



THE UNIVERSITY OF IOWA

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EDUCATIONAL AND PROFESSIONAL HISTORY

Education

1994-1998 Ph.D., Chemistry, University of Missouri-Columbia (Advisor: Jerry L. Atwood)
1990-1994 B.Sc. (Hons.), Saint Mary's University, Halifax, Nova Scotia, Canada

Positions

2013- Professor, Secondary Appointment, Department of Pharmaceutical Sciences and Experimental Therapeutics, College of Pharmacy, University of Iowa
2010- Professor, Department of Chemistry, University of Iowa
2005-2010 Associate Professor, Department of Chemistry, University of Iowa
2007 Invited Professor, Université Louis Pasteur, Strasbourg, France
2000-2005 Assistant Professor, Department of Chemistry, University of Iowa
1999-2000 Adjunct Research Professor, Ottawa-Carleton Chemistry Institute
1998-2000 Research Associate, Steacie Institute for Molecular Sciences (SIMS)

Honors and Awards

Elected Fellow, American Chemical Society (2015)
Elected Chair, 2018 and Co-Chair, 2016 of Gordon Research Conference on Crystal Engineering (2014)
Recognition, 'Thank-A-Teacher' Program (2014)
Distinguished Lecturer, Department of Biology and Chemistry, City University of Hong Kong (October 2012)
Elected Fellow, American Association for the Advancement of Science (2012)
Chemical Communications (RSC) Theme Issue on "Emerging Investigators" (2011)
American Association for the Advancement of Science Award (AAAS), Department of Chemistry, University of Iowa (2010)
Collegiate Scholar, College of Liberal Arts and Sciences, University of Iowa (2010)
1st Garth Spencer Memorial Lecture, Clemson University (March 2009)
Invited Professor, Université Louis Pasteur, Strasbourg, France (2007)
Faculty Scholar Award, University of Iowa (2007-2010)
Arthur C. Cope Scholar Award (American Chemical Society) (2007)
Elected Fellow, Royal Society of Chemistry (2006)

Career Development Award, University of Iowa (2006)
Dean's Scholar Award, University of Iowa (2005-2007)
Margaret C. Etter Early Career Award (American Crystallographic Association) (2004)
Inter-American Photochemical Society Young Investigator Award (2004)
Second Old Gold Summer Fellowship, University of Iowa (2002)
National Science Foundation Faculty Early Career Development (CAREER) Award (2002-2007)
Research Corporation Research Innovation Award (2002-2007)
Old Gold Summer Fellowship, University of Iowa (2001)
National Research Council of Canada Entrepreneurship Program (2000)
National Research Council of Canada, Research Associate Award (2000)
Natural Sciences and Engineering Research Council of Canada (NSERC) Post Doctoral Fellowship
(1998) Declined in favor of Research Associate Position at SIMS
International Union of Crystallography Young Scientist Award (1997)
Recognition by Who's Who of American College Students (1997)
NATO ASI Summer School Fellowship (1996)
Recognition by the Directory of the American Academy of Distinguished Students (1996)
American Institute of Chemists Graduate Student Award (1996)
Superior Graduate Achievement Award - University of Missouri-Columbia (1996)
International Center for Diffraction Data Crystallography Scholarship (1995)
NSERC, 1967 Science and Engineering Scholarship (1994-1998)
3rd Place Undergraduate Poster Award, CIC National Conference (1994)
Dean's List, Saint Mary's University (1991-1994)
2nd Place Undergraduate Oral Presentation Award, CIC Atlantic Conference (1994)
Saint Mary's University Alumni Science Gold Medal (1994)
Betty Cleary Memorial Scholarship (1993)
Saint Mary's University Achievement Scholarship (1993, 1992, 1991)
Best Undergraduate Poster, CIC Atlantic Student Conference (1992)
First Place Poster Prize, CIC Atlantic Conference (1991)
Joseph and Charles Hinman Bursary (1991-1992)
NSERC Summer Student Award (1991-1993)
Canada Scholarship (1990-1994)
Saint Mary's University Entrance Scholarship (1990)
Highest Academic Award, Graham Creighton Junior High School (1987)

Memberships

American Association for the Advancement of Science Award (AAAS) (2011-)
Environmental Science Program, University of Iowa (2007-)
Nanoscience and Nanotechnology Institute, University of Iowa (2006-)
American Crystallographic Association (2004-)
Inter-American Photochemical Society (2004-)
Optical Science and Technology Center, University of Iowa (2002-)
Biocatalysis Group, University of Iowa (2000-)
American Chemical Society (1994-)

SCHOLARSHIP

Publications (Refereed) (independent contributions designated by asterisk*)

H-index: 47

*195. Elacqua, E.; Kummer, K.A.; Groeneman, R.H.; Reinheimer, E.W.; MacGillivray, L.R., "Post-Application of Dry Vortex Grinding Improves the Yield of a [2+2] Photodimerization: Addressing Static Disorder in a Cocrystal", *J. Photochem. Photobiol. A*, in press.

*194. Duncan, A.J.E.; Dudovitz, R.L.; Dudovitz, S.J.; Stojakovic, J.; Mariappan, S.V.S.; MacGillivray, L.R., "Quantitative and Regiocontrolled Cross-Photocycloaddition of the Anticancer Drug 5-Fluorouracil Achieved in a Cocrystal", *ChemComm*. **2016**, *52*, 13109-13111.

*193. Hutchins, K.M.; Kummer, K.A.; Groeneman, R.H.; Reinheimer, E.W.; Sinnwell, M.A.; Swenson, D.C.; MacGillivray, L.R., "Thermal Expansion Properties of Three Isostructural Co-crystals Composed of Isosteric Components: Interplay Between Halogen and Hydrogen Bonds", *CrystEngComm*, **2016**, *18*, 8354-8357.

(Cover Article)

*192. Sinnwell, M.A.; Ingenthron, B.J.; Groeneman, R.H.; MacGillivray, L.R., "Stereoselective and Quantitative [2+2] Photodimerization of a Symmetrical Octafluoro Stilbene in the Solid State: Face-to-Face Stacking of the Fluorinated Rings in trans-1,2-bis(2,3,5,6-tetrafluorophenyl) ethylene", *J. Fluorine Chem.* **2016**, *188*, 5-9.

*191. Elacqua, E.; Sinnwell, M.A.; Loren, B.P.; Jurgens, P.T.; Groeneman, R.H.; Reinheimer, E.W.; MacGillivray, L.R., "Metal-Organic Coordination Versus Hydrogen Bonding: Highly-Efficient Templated Photocycloadditions of Trisubstituted Isomeric Olefins in the Solid State", *ChemPlusChem*, **2016**, *81*, 893-898 (invited).

Special Issue: 'Coordination Polymers/MOFs'

*190. Sinnwell, M.A.; MacGillivray, L.R., "Halogen-Bond Templated [2+2] Photodimerization in the Solid State: Directed Synthesis and Rare Self-Inclusion of a Halogenated Product", *Angew. Chem., Int. Ed. Engl.* **2016**, *55*, 3477-3480.

*189. Hutchins, K.M.; MacGillivray, L.R., "Crystal Engineering [2+2] Photodimerizations via Templates and Hydrogen Bonds: A Case of Styrylthiophenes", *Photochemistry, Volume 43* (Eds. Fasani, E.; Albin, A.) (Royal Society of Chemistry, 2016), 321-329 (invited).

*188. Elacqua, E.; Groeneman, R.H.; Reinheimer, E.W.; MacGillivray, L.R., "Photostable Co-Crystals of (*E*)-methyl-3-(pyridin-4-yl)prop-2-enoates Involving Homologous Resorcinols: Effects of Secondary Interactions Involving Templates", *Am. Cryst. Assn. Symp. Trans.* **2015**, *1*.

- *187.** Ericson, D.P.; Zurfluh-Cunningham, Z.P.; Groeneman, R.H.; Elacqua, E.; Reinheimer, E.W.; Noll, B.C.; MacGillivray, L.R., "Regiocontrol of the [2+2] Photodimerization in the Solid State Using Isosteric Resorcinols: Head-to-Tail Cyclobutane Formation via Unexpected Embraced Assemblies", *Cryst. Growth Des.* **2015**, *15*, 5744-5748.
- *186.** Rupasinghe, T.P.; Hutchins, K.M.; Bandaranayake, B.S.; Ghorai, S.; Karunatilake, C.; Bucar, D.-K.; Swenson, D.C.; Arnold, M.A.; MacGillivray, L.R.; Tivanski, A.V., "Mechanical Properties of a Series of Macro- and Nano-Dimensional Organic Cocrystals Correlate with Atomic Polarizability", *J. Am. Chem. Soc.* **2015**, *137*, 12768-12771.
- *185.** Hutchins, K.M.; Groeneman, R.H.; Reinheimer, E.W.; Swenson, D.C.; MacGillivray, L.R., "Achieving Dynamic Behavior and Thermal Expansion in the Organic Solid State via Co-Crystallization", *Chem. Sci.* **2015**, *6*, 4717-4722.
- *184.** Laird, R.C.; Sinnwell, M.A.; Nguyen, N.P.; Swenson, D.C.; Mariappan, S.V.S.; MacGillivray, L.R., "Intramolecular [2+2] Photodimerization Achieved in the Solid State via Coordination-Driven Self-Assembly", *Org. Lett.* **2015**, *17*, 3323-3235.
- *183.** Sinnwell, M.A.; Baltrusaitis, J.; MacGillivray, L.R., "A Combination of Argentophilic and Perfluorophenyl-Perfluorophenyl Interactions Support a Head-to-Head [2+2] Photodimerization in the Solid State", *Cryst. Growth Des.* **2015**, *15*, 538-541.
- *182.** Papaefstathiou, G.S.; Duncan, A.J.; MacGillivray, L.R., "Two Act as One: Unexpected Dimers of Catechol Direct a Solid-State [2+2] Photodimerization in a Six-Component Hydrogen-Bonded Assembly", *ChemComm.* **2014**, *50*, 15960-15962.
- *181.** Stojakovic, J.; Farris, B.S.; MacGillivray, L.R., "Liquid-assisted Vortex Grinding Supports the Single-step Solid-state Construction of a [2.2]Paracyclophane", *Faraday Discuss.* **2014**, *170*, 35-40.
- *180.** Bucar, D.-K.; Henry, R.F.; Zhang, G.G.Z.; MacGillivray, L.R., "Synthon Hierarchies in Crystal Forms Composed of Theophylline and Hydroxybenzoic acids: Cocrystal Screening via Solution-mediated Phase Transformation", *Cryst. Growth Des.* **2014**, *14*, 5318-5328.
- *179.** Hutchins, K.M.; Sumrak, J.C.; Swenson, D.C.; MacGillivray, L.R., "Head-to-tail Photodimerization of a Thiophene in a Co-crystal and a Rare Adipic Acid Dimer in the Presence of a Heterosynthon", *CrystEngComm.* **2014**, *16*, 5762-5764.
- *178.** Hutchins, K.M.; Rupasinghe, T.; Ditzler, L.; Swenson, D.; Sander, J.; Baltrusaitis, J.; Tivanski, A.; MacGillivray, L.R., "Nanocrystals of a Metal-Organic Complex Exhibit Remarkably High Conductivity that Increases in a Single-Crystal-to-Single-Crystal Transformation", *J. Am. Chem. Soc.* **2014**, *136*, 6778-6781.
- *177.** Hutchins, K.M.; Dutta, S.; Loren, B.P.; MacGillivray, L.R., "Co-crystals of a Salicylideneaniline: Photochromism Involving Planar Dihedral Angles", *Chem. Mater.* **2014**, *26*, 3042-3044.

