

**Michael J. Janik**

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**EDUCATION**

- September 2001-  
August 2005      **University of Virginia**  
**Ph.D. in Chemical Engineering (January 2006)**  
**M.S. in Chemical Engineering (May 2003)**
- September 1994-  
May 1998        **Yale University**  
**B.S. in Chemical Engineering, Cum Laude with Distinction in Major**

**PROFESSIONAL EXPERIENCE**

- August 2006-  
current            **Assistant Professor of Chemical Engineering: Pennsylvania State University**
- August 2005-  
August 2006      **Postdoctoral Research Associate: University of Virginia**  
Advisor: Matthew Neurock  
Project Title: "An Integrated Computational and Experimental Approach Toward the Design of Materials for Fuel Cell Systems", ARO MURI project
- *Ab initio* modeling of elementary processes of the direct methanol fuel cell
  - Computational screening of alloys for the methanol oxidation anode
  - Quantum-chemical studies of alloy properties and competitive adsorption limitations for oxygen reduction at the cathode
- May 2002-  
August 2005      **Graduate Research Assistant: University of Virginia**  
Advisors: Matthew Neurock and Robert J. Davis  
PhD Thesis: "Acid Catalysis by Polyoxometalates: Alkylation Chemistry and Deactivation"
- Quantum-chemical studies of acid properties of heteropolyacids
  - Analysis of reaction energetics for catalysts of isobutane alkylation
- June 1998-  
August 2001      **Process Engineer: Procter and Gamble**
- Responsible for "Pampers Baby Wipes" packaging process
  - Lead production efficiency and product quality improvement projects
  - Managed start-up teams of up to 16 technicians for new production equipment
- June 1997-  
May 1998        **Intern: United Technologies Research Center**
- Designed and conducted soil treatment experiments for direct oxidation of trichloroethylene contamination

**PUBLICATIONS**

1. M. J. Janik, K. A. Campbell, B. B. Bardin, R. J. Davis, M. Neurock. "A computational and experimental study of anhydrous phosphotungstic acid and its interaction with water molecules" *Applied Catalysis A: General* 256 (2003) 51-68.
2. M. J. Janik, R. J. Davis, M. Neurock. "A First Principles Analysis of the Location and Affinity of Protons in the Secondary Structure of Phosphotungstic Acid" *Journal of Physical Chemistry B* 108 (2004) 12292-12300.
3. K. A. Campbell, M. J. Janik, M. Neurock, R. J. Davis. "Ab Initio and Microcalorimetric Investigations of Alkene Adsorption on Phosphotungstic Acid" *Langmuir* 21 (2005) 4738-4745.
4. M. J. Janik, R. J. Davis, M. Neurock. "Anhydrous and Water-Assisted Proton Mobility in Phosphotungstic Acid" *Journal of the American Chemical Society* 127 (2005) 5238-5245.
5. M. J. Janik, R. J. Davis, M. Neurock. "The Relationship Between Adsorption and Solid Acidity of Heteropolyacids" *Catalysis Today* 105 (2005) 134-143.
6. J. Yang, M. J. Janik, D. Ma, A. Zheng, M. Zhang, M. Neurock, R. J. Davis, C. Ye, F. Deng. "Location and Acid Strength of the Protons in Anhydrous 12-H<sub>3</sub>PW<sub>12</sub>O<sub>40</sub>: A Combined Solid-State NMR Spectroscopy and DFT Quantum Chemical Calculation Study" *Journal of the American Chemical Society* 127 (2005) 18274-18280.
7. M. J. Janik, B. B. Bardin, R. J. Davis, M. Neurock. "A Quantum Chemical Study of the Decomposition of Keggin-Structured Heteropolyacids" *Journal of Physical Chemistry B* 110 (2006) 4170-4178.
8. M. J. Janik, R. J. Davis, M. Neurock. "A Quantum Chemical Study of Tertiary Carbenium-Ions in Acid Catalyzed Hydrocarbon Conversions Over Phosphotungstic Acid" *Catalysis Today* 116 (2006) 90-98.
9. M. J. Janik, R. J. Davis, M. Neurock. "A Density Functional Theory Study of the Alkylation of Isobutane and Butene Over Phosphotungstic Acid" *Journal of Catalysis* 244 (2006) 65-77.
10. J. Rossmeisl, J. K. Nørskov, C. D. Taylor, M. J. Janik, M. Neurock. "Calculated Phase Diagrams for the Electrochemical Oxidation and Reduction of Water over Pt(111)" *Journal of Physical Chemistry B* 110 (2006) 21833-21839.
11. C. D. Taylor, M. J. Janik, M. Neurock, R. G. Kelly. "Ab Initio Simulations of the Electrochemical Activation of Water" *Molecular Simulation* 33 (2007) 429-436.
12. M. J. Janik, M. Neurock. "A First-Principles Analysis of Electro-oxidation of CO over Pt(111)" *Electrochimica Acta* 52 (2007) 5517-5528.
13. M. J. Janik, C. D. Taylor, M. Neurock. "First Principles Analysis of the Electrocatalytic Oxidation of Methanol and Carbon Monoxide" *Topics in Catalysis* 46 (2007) 306-319.
14. J. Macht, M. J. Janik, M. Neurock, E. Iglesia. "Catalytic Consequences of Composition in Polyoxometalate Clusters with Keggin Structure" *Angewandte Chemie International Edition* 46 (2007) 7864-7868.

