

## David W. Hatchett

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### Education

**Ph.D. - Physical/Analytical Chemistry:** University of Utah, Salt Lake City, Utah, June, 1997.

**B.Sc. - Chemistry (ACS certified):** California State University, Stanislaus, Turlock, California, June 1992.

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### Experience

**Associate Professor** - University of Nevada, Las Vegas. Environmental/Analytical Chemistry, 2006 to present.

**Assistant Professor** - University of Nevada, Las Vegas. Environmental/Analytical Chemistry, 1999 to 2006.

- Instructor for Quantitative Analysis (Classical Analytical Chemistry).
- Instructor for Instrumental Analysis (Modern Analytical Chemistry).

**Postdoctoral Fellowship** - Advisor: Dr. Jiri Janata. A post doctoral fellowship in the field of material science (conducting polymers) and analytical chemical sensors. The research conducted included synthesis of conductive polymers, doping effects on conductivity and reactivity of polymers, photo acoustic FTIR spectroscopy of conducting polymers and work function measurements of sensors in the presence of gaseous reactants. Georgia Institute of Technology, Department of Chemistry and Biochemistry, Atlanta, GA. Tenure from July, 1997 to July, 1999. Experimental techniques used in these investigations include:

**Ph.D. Thesis Research** - Advisor: Dr. Henry S. White. A working knowledge of high vacuum systems, spectroscopic techniques, and electrochemical methods has been developed in these studies. General areas of study include course work in electrochemical methods, separations, applied organic spectroscopy, advanced thermodynamics, and molecular spectroscopy. Experimental techniques used in these investigations include:

**Lecturer** – Quantitative and instrumental analysis for chemistry majors, topics included complex equilibria, titrations, electrochemistry, mass spectrometry, and separation science. Georgia Institute of Technology, January 1998 - December 1998.

## Presentations

1. Pemberton, W. J.; Czerwinski, K.; Hatchett, D. W. “**F element studies using cyclic voltammetry in room temperature ionic liquids**”, 234<sup>th</sup> National Meeting, American Chemical Society, August 19-23, 2007. Boston, MA USA.
2. Hatchett, D.W.; Weetall, H.; Bennett, B.; Rogers, K. “**Electrochemical Synthesis of Mn/2,4-Dichlorophenoxyacetic Acid Electrodes: An Ion Selective Electrodes for Pesticides?**” *Electrochem. Soc.*, **2006**, 601, 1251.
3. Elkouz, S.; Hatchett D.; Czerwinski, K. “**Electrochemical Investigation of pH and Ionic Strength Effects on Ce(III)/Ce(IV) Redox Behavior at Glassy Carbon, Au, and Pt Electrodes.**” *Electrochem. Soc.*, **2006**, 601, 1035.
4. Hatchett, D.W.; Kinyanjui, J. “**Reduction of  $\text{PtCl}_6^{2-}$  and  $\text{PtCl}_4^{2-}$  in Polyaniline: Oxidation of Methanol at Morphologically Different Composites.**” *Electrochem. Soc.*, **2006**, 602, 2076.
5. Luo, Ning; Hatchett, David W.; Rogers, Kim R. **Effect of polycyclic aromatic hydrocarbons on SAM-coated gold electrodes using ferricyanide as the redox indicator.** Abstracts of Papers, 230th ACS National Meeting, Washington, DC, United States, Aug. 28-Sept. 1, 2005.
6. Hatchett, D.W.; Kinyanjuie, J.M.; Kodippilli, G.; Sapochak, L. **FTIR Analysis of Thermally Processed Polyurethane Foams.** Polyurethanes Conference 2004, Las Vegas, NV, October 16<sup>th</sup> – 20<sup>th</sup>, 2004.
7. Hatchett, D.W.; Kinyanjui, J. M.; Josowicz, M.; Smith, A. J. **Chemical synthesis of polyaniline/gold composite using tetrachloroaurate.** The 227th ACS National Meeting, Anaheim, CA, March 28-April 1, 2004.
8. Hatchett, D.W.; Kinyanjui, J.M.; Hanks J., Smith, A.J. Josowicz, M. **Synthesis of Polyaniline/Gold Composite.** 2004 Joint International Meeting of the Electrochemical Society, Honolulu, HI, October 3-October 8, 2004.
9. Kodipilli, G.; Sapochak, L.; Sheld, E.; Hatchett, D.W. **FTIR analysis of PU foams using FTIR/PAS spectroscopy and IR microscopy.** International Polyurethane Materials conference October, 2002, Salt Lake City, UT.
10. Hatchett, D.W.; Wilson, M.; Ruegner, R.; McKinstry, L. **Probing Polyaniline/Gold Composites Using Thiol Interactions.** The Chemistry Section of the Arizona-Nevada Academy of Science Meeting. April 14<sup>th</sup>, 2001 Las Vegas, Nevada.
11. Hatchett, D.W.; Wilson, M.; Ruegner, R.; McKinstry, L. **Probing Polyaniline/Metal Sensor Selectivity Using Gold/Thiol Interactions.** 221<sup>st</sup> ACS National Meeting, San Diego, CA, April, 2<sup>nd</sup>, 2001.
12. Hatchett, D.W.; Josowicz, M.; Janata, J. **Electrochemical formation of Au Clusters in polyaniline.** The Gordon Research Conference, Electrochemistry. Ventura, CA, January 16-24<sup>th</sup>, 2000.
13. Hatchett, D.W.; Josowicz, M.; Janata, J. **Acid-base and redox properties of polyaniline.** The Gordon Research Conference, Electrochemistry. Ventura, CA, January 17-25<sup>th</sup>, 1999.

