

Education

Vanderbilt University, Nashville, TN

Ph.D., Department of Chemistry

Advisor: Dr. David E. Cliffel

Graduation: Summer 2010

Freed-Hardeman University, Henderson, TN

B.S. Biochemistry

Spring 2006

- Minor: Mathematics
- Graduated *magna cum laude* with Honors

Scientific Skills**Electrochemistry**- Amperometry, voltammetry, chronoamperometry, reference electrode fabrication**Cell Culture**- Maintained cell lines for research (seeding, splitting, plating, etc.)**Microfluidic design**- PDMS fabrication, profilometry, plasma and silanization treatments, clean room techniques**Quartz crystal microbalance (QCM)**- Instrument repair, kinetics analysis, software creation, piranha cleaning, self-assembled monolayer formation**National Instruments LabVIEW Software**- Interfaced multiple SRS QCMs with one computer and setup electronic control of syringe pumps interfaced with microfluidic systems**Additional techniques**- Materials printer, ELISA, FTIR, DLS, UVO cleaner, H1 NMR, LC-MS, MALDI, GC-MS, HPLC, AA and UV-Vis Spectroscopy, SEM, TEM**Awards**

2006-2007 Government Assistantship in Areas of National Needs Fellow, Vanderbilt University

2006 Outstanding Chemistry Graduate, Freed-Hardeman University

2005-2006 Alpha Chi National Honor Society, President, Freed-Hardeman University

2005-2006 Honors Council, Vice President, Freed-Hardeman University

2002-2006 Trustee's Academic Scholarship, Freed-Hardeman University

Teaching Experience

Teaching Affiliate

Fall 2009 Vanderbilt University Center for Teaching, Nashville, TN

- Designed and conducted a teaching workshop for new teaching assistants
- Served as a mentor to these new teaching assistants for their first semester
- Produced a video to highlight student expectations for future workshops

Forensics Teaching Assistant

Spring 2008 Vanderbilt University, Nashville, TN

- Supervised lab sessions focused on forensic science
- Developed methods for scientific writing improvement
- Coordinated field applications with the Tennessee Bureau of Investigation

Vanderbilt Student Volunteers for Science (VSVS)

Spring 2007 Vanderbilt University, Nashville, TN

- Instructed four basic scientific lessons to 5th and 6th grade students at Martha Vaught Middle

School and West End Middle School

- Organized and mentored two teams of four undergraduates to teach these lessons
- Set up lessons and coordinated supply acquisition

General Chemistry Teaching Assistant

Fall 2006 Vanderbilt University, Nashville, TN

- Instructed weekly laboratory experiments of approximately 22 students
- Assisted students with data analysis during office hours and study sessions
- Graded written lab reports and exams

Organic Chemistry Teaching Assistant

2004-2006 Freed-Hardeman University, Henderson, TN

- Helped students understand course material through study sessions
- Oversaw weekly laboratory sessions
- Graded lab notebooks

Research Experience

Research Assistant

2007-Present Vanderbilt University, Nashville, TN

Advisor: Dr. David E. Cliffler

- Designed and implemented a method to detect *Mycobacterium tuberculosis*
- Constructed an electrochemical assay for the detection of oxidative burst
- Mentored the research of a high school student, an undergraduate student, and multiple graduate students as they rotated with/ joined our lab
- Provided training to peers who required usage of the materials printer or quartz crystal microbalance in collaboration with Vanderbilt Institute of Nanoscale Science and Engineering (VINSE)

Lab Assistant

2004-2006 Cancer Research Institute of West TN, Henderson, TN

Advisor: Dr. Jerry Thornthwaite

- Performed DNA analysis using flow cytometry
- Analyzed literature looking for new methods for the prevention of angiogenesis

Research Experience for Undergraduates

Summer 2004 University of Memphis, Memphis, TN

Advisor: Dr. Theodore Burkey

- Performed synthetic organic chemistry in an oxygen-free environment while networking with peers that I would see at future conferences
- Studied organometallic systems through photosubstitution and characterization for ultrafast IR studies for a joint project with National Institute of Standards and Technology Laboratories

Conference Presentations

Chemical and Biological Defense Science and Technology Conference

Dallas, TX

National Meeting, Oral Presentation- November 2009

"Rapid Detection of Biological Threat Agents by Using Quartz Crystal Immunosensors"

Southeastern Regional Meeting of the American Chemical Society

Nashville, TN

Regional Meeting, Oral Presentation- November 2008

"Detection Strategies for Mycobacterium Tuberculosis"

The 59th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy

Leslie Hiatt- 2

Vanderbilt University, 7330 Stevenson Center, Station B 351822, Nashville, TN 37235 (615)322-5013

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New Orleans, LA
National Meeting, Poster Presentation- March 2008
"Quartz Crystal Microbalance Detection of Tuberculosis using Gold-Thiol Chemistry"

Publications in Progress

Scott A. Miller, Robert G. Keil, **Leslie A. Hiatt**, David E. Cliffler, and David W. Wright. "Nanoparticle Simulant for Influenza Virus." To be submitted to *Analytical Chemistry*.

Leslie A. Hiatt and David E. Cliffler. "A Kinetic study of Mycobacterium tuberculosis antigenic binding." In preparation, to be submitted to *Langmuir*.

Leslie A. Hiatt, S. Reese Harry, David W. Wright, and David E. Cliffler. "A Superoxide Dismutase Coated Electrode for the Study of Macrophage Oxidative Burst." In preparation, to be submitted to *Sensors and Actuators, B*.

S. Reese Harry, **Leslie A. Hiatt**, David E. Cliffler, and David W. Wright. "HNE Multianalyte Microphysiometry of Macrophages." In preparation, to be submitted to *Biosensors and Bioelectronics*.

Service/Church Involvement

Spring 2009 Judged science fair projects at Head Magnet Middle School

2008-2009 Served on Vanderbilt's chemistry graduate student steering committee to help greet first year students at the department's annual picnic and bring in lecturers for the student-organized annual lectures

Summers 2006-2009 Coached and prepared approximately two teams of students in preparation for a Bible-based quiz bowl event

2007-2009 Taught children's classes at Burns church of Christ

Fall 2006 Served as a mentor to inner city Nashville children working as a tutor through Youth Encouragement Services (YES)

Summer 2006 Travelled to Zambia and taught at a ladies' day as part of a team doing mission work

Teaching Workshops Attended

Center for Teaching Graduate Student Teaching Event for Professional Development (GradSTEP) 2008, 2009 and 2010

2010 GradSTEP incorporated learning about giving effective presentations as well as working towards an ecological pedagogy

2009 GradSTEP included a session on course design for student learning and a session on assessment and grading

2008 GradSTEP focused on engaging students as well as using formative assessment to recognize when learning is occurring in the classroom

2007-2008 Led practice teaching sessions as part of Vanderbilt Center for Teaching's (CFT) teaching assistant orientation (TAO) workshop

Professional Affiliations

American Chemical Society (ACS), Electrochemical Society (ECS), and Society for Electroanalytical Chemistry (SEAC)

References

References are available on request.