15. M. J. Janik, Sally A. Wasileski. "A first-principles study of molecular oxygen dissociation at an electrode surface: a comparison of potential variation and coadsorption effects" *Physical Chemistry Chemical Physics* 10 (2008) 3613-3627.
16. J. Macht, M. J. Janik, M. Neurock, E. Iglesia. "Mechanistic Consequences of Composition in Acid Catalysis by Polyoxometalate Keggin Clusters" *The Journal of the American Chemical Society* 130 (2008) 12292-12300.
17. A. D. Mayernick, M. J. Janik, "Methane Activation and Oxygen Vacancy Formation over CeO<sub>2</sub> and Zr, Pd Substituted CeO<sub>2</sub> Surfaces" *The Journal of Physical Chemistry C* 112 (2008) 14955-14964.
18. M. J. Janik, S. A. Wasileski, C. D. Taylor, M. Neurock. "First Principles Simulation of the Active Sites and Reaction Environment in Electrocatalysis" in *Fuel Cell Catalysis: a Surface Science Approach*, (2009) editor M. T. M. Koper.
19. M. J. Janik, C. D. Taylor, M. Neurock. "A First Principles Analysis of the Initial Electroreduction Steps of Oxygen over Pt(111)" *The Journal of the Electrochemical Society* 156 (2009) B126.
20. M. Neurock, M. J. Janik, A. Wieckowski. "A first principles comparison of the mechanism and site requirements for the electrocatalytic oxidation of methanol and formic acid over Pt" *Faraday Discussions* 140 (2009) 363-378.
21. G. Rostamikia, M. J. Janik, "Borohydride Oxidation over Au(111): A First-Principles Mechanistic Study Relevant to Direct Borohydride Fuel Cells" *Journal of the Electrochemical Society* 156 (2009) B86.
22. M. J. Janik, J. Macht, E. Iglesia, M. Neurock. "Correlation of Acid Properties and Catalytic Activity: A First Principles Study of Alcohol Dehydration over Polyoxometalates" *Journal of Physical Chemistry C* 113 (2009) 1872-1885.
23. A. L. Barnette, D. B. Asay, M. J. Janik, S. H. Kim. "Adsorption isotherm and orientation of alcohols on hydrophilic SiO<sub>2</sub> under ambient conditions" *Journal of Physical Chemistry C* 113 (2009) 10632-10641.
24. A. D. Mayernick, M. J. Janik. "Ab initio thermodynamic evaluation of Pd atom interaction with CeO<sub>2</sub> surfaces" *Journal of Chemical Physics* 131 (2009) 084701.
25. K. -Y. Yeh, S. A. Wasileski, M. J. Janik. "Electronic structure models of oxygen adsorption at the solvated, electrified Pt(111) interface" *Physical Chemistry Chemical Physics* 11 (2009).
26. A. L. Barnette, D. B. Asay, D. Kim, B. D. Guyer, H. Lim, M. J. Janik, S. H. Kim. "Experimental and Density-Functional-Theory Study of SiO<sub>2</sub> Tribochemical Wear in Humid Ambient Environment and Alcohol Vapor Adsorption Wear Prevention" *Langmuir* 25 (2009) 13052-13061.
27. J. Guo, S. Watanabe, M. J. Janik, X. Ma, C. Song. "Density Functional Theory Study on Adsorption of Thiophene on TiO<sub>2</sub> Anatase (001) Surfaces" *Catalysis Today* 149 (2010) 218-223.