***176.** Elacqua, E.; Groeneman, R.H.; Reinheimer, E.W.; Bucar, D.-K.; MacGillivray, L.R., "Organosulfonates Aid Argentophilic Forces in the Crystal Engineering of [2+2] Photodimerizations: Reactivity Involving 3-Pyridyl Groups", *Supramol. Chem.* **2014**, *26*, 207-213.

***175.** Laird, R.C.; Nguyen, N.P.; Rusch, S.; Baltrusaitis, J.; MacGillivray, L.R., "Noncentrosymmetric Packings Influenced by Electronic Properties of Products of Click Reactions", *Cryst. Growth Des.* **2014**, *14*, 893-896.

***174.** Hutchins, K.M.; Sumrak, J.C.; MacGillivray, L.R.; "Resorcinol-Templated Head-to-Head Photodimerization of a Thiophene in the Solid State and Unusual Edge-to-Face Stacking in a Discrete Hydrogen-Bonded Assembly", *Org. Lett.* **2014**, *16*, 1052-1055.

173. Bottorff, S.C.; Kasten, B.B.; Stojakovic, J.; Moore, A.L.; MacGillivray, L.R.; Benny, P.D., "Cu-free Click Reactions to Form Isoxazole Linkers in Chelating Ligands for *fac*-[M^I(CO)₃]⁺ Centers (M = Re, ^{99m}Tc)", *Inorg. Chem.* **2014**, *53*, 1943-1945.

***172.** Stojakovic, J.; Whitis, A.M.; MacGillivray, L.R., "Discrete Double-to-Quadruple Aromatic Stacks: Stepwise Integration of Face-to-Face Geometries in Cocrystals Based on Indolocarbazole", *Angew. Chem., Int. Ed.*, **2013**, *52*, 12127-12130.

171. Bucar, D.-K.; Day, G. M.; Halasz, I.; Zhang, G.G.Z.; Sander, J.R.G.; Reid, D.G.; MacGillivray, L.R.; Duera, M.J.; Jones, W., "The Curious Case of the (caffeine)·(benzoic acid) Cocrystal: How Heteronuclear Seeding Transformed an Elusive Solid into a Long-lived One", *Chem. Sci.* **2013**, *4*, 4417-4425.

(For highlights on this work, see: *Chem. Eng. News* **2013**, *91*, 42; *RSC Chemistry World* **2013**; *ChemEurope.com* **2013**)

***170.** Ghorai, S.; Sumrak, J.C.; Hutchins, K.M.; Bucar, D.-K.; Tivanski, A.V.; MacGillivray, L.R., "From Co-crystals to Functional Thin Films: Photolithography Using the [2+2] Photodimerization", *Chem. Sci.* **2013**, *4*, 4304-4308.

***169.** Sander, J.R.G.; Bucar, D.-K.; Henry, R.F.; Giangiorgi, B.N.; Zhang, G.G.Z.; MacGillivray, L.R., "Masked Synthons' in Crystal Engineering: Insulated Components in Acetaminophen Cocrystal Hydrates", *CrystEngComm.* **2013**, *15*, 4816-4822.

(Cover Article)

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168. Bottorff, S.C.; Moore, A.L.; Wemple, A.R.; Bucar, D.-K.; MacGillivray, L.R.; Benny, P.D. "pH Controlled Coordination Mode Rearrangements of "Clickable" Huisgen based Multi-dentate Ligands with M^I(CO)₃⁺ (M = Re, ^{99m}Tc)", *Inorg. Chem.* **2013**, *52*, 2939-2950.

***167.** Bhattacharya, S.; Stojakovic, J.; Saha, B.K.; MacGillivray, L.R., "A Product of a Templated Solid-State Photodimerization Acts as a Template: Single-Crystal Reactivity in a Single Polymorph of a Co-Crystal", *Org. Lett.* **2013**, *15*, 744-747.

***166.** Dutta, S.; Bucar, D.-K.; Elacqua, E.; MacGillivray L.R., "Single-Crystal-to-Single-Crystal Direct Cross-linking and Photopolymerisation of a Discrete Ag(I) Complex to Give a 1D Polycyclobutane Coordination Polymer", *ChemCommun.* **2013**, *49*, 1064-1066.

***165.** Friscic, T.; Varshney, D.B.; Elacqua, E.; Sumrak, J.C.; Sokolov, A. N.; MacGillivray, L.R. "Molecular Self-Assemblies in Co-Crystals: Engineering Chemical Reactivity and Organic Semiconductor Materials", in *Molecular Self-Assembly: Advances and Application* (Ed. Li, A.) 223-228 (Pan Stanford Publishing, 2013) (invited).

***164.** Elacqua, E.; Bucar, D.-K.; Henry, R.F.; Zhang, G.G.Z.; MacGillivray, L.R., "Supramolecular Complexes of Sulfadiazine and Pyridines: Reconfigurable Exteriors and Chameleon-like Behavior of Tautomers at the Co-crystal - Salt Boundary", *Cryst. Growth Des.* **2013**, *13*, 393-403.

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***163.** Elacqua, E.; Jurgens, P.T.; Baltrusaitis, J.; MacGillivray, L.R. "Organic Nanocrystals of [2.2]Paracyclophanes Achieved via Sonochemistry: Enhanced and Red-Shifted Emission Involving Edge-to-Face Chromophores", *CrystEngComm.* **2012**, *14*, 7567-7571 (invited).

***162.** Stojakovic, J.; Farris, B.S.; MacGillivray, L.R., "Vortex Grinding for Mechanochemistry: Application for Automated Supramolecular Catalysis and Preparation of a Metal-organic Framework", *ChemCommun.* **2012**, *48*, 7958-7960.

***161.** Sander, J.R.G.; Bucar, D.-K.; Baltrusaitis, J.; MacGillivray, L.R., "Organic Nanocrystals of the Resorcinarene Hexamer via Sonochemistry: Evidence of Reversed Crystal Growth Involving Hollow Morphologies", *J. Am. Chem. Soc.* **2012**, *134*, 6900-6903.

(Cover article)

***160.** Elacqua, E.; Friscic, T.; MacGillivray, L.R., "[2.2]Paracyclophane as a Target of the Organic Solid State: Emergent Properties *via* Supramolecular Construction", *Isr. J. Chem.* **2012**, *52*, 53-59 (invited).

***159.** MacGillivray, L.R. "Design Rules: A Net and Archimedean Polyhedron Score Big for Self-Assembly", *Angew. Chem., Int. Ed.* **2012**, *51*, 1110-1112.

***158.** Elacqua, E.; Kaushik, P.; Groeneman, R.H.; Bucar, D.-K.; Sumrak, J.C.; MacGillivray, L.R. "A Supramolecular Protecting Group Strategy Applied in the Organic Solid State", *Angew. Chem., Int. Ed.* **2012**, *51*, 1037-1041.

***157.** Elacqua, E.; Laird, R.C.; MacGillivray, L.R. "Templated [2+2] Photodimerizations in the Solid State", in *Supramolecular Chemistry: From Molecules to Nanomaterials* (Eds.: Steed, J.W.; Gale, P.A.), **6**, 3153-3165 (Wiley-VCH, 2012) (invited).

***156.** Varshney, D.B.; Sander, J.R.G.; Friščić, T.; MacGillivray, L.R. "Supramolecular Interactions", in *Supramolecular Chemistry: From Molecules to Nanomaterials* (Eds.: Steed, J.W.; Gale, P.A.), **1**, 10-24 (Wiley-VCH, 2012) (invited).

***155.** Bucar, D.-K.; Sen, A.; Mariappan, S.V.S.; MacGillivray, L.R. "A [2+2] Cross-Photodimerisation of Photostable Olefins via a Three-component Cocrystal Solid Solution", *Chem. Commun.* **2012**, **48**, 1790-1792.

154. Ganguly, T.; Kasten, B.B.; Bucar, D.-K.; MacGillivray, L.R.; Berkman, C.E.; Benny, P.D. "The Hydrazide/hydrazone Click Reaction as a Biomolecule Labeling Strategy for M(CO)₃ (M = Re, ^{99m}Tc) Radiopharmaceuticals", *Chem. Commun.* **2011**, **47**, 12846-12848.

***153.** Karunatilaka, C.; Bucar, D.-K.; Ditzler, L.R.; Friscic, T.; MacGillivray, L.R.; Tivanski, A.V. "Softening and Hardening of Macro- and Nano-sized Organic Crystals in a Single-crystal Transformation", *Angew. Chem., Int. Ed.* **2011**, **50**, 8642-8646.

***152.** Atkinson, M.B.J.; Sokolov, A.N.; Bučar, D.-K.; Mariappan, S.V.S.; Mwangi, M.T.; Tiedman, M.C.; MacGillivray, L.R. "Applications of Hydrogen-bond-acceptor Templates to Direct 'In-phase' Reactivity of a Diene Diacid in the Solid State", *Photochem. Photobiol. Sci.* **2011**, **10**, 1384-1386 (invited).

(Special Issue: The Contribution of Japanese Scientists to Photochemistry)

***151.** Atkinson, M.B.J.; Mariappan, S.V.S.; Bucar, D.K.; Baltrusaitis, J.; Friscic, T.; Sinada, N.G.; MacGillivray, L.R. "Crystal Engineering Rescues a Solution Organic Synthesis in a Co-Crystallization that Confirms the Configuration of a Molecular Ladder", *Proc. Nat. Acad. Sci. (USA)* **2011**, **108**, 10974-10979.

(For a highlight on this work, see: *Chem. Eng. News* **2011**, **89**, 28)

150. Matteo, L.; Atwood, J.L.; MacGillivray, L.R.; Barbour, L.J. "Isostructural Coordination Polymers: Epitaxis vs. Solid Solution", *CrystEngComm.* **2011**, **13**, 4311-4313.

