

My name is Katherina V. Tarnai-Lokhorst and this research project is part of the requirement for a Doctor of Social Science at Royal Roads University. If you wish, you can establish my credentials with Royal Roads University by telephoning Dr. Bernard Schissel at (250) 391-2600 ext. 4776.

This document constitutes an agreement to participate in my research project, the objective of which to quantify the behavioural and perceptual changes that result from changing the teaching paradigm for some Physics 11 laboratory activities. The project title is "From physics to where? Diagnosing the evolving elements that present continued barriers to women's entry to the physical engineering science professions".

The research will consist of implementing an activity that is newly designed by high school physics teachers to test physics principals using engineering practices and language. In order to measure the persistence of any change, I will administer four surveys: one before the activity, one following the activity, one approximately 12 months later and one 5-7 years after high school completion. Completion of these surveys also constitutes consent to for the data to be included in the research analysis. These activities are foreseen to last the length of a normal lab class plus three 20-minute sessions to complete the surveys]. The foreseen questions will refer to the student's self-efficacy in physics, their sense of belonging in the physics classroom and their knowledge and beliefs about engineering or other applications of physics as a potential career choice. In addition to submitting my final dissertation report to Royal Roads University in partial fulfillment for a Doctor of Social Science degree, I will also be sharing my research findings with Camosun College and the Association of Professional Engineers and Geoscientists of British Columbia. In addition, I will submit articles for journal publications and dissemination the acquired knowledge at conferences about engineering education and the viability of this method in changing student perceptions about choosing engineering studies.

Information will be recorded in hand-written format and audio/video recordings and, where appropriate, summarized, in an anonymous format, in the body of the final report. Audio and video recordings will be used for transcription purposes only: they will not be publicly released. At no time will any specific comments be attributed to any individual unless specific agreement has been obtained beforehand. All documentation will be kept strictly confidential. The study raw data will be retained for ten (10) years at which point it will be destroyed. The electronic data will be stored in encrypted files on Canadian servers at Camosun College and at Royal Roads University, for secure data back up; paper data will be stored in a locked cabinet at Camosun College.

Would you like to receive a summary of the findings following the completion of this study? Please circle one:

Yes

No

I have no perceived conflicts of interest with conducting this study.

You are not compelled to participate in this research project. If you do choose to participate, you are free to withdraw at any time without prejudice. Similarly, if you choose not to participate in this research project, this information will also be maintained in confidence. Once the data becomes part of the anonymous data set it can no longer be withdrawn.

By signing this letter, you give free and informed consent to participate in this project.

**Participant Signature:** \_\_\_\_\_

**Participant Name (please print):** \_\_\_\_\_ **Date:** \_\_\_\_\_

*Parent/Guardian Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_

I have explained the information included in this consent form and have addressed any questions from the participant. A copy of the consent form was provided to the participant to parent/guardian signature.

**Person Obtaining Consent Signature:** \_\_\_\_\_

**Person Obtaining Consent Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
Katherina V. Tarnai-Lokhorst