

## Curriculum Vitae – Christopher J Pursell

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### Education

Ph.D. in Chemistry, University of Chicago, June 1990.

B.S. in Chemistry, California State University-Sacramento, June 1985.

### Academic Positions

8/05-present	Professor, Chemistry Department, Trinity University.
8/05-8/06	Visiting Professor, Chemistry Department, University of Canterbury (New Zealand).
8/99-7/05	Associate Professor, Chemistry Department, Trinity University.
8/00-5/01	Visiting Scholar (Faculty) at University of Colorado, C.I.R.E.S
6/93-7/99	Assistant Professor, Chemistry Department, Trinity University.
6/90-6/93	Postdoctoral Research with Dr. C.S. Parmenter, Indiana University.
6/92-8/92	Lecturer, Chemistry Department, Indiana University.
1/91-5/91	Lecturer, Chemistry Department, Indiana University.
6/86-5/90	Ph.D. Research with Dr. T. Oka, University of Chicago.
8/88	Summer Instructor for High School Chemistry Teachers, University of Chicago.
9/85-6/86	Teaching Assistant, Chemistry Department, University of Chicago.
6/85-9/85	Research Associate with Dr. T. Oka, University of Chicago.

### University Service

Served as University's Chemical Hygiene Officer  
Served on Advising and Registration Committee.  
Served on faculty committee for 5<sup>th</sup> year review of AVPAA: Research and Budget  
Served on University Curriculum Counsel, Chair and Vice-Chair (Chair of Understandings Committee).  
Served on Faculty Senate. (Chair of the Budget Committee).  
Served on United Way Committee.  
Served on Visiting Lecturer Committee.  
Served on ad hoc Science Understanding Committee.  
Served on student-led Issues Awareness Committee.  
Participated in Trinity in Focus.  
Participated in various extracurricular campus functions and events (i.e. dinners, music presentations, sporting events, ceremonies, lectures, discussion groups, student meetings, etc.)

### Departmental Service

Served as Awards Coordinator.  
Served as Seminar Coordinator.  
Served as Coordinator for the General Chemistry Laboratory.  
Served as Coordinator for the General Chemistry Lectures.  
Counseled and advised students and supported various student functions.

### Grants and Awards

◆ Petroleum Research Fund – Type B Grant: “Experimental Study of Transport Phenomena and Film Instabilities of Evaporating Multicomponent Fuel Films”, \$50,000, with Peter L. Kelly-Zion (May 2005-August 2008).  
◆ Petroleum Research Fund – Undergraduate Faculty Sabbatical Grant (Administered by the American Chemical Society): “Study of the Gas-Liquid Interface”, \$50,000, (August 2005-August 2006).

- ◆ National Science Foundation: "RUI: Acquisition of a Fourier Transform Infrared Spectrometer and Other Instrumentation for the Study of Multicomponent Fuel Film Vaporization at Trinity University", \$163,154, with Peter L. Kelly-Zion and Diana D. Glawe (August 2003-July 2007).
- ◆ Welch Foundation Research Grant: "Chemistry on Hydrogen-Bonding Solids", \$150,000. (2003-2007)
- ◆ Henry Dreyfus Teacher-Scholar Award: \$60,000. (November 2002-November 2008)
- ◆ Visiting Scholar Program at University of Colorado, C.I.R.E.S. (Cooperative Institute for Research in Environmental Sciences), \$33,500. (August 2000-May 2001)
- ◆ Welch Foundation Research Grant: "Chemistry on Hydrogen-Bonding Molecular Solids", \$135,000. (1999-2003)
- ◆ Petroleum Research Fund Grant (administered by the American Chemical Society): "Chemical Reactivity of Ice and Ice-like Surfaces", \$30,000 (1999-2002)
- ◆ Welch Foundation Research Grant: "Heterogeneous Chemistry on Ice", \$102,000. (1996-1999)
- ◆ Petroleum Research Fund Starter Grant (administered by the American Chemical Society): "Photo-induced chemical reactions on amorphous solid surfaces with emphasis on systems of atmospheric interests", \$20,000. (1994-1997)
- ◆ Camille and Henry Dreyfus Faculty Start-up Award, \$10,000. (1993-1998)
- ◆ Cottrell College Science Award (Research Corporation): "Photo-induced chemical reactions on amorphous solid surfaces with emphasis on systems of atmospheric interests", \$35,000. (1993-1996)