- Hatchett, D.W.; Uibel, R.; Stevenson, K.J.; Harris, J.M.; White, H.S. **Electrochemical measurement of the free energy of adsorption of *n*-alkanethiolate monolayers.** The 193rd Electrochemical Society Meeting, San Diego, CA, May, 3-8, 1998.
  - Stevenson, K.J.; Hatchett, D.W.; White, H.S. **Electrochemical Deposition of Hydrosulfide and Ethanethiol Monolayers on Silver(111). Voltammetric measurement of Structural Phase Transitions During Adlayer Formation.** Gordon Conference, Ventura, CA., January, 1997.
  - Hatchett, D.W.; Stevenson, K.J.; Lacy, W.B.; Harris, J.M.; White, H.S. **Electrochemical measurement of the adsorption thermodynamics of alkanethiolate monolayers,** The Eighth International Conference on Organized Molecular Films, Asilomar, CA, August 24-29, 1997.
  - Hatchett, D.W.; White, H.S. **Electrochemistry of Sulfur Adlayers on Ag(111), (110), and (100).** Presentation at The 190th Electrochemical Society Meeting, San Antonio, TX, October 6-11, 1996.
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### Honors

- **Best Presentation Award**, FTIR Analysis of Thermally Processed Polyurethane Foams. Polyurethanes Conference 2004, Las Vegas, NV, October 16<sup>th</sup> – 20<sup>th</sup>, 2004.
- **Co-chair**, The 193rd Electrochemical Society Meeting, Physical Electrochemistry Session, San Diego, CA, May, 1998.
- **Outstanding Chemistry Student**, California State University, Stanislaus - 1991.
- **President**, Associated Student Body, California State University, Stanislaus - 1991.
- **Student Representative**, Fellowship Board of Directors, California State University, Stanislaus - 1991.

### Personal and Professional Activities

- Member, The American Chemical Society, since 1992.
- Member, The Electrochemical Society, since 1996.
- Member, The Society for Electroanalytical Chemists, since 1998.
- Member, International Electrochemical Society, since 2006.
- Treasurer, The Boulder Dam Section of the American Chemical Society, 2001-2003.
- Reviewer, Analytical Chemistry, Journal of the Electrochemical Society, Solid State and Electrochemical Letters, Journal of Materials, Lagnmuir, The Journal of Physical Chemistry, and The Journal of Electroanalytical Chemistry.

### Research Publications

- Luo, N.; Hatchett, D.W.; Rogers, K.R. **“Recognition of Pyrene Using Molecularly-Imprinted Electrochemical-Deposited Poly(2-mercaptobenzimidazole) or Poly(resorcinol) on gold electrodes.”** *Electroanalysis*, **2007**, *19*, 2117-2124.
- Hatchett, D.W.; Kinyanjui, J.M.; Sapochak, L. **“FTIR Analysis of Chemical Gradients in Thermally Processed Molded Polyurethane Foam.”** *J. Cellular Plastic*, **2007**, *43*, 183 – 196.
- Luo, Ning; Hatchett, David W.; Rogers, Kim R. **Impact of polycyclic aromatic hydrocarbons on the electrochemical responses of a ferricyanide probe at template-modified self-assembled monolayers on gold electrodes.** *Electroanalysis*, **2006**, *18*,

2180-2187.

