

Michel R. Gagné

Department of Chemistry, CB#3290
University of North Carolina
Chapel Hill, NC 27599

(919)962-6341
mgagne@unc.edu

EDUCATION AND RESEARCH EXPERIENCE

- 2012-present, Mary Ann Smith Distinguished Professor of Chemistry
- 2006-present, Professor, University of North Carolina, Chapel Hill
- 2001-2006, Associate Professor, University of North Carolina, Chapel Hill
- 1995-2001, Assistant Professor, University of North Carolina, Chapel Hill
- 1992-1995, Post-Doctoral Fellow, Harvard University (Prof. David A. Evans)
- 1991-1992, Post-Doctoral Fellow, Caltech (Prof. Robert H. Grubbs)
- 1987-1991, Ph.D., Northwestern University (Prof. Tobin J. Marks)
- 1984-1987, B.Sc., with First Class Honors, University of Alberta (Prof. Josef Takats)

AWARDS AND MEMBERSHIPS

- Fellow, Royal Society of Chemistry (2016); RSC "Catalysis in Organic Chemistry" Award (2016); Fellow, American Association for the Advancement of Science (2012), University of Alberta Alumni Honour Award (2011), "Excellent" Poster Award (2004, ICOS, Nagoya Japan), Camille Dreyfus Teacher Scholar Award (2000), Union Carbide Innovation Recognition Faculty Research Award (2000), 3M Untenured Faculty Award (1999-2000), NSF CAREER Award (1996-2000), Fred H. Irwin Memorial Prize in Organic Chemistry, 1986.
- EastChem Visiting Professor (University of St. Andrews, and University of Edinburgh Aug 2014), Visiting Professor (Duke University, Spring 2011), CaRLa Fellow, University of Heidelberg (June 2008), W.R. Kenan Jr. UNC Leave (2005-2006); Visiting Fellow, Exeter College; SCR Member Wadham College (Oxford University 2005-2006)
- NSERC Funding task force (2011-2012), NSERC Banting Fellows Selection Committee (2010-2013), EPSRC College (2006-2009), GSC-24 NSERC Grants Selection Committee (2005-2008), NIH SBCB ad hoc 10/05
- Board of Editors, Canadian Journal of Chemistry (2002-2005), International Advisory Board of *ChemCatChem* (2016-
- NSERC of Canada postdoctoral fellowship, 1992-1994
- American Chemical Society (Inorganic and Organic Divisions), Canadian Institute of Chemistry, Royal Society of Chemistry

PUBLICATIONS

- (160) "Spectroscopic and Computational Assessment of Silicon's Electrophilicity in Phosphinosilylium Cations" K. M. Riley, A. L. Wierschen, S. J. Lee, M. R. Gagné *Organometallics* **2020**, *39*, 1683-1687.
- (159) "Modulating electrostatic interactions in ion pair intermediates can alter site-selectivity in C–O deoxygenation of sugars" J. L. Lowe, B. Bowers, Y. R. Seo, M. R. Gagné *Angew. Chem.* **2020**, *59*, 17297-17300.
- (158) "Silylpalladium Cations Enable the Cleavage of Nitrile C–CN Bonds" A. L. Wierschen, J. Lowe, N. Romano, S. J. Lee, M. R. Gagné *Organometallics*, **2020**, *39*, 1258-1268.
- (157) "Selective deoxygenation of gibberellic acid with fluoroarylborane catalysts" Y. Seo, A. Gudz, J. M. Lowe, M. R. Gagné *Tetrahedron* **2019**, *75*, 130712.
- (156) "Silylpalladium Cations Enable the Oxidative Addition C(sp³)–O Bonds" A. Wierschen, N. Romano, S. J. Lee