Clifton J. Stephenson

Loyola University
Department of Chemistry
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EDUCATION

Ph.D. in Organic Chemistry
The University of South Carolina under Professor Ken D. Shimizu (2008)
Dissertation: *New Fluorescent probes based on NBD, rhodamine and fluorescein*

Bachelor of Science in Chemistry
Mississippi College, MS (2003)

TEACHING EXPERIENCE

Fall 2011-present, Assistant Professor, Loyola University New Orleans, LA
Teaches classes in Organic Chemistry and guides student researchers.

Fall 2008-2011, Assistant Professor, Carthage College, Kenosha, WI
Taught Organic Chemistry I & II and Advanced Organic Chemistry lectures and labs and taught General Chemistry I & II lectures. Mentored undergraduate research students who presented their results at the Midstates Consortium for Math and Science Fall Conference (2009) and the ACS National Meeting (Spring 2010). Advised Chemistry Club. Revised and updated lab manuals. Supervised lab instructors. Coordinated with lab supervisor. Oversaw student lab assistants.

Spring 2008, Adjunct Instructor, Presbyterian College, Clinton, SC
Taught Organic Chemistry II lecture and lab.

2005-2007, Undergraduate research mentor, University of South Carolina, Columbia, SC
Taught basic synthetic organic techniques to undergraduate research students.
Developed projects for and lead undergraduates in research.

Fall 2007, 2003-2004: Teaching assistant, University of South Carolina
Taught study sessions and labs for Organic Chemistry I and II.

2002-2003, Chemistry 101 teaching assistant, Mississippi College
Prepared and oversaw labs.

RESEARCH EXPERIENCE

2011-present, Principal Investigator, Loyola University New Orleans

2008-2011, Principal Investigator, Carthage College
Conducted research on the modification of xanthene dyes to form fluorescent probes for biogenic analytes. Directed seven undergraduates in successful research projects which resulted in presentations by students at the Midstates Consortium for Math and Science Fall Conference (2 student presentations in 2009) and the ACS National Meeting (2 student posters in 2010).

Lead two students in summer research projects (2009). Planned and established fully functioning synthetic organic research lab.

2010 (summer), Visiting Research Professor, Marquette University
Worked in the Lab of Rajendra Rathore – focused on formation of pyrene derivative to form molecular tweezers.

2003-2008, Graduate research assistant, University of South Carolina, Department of Chemistry and Biochemistry, Professor Ken D. Shimizu
Developed a method to use on/off dye displacement to monitor molecularly imprinted polymer (MIP) arrays with a micro titer plate reader. Array was analyzed by chemometric analysis
Formed virus imprinted polymer films that were analyzed with atomic force microscopy (AFM)
Developed a diastereomeric amino alcohol sensor based on rhodamine B
Studied the sensing potential of lactam derivative of xanthene dyes

2001-2003, Undergraduate research assistant, Mississippi College, Department of Chemistry and Biochemistry, Professor Edward J. Valente
Project: Resolving racemic ephedrine derivatives for crystallographic analysis

OTHER TEACHING EXPERIENCE

2007, Volunteered as a math and science tutor for Somali Bantu refugees
2005-2007, Taught molecular imprinting lab for high school students
2004-2007, USC chemistry outreach program (chemistry demonstrations for primary schools)
2002, Taught English in Thailand for summer

PROFESSIONAL ACTIVITIES

2010, Member of the Carthage Symposium committee – We evaluate team-taught, interdisciplinary courses.
2009, Biochemist search committee – member.
2008-present, faculty advisor for student chemistry club.
ACS Member.
ACS Milwaukee chapter member.
Sigma Xi member.

LAB SKILLS

Trained in atomic force microscopy (AFM).
Trained in operating titer plate reader.
Trained in spectroscopic analysis techniques including NMR, HPLC, UV, and fluorescence.
Trained in synthetic organic techniques.
Trained in chemometric analysis.

PULICATIONS

"Molecularly imprinted polymer sensor arrays", Stephenson, C. J.; Shimizu, K.D., *Current Opinion In Chemical Biology*, 2010, 14, 743.

"A fluorescent diastereoselective molecular sensor for 1,2-aminoalcohols based on the rhodamine B lactone–zwitterion equilibrium", Stephenson, C. J.; Shimizu, K. D., *Organic and Biomolecular Chemistry,* 2010, 8, 1027.

"Toward the development of prochelators as fluorescent probes of copper-mediated oxidative stress", Hyman, L. M.; Stephenson, C. J.; Dickens M. G.; Shimizu, K. D. And Franz, K. J., *Dalton Transactions*, 2010, 39, 568.

"Colorimetric and fluorometric molecularly imprinted polymer sensors and binding assays", Stephenson, C. J.; Shimizu, K. D., *Polymer International*, 2007, 56, 482.

AWARDS AND GRANTS

2010, Research and Development Grant – Competitive grant within Carthage College that provides funds for research supplies.
2009, Awarded two S.U.R.E. Grants – Competitive grant within Carthage College that funds stipend for student researchers.
2007, Graduate School travel award.
2006, Excellence in Graduate Polymer Research, American Chemical Society National Meeting Atlanta, GA, Division of Polymer Chemistry.

PUBLICATIONS IN PROGRESS

"Direct monitoring of a competitive binding assay with a PET fluorescent ligand", Greene, N. T.; Stephenson, C. J.; Shimizu, K. D. *New Journal of Chemistry*, Status: submitted

SELECT PRESENTATIONS

"Systematic control of the lactam/amide equilibrium in rhodamine amide derivatives", Stephenson, C. J.; Yehl, K.; Shimizu, K. American Chemical Society, 2010 Boston, MA; Division of Organic Chemistry, ORGN 695.

"Development of a facile approach for monitoring flash chromatography via fluorescence", Konecki, C.; Stephenson, C. J. American Chemical Society, 2010 San Francisco, CA; Education Division, CHED 1147.

"Formation of a chiral xanthene dye and its potential as an enantioselective sensor", Maher, M.; Stephenson, C. J. American Chemical Society, 2010 San Francisco, CA; Education Division, CHED 1144.

"Development of a facile approach for monitoring flash chromatography via fluorescence", Konecki, C.; Stephenson, C. J. Midstates Consortium for Mathematics and Science Undergraduate Research Symposium in the Physical Sciences, Math, and Computer Science, Fall 2009. Chicago, IL, Oral presentation.

"Formation of a chiral xanthene dye and its potential as an enantioselective sensor", Maher, M.; Stephenson, C. J. Midstates Consortium for Mathematics and Science Undergraduate Research Symposium in the Physical Sciences, Math, and Computer Science, Fall 2009. Chicago, IL, poster.

"Virus imprinting and reuptake in polymer films", Stephenson, C. J.; Carroll, W. R.; Yehl M. A.; Shimizu, K. D. American Chemical Society, 2006 San Francisco, CA; Polymer Division/Sci-mix poster session, POLY 130.