28. G. Rostamikia, M. J. Janik. "First Principles Mechanistic Study of Borohydride Oxidation over the Pt(111) Surface" *Electrochimica Acta* 55 (2010) 1175-1183.
29. S. Liu, W. Liu, Y. Liu, J. -H. Lin, X. Zhou, M. J. Janik, R. H. Colby, Q. Zhang. "Imidazolium-based Ionic liquids as Electrolytes in Ionic Polymer Metal Composite Actuators: Effect on Strain, Speed and Efficiency" *Polymer International* (accepted for publication).
30. A. D. Mayernick, M. Batzill, A. Van Duin, M. J. Janik. "A ReaxFF Reactive Monte Carlo Study of Surface Enrichment and Step Structure on Ytria-Stabilized Zirconia" *Surface Science* (submitted).
31. J. Lahiri, A. D. Mayernick, S. L. Morrow, B. E. Koel, A. C.T. van Duin, M. J. Janik, M. Batzill. "Modification of active sites on YSZ(111) by yttria segregation" *Journal of Physical Chemistry C* (submitted).

### **Conference Proceedings**

G. Rostamikia, M. J. Janik. "A First Principles Study of Direct Oxidation of Aqueous Borohydride on Au and Pt Surfaces" *ECS Transactions* 16 (2008) 1869-1876.

### **Invited Presentations (2006-present)**

M. J. Janik. "First-Principles Design of Electrocatalysts for Fuel Cells" *U.S.-China Workshop for Early Career Chemical Scientists: New Materials*. Beijing, China, October 2009.

M. J. Janik. "First-Principles Evaluation and Design of Electrocatalysts for Fuel Cells" *Modeling of Fuel Cell Electrocatalysis Workshop*. University of California-Santa Barbara, July 2009.

M. J. Janik. "First-Principles Evaluation and Design of Electrocatalysts for Fuel Cells" *University of Illinois-Chicago Department of Chemical Engineering Seminar*. Chicago, April 2009.

M. J. Janik. "First-Principles Evaluation and Design of Electrocatalysts for Alternative Fuel Cell Systems" *Fuel Cell Gordon Conference*. Bryant University, July 2008.

M. J. Janik. "The Microscopics of Electrochemistry: Density Functional Theory Studies of the Oxygen Reduction Reaction" *Summer School on Modern Concepts for Creating and Analyzing Surfaces and Nanoscale Materials*. Sant Feliu de Guixols, Spain, May 2008.

M. J. Janik. "Electrocatalysis: Mechanistic Insight and Electrode Design using Quantum-Chemical Methods" *United States-Korea Joint Forum on Nanotechnology for Sustainability* Honolulu, April 2007.

M. J. Janik. "Understanding and design of fuel cell electrocatalysts using quantum-chemical methods" *Pittsburgh-Cleveland Catalysis Society*. Pittsburgh, October 2006.

### **Contributed Presentations (2006-present)**

M. J. Janik, G. Rostamikia. "Design of Electrocatalysts for Direct Borohydride Oxidation" *American Institute of Chemical Engineers National Meeting*. Nashville, November 2009.

K. -Y. Yeh, M. J. Janik. "Evaluation of Electronic Structure Models of the Electrocatalytic Interface" *American Institute of Chemical Engineers National Meeting*. Nashville, November 2009.

K. Lee, C. Xie, C. Song, M. J. Janik. "Enhanced sulfur tolerance of Ni-Rh alloys for reforming and methanation reactions" *American Institute of Chemical Engineers National Meeting*. Nashville, November 2009.

G. Khoury, P. Lin, M. J. Janik, P. Cirino, C. Maranas. "Ground and Transition State Computations on Cytochrome P450 BM-3 For Understanding Mutant Reactivity and Specificity" *American Institute of Chemical Engineers National Meeting*. Nashville, November 2009.

A. D. Mayernick, M. J. Janik. "Hydrocarbon electro-oxidation on Pd-ceria: A DFT investigation of the surface structure and catalytic activity" *American Institute of Chemical Engineers National Meeting*. Nashville, November 2009.

A. D. Mayernick, M. Batzill, A. C.T. van Duin, M. J. Janik. "Step Formation on Ytria-Stabilized Zirconia: Combining DFT and Reactive Force Fields to Interpret Surface Characterization" *American Institute of Chemical Engineers National Meeting*. Nashville, November 2009 (Poster).

K. -Y. Yeh, M. J. Janik. "Ion adsorption and Electrode-Electrolyte Interfacial Structure Effects on Oxygen Adsorption" *American Institute of Chemical Engineers National Meeting*. Nashville, November 2009 (Poster).

