

**Curriculum Vita**  
**Joseph Anthony Heppert, 2016**

**Education:**

- 9/78 - 12/82      University of Wisconsin, Madison, WI  
Ph.D. - Chemistry  
    Major concentration- Inorganic Chemistry  
    Minor - Organic Chemistry  
Research Director - Professor D.F. Gaines
- 9/74 - 5/78      San Jose State University, San Jose, CA  
B.S. - Chemistry with Great Distinction

**Professional Experience:**

- 9/10 – present      Associate Vice Chancellor for Research and Vice President, Kansas University Center for Research, Inc., University of Kansas, Lawrence, KS.
- 9/09 – 9/10      Associate Vice Provost for Research and Graduate Studies and Vice President, Kansas University Center for Research, University of Kansas, Lawrence, KS.
- 7/05 – 9/09      Chair, Department of Chemistry, University of Kansas, Lawrence, KS.
- 7/00 – 7/09      Director of the KU Center for Science Education, University of Kansas, Lawrence, KS.
- 8/00 – present      Professor of Chemistry, University of Kansas, Lawrence, KS.
- 7/96 – 8/00      Associate Chair for Undergraduate Studies, Department of Chemistry, University of Kansas, Lawrence, KS.
- 8/91 – 7/00      Associate Professor of Chemistry, University of Kansas, Lawrence, KS.
- 9/85 - 7/91      Assistant Professor of Chemistry, University of Kansas, Lawrence, KS.

6/83 - 9/85 Post-Doctoral Fellow for Professor Malcolm Chisholm, Indiana University, Department of Chemistry, Bloomington, IN.

1/83 - 5/83 Visiting Assistant Professor of Chemistry, Indiana University, Bloomington, IN.

### **Academic Honors:**

#### **National**

2012 Fellow of the American Chemical Society

#### **University**

Spring 2012 KU Leading Light Award, Institutional Recognition of Sponsored Program Funding

9/01 – 5/02 Vice Chancellor's Fellow, KU

Fall 1998 Keeler Intra-University Professorship, KU

Spring 1998 Graduate Teaching Award, KU Center for Teaching Excellence

#### **Graduate**

9/81 - 5/82 Eastman Kodak Fellowship, University of Wisconsin, Department of Chemistry.

1/79 - 5/79 Samuel McElvain Research Assistantship, University of Wisconsin, Department of Chemistry.

#### **Undergraduate**

Fall 77- Spring 79 General Motors Corporation Scholarship, San Jose State University.

Su 1975 - 1997 Undergraduate Trainee Fellowship at Lawrence Livermore Laboratory, AWU/ERDA.

### **Professional Organizations:**

American Association for the Advancement of Science (AAAS)

American Association of Chemistry Teachers (AACT)

American Chemical Society (ACS)

Public Responsibility in Medicine and Research (PRiM&R)

Sigma Xi

National Science Teachers Association (NSTA)

### **Major University Service:**

Chair, University Office of General Counsel 5-Year Review Committee, 2016

Member, Kansas Geological Survey Director Search Committee, 2015-present

Member, Tertiary Oil Recovery Director, Chemical and Petroleum Engineering Faculty Search Committee, 2015-2016

Member, KU Data Science Institute Planning Committee, 2015

Co-chair, KU Interdisciplinary Science Building Planning Task Force, 2015-present

Chair, KU Export Security Director and FSO Search Committees, 2015

Member, KU Institute for Advancing Medical Innovation Advisory Board, 2015

Member, KU Committee for APLU Innovation and Economic Prosperity Designation, Fall 2014-2015  
Member KU Cross Campus Initiative IT Committee, 2014-2015  
Member, KU Design Construction Management Advisory Committee, 2014- present  
Member, KU Undergraduate STEM Education Committee, Spring 2013-present  
Member, KU Sustainability Council, Fall 2012-present  
Member, Campus Master Planning Steering Committee, Fall 2012-2013  
Member, Campus Heritage Advisory Board, Spring 2012-present  
Chair, Associate Vice Chancellor Search Committee, Summer 2012  
Chair, Dean of Graduate Studies Search Committee, Spring 2012  
Co-Chair, Task Force on Translational Drug Discovery, Fall 2011-Fall 2012  
Co-Chair, Task Force on KU-Lawrence/KUMC Business Practices, Fall 2011  
Member, KU Innovation and Collaboration (KUIC) Board, 2011-present  
Member, Graduate Education Task Force, University Strategic Planning Initiative, Spring 2011  
Member, Education Task Force, University Strategic Planning Initiative, 2010-2011  
KU Institutional Official for Animal Research, 2010-present  
KU Representative, Institutional Advisory Board, Kansas City Life Science Initiative, 2010-present  
Member, ITTC Industrial Advisory Board, 2010-present  
Member, KU Campus Planning Development Committee, 2009-present  
Member, KU Office of Public Safety Review Committee, 2009 - 2010  
Member Provost's Task Force on Tuition, 2008 -2009  
Member, Initiative 2015 University Planning Task Force, Spring 2008  
Member, Research & Graduate Studies Advisory Committee on Ethics, 2007-2008  
Chair, Planning and Resources Committee, 2007-2009  
Chair, Center Director Review Committee, Center for Research on Learning, 2007  
Member, Promotion and Tenure Task Force, 2005 – 2007  
Chair, Faculty Senate & University Senate Executive Committees, 2005 – 2006  
Member, Education Dean Search Committee, 2004 – 2005  
Member, University Senate, 1994, 2003 – 2005  
Member, Faculty Senate Research Committee, 2002 – 2004  
Member, Kansas Union Board of Directors, 2002 – 2005  
Chair, Chancellor's Task Force on Science Education, 1998 – 1999  
Member, University Promotion and Tenure Committee, 1994 - 1996

**National Service:**

American Chemical Society, Chair, Society Committee on Budget and Finance Subcommittee on Program Funding Requests, 2015-present.  
American Chemical Society, National Awards Committee #2, 2015-present.  
American Chemical Society, Vice Chair, Society Committee on Budget and Finance, 2014-present.  
American Chemical Society, National Awards Committee #1, 2014-present.  
American Chemical Society, Member, Society Committee on Budget and Finance, 2013-present  
American Chemical Society, Task Forces on Program Valuation and Metrics, 2013-2014.

American Chemical Society, Chemistry Teacher Education Coalition, National Advisory Board, 2011-2015  
American Chemical Society, Associate Member, Society Committee on Budget and Finance, 2011-2012  
NSF/RETA NASULGC Science Education Initiative, KU Representative, 2009-2010  
American Chemical Society, Member, ACS Joint Board President's Task Force on Education, Spring 2009- 2010  
American Chemical Society, Member, Society Committee on Education Working Group on the Future of Chemical Education, Fall 2008  
The Advanced Academy of Georgia, Member, Board of Trustees, 2007-2009  
American Chemical Society, Member, President's Task Force on Competitiveness, 2007-2008  
U.S. Senator Pat Roberts Committee on Science Technology and the Future, 2006-2011  
American Chemical Society, Member, Governance Review Team A, 2006-2007  
American Chemical Society, Member, Program Review Advisory Group 2005 - 2006  
American Chemical Society, Chair, Society Committee on Education, 2004 – 2006  
American Chemical Society, Ex-Officio Member, Council Policy Committee, 2004 – 2006  
American Chemical Society, Member, Society Committee on Education, 2002 - 2010  
American Chemical Society, Associate, Society Committee on Education, 2000 – 2001  
American Chemical Society, Councilor, 1994-present

### **Publications:**

1. Rosenbloom JL, Ginther DK, Juhl T, Heppert JA (2015) The Effects of Research & Development Funding on Scientific Productivity: Academic Chemistry, 1990-2009. PLoS ONE 10(9): e0138176. doi:10.1371/journal.pone.
2. Heppert, J.A.; French, A.N. "Scientists' Perspective on Reform in Teaching Undergraduate Science: Serving Preservice Science Teachers in the Context of a Heterogeneous Student Population," *Research in Science Education: Reform in Undergraduate Science Teaching for the 21st Century*, 2006. 329-350.
3. Otto, W.H.; Larive, C.K.; Mason, S.L.; Robinson, J.B.; Heppert, J.A. "Using Visible Spectrophotometers to Study Speciation in an Inquiry Laboratory Environment" *J. Chem Ed.* 2005, 82, 1554-1557.
4. Carlson, R.G.; Gile, M.A.; Heppert, J.A.; Mason, M.H.; Powell, D.R.; Vander Velde, D.; Vilain, J.M. "The Metathesis Facilitated Synthesis of Terminal Ruthenium Carbide Complexes: A Unique Carbon Atom Transfer Reaction." *J. Am. Chem. Soc.* 2002, 124, 1580-1581.
5. Heppert, J.A.; Ellis, J.D.; Robinson, J.B.; Wolfer, A.J.; Mason, S.L. "A Problem-solving Approach to the Laboratory Course in Introductory Chemistry" *Journal of College Science Teaching* 2002, 31(5), 322-326.

6. Suppes, G.J.; Bockwinkel, K.; Botts, J.B.; Mason, M.H.; Heppert, J.A. "Biodiesel Production Using Calcium Carbonate and Other Heterogeneous Catalysts" Proceedings, Society of Petroleum Engineers, Dec. 2001.
7. Kolesnichenko, V.; Baroni, T.J.; Mason, M.H.; Botts, J.B.; Botts, A.M.; Laible-Sands L.; Heppert, J.A.; Rheingold, A.L.; Yap, G.A.P. "Tungsten Oxo Complexes from Tungsten Hexachloride Salicylic Acid Reaction Systems," *Inorganic Chemistry* **2001**, *40*, 5010-5016.
8. Suppes, G. J.; Goff, M.; Burkhardt, M.L.; Bockwinkel, K.; Lucas, S.; Botts; J.B.; Mason, M.H.; Heppert, J.A. "Multifunctional Diesel Fuel Additives from Triglycerides," *Energy and Fuels* **2001**, *15*, 151-157
9. Suppes, G. J.; Bockwinkel, K.; Lucas, S.; Botts; J.B.; Mason, M.H.; Heppert, J.A. "Calcium Carbonate Catalyzed Alcoholysis of Fats and Oils," *Journal of the Association of Oil Chemistry* **2001**, *78*, 139-149.
10. Suppes, G. J.; Goff, M.; Burkhardt, M.L.; Bockwinkel, K.; Lucas, S.; Botts; J.B.; Mason, M.H.; Heppert, J.A. "Multifunctional Diesel Fuel Additives from Triglycerides," *Energy and Fuels* **2001**, *15*, 151-157.
11. Mason, M.H.; Yan, C.; Chen, Z.; Aggarwal, R.; Heppert, J.A.; Suppes, G.A.; "Synthesis of Low Nitrogen Cetane Improvers from the Nitration of Renewable Feedstocks," *Chemistry of Diesel Fuels*, 2000, Chapter 10, Taylor and Frances, Inc., New York (Monograph chapter).
12. Heppert, J. A.; Ellis, J.D., Robinson, J.B. "A Problem-Solving Approach to the Laboratory for an Undergraduate Course in Introductory Chemistry," AETS Conference Proceedings **2000**.
13. Suppes, G.J.; Chen, Z.; Rui, Y.; Mason, M.A.; Heppert, J.A. "Synthesis and Cetane Improver Performance of Fatty Acid Glycol Nitrates," *Fuel* **1999**, *78*, 73-81.
14. Mason, M.A., Chen, Z., Tat, C.; Heppert, J.A.; Suppes, G.J. "Synthesis of Low Nitrogen Cetane Improvers," *Symposia in Print, ACS Division of Petroleum Chemistry* **1998**, *43*, 579-581.
15. Vance, A.L.; Alcock, N.W.; Heppert, J.A.; Busch, D.H. "An Octahedral Template Based on a New Molecular Turn: Synthesis and Structure of a Model Complex and a Reactive, Diphenolic Ligand and Its Metal Complexes," *Inorg. Chem.* **1998**, *37*, 6912-6920.
16. Baroni, T.J., Bembenek, S.; Hodel, R.R.; Laird, B.B.; Morton, M.D.; Barnes, D.L.; Heppert, J.A.; Takusagawa, F. "Hydrogen Bonding in Tungsten(VI) Salicylate Free Acids," *Coordination Chemistry Reviews* **1998**, *174*, 255-282.
17. Baroni, T.E.; Kolesnichenko, V.; Seib, L.; Heppert, J.A.; Rheingold, A.E.; Yap, G.P.A.; Laible-Sands, L. M. "Supramolecular Assemblies of Tungsten Complexes with Unusual

Chelating Groups," *Polyhedron* **1998**, *17*, 759-768.

