

NICHOLAS F. MATERER

Department of Chemistry, 107 Physical Science
Oklahoma State University, Stillwater, Oklahoma 74078-3071
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EDUCATION

- 1995 - 1998 Research Associate, JILA - University of Colorado
Advisor: S. R. Leone
- 1990 - 1995 Ph.D. in Chemistry, University of California at Berkeley
Research Advisor: G. A. Somorjai
- 1989 - 1990 Bachelor of Science in Chemistry with Honors, University of Missouri-Columbia

APPOINTMENTS

1998 - Present Assistant Professor, Oklahoma State University

AWARDS

American Vacuum Society - Vacuum Technology Division 2002 Shop Note Award

EDUCATIONAL RESPONSIBILITIES

GRADUATE

Spring 2004 Topics in Physical and Organic Chemistry (Chem 6650)
Fundamentals and Applications of Surface Science

Fall 2003 Physical Chemistry, Foundations (Chem 5563)

UNDERGRADUATE

Summer 2001, 2003 General Chemistry (Chem 1515)

Fall 2000 – Spring 2003 Physical Chemistry Sequence (Chem 3434, 3553)

Fall 1998 – Spring 2000 General Chemistry (Chem 1314)

SCHOLARSHIP

PROFESSIONAL SOCIETIES

American Chemical Society, American Physical Society, American Vacuum Society
Materials Research Society

RESEARCH LECTURES/PRESENTATIONS (SINCE 1998)

13 Presentations at National Meetings
5 Invited University Seminars

PUBLICATIONS

29 Total Publication in internationally recognized scientific journals

REPRESENTATIVE PUBLICATIONS

1. “Adsorption and Decomposition Pathways of Cyanogen Halides on Si(100)-(2x1)”
Evgueni B. Kadossov, P. Rajasekar and Nicholas F. Materer
Journal of Physical Chemistry B. **108**, 303 (2004)

REPRESENTATIVE PUBLICATIONS (CONT)

2. "Adsorption Chemistry of Bromine and Chlorine Substituted Cyanogens on Silicon (100)"
P. Rajasekar, Evgueni B. Kadossov, Lucas Ward, Jennifer Lee Baker and
Nicholas F. Materer
Journal of Physical Chemistry B. **107**, 7726 (2003)
3. "Adsorption and Decomposition Pathways for ICN on Si(100)-(2x1)"
Evgueni B. Kadossov, P. Rajasekar and Nicholas F. Materer,
Chem. Phys. Lett. **370**, 548 (2003).
4. "Adsorption Chemistry of Cyanogen Iodide on Silicon (100)"
P. Rajasekar, Evgueni B. Kadossov, Tyler Watt and Nicholas F. Materer
Surf. Sci., **515**, 421 (2002).
5. "CdS Nanoparticles Modified to Chalcogen Sites: New Supramolecular Complexes,
Butterfly Bridging, and Related Optical Effects"
Tong Ni, Dattatri K. Nagesha, Juvencio Ronles, Nicholas F. Materer,
Stefan Müssig and Nicholas A. Kotov.
J. Am. Chem. **124**, 3980 (2002)
6. "Temperature Programmer for Surface Science Studies with Application
to Semiconductor Surfaces"
Nicholas F. Materer and Tyler Watt,
J. Vac. Sci. Technol. A, **20**, 572 (2002)
7. "Layer stacking implementation of tensor low energy electron diffraction."
Nicholas F. Materer
Surf. Sci. **491**, 131 (2001)
8. "Conversion of Colloidal Crystals to Polymer Nets: Turning Latex Particles Inside Out."
Yiyan Chen, Warren T. Ford, Nicholas F. Materer, and Dale Teeters
Chem. Mater. **13**, 2697 (2001)
9. "Facile Conversion of Colloidal Crystals to Ordered Porous Polymer Nets."
Yiyan Chen, Warren T. Ford, Nicholas F. Materer, and Dale Teeters,
J. Am. Chem. Soc. **122**, 10472 (2000)
10. "Ion-enhanced Etching of Si(100) with Molecular Chlorine: Neutral and Ionic Product
Yields as a Function of Ion Kinetic Energy"
N. Materer, Rory S. Goodman and Stephen R. Leone,
Journal of Physical Chemistry B **104**, 3261 (2000)

COLLABORATORS

Dr. Allen Apblett. Warren T. Ford

GRADUATE AND POSTDOCTORAL ADVISORS

Postdoctoral Advisor: Stephen R. Leone

Graduate Advisor: G. A. Somorjai

GRADUATE STUDENTS AND POSTDOCTORAL SCHOLARS

Current Postdoctoral Fellow: Pitchimani Rajasekar

Current Ph.D. Student: Evgueni B. Kadossov, Dane Scott

Former MS. Student: Christina M. Hummel