

Scott R. Carr

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EDUCATION

Ph.D., Miami University, Oxford, OH 1997

Analytical Chemistry

B.A., Taylor University, Upland, IN 1991

Chemistry

EXPERIENCE

ANDERSON UNIVERSITY – Full Professor, 2001 – present

Academic Responsibilities

First Year Experience (LART 1050) – All Majors

Liberal Arts Seminar (LART 1100) – All Majors

Introduction to Chemistry (CHEM 1000) – Non-Science Majors

Physical Science (PHYS 1000) – Non-Science Majors

Weather (PHYS 1220) – Non-Science Majors

Earth and Space Science (PHYS 1020) – Non-Science Majors

General Chemistry I & II (CHEM 2110 & 2120) – Science Majors

Analytical Chemistry (CHEM 3100) – Science Majors

Physical Chemistry I (CHEM 3110) – Chemistry Majors

Instrumental Analysis (CHEM 3140) – Science Majors

Biochemistry (CHEM 4210) – Science Majors

Senior Chemistry Seminar I & II (CHEM 4510 & 4520) – Chemistry Majors

Independent Study in Chemistry (CHEM 4650) – Chemistry and Biochemistry Majors

Senior Seminar (BIOL/CHEM/PHYS 4910 & 4920) – Science Majors

Administrative Responsibilities

Liberal Arts Assessment Committee – Assess Liberal Arts Curriculum

Science Assessment Sub-Committee – Develop and Implement Science Exam

Library Advisory Committee – Participate in Decisions Regarding the Library

Equity Grant Sub-Committee – Review and Select Proposals for Library Holdings

Nursing Education Committee – Provide Assistance in Appeals and Policy

Sigma Zeta Advisor – Provide Leadership in this National Science Honor Society

Pre-Professional Health Program Director – Assist Students in the Pre-

Professional Health Area by Writing Letters, Visiting Schools & Meetings

Faculty Mentor – Provide Scheduling Advice and Assistance to Students

AU SABLE INSTITUTE of ENVIRONMENTAL STUDIES – Professor, 2011 – present

Environmental Chemistry (CHE 322) – Science Majors

Scott R. Carr, Ph.D.

MISSOURI WESTERN STATE COLLEGE – Visiting Professor, 2000 – 2001

Academic Responsibilities

Introductory Chemistry (CHM 101) – Non-Science Majors
General Chemistry (CHM 111) – Science Majors
Advanced Spectroscopy (CHM 445) – Chemistry Majors

Administrative Responsibilities

Alchemist Club Advisor – Representative of Faculty in the Chemistry Club
Consultant to Pre-Med Advisor – Assist Pre-Med Advisor and Pre-Professional Students
Chemistry Educators Association – Departmental Position to Assist High School Teachers
Freshman Interest Group (FIG) Leader – Mentor Freshman Students

TRINITY CHRISTIAN COLLEGE – Assistant Professor, 1997 – 2000 (Department Chair, 2000)

Academic Responsibilities

General Chemistry (CHM 101) – Allied-Health Majors
Principles of Organic and Biochemistry (CHM 102) – Allied-Health Majors
General Chemistry I & II (CHM 103, 104) – Biology & Chemistry Majors
Quantitative Analysis (CHM 202) – Biology & Chemistry Majors
Biochemistry (CHM 303) – Biology & Chemistry Majors
Instrumental Methods of Analysis (CHM 340) – Biology & Chemistry Majors
Science Majors Seminar (CHM 391, 392) – Biology & Chemistry Majors

Administrative Responsibilities

Web Site Committee (Chair) – Initiated Campus Intranet & Course Web Pages
Curriculum Committee – Reviewed Course Proposals and General Education Philosophy
Athletic Committee (Chair) – Assisted Athletic Department Decisions in School Policy
North Central Accreditation Committee – Helped Prepare Institution for NCA Review
Assistant Pre-Med Advisor – Aided Students for Entrance into Various Professional Schools

MIAMI UNIVERSITY – Research and Teaching Assistant, 1992–1997

Research Experience

Conducted research on ion/molecule reactions of biomolecules in the gas phase employing Fourier-transform mass spectrometry (FT-MS).

Teaching Experience

Instructed laboratory courses at various levels in the undergraduate chemistry program which ranged from first year general chemistry to advanced instrumental analysis.

Scott R. Carr, Ph.D.

TAYLOR UNIVERSITY

Laboratory Instructor/Manager, 1991–1992

Introduced physical science principles and phenomena to non-science major students. Instructed general chemistry laboratories for science and pre-med majors. Taught astronomy and physical science laboratories. Organized and judged “Chemistry/Physics High School Field Day.” Managed and ordered supplies for chemistry and physics stockrooms.

Summer Research Training Program Participant, 1989–1991

Conducted research over three summers in organic, physical and analytical chemistry.

Teaching Assistant, 1989–1991

Assisted instructors in general, organic, physical, analytical and biochemistry lab courses as well as serving as a tutor for the above courses.

