

SEMINAR NOTICE

Department of Physics and Engineering Physics University of Saskatchewan

SPEAKER: Dr. Tianqi Xie, Assistant Professor
Department of Geological Sciences

TOPIC: *Impact events in solar system: natural observations and experimental results*

DATE: Tuesday February 10, 2026

PLACE: Rm. 103 Physics

TIME: 3:30-4:30 p.m.

ABSTRACT: Rocky planetary bodies in our inner solar system, such as Earth, the Moon, Mars, are subjected to numerous asteroid bombardments, resulting in not only changes in surface morphology with impact craters and basins but also the changes of mineralogy on the crust. By examining the shock features recorded in the rocks, we can gain valuable information on their origin and formation processes. However, our knowledge of how rocks and rock-forming minerals change under different pressure-temperature-time conditions is still limited. This talk will focus on how high pressure high temperature experiments using synchrotron facilities can further our understanding on the observations from terrestrial and extraterrestrial planetary bodies.

Bio: Dr. Tianqi Xie is an Assistant Professor with the Department of Geological Sciences in the University of Saskatchewan. Her research focuses on the behavior of common minerals under high pressure high temperature conditions relevant to the evolution of rocky planetary bodies in our solar system. Xie received her Bachelor's Degree in Gemology and Master's Degree in Mineralogy at China University of Geosciences (Beijing) and earned her PhD degree in Geophysics at University of Western Ontario. She then moved to Stony Brook University for a postdoctoral fellowship at the Mineral Physics Institute. Her work uses synchrotron facilities around the world, including Advanced Photon Source (APS), Deutsches Elektronen-Synchrotron (DESY), European X-Ray Free-Electron Laser Facility (European XFEL), and our Canadian Light Source. She is also a certified gemologist who loves antiques.