#### **Postdoctoral Research Associates**

Michael A. Everest (PhD, Stanford University), August 1999-August 2001 {at George Fox University}.  
Jennifer S. Holt (PhD, University of Michigan), June 2002-July 2004 {at Penn State University – Erie}.  
Susan P. Oxley (PhD, University of Illinois), August 2004-July 2007 {at St. Mary's University, Texas}.

#### **Undergraduate Research Students (49 total)**

Jay Conyers, Phil Alapat, Ruksana Parveen, Carilee Denison, Andy Zillman, Mona Zaida, Tiffany Malinky, Stacy Paul, Rene Rodrigues, Lambert Doezema, Jeff Grunes, Andy Zurovec, Justin Dye, Julie Tucillo, Sylvia Olejnikova, Yinyu Tang, Amir Baluch, Candice Fraser-Gaston, Alexis Thompson, Eric Vela, Kyris Agapiou, Brian Bushnell, Omid Soltani, Mary Falgout, Diana Sanchez, Caitlin McEathron, Michael Hurley, Alexis Raftopoulos, Shane Lee, Thomas Moon, David Sadoskas, Robyn Hodgkins, Cara Froyd, Megan Jay, Nicole Bouley, Alan May, Jennifer Hartmann, Sharon Wells, Catherine Jelf, Kristen Faith, Heather Hartshorn, Will French, Brian Malpede, Alex Rodriguez, Derek Rose, Jon Simpkins, Ryan Booth, Alec VanTilburg.

#### **High School Research Students (5 total)**

Fernando Campos, Erin Freed, John McCoy, Rachel Grabow, Janet Pursell

#### **Reviews**

Refereed articles for the Journal of Physical Chemistry, the Journal of the American Chemical Society, the Israel Journal of Chemistry and the Journal of Chemical Education.

Reviewed grant proposals for the Petroleum Research Fund, Research Corporation, and the National Science Foundation. Served on National Science Foundation Grant Review Panel.

Served as Chair of session at National ACS Meetings.

#### **Publications at Trinity University (\* denotes undergraduates)**

33. "Adsorption of CO on Supported Gold Nanoparticle Catalysts: A Comparative Study", Heather Hartshorn, Christopher J. Pursell, Bert D. Chandler, Journal of Physical Chemistry C, 113(24), 10718-10725 (2009).

32. "Evaporation Rates of Pure Hydrocarbon Liquids Under the Influences of Natural Convection and Diffusion", Peter L. Kelly-Zion, Christopher J. Pursell, Ryan S. Booth\*, Alec N. VanTilburg\*, International Journal of Heat and Mass Transfer, 52(13-14), 3305-3313 (2009).

31. "Analysis of Evaporating Fuel Films Using Shadowgraph and Schlieren Imaging Techniques", William French\*, Derek Rose\*, Peter Kelly-Zion, and Christopher Pursell, SAE Technical Paper No. 2008-01-2443, Chicago, IL (2008).