PROFESSIONAL EXPERIENCE

Aurum Scientific Consulting, LLC – Senior Partner, 2010–present

PROFESSIONAL AFFILIATIONS

American Chemical Society (ACS)

Indiana Academy of Science (IAS)

Council on Undergraduate Research (CUR)

American Society for Mass Spectrometry (ASMS)

Central Association of Advisors for the Health Professions (CAAHP)

National Association of Advisors for the Health Professions (NAAHP)

Midwestern Association of Chemistry Teachers in Liberal Arts Colleges (MACTLAC)

HONORS/AWARDS/GRANTS

Anderson University Faculty Development Grant

PittCon Instrumentation Grant

Miami Graduate Student Research Award

CUR Graduate Student Award

ASMS Student Research Award

Outstanding Teaching Assistant

COMMUNITY ACTIVITY

Developed the Student-Run Science Education Outreach to Local Homeschool Families

Conduct Summer Lab Experience for High School Age Homeschool Students

Perform Science Demonstrations at Local Schools

Review Chemistry and Science Related Textbooks

Encourage Recycling Program on Campus

Attend a Local Church Regularly

Scott R. Carr, Ph.D.

PUBLICATIONS

Development and Incorporation of an X-Ray Fluorescent Instrument in the Undergraduate Setting, Carr, S.R.; *et.al.* to be submitted to the *Journal of Chemical Education*.

Reactivity and Gas-Phase Acidity Determinations of Small Peptides Consisting of 11 to 14 Residues, Carr, S.R.; Cassady, C.J. *Journal of Mass Spectrometry* 1997, 32, 959-967.

Gas-Phase Basicities of Histidine and Lysine and their Selected Di- and Tripeptides, Carr, S.R.; Cassady, C.J. *Journal of the American Society for Mass Spectrometry* 1996, 7, 1203-1210.

Elucidation of Isomeric Structures for Ubiquitin $[M+12H]12^+$ Ions Produced by Electrospray Ionization Mass Spectrometry, Cassady, C.J.; Carr, S.R. *Journal of Mass Spectrometry* 1996, 31, 247-254.

Experimental and Ab Initio Studies on Protonations of Alanine and Small Peptides of Alanine and Glycine, Cassady, C.J.; Carr S.R.; Zhang, K.; Chung-Phillips, A. *Journal of Organic Chemistry* 1995, 60, 1704-1712.

An Electrospray Ionization Study of Copper Adducts of Protonated Ubiquitin, Jiao, C.Q.; Freiser, B.S.; Carr, S.R.; Cassady, C.J. *Journal of the American Society For Mass Spectrometry* 1995, 6, 521-524.

PRESENTATIONS

The Development and Utilization of a Portable X-Ray Fluorescence System in an Undergraduate Setting, Anderson Capsel, Chris Green, Nicolas Vilelli, Scott R. Carr, *60th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*, Chicago, IL, March 8, 2009.

Determination of Lead in Toys, Anderson Capsel, Jacqueline Burgher, Lynda Wilkinson, Scott R. Carr, *8th Annual Indiana ACS Poster Session*, Dow Ag Science Center, Indianapolis, IN, October 11, 2007.

Heavy Metal Analysis of Historical Manuscripts Housed by The Remnant Trust, Jacob I. Jackson, Scott R. Carr, *58th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*, Chicago, IL, February 26, 2007.

X-Ray Fluorescence Analysis of Historical Texts, Jacob I. Jackson, Scott R. Carr, *6th Annual Indiana ACS Poster Session*, Dow Ag Science Center, Indianapolis, IN, October 5, 2005.

Reactions of Biomolecules in the Gas Phase, Scott R. Carr, Science Seminar Series, Missouri Western State College, October 6, 2000.

Gas-Phase Basicities of High Basicity Amino Acids and Small Peptides, Scott R. Carr, Carolyn J. Cassady, *The 44th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics*, Portland, OR, May 1996.

Deprotonation Reactions of Small Peptide Ions Produced by Electrospray, Scott R. Carr, Carolyn J. Cassady, *The 43rd American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics*, Atlanta, GA, May 1995.

Deprotonation Reactions of Small Peptide Ions Produced by Electrospray Ionization Mass Spectrometry, Scott R. Carr, Carolyn J. Cassady, *The 27th Central Regional Meeting of the American Chemical Society*, Akron, OH, May 1995.

Scott R. Carr, Ph.D.

Deprotonation Reactions of Small Peptide Ions Produced by Electrospray Ionization Mass Spectrometry, Scott R. Carr, Carolyn J. Cassady, *The 22nd Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies*, Cincinnati, OH, October 1995.

Basicities of Small Peptides Containing Alanine, Serine, and Glycine, Scott R. Carr, John W. McKiernan, Christina E. A. Beltrame, Carolyn J. Cassady, *The 42nd American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics*, Chicago, IL, May 1994.

Design & Preliminary Evaluation of a Low Cost Na, K, Cl Analyzer for use in a Portable Medical Testing Laboratory, Scott R. Carr, Stan L. Burden, *The Meeting of the Indiana Academy of Science*, November 1991.

Synthetic Approaches to Specific Omega-Hydroxy Acylolins, Scott R. Carr, Steven C. Haase, LeRoy C. Kroll, *The 201st American Chemical Society National Meeting*, Atlanta, GA, April 1990.