A. D. Mayernick, M. J. Janik. "A First-Principles Study of Methane Electro-oxidation over Pd-Ceria Catalysts" *American Chemical Society Fall Meeting*. Washington D. C., August 2009.

A. D. Mayernick, M. J. Janik. "Surface Structure and Oxidation State of Pd/Ceria Catalysts as a Function of Operating Conditions: An ab Initio Study" *American Chemical Society Fall Meeting*. Washington D. C., August 2009 (Poster).

K. -Y. Yeh, M. J. Janik. "Density functional theory approaches to oxygen adsorption at the electrified solid/solution interface" *American Chemical Society Fall Meeting*. Washington D. C., August 2009 (Poster).

K. -Y. Yeh, M. J. Janik. "Oxygen adsorption and dissociation on Pt(111): Impact of water structure, electric field, and electrode potential" *American Chemical Society Fall Meeting*. Washington D. C., August 2009.

J. Guo, C. Xie, K. Lee, C. Song, M. J. Janik. "Improving the Carbon Resistance of Reforming Ni Catalysts by Alloying with Rh" *American Chemical Society Fall Meeting*. Washington D. C., August 2009.

J. Guo, S. Watanabe, X. Ma, M. J. Janik, C. Song. "Computational Study on Adsorption of Thiophene over TiO<sub>2</sub> and Ce-doped TiO<sub>2</sub> Anatase (001) Surface" *American Chemical Society Fall Meeting*. Washington D. C., August 2009.

W. Liu, S. -W. Wang, Y. -J. Wang, S. Liang, D. King, U. H. Choi, G. J. Tudryn, M. J. Janik, D. Fragiadakis, J. Runt, R. H. Colby. "Designing Lithium Ion Transport Membranes for Batteries" *de Gennes Discussion Conference*. Chamonix, France., Feb. 2009.

W. Liu, U. H. Choi, M. J. Janik, R. H. Colby. "Optimization of Ionic Conduction in Ion-Containing Polymers" *Polymer Gordon Research Conference*. South Hadley, MA., Jun. 2009.

K. -Y. Yeh, M. J. Janik. "Evaluation of Electronic Structure Models of the Electrocatalytic Interface" *Modeling of Fuel Cell Electrocatalysis Workshop*. University of California-Santa Barbara, July 2009 (Poster).

M. J. Janik, A. D. Mayernick. "First-Principles Study of Surface Doping of Ceria with Noble Metals for Hydrocarbon Conversion" *North American Meeting of the North American Catalysis Society*, San Francisco, June 2009.

M. J. Janik, G. Rostamikia. "First-principles Design of Electrocatalysts for Direct Borohydride Oxidation" *North American Meeting of the North American Catalysis Society*, San Francisco, June 2009 (Poster).

J. Guo, X. Ma, M. J. Janik, C. Song. "Computational Study on Adsorption of Thiophene over the TiO<sub>2</sub> Anatase (001) Surface" *Pittsburgh-Cleveland Catalysis Society Spring Symposium*, Pittsburgh, May 2009.

G. Rostamikia, M. J. Janik. "First-principles Design of Electrocatalysts for Direct Borohydride Oxidation" *Electrochemical Society National Meeting*, San Francisco, May 2009.

G. Rostamikia, M. J. Janik. "A First Principles Study of Direct Electro-oxidation of Aqueous Borohydride on Au and Pt Surfaces" *American Institute of Chemical Engineers National Meeting*. Philadelphia, November 2008.

M. J. Janik, K. -Y. Yeh, E. K. Boland, J. K. Maranas. "Co-adsorption and Electrode-Electrolyte Interfacial Structure Effects on Oxygen Dissociation Energetics" *American Institute of Chemical Engineers National Meeting*. Philadelphia, November 2008.

A. D. Mayernick, M. J. Janik. "Ab Initio Studies of Ceria-Based Oxides for Direct Hydrocarbon Oxidation" *American Institute of Chemical Engineers National Meeting*. Philadelphia, November 2008.

A. Barnette, D. B. Asay, M. J. Janik, S. H. Kim. "The Structure, Adsorption Isotherm, and Average Orientation of Adsorbed Alcohol Layers and Water Layers on Silicon Oxide Surfaces in Ambient Conditions" *American Institute of Chemical Engineers National Meeting*. Philadelphia, November 2008.

G. Rostamikia, M. J. Janik. "Density Functional Theory Methods for Modeling Electrocatalysis: Application to Borohydride Oxidation Over Au and Pt(111)" *American Institute of Chemical Engineers National Meeting*. Philadelphia, November 2008 (Poster).

