



UNIVERSITY OF SASKATCHEWAN

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Rehabilitation ScienceCOLLEGE OF MEDICINE
REHABSCIENCE.USASK.CA104 Clinic Place
Saskatoon, SK S7N 2Z4 Canada
Telephone: 306-966-6579
Fax: 306-966-6575**Faculty Project Proposal for MPT Research Projects 2023-24****Personal Information**

Name:	Stacey Lovo	NSID:	sdl128
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Project Details

Project Title:	Artificial Intelligence Assisted Ultrasound Image Acquisition		
Expected Start Date:	April 1/24		
Project Length:	<input checked="" type="checkbox"/> Full Project (300 Hours)	<input type="checkbox"/> Half Project (150 Hours)	
Project Level	<input type="checkbox"/> First Year	<input checked="" type="checkbox"/> Second Year	<input type="checkbox"/> First or Second Year
Project Type:	<input type="checkbox"/> Clinical	<input type="checkbox"/> Biomedical	<input type="checkbox"/> Quality Improvement
<input type="checkbox"/> Retrospective Chart Review		<input checked="" type="checkbox"/> Other (specify): Needs assessment and literature review	
Will this project be linked to a research clinical placement?			<input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No
If yes, have you received approval from the Academic Coordinator of Clinical Education? Please attach a letter of support			<input type="checkbox"/> Yes / <input type="checkbox"/> No

Project Description

Include background, research topic, and description of general duties.

Access to ultrasound services is limited for patients in many rural and remote communities, leading to delays in diagnosis and adverse outcomes. Innovative solutions to increase access to ultrasound for rural and remote populations are needed. The overarching research question for this project is: can artificial intelligence (AI) provide guidance to help novice ultrasound users obtain diagnostic quality cardiac and abdominal ultrasound images?

Dr. Stacey Lovo, Dr. Scott Adams and Dr. Ivar Mendez are part of a Saskatchewan Health Research Foundation Grant team implementing and evaluating telerobotic ultrasound in the rural community of Gravelbourg. The present system is being utilized for prenatal exams and abdominal concerns which are conducted real-time by a sonographer from Saskatoon. The Gravelbourg medical team requested help with an urgent need for a smaller diagnostic ultrasound for emergency use as well. The research team will use a Caption Guidance ultrasound unit which will learn to provide diagnostic information through artificial intelligence. This will help to ensure better support for rural patients and health providers in abdominal or cardiothoracic emergencies. In Phase 2 of this COMRAD funded grant led by Dr. Lovo, a community needs assessment will help to identify preferences and needs for an AI-guided ultrasound unit.

The Master of Physical Therapy student will conduct semi-structured interviews with community members and health providers using zoom, and learn qualitative analysis techniques to analyze the responses. The student will also contribute to literature review and manuscript writing as a co-author. This project will help to inform future technical development and best practices around use of the AI-guided ultrasound unit.