

Queen's Physics department exploring new heights in teaching and learning

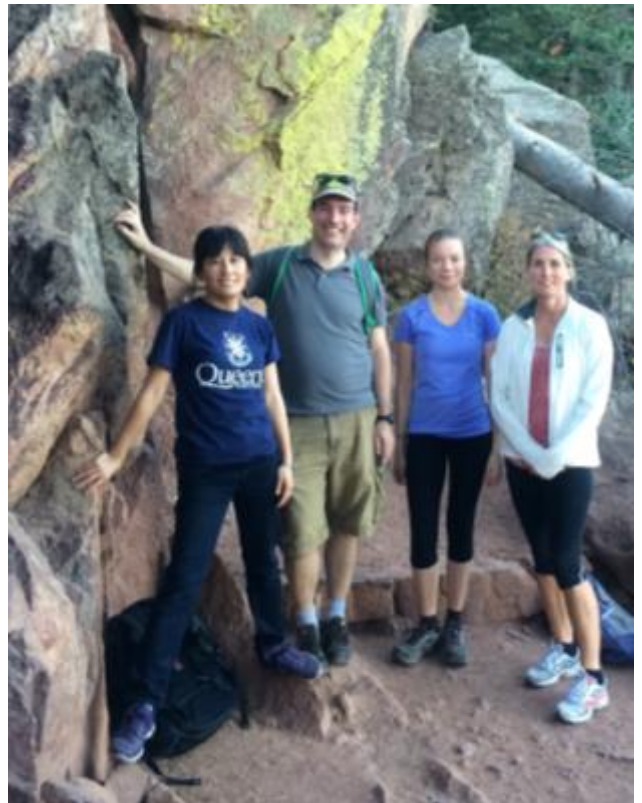
The Physics department at Queen's is undertaking a systematic program to redesign their lab courses. The TRESTLE project is led by [Kansas University](#), supported by the National Science Foundation. The first stage research involved a visit from renowned researchers [Mary Huber and Pat Hutchins](#). They interviewed many of the Physics instructors to shed light on facilities and practices, prior to investment in infrastructure, course design and support materials.

Post Doctoral Scholar [Bei Cai](#) is facilitating the lab course redesign. Bei has been with the Physics department for many years now, having been involved with the [Nobel](#) winning [SNOLAB](#) research. Recently, Her expertise is now turned to teaching and learning, to provide the avenue for constructive changes in the department, and to align the student lab experience with their current demands and the skills they will need for future success.

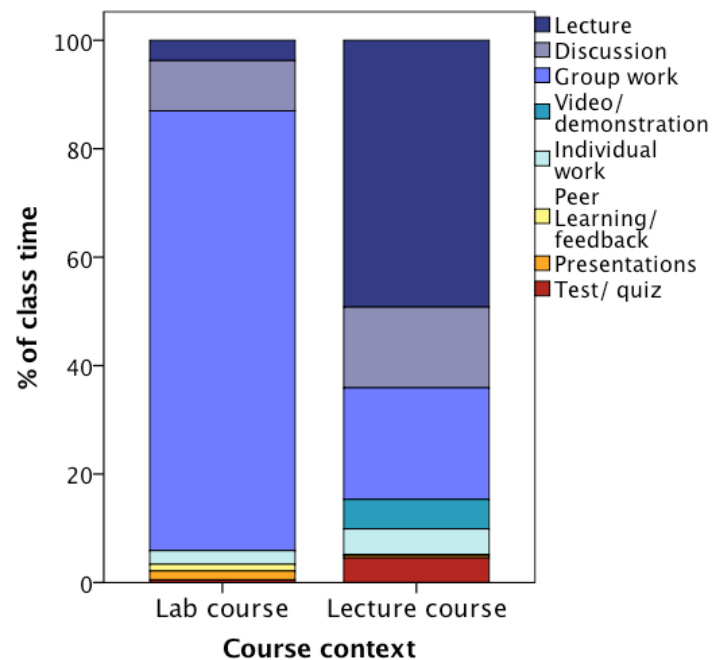
The redesign process began with an audit of current lab syllabi, together with input from faculty and instructors, who contributed to rich conversations about the future direction of the department. Part of the project included a teaching practices survey that was completed by 50 instructors from the Physics department, and across the University. The survey was paired with [coded observations](#) of lab instruction, to determine the baseline practices, and how actual class activities compare with the learning activities reported in the survey.

Members of the research team recently attended the TRESTLE annual meeting, in Boulder, Colorado. The meeting was an opportunity for collaboration between all of the participating institutions, to build on the strengths and collective experience of the group. The Physics lab redesign will be implemented over the next four years, and fits closely with the agenda for [cyclical program review](#). For more information on the project, contact

natalie.simper@queensu.ca.



The Queen's team at the Chautauqua, Boulder, Colorado (6,915 feet), from left Bei Cai, Rob Knobel, Natasha Lanziner, and Natalie Simper.



Teaching practices survey provided an indication of the learning activities involved in lab and lecture courses.