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# Department of Chemistry

## Student Seminar Series

9:45 a.m. Tuesday, February 26, 2013 • 331 Smith Hall

Associate Professor

**B. Jill Venton**

Department of Chemistry  
University of Virginia

### *Developing Rapid Tools for In Vivo Neurotransmitter Measurements*

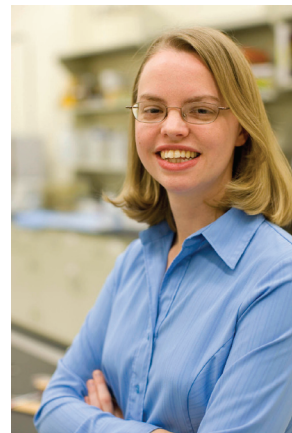
Website:

<http://chem.virginia.edu/faculty-research/faculty/b-jill-venton/>

#### Abstract

Our lab focuses on developing new analytical tools to rapidly measure neurotransmitters. We are currently developing microelectrode sensors from carbon nanotubes to detect electroactive neurochemicals such as dopamine, serotonin and adenosine. These sensors are used to detect neurotransmitter release in *Drosophila* and to monitor rapid adenosine release *in vivo*. In addition, our lab develops rapid separation techniques with capillary electrophoresis and have designed a capillary electrophoresis instrument with electrochemical detection for quantifying neurotransmitters in a single *Drosophila* brain. This talk will discuss how developing new analytical techniques is leading to a better understanding of chemical signaling in the brain.

Professor Jill Venton began her teaching and research career in the Department of Chemistry at the University of Virginia in 2005, where she is currently holding a position as associate professor since 2011.



She earned her doctorate in chemistry from University of North Carolina, Chapel Hill, under the guidance of Professor Mark Wightman.

Her research interests involve the development and characterization of analytical techniques to measure neurochemical changes, which includes electrochemical adenosine sensors, rapid capillary electrophoresis for neurotransmitter detection, and development of carbon nanotube-based microelectrodes.

She has received numerous awards throughout her distinguished career, including the Society of Electroanalytical Chemistry Young Investigator Award, Camille Dreyfus Teacher-Scholar, American Chemical Society PROGRESS/Dreyfus Foundation Lectureship, Eli Lilly Young Analytical Investigator Award, and NSF CAREER Award. She served on journal advisory boards at the *Analyst*, and as an NSF review panel, and has been a member of many professional societies like ACS and SEAC.

Host:  
Donghyuk Kim