"Spectroelectrochemistry" (SEC) is a term referring to the simultaneous application of spectroscopic and electrochemical techniques to investigate chemical reactions involving or related to electrolysis. Despite being extensively used for fundamental studies, SEC methods have been much less frequently used for purely analytical purposes (that is, to measure the concentration of some substance in a sample).

The use of SEC techniques for such analytical purposes is an attractive idea because it offers possible advantages in analysis time, cost, and selectivity. Presently, I am pursuing the development of new SEC-based analytical methods suitable for the analysis of microscale samples of biomedical relevance. Students engaged in this research will develop their skills in basic lab techniques, literature research, and oral and written communication, in addition to gaining hands-on experience with various modern instruments, including visible and infrared microspectrometers and electrochemical analyzers. I typically work with one to three students during the fall and spring semesters, with summer appointments contingent on the availability of funding support. Those interested are encouraged to contact:

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