way to formally acknowledge community members that have played an active role in the research. Publication is also a great opportunity for ECRs to communicate how their community-collaborative research efforts are relevant and applicable to the wider academic audience.

4. Communicate and Share Community-Collaborative Research Efforts

In addition to publications, another way of communicating and sharing community-collaborative research outcomes is to prepare a poster or give an oral presentation describing community-collaborative work in relevant sessions during conferences or meetings (e.g., Tondou et al., 2014). Consider presenting community-collaborative approaches as an integrated component of a research talk or as an additional presentation that might be in a different session. Presenting in a different session is also an excellent way to expose your work to new audiences. Inviting a community collaborator and presenting together can enrich both the collaborative process and the presentation itself. Ultimately, incorporating community-collaborative research projects in all presentations, whether in the community or region, at the departmental level, or at an international conference, will promote the importance of community-collaborative research. In preparing a presentation, it is important to keep in mind the nature of the audience.

Community and regional or non-academic audiences will require plain language presentations, ideally with a strong visual approach (Polfus et al., 2014), or a conversational or storytelling approach that supports listening and avoids the slide presentation format.

5. Highlight Skills Developed from Community-Collaborative Experiences

The multiple skills required to conduct community-collaborative research projects are highly relevant to industry, government, non-governmental organizations, and

academia. Transferable skills acquired by both ECRs and community collaborators include communication, leadership, working as a team, adaptability, flexibility, and ability to work in cross-cultural environments and implement ethical protocols. ECRs should highlight these skills on their resumes, CVs, and scholarship applications and encourage community researchers to do the same. ECRs and community collaborators can also support each other's efforts to seek employment or further education by serving as references on applications.

6. Continue your Community-Collaborative Research Education

The key themes and suggestions synthesized in this paper are not a comprehensive prescription for developing community-collaborative relationships in northern Canada, and each community will require unique approaches. To help promote community-collaborative research efforts and continue to learn successful approaches, it is important to form a network, or using existing networks, through which ECRs can share resources, knowledge, and experiences. Organizing in-person workshops (e.g., during ArcticNet student days) or joining online forums (e.g., APECS Traditional Knowledge working group) are ways in which ECRs can expand networks, share knowledge, and learn from other ECRs. In addition, ECRs can organize and host special departmental seminars and group presentations that focus on or highlight aspects of community collaboration. By taking a leadership role in organizing community-collaborative research outreach events and activities, ECRs can expand their networks, shape the future of community-collaborative research, and solidify it as an integral part of northern research.

7. Find a Mentor

It is ideal to find a researcher with experience in the community or region who is willing to serve as a mentor. This continuum of knowledge is important for polar research, and many senior researchers and professionals are willing to serve as mentors for ECRs. In an effort to help guide the relationship between senior mentors and ECRs, APECS has created a mentorship program and a database of experts willing to serve as mentors in a variety of ways (<http://www.apecs.is/en/careers/mentorship/find-a-mentor>). In 2013, APECS Canada and the ASA developed a nomination-based mentor award program to acknowledge the time and energy that mentors dedicate to ECRs and their efforts to build a supportive community of northern researchers.

CONCLUSIONS

As northern Canada continues to develop and evolve with changes in climate and political and socioeconomic pressures, conducting community-collaborative research

approaches will ensure that world-class northern research continues and remains relevant to northern priorities. ECRs that shared their experiences and ideas in the 2012 Community-driven Research sessions demonstrated their commitment to such approaches. A synthesis of their input crystallized a number of concepts and recommendations that are essential to building trust and relationships needed to form effective working partnerships with northern communities. We hope the ideas presented here will catalyze future discussions and help build the momentum for community-collaborative research in northern Canada and throughout the circumpolar regions. The description and suggestions given here are based on our collective experiences and thus reflect community-collaborative research as seen by early career researchers. However, the authors would like to stress that continuing to include northern communities in this conversation while encouraging their perspectives and approaches is essential to effective collaboration. Though we are well on our way to achieving the new northern research paradigm, continued dialogue with and support from our northern communities, supervisors, departments, institutions, funding agencies, and other partners are critical to ensure that the effort it takes to reach out to communities through the research process continues and improves.

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