ANALYTICAL SEMINAR

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"Expanding fast scan cyclic voltammetry at carbon fiber microelectrodes to new molecular spaces"

Fast scan cyclic voltammetry (FSCV) coupled to carbon fiber microelectrodes (CFMs) have numerous advantages as an electrochemical measurement technique, including typical nM sensitivity, 100 ms temporal resolution, biocompatibility, small size, renewable surfaces, and continuous recording capabilities. Due to challenges in selectivity, however, this method has been limited to the measurement a handful of analytes. This talk will cover two major areas of research in the Ou lab. These include: 1) electrodeposition of novel biogenic molecularly imprinted polymers on CFMs to enhance the selectivity of these electrodes for neuropeptides, and 2) expanding the detection space to short chain fatty acids, important molecules in the gut-brain axis. Together, these approaches extend the analytical benefits of FSCV and CFMs to two new molecular spaces and beyond.