30. "Kinetic Evaluation of Highly Active Supported Gold Catalysts Prepared from Monolayer-Protected Clusters: An Experimental Michaelis-Menten Approach for Determining the Oxygen Binding Constant during CO Oxidation Catalysis", Cormac G. Long, John D. Gilbertson, Ganesh Vijayaraghavan, Keith J. Stevenson, Christopher J. Pursell, and Bert D. Chandler, *Journal of the American Chemical Society*, 130, 10103 (2008).
29. "Supramolecular Chemistry: a Capstone Course", Adam R. Urbach, Christopher J Pursell, John D. Spence, *Journal of Chemical Education*, 84(11), 1785 (2007).
28. "Measuring the Changing Composition and Mass of Evaporating Fuel Films", Peter Kelly-Zion, Catherine Jelf\*, Christopher Pursell, Susan Oxley, *American Society of Mechanical Engineers ICE Proceedings*, Nov. 5-8, 2006, icef2006.1516/1-icef2006.1516/10, (2006).
27. "Onsager Heat of Transport for Water Vapour at the Surface of Water and Ice: Thermal Accommodation Coefficients for Water Vapour on a Stainless-steel Surface", Christopher J. Pursell, Leon F. Phillips, *Physical Chemistry – Chemical Physics*, 8, 4694 (2006).
26. "Pressure Independence of the Onsager Heat of Transport for a Gas-liquid Interface at High Pressure", Ronald A. James, Christopher J. Pursell, Leon F. Phillips, *Chemical Physics Letters*, 429, 153 (2006).
25. "Infrared Spectroscopy of Solid Hydrogen Sulfide and Deuterium Sulfide", Kristin Fathe\*, Jennifer S. Holt, Susan Oxley, Christopher J. Pursell, *Journal of Physical Chemistry A*, 110, 10793 (2006).
24. "Diffusion of HDO in Pure and Acid-doped Ice Films", Susan P. Oxley, Caitlin M. Zahn\*, and Christopher J. Pursell, *Journal of Physical Chemistry A*, 110, 11064 (2006).
23. "Infrared Spectroscopy of the Solid Phases of Ammonia", Jennifer S. Holt, David Sadoskas\*, Christopher J. Pursell, *Journal of Chemical Physics*, 120 (15), 7153 (2004).
22. "Heterogeneous Reaction of Gaseous Nitric Acid on Gamma-Phase Iron (III) Oxide", E. K. Frinak, S. J. Wermeille, C. D. Mashburn, M. A. Tolbert, and C. J. Pursell, *Journal of Physical Chemistry A*, 108 (9), 1560 (2004).
21. "Capillary Electrophoretic Analysis of Cations in Water Samples", Christopher J. Pursell, and Bert Chandler, and Michelle M. Bushey, *Journal of Chemical Education*, 81, 1783 (2004).
20. "A Study of Hydrogen Bonding Using Liquid-Vapor Equilibria", Jennifer S. Holt, Rachel Grabow\*, and Christopher J. Pursell, *Chemical Educator*, 8, 1 (2003).
19. "The Ionization of Nitric Acid on Ice", Christopher J Pursell, Michael A. Everest, Mary E. Falgout\*, and Diana D. Sanchez\*, *Journal of Physical Chemistry A*, 106 (34), 7764 (2002).
18. "Isotope Exchange of D<sub>2</sub>O on H<sub>2</sub>O Ice: Surface versus Bulk Reactivity", Michael A. Everest and Christopher J. Pursell, *Journal of Chemical Physics*, 115 (21), 9843 (2001).
17. "Acid-Base Chemistry on Crystalline Ice: HCl + NH<sub>3</sub>", Christopher J Pursell, Mona Zaidi\*, Alexis Thompson\*, Candice Fraser-Gaston\* and Eric Vela\*, *Journal of Physical Chemistry A*, 104, 552 (2000).
16. "The Electronic Absorption Spectrum of Molecular Iodine: A New Fitting Procedure for the Physical Chemistry Laboratory", Christopher J Pursell and Lambert Doezema\*, *Journal of Chemical Education*, 76, 839 (1999).
15. "A New Class of Polyintercalating Molecules", R. Scott Lokey, Yan Kwok, Vladimir Guelev, Christopher J Pursell, Laurence H. Hurley, and Brent L. Iverson, *Journal of the American Chemical Society*, 119(31), 7202 (1997). {Note: this was from a collaboration with a U of Texas professor}
14. "Photochemistry of Chlorine Dioxide in Polycrystalline Ice (T=140-185K): Production of Chloryl Chloride, Cl-(OCIO)", Christopher J Pursell, Jay Conyers\*, and Carilee Denison\*, *Journal of Physical Chemistry*, 100, 15450 (1996).
13. "Photochemistry of Chlorine Dioxide in Ice", Christopher J Pursell, Jay Conyers\*, Philip Alapat\*, and Ruksana Parveen\*, *Journal of Physical Chemistry*, 99, 10433 (1995).