18. Vance, A.L.; Alcock, N.W.; Busch, D.H.; Heppert, J.A. "Copper (II) Template Synthesis of a 20-membered [1+1] Schiff Base Macrocyclic and Nickel (II) Template Synthesis of a 40-membered [2+2] Schiff Base Macrocyclic from 2,6-Pyridinedicarboxaldehyde and 1,13-Diamino-4,7,10-trioxatridecane," *Inorg. Chem.* **1997**, *36*, 5132-5134.
19. Baroni, T.J.; Kingsborough, R.L.; Heppert, J.A.; Hodel, R.R.; Morton, M.D.; Rheingold, A.L.; Yap, G.P.A. "Supramolecular Assemblies Involving Organometallic Free Acids," *Organometallics* **1996**, *15*, 4872-4879.
20. Schoonover, J.R.; Zeitlow, T.C.; Clark, D.L.; Heppert, J.A.; Chisholm, M.H.; Gray, H.B.; Sattelberger, A.P.; Woodruff, W.H. "Resonance Raman Spectra of  $[M_6X_8Y_6]^{2-}$  Cluster Complexes (M = Mo, W; X, Y = Cl, Br, I)," *Inorg. Chem.* **1996**, *35*, 6606-6613.
21. Eilerts, N.W.; Heppert, J.A. "Bisphenol Ligands in the Stereocontrol of Transformations Catalyzed by Titanium and Tungsten," *Polyhedron* (special issue on oxo ligand chemistry) **1995**, *33*, 3255-3271.
22. Eilerts, N.W.; Heppert, J.A.; Kennedy, M.L.; Takusagawa, F. "A Tortionally Constrained Diolate Ligand: Novel Complexes of Octahydrobinaphthol with Titanium(IV)" *Inorg. Chem.* **1994**, *33*, 4813-4814.
23. Eilerts, N.W.; Boyle, T.J.; Heppert, J.A.; Takusagawa, F. "Structurally Well-Characterized Binaphtholate Titanium Chloride Lewis Acids: Evidence for Active Dinuclear Catalysts in a Diels—Alder Process" *Organometallics* **1994**, *13*, 2218-2229.
24. Barnes, D.L.; Eilerts, N.W.; Heppert, J.A. "4, 4'-Biphenolate Complexes of Titanium and Zirconium," *Polyhedron* **1994**, *13*, 743-748.
25. Barnes, D.L.; Eilerts, N.W.; Heppert, J.A.; Huang, W.H.; Morton, M.D. "The Role of Two-Component Catalysts Containing Chelating Bisaryloxy Ligands in Controlling the Stereochemistry of the Metathesis Polymerization of Norbornene," *Polyhedron*. **1994**, *13*, 1267-1275.
26. Morton, M.D.; Heppert, J.A.; Dietz, S.D.; Huang, W.H.; Ellis, D.A.; Grant, T.A.; Eilerts, N.W.; Barnes, D.L.; Takusagawa, F.; Vander Velde, D. "Ring Size Effects in Phenol-Phenolate Tungsten (VI) Chelates", *J. Am. Chem. Soc.* **1993**, *115*, 7916-7917.
27. Dietz, S.D.; Eilerts, N.W.; Henning, R.W.; Heppert, J.A.; Morton, M.D.; Kaul, F.A.; Takusagawa, F. "Asymmetric Alkylidene and Oxo Complexes of Tungsten (VI)," *Organometallics* **1993**, *12*, 2565-2572.
28. Dietz, S.D.; Eilerts, N.W.; Heppert, J.A.; Morton, M.D. "Binaphtholate and Binaphtholate Chloride Complexes of Tungsten(VI)," *Inorg. Chem.*, **1993**, *32*, 1698-1705.

29. Dietz, S.D.; Eilerts, N.W.; Heppert, J.A.; VanderVelde, D. "Synthesis and Reactivity of Binaphtholate Complexes of a d<sup>3</sup>-d<sup>3</sup> Ditungsten Template," *Inorg. Chem.* **1993**, *32*, 1689-1697.
30. Eilerts, N.W.; Heppert, J.A.; Morton, M.D., "Dimetallacyclobutadiene Derivatives: Catalysts or Catalyst Precursors for the ROMP of Norbornene?", *J. Mol. Cat.* **1992**, *76*, 157-163.
31. Aubé J.; Heppert, J.A.; Milligan, M.L.; Zenk, P.A; Smith, M.J., "Asymmetric Deprotonation and Complexation Reactions Mediated by Chiral Ketals as a Route to Ortho-Disubstituted ( $\eta^6$ -Arene)Cr(CO)<sub>3</sub> Complexes", *J. Org. Chem.* **1992**, *57*, 3563-3570.
32. Heppert, J.A.; Dietz, S.D; Eilerts, N.W., "Unprecedented Stereospecific Ligand Exchange at a W<sub>4</sub>W Template", *Angew. Chem., Int. Ed. Eng.* **1992**, *31*, 66-68.
33. Heppert, J.A.; Boyle, T.J. Morales, L; Takusagawa, F., Barnes, D.L.; Connolly, J.C., "Kinetics and Thermodynamics of Intra- and Intermolecular Rearrangement in Binaphtholate Complexes of Titanium(IV)", *Organometallics* **1992**, *11*, 1112-1126.
34. Boyle, T.J.; Takusagawa, F.; Heppert, J.A., "Structure Determination of ( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)W(CO)<sub>3</sub>Br", *Acta Cryst.* **1990**, *C46*, 892-893.
35. Heppert, J.A.; Aubé, J.; Thomas-Miller, M.E.; Milligan, M.L.; Takusagawa, F., "Group Selectivity in the Ortho-deprotonation of  $\pi$ -Arene Chromium Complexes", *Organometallics* **1990**, *9*, 727-739.
36. Heppert, J.A.; Thomas-Miller, M.E.; Scherubel, D.M.; Takusagawa, F.; Morgenstern, M.A.; Shaker, M.R., "Competitive Nucleophilic Aromatic Substitution and Haloarene Reduction in the Synthesis of Bimetallic  $\pi$ -Arene Complexes: The Structural Characterization of [Et<sub>4</sub>N][( $\eta^6$ -{(CO)<sub>5</sub>W}C<sub>6</sub>H<sub>5</sub>)Cr(CO)<sub>3</sub>]", *Organometallics* **1989**, *8*, 1199-1206.
37. Chisholm, M.H.; Heppert, J.A.; Huffman, J.C.; Ontiveros, C.D., "1,3- Ditungstacyclobutadienes. IV. 1:1 Diphenyldiazomethane Adducts...", *Organometallics* **1989**, *8*, 976-982.
38. Heppert, J.A.; Dietz, S.D.; Boyle, T.J.; Takusagawa, F., "Asymmetric Binaphtholate Complexes of Transition Metals: A New Class of Supporting Ligands for W-W Triple Bonds", *J. Am. Chem. Soc.* **1989**, *111*, 1503-1505.
39. Heppert, J.A.; Boyle, T.J., "The Chemistry of the [ $\eta^6$ -C<sub>6</sub>H<sub>5</sub>O)Cr(CO)<sub>3</sub>]<sup>-</sup> Ligand", *Organometallics* **1989**, *8*, 461-467.
40. Heppert, J.A.; Thomas-Miller, M.E.; Milligan, M.J.; Vander Velde, D.; Aube, J., "Diastereospecific Group Selectivity in the Deprotonation of ( $\eta$ -arene)Cr(CO)<sub>3</sub> Complexes", *Organometallics* **1988**, *7*, 2581-2584.
41. Heppert, J.A.; Morgenstern, M.A.; Scherubel, D.M.; Takusagawa, F., "Chromium

Tricarbonyl Mediated Nucleophilic Aromatic Substitution by Metal Carbonyl Anions", *Organometallics* **1988**, 7, 1715-1723.

