

Ryan T. Hilger

Office: 4233 J.H. Mathews Chemistry Bldg.
Department of Chemistry
1101 University Ave.
Madison, WI 53706
608-262-2021

hilger@wisc.edu

Home: 5311 Brody Drive Apt. 104
Madison, WI 53705
608-235-3929

Objective:

Graduate Training in Genomic Sciences and Chemistry

Education:

B.S. in Chemistry and Biochemistry, College of Arts and Sciences,
University of Nebraska-Lincoln, 2004.

- Minor in mathematics.

Research Interests:

- Mass spectrometric instrumentation.
- Mass spectrometric analysis of biopolymers.
- Mass spectrometry in genomics, proteomics and metabolomics.

Research Experience:

Doctoral Research, University of Wisconsin-Madison, 08/04-present.

- Work has focused on modification of a commercial triple quadrupole mass spectrometer into a linear ion trap. Future work will involve the completion of modifications and attempts to use of the modified instrument to perform gas phase protein sequencing reactions.

- Advisor: Dr. Lloyd M Smith, Department of Chemistry.

Laboratory Technician, University of Nebraska-Lincoln, 08/01-08/04.

- Participated in analytical method development and validation for proteomic studies using mass spectrometry.

- Performed routine mass spectrometric analysis of proteins using MALDI-ToF and ion trap mass spectrometers.

- Performed tryptic digestions of protein samples.

- Performed reversed phase and ion exchange HPLC of protein samples.

- Supervisor: Dr. Ronald L. Cerny, Department of Chemistry.

Undergraduate Research, University of Nebraska-Lincoln, 05/03-08/03.

- Performed mass spectrometric analysis of small organic molecules using MALDI-ToF and ion trap instruments with the aim of quantifying products of organic reactions for parallel optimization of reaction conditions.

- Advisor: Dr. James M. Takacs, Department of Chemistry.

Research Experience for Undergraduates, University of Nebraska-Lincoln, 06/01-08/01.

- Participated in analytical method development and validation for proteomic studies using mass spectrometry.
- Advisor: Dr. Ronald L. Cerny, Department of Chemistry.

Teaching Experience:

Teaching Assistant, University of Wisconsin-Madison, 09/04-12/04.

- Taught lab and lead discussion section for Chem 327, Fundamentals of Analytical Science.
- Graded laboratory reports, homework assignments, quizzes and examinations.
- Instructor: Dr. Song Jin, Department of Chemistry.
- Supervisor: Dr. Pamela S. Doolittle, Department of Chemistry.

Presentations:

Jordon-Thaden, I.E., Hilger, R.T., Elthon, T. & Cerny, R.L. Identification by tandem mass spectrometry of maize mitochondrial proteins recognized by a monoclonal antibody library. Presented at the annual meeting of the Association of Biomolecular Research Facilities; Denver, CO; Feb. 2003.

Jordon-Thaden, I.E., Hilger, R.T. & Cerny, R.L. Development of Protocols for a High-Throughput Mass Spectrometry Facility for Proteomics. Presented at the annual meeting of the Association of Biomolecular Research Facilities; Austin, TX; Feb. 2002.

Affiliations:

- American Chemical Society (ACS)
- National Society of Collegiate Scholars (NSCS)

Honors:

- Genomic Sciences Training Program Predoctoral Traineeship, 05/05-05/08
- Dean's List, College of Arts and Sciences, University of Nebraska-Lincoln, 06/03-06-04.
- Certificate of Superior Scholarship, University of Nebraska-Lincoln, Mar. 2004.
- Certificate of High Scholarship, University of Nebraska-Lincoln, Apr. 2003.
- 2003 Undergraduate Award, ACS Division of Analytical Chemistry.
- Lester C. & Joan M. Krogh Scholarship and Fellowship in Chemistry, Department of Chemistry, University of Nebraska-Lincoln.
- Viola Jelinek Scholarship, Department of Chemistry, University of Nebraska-Lincoln.
- Distinguished Scholars Award, University of Nebraska-Lincoln, Feb. 2000.

References:

Lloyd M. Smith, Ph. D.
Department of Chemistry.
University of Wisconsin, Madison, WI.
608-263-2594
smith@chem.wisc.edu

Ronald L. Cerny, Ph. D.
Department of Chemistry.
University of Nebraska, Lincoln, NE.
402-472-6020
rcerny1@unl.edu

Gautam Sarath, Ph. D.

Department of Biochemistry.
University of Nebraska, Lincoln, NE.
402-472-2928
gsarath@unlnotes.unl.edu