***149.** Dutta, S.; Bucar, D.-K.; MacGillivray, L.R., "Resorcinol-Templated Synthesis of a Cofacial Terpyridine in Crystalline π -Stacked Columns", *Org. Lett.* **2011**, **13**, 2260-2262.

***148.** Sumrak, J.C.; Sokolov, A.N.; MacGillivray, L.R., "Crystal Engineering Organic Semiconductors", in *Self-organized Organic Semiconductors: From Materials to Device Applications* (Ed.: Li, Q.), 1-19 (Wiley-VCH, 2011) (invited).

***147.** Hamilton, T.D.; Bucar, D.-K.; Baltrusaitis, J.; Flanagan, D.R.; Li, Y.; Ghorai, S.; Tivanski, A.V.; MacGillivray, L.R. "A Thixotropic Hydrogel Derived from a Product of an Organic Solid-State Synthesis: Properties and Densities of Metal-Organic Nanoparticles", *J. Am. Chem. Soc.* **2011**, *133*, 3365-3371.

***146.** Atkinson, M.B.J.; Halasz, I.; Bucar, D.-K.; Dinnebier, R.E.; Mariappan, S.V.S.; Sokolov, A.N.; MacGillivray, L.R. "A Solid-state Trimerisation of a Muconic Acid Affords a Bicyclobutane: Diene Structure from X-ray Powder Data and Product Separation and Structure Determination via Co-crystallisation", *Chem. Commun.* **2011**, *47*, 236-238.

Special Issue: 'Emerging Investigators'

145. Benny, P.D.; Fugate, G.A.; Ganguly, T.; Twamley, B.; Bucar, D.-K.; MacGillivray, L.R. "Unusual Reactivity of Acetylacetone with Imidazole/Histamine Complexes and fac-M(OH)₂(CO)₃⁺ (M = Re, ^{99m}Tc)", *Inorg. Chim. Acta.* **2011**, *365*, 356-362.

***144.** Elacqua, B.; MacGillivray, L.R., "From the Decks to the Bridges: Optical Properties of [2.2]Paracyclophanes", *Eur. J. Org. Chem.* **2010**, 6883-6894 (invited).

***143.** Bucar, D.-K.; Henry, R.F.; Lou, X.; Duerst, R.W.; Borchardt, T.B.; MacGillivray, L.R.; Zhang, G.G.Z., "A 1:1 Cocrystal of Caffeine and 2-Hydroxy-1-naphthoic Acid via a Slurry Screening Method.", *J. Chem. Crystallogr.* **2010**, *40*, 933-939.

***142.** Hamilton, T.D.; Bucar, D.-K.; MacGillivray, L.R., "A Metal-Organic Framework with Three Cavities Based on Three-Coloured Square Tiling Derived from a Cyclobutane Constructed in the Solid State", *New. J. Chem.*, **2010**, *34*, 2400-2402.

***141.** Sander, J.R.G.; Bucar, D.-K.; Henry, R.F.; Zhang, G.G.Z.; MacGillivray, L.R., "Pharmaceutical Nano-Cocrystals: Bottom-up Sonochemical Synthesis via Solvent Selection and Use of Surfactant", *Angew. Chem., Int. Ed.* **2010**, *49*, 7143-7154.

***140.** Sander, J.R.G.; Bucar, D.-K.; Henry, R.F.; Baltrusaitis, B.; Zhang, G.G.Z.; MacGillivray, L.R., "A Red Zwitterionic Cocrystal of Acetaminophen and 2,4-Pyridinedicarboxylic Acid", *J. Pharm. Sci.* **2010**, *99*, 3676-3683.

***139.** Georgiev, I.G.; Bucar, D.-K.; MacGillivray, L.R., "Stereospecific and Quantitative Photodimerisation of Terminal Olefins in the Solid State.", *ChemCommun.* **2010**, *46*, 4956-4958.

***138.** Sokolov, A.N.; Bucar, D.-K.; Baltrusaitis, J.; Gu, S.X.; MacGillivray, L.R., "Supramolecular Catalysis in the Organic Solid State via Dry Grinding", *Angew. Chem., Int. Ed.* **2010**, *49*, 4273-4277.

(For a highlight on this work, see: Ma, D.-Y.; Warnmark, K., "Mechanoassisted Supramolecular Catalysis in Solid State Synthesis", *ChemCatChem* **2010**, *2*, 1059-1060)

- 137.** Moore, A.; Bucar, D.-K.; MacGillivray, L.R.; Benny, B.D., "'Click' Labeling Strategy for $M(\text{CO})_3^+$ ($M = \text{Re}, ^{99\text{m}}\text{Tc}$) Prostate Cancer Targeted Flutamide Agents", *Dalton Trans.* **2010**, *39*, 1926-1928.
- *136.** Sokolov, A.N.; Sumrak, J.C.; MacGillivray, L.R., "Conformational Polymorphism Facilitates Assignment of *trans* and *cis*-Conformers of an α -Substituted Oligothiophene *via* IR Spectroscopy", *Chem. Commun.* **2010**, 82-84.
- *135.** Elacqua, E.; Bucar, D.-K.; Skvortsova, Y.; Baltrusaitis, J.; Geng, M.L.; MacGillivray, L.R., "Dramatic Red-Shifted Fluorescence of [2.2]Paracyclophanes with Peripheral Substituents Attached to the Saturated Bridges", *Org. Lett.* **2009**, *11*, 5106-5109.
- 134.** He, H.; Morely, J.E.; Twamley, B.; Groeneman, R.H.; Bucar, D.-K.; MacGillivray, L.R.; Benny, P.D., "Investigation of the Coordination Interactions of S-(Pyridin-2-ylmethyl)-L-Cysteine Ligands with M_3^+ ($M = \text{Re}, ^{99\text{m}}\text{Tc}$)", *Inorg. Chem.* **2009**, *48*, 10625-10634.
- *133.** Bucar, D.-K.; Henry, R.F.; Lou, X.; Duerst, R.W.; Borchardt, T.B.; MacGillivray, L.R.; Zhang, G.G.Z., "Cocrystals of Caffeine and Hydroxy Benzoic Acids Composed of Multiple Supramolecular Heterosynthons: Screening via Solution-Mediated Phase Transformation and Structural Characterization", *Cryst. Growth Des.* **2009**, *9*, 1932-1943.
- *132.** Friscic, T.; MacGillivray, L.R., "Engineering Cocrystal and Polymorph Architecture via Pseudoseeding", *Chem. Commun.* **2009**, 773-775.
- *131.** Hamilton, T.D.; Papaefstathiou, G.S.; Friscic, T.; Bucar, D.-K.; MacGillivray, L.R., "Onion-Shell Metal-Organic Polyhedra (MOPs): A General Approach to Decorate the Exteriors of MOPs using Principles of Supramolecular Chemistry", *J. Am. Chem. Soc.*, **2008**, *130*, 14366-14367.
- *130.** Atkinson, M.B.J.; Bucar, D. -K.; Sokolov, A.N.; Friscic, T.; Robinson, C.N.; Bilal, M.Y.; Sinada, N.G.; Chevannes, A.; MacGillivray, L.R., "General Application of Mechanochemistry to Templated Solid-state Reactivity: Rapid and Solvent-free Access to Crystalline Supermolecules", *Chem. Commun.* **2008**, 5713-5715.
- 129.** Harjani, J.R.; Friscic, T.; MacGillivray, L.R.; Singer, R.S., "Removal of Metal Ions from Aqueous Solutions Using Chelating Task-Specific Ionic Liquids", *Dalton Trans.* **2008**, 4595-4601.
- *128.** MacGillivray, L.R. "Organic Synthesis in the Solid State *via* Hydrogen-Bond-Driven Self-Assembly", *J. Org. Chem.* **2008**, *73*, 3311-3317 (invited).
- (Cover Article)
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Prior to University of Iowa

1. MacGillivray, L.R.; Atwood, J.L. "Substantially spherical supramolecular assemblies", **2007** (US Pat. 7,169,957, abandoned).

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14. Editorial: MacGillivray, L.R. "Celebrating the International Year of Crystallography", *CrystEngComm*, **2014**, *16*, 9581.

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12. Preface: Lukehart, C.; MacGillivray L.R. "Volume Preface: Metal-Organic Frameworks", *Metal-Organic Frameworks*, in *Encyclopedia of Inorganic and Bioinorganic Chemistry* (Eds. Lukehart, C.M.; MacGillivray, L.R.), 1 (Wiley-VCH, 2014) (invited).

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8. Book Review: MacGillivray, L.R. "Crystal Structure Analysis. Principles and Practice. Second Edition", *Mol. Cryst. Liq. Cryst.* **2010**, *533*, 181-183 (invited).

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5. Interviewed in *CrystEng Community*, *Interview with Len MacGillivray*, March 2010

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http://www.rsc.org/Publishing/Community/ResearcherInterviews/Len_MacGillivray_interview.asp

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2. Special Issue Preface: MacGillivray, L.R.; Wei, A. "XIIIth International Symposium on Supramolecular Chemistry, University of Notre Dame, South Bend, IN, July 25-30, 2004", *Supramol. Chem.* **2005**, *17*, 7-8 (invited).

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1. Book Review: MacGillivray, L.R. "*Crystal Design: Structure and Function*", *Cryst. Growth Des.* **2004**, *4*, 403-404 (invited).

Lectures and Conference Presentations: International

90. "Covalent Syntheses via Solid-state Supramolecular Chemistry: Halogen Bonds", oral presentation given at the 99th Canadian Chemistry Conference and Exhibition, Halifax, Nova Scotia, Canada (June 2016) (invited).

89. "Organic Nanocrystals via Sonochemistry: Host-Guest chemistry, Solid-State Reactions, and Pharmaceuticals", oral presentation given at Pacifichem 2015 in Honolulu, Hawaii, USA (December 2015) (invited).

88. "Mechanochemistry and Supramolecular Catalysis in Templated Solid-State Reactions", oral presentation given at Pacifichem 2015 in Honolulu, Hawaii, USA (December 2015) (invited).

87. "Crystal Engineering: Solid-State Reactivity via Principles of Supramolecular Chemistry", oral presentation given at Pacifichem 2015 in Honolulu, Hawaii, USA (December 2015) (invited).

86. "Crystal Engineering, Supramolecular Chemistry, and Organic Synthesis", oral presentation given at the 2nd ICSU/IUPAC Workshop on Crystal Engineering, Como, Italy (August 2015).

