



**POST-DOCTORAL RESEARCH ASSOCIATE:
Redox-Based Synthetic Biology, Electrogenetics
University of Maryland College Park**

Synthetic biology, often visualized as an innovative means for “green” product synthesis through the genetic rearrangement of cells, can also provide a means to connect biological systems with microelectronic devices. Cells can be “programmed” to electronically report on their environment (generate electronic output) as well as be electronically wired (accept electronic input) to execute specific functions – to make products, synthesize and deliver drugs, etc. We originally suggested the purposeful electronically actuated elicitation of gene expression is “electrogenetics” (<https://doi.org/10.1038/ncomms14030>; <https://rdcu.be/cRs0c>). We have linked these actions with smart materials and devices (<https://doi.org/10.1002/adma.202007758>). Our “smart” devices are finding utility in the NIST, FDA, AMBIC, and NIIMBL communities with which we have longstanding and strong collaborations (<https://doi.org/10.1002/bit.27793>; <https://doi.org/10.1016/j.copbio.2021.07.017>; <https://doi.org/10.1016/j.snb.2020.128381>; USPTO US20220041973A1. We further link electrogenetics with native cell-cell signaling by rewiring bacterial quorum sensing systems to enable tuned function, including directing bacterial consortia (<https://rdcu.be/cRs0G>; <https://doi.org/10.1016/j.tim.2020.03.009>).

We are actively building the electrogenetic toolbox and are seeking outstanding contributors. Applications are invited for two Postdoctoral Associate positions in the group of Dr. William E. Bentley in the Fischell Department of Bioengineering, the Institute of Bioscience and Biotechnology Research and Robert E. Fischell Institute for Biomedical Devices at University of Maryland College Park. We are located on the 5th floor of stunning A. James Clark Hall. The successful candidates will work in a highly-spirited and fun interdisciplinary group to develop novel experimental and theoretical approaches that exploit redox processes for electronically controlling gene expression, bacterial consortia, and as well as bioelectronic devices.

Minimum Qualifications: Ph.D. in Molecular and Cell Biology, Chemical Engineering, Bioengineering, or related field with expertise in cell and protein engineering. Candidates should have strong experimental experience, a quantitative thought process, excellent communication skills (oral and written), and a track record indicating successful and productive research.

Preferences: Experience with biomanufacturing settings and/or data analytics would be desired but not required.

Applications: Applicants should send their cover letter, curriculum vitae and names/contact information of three references to: William E. Bentley (bentley@umd.edu).

Closing Date: Review of candidates will begin immediately and continue until positions are filled. The University of Maryland, College Park, an equal opportunity/affirmative action employer, complies with all applicable federal and state laws and regulations regarding nondiscrimination and affirmative action; all qualified applicants will receive consideration for employment. The University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, national origin, physical or mental disability, protected veteran status, age, gender identity or expression, sexual orientation, creed, marital status, political affiliation, personal appearance, or on the basis of rights secured by the First Amendment, in all aspects of employment, educational programs and activities, and admissions.