4. Hatchett, David W.; Wijeratne, Ranmali; Kinyanjui, John M. **Reduction of  $\text{PtCl}_6^{2-}$  and  $\text{PtCl}_4^{2-}$  in polyaniline: Catalytic oxidation of methanol at morphologically different composites.** *Journal of Electroanalytical Chemistry*, **2006**, 593(1-2), 203-210.
5. Kinyanjui, John M.; Wijeratne, Neloni R.; Hanks, Justin; Hatchett, David W. **Chemical and electrochemical synthesis of polyaniline/platinum composites.** *Electrochimica Acta*, **2006**, 51(14), 2825-2835.
6. Weetall, Howard H.; Hatchett, David W.; Rogers, Kim R. **Electrochemically deposited polymer-coated gold electrodes selective for 2,4-dichlorophenoxyacetic acid.** *Electroanalysis*, **2005**, 17(19), 1789-1794.
7. Hatchett, David W.; Kodippili, Gayani; Kinyanjui, John M.; Benincasa, Floerfida; Sapochak, Linda. **FTIR analysis of thermally processed PU foam.** *Polymer Degradation and Stability*, **2005**, 87(3), 555-561.
8. Kinyanjui, John M.; Hanks, Justin; Hatchett, David W.; Smith, Anthony; Josowicz, Mira. **Chemical and Electrochemical Synthesis of Polyaniline/Gold Composites.** *Journal of the Electrochemical Society*, **2004**, 151(12), D113-D120.
9. Smith, A. J.; Josowicz, M.; Kinyanjui, J. M.; Hatchett, D.W. **Chemical Synthesis of Polyaniline/Gold Composite using Tetrachloroaurate.** *Chem. Mater.* **2004**, 16, 3390-3398.
10. Smith, A. J.; Josowicz, M.; Kinyanjui, J. M.; Hatchett, D.W. **Chemical Synthesis of Polyaniline/Gold Composite using Tetrachloroaurate.** *Poly. Preprints* **2004**, 45, 143-144.
11. Kinyanjui, J. M.; Hanks, J.; Hatchett, D.W.. **Hexachloroplatinate-Initiated Synthesis of Polyaniline/ Platinum Composite.** *Macromolecules*, **2004**, 37, 8745-8753.
12. Li, G.; Meazzel, L. A.; Polk, B.J.; Hatchett, D.W. **ISE analysis of hydrogen sulfide in cigarette smoke.** *J. Chem. Ed.*, **2000**, 77, 1049.
13. Hatchett, D.W.; Josowicz, M.; Baer, D.; Janata, J. **Electrochemical formation of Au clusters in polyaniline.** *Chem. Mater.* **1999**, 11, 2989.
14. Hatchett, D.W.; Josowicz, D.; Janata, J. **Acid doping of polyaniline,** *J. Phys. Chem.. B.* **1999**, 103, 10992.
15. Hatchett, D.W.; Josowicz, M.; Janata, J. **Comparison of chemically and electrochemically synthesized polyaniline films.** *J. Electrochem. Soc.* **1999**, 146, 4533.
16. Hatchett, D.W.; Uibel, R.; Stevenson, K.J.; Harris, J.M.; White, H.S. **Electrochemical measurement of the free energy of adsorption of *n*-alkanethiolates at Ag(111).** *J. Am. Chem. Soc.* **1998**, 120, 1062.
17. Hatchett, D.W.; Uibel, R.; Stevenson, K.J.; Harris, J.M.; White, H.S. **Electrochemical measurement of the free energy of adsorption of *n*-alkanethiolate monolayers.** Proceedings Volume of The 193rd Electrochemical Society Meeting, San Diego, CA, May, 3-8, 1998.

18. Hatchett, D.W.; Uibel, R.; Stevenson, K.J.; Harris, J.M.; White, H.S. **Electrochemical and SERS measurements used to determine the structure and free energy of adsorption of *n*-alkanethiolates at Ag(111).** *Abstracts of Papers of the American Chemical Society*, **1998**, 215, 204.
19. Stevenson, K.J.; Hatchett, D.W.; White, H.S. **Electrochemical deposition of polyborate monolayers at Ag(111) electrodes.** *Langmuir*, **1997**, 13, 6824.
20. Stevenson, K.J.; Gao, X.; Hatchett, D.W.; White, H.S. **Review: Voltammetric measurement of anion adsorption on Ag(111).** *J. Electroanal. Chem.*, **1998**, 447, 43.
21. Hatchett, D.W.; Stevenson, K.J.; Lacy, W.B.; Harris, J.M.; White, H.S. **Electrochemical measurement of the adsorption thermodynamics of alkanethiolate monolayers,** Proceedings Volume for The Eighth International Conference on Organized Molecular Films, Asilomar, CA, August 24-29, 1997.
22. Hatchett, D.W.; Lacy, W.B.; Stevenson, K.J.; Harris, J.M.; White, H.S. **Electrochemical Oxidative Adsorption of Ethanethiol on Ag(111).** *J. Am. Chem. Soc.* **1997**, 119, 6596.
23. Stevenson, K.J.; Hatchett, D.W.; White, H.S. **Electrochemical Deposition of Hydrosulfide and Ethanethiol Monolayers on Silver(111). Voltammetric measurement of Structural Phase Transitions During Adlayer Formation.** *Israel Journal of Chemistry* **1997**, 37, 173.
24. Hatchett, D.W.; White, H.S. **Electrochemistry of Sulfur Adlayers on Ag(111), (110), and (100).** Proceedings Volume of The 190th Electrochemical Society Meeting, San Antonio, TX, October 6-11, 1996.
25. Hatchett, D.W.; White, H.S. **Electrochemistry of Sulfur Adlayers on the Low Index Faces of Silver.** *J. Phys. Chem.* **1996**, 100, 9854.
26. Hatchett, D.W.; Gao, X.; Catron, S.C.; White, H.S. **Electrochemistry of Sulfur Adlayers on Ag(111). Evidence for a Concentration- and Potential-Dependent Surface-Phase Transition.** *J. Phys. Chem.* **1996**, 100, 331.
27. Stevenson, K.J.; Hatchett, D.W.; White, H.S. **Influence of Surface Defect Structure on The Underpotential Deposition of Pb Monolayers at Ag(111).** *Langmuir* **1996**, 12, 494.