85. "Integration of Fluorine Atoms into Templated Solid-State Reactions", oral presentation given at the 21st International Symposium on Fluorine Chemistry & 6th International Symposium on Fluorous Technologies, Como, Italy (August 2015).

- 84.** “Crystal Engineering Chemical Reactivity”, oral presentation given in the Department of Chemistry, Savitribai Phule Pune University, Pune, India (December 2014).
- 83.** “Crystal Engineering the Covalent Bond via Self-Assembly”, oral presentation given at the International Conference on Structural and Inorganic Chemistry, Pune, India (December 2014) (invited).
- 82.** “Crystal Engineering the Formation of Covalent Bonds via Self-Assembly”, oral presentation given at the International Conference on Structural Chemistry of Molecules and Materials, Kolkata, India (December 2014) (invited)
- 81.** “Crystal Engineering the Covalent Bond: When Self-Assembly is Required”, oral presentation given in the Department of Chemistry, Center for Research and Advanced Studies of the National Polytechnic Institute (Cinvestav), Mexico City, Mexico (October 2014) (invited by students).
- 80.** “Crystal Engineering the Covalent Bond: When Self-Assembly is Required”, oral presentation given in the Department of Chemistry, Universidad Nacional Autonoma de Mexico (UNAM), Mexico City, Mexico (October 2014) (invited).
- 79.** “Hydrogen Bonds and Self-Assembly to Direct Reactivity in the Solid State”, oral presentation given at the XXIII Congress of the International Union of Crystallography, Montreal, Canada (August 2014) (invited).
- 78.** “A Modular Strategy to Organic Synthesis in the Solid State Using Principles of Crystal Engineering”, oral presentation given at the 3rd Gordon Research Conference on Crystal Engineering, Waterville, New Hampshire (June 2014) (invited).
- 77.** “Liquid-Assisted Vortex Grinding: Single-Step Construction of a [2.2]Paracyclophane”, oral presentation given at Faraday Discussion 170: Mechanochemistry: From Functional Solids to Single Molecules in Montreal, Quebec, Canada (June 2014) (invited).
- 76.** “Crystal Engineering the Organic Solid State: Reactivity, Nanocrystals, and Semiconductors”, plenary presentation given at the 1st Crystal Engineering and Emerging Materials Workshop of Ontario and Quebec (CEMWOQ) in Montreal, Quebec, Canada (June 2014) (invited).
- 75.** “Crystal Engineering Covalent Bonds: From Self-assembly to Molecules by Design”, keynote presentation given at the 21st International Conference on the Chemistry of the Organic Solid State in Oxford, United Kingdom (August 2013) (invited).
- 74.** “Supramolecular Synthesis and Control of Reactivity in Organic Solids”, oral presentation given at the 8th International Symposium on Macrocyclic and Supramolecular Chemistry in Arlington, Virginia (July 2013) (invited).
- 73.** “Sonochemical Synthesis of Nano-cocrystals”, oral presentation given at the 21st International Congress on Acoustics in Montreal, Canada (June 2013) (invited).

72. "Supramolecular Control of Reactivity in the Solid State", oral presentation given at Chemistry: Synthesis, Structure, and Dynamics in Bangalore, India (December 2012) (invited).
71. "Crystal Engineering the Covalent Bond: When Noncovalent Bonds and Geometry Unite", Distinguished Lecturer, Department of Biology and Chemistry, City University of Hong Kong (October 2012) (invited).
70. "Crystal Engineering the Covalent Bond: Self-Assembly Required", keynote presentation given at the Centre for Self-Assembled Chemical Structures (CSACS) in Montreal, Canada (May 2012) (invited).
69. "Towards Ladderane Lipids: Supramolecular Construction of Molecular Ladderanes in the Solid State", oral presentation given at BIT's Annual International Conference of MedChem in Beijing, China (August 2011) (invited).
68. "Solvent-Free Supramolecular Catalysis", keynote lecture given at BIT's 2nd Annual World Congress of Catalytic Asymmetric Synthesis in Beijing, China (August 2011) (invited).
67. "Supramolecular Catalysis in the Organic Solid State via Dry Grinding", lecture given at The 2nd Symposium on Mechanochemistry and Solvent-free Synthesis in Belfast, Northern Ireland (August 2011) (invited).
66. "Green Synthesis of Organic Ligands: Applications in Coordination-Driven Self-assembly", oral presentation given at Pacifichem 2010 in Honolulu, Hawaii, USA (December 2010) (invited).
65. "Supramolecular Catalysis in the Organic Solid State via Dry Grinding", oral presentation given at Pacifichem 2010 in Honolulu, Hawaii, USA (December 2010) (invited).
64. "Designed Chemical Reactivity in the Solid State *via* Templates and Self-Assembly", oral presentation given at the 19th International Conference on the Chemistry of the Organic Solid State at Sestri Levante, Genoa, Italy (July 2009) (invited).
63. "Molecular Co-Crystals: Reactivity, Polymorphism, and Nanoparticles", oral presentation given at the Indo-US Bilateral Workshop on Pharmaceutical Cocrystals and Polymorphs" in Mysore, India (February 2009) (invited).
62. "Reactive Crystalline Molecular Assemblies", oral presentation given in the symposium on Photochemistry and Solid-State Transformations in Molecular Solids at the XXI Congress of the International Union of Crystallography, Osaka, Japan (August 2008) (invited).
61. "Nano-cocrystals via Sonochemistry", oral presentation given in the symposium on Organic Micro- and Nano-Crystals, a satellite meeting of the XXI Congress of the International Union of Crystallography at Tohoku University, Sendai, Japan (August 2008) (invited).

60. "Functional Molecular Co-Crystals", oral presentation given at the 24th European Crystallographic Meeting, Marrakech, Morocco (August 2007) (invited).
59. "Template-Controlled Solid-State Synthesis: Principles and Applications via Coordination-Driven Self-Assembly", oral presentation given at the Japan-USA Joint Symposium on the Chemistry of Coordination Space, Northwestern University, Evanston, Illinois, USA (June 2007) (invited).
58. "Template-Controlled Solid-State Synthesis: Principles and Applications via Coordination-Driven Self-Assembly", special seminar of the Faculte de Chimie, Universite de Louis Pasteur, Strasbourg, France (June 2007) (invited).
57. "Template-Controlled Solid-State Synthesis: A Marriage of the Noncovalent and Covalent Bond", special seminar of the Faculte de Chimie, Universite de Louis Pasteur, Strasbourg, France (June 2007) (invited).
56. "Supramolecular Control of Chemical Reactivity - Liquids to Crystals", oral presentation given at the The XVth Conference on Physical Methods in Coordination and Supramolecular Chemistry, Chisinau, Moldova (Sept. 2006) (invited).
55. "Chemical Reactions within Co-Crystals", oral presentation given at the International Quality and Productivity Centre conference on Pharmaceutical Co-crystals, Amsterdam, Holland (September 2006) (invited).
54. "Crystal Engineering the Covalent Bond", oral presentation given in the Department of Chemistry, University of Cambridge, Cambridge, United Kingdom (September 2006) (invited)
53. "Crystal Engineering the Covalent Bond via Principles of Supramolecular Chemistry", oral presentation given at the 89th Canadian Chemistry Conference and Exhibition in Halifax, Nova Scotia, Canada (May 2006) (invited).
52. "Supramolecular Control of the [2+2] Photodimerization in the Solid State", oral presentation given at Pacifichem 2005 in Honolulu, Hawaii, USA (December 2005) (invited).
51. "Coordination-Driven Self-Assembly as a Means to Direct Reactivity in the Solid State", oral presentation given at Pacifichem 2005 in Honolulu, Hawaii, USA (December 2005) (invited).
50. "Directed Assembly and Covalent Capture of Supramolecular Architecture in the Solid State", oral presentation given in the symposium on Packing of Molecular Organic Compounds at the XX Congress of the International Union of Crystallography in Florence, Italy (August 2005) (invited).
49. "Supramolecular Control of the [2+2] Photodimerization in the Solid State", oral presentation given at the Gordon Research Conference on Photochemistry in Providence, Rhode Island, USA (July 2005) (invited).

48. "Molecular Crystals as Media for Constructing Molecules", oral presentation given at the 17th International Conference on the Chemistry of the Organic Solid State at the University of California-Los Angeles, Los Angeles, California, USA (July 2005) (invited).
47. "Molecular Crystals as Media for Constructing Molecules", plenary lecture given at the 14th Croatian-Slovenian Crystallographic Meeting in Vrsar, Croatia (June 2005) (invited).
46. "Molecular Crystals as Media for Directing the Formation of Covalent Bonds", lecture given at the Rudjer Boskovic Institute, University of Zagreb, Zagreb, Croatia (June 2005) (invited).
45. "Crystal Engineering Chemical Reactivity in the Solid State using Linear Templates", keynote lecture given at the 39th Congreso Mexicano de Quimica of the Mexican Chemical Society, Merida, Yucatan, MX (October 2004) (invited).
44. "Covalent Capture of Supramolecular Architecture in the Solid State", plenary lecture given at the 13th International Symposium on Supramolecular Chemistry, University of Notre Dame, South Bend, Indiana, USA (July 2004) (invited).
43. "Supramolecular Control of Reactivity", oral presentation given as a special seminar in the Faculte de Chimie, Universite de Louis Pasteur, Strasbourg, France (April 2004) (invited).
42. "Template-Controlled Synthesis in the Solid State", oral presentation given at the Chairmen of the European Research Councils' Chemistry Committees (CERC3) Young Chemists' Workshop on 'Neoteric Solvents as Reaction Media: Reality and Future' in St. Malo, France (April 2004) (invited).
41. "Control of Reactivity in the Solid State using Ditopic Assemblers", oral presentation at the International Conference on Materials for Advanced Technologies in Singapore (December 2003) (invited).
40. "Supramolecular Control of Reactivity using Linear Templates", oral presentation given at the 39th IUPAC Congress and the 86th Conference of The Canadian Society for Chemistry Conference in Ottawa, Ontario, Canada (August 2003) (invited).
39. "Template-Directed Solid-State Organic Synthesis", oral presentation given at the 'Molecular Crystal Engineering EuroConference (EURESCO) on Design and Preparation of Molecular Materials', in Acquafredda di Maratea, Italy (June 2003) (invited).
38. "Discrete and Infinite Coordination Arrays Derived from a Template-Directed Solid-State Organic Synthesis", oral presentation given at the CrystEngComm Discussion 1: 'Innovation in Crystal Engineering', in Bristol, England, UK (July 2002) (invited).
37. "Supramolecular Control of Reactivity using Linear Templates", oral presentation given at Kings College London, London, England, UK (June 2002) (invited).