A. D. Mayernick, M. J. Janik. "Ceria-Based Oxides for Catalysis Applications Investigated by the DFT+U Approach" *American Institute of Chemical Engineers National Meeting*. Philadelphia, November 2008 (Poster).

M. J. Janik, G. Rostamikia. "A First Principles Study of Direct Oxidation of Aqueous Borohydride on Au and Pt Surfaces" *Pacific Rim Meeting on Electrochemical and Solid-State Science*. Honolulu, October 2008.

M. J. Janik, G. Rostamikia. "A First Principles Study of Direct Electrooxidation of Aqueous Borohydride on Au and Pt Surfaces" *American Chemical Society Fall Meeting*. Philadelphia, August 2008.

W. Liu, M. J. Janik and Ralph H. Colby. "on Solvation Energetics and Dipole Moments from ab initio Calculations" *236th American Chemical Society National Meeting & Exposition*. Philadelphia, PA., Aug. 2008.

M. J. Janik, G. Rostamikia. "Electrocatalytic mechanisms of borohydride oxidation on Au and Pt surfaces from first principles" *Faraday Discussion: Electrocatalysis – Theory and Experiment at the Interface*. Southampton, UK, July 2008 (Poster).

M. J. Janik, A. D. Mayernick. "First-principles study of surface structure and methane activation over CeO<sub>2</sub> and Zr, Pd doped CeO<sub>2</sub> surfaces" *Catalysis Gordon Conference*. Colby-Sawyer College, June 2008 (Poster).

M. J. Janik, G. Rostamikia, A. D. Mayernick. "First-Principles Studies of Direct Borohydride and Direct Hydrocarbon Fuel Cells" *Summer School on Modern Concepts for Creating and Analyzing Surfaces and Nanoscale Materials*. Sant Feliu de Guixols, Spain, May 2008 (poster)

A. D. Mayernick, M. J. Janik. "Computational Studies of Metal Oxide Materials for Use as Anodes in Solid Oxide Fuel Cells" *Pittsburgh-Cleveland Catalysis Society Spring Symposium*. State College, May 2008.

G. Rostamikia, M. J. Janik. "Computational Design of Direct Borohydride Fuel Cell Anodes" *Pittsburgh-Cleveland Catalysis Society Spring Symposium*. State College, May 2008.

M. Merrill, M. J. Janik, B. E. Logan. "The effects of buffer species on the hydrogen evolution reaction at circum-neutral pH" *Microbial Fuel Cells First International Symposium*. Penn State, May 2008 (poster)

D. B. Asay, E. Hsiao, B. D. Guyer, M. J. Janik, M. T. Dugger, J. A. Ohlhausen, S. H. Kim. "Lubrication of silicon oxide surface through equilibrium adsorption of alcohol vapor in humid environments" *American Chemical Society Spring Meeting*. New Orleans, April 2008 (poster)

W. Liu, M. J. Janik, Ralph H. Colby. "Ion Solvation Energetics" *The XVth International Congress on Rheology*. Monterey, CA., Aug. 2008.

W. Liu, M. J. Janik, R. H. Colby. "Interactions in Ion-containing Polymers Probed by ab initio Methods" *Gordon Research Conference on Colloidal, Macromolecular & Polyelectrolyte Solutions*. Venture, CA, February 2008 (poster)

W. Liu, M. J. Janik, R. H. Colby. "Interactions in Ion-containing Polymers Probed by ab initio Methods" *The American Physical Society Meeting*. New Orleans, March 2008

W. Liu, M. J. Janik, R. H. Colby. "Interactions in Ion-containing Polymers" *Materials Research Society Spring Meeting*. San Francisco, March 2008

M. J. Janik. "First Principles Calculations of Electrocatalysis" *PSU-Nissan Workshop on Automotive Fuel Cell*, State College, October 2007

M. J. Janik, Gholamreza Rostamikia. "A First Principles Study of Direct Electrooxidation of Aqueous Borohydride on Au and Pt Surfaces" *American Institute of Chemical Engineers National Meeting*. Salt Lake City, November 2007

M. J. Janik, Matthew Neurock. "A First Principles Analysis of the Mechanism for the Electroreduction of Oxygen over Pt" *American Institute of Chemical Engineers National Meeting*. Salt Lake City, November 2007

