AIMS² Research Project in Numerical Models of Magnetocardiogram Field Sensors

Research Duration:	2020-21 (September 15, 2020 – May 31, 2021)
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Title of Project:	Numerical Models of Magnetocardiogram Field Sensors

Goals and Objectives of the Project, Expectations and Outcomes

- Students will learn about modeling electrophysiologic phenomena in excitable tissue using Hodgkin-Huxley and Fitzhugh-Nagumo models
- Students will also learn how to calculate magnetic fields resulting from these bioelectric ionic currents
- Students will learn intermediate-level numerical modeling skills on MATLAB
- Students will engage in designing magnetic field sensors using the results of the magnetocardiogram model
- Students will meet with Dr. Valdovinos on a weekly basis and be expected to read the relevant literature as well as learn how to use MATLAB for numerical modeling
- Students will also be required to present at the AIMS² virtual symposium