36. "Template-Directed Solid-State Organic Synthesis", oral presentation given at the Singapore International Chemical Conference - 2: 'Frontiers in Chemical Design and Synthesis', in Singapore (December 2001) (invited).

35. "Controlling Reactivity in the Solid State: Considerations for Design", oral presentation given at the 'Ettore Majorana' Centre for Scientific Culture 32nd Crystallographic Course, 'Strength from Weakness: Structural Consequences of Weak Interactions in Molecules, Supramolecules, and Crystals', in Erice, Italy (May 2001) (invited).

34. "From Green Chemistry to Materials Synthesis by Design: Controlling Chemical Reactivity Supramolecularly", recruiting presentation given at Saint Mary's University, Halifax, Nova Scotia, Canada (January 2001).

33. "From Green Chemistry to Materials Synthesis by Design: Controlling Chemical Reactivity Supramolecularly", recruiting presentation given at Mount Allison University, Sackville, New Brunswick, Canada (January 2001).

32. "From Green Chemistry to Materials Synthesis by Design: Controlling Chemical Reactivity Supramolecularly", recruiting presentation given at St. Francis Xavier University, Antigonish, Nova Scotia, Canada (January 2001).

31. "From Green Chemistry to Materials Synthesis by Design: Controlling Chemical Reactivity Supramolecularly", recruiting presentation given at Acadia University, Wolfville, Nova Scotia, Canada (January 2001).

30. "Toward a Green Organic Chemistry in the Solid State Using Linear Templates", oral presentation given at the 2000 International Chemical Congress of Pacific Basin Societies Conference in Honolulu, Hawaii, USA (December 2000) (invited).

Prior to University of Iowa

29. "Controlling Reactivity in the Solid State", oral presentation given at the Steacie Institute for Molecular Sciences, National Research Council of Canada, Ottawa, Ontario, Canada (July 2000).

28. "Molecular Synthesis by Design in the Solid State", oral presentation given at Saint Mary's University, Halifax, Nova Scotia, Canada (June 2000) (invited).

27. "Structural Classification and General Principles for the Design of Spherical Molecular Hosts", oral presentation given at the 82nd Annual Canadian Society for Chemistry Conference and Exhibition in Toronto, Ontario, Canada (June 1999).

26. "Supramolecular Assistance to Covalent Synthesis: Template-Directed Photochemistry in the Solid State", poster presented at the 82nd Annual Canadian Society for Chemistry Conference and Exhibition in Toronto, Ontario, Canada (June 1999).

25. "Towards Nanoscale Compartmentalization by Design", oral presentation given at the 'Ettore Majorana' Centre for Scientific Culture 28th Crystallographic Course, 'Crystal Engineering: From Molecules and Crystals to Materials', in Erice, Italy (May 1999).
24. "Towards Nanoscale Compartmentalization by Design", oral presentation given at Carleton University in Ottawa, Ontario, Canada (April 1999).
23. "General Principles for the Design of Large Container Assemblies", poster presented at the 1st NRC-Wide Research and Technology Development Forum in Magog, Quebec, Canada (March 1999).
22. "Self-Assembly for the Design of Discrete and Infinite Host-Guest Architecture", oral presentation given at the National Research Council of Canada, Ottawa, Ontario, Canada (August 1998).
21. "Molecular Recognition and Crystal Engineering: Multi-Component Calix[4]arenes", oral presentation given at the 10th International Symposium on Molecular Recognition and Inclusion in Warsaw, Poland (June 1998).
20. "Designing Spherical Molecular Hosts", oral presentation given at the 81st Annual Canadian Society for Chemistry Conference and Exhibition in Whistler, British Columbia, Canada (June 1998).
19. "A Nanosized Spherical Host Held Together by 60 Hydrogen Bonds", oral presentation given at the International Chemical Congress in Cancun, Quintana Roo, Mexico (November 1997) (invited).
18. "A Spherical Molecular Assembly that Possesses a Vast Cavity", poster presented at the NATO ARW: *Current Challenges on Large Supramolecular Assemblies* in Athens, Greece (November 1997).
17. "A Nanoscale Molecular Container via Self-Assembly", oral presentation given at Cambridge University, Cambridge, England, UK (November 1997).
16. "A Nanoscale Molecular Container via Self-Assembly", oral presentation given at Kings College London, London, England, UK (November 1997).
15. "A Nanoscale Molecular Container via Self-Assembly", oral presentation given at Saint Mary's University, Halifax, Nova Scotia, Canada (November 1997).
14. "A Nanoscale Molecular Container via Self-Assembly", oral presentation given at the National Research Council of Canada, Ottawa, Ontario, Canada (November 1997).

13. "Multi-Component Calixarenes", oral presentation given at the 80th Annual Canadian Society for Chemistry Conference and Exhibition in Windsor, Ontario, Canada (June 1997).
12. "Understanding the Influences of Noncovalent Interactions Upon the Topology of a Series of 2D Grids: Polymeric $[MX_2(\text{pyrazine})]_n$ complexes (M = Co, Zn, Mn, Cu, Cd, Fe; X = Cl, Br)", poster presentation at the NATO ASI Summer School, Digby, Nova Scotia, Canada (September 1996).
11. "Molecular Recognition and the Doubly Protonated [2.2.2]Cryptand: Understanding the Influences of Noncovalent Interactions upon the Topology of a Macrobicyclic Dication", oral presentation given at the National Research Council of Canada, Ottawa, Ontario, Canada (September 1996).
10. "Solid-State Strict Self-Assembly of Molecules and Ions Isolated from Liquid Clathrate Media: Structure Behavior of Cryptand [2.2.2]", oral presentation given at the 78th Annual Canadian Society for Chemistry Conference and Exhibition in Guelph, Ontario, Canada (June 1995).
9. "Self-Assembly of Aromatic Ions as a Crystal Engineering Tool", poster presented at the International Symposium on Recognition Processes in Birmingham, England, UK (July 1994).
8. " π - π Stacking as a Design Tool for Building Solids", poster presented at the 77th Annual National CIC Conference in Winnipeg, Manitoba, Canada (June 1994).
7. " π - π Stacking as a Design Tool for Building Solids", oral presentation given at the 19th Annual CIC Atlantic Student Conference at Mount Saint Vincent University in Halifax, Nova Scotia, Canada (May 1994).
6. " π - π Stacking as a Design Tool for Building Ordered Solids", poster presented at the 76th Annual National CIC Conference in Sherbrooke, Quebec, Canada (June 1993).
5. " π - π Stacking as a Design Tool for Building Ordered Solids", oral presentation given at the 18th Annual CIC Atlantic Student Conference at Acadia University in Wolfville, Nova Scotia, Canada (May 1993).
4. "Manifestations of Interionic Interactions in Organic Cation Dicarboxylate Salts", poster presented at the 75th Annual National CIC Conference in Edmonton, Alberta, Canada (June 1992).
3. "Can Aromatic Substituent Effects Be Measured Crystallographically? $C_6H_4XY Cr(CO)_3$ Complexes", poster presented at the 17th Annual CIC Atlantic Student Conference at Sir Wilfred Grenfell College in Corner Brook, Newfoundland (May 1992).
2. "Can Aromatic Substituent Effects Be Measured Crystallographically? $C_6H_4XY Cr(CO)_3$ Complexes", poster presented at the Atlantic CIC Conference at Saint Mary's University in Halifax, Nova Scotia, Canada (July 1991).

1. "Heteroatom π -Donation in Di- and Trisubstituted Benzenes Complexed to the $\text{Cr}(\text{CO})_3$ Moiety", poster presented at the 74th Annual National CIC Conference in Hamilton, Ontario, Canada (June 1991).

Lectures and Conference Presentations: National and Regional

127. "How Solid is the Organic Solid State?: Insights from Solid-State Reactions", oral presentation given at Telluride Science Research Center Workshop on Energy and Movement in Coherent Chemical Systems, Telluride, Colorado, USA (July 2016).

126. "Crystal Engineering the Covalent Bond via Principles of Supramolecular Chemistry", oral presentation given in the Department of Chemistry, New York University, New York, New York, USA (June 2016) (invited).

125. "Crystal Engineering the Covalent Bond", oral presentation given in the Department of Chemistry, University of South Dakota, Vermillion, South Dakota, USA (March 2016) (invited).

124. "Semiconductor Co-Crystals", oral presentation given at the 2015 Annual Meeting of the American Crystallographic Association, Philadelphia, Pennsylvania, USA (July 2015) (invited).

123. "Organic Synthesis in the Solid State using Principles of Crystal Engineering", oral presentation given at the 2015 Annual Meeting of the American Crystallographic Association, Philadelphia, Pennsylvania, USA (July 2015) (invited).

122. "Science and a Movie", oral presentation given in the Secondary Student Training Program (SSTP) Seminar Series, University of Iowa, Iowa City, Iowa (July 2015) (invited).

121. "Crystal Engineering the Covalent Bond", oral presentation given in the Department of Chemistry and Biochemistry, Ohio University, Athens, Ohio (April 2015) (invited).

120. "Crystal Engineering the Covalent Bond", oral presentation given at the 49th Midwest Regional Meeting of the American Chemical Society, Columbia, Missouri, USA (November 2014) (invited).

119. "Crystal Engineering the Covalent Bond using the [2+2] Photodimerization", oral presentation given at the 23rd Inter-American Photochemical Society Meeting in Sarasota, Florida, USA (January 2014) (invited).

118. "Supramolecular Control of Reactivity in the Organic Solid State: From Co-Crystals to Ladderanes to MOFs", keynote presentation given at the 23rd Midwest Organic Solid-State Chemistry Symposium in Lexington, Kentucky, USA (June 2013) (invited).

