

- DAVID I. KRELLER -

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Curriculum Vitae

Citizenship:

Canadian (*US Green Card Application Submitted 06/09*)

Research Interests

Interfacial processes in environmental chemistry: Adsorption of low molecular weight acids and dissolved humic substances at mineral surfaces, the effect of mineral-adsorbed organic matter on the behavior (reactivity, transport, bioavailability) of pollutant species: The development of a novel liquid chromatographic method for the investigation of adsorption.

Education

- 2003** **Ph.D. Chemistry.** Queen's University, Kingston, ON, Canada
Dissertation: 'A chemical force microscopic study of the competitive adsorption of phosphate and carboxylate ions on colloidal Fe(III) oxyhydroxide'.
Supervisors: Dr. G.W. vanLoon and Dr. J.H. Horton
- 1993** **M.Sc. Chemistry.** University of California at Berkeley, Berkeley, CA, USA.
Thesis: 'Measuring the rate of excitation energy transfer in allophycocyanin photosynthetic antenna complexes using picosecond time-resolved fluorescence upconversion spectroscopy.'
Supervisor: Dr. K. Sauer
- 1991** **B.Sc. Honors Applied Chemistry.** University of Waterloo, Waterloo, Canada.

Experience

Aug. 2007-pres. **Assistant Professor of Analytical Chemistry**
Department of Chemistry
Georgia Southern University
Statesboro, GA 30460
Teaching
CHEM 2232 Analytical Chemistry
CHEM 1145 Freshman General Chemistry
CHEM 3090 Junior/Senior Environmental Chemistry
CHEM 4890 Analytical Research

2006-2007 Visiting Assistant Professor
Department of Civil Engineering and Geological Sciences
University of Notre Dame,
Notre Dame, IN 46556

Teaching

CE 60320	Environmental Chemistry (Graduate/ Undergraduate)
CE 60327	Instrumental Methods of Environmental Analysis (Graduate)
ENVG 10100	Environmental Geology (Freshman)
ENVG 40340	Water-Rock Interactions (Junior/Senior)

2006 Post-Doctoral Research Associate

Jan-Aug Joint, Research Laboratories of Dr. M. Lieberman[†] and R. Nerenberg[‡]
[†]Department of Chemistry and Biochemistry University of Notre Dame, and
[‡]Department of Civil Engineering and Geological Sciences
University of Notre Dame, Notre Dame, IN

2003-2005 Post-Doctoral Research Associate

Research Group of Dr. P. Maurice
Department of Civil Engineering and Geological Sciences
University of Notre Dame, Notre Dame, IN

1999-2003 Graduate Student Teaching Assistant

Graduate Student Research Assistant

Queen's University, Kingston, ON, Canada
Department of Chemistry

1997-1998 Research Chemist

University of Waterloo, Waterloo, ON, Canada
Department of Chemistry
Research laboratory of Dr. S. Collins

Awards

2002 Most Improved Teaching Assistant. Awarded by coordinator of the Freshman Chemistry Program (M. Mombourquette), Queen's University, Kingston, ON, Canada

2001 Graduate Student Presentation Award. Analytical Chemistry Division of the Canadian Society for Chemistry, CSC Conference and Exhibition, Montreal, QC, Canada.

Professional Memberships and Service

American Chemical Society, Canadian Society of Chemistry
Reviewer; *Environmental Science and Technology*, *Geochimica et Cosmochimica Acta*, *Science of the Total Environment*, *Water Research*

