

## AINA NEWS

*2020 Scholarship Winners*

Reyd Smith, a Master of Science student in Integrative Biology at the University of Windsor, is the 2020 recipient of the Lorriane Allison Memorial Scholarship. Her research is focused on understanding the impacts of climate change and contaminants on the reproductive hormones and breeding decisions of female Common Eider (*Mitiqu; Somateria mollissima*) at Mitivik Island (East Bay Island), Nunavut, Canada.

Shannon Whelan, a PhD student in the Department of Natural Resource Sciences at McGill University, is the 2020 winner of the Jennifer Robinson Memorial Scholarship. Shannon combines advanced animal-tracking with long-term population monitoring and remote sensing data to understand how climate change affects Arctic seabirds. Her research will quantify the effects of changing sea-ice conditions in northern Hudson Bay on the movement and energetics of seabirds breeding on Coats Island, Nunavut.

Meng Ji, a Master of Science student in the Department of Biological Sciences at the University of Calgary, is the 2020 recipient of the Budget Rent-A-Car Educational Award for Northern and Arctic Sustainable Development. Her research investigates the diversity and bioremediation potential of microbes to degrade hydrocarbons in Arctic marine environments. This research is part of a larger Genome Canada project GENICE, which aims to generate genomics data that are essential for assessing marine ecosystem resilience and response to hydrocarbon pollution in Arctic marine conditions.

*AINA in Genomics Research*

In February, Dr. Maribeth Murray, Executive Director of AINA was awarded \$932,330 from Genome Canada for a 4-year, \$1.8M project to support environmental decision making in the Arctic. Along with Dr. Peter Pulsifer (Carleton University), Murray is leading a team of collaborators from the Faculties of Law, Environmental Design, and Veterinary Medicine at the University of Calgary, as well as the Government of the Northwest Territories, the Inuvialuit Regional Corporation, Ocean Wise/Ikarvik, the Research Council of Canada, Yukon Government, WWF International, and WWF Canada.

This project draws together partners with expertise across disciplines, cultures, and organizations, building upon team strengths in Arctic observation and monitoring, biology, conservation, cyber-cartography, data management, genomics, geography, Indigenous Knowledge, the legal and policy sciences, and resource management. Wildlife genome information is valuable for environmental decision making yet underutilized due to a number of challenges, not the least of which is the accessibility of genomics information to non-experts. Through co-design and co-execution of research with

potential end users of such information, the team will establish methods and platforms to mobilize results from genomic surveys and research activities on Arctic wildlife species (marine mammals, ungulates, seabirds, fish) and their pathogens.

Decision support tools will be developed that build on an assessment of genomics data availability (can it be located, is it obtainable?) and accessibility (is it useable by non-experts and for decision making and policy development?). The project collaborators will also consider the potential for and the practical, economic, legal, and ethical issues of mobilizing genomics for decision making – including those issues pertaining to Indigenous perspectives and rights, national and international frameworks, and commitments that may influence policy at different levels of government. The goal is to support conservation and biodiversity, natural resource co-management, and the sustainability wildlife essential to the health and well-being of Indigenous People in Canada's north, and to meet Canada's obligations to protect species under various domestic and international agreements and frameworks.

*Kluane Lake Research Station Solar Install, Phase 2*

Despite some shipping delays, installation of the second phase of the renewable energy system at the Kluane Lake Research Station (KLRS) began in May 2020. Phase 1, which involved the installation of a solar module array and battery bank, was completed in February 2020. This next installation will include a further 64 solar panels and an additional 48-volt battery bank with a dedicated inverter system (Fig. 1). In total, KLRS now hosts almost 50kW of solar power, which with Phase 1 increases the capacity of the station to operate year-round sustainably and with greatly reduced diesel consumption. The installation is due for completion before the end of the month.

Phase 2 is designed specifically to support the operation of a cropbox unit, which recently arrived at KLRS. The cropbox is a hydroponic agricultural system inside a 40-foot shipping container and is part of a research project situated at KLRS and due to start in September 2020.



Fig. 1. Completed solar array, KLRS.

### *Data and Information Services News*

The ArcticNet Publications Database ([www.aina.ucalgary.ca/arcticnet](http://www.aina.ucalgary.ca/arcticnet)) currently describes more than 4500 publications from ArcticNet, 359 publications from the Canadian Arctic Shelf Exchange Study (CASES) and 211 publications from the International North Water Polynya Study (NOW). There are now more than 4900 publications in this database including 3200 refereed publications, 710 student theses, and 995 other non-refereed publications. AINA is pleased to work with ArcticNet to provide this searchable archive.