- 117.** “Supramolecular Control of Reactivity in the Organic Solid State”, keynote presentation given at the 2013 Mardi Gras Symposium in New Orleans, Louisiana, USA (February 2013) (invited).
- 116.** “Applications of Metal-Organic Materials to Direct Reactivity in the Solid State”, keynote presentation given at the 47th Midwest Regional Meeting of the American Chemical Society, Omaha, Nebraska, USA (October 2012) (invited).
- 115.** “Supramolecular Control of Solid-State Reactivity: Covalent Bonds by Design with Light”, oral presentation given at the Telluride Science Research Center Workshop on Breaking and Making Bonds with Light, Telluride, Colorado, USA (July 2012).
- 114.** “Supramolecular Construction of Functional Materials”, oral presentation given in the Department of Chemistry, University of California - San Diego, San Diego, California (November 2011) (invited).
- 113.** “Crystal Engineering Co-Crystals: Application in the Structure Determination of a Chiral Ladderane”, oral presentation given at the joint 46th Midwest/39th Great Lakes Regional Meeting of the American Chemical Society, St. Louis, Missouri, USA (October 2011) (invited).
- 112.** “Crystal Engineering Cocrystals: Reactivity, Pharmaceuticals, and Catalysis”, oral presentation given in the Department of Chemistry, Creighton University, Omaha, Nebraska, USA (September 2011) (invited).
- 111.** “Controlling Properties of Organic Solids Using Principles of Supramolecular Chemistry”, oral presentation given in the Department of Chemistry, University of Miami, Miami, Florida, USA (October 2010) (invited).
- 110.** “Co-crystals: Reactivity, Pharmaceuticals, and Nanotechnology”, oral presentation given in the Division of Pharmaceutics, University of Iowa (August 2010).
- 109.** “Co-crystals: Reactivity, Polymorphism, and Nanoparticles”, oral presentation given at the joint 65th Northwest/22nd Rocky Mountain Regional Meeting of the American Chemical Society, Pullman, Washington, USA (June 2010) (invited).
- 108.** “Crystal Engineering of Sulfoxides: A Multiple Synthon Approach in the Formation of Sulfa Drug-Based Pharmaceutical Co-Crystals”, poster presented at the 1st Gordon Research Conference on Crystal Engineering, Waterville, New Hampshire (June 2010).
- 107.** “Semi-Conductor Co-Crystals”, poster presented at the 1st Gordon Research Conference on Crystal Engineering, Waterville, New Hampshire (June 2010).
- 106.** “Crystal Engineering Covalent Bonds”, oral presentation given as the departmental colloquium of the Department of Chemistry and Molecular Biology, North Dakota State University, Fargo, North Dakota, USA (March 2010).

- 105.** “Molecular Capsules Based on Ligands Synthesized in the Solid State”, oral presentation given at the 239th ACS National Meeting and Exposition in San Francisco, California, USA (March 2010) (invited).
- 104.** “Crystal Engineering the Covalent Bond”, oral presentation given as the weekly colloquium of the Department of Chemistry, Iowa State University, Ames, Iowa, USA (November 2009).
- 103.** “Crystal Engineering the Covalent Bond”, oral presentation given as the weekly colloquium of the Department of Chemistry, University of Eastern Illinois, Charleston, Illinois, USA (November 2009).
- 102.** “Molecular Co-Crystals: Organic Solids with Changeable Parts”, oral presentation given as the weekly colloquium of the Department of Chemistry, University of California – Riverside, California, USA (June 2009).
- 101.** “Co-crystals: Reactivity, Polymorphism, and Nanoparticles”, 1st Garth Spencer Memorial Lecture, Department of Chemistry, Clemson University, Clemson, South Carolina, USA (March 2009).
- 100.** “Organic Solids with Changeable Parts”, oral presentation given as the weekly colloquium of the Department of Chemistry, University of Missouri-St. Louis, Missouri, USA (February 2009).
- 99.** “New Materials via Molecular Co-Crystals”, oral presentation given at the 43rd Midwest Regional Meeting of the American Chemical Society, Kearney, Nebraska, USA (October 2008) (invited).
- 98.** “Molecules Made to Order: Supramolecular Chemistry, Photochemistry, and the Organic Solid State”, oral presentation given at the 43rd Midwest Regional Meeting of the American Chemical Society, Kearney, Nebraska, USA (October 2008) (invited).
- 97.** “Supramolecular Construction of Functional Materials”, keynote presentation given at the 8th annual Science Research Symposium, University of Illinois-Springfield, Springfield, Illinois, USA (April 2008) (invited).
- 96.** “Crystal Engineering Molecules”, oral presentation given at the 235th ACS National Meeting and Exposition in New Orleans, Louisiana, USA (April 2008) (invited).
- 95.** “Chemical Reactivity and Metal-Organic Frameworks”, oral presentation given at the 235th ACS National Meeting and Exposition in New Orleans, Louisiana, USA (April 2008) (invited).
- 94.** “Supramolecular Control of Covalent Bonds in the Solid State”, oral presentation given as the departmental colloquium of the Department of Chemistry and Biochemistry, University of South Carolina, Columbia, South Carolina, USA (November 2007).

- 93.** "Supramolecular Control of the Covalent Bond", oral presentation given as the weekly colloquium of the inorganic chemistry division, Department of Chemistry, University of North Carolina-Chapel Hill, Chapel Hill, North Carolina, USA (November 2007).
- 92.** "Supramolecular Chemistry, Green Chemistry, and the Organic Solid State", oral presentation given at the 20th ACS Rocky Mountain Regional Meeting in Denver, Colorado, USA (September 2007) (invited).
- 91.** "Molecular Synthesis via Principles of Solid-State and Supramolecular Chemistry", Arthur C. Cope Scholar Award Lecture given at the 234th ACS National Meeting and Exposition in Boston, Massachusetts, USA (August 2007) (invited).
- 90.** "Crystal Engineering the Covalent Bond: (Some) Self-Assembly Required", colloquium of the Department of Chemistry, University of Nebraska-Lincoln, Lincoln, Nebraska, USA (April 2007) (invited).
- 89.** "Crystal Engineering the Covalent Bond: (Some) Self-Assembly Required", colloquium of the Department of Chemistry, University of Nebraska-Omaha, Omaha, Nebraska, USA (April 2007) (invited).
- 88.** "Template-Controlled Solid-State Synthesis: A Marriage of the Noncovalent and Covalent Bond", colloquium of the Department of Chemistry, University of Missouri-Columbia, Columbia, Missouri, USA (February 2007) (invited).
- 87.** "Crystal Engineering Organic Semiconductors", oral presentation given at the Defense Advanced Research Projects Agency conference on 3D Design of Organic Semiconductors, New Orleans, Louisiana, USA (January 2007) (invited).
- 86.** "Control of Chemical Reactivity in the Solid State: Self-Assembly Required", colloquium of the Department of Chemistry, Cornell College, Mount Vernon, Iowa, USA (January 2007) (invited).
- 85.** "Supramolecular Control of Reactivity", oral presentation given at the 232nd ACS National Meeting and Exposition in San Francisco, California, USA (September 2006) (invited).
- 84.** "Molecular Co-crystals: From Controlling Reactivity to Organizing Organic Semiconductors", oral presentation given at the 37th ACS Great Lakes Regional Meeting in Milwaukee, Wisconsin, USA (May 2006) (invited).
- 83.** "Supramolecular Control of Reactivity in the Solid State Using Dimetal Complexes and Assemblies", oral presentation given at the 231st ACS National Meeting and Exposition in Atlanta, Georgia, USA (March 2006) (invited).
- 82.** "Molecular Co-Crystals: Design and Applications", oral presentation given at Abbott Laboratories in Chicago, Illinois, USA (March 2006) (invited).

- 81.** "Crystal Engineering the Covalent Bond", colloquium of the Department of Chemistry, Saint Louis University, St. Louis, Missouri, USA (January 2006) (invited).
- 80.** "Template-Controlled Solid-State Synthesis: C-C Bond Formation Made Easy in the Solid State", colloquium of the Department of Chemistry, Coe College, Cedar Rapids, Iowa, USA (October 2005) (invited).
- 79.** "Green Chemistry and the Solid State", oral presentation given at the 2nd International Conference on Green and Sustainable Chemistry and 9th Annual Green Chemistry and Engineering Conference, Washington, D.C., USA (June 2005) (invited).
- 78.** "Molecules Obtained from the Organic Solid State as Building Units of Metal-Organic Frameworks", oral presentation given at the 2005 Annual Meeting of the American Crystallographic Association, Orlando, Florida, USA (June 2005) (invited).
- 77.** "Template-Controlled Solid-State Reactivity", oral presentation given as the weekly colloquium of the Department of Chemistry, University of New Orleans, New Orleans, Louisiana, USA (March 2005).
- 76.** "Covalent Capture in the Solid State", oral presentation to be given as the weekly colloquium of the organic chemistry division of the Department of Chemistry and Biochemistry, University of Notre Dame, South Bend, Indiana, USA (January 2005).
- 75.** "Crystal Engineering the Covalent Bond", oral presentation given as the weekly colloquium of the organic chemistry division, Department of Chemistry, Purdue University, West Lafayette, Indiana, USA (January 2005).
- 74.** "Crystal Engineering the Covalent Bond", oral presentation given as the weekly colloquium of Organic/Inorganic division of the Department of Chemistry, University of Oregon, Eugene, Oregon, USA (January 2005).
- 73.** "Crystal Engineering the Covalent Bond", oral presentation given as the weekly colloquium of the Department of Chemistry, Bowling Green State University, Bowling Green, Ohio, USA (November 2004).
- 72.** "Crystal Engineering the Covalent Bond", oral presentation given as the weekly colloquium of the inorganic chemistry division, Department of Chemistry, University of Michigan, Ann Arbor, Michigan, USA (November 2004).
- 71.** "Covalent Capture of Supramolecular Architecture in the Solid State", oral presentation given as the weekly colloquium of the inorganic chemistry division, Department of Chemistry, Michigan State University, East Lansing, Michigan, USA (November 2004).
- 70.** "Linear Templates: Tools for Assembling and Constructing Molecules in Crystalline Solids", oral presentation given at the 39th Midwest Regional Meeting of the American Chemical Society,

Manhattan, Kansas, USA (October 2004) (invited).

69. “Template-Controlled Reactivity in the Solid State”, oral presentation given at the 60th American Chemical Society Southwest Regional Meeting, Fort Worth, Texas, USA (October 2004) (invited).

68. “Molecular Crystals as Media for Constructing Molecules”, oral presentation given as the weekly colloquium of the Department of Chemistry, Luther College, Decorah, Iowa, USA (September 2004) (invited).

67. “Template-Controlled Synthesis in the Solid State”, oral presentation given as the weekly colloquium of the Department of Chemistry, Tulane University, New Orleans, Louisiana, USA (September 2004).

66. “Supramolecular Control of Reactivity in the Solid State: Fundamentals and Applications”, oral presentation given as the weekly colloquium of the Department of Chemistry, University of Iowa, Iowa City, IA, USA (September 2004) (invited).

65. “Covalent Capture of Supramolecular Architecture in the Solid State using Linear Templates”, oral presentation given at the 228th ACS National Meeting and Exposition in Philadelphia, Pennsylvania, USA (August 2004).

64. “Metal-Organic Polygons, Polyhedra, and Extended Networks Derived from Molecules Constructed in the Solid State”, oral presentation given in the Transactions Symposium on ‘Crystals in Supramolecular Chemistry’ at the 2004 Annual Meeting of the American Crystallographic Association, Chicago, Illinois, USA (July 2004) (invited).

