

Student Exchange Program for Cross-Disciplinary Fertilization: Psychophysical Training for Haptics Research

Visiting Student

Brian Gleeson

University of Utah Department of Mechanical Engineering

3rd year Ph.D. Student

Contact: brian.gleeson@gmail.com

Supervising Researchers

Advisor: Dr. Will Provancher

University of Utah Department of Mechanical Engineering

Contact: wil@mech.utah.edu

Host Advisor: Dr. Hong Z. Tan

Purdue University Department of Electrical Engineering

Contact: hongtan@purdue.edu

Project Description

In mid-October, doctoral student Brian Gleeson of the University of Utah (adviser: Dr. William Provancher) visited Dr. Hong Tan's lab at Purdue for a week of training in cognitive and psychophysical research methods. During this trip, Brian benefited greatly from Dr. Tan's expertise and has returned to Utah with the ability to more thoroughly investigate the human perception of haptic experiences.

Throughout the visit, Dr. Tan gave a great deal of her time to teach Brian the tools he required for his research by discussing readings, working through examples, and addressing issues specific to Brian's research. Dr. Tan also worked with Brian on the design of his upcoming experiments, which he was able to prototype on a haptic device that he brought with him.

While the stated goal of the exchange was training and experiment design, one of the most valuable aspects of the trip was the opportunity to interact with Dr. Tan and her students. Brian learned much from talking with Dr. Tan's students about their various research projects and they provided important insights into Brian's research. Through this interaction, an unexpected opportunity for collaborative research between Dr. Provancher's and Dr. Tan's labs was identified and is currently being pursued.

Through the Student Exchange Program, Brian has acquired a range of knowledge and techniques that will expand the scope of his research and the research of others in his lab. By bringing some of Dr. Tan's research skills into Dr. Provancher's mechanical engineering lab, the Exchange Program has laid the groundwork for the development of haptic devices that both mechanically advanced and well design for human use.