



9th Annual
LLNL/LPC Science and Engineering Seminar Series
Theory to Practice: How Science is Done



Flexible Microelectrode Arrays for Monitoring Brain Activity

Dr. Anna Marie Belle, Research Engineer
and

Dr. Allison Yorita, Postdoctoral Researcher

Center for Micro and Nano Technology and Bioengineering Center
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Thursday, October 4, 2018

6:00-7:15 pm

Building 2400, Room 2420

Free and open to the public

Abstract: The human brain is composed of billions of cells that communicate with chemical and electrical signals. LLNL microelectrodes can interface directly with the brain to allow us to monitor and manipulate the dynamics of these brain signals. LLNL microelectrodes are flexible and microfabricated in dense arrays that allow them to collect large amounts of information over long periods of time in the body. We will go over how these arrays are microfabricated and their diagnostic and therapeutic applications.



Dr. Anna Belle is a researcher and principal investigator at Lawrence Livermore National Laboratory affiliated with the lab's Center for Bioengineering and Center for Micro- and Nanotechnologies. Her work focuses on developing biosensor arrays for research into neurological diseases and disorders. She received her Ph.D. in analytical chemistry at the University of North Carolina at Chapel Hill. She has established the facility for in vivo testing of neurological biosensors at Livermore and is a member of the Kavli Institute for Fundamental Neuroscience.



Dr. Allison Yorita is a postdoctoral researcher at the Center for Bioengineering and Center for Micro- and Nanotechnologies at Lawrence Livermore National Laboratory. She received her Ph.D. in chemical and biomolecular engineering at the University of California, Los Angeles, where she worked on microfabricated devices to detect neurotransmitters and nucleic acids. Her research at LLNL focuses on microfabrication of neural devices, as well as studying and characterizing chemical sensing capabilities on flexible polymer probes.