Adam D. Mayernick, M. J. Janik. "Ab Initio Study of the Surface Structure and Reactivity of Doped Ceria Anodes for Direct Hydrocarbon Solid Oxide Fuel Cells" *212<sup>th</sup> Electrochemical Society Meeting*. Washington DC, October 2007 (poster)

Gholamreza Rostamikia, M. J. Janik. "A First Principle Study of Borohydride Oxidation Electrocatalysis" *212<sup>th</sup> Electrochemical Society Meeting*. Washington DC, October 2007 (poster, winner of first place award)

M. J. Janik, Matthew Neurock. "A Density Functional Theory Study of the Oxygen Reduction Reaction over Pt and Pt-based Alloys" *212<sup>th</sup> Electrochemical Society Meeting*. Washington DC, October 2007

M. Neurock, M. J. Janik. "A First Principles Analysis of the Mechanism for the Electroreduction of Oxygen over Pt" *North American Catalysis Society 20<sup>th</sup> North American Meeting*. Houston, June 2007

M. Neurock, M. J. Janik, R. J. Davis. "Theoretical Insights into Alkylation and Acid Catalysis over Polyoxometalates" *North American Catalysis Society 20<sup>th</sup> North American Meeting*. Houston, June 2007

Y -H. Chin, E. Iglesia, M. Li, C. Buda, M. J. Janik, M. Neurock. "Structure, Dynamics and Reactivity of Group VIII Metal and Oxide Clusters during Reactions of Methane with Oxygen" *North American Catalysis Society 20<sup>th</sup> North American Meeting*. Houston, June 2007

A. Yamaguchi, Y. -H. Chin, M. Li, M. J. Janik, M. Neurock, E. Iglesia. "Structural Requirements and Elementary Steps in Methane Reactions on Supported Metal Cluster" *North American Catalysis Society 20<sup>th</sup> North American Meeting*. Houston, June 2007

J. Macht, C. Yin, M. J. Janik, M. Neurock, E. Iglesia. "Effects of Composition on the Reactivity of Protons in Polyoxometalate Clusters" *North American Catalysis Society 20<sup>th</sup> North American Meeting*. Houston, June 2007 (poster)

S. A. Wasileski, C. D. Taylor, M. J. Janik, M. Neurock. "Modeling the Electrochemical Potential of the Aqueous-Electrode Interface within Periodic Density Functional Theory" *Symposium on the Theoretical Treatment of the Metal-Water Interface* Germany, April 2007

M. J. Janik, S. A. Wasileski, M. Neurock. "First-Principles Design of Metal Alloy Catalysts for Electrocatalytic Methanol Oxidation" *American Institute of Chemical Engineers National Meeting* San Francisco, November 2006

M. J. Janik, M. Neurock. "A First-Principles Analysis of Electrocatalytic Oxidation of CO at the DMFC Anode" *American Institute of Chemical Engineers National Meeting* San Francisco, November 2006.

M. J. Janik, S. A. Wasileski, M. Neurock. "A First-Principles Analysis of the Electrooxidation of Methanol over Pt and Pt-based Alloys" *International Society of Electrochemistry Annual Meeting* Scotland, August 2006

M. J. Janik, C. D. Taylor, M. Neurock. "A First-Principles Analysis of Electrocatalytic Oxidation of CO over Pt and Pt-Ru Alloys" *209<sup>th</sup> Electrochemical Society Meeting* Denver, May 2006



### **AWARDS**

Chemical Engineering Faculty Award for Excellence in Doctoral Study (2005)

Engineering School Outstanding Graduate Teaching Assistant Award (2005)

University of Virginia All-University Outstanding Graduate Teaching Assistant Award (2005)

Exceptional Poster Award at Gordon Conference on Catalysis (2004)

### **PROFESSIONAL MEMBERSHIPS**

American Institute of Chemical Engineers

American Chemical Society

North American Catalysis Society

Electrochemical Society

International Society of Electrochemistry

### **Graduate Students Advised:**

Adam D. Mayernick, Chemical Engineering (current)

Gholamreza Rostamikia, Chemical Engineering (current)

Kuan-Yu Yeh, Chemical Engineering (current)

Wenjuan Liu, Materials Science and Engineering (current, co-advised with Ralph Colby)

Jiahua Guo, Energy and Mineral Engineering (current, co-advised with Chunshan Song)

Kyungtae Lee, Chemical Engineering (current)

Iman Savizi, Chemical Engineering (current)

Michael Glasspool, Chemical Engineering (current, co-advised with Janna Maranas)

Huai-Suen Shiau, Chemical Engineering (current, co-advised with Ralph Colby)