

**LYNN MOORMAN**  
**CAG Award for Excellence in Teaching Geography**

Dr. Lynn Moorman has been a full-time faculty member in the Department of Earth and Environmental Sciences at Mount Royal University in Calgary since 2010. Prior to her faculty appointment here, she was the Manager of the Masters of GIS Program at the University of Calgary. The decade before that was spent in geospatial programs in industry and government, primarily related to radar remote sensing education. In ten years at Mount Royal University, Dr. Moorman has demonstrated excellence in teaching, engaging undergraduate students in award-winning course-based research and expanding the teaching of geography and geotechnologies across our campus, and across the country.



As Mount Royal University is an undergraduate teaching-focussed university, Dr. Moorman's responsibilities have been to develop and teach physical geography and spatial technology courses to support our department, and also to develop and teach courses for the general education program, which serves students in all disciplines across campus. Her teaching load is typically six courses per year, and she develops and delivers all aspects of the courses, from lectures to labs, and at all levels, from first year physical geography to advanced GIS. Within the department offerings, in addition to teaching established courses on mapping, physical geography, and biogeography, she has created courses in introductory remote sensing, geomorphology, and advanced spatial analysis and GIS, and created a course on "spatial innovation" for first year general education students that is delivered as part of the scientific literacy and numeracy cluster to increase geography awareness and spatial thinking across campus. She is currently enhancing the introduction to physical geography course to bring in innovative hands-on activities and more diverse pedagogies. She recently created the "Spatial Sessions", a new community of practice to support faculty and students in other disciplines on campus wanting to use spatial analysis and mapping. The initial offering of the Spatial Sessions on GISDay in the fall of 2019 brought out interested faculty from 15 different departments across campus. Dr. Moorman is supporting their teaching through guest lectures, and the development of exercises and lesson plans and additional GIS teaching to students and faculty.

Throughout ten years of teaching at Mount Royal, Dr. Moorman has obtained consistently excellent student and peer evaluations, from students at all levels, many describing the welcoming and effective learning environment and her ability to translate difficult concepts into relatable and accessible information. She also provides research and publishing opportunities for these undergraduate students. Her advanced GIS class is designated as a "community-service learning" class, which is noted on the students' degrees when awarded. This class partners with a new non-profit community group each year. Students learn about issues facing the community, and conduct individual GIS-based projects to address or solve those concerns. Past projects have included estimating erosion rates from logged forest areas in sensitive foothills terrain, to risk management and new trail alignments in conservation areas. All students present their research to the communities, and at the faculty and university research days.

Students have won numerous awards at these events, and last year, a second place award at the provincial undergraduate science research conference was achieved. Students from this class have also published on their experience in the class in *Undergraduate Journal of Service Learning and Community-Based Research*. Other students have been able to extend their projects into summer research positions, masters level work, and they have presented at industry and national conferences including the CAG. Each year, a student in this class has been awarded the Esri Mount Royal University Scholarship which has given them resources and funds, but also a platform to showcase their skills and research nationally. Mount Royal University does not have a geography major, and yet students each year move into geography Masters programs, specializing in GIS, through this course and Dr. Moorman's support.

Dr. Moorman's teaching philosophy about making learning relevant and authentic, is exemplified in the field trips that she arranges for every course, including the GIS courses. Geomorphology students study glaciers by driving up the Icefields Parkway and spending the day exploring the Athabasca Glacier. They learn about speleothems by going into caves underground, and being taught by a guide who was a former geomorphology student of the same class. GIS students see first hand the terrain they are modelling, in foothills communities in western Alberta, and at the Cross Conservation Area south of Calgary. Experts are brought in to share their knowledge and inspire students. Dr. Moorman is also an avid user of visualization facilities, teaching students about stratigraphy and glaciers in virtual environments through virtual reality (VR Google Earth) and an immersion studio with 360° screens. Supporting documentation in this application will demonstrate the impact of Dr. Moorman's teaching on her students from their perspective.

Dr. Moorman's teaching impact goes beyond the university. She actively supports geography teaching in schools, and was named GIS-Ambassador for July, 2019. One of her projects, to support an elementary school GIS initiative on a water inquiry project was successfully presented by the young students to the Esri User Conference in Calgary, in front of hundreds of people. She has also been the keynote presenter to the Mount Royal Faculty Association conference (2018), a plenary speaker at the Esri Education User conference in San Diego in 2013, and again for the International Digital Earth conference in Halifax in 2015. She has been on the Task Force for the International Geography Olympiad for four years, and Co-Chair when Canada hosted in 2018. Dr. Moorman has served as the post-secondary representative for Canadian Geographic Education for 10 years and currently serves as the Board of Governors liaison for this committee. She is currently undergoing certification to lead National Geographic courses in Geo-Inquiry, and has completed other National Geographic certifications to add to her arsenal of teaching skills. She has been recognized by Mount Royal University with a Distinguished Faculty award in 2017.