63. “Linear Templates: Tools for Constructing Molecules in the Solid State”, oral presentation given as the 2004 Marget C. Etter Early Career Award lecture at the 2004 Annual Meeting of the American Crystallographic Association, Chicago, Illinois, USA (July 2004) (invited).

62. “Design and Covalent Capture of Supramolecular Architecture in the Solid State”, oral presentation given at the ‘Norma Stoddart Memorial Symposium’, University of California-Los Angeles, Los Angeles, California, USA (June 2004) (invited).

61. “Template-Controlled Solid-State Reactivity: A ‘Pick-and-Place’ Approach to Construct Molecules”, oral presentation given at the NSF Workshop on ‘Models of Thought Processes: Insights Toward Chemical Systems’, Washington, D.C., USA (June 2004) (invited).

60. “Molecular Crystals as Media for the Construction of Molecules”, oral presentation given as the weekly colloquium of the Department of Chemistry, Brown University, Providence, Rhode Island, USA (May 2004) (invited).

59. "Covalent Capture of Supramolecular Architecture in the Solid State", oral presentation given as the weekly colloquium of the Department of Chemistry, Marquette University, Milwaukee, Wisconsin, USA (May 2004) (invited).
58. "Template-Controlled Solid-State Reactivity Synthesis: Gaining Control Over the Organization of Matter for Applications in Chemical Synthesis and Materials Science", oral presentation given as a special seminar in the Department of Chemistry, University of South Florida, Tampa Bay, Florida, USA (April 2004) (invited).
57. "Template-Controlled Solid-State Synthesis: Gaining Control Over the Organization of Matter for Applications in Chemical Synthesis and Materials Science", oral presentation given as the weekly colloquium of the inorganic chemistry division, Department of Chemistry, California Institute of Technology, Los Angeles, California, USA (April 2004) (invited).
56. "Supramolecular Control of Reactivity using Linear Templates", oral presentation given at the NSF Young Investigator Workshop on Supramolecular Chemistry, Sanibel Island, Florida, USA (January 2004) (invited).
55. "Linear Templates: Tools for Directing the [2+2] Photodimerization in the Solid State", oral presentation as the 2004 Young Investigator Award lecture at the 15th Winter Conference of the Inter-American Photochemical Society, Tempe, Arizona, USA (January 2004) (invited).
54. "Linear Templates: Tools for Directing Reactivity in the Solid State", oral presentation given at the 38th Midwest Regional Meeting of the American Chemical Society in Columbia, Missouri, USA (November 2003) (invited).
53. "Linear Templates: Tools for Directing Reactivity in the Solid State", oral presentation given as the departmental weekly colloquium at Augustana College, Rock Island, Illinois, USA (September 2003) (invited)
52. "Linear Templates: Tools for Directing Reactivity in the Solid State", oral presentation given as the weekly colloquium of the inorganic chemistry division, Department of Chemistry, Texas A&M University, College Station, Texas, USA (September 2003) (invited).
51. "Pick-and-Place Control of Molecules using Principles of Supramolecular Chemistry", oral presentation given at the Air Force Research Laboratory, United States Air Force, Tyndall Air Force Base, Panama City, Florida, USA (July 2003) (invited).
50. "Supramolecular Control of Reactivity in the Solid State using Linear Templates", oral presentation given as the departmental weekly colloquium, Department of Chemistry, Drake University, Des Moines, Iowa, USA (April 2003) (invited).
49. "Pick-and-Place Control of Molecules using Principles of Supramolecular Chemistry", oral presentation given as the weekly colloquium of the organic chemistry division, Department of Chemistry, University of Iowa, Iowa City, Iowa, USA (April 2003).

48. "Directing Reactivity in the Solid State using Linear Templates", oral presentation given as the departmental weekly colloquium, Department of Chemistry, Western Illinois University, Macomb, Illinois, USA (April 2003) (invited).
47. "Pick-and-Place Control of Molecules using Principles of Supramolecular Chemistry", oral presentation given as a departmental weekly colloquium, Department of Chemistry, Baylor University, Waco, Texas, USA (March 2003).
46. "Pick-and-Place Control of Molecules using Principles of Supramolecular Chemistry", oral presentation given as the weekly colloquium of the inorganic chemistry division, Department of Chemistry, University of Texas-Austin, Austin, Texas, USA (March 2003) (invited).
45. "Pick-and-Place Control of Molecules using Principles of Supramolecular Chemistry", oral presentation given as the weekly colloquium of the inorganic chemistry division, Department of Chemistry, University of Houston, Houston, Texas, USA (March 2003).
44. "A Metal-Organic Square Constructed using a Linear Template", oral presentation given at the 225th ACS National Meeting and Exposition in New Orleans, Louisiana, USA (March 2003).
43. "Supramolecular Control of Reactivity in the Solid State using Linear Templates", oral presentation given at the 225th ACS National Meeting and Exposition in New Orleans, Louisiana, USA (March 2003).
42. "Positional Control of Reactivity using Ditopic Assemblers", oral presentation given as the departmental weekly colloquium, Department of Chemistry, Georgetown University, Washington, D.C., USA (February 2003) (invited).
41. "Pick-and-Place Control of Molecules using Ditopic Assemblers", oral presentation given in the Department of Physics and Astronomy, University of Iowa, Iowa City, Iowa, USA (February 2003) (invited).
40. "Supramolecular Control of Reactivity in the Solid State Using Linear Templates", oral presentation given at the 54th Southeast Regional Meeting of the American Chemical Society in Charleston, South Carolina, USA (November 2002) (invited).
39. "Template-Directed Solid-State Organic Synthesis", oral presentation given at the 37th Midwest Regional Meeting of the American Chemical Society in Lawrence, Kansas, USA (October 2002).
38. "Directing Reactivity in the Solid State using Linear Templates", oral presentation given at Working Weekends II: X-ray Crystallography and Computational Chemistry" workshop, Department of Chemistry, University of Iowa, Iowa City, Iowa (October 2002) (invited).

- 37.** "Directing Reactivity using Linear Templates", oral presentation given as the departmental weekly colloquium, Department of Chemistry, University at Buffalo - State University of New York, Buffalo, New York, USA (October 2002) (invited).
- 36.** "Application of a Solid-State Synthesis: A Polyhedral Host Constructed using a Linear Template", poster presented at the Gordon Research Conference on Solid State Chemistry in New London, New Hampshire, USA (July 2002).
- 35.** "Template-Directed Solid-State Organic Synthesis", oral presentation given in the 'New Directions in Chemistry' graduate symposium, University of Missouri-Columbia, in Columbia, Missouri, USA (July 2002) (invited).
- 34.** "Green Chemistry and the Solid State", oral presentation given at the NSF Research Experience for Undergraduate Summer Session, University of Iowa, in Iowa City, Iowa, USA (June 2002) (invited).
- 33.** "How Can Engineering Impact Synthetic Chemistry?", oral presentation given in the Department of Chemical Engineering, University of Iowa, Iowa City, Iowa, USA (May 2002) (invited).
- 32.** "Template-Directed Organic Synthesis: Using Molecules to Build Molecules by Design", oral presentation given at the 223rd ACS National Meeting and Exposition in Orlando, Florida, USA (April 2002).
- 31.** "Template-Directed Organic Synthesis and Single-Crystal Neutron Diffraction", presentation given at the "Single-Crystal Diffractometer Workshop for the Spallation Neutron Source", Argonne National Laboratory, Argonne, Illinois, USA (March 2002) (invited).
- 30.** "Supramolecular Control of Reactivity", oral presentation given as the departmental weekly colloquium, Department of Chemistry, Southwest Missouri State University, Springfield, Missouri, USA (March 2002) (invited).
- 29.** "Template-Directed Organic Synthesis: Using Molecules to Build Molecules by Design", oral presentation given as the weekly colloquium of the organic chemistry division, Department of Chemistry, University of California-Los Angeles, Los Angeles, California, USA (February 2002) (invited).
- 28.** "Template-Directed Organic Synthesis: Using Molecules to Build Molecules by Design", oral presentation given at the Skaggs Institute for Chemical Biology, Scripps Research Institute, San Diego, USA (February 2002) (invited).
- 27.** "Template-Directed Synthesis: Using Molecules to Make Molecules by Design", oral presentation given as the departmental weekly colloquium, Department of Chemistry, University of Texas-Arlington, Arlington, Texas, USA (November 2001) (invited).

26. "Template-Directed Synthesis: Using Molecules to Make Molecules by Design", oral presentation given as the departmental weekly colloquium, Department of Chemistry, Kansas State University, Manhattan, Kansas, USA (November 2001) (invited).
25. "Template-Directed Solid-State Synthesis: An Approach to Engineering Molecules in Solids", oral presentation given at the 36th Midwest Regional Meeting of the American Chemical Society in Lincoln, Nebraska, USA (October 2001).
24. "Green Chemistry", oral presentation given as an 'Environmental Science Seminar' at the University of Iowa, in Iowa City, Iowa, IA, USA (September 2001) (invited).
23. "Controlling the Formation of C-C Bonds in Molecular Solids by Design", oral presentation given at the 222nd ACS National Meeting and Exposition in Chicago, Illinois, USA (August 2001).
22. "Green Chemistry in the Solid State", oral presentation given at the NSF Research Experience for Undergraduate Summer Session, University of Iowa, in Iowa City, IA, USA (July 2001) (invited).
21. "Supramolecular Control of C-C Bond Formation in the Solid State", oral presentation given at the 5th Annual Green Chemistry and Engineering Conference", in Washington, D.C., USA (June 2001).
20. "Controlling Reactivity in the Solid State using Linear Templates", oral presentation given at the 12th Annual Mid-West Organic Solid State Conference at the University of Nebraska-Lincoln in Lincoln, Nebraska, USA (June 2001).
19. "Self-Assembly and the Solid State as Design Elements for the Synthesis of Organic Nanostructures", oral presentation given at the 2001 Materials Research Society Spring Meeting in San Francisco, California, USA (April 2001).
18. "Template-Directed Synthesis in the Solid State: Controlling Covalent Bond Formation at the Nanometer Level", oral presentation given at the 221st ACS National Meeting and Exposition in San Diego, California, USA (April 2001).
17. "Control of Reactivity in the Solid State using Linear Templates", oral presentation given at the 35th Midwest Regional Meeting of the American Chemical Society in St. Louis, Missouri, USA (October 2000) (invited).
16. "Control of Reactivity in the Solid State using Linear Templates", poster presented at the Gordon Research Conference on Organic Structures and Properties: Extended Systems in New London, Connecticut, USA (June 2000).

