

JONATHAN K. SCHOER

## Assistant Professor of Chemistry



### Contact Information:

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### Education:

- B.A. Chemistry, 1985, Luther College
- M.S. Analytical Chemistry, 1989, Iowa State University
- Ph.D. Analytical Chemistry, 1997 Texas A&M University
- Postdoc. Texas A&M University, College of Veterinary Medicine

### Professional Societies:

- [American Chemical Society](#)
- [American Institute of Physics/American Vacuum Society](#)
- [Council on Undergraduate Research](#)
- [The Electrochemical Society](#)
- [Society for Electroanalytical Chemistry](#)

### Honor Societies:

- Phi Lambda Upsilon Chemistry Honor Society
- Sigma Pi Sigma Physics Honor Society
- Sigma Xi Research Honor Society

### Honors or Distinctions:

- American Chemical Society Regional Outstanding Senior Chemistry Major, 1985
- Graduate Teaching Excellence Award, Iowa State University, 1988
- IBM Manufacturing Research Fellowship, 1992 - 1994

- Joseph W. Richards Summer Fellowship of The Electrochemical Society, 1994
- Iowa Waste Reduction Center (IWRC) Grant, 1999
- Barr Engineering Grant, 2001
- Merck/AAAS Undergraduate Science Research Program Grant, 2002
- U.S. Department of Housing and Urban Development, New Directions Program Grant, 2003

### **Teaching specialties:**

Analytical Chemistry (Quantitative Analysis, Advanced Instrumental Analysis)

### **Research interests:**

Interfacial, surface, thin-film, and membrane chemistry and phenomena, especially with in situ methods capable of providing nanometer-scale information. Analytical aspects of environmental issues.

### **Recent Student Research Associates**

Andy Westbrook Kristina Wehmeyer, BS 2004

### **Selected Publications:**

#### **Book Chapter:**

R. M. Crooks; O. Chailapakul; C. B. Ross; L. Sun; J. K. Schoer "Synthesis and Characterization of Two-Dimensional Molecular Recognition Interfaces." In *Interfacial Design and Chemical Sensing*; Mallouk, T. E., Harrison, D. J., Eds.; ACS Symposium Series 561; American Chemical Society: Washington, DC, 1994; pp. 104-122

#### **Journal Articles:**

Huang, H.; Schroeder, F.; Zeng, C.; Estes, M. K.; Schoer, J. K.; Ball, J. M. "Membrane Interactions of a Novel Viral Enterotoxin: Rotavirus Nonstructural Glycoprotein NSP4." *Biochemistry* 2001, *40*(13), 4169-4180.

J. K. Schoer, A. Gallegos, A. L. McIntosh, O. Starodub, J. Billheimer, F. Schroeder "Lysosomal Membrane Cholesterol Dynamics," *Biochemistry* 2000, *39*(26), 7662.

Gallegos, A. M.; Schoer, J. K.; Starodub, O.; Kier, A. B.; Billheimer, J. T.; Schroeder, F. "A potential role for sterol carrier protein-2 in cholesterol transfer to mitochondria," *Chemistry and Physics of Lipids* 2000, *105*(1), 9-29.

J. K. Schoer; R. M. Crooks "Scanning Probe Lithography. 4. Characterization of Scanning Tunneling Microscope-Induced Patterns in n-Alkanethiol Self-Assembled Monolayers," *Langmuir* 1997, *13*(8), 2323.

J. K. Schoer; F. P. Zamborini, R. M. Crooks "Scanning Probe Lithography. 3. Nanometer-Scale Electrochemical Patterning of Au and Organic Resists in the Absence of Intentionally Added Electrolyte Solutions," *J. Phys. Chem.* 1996, *100*(26), 11086.

K. C. Chan; T. Kim; J. K. Schoer; R. M. Crooks "Polymeric Self-Assembled Monolayers. 3. Pattern Transfer by Use of Photolithography, Electrochemical Methods, and an Ultrathin Self-Assembled Diacetylenic Resist," *J. Am. Chem. Soc.* 1995, *117*, 5875.

J. K. Schoer; C. B. Ross; R. M. Crooks; T. S. Corbitt; M. J. Hampden-Smith "Scanning Probe Lithography. 2. Selective Chemical Vapor Deposition of Copper into Scanning Tunneling Microscopy-Defined Patterns," *Langmuir* 1994, *10*(3), 615.

T. S. Corbitt; R. M. Crooks; C. B. Ross; M. J. Hampden-Smith; J. K. Schoer "Scanning Probe Surface Modification." *Adv. Mater.* 1993, *5*(12), 930.

J. K. Schoer; R. S. Houk; R. J. Conzemius; G. L. Schrader "Ion Association by Time-of-Flight Mass Spectrometry: A Study of V-P-O Catalysts," *J. Am. Soc. Mass Spec.* 1990, *1*(2), 129.

R. S. Houk; J. K. Schoer; J. S. Crain "Plasma Potential Measurements for Inductively Coupled Plasma-Mass Spectrometry with a Center-Tapped Load-Coil," *J. Anal. Atom. Spec.* 1987, *2*(3), 283.

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