42. Heppert, J.A.; Thomas-Miller, M.E.; Swepston, P.N.; Extine, M.W., "Tetracarbonyl Ferrate Derivatives of ( $\eta^6$ -Arene)Cr(CO)<sub>3</sub> Complexes", *J. Chem. Soc., Chem. Commun.* **1988**, 280-282.
43. Chisholm, M.H.; Heppert, J.A., Kober, E.M.; Lichtenberger, D.L., "1,3- ditungstacyclobutadienes. 2. The Synthesis of Alkoxide Derivatives of W<sub>2</sub>( $\mu$ -CSiMe<sub>3</sub>)<sub>2</sub>(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>4</sub> and Investigations of the Electronic Structures of the Me( $\mu$ -CSiMe<sub>3</sub>)<sub>2</sub> Core as a Function of d<sup>n</sup>-d<sup>n</sup> Interactions: n=0; M= Ta; n=1, M=W and n=2, M=Re.", *Organometallics* **1987**, 6, 1065-1073.
44. Chisholm, M.H.; Heppert, J.A.; Huffman, J.C.; Streib, W.E., "Attack of Isocyanide and Carbon Monoxide on a Bridging Alkylidyne Ligand at a Ditungsten Center. Cleavage of the C-N and C-O Triple Bonds with Respective Formation of Tungsten-Imido and -Oxo Groups and Concomitant Addition of the Carbon Atom to the Bridging Alkylidyne Carbon Yielding a Bridging  $\eta$ -W<sup>1</sup>,  $\mu^2$ -W<sup>2</sup> Alkynyl Ligand", *J. Chem. Soc., Chem. Commun.* **1985**, 1771-1773.
45. Chisholm, M.H.; Folting, K.; Heppert, J.A.; Streib, W.E., "Attack by Allenes on a Bridging Alkylidyne Ligand at a Ditungsten Center: Formation of a Bridging Alkyl- $\eta^3$ -W<sup>1</sup>,  $\mu$ -W<sup>2</sup>-alkylidene Ligand", *J. Chem. Soc., Chem., Commun.* **1985**, 1755-1757.
46. Chisholm, M.H.; Heppert, J.A.; Huffman, J.C., "Paramagnetic 1,3- Dimetallacyclobutadienes of Tungsten(VI): 2,4-Bis(trimethylsilyl)-1,3-Dihalo-1,1,3,3-tetrakis(tri-methylsilylmethyl)-1,3-ditungstacyclobutadienes", *J. Chem. Soc., Chem. Commun.* **1985**, 1466-1467.
47. Chisholm, M.H.; Heppert, J.A.; Hoffman, D.M.; Huffman, J.C., "The Tungsten-Tungsten Triple Bond. 17. Ditungstenhexapivalate", *Inorg. Chem.* **1985**, 24, 3214-3217.
48. Chisholm, M.H.; Huffman, J.C.; Heppert, J.A., "1,3- Ditungstacyclobutadienes. 1. Reactions with Alkynes. Alkyne Adducts and 1,3-Dimetallaallyl Derivatives", *J. Am. Chem. Soc.* **1985**, 107, 5116- 5136.
49. Gaines, D.F.; Heppert, J.A.; Kunz, J.C., "Hydrogen Isotope Exchange Between Boranes and Deuterated Aromatic Hydrocarbons: Evidence for Reversible Hydroboration of Benzene", *Inorg. Chem.* **1985**, 24, 621-624.
50. Chisholm, M.H.; Folting, K.; Heppert, J.A.; Hoffman, D.M.; Huffman, J.C., "Metal Alkoxides: Models for Metal Oxides. 7. Trinuclear and Tetranuclear Alkylidyne Clusters of Tungsten Supported by Alkoxide Ligands", *J. Am. Chem. Soc.* **1985**, 107, 1234-1241.
51. Chisholm, M.H.; Heppert, J.A.; Huffman, J.C., "Molecular Structure and Dynamic Solution Behavior of the Bridging 1,3-Dimetallaallyl Ligand in (Me<sub>3</sub>SiCH<sub>2</sub>)<sub>4</sub>W<sub>2</sub>( $\mu$ -C<sub>3</sub>R<sub>2</sub>SiMe<sub>3</sub>)( $\mu$ -CSiMe<sub>3</sub>) Compounds", *J. Am. Chem. Soc.* **1984**, 106, 1151-1153.

52. Chisholm, M.H.; Heppert, J.A.; Huffman, J.C., "Octahedral Mo Clusters Supported by Methoxide Ligands", *Polyhedron* **1984**, *3*, 475-478.
53. Heppert, J.A.; Kulzick, M.J.; Gaines, D.F., "Some Aspects of the Chemistry of 1,2'-(B<sub>5</sub>H<sub>8</sub>)<sub>2</sub>, 2,2'-(B<sub>5</sub>H<sub>8</sub>)<sub>2</sub> and Their Derivatives", *Inorg. Chem.* **1984**, *23*, 14-18.
54. Heppert, J.A.; Gaines, D.F., "<sup>2</sup>H NMR Spectral Studies of Intramolecular Rearrangement in Various Derivatives of Pentaborane(9)", *Inorg. Chem.* **1983**, *22*, 3155-3161.
55. Heppert, J.A.; Gaines, D.F., "The Synthesis of 2-Aryl Derivatives of Pentaborane(9)", *Inorg. Chem.* **1982**, *21*, 4117-4121.
56. Gaines, D.F.; Heppert, J.A.; Coons, D.E.; Jorgenson, M.W., "The Synthesis and Characterization of 1-(Cl<sub>2</sub>B)B<sub>5</sub>H<sub>8</sub> and 1-(Cl<sub>2</sub>B)-2-ClB<sub>5</sub>H<sub>7</sub>: A New Boron- Boron Sigma Bond", *Inorg. Chem.* **1982**, *21*, 3662-3665.
57. Kasting, G.B.; Hulet, E.K.; Heppert, J.A.; Wild, J.F., "Separation of Trivalent Actinides from Lanthanides by Solvent Extraction", *J. Inorg. Nucl. Chem.* **1979**, *41*, 745-747.

### Reports and Proceedings:

1. Rosenbloom, J.; Ginther, D.K.; Juhl, T.; Heppert, J.A. "The Effects of Research and Development Funding on Scientific Productivity: Academic Chemistry, 1990-2009." *NBER Working Papers*, No. 20595, <http://www.nber.org/papers/w20595>.
2. Busch, D.; Heppert, J.; Hoffman, M.; Jones, D.; Malik, D.; McCarty, G.; Moore, J.; Scharberg, M. "Exploring the Molecular Vision: Conference Report." American Chemical Society, Washington, DC, June 2003.
3. French, A.N.; Barker, M.D.; Huber, J.; Morehouse, P.; Barybin, M.V.; Heppert, J.A. "The Status of Chemical Education" *UNESCO Life Support Systems* **2006**.

### Book Chapters/Reviews:

#### Book Chapters/Reviews

1. Heppert, J.A.; Busch, D. H., "Celebration of inorganic lives: Interview of Daryle H. Busch." *Coordination Chemistry Reviews* **2010**, *254*, 1593-1606.
2. Chisholm, M.H.; Heppert, J.A., "Chemistry of 1,3- Ditungstacyclobutadienes", *Adv. Organomet. Chem.* **1986**, *26*, 97.
3. Gaines, D.F.; Coons, D.E.; Heppert, J.A., "Advances in Boron and the Boranes", J.F. Liebman, Ed., VCH Publishers, Inc., New York, 1988.

3. Heppert, J.A. "Inorganic Reactions and Mechanisms", A. Hagen, Ed., Vol. 12, Ch. 5.8. VCH Publishers, Inc., NY, 1991.

#### Book Reviews

1. J.S. Thayer, "Organometallic Chemistry" for *J. Medicinal Chemistry* **1989**, 32, 923.
2. M. Schlosser, "Organometallics in Synthesis, A Manual," for *Chemtracts-Organic Chemistry* **1994**, 7, 205.

#### **Inventions and Patents:**

##### Patent Applications and Provisional Patent Applications Filed through K.U.

1. "Process for Producing Cetane Improvers from Triglycerides," Galen J. Suppes, Joseph A. Heppert, 11 Nov 96.

##### Invention Disclosures Filed with K.U.

1. "Soluble Highly-Pure Metathesis Polymerization Pro-catalysts Bearing Imido and Chelating Aryloxy Ligands," J.A. Heppert, 7 Jan. 93.
2. "Stereochemically Defined Imido Ligands in Selective Catalysis," J.A. Heppert, N.W. Eilerts, T.J. Baroni, 3 Feb 93.
3. "Imido Substituted Polyoxomolybdate Clusters as Polymerization of Co-Catalysts," J.A. Heppert, Eric Maatta, 5 Feb 93.
4. "Soluble Highly Pure Metathesis Polymerization and RIM Thermoset Metathesis Catalysts Bearing Acetylene Ligands," J.A. Heppert, January 23, 1994.
5. "Soluble Highly Pure Anionic Metathesis Polymerization and RIM Thermoset Metathesis Catalysts Bearing Oxo, Aryl Imido and Acetylene Ligands," J.A. Heppert, July 23, 1994.
6. "New Two Component Metathesis, ROMP and Metathesis RIM Polymerization Catalysts Featuring a Highly Active Aluminum Activator". J.A. Heppert, Sept.20, 1995.
7. "New Highly Active Two Component Activators for Transition Metal Metathesis and Metathesis Polymerization Catalysts", J.A. Heppert, Sept.20, 1995.
8. "Cetane Enhancers through the Ozonolysis of Fatty Acids and Triglycerides." J.A. Heppert G.J. Suppes, November 1996.
9. "Cetane Enhancers through the Oxygenation of Fatty Acids and Triglycerides." J.A. Heppert G.J. Suppes, November 1996.
10. "An Abbreviated Route to Nitrated Cetane Enhancers Through Transesterification of Triglycerides" J.A. Heppert, G. J. Suppes, November 1996.

#### **Invited Presentations:**

1. Notre Dame University, Inorganic Division Seminar, Notre Dame, IN, "Reactions of ( $\eta^6$ -Haloarene)M(CO)<sub>3</sub> Substrates with Metal Carbonyl Anions", J.A. Heppert, October 2, 1986.
2. MASUA Lecture, University of Missouri-St. Louis, "Recent Developments in the Chemistry of Arene Chromium Tricarbonyl Complexes", J.A. Heppert, March 9, 1987.

3. MASUA Lecture, University of Nebraska, J. Heppert, March 11, 1987.
4. MASUA Lecture, Kansas State University, April 13, 1987.
5. University of Oklahoma, Inorganic Divisional Seminar, Norman, OK, "Toward the Synthesis of Chiral Transition Metal Complexes...", J.A. Heppert, Dec. 8, 1987.
6. University of South Dakota, Departmental Lecture, Vermillion, SD, "New Directions in Organometallic Stereochemistry", Feb. 8, 1988.
7. South Dakota State University, Departmental Lecture, Brookings, SD, "New Directions in Organometallic Stereochemistry", Feb. 9, 1988.
8. Augustana College, Student Affiliate, Sioux Falls, SD, "New Directions in Organometallic Stereochemistry", Feb. 9, 1988.
9. American Chemical Society National Meeting, Dallas, TX, Ad Hoc Symposium Honoring ACS Inorganic Division Award for M.H. Chisholm, "The Use of Chiral Auxillaries and Group Selective Reactions in ...", J.A. Heppert, Apr. 11, 1989.
10. Pharmaceutical Process Division, Dow Chemical Company, Midland, MI, "New Asymmetric Complexes of Groups 4 and 6", J.A. Heppert, June 1989.
11. University of New Mexico, Albuquerque, NM, "New Asymmetric Complexes of Group 4 and 6 Metals: Prospects for Application to Stereospecific Synthesis", J.A. Heppert, March 12, 1990.
12. University of Utah, Salt Lake City, UT, "New Asymmetric Complexes of Group 4 and 6 Metals: Prospects for Application to Stereospecific Synthesis", J.A. Heppert, March 13, 1990.
13. Utah State University, Logan, UT, "New Asymmetric Complexes of Group 4 and 6 Metals: Prospects for Application to Stereospecific Synthesis", J.A. Heppert, March 14, 1990
14. University of Arizona, Tuscon, AZ, "New Asymmetric Complexes of Group 4 and 6 Metals: Prospects for Application to Stereospecific Synthesis", J.A. Heppert, March 15, 1990
15. Great Lakes Regional Meeting, Dekalb, Il, Symposium on Transition Metal Mediated Organic Synthesis, "New Routes to Asymmetric Organotransition Metal Reagents", May 31, 1990.
16. CIC Meeting, Halifax, Nova Scotia, Symposium on Transition Metal Mediated Organic Synthesis, "Binaphtholate Complexes of the Early Transition Elements", July 16, 1990.
17. University of Missouri, Kansas City, Departmental Lecture, "New Perspectives on Asymmetric Transition Metal Complexes", Sept. 6, 1990.
18. Metathesis Polymers Division, B.F. Goodrich Company, Brecksville, OH, "Some Aspects of the Application of Molecular Design to ROMP Catalysis", October 5, 1990.
19. University of Iowa, Iowa City, IA, Departmental Lecture, "New Asymmetric Complexes of Groups 4 and 6", November 9, 1990.
20. Iowa State University, Ames, IA, Inorganic Divisional Lecture, "New Asymmetric Complexes of Groups 4 and 6", November 7, 1990.
21. Grambling State University, Grambling, LA, Departmental Lecture, "Some New Applications for Asymmetric Organotransition Metal Complexes", November 29, 1990.
22. Louisiana State University, Baton Rouge, LA, Departmental Lecture, "Some New Applications for Asymmetric Organotransition Metal Complexes", November 30, 1990.
23. Tulane University, New Orleans, LA, Departmental Lecture, "Some New Applications for Asymmetric Organotransition Metal Complexes", December 3, 1990.
24. University of Texas - Austin, Inorganic Divisional Lecture, "New Applications for Asymmetric Complexes of the Group 4 and 6 Metals", April 24, 1991.