Prior to University of Iowa

15. "Towards a Green Organic Chemistry in the Solid State using Linear Molecular Templates", oral presentation given at the 11th Annual Mid-West Organic Solid State Conference at Purdue University in West LaFayette, Indiana, USA (June 2000).
14. "A Method for Conducting Designed Molecular Synthesis in the Solid State", colloquium seminar given at the University of South Florida, Tampa Bay, Florida, USA (April 2000) (invited).
13. "Multi-Component Resorcin[4]arenes: A New Approach to Designing Bowl-Shaped Receptors", oral presentation given at the 217th ACS National Meeting and Exposition in Anaheim, California, USA (March 1999).
12. "Inclusion of Up to 11 Guests within a Cavity of Nanoscale Dimensions", oral presentation given at the 217th ACS National Meeting and Exposition in Anaheim, California, USA (March 1999).
11. "Molecular Recognition and Crystal Engineering: Multi-Component Calix[4]arenes", oral presentation given at the American Crystallographic Association Conference in Arlington, Virginia, USA (July 1998) (invited).
10. "General Principles for the Design of Spherical Molecular Hosts", poster presented at the 11th Annual Organic Chemistry Day at the University of Missouri-Columbia, Columbia, MO, USA (May 1998).
9. "Cavity-Containing Rectangular Grids", oral presentation given at Inorganic Chemistry Day at The University of Missouri-Columbia, Columbia, Missouri, USA (May 1998).
8. "Metal-Ion Separations using Calixarenes", oral presentation given at the 214th ACS National Meeting and Exposition in Las Vegas, Nevada, USA (September 1997).
7. "Rational Design of *Multi*-Component Calixarenes and Control of Their Alignment in the Solid State", poster presented at the American Crystallographic Association Meeting in St. Louis, Missouri, USA (July 1997).
6. "Attacking a Covalent Problem with Noncovalent Forces: Multi-Component Calixarenes", oral presentation given at the DyNAMITE seminar series at the University of Missouri-Columbia, Columbia, MO, USA (May 1997).
5. "From Molecular Recognition to Cooperativity: Structure Behavior of the Doubly Protonated [2.2.2]Cryptand", oral presentation given at the DyNAMITE seminar series at the University of Missouri-Columbia, Columbia, Missouri, USA (October 1996).
4. "2D Layered Inorganic-Organic Hybrid Materials by Design", poster presentation at the 9th Annual Organic Chemistry Day at the University of Missouri-Columbia, Columbia, MO, USA (April 1996).

3. "Rational Design and Intercalation Properties of Topologically Equivalent Two-Dimensional Grids", oral presentation given at the 211th ACS National Meeting and Exposition in New Orleans, LA, USA (March 1996).

2. "Solid-State Strict Self-Assembly of Molecules and Ions Isolated from Liquid Clathrate Media: Structure Behavior of Cryptand [2.2.2]", oral presentation given at the DyNAMITE seminar series at the University of Missouri-Columbia, Missouri, USA (October 1995).

1. "The Influence of Noncovalent Interactions on the Physical Properties of Organic Salts", poster presented at the Gordon Research Conference on Molten Salts in Wolfeboro, New Hampshire, USA (August 1993).

SERVICE

General

Societies

2012- Chair, Chemistry Olympiad, ACS
2012- Chair, Iowa Local Section of the ACS
2011 Chair Elect, Iowa Local Section of the ACS

Editorial Activities

2016- Co-Editor, *International Union of Crystallography Journal (IUCrJ)*, "Chemistry and Crystal Engineering" (duties: send for refereeing, handle publication decisions, 25 manuscripts/year)
2016 Volume Editor on "Supramolecular Engineering: Crystallographic", *Comprehensive Supramolecular Chemistry II*
2015 International Advisory Board, 2nd ICSU/IUPAC Workshop on Crystal Engineering
2015 International Organizing Committee, Collaborative Conference on Crystal Growth
2014 NSF CAREER Award Review Panel (Solid State and Materials Chemistry)
2014- Editorial Board, *Journal of Pharmacology and Toxicology* (ScienceScript)
2014 International Organizing Committee, Collaborative Conference on Crystal Growth
2013- Editorial Board, *International Journal of Photochemistry* (Hindawi Publishing)
2013 NSF Proposal Review Panel (Materials Research Science and Engineering Center – MRSEC)
2013 NSF Proposal Review Panel (Solid State and Materials Chemistry Program)
2012- Editorial Board, *Journal of Crystallography* (Hindawi Publishing)
2012-2014 Co-Editor, "Metal-Organic Materials", *Encyclopedia of Inorganic and Bioinorganic Chemistry* (Wiley)
2012-2014 Advisory Board, *Encyclopedia of Inorganic and Bioinorganic Chemistry* (Wiley)
2011- Associate Editor, *Journal of Coordination Chemistry* (Taylor & Francis)
(duties: send for refereeing, handle publication decisions, and edit 100

- manuscripts/year)
- 2011- Chair, Editorial Board, *CrystEngComm* (Royal Society of Chemistry)
- 2010- Editorial Board, *Global Journal of Inorganic Chemistry*, Crystallography Area (Simplex)
- 2008-2010 Book Editor, "Metal-Organic Frameworks: Design and Application" (Wiley)
- 2008 NSF CAREER Award Review Panel (Solid State and Materials Chemistry)
- 2008- Editorial Board, *CrystEngComm* (Royal Society of Chemistry)
- 2007- Instrument Advisory Team, IMAGINE - Neutron Diffractometer, Oak Ridge National Laboratory's High Flux Isotope Reactor
- 2007- Editorial Board, *Open Cell and Developmental Biology Journal* (Bentham Science Publishers)
- 2006 Review Panel (Corresponding Member), *Crystallography in RSC Journals*
- 2006- Editorial Board, *Current Chemical Biology* (Bentham Science Publishers)
- 2005 Review Panel (Corresponding Member), *New Journal of Chemistry*
- 2005- Editorial Board, *Main Group Chemistry* (Taylor & Francis)
- 2004- Reviews Editor, *Journal of Chemical Crystallography* (Springer)
- 2003 Guest Editor, *Supramolecular Chemistry* (Taylor & Francis), Special Issue for the 13th International Symposium on Supramolecular Chemistry (co-editor: Alexander Wei, Purdue University)
- 2002-2011 Topics Editor, *Crystal Growth and Design* (American Chemical Society)
- 2002-2007 International Advisory Editorial Board, *CrystEngComm*. (Royal Society of Chemistry)

Conferences, Symposia, and Sessions Chaired and Organized

22. Workshop Co-Chair (w/Jeffrey Rack, University of New Mexico), Energy and Movement in Coherent Chemical Systems, Telluride Science Research Center, Telluride, Colorado (July 2016).
21. Conference Co-Chair, 2016 Gordon Research Conference on Crystal Engineering, Waterville Valley, New Hampshire (June 2016).
20. Symposium Co-organizer (w/K. Travis Holman, Georgetown University), Designer Molecule-Derived Materials, 99th Canadian Society for Chemistry Exhibition, Halifax, Nova Scotia, Canada (June 2016).
19. Symposium Co-organizer, Organic Solid-State Chemistry: Structure, Property & Reactivity, Pacifichem 2015, Honolulu, Hawaii, USA (December 2015).
18. Conference Organizer, 24th Midwest Organic Solid-State Chemistry Symposium, University of Iowa, Iowa City, Iowa, USA (June 2014).
17. Session Chair, Faraday Discussion 170, Mechanochemistry: From Functional Solids to Single Molecules, Montreal, Quebec, Canada (May 2014).

16. Symposium Organizer (w/K. Travis Holman, Georgetown University), Modern Aspects of Crystal Engineering, 2011 Annual Meeting of the American Crystallographic Association, New Orleans, Louisiana, USA (June 2011).
15. Discussion Leader, Session on Organic Solid-State Reactivity, Gordon Research Conference on Crystal Engineering, Waterville, New Hampshire, USA (June 6-10, 2010).
14. Symposium Organizer (w/Chris Pigge, University of Iowa), Supramolecular Chemistry, 44th Midwest Regional Meeting of the American Chemical Society, Iowa City, Iowa, USA (November 2009).
13. Session Chair, Metal-Organic Frameworks. What are they Good for?, 235th ACS National Meeting and Exposition in New Orleans, Louisiana, USA (March 2008).
12. Session Chair, Japan-USA Joint Symposium on the Chemistry of Coordination Space, Northwestern University, Evanston, Illinois, USA (June 2007).
11. Conference Organizer, 16th Midwest Organic Solid-State Chemistry Symposium, University of Iowa, Iowa City, Iowa, USA (June 2006).
10. Microsymposium Co-organizer (with F. Toda, Okayama University of Science, Japan), XX Congress of the International Union of Crystallography, Florence, Italy (August 2005).
9. Symposium Organizer (w/K. Travis Holman, Georgetown University), Crystal Engineering, 2005 Annual Meeting of the American Crystallographic Association, Orlando, Florida, USA (June 2005).
8. Session Chair, 16th Midwest Organic Solid-State Chemistry Symposium, Purdue University, West Lafayette, Indiana, USA (June 2005).
7. Session Chair, 39th Midwest Regional Meeting of the American Chemical Society, Manhattan, Kansas, USA (October 2004).
6. Session Chair, 15th Midwest Organic Solid-State Chemistry Symposium, Southern Illinois University, Carbondale, Illinois, USA (June 2004).
5. Session Chair, 12th Biocatalysis and Bioprocessing Conference, University of Iowa, Iowa City, Iowa, USA (October 2003).
4. Symposium Co-Organizer (with G.R. Desiraju, University of Hyderabad, India), "Supramolecular Construction and Function", symposium at the International Union of Pure and Applied Chemistry (IUPAC) and Canadian Society for Chemistry (CSC) conference, Ottawa, Ontario, Canada (August 2003) (participants: 16) (invited).

3. Session Chair, 14th Midwest Organic Solid-State Chemistry Symposium, University of Minnesota, Minneapolis, Minnesota, USA (June 2003).

2. Conference Organizer, 13th Midwest Organic Solid-State Chemistry Symposium, University of Iowa, Iowa City, Iowa, USA (June 2002) (participants: 63).

1. Session Chair, "Benign Synthesis and Processing III, 5th Annual Green Chemistry and Engineering Conference", in Washington, D.C., USA (June 2001).

Committees

2014-2014 College of Reviewers, Canada Research Chairs Program
2014 International Organizing Committee, Collaborative Conference on Crystal Growth
2009-2010 Organizing Committee, Gordon Research Conference on Crystal Engineering, Waterville, New Hampshire, USA (June 6-10, 2010)
2005 Sidhu Award Committee (Pittsburgh Diffraction Society)
2003-2004 Local Organizing Committee, 13th International Symposium on Supramolecular Chemistry, South Bend, Indiana, USA (July 25-30, 2004)