PROJECT TITLE: Ultrasound image guidance of minimally invasive therapy

Physical Requirement: Ability to perform general laboratory activities
Project's Technical Skills Requirement: Desirable skills include programming in MATLAB (C, Python, and microcontroller experience also potentially helpful), CAD design for 3D printing, and experiments with bioinstrumentation or general test and measurement equipment.

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Project Description

Research co-op fellowship in a Biomedical Engineering lab located in the Cardiovascular Research Center on UC's medical (East) campus. Our research is on novel ultrasound methods for image-guided therapy. Major projects include: (1) echo decorrelation imaging for real-time guidance and control of thermal ablation in cancer and cardiac therapy and (2) ultrasound detection of tongue motion for biofeedback in speech therapy, as well as characterization of swallowing disorders. Learning opportunities include ultrasound signal and image processing, cross-disciplinary collaboration skills (e.g. collaboration of engineers with clinicians specializing in surgery, radiology, speech-language pathology, and cardiology), and clinical research involving human subjects.