

# Jordan H. Mantha

Assistant Professor of Chemistry

Department of Science and Mathematics  
MidAmerica Nazarene University

## Research/Academic Interests

Experimental physical chemistry; modeling of photochemical dynamics; use of visualization, social media, and technology in chemical education; physical chemistry education.

## Experience

**Assistant Professor of Chemistry.** Fall 2011 – present

Department of Science and Mathematics  
MidAmerica Nazarene University, Olathe, KS

Classes Taught:

*Concepts in Physical Science*

*Chemistry in Everyday Life*

*General Chemistry I & II*

*Analytical Chemistry*

*Instrumental Analysis*

*Forensic Chemistry*

*Physical Chemistry I & II*

*Chemistry Research*

**Adjunct Assistant Professor of Chemistry.** Spring 2011

Department of Environmental Science  
University of Montana Western, Dillon MT

Classes Taught: *Organic Chemistry II & Introduction to Chemistry* (non-majors)

**Postdoctoral Research Scientists.** August 2009 – December 2010

Space Dynamics Laboratory/Air Force Research Laboratory  
Hanscom AFB, MA

**Teaching Assistant**

Department of Chemistry, University of Nevada, Reno

Seven semesters teaching:

*General Chemistry II Laboratory*

*General Chemistry for Scientists and Engineers I & II Laboratory*

*Physical Chemistry Laboratory*

## Education

**Ph.D. Chemistry,** University of Nevada, Reno. 2009

*Ultra-Sensitive Detection Methods of the Orientation of Surface-Adsorbed Molecules*

**B.A. Environmental Sciences,** University of Montana Western. 2002.

Minors: Chemistry and Applied Mathematical Science.

Honors: *Summa Cum Laude*

## Research Publications

*Polarized Normal-Incidence Cavity Ring-Down Spectroscopy: Probing Spiropyran Photochromism in Thin PMMA Films and Toluene* **Jordan H. Mantha**, Ali I. Ismail, and Joseph I. Cline, *J. Phys. Chem. A*, **2011**, *115* (4), 410-418

*Controlling the Spatial Orientation of Molecular Actuators: Polarized Photoisomerization of 2-Nitro-9-(2,2,2-triphenylethylidene)fluorine in a Thin Polymer Matrix* Ali I. Ismail, **Jordan H. Mantha**, Hyun Jong Kim, Thomas W. Bell, and Joseph I. Cline, *J. Phys. Chem. A*, **2011**, *115* (4), 419-427

*Multisoliton formation in magnetic thin films* Yu. G. Rapoport, C. E. Zaspel, J. H. Mantha, and V. V. Grimalsky, *Phys. Rev. B*, **65**, 24423, (2001)

*Evolution of solitons in magnetic thin films* C. E. Zaspel, **J. H. Mantha**, Yu. G. Rapoport, and V. V. Grimalsky, *Phys. Rev. B*, **64**, 64416 (2001)

## Presentations

55<sup>th</sup> Western Spectroscopy Association, 2008, Pacific Grove, CA  
*Normal incidence cavity ringdown spectroscopy as a sensitive probe of photochromic dye kinetics and excitation*

54<sup>th</sup> Western Spectroscopy Association, 2007, Pacific Grove, CA  
*Polarization preference and kinetics of excitation in a polymer-dispersed photochromic dye*

53<sup>th</sup> Western Spectroscopy Association, 2006, Pacific Grove, CA  
*Progress Towards Detection of Molecular Motor Operation*

Chemistry Department Seminar, Spring 2005, University of Nevada, Reno  
*Molecular Motors: Detection of Actuation and Unidirectional Rotation*

230<sup>th</sup> ACS National Meeting, Fall 2005, Washington, DC  
*Progress Towards Detection of Molecular Motor Operation*

51<sup>st</sup> Western Spectroscopy Association, 2004, Pacific Grove, CA  
*Detection of photochromic behavior in 6,8-dibromo-BIPS dispersed in polymeric thin-film using cavity ring-down spectroscopy*

Chemistry Department Seminar, Fall 2003, University of Nevada, Reno  
*Photoelectron Imaging Spectroscopy: Angular Distributions and Time-Resolved Studies*

## Professional Activities & Memberships

Member of the American Chemical Society, 2000 – Present.  
Co-founder UNR Chemistry Graduate Student Association (CGSA)

## Honors & Awards

Robert Wise Scholarship, 2003-2005.  
Montana Space Grant Consortium Scholarship, 2001-2002.  
Rocky Mountain GeoDays Conference 2002 – 3<sup>rd</sup> place oral presentation.  
NSF Research Experiences for Undergraduates, Montana State University, Summer 2001.