Publications

1. D.I. Kreller, 'Supplemental StudyMate™ Electronic Study Aids in General Chemistry' Submitted to J. Chem. Ed. April 2009, In Review.
2. D.I. Kreller, B.F. Turner, K. Namjesnik-Dejanovic and P.A. Maurice. 'Comparison of the effects of sonolysis and ⁶⁰Co radiolysis on dissolved organic matter'. Environ. Sci. Technol. 2005, 39 (24), 9732-9737.
3. D. I. Kreller, G.W. vanLoon, and J.H. Horton. 'Chemical force microscopy investigation of phosphate adsorption on the surfaces of iron (III) oxyhydroxide particles'. J. Coll. Int. Sci. 2002, 254 (2), 205–213.
4. D.I. Kreller, G. Gibson, W. Novak, G.W. vanLoon, and J.H. Horton. 'Competitive adsorption of phosphate and carboxylate with natural organic matter on hydrous iron oxides as investigated by chemical force microscopy'. Coll. Surf. A. 2003, 212 (2-3), 249-264.
5. R.A. Metcalfe, D.I. Kreller, J. Tian, H. Kim, N.J. Taylor, J.F. Corrigan, and S. Collins. 'Organoborane-modified silica supports for olefin polymerization: Soluble models for metallocene catalyst deactivation'. Organometallics. 2002, 21, 1719-1726.
6. Z. Yuan, G. Stringer, I.R. Jobe, D. Kreller, K. Scott, L. Koch, N.J. Taylor, and T.B. Marder, 'Synthesis and characterization of ferrocenyl and bis(ferrocenyl) alkynes and polyynes: Crystal structure of 1,4-Bis(ferrocenyl)butadiyne and third-order nonlinear optical properties of 1,8-bis(ferrocenyl)octatetrayne', J. Organometal. Chem. 1993, 452, 115-120.
7. D.I. Kreller and P.V. Kamat. 'Photochemistry of Sensitizing Dyes: Spectroscopic and redox properties of cresyl violet'. J. Phys. Chem. 1991, 95, 4406-4410.

Conference Presentations

- March 2009 SoTL Commons Conference, Georgia Southern University, Statesboro, GA
'Interactive StudyMate-Generated Electronic Study Aids: Do students find them useful as learning resources in a science course?'
- April 2008 235th Meeting of the American Chemical Society, New Orleans, LA
'A Little Less Talk and a Little More Action (In Class): The Re-Design of an Upper-level Environmental Chemistry Course' D.I. Kreller and Raleigh Way[†]. Oral Presentation CHED (†Center for Excellence in Teaching, Georgia Southern University)
- Aug. 2005 230th Meeting of the American Chemical Society, Washington, DC
'The application of size exclusion chromatography with absorbance, fluorescence and dissolved organic carbon detection in a study of the oxidation of dissolved organic matter'. D. I. Kreller, Prashant V. Kamat, Patricia A. Maurice. Oral presentation, GEOC division.
- Aug. 2004 228th Meeting of the American Chemical Society, Philadelphia, PA
'A comparison of the effects of sonolysis and γ - radiolysis on dissolved organic matter'. D. I. Kreller, Ksenija Namjesnik-Dejanovic, Prashant V. Kamat and Patricia A. Maurice. Oral presentation, ENVR division.

- Mar. 2003 Electrochemical Society of Canada Spring Symposium, York University, Toronto, ON.
‘Chemical force microscopy study of phosphate self-assembled monolayers on gold and iron oxides’. D.I. Kreller, G. Van Loon and J.H. Horton.
- May 2002 Surface Canada Conference, University of Ottawa, Ottawa, ON.
‘Competitive adsorption of phosphate and carboxylate ions with natural organic matter on hydrous iron oxides as investigated by chemical force microscopy’. D.I. Kreller, G. Van Loon, and J.H. Horton. Oral presentation, Hobson competition.
- Nov. 2001 Symposium on Chemical Physics, University of Waterloo, ON.
‘Chemical force microscopy investigation of phosphate adsorption on the surface of iron (III) oxyhydroxide colloids’. David I. Kreller, Graham Gibson, Gary W. van Loon and J. H. Horton. Poster.
- May 2001 84th Canadian Society for Chemistry Conference and Exhibition, Montreal, QC.
‘Chemical force microscopy of ferric oxide colloids using a phosphate-coated chemically modified tip’. D.I. Kreller, G. Gibson, G.W. vanLoon and J.H. Horton. Poster, Analytical Division. This poster earned the (national) Graduate Student Presentation Award.

References

Dr. Peter Burns

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Dr. Patricia Maurice

Professor
Civil Engineering and Geological Sciences,
Director
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Technology
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Dr. J. Hugh Horton

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