25. University of Houston, Inorganic Divisional Lecture, "New Applications for Asymmetric Complexes of the Group 4 and 6 Metals", April 26, 1991.
26. University of South Dakota, Departmental Colloquium, "Ligand Design in Polymerization Catalysis", October, 1991.
27. South Dakota State University, Departmental Colloquium, "Ligand Design in Polymerization Catalysis", October, 1991.
28. Augustana College, Departmental Colloquium, "Ligand Design in Polymerization Catalysis", October, 1991.
29. University of Missouri - St. Louis, MASUA Lecture, "Aspects of Ligand Design on Stereocontrolled Polymerization," February 17, 1992.
30. University of Nebraska, MASUA Lecture, "Ligand Design In Stereocontrolled Polymerization Catalysis," February 20, 1992.
31. Arkansas State University, Departmental Lecture, "Ligand Design in Stereocontrolled Polymerization Catalysis," March 27, 1992.
32. Wichita State University, Department Lecture, "Ligand Design in Stereocontrolled Polymerization Catalysis," September 23, 1992.
33. Indiana University, Inorganic Alumni Symposium, "Asymmetric Group 6 Complexes," October 2, 1992.
34. University of Minnesota, Inorganic Divisional Lecture, "Asymmetric Early Transition Metal Complexes: Synthesis, Characterization and Catalysis," November 12, 1992.
35. Northeast Missouri State University, Departmental Lecture "Asymmetric Transition Metal Complexes in Synthesis and Catalysis," January 30, 1993.
36. B.F. Goodrich Tech Day "Toward an Understanding of the Mechanism of the B.F. Goodrich TELENE Thermoset RIM Catalyst," October 15, 1993.
37. NSF Organometallic Workshop, Corpus Christi, Texas, " $\eta^2$ -Alkyne Tungsten Complexes in Materials," May 21, 1994.
38. Chemical Engineering Department, University of Kansas "Homogeneous and Semi-homogeneous Catalysis Using Early Transition Metal Catalysts: Polymerization and Beyond," November 30, 1994.
39. Phillips Petroleum Company, Bartlesville, OK, "Toward Catalysis and Supramolecular Materials in Early Transition Metals," August 29, 1994.
40. KU Environmental Research Symposium, Lawrence, KS, "Potential Binding Modes for Heavy Metals in Soils," April 21, 1995.
41. KU Symposium on Graduate Funding in the Natural Sciences; "Strategies for Improving Research Grant Proposals and Fellowship Applications," April 10, 1996.
42. KU Symposium the Future of Doctoral Education, "Challenges in Graduate Education in the Physical Sciences," October 26, 1996.
43. ACS National Meeting, Boston, MA, "Tunable Bronsted Acids of Tungsten," M.A. Mason, J.A. Heppert, R.R. Hodel, T.J. Baroni, L.L. Sands, A.L. Rheingold, L. Seib, August 22, 1998.
44. Department of Chemistry, the University of Wisconsin-Madison, "From Bronsted Acids to Polymerization Catalysis," J. A. Heppert, October, 1998.
45. ACS National Meeting, Anaheim, CA, "Catalysis by Tungsten Binaphtholate Complexes," J.A. Heppert, Mark H. Mason, Galina Goloverda, T. Concolino, A.L. Rheingold, March 21, 1999.
46. Midwest ACS Meeting, Quincy, IL, Inquiry Laboratory Investigations in a Web-based

- Learning Environment, J. Heppert, J. Robinson, October 29, 1999.
47. Sigma Xi National Forum on Inquiry in Science Teaching, Minneapolis, MN, Inquiry in the Preparation of Future Science Teachers, Panel Discussion & Poster Presentation, J. Heppert, D. Zollman, J. Robinson, D. Lane, S. Case, Nov. 4, 1999.
  48. KU Local Sigma Xi Section, Inquiry in the Preparation of Future Science Teachers, Panel Discussion, J. Heppert, J. Robinson, D. Lane, S. Case, Dec. 7, 1999.
  49. American Association of Colleges and Universities Symposium on General Education, "An Inquiry-Based Approach to the Introductory Chemistry Laboratory", J. Heppert, J.B. Robinson, J.D. Ellis, Feb. 24, 2000
  50. CETP PIs Meeting, Washington, DC, "The Kansas Collaborative for Excellence in Teacher Preparation", J. Heppert, J. Staver, G. Shroyer, J.D. Ellis, S. Gay, C. Haack, D. Zollman, M. Steichen, March 24, 2000.
  51. National Science Foundation, Washington, DC, "Current Issues in K-16 Mathematics and Science Education," J. Heppert, Sept. 23, 2002.
  52. Hall Center for the Humanities, University of Kansas, Lawrence, KS, "Education versus Research"; or is it 'Education or Research'; or 'Education and Research'; or perhaps 'Educational Research'? An Evolving Crisis of Identity", J. Heppert, October 31, 2002.
  53. 161<sup>st</sup> Annual 2YC<sub>3</sub> Conference, Kansas City, Kansas, "Evaluating the Effects of Inquiry Based Experiments on the Learning Environment in an Introductory Course for Science Majors," J. Heppert, November 9, 2002.
  54. Purdue University Chemistry Department, "Metathesis Facilitated Synthesis of Ruthenium Carbide Complexes," J. Heppert, February 25, 2003.
  55. Indiana University Chemistry Department, "Metathesis Facilitated Synthesis of Ruthenium Carbide Complexes," J. Heppert, February 26, 2003.
  56. ACS National Meeting, New York, NY, "What is the irreducible minimum of chemistry content, experiences and skills that students need to be effective chemists?" J.A. Heppert, September 9, 2003.
  57. Biennial Conference on Chemical Information, "What is the irreducible minimum of chemistry content, experiences and skills that students need to be effective chemists?" J.A. Heppert, July 21, 2004.
  58. ACS National Meeting, Philadelphia, PA, "C<sub>1</sub>+C<sub>2</sub> Bond-forming Reactions Involving Metal Carbide Intermediates," J.A. Heppert, J.M. Vilain, M. Gile, R. Carlson, D. Powell, August 25, 2004.
  59. ERC National Conference, Bethesda, MD, "System's Education: Preparing Tomorrow's Leaders." J.A. Heppert, G. Webber, November 16-18, 2005.
  60. Dole Institute for Politics, Lawrence, KS, "Understanding 'Alternatives' to Evolution", J. A. Heppert, May 9, 2006.
  61. SMTI National Conference, Boulder, CO, "Preservice Teacher Recruitment and Retention Strategies," J. A. Heppert, May 18, 2009
  62. ACS National Meeting, Philadelphia, PA, "A Review of Secondary Chemistry Teacher Production: Somebody Else's Problem or Ours?" J.A. Heppert, H.L. Gobstein, August 17, 2008.
  63. National Academy of Science, Chemical Sciences Round Table, Washington, DC, "UKanTeach: A focus on math and science faculty involvement in teacher education", Joseph A. Heppert, September 24, 2009.
  64. Department of Chemistry, University of Nebraska-Lincoln, Lincoln, NE, "UKanTeach: A

- focus on math and science faculty involvement in teacher education”, Joseph A. Heppert, October 13, 2009.
65. Physics Teacher Education Coalition National Meeting, Washington, D.C., “Preservice Teacher Recruitment and Retention Strategies,” J. A. Heppert, February 13, 2010.
  66. ACS National Meeting, San Francisco, CA, “UKanTeach: Efforts to engender regional change through the replication of successful secondary science teacher recruitment/preparation strategy”, J.A. Heppert, S.T. Case, M.D. Barker, March 22, 2010.
  67. ACS National Meeting, San Francisco, CA, “the Kansas City Area Education Research Consortium”, J.A. Heppert, M.D. Barker, March 22, 2010.
  68. KU College of Liberal Arts and Sciences, “Leading Interdisciplinary Research Teams,” J. A Heppert, April 15, 2010.
  69. Kansas City P-20 Council, “A P-20 Asset Map of the Kansas City Metropolitan Area,” J.A. Heppert, L.A.T. Knight, S. Frazelle, October 19, 2010.
  70. KC-AERC Annual Symposium, “A P-20 Asset Map of the Kansas City Metropolitan Area,” J.A. Heppert, L.A.T. Knight, S. Frazelle, November 12, 2010.
  71. ACS National Meeting, Anaheim, CA, “The University of Kansas Noyce Phase II Scholarship & Stipend Program: A critical catalyst for STEM teacher production,” J.A. Heppert, S.T. Case, M.D. Barker, March 30, 2011.
  72. 2011 Physics Teacher Education Coalition Conference, Austin, TX, “Task force on teacher education in physics,” J.A. Heppert, M. Marder, S. Vokos, May 24, 2011.
  73. NSF PIRE Annual Meeting, La Parguara, Puerto Rico, “Research Universities Address the Challenge of International Collaborations,” J.A. Heppert, Oct. 20, 2011
  74. School of Public Policy, George Mason University “The Effects of Federal R&D Funding on Scientific Productivity: Academic Chemistry, 1990-2009”, Rosenbloom, J.R.; Heppert, J.A.; Ginther, D.L.; Juhl, T., February 17, 2013.
  75. Department of Economics, Hitotsubashi University, Tokyo, Japan “The Effects of Federal R&D Funding on Scientific Productivity: Academic Chemistry, 1990-2009”, Rosenbloom, J.R.; Heppert, J.A.; Ginther, D.L.; Juhl, T., October 2, 2013.
  76. Merrill Advanced Studies Conference, “Can research inform us about the efficacy of university STEM education?” Heppert, J.A., July 18, 2014.
  77. Internet2 Global Summit, Washington, D.C. “Research Enablement Overview: Cloud Services” Heppert, J.A., Kellen, V., Rayner, D., Robinson, J.-P., April 28, 2015.
  78. Leadership Lawrence, Lawrence, KS, “KU Community Impact and Engagement,” Heppert, J.A., October 29, 2015.

