THE ARCTIC AND IOWA, PART II
ARCSES LABORATORY AT UNI

Did you know that UNI is home to the Arctic Social and Environmental Systems Research Laboratory (ARCSES), where faculty, staff, and students are provided the opportunity to engage in research and educational activities pertaining to the Arctic? The ARCSES Lab, created in 2011, is a research facility that focuses on developing collaboration among faculty, staff and students, in the Department of Geography and across campus, working on arctic, remote, and cold regions research. The lab is partially funded by the National Science Foundation (NSF) and National Aeronautic and Space Administration (NASA). The lab’s researchers are involved in multiple projects dealing with social and environmental systems in the Arctic, including Arctic-FROST, Arctic Human Development Report, Arctic Wildfires Project, Arctic social indicators, creative Arctic, Taimyr reindeer, climate change, and other international research activities. ARCSES acts like a hub for Arctic research and projects funded by various U.S. and international organizations.

The ARCSES Lab at UNI is under the direction of Dr. Andrey Petrov. Petrov is an Associate Professor of Geography here at UNI. He has earned PhDs from the University of Toronto in 2008 and from Herzen University, in Russia, in 2006. He is serving as a council member of the International Arctic Social Science Association (ASSA), member of the International Arctic Science Committee (IASC) and a Vice-Chair of the Polar Geography Affinity Group of the Association of American Geographers. Dr. Petrov is also an Associate Editor of Polar Geography (Taylor & Francis) and Director of the NSF Arctic-FROST research coordination network in Arctic sustainability.

The ARCSES Lab is made available to all UNI geography students. Dr. Petrov has 5-7 university students every year who participate in various projects. Most of the students are paid and some even get the opportunity to travel to the Arctic! Dr. Petrov says there are numerous opportunities that students gain from ARCSES, “students can gain research experience; be part of a research team; design, execute, and present projects. Students gain exposure to different cultures and environments, travel opportunities, exposure to researchers and students from other places and disciplines, foreign scholars, and opportunities to participate in conferences and present papers/posters.” Emily Francis and Matt Cooney both share similar gains from being a part of ARCSES.

Emily Francis, is currently working on her MA in Geography at UNI. She is in her second semester of her masters program. “I am currently working on research of the arctic tundra reindeer (Rangifer tarandus) and the humans that depend on the health and sustainability of wild and domestic herds. I have a specific focus on the spatiotemporal and winter migratory behaviors of the wild herd in Taimyr, Russia, as well as bioclimatic models applied to North American caribou herds. My work with the Taimyr Herd is the focus of my thesis.” The reason Emily applied to attend UNI was to be a part of the ARCSES Lab. “I have gained so much by working as a research assistant and being a graduate student. I have become much more comfortable in the research setting as a master’s student working in the ARCSES Lab. I can tell through my work that I have gained maturity in my research and writing, even from the short semester and a half I have been here. I have also gained wonderful friends, peers and professors, specifically my advisor, Dr. Andrey Petrov.”

“It was a great privilege to learn from Dr. Andrey Petrov, the founder of ARCSES Lab. He taught me more about research, dedication, and hard work than I could ever express.” – Matt Cooney
**Matt Cooney** is a recent graduate of UNI’s MA Geography program. Since graduation, Matt has been working for Aerial Services, as a GIS Specialist. “Aerial Services owns a number of airplanes and special cameras used to acquire high quality imagery all over the country and beyond our borders. I conduct spatial analysis on the acquired imagery and help develop web mapping solutions.”

During his time at UNI his research was primarily focused on reindeer living in Siberia, Russia. “The Taimyr Reindeer Herd is the largest in the world numbering as many as 1 million animals at the turn of the century and represents one third of the entire world’s population. Although this is the largest herd, it is arguably the least studied. We are interested in their migratory patterns which span 1500 km each year, the way in which those patterns are shifting over time and in space, and why there has been over a 30% reduction in their population since 2000. In fact, 4 out of 5 wild reindeer and caribou herds across the Arctic are experiencing dramatic population decline during the same time frame. The ARCES Lab has the extremely unique opportunity to study this herd.”

Matt not only gained experience from being a part of the ARCES Lab, he also gained insight about dedication and hard work. “I gained so much from being a part of this extraordinary research center. I was able to work with an international consortium dedicated to studying and preserving Arctic cultures, economies, landscapes, and animals. I was able to take my research to conferences where I could present my findings and learn from the decades of work others have done before me. It was a great privilege to learn from Dr. Andrey Petrov, the founder of the ARCES Lab. He taught me more about research, dedication and hard work than I could ever express.”

Being a part of the lab has carried onto his professional career as well, “being involved with the Lab has most definitely been beneficial to me. In my current position, I am responsible to conduct a lot of research and development of spatioanalytic methods. Working with the other members of the ARCES Lab was amazing. I learned how to do research well, but most importantly I learned how to think outside of the box when attempting to solve complex spatial and technical issues.”

The ARCES Lab has provided much more than research opportunities to Faculty, Dr. Petrov, and students, Emily and Matt, it has provided and continues to provide a sense of community for people who want to make a difference in the world.