### **Contributed Lectures/Posters**

1. Inorganic Biennial Conference, Indiana University, Bloomington, IN, "New Developments in Boron Hydride Chemistry", Apr. 1982.
2. Fall 1984 ACS Meeting, St. Louis, MO, "Reactions of  $(\text{Me}_3\text{SiCH}_2)_4\text{W}_2(\mu\text{-CSiMe}_3)_2$  (M=W or Ta) with Alkynes: The Formation of a Dimetallaallyl Ligand in  $(\text{MeSiCH}_2)_4\text{W}_2(\mu\text{-C}(\text{R})_2\text{SiMe}_3)(\mu\text{-CSiMe}_3)$ , Where R=H, Me and Ph". J. A. Heppert, Malcolm H. C. and J. C. Huffman, Department of Chemistry, Indiana University, Bloomington, Indiana 47405, September 4, 1984.
3. Inorganic Gordon Research Conference, Wolfeboro, NH, "The Chemistry of Ditungstacyclobutadienes", J. A. Heppert, M. H. Chisholm, Department of Chemistry, July

- 1984.
4. Fall 1985 ACS Meeting, Denver, CO, "The Synthesis of Alkoxide- Substituted 1,3-Ditungstacyclobutadienes", J.A. Heppert, M.H. Chisholm, J.C. Huffman, E.J. Kober and D.L. Lichtenberger, September 12, 1985.
  5. Fall 1985 ACS Meeting, Denver, CO, "Reactions of Ditungstacyclobutadienes with Allenes. The Formation of a Unique Allyl-Substituted Alkylidene Ligand in  $(R)_2(R')_2W_2[\mu, \eta^3-C(SiMe_3)C(CHR'')_2](\mu-CSiMe)$ , Where R and R' =  $Me_3SiCH_2$ , O-t-Bu and O-i-Pr, and R'' = H, Me and Ph", J.A. Heppert, M.H. Chisholm and J.C. Huffman, September 12, 1985.
  6. Organometallic Gordon Research Conference, Andover, NH, "Nucleophilic Aromatic Substitution By Metal Carbonyl Anions at Haloarene Chromium Tricarbonyl Substrates", J.A. Heppert, August 12, 1986.
  7. 21st Annual Midwest Regional ACS Meeting, Kansas City, MO, "Nucleophilic Aromatic Substitution at  $(\eta^6\text{-Chloroaryl})\text{Tricarbonyl Chromium}$  Substrates by Metal Carbonyl Anions", J. A. Heppert, D. M. Scherubel, M. A. Morgenstern, Department of Chemistry, University of Kansas, November 6, 1986
  8. American Chemical Society, National Meeting, Denver, CO, "Aspects of the Mechanism of Nucleophilic Substitution at  $(\eta^6\text{-haloarene})\text{Cr}(\text{CO})_3$  Substrates by  $[\text{CpM}(\text{CO})_2]^-$  Nucleophiles", J.A. Heppert, April 6, 1987,
  9. American Chemical Society, National Meeting, New Orleans, LA, "Tetracarbonyl Ferrate Derivatives of  $(\text{Arene})\text{Cr}(\text{CO})_3$  Substrates", J.A. Heppert, Sept. 3, 1987.
  10. Missouri Inorganic Day, Washington U., St. Louis, MO, "Asymmetric Deprotonation of...", J. A. Heppert, April 30, 1988.
  11. NSF Organometallic Workshop, St. Louis,, MO, "Asymmetric Deprotonation of  $(\eta\text{-Arene})\text{Cr}(\text{CO})_3$  Complexes", J.A. Heppert, May 21, 1988.
  12. American Chemical Society National Meeting, Toronto, Canada, "Bidentate Alkoxide Complexes of the Group IV Metals", T.J. Boyle, J.A. Heppert, F. Takusagawa, June 7, 1988.
  13. Organometallic Gordon Conference, Newport, RI, "Group Selective Deprotonation of  $(\eta\text{-Arene})\text{Cr}(\text{CO})_3$  Complexes", J. Heppert, June 28, 1988.
  14. American Chemical Society National Meeting, Los Angeles, CA, "A Tungsten- Tungsten Triple Bond Bearing Chiral Alkoxide Ligand:  $W_2(\text{O-t-Bu})_4(1,1'\text{- bi-2-naphtholate})$ ", J.A. Heppert, S.D. Dietz, T.J. Boyle, F. Takusagawa, Sept. 23, 1988.
  15. American Chemical Society National Meeting, Los Angeles, CA, "Diastereomeric Group Selectivity in the Asymmetric Deprotonation of  $(\eta\text{- Arene})\text{Cr}(\text{CO})_3$  Complexes", J.A. Heppert, M.E. Thomas-Miller, M.J. Milligan, D.G. Vander Velde, J. Aube, Sept. 22, 1988.
  16. American Chemical Society National Meeting, Dallas, TX "The Diastereospecific Synthesis of a  $\pi\text{-Cyclohexadiene-}exo\text{-ene}$  Chromium Complex", J.A. Heppert, M.L. Milligan, Apr. 11, 1989.
  17. American Chemical Society National Meeting, Dallas, TX, "The Synthesis and Reactivity of Binaphtholate Complexes of Tungsten", J.A. Heppert, S.D. Dietz, F. Takusagawa, Apr. 11, 1989.
  18. Southwest Organometallic (J.J. Zuckerman Memorial) Workshop, Norman, OK, "New Challenges in Group 6 Chemistry", J.A. Heppert, May 27, 1989.
  19. Organometallic Gordon Research Conference, Newport, RI, "New Asymmetric Complexes of Groups 4 and 6", J.A. Heppert, July 1989.
  20. American Chemical Society National Meeting, Boston, MA, "Binaphtholate- Substituted Metal Alkylidenes: Approaches to Stereocontrolled Olefination", J.A. Heppert, S.D. Dietz,

- M.D. Morton, April 1990.
21. American Chemical Society National Meeting, Boston, MA, "Chiral  $d^0$ - Tungsten Alkylidene Complexes: Application to the Stereo-Controlled ROMP of Norbornene", J.A. Heppert, S.D. Dietz, M.D. Morton, April 1990.
  22. American Chemical Society National Meeting, Boston, MA, "The Dehalogenation of Arene and Arenetricarbonyl Chromium Compounds with Metal Carbonyl and Metal Carbonyl Hydride Reagents", M.A. Morgenstern, J.A. Heppert, M.E. Thomas-Miller, D.J. Scherubel, M.K. Shaker, April 1990.
  23. American Chemical Society National Meeting, Boston, MA, "Asymmetric Bimetallic Complexes Built Around an  $(\eta^6\text{-Arene})\text{Cr}(\text{CO})_3$  Template", J.A. Heppert, M.L. Milligan, M.E. Thomas-Miller, M.J. Smith, S.D. Gray, E.A. Toplikar, R. Newburn, April 1990.
  24. American Chemical Society National Meeting, Boston, MA, "Asymmetric Synthesis of  $(\eta^6\text{-Arene})\text{Cr}(\text{CO})_3$  Complexes", J. Aube, J.A. Heppert, M.L. Milligan, P. Zenk, M.J. Smith, April 1990.
  25. Organometallic Gordon Research Conference, Newport, RI, "Novel Approaches to Asymmetric Organotransition Metal Complexes", J.A. Heppert, June 1990.
  26. American Chemical Society National Meeting, Washington, DC, "Unprecedented Diastereospecific Ligand Substitution in  $d^3\text{-}d^3$   $\text{W}_2$  Complexes", J.A. Heppert, S.D. Dietz, N.W. Eilerts, August 28, 1990.
  27. American Chemical Society National Meeting, Washington, DC, "Cyclopentadienyl Dicarboxyl Iron (O) Complexes Containing Ketal Chiral Auxiliaries", M.E. Thomas-Miller, J.A. Heppert, August 30, 1990.
  28. Marvel Symposium, University of Arizona, Tuscon, AZ, "Dinuclear  $\text{W}_2$  and Ta Complexes as ROMP Catalysts", J.A. Heppert, M.D. Morton, N.W. Eilerts, April 12, 1991.
  29. Sam Houston State University, Huntsville, TX, Chemistry Department, "An Introduction to Organometallic Research", April 23, 1991.
  30. Steven F. Austin State University, Nacogdoches, TX, Chemistry Department, "An Introduction to Organometallic Research", April 25, 1991.
  31. ISOM9, Metathesis Conference, Ursinus College, King of Prussia, PA, " $\text{Ta}_2$  Complexes as Norbornene Polymerization Catalysts", M.D. Morton, J.A. Heppert, July 23, 1991.
  32. ISOM9, Metathesis Conference, Ursinus College, King of Prussia, PA, "Are Dimetallacyclobutadiene Complexes Catalysis or Catalyst Precursors for the ROMP of Norbornene?", J.A. Heppert, July 25, 1991.
  33. Midwest Regional ACS Meeting, Omaha, NE, November 7, 1991 "Alcohololysis and Thermolysis Reactions of  $\text{W}_2(\mu\text{-CSiMe}_3)_2(\text{CH}_2\text{iMe}_3)_4$ ", N.W. Eilerts, J.A. Heppert.
  34. Midwest Regional ACS Meeting, Omaha, NE, November 7, 1991. "Synthesis and Derivatization of  $\text{W}_2(\text{NMe}_2)_2(\text{OCMe}(\text{CF}_3)_2)_4$ ", M.D. Morton, J.A. Heppert, F. Takusagawa.
  35. Creighton University, Departmental Lecture, "Aspects of Ligand Design in Stereocontrolled Polymerization Catalysis, Joseph A. Heppert, February 21, 1992.
  36. American Chemical Society, National Meeting, San Francisco, CA, "Synthesis of Bifunctional Group 4 Electrophiles". N.W. Eilerts, D.L. Barnes, J.A. Heppert, April 5, 1992.
  37. American Chemical Society, National Meeting, San Francisco, CA, "Ring Opening Metathesis Polymerization by Dinuclear W and Ta Catalysts." N.W. Eilerts, J.A. Heppert, M.D. Morton, April 5, 1992.
  38. American Chemical Society, National Meeting, San Francisco, CA, "Synthesis and

- Thermodynamic Characteristics of  $W_2(NMe_2)_2(OCMe(CF_3)_2)_4$ . M.D. Morton, J.A. Heppert, F. Takusagawa, D. VanderVelde, April 5, 1992.
39. American Chemical Society, National Meeting, San Francisco, CA, "Stereo-electronic Effects on  $\pi$ -Bonding in Asymmetric Tungsten(VI) Oxo and Imido Complexes." S.D. Dietz, J.A. Heppert, M.D. Morton, F. Takusagawa, April 5, 1992.
  40. Organometallic Gordon Research Conference, Newport, RI, "Stereo-electronic Effects on  $\pi$ -Bonding in Asymmetric Tungsten(VI) Oxo and Imido Complexes," J.A. Heppert, July 29, 1993.
  41. American Chemical Society, National Meeting, Washington, D.C. "The Importance of Ligand Structure and Secondary Metathesis in Determining the Stereochemistry of ROMP Processes," J.A. Heppert, M.D. Morton, S.D. Dietz, N.W. Eilerts, August 28, 1992.
  42. American Chemical Society, Midwest Regional Meeting, Lawrence, KS, "Stereo-electronic Effects in Pseudooctahedral Tungsten(VI) Oxo and Imido Complexes Bearing Chelating Aryloxy Ligands," J.A. Heppert, M.D. Morton, W.H. Huang, November 5, 1992.
  43. American Chemical Society, National Meeting, Denver, Co. "Synthesis and Reactivity of Binaphtholate-Chloride Complexes of Titanium", T.J. Boyle, N.W. Eilerts, J.A. Heppert, F. Takusagawa, March 30, 1993.
  44. American Chemical Society, National Meeting, Denver, Co. "Influence of a Novel Binding Mode of Aromatic Diols with W(VI) Oxo and Imido Tetrachloride." S.D. Dietz, J.A. Heppert, M.D. Morton, F. Takusagawa, March 30, 1993.
  45. Marvel Symposium, University of Arizona, Tucson, AZ "Synthesis and Reactivity of Binaphtholate Complexes of Titanium," J.A. Heppert, March 12, 1993.
  46. Organometallic Gordon Research Conference, Newport, RI, "Synthesis and Reactivity of Binaphtholate Complexes of Titanium," J.A. Heppert, July 15, 1993.
  47. American Chemical Society, National Meeting, Chicago, IL, "An Examination of the Effect of Chiral Ligands on the Tacticity of ROMPED Polynorbornene," S.D. Dietz, N.W. Eilerts, J.A. Heppert, M.D. Morton, August 24, 1993.
  48. American Chemical Society, National Meeting, San Diego, CA "Well-Characterized Binaphtholate Titanium Dichloride Lewis Acids," Organometallic Chemistry of Early Transition Metals," J.A. Heppert, N.W. Eilerts, T.J. Boyle, M. Kennedy, F. Takusagawa, March 16, 1994.
  49. 2nd KANSYN Workshop, Manhattan, Kansas, "Well-Characterized Binaphtholate Titanium Dichloride Lewis Acids," J.A. Heppert, May 24, 1994.
  50. American Chemical Society, National Meeting, Washington, DC "Salicylate Like Ligands in the Synthesis of Hydrogen Bonded Tungsten Oxo, Aryl Imido and Acetylene Complexes," J.A. Heppert, R.R. Hodel, T.J. Boyle, T.E. Baroni, F. Takusagawa, August 21, 1994.
  51. American Chemical Society, National Meeting, Anaheim, CA, "Organometallic Free Acids of  $d^2$  Tungsten Acetylene Complexes," J.A. Heppert, R.R. Hodel, T.E. Baroni, G. Yap, A. Rheingold, April 6, 1995.
  52. Cotton Anniversary Symposium, Texas A&M, College Station Texas, "Hydrogen Bonding in Tungsten(IV) Oxo Acid Complexes," T.E. Baroni, J.A. Heppert, V. Kolesnichenko, R.R. Hodel, M.D. Morton, F. Takusagawa, G. Yap, A.L. Rheingold, April 1995.
  53. 31st Annual Conference on Coordination Chemistry, Vancouver, B.C., "Octahedral Molecular Templates: Nickel(II) Complexes of Schiff Base Ligands with Terminal Functional Groups," A.L. Vance, N.W. Alcock, D.H. Busch, J.A. Heppert, August 21, 1996.
  54. Midwest Regional ACS Meeting, Brookings, S.D. "Novel Catalysis of [4+2] Cycloaddition

- Reactions with Triply Bonded Tungsten Complexes,” K. Millslagle; M.H. Mason; G. Goloverda; E.A. Smith; J.A. Heppert, October 1996.
55. CSM Symposium on Laser Techniques, Lawrence, K.S. “Potential Applications in Nonlinear Optical Materials,” J.A. Heppert, January 1997.
  56. KSTAR-NSF-EPSCoR Conference, “the Kansas Collaborative for Excellence in Teacher Preparation,” April 1997.
  57. Midwest Regional ACS Meeting, Joplin, MO. “Hydrogen Bonding in Supramolecular Tungsten Compounds,” T.L. Lambert; M.H. Mason; T.J. Baroni; L. Seib; J.A. Heppert, October 1997.
  58. NSF Regional Conference on Shaping the Future, “Cooperative Efforts to Change Teacher Preparation in Kansas,” January 12, 1998.
  59. Kansas Statewide EPSCoR Conference, Topeka, KS “the Kansas Collaborative for Excellence in Teacher Preparation,” February 19, 1998.
  60. CSM Symposium on Supramolecular Materials, Lawrence, KS “A Tale of Two Polymers,” May 1998.
  61. ACS National Meeting, Boston, MA, “Novel Low Nitrogen Cetane Improvers,” M.H. Mason, J.A. Heppert, G.J. Suppes, Z. Chen, C. Tat, August 22, 1998.
  62. ACS National Meeting, Boston, MA, “Lewis Acids from Triply Bonded Tungsten Complexes: Asymmetric Reactions at a Tungsten Binaphtholate Complex,” M.A. Mason, J.A. Heppert, G.J. Suppes, Z. Chen, C. Tat, August 22, 1998.
  63. Midwest ACS Meeting, Wichita, KS, “Chiral Salicylamide Derivatives as Ligands in Tungsten (VI) Complexes,” A. Gunderson, M.H. Mason, J.A. Heppert, Nov. 5, 1998.
  64. ACS National Meeting, Anaheim, CA, “Effective Learning Environments in Introductory Chemistry via Teaching Assistants,” J.B. Robinson, J.A. Heppert, J.D. Ellis, March 25, 1999.
  65. Gordon Conference, Innovations in College Chemistry Teaching, Connecticut College, New London, CT, “Facilitating Graduate Teaching Assistants in Introductory Chemistry to Teach By Group Learning Strategies,” J. Bond Robinson, J.A. Heppert, June 22, 1999.
  66. AETS Meeting, Akron, OH, “A Problem-Solving Approach to the Laboratory for an Undergraduate Course in Introductory Chemistry”, J.D. Ellis, J.A. Heppert, J.B. Robinson, Jan. 5, 2000.
  67. National Association for Research in Science Teaching, New Orleans, LA. Development of a College Chemistry Efficacy Beliefs Instrument. Ellis, James; Heppert, Joseph; Robinson, Janet; and Omar, Hafidz. April 5, 2000.
  68. ACS National Meeting, San Francisco, CA, “Collaborative Learning in Problem-Based Laboratories”, J. Bond Robinson, J.A. Heppert, A. Wolfer, J.D. Ellis, March 28, 2000.
  69. ACS National Meeting, Washington, DC, “Clarifying the Concepts of Concentration, Equilibrium and Speciation through Visible Spectroscopy,” W.H. Otto, C.K. Larive, A.J. Wolfer, S.L. Mason, K.L. Ratzlaff, J.A. Heppert, J.B. Robinson, August 21, 2000.
  70. Gordon Conference on Innovations in College Chemistry Teaching, “Evaluating the Effect of Inquiry-Based Experiments on the Learning Environment in an Introductory Course for Science Majors”, Joseph A. Heppert, Susan L. Mason, Janet B. Robinson, Adam J. Wolfer, James D. Ellis, Robert A. Doyle, Ventura, CA, Jan 6, 2001.
  71. National Association on Research in Science Teaching, Dallas, TX, “The Development of Pedagogical Content Knowledge Gained in Implementing Inquiry”, Janet Bond Robinson, James D. Ellis, Joseph A. Heppert, March 28, 2001.
  72. National Association on Research in Science Teaching, Dallas, TX, “Implementation and

- Assessment of Collaborative Learning in Problem-based Laboratories”, Susan L. Mason, Adam J. Wolfer, Janet Bond Robinson, Joseph A. Heppert, James D. Ellis, Robert A. Doyle, March 28, 2001.
73. National Association on Research in Science Teaching, Dallas, TX, “The Effect of Problem-based Inquiry Laboratory Experiences on General Chemistry Students' Understandings of the Nature of Science”, Adam J. Wolfer, Janet Bond Robinson, Susan L. Mason, Joseph A. Heppert, James A. Ellis, March 28, 2001.
  74. National Association on Research in Science Teaching, Dallas, TX, “The Impact of a Problem-Centered Inquiry Course on Student Self-Efficacy in the Undergraduate Chemistry Laboratory”, James D. Ellis, Janet Bond Robinson, Joseph A. Heppert, Adam L. Wolfer, Susan L. Mason, March 28, 2001.
  75. Orlando National ACS Meeting, “Carbide Coordination Chemistry: Rational Synthesis of a Binary Transition Metal Carbide.” J.A. Heppert, M.L. Mason, S.J. Mason, J. Vilain, M. Gile, D. Powell, D. VanderVelde, R.J. Carlson, April 7, 2002.
  76. Orlando National ACS Meeting, “The Metathesis-Facilitated Synthesis of Terminal Ruthenium Carbide Complexes.” J.A. Heppert, M.L. Mason, S.J. Mason, J. Vilain, M. Gile, D. Powell, D. VanderVelde, R.J. Carlson, April 11, 2002.
  77. STEMTEC Pathways to Change Meeting, Washington, DC. “An integrated approach to teacher enhancement in inquiry-based science.” C.T. Forbes, G.A. Webber, J. A. Heppert, April 21, 2002.
  78. Midwest ACS Meeting, Lawrence, KS. “The Chemistry of Pyridine-Containing Ruthenium Carbides,” J.A. Heppert, J. Vilain, M. Gile, M.L. Mason, S.J. Mason, D. Powell, Oct. 24, 2002.
  79. Midwest ACS Meeting, Lawrence, KS. “Structures of Ruthenium Carbide Derivatives,” J.A. Heppert, J. Vilain, M. Gile, M.L. Mason, S.J. Mason, D. Powell, Oct. 24, 2002.
  80. ACS National Meeting, New York, NY, "Pathways for cyclopropylidene ring opening in pyridine-containing ruthenium alkylidene complexes?" J.A. Heppert, J. Vilain, M. Gile, M.L. Mason, S.J. Mason, D. Powell, September 9, 2003.
  81. ACS National Meeting, New York, NY, "Evidence for Michael addition reactions involving ruthenium carbide intermediates." J.A. Heppert, J. Vilain, M. Gile, M.L. Mason, S.J. Mason, D. Powell, September 9, 2003.
  82. Professors Speak Out Symposium, CTE, University of Kansas, "Confronting Issues of Student Engagement", J.A. Heppert, November 14, 2003.
  83. National Engineering Research Centers Conference, “Diversity programs in the Center for Environmentally Beneficial Catalysis,” J. Heppert, G. Webber, November 16, 2004.
  84. NSF CEBC Industrial Advisory Board Annual Meeting, Lawrence, KS, “Teaching science: A template to help students develop an environmental chemistry curriculum,” A. French, C. Hohl, J.A. Heppert, D. Lane, October 26, 2005.
  85. ACS National Meeting, Atlanta, GA, “Evaluation of a space exploration exhibit at Science City and its implications for the development of a chemistry exhibit.” A.N. French, J.A. Heppert, March 28, 2006.
  86. Graduate Student Research Competition, University of Kansas, Lawrence, KS “Evaluation of a space exploration exhibit at Science City and its implications for the development of a chemistry exhibit.” French, A. N., Jernigan, D., and Heppert, J.A. March 9. 2006.
  87. ACS National Meeting, Atlanta, GA, “Examining the effectiveness of the chemistry component of the Middle School Science Academy.” M.D. Barker, J.A. Heppert, March 28,

- 2006.
88. NSF CEBC Annual Meeting, Lawrence, KS, "Teaching science: A template to help students develop an environmental chemistry curriculum," A. French, C. Hohl, J.A. Heppert, D. Lane, April 20, 2006.
  89. Noyce Scholarship National Meeting, Washington, D.C. "the Noyce Scholarship Program: Kansas Collaborative for Teacher Preparation." J.A. Heppert, B.D. Archer, J.D. Ellis, June 19, 2006.
  90. ACS National Meeting, San Francisco, CA, "Teaching science: A template to help graduate students develop a green chemistry curriculum unit." A. French, Carrie Hohl, J.A. Heppert, Sept. 10, 2006.
  91. ACS National Meeting, San Francisco, CA, "Examining the effectiveness of the second year of the Middle School Science Academy." D. Barker, D. Huffman, S.T. Case, J.A. Heppert, Sept. 10, 2006.
  92. NSF CEBC Industrial Advisory Board Annual Meeting, Lawrence, KS, "Research experiences for teachers, Summer 2006" C. Bode, A. French, C. Hohl, J.A. Heppert, S. Williams, October 26, 2005.
  93. ACS National Meeting, Chicago, IL, "Evaluation of the 'What's green about biodiesel' high school curriculum unit." A.N. French, J.A. Heppert, C. Bode, March 26, 2007.
  94. ACS National Meeting, Chicago, IL, "Implementing a web-based mathematics tutorial in general chemistry." M.D. Barker, B.A. Barker, J.A. Heppert, March 25, 2007.
  95. ACS National Meeting, Boston, MA, "Integrating computation, independent inquiry, and scientific presentations with the undergraduate physical chemistry laboratory", C.K. Johnson, J.E. Headrick, D.L. DuBose, C. L. Berrie, J.A. Heppert, August 20, 2007.
  96. ACS National Meeting, Boston, MA, "Evaluation of the 'What's 'Green' About Biodiesel?' high school curricular unit, A.N. French, J.A. Heppert, C. Bode, August 20, 2007.
  97. ACS National Meeting, Boston, MA, "Quantitative analysis of a web-based math tutorial for general chemistry and the student response", M.D. Barker, J.A. Heppert, B.A. Barker, August 20, 2007.
  98. ACS National Meeting, Boston, MA, "Quantitative analysis of a web-based math tutorial for general chemistry and the student response", M.D. Barker, J.A. Heppert, B.A. Barker, August 22, 2007.
  99. ACS National Meeting, New Orleans, LA, "Engaging students in classroom teaching: Teaching practicum for science, engineering, and mathematics graduate students", J.A. Heppert, D.J. Bernstein, G. Webber, C. Bode, L. Villafuerte, April 7, 2008.
  100. ACS National Meeting, New Orleans, LA, "Using online collaborative learning to introduce green chemistry to undergraduate organic laboratories," C.E. Munson, A.N. French, B.R. Barron, J.A. Heppert, April 7, 2008.
  101. ACS National Meeting, New Orleans, LA, "Using online collaborative learning to introduce green chemistry to undergraduate organic laboratories", C.E. Munson, A.N. French, B.R. Barron, J.A. Heppert, April 7, 2008.
  102. ACS National Meeting, New Orleans, LA, "Engaging students in classroom teaching: Teaching practicum for science, engineering, and mathematics graduate students" J.A. Heppert, D.J. Bernstein, G. Webber, C. Bode, L. Villafuerte, April 10, 2008.
  103. ACS National Meeting, New Orleans, LA, "A historical look at informal chemical education in science museums, A.N. French, Joseph A. Heppert, April 7, 2008.
  104. Chemical Education Research Gordon Research Conference, Colby College, Waterville,

- ME, "Enhancing Instruction in Introductory Science Courses", J. Bius, R. Black, A. Glass, J. Headrick, J. Heppert, P. Hierl, C. Munson, June 23, 2009
105. NSF Workshop on Chemistry REU Programs, San Antonio, TX, "A Summer NSF-REU Program Integrating Research, Education, and Career Development in an Interdisciplinary Environment", J.A. Heppert, MV. Barybin, July 8, 2009.
  106. ACS National Meeting, San Francisco, CA, "UKanTeach: Efforts to engender regional change through the replication of successful secondary science teacher recruitment/preparation strategy", J.A. Heppert, S.T. Case, M.D. Barker, March 22, 2010.
  107. ACS National Meeting, San Francisco, CA, "the Kansas City Area Education Research Consortium", J.A. Heppert, March 22, 2010.
  108. SMTI 2010 National Conference, Cincinnati, OH, "The Use of Synergistic Programs to Enhance Secondary Mathematics and Science Teacher Preparation," J. A. Heppert, M.D. Barker, S.T. Case, S. Delgado, June 10, 2010.
  109. Biennial Conference on Chemical Education, Denton, TX, "Lab versus lecture: does location matter when introducing a web-based math tutorial into a general chemistry course?" M.D. Barker, J.A. Heppert, August 2010.
  110. ACS Midwest Regional Meeting, Wichita, KS, "UKanTeach: Focus on math and science faculty involvement in teacher education", J.A. Heppert, S.T. Case, M.D. Barker, October 27, 2010.
  111. NSF Workshop on Noyce Fellowship Programs, Washington, D.C., "KU's UKanTeach Program: Integration with NSF Noyce Fellowship Programs", J.A. Heppert, Katharyn Parker, S.D. Case, M.D. Barker, July 8, 2011.
  112. ACS National Meeting, San Diego, CA, "Effect of the sequence of laboratory and lecture instruction on student performance in organic chemistry lecture: A three year study", D. Pakahira, J.A. Heppert, D.R. Benson, March 25, 2012.
  113. Association for Public Policy Analysis and Management, "Economic and Scientific Outcomes of Federal Investment in Academic Chemistry," Ginther, D.L.; Rosenbloom, J.R.; Heppert, J.A.; Juhl, T., Nov. 9, 2013.
  114. Southern Economics Association, Tampa, FL, "Economic and Scientific Outcomes of Federal Investment in Academic Chemistry", Rosenbloom, J.R.; Heppert, J.A.; Ginther, D.L.; Juhl, T., Nov. 25, 2013.
  115. Fall 2015 ACS National Meeting, Boston, MA, "Research-based strategies for enhancing student performance in introductory chemistry courses," Heppert, J.A.; Barker, M.D.; Pakhira, D.; Myers, L., Aug. 19, 2015.
  116. Fall 2016 ACS National Meeting, Philadelphia, PA, "Effectiveness of active learning in an undergraduate analytical chemistry course", Erickson, M.; Heppert, J.A.; Weis, D., Aug. 2016.
  117. Fall 2016 ACS National Meeting, Philadelphia, PA, "The Effectiveness of Peer Led Supplements in an Undergraduate General Chemistry Course Based on Test Scores," Logsdon, A.; Erickson, M.; Heppert, J.A.; Villafuerte, L., Aug. 2016.

### **Funded Grants:**

1. Cottrell Research Grant, Research Corporation, \$12,000. Spring 1986-Fall 1986.
2. Petroleum Research Fund, Type G Proposal, \$18,000. Spring 1987-Fall 1989.

3. Petroleum Research Fund, SRF Supplement, \$2,500. Summer 1989.
4. Petroleum Research Fund, Type AC Proposal, \$40,000, "Aspects of the Molecular Rearrangement in Titanium Alkoxide Complexes", Sept. 1, 1990- August 31, 1992.
5. Petroleum Research Fund, SRF Supplement, \$2,500. Summer 1991.
6. NSF Instrument & Remodeling, "ESR Instrumentation Proposal" \$300,000. (Tom Squires, Lead P.I.)
7. NSF-EPSCoR, KAN-SYN, \$1,200,000. (D. Busch, Lead P.I.) October 1992.
8. Petroleum Research Fund: Type AC "Tunable Hydrogen Bonded Metal Complexes," February 1994, \$50,000.
9. B.F. Goodrich "Catalyst Design for High Performance RIM Thermosets and Thermoplastics," January 1994, \$50,000.
10. NSF-ESI, "Unleashing the Power of Molecular Design and Synthesis for Science and Technology," October 1994, \$260,000.
11. B.F. Goodrich "Catalyst Design for Improved RIM Thermosets and Thermoplastics," January 1995, \$50,000.
12. NSF-ARI Program (David Vander Velde, P.I.) "Acquisition of 400 MHz NMR Spectrometer," July 1995, \$221,000.
13. NSF-EPSCoR, Center for Supramolecular Materials, \$900,000. (D. Busch, Lead P.I.) October 1995.
14. KU Office of Academic Affairs, Initiative on the Enhancement of the Freshman/Sophomore Experience, \$2,300.
15. BDM Oklahoma, Advanced Recovery Processes Program, "In Situ Permeability Modification Using Gelled Polymer Systems," (Professor Don Green, Lead PI), \$753,837.
16. Soy Bean Producers Council, "Specialty Chemicals from Soy Bean Oil and Soy-Biodiesel," (Professor Galen Suppes, Co-PI) \$18,000.
17. NSF EPSCoR, "The Kansas Program for Excellence in Teacher Preparation," \$50,000, August 1996 (Heppert Lead-PI, Professor William LaShier Co-PI) .
18. Department of Agriculture, "High Value Soydiesel Fuel Additives," \$125,000., August 1997 (Professor Galen Suppes, Co-PI).
19. NSF EPSCoR, "The Kansas Program for Excellence in Teacher Preparation," \$18,000, August 1997 (Heppert Lead-PI, Professor William LaShier Co-PI) .
20. Soy Bean Producers Council, "Specialty Chemicals from Soy Bean Oil and Soy-Biodiesel," (Professor Galen Suppes, Co-PI) \$20,000.
21. NSF EPSCoR, "The Kansas Program for Excellence in Teacher Preparation," \$18,000, August 1997 (Heppert Lead-PI, Professor William LaShier Co-PI).
22. William and Flora Hewlett Foundation, "A Paradigm Change in the Laboratory Curriculum," \$150,000., January 1998 (Heppert Lead-PI).
23. KU Energy Research Center, "Studies of Flow Through Rock Strata," \$6,000, March 1998. Supplement to NSF-REU, \$15,000. (Babara Schowen, Lead PI)
24. NSF-CETP Track 1, "the Kansas Collaborative for Excellence in Teacher Preparation," \$2,400,000, June 1999 (Heppert Lead-PI).
25. Department of Agriculture, "High Value Soydiesel Fuel Additives," \$160,000. August 1999 (Professor Galen Suppes, Co-PI).
26. NSF-CCLI, "Improving Student Understanding of Concentration, Equilibrium and..." \$68,000, June 1999 (Heppert Lead-PI).
27. NSF-GK12, "Teaching Fellows in Chemistry, Biology and Physics in the Kansas City

- Metropolitan Schools,” \$1,080,000, September 1999 (Heppert, Robinson Lead-PIs).
28. Research Development Fund, KU, \$60,000. Kansas Academy for Science, Engineering and Technology Education, Nov 13, 1999.
  29. Kansas Soybean Commission, \$29,000. “Molecular Design of Soybean Oil Products,” Nov 17, 1999.
  30. Kansas Soybean Commission, \$29,000. “Molecular Design of Soybean Oil Products,” May 2000.
  31. Department of Commerce, SBIR Track II, \$250,000. “Scale-up and Market Testing of Cetane Improvers Based on Soybean Oil,” April 2000.
  32. NSF-TE, \$1,100,000. “Extending Scientific Inquiry through GIS Technologies,” September 2001.
  33. NSF EPSCoR, “Planning Grant for the Centers for Learning and Teaching and Mathematics and Science Partnership Programs,” \$10,000, April 2002.
  34. AT&T Foundation, “Web-Facilitated Professional Development for Science Teachers in Transition,” \$200,000, Jan. 2002.
  35. NSF-DUE, “The Kansas Collaborative for Excellence in Teacher Preparation (KCETP) Supplement: NOYCE Scholarship Program,” \$500,000, January 2003
  36. NSF-DUE, \$93,325, “Integrating Experiment, Computation, Communication, and Independent Inquiry in the Physical Chemistry Laboratory,” Jul. 2003. (Heppert co-PI).
  37. NSF-ERC, \$17,000,000, “Center for Environmentally Beneficial Catalysis,” August 2003. (Heppert co-PI).
  38. Kansas Board of Regents, \$267,086, “Middle School Science Academy,” July 2004 (Heppert PI).
  39. National Science Foundation, \$199,941, “Learning from Dynamic Visual Displays,” October 2005 (Heppert PI).
  40. National Science Foundation, \$246,352, “REU Site: A Summer Experience for Undergraduates Integrating Research, Education, and Career Development in an Interdisciplinary Environment”, February 2007 (Heppert PI).
  41. Kansas Board of Regents, \$299,862, “Middle School Science Academy-Research Experiences.” March 2007 (Heppert, PI).
  42. Ewing Marion Kauffman Foundation, \$150,000, “UKanTeach”, May 2007 (Heppert, PI).
  43. Ewing Marion Kauffman Foundation, \$120,000, “The Kansas City Area Educational Research Consortium”, June 2007 (Heppert, PI).
  44. National Mathematics and Science Institute, \$2,400,000, “UKanTeach,” November 2007 (Heppert, PI).
  45. NSF-GK-12, \$2,900,000, “The Kansas Partnership for Graduate Fellows in K-12 Education,” July 2008 (Heppert, co-PI).
  46. Ewing Marion Kauffman Foundation, \$834,000, “Envisioning an Education Research Consortium for the Kansas City Metropolitan Area”, April 2009 (Heppert, PI).
  47. National Science Foundation, \$599,792, “The University of Kansas Noyce Phase II Scholarship & Stipend Program”, July 2009 (Heppert, co-PI).
  48. National Science Foundation CRIF Program, \$600,000, “Purchase of a Cyber-enabled Regional 400 MHz Solid-State NMR Spectrometer”, August 2009 (Heppert, Lead PI, Munson, co-PI).
  49. Kansas City Area P-20 Council, \$8,000, “Asset Mapping of P-20 Resources in the Kansas City Metropolitan Area: A SWOT Analysis”, July 2010 (Heppert, PI).

50. Ewing Marion Kauffman Foundation, \$200,000, “KC-AERC Bridge Grant”, January 2011 (Heppert, PI).
51. National Science Foundation, \$490,000, “Economic and Scientific Effects of Federal Investment in Academic Chemistry Research”, \$600,000 (Heppert, PI) January 2011.
52. Ewing Marion Kauffman Foundation, \$1,000,000, “KC-AERC Infrastructure Grant”, (Heppert, PI), December 2012.
53. National Science Foundation, \$275,170 “REU Site: A Summer Experience for Undergraduates Integrating Research, Education, and Career Development in an Interdisciplinary Environment,” (Heppert, co-PI), May 2013.

### **Students:**

#### Postdoctoral Fellows (employment)

1. Janet Bond Robinson, 1998-1999 (Ph.D. 1998, University of Iowa, Assistant Professor, Chemistry Department, University of Kansas)
2. Constance Haack, 1999-2001 (Ph.D. 2000, University of Oklahoma, Assistant Professor, Department of Curriculum and Instruction, Wichita State University)
3. Adam Wolfer, 1999-2000 (Ph.D. 2000, Oregon State University, Professor, Puget Sound Community College)
4. Susan Mason, 1999-2003 (Ph.D. 2000, University of Kansas, China Lake Naval Weapons Center)
5. Mark Mason, 2000-2003 (Ph.D. 2000, University of Kansas, China Lake Naval Weapons Center)
6. Jeff Botts, 2001 (Ph.D. 2001, University of Kansas, Analytical Chemist, Aventis Corporation)

#### Ph.D. Graduates, year of matriculation, (degree date, employment)

1. Timothy J. Boyle, 1985. (Postdoctoral Study with Bill Evans, University of California, Irvine. January 1993, Staff Scientist, Materials Research Group, Sandia National Laboratory, Albuquerque, NM.)
2. Mark A. Morgenstern, 1986. (September 1990, Postdoctoral study at the National Center for Solar Energy Research, Golden, Colorado, Lecturer, Colorado College, Colorado Springs, CO)
3. M. Elizabeth Thomas-Miller, 1986. (January 1993, Marketing Specialist, Monsanto Company, St. Louis, Missouri)
4. Steven D. Dietz, 1987. (January 1992, Postdoctoral study with Professor Mary Rakowsky DuBois, University of Colorado; Staff Scientist TDA Corporation, Golden, CO.)
5. Michael L. Milligan, 1987. (April 1992, Postdoctoral study with Professor Daryle Eymann, University of Iowa; Faculty at Southern Baptist College, Walnut Ridge, Arkansas.)
6. Martha D. Morton, 1988. (May 1993, Postdoctoral study with Dr. David VanderVelde, Kansas University)
7. Nancy W. Eilerts, 1990. (July 1994, NSERC Postdoctoral Study with Professor Malcolm H. Chisholm, Indiana University; Research Scientist, Poly(ethylene) Group, Central Research, Phillips Petroleum Company, Bartlesville, OK.)
8. Timothy Baroni, 1992 (May 1997, Postdoctoral Study with Professor Andy Borovik, KU)
9. Andrew Vance, 1992 (July 1997, Postdoctoral Study at Lawrence Livermore)

10. Mark Mason, 1995 “The Design, Synthesis and Pilot Scale Production of Soybean Oil Based Alkyl Nitrates for Use As Diesel Fuel Cetane Improvers” (March 2000, Teaching Postdoctoral Fellow, Chemistry Department, University of Kansas)
11. Jeffery B. Botts, 1996 (April 2001, “Synthesis and characterization of multifunctional diesel fuel additives derived from biorenewable sources,” Postdoctoral Fellow, Chemistry Department, University of Kansas)
12. Joseph Vilain, 2000 (July 2005, Postdoctoral Fellow, China Lake Naval Weapons Station)
13. April French, 2002 (May 2007, “Informal Science Education at Science City”, Assistant Professor, Northwestern State University, Louisiana)
14. Christina Munson, 2005 (April 2010, “Assessment of the Efficacy of an Introductory Pharmacy Class,” Curriculum Design Officer, College of Pharmacy, University of Kentucky, Lexington, KY)
15. Danielle Barker, 2003 (November 2011, “Constructivist-Based Asynchronous Tutorial to Improve Transfer between Math and Chemistry Domains: Design, Implementation, and Analysis of the Impact of ReMATCH on General Chemistry Course Performance and Confidence”, Research Assistant, UKanTeach Program, University of Kansas, Lawrence, KS)
16. Deblina Pakhira, 2009 (April 2012, “Analysis of the Effect of Concurrent Enrollment in Organic Chemistry Lecture and Laboratory Instruction on Student Learning and Motivation towards Learning Chemistry”, Postdoctoral Associate, University of Nebraska-Lincoln, Lincoln, NE)
17. Linda Myers, 2010 (July 2015, “Analysis of Student Performance in Peer Led Undergraduate Supplements (PLUS)”.)
18. Janet Bius, 2008 (April 2016, “Increasing the understanding of Chemical Concepts: Effectiveness of Multiple Exposures.”)

M.S. Graduates (degree date, employment)

1. Denise L. Barnes, 1990 (August 1993, Lecturer at Midplains Community College)
2. Rolande R. Hodel, 1991 (October 1994, Scientist, Nanocrystals, Inc, New York)
3. Vladimir Kolesnichenko, 1993 (December 1995, Postdoctoral Associate, Professor L. Messerle, University of Iowa.)
4. Galena Goloverda, 1993 (September 1996, M.S. Inorganic Chemistry, “Search for New Catalytic Systems for Asymmetric Diels Alder Reactions.”)

Current Graduate Assistants (year of matriculation)

1. Mary Erickson, 2012

Undergraduate Assistants (graduate/professional school)

1. Devin K. Scheruebel (Iowa State University)
2. Mohammad K. Shaker (NSF-GRU from Idaho State University, Baylor Medical School)

3. Brent Flatt (NSF-GRU from Texas A&M, Caltech)
4. Rebecca Newburn (Peace Corps, Fiji)
5. Steven Gray (University of Arizona)
6. Edward Toplikar (Utah State University)
7. Robert Henning (NSF-URP student from Augustana College, Iowa State University)
8. Antonio Williams (NSF-URP student from Grambling State University, U. of Kansas)
9. Jodi Westmark (PRF/Summer Research Fellow from Clarke College)
10. Tiffany Grant (Texas A & M)
11. David Ellis (Ohio State University)
12. Wayne Huang (NSF-URP student from Bethel College)
13. Michelle Kennedy (NSF-URP from Hastings College; U. of Kansas)
14. Vladimir Azov (HCC Summer Student from the Higher College of Chemistry, Moscow, Russia)
15. Sinead Martin (Exchange Student from University of Leislichire, England).
16. Brian Stebbins (English teacher, Costa Rica)
17. Richard Kingsborough (U. of Arizona, Graduate School, the University of Pennsylvania)
18. Kristine Millschlagel (Northern State University, Aberdeen, SD) (Summer 1996)
19. Tristan Lambert (NSF-URP from University of Wisconsin-White Water)
20. Andrew Gundersen (NSF-REU from Central Missouri State)
21. Alix Botts (University of Kansas, Graduate Study at KU, Teaching Certification Program, WSU)
22. Andy Case (University of Kansas)
23. Peter Johannsen (Luther College, Graduate Study at KU)
24. Steven Sieck (Northeastern Missouri State University)
25. Jason Renfrow (University of Kansas)
26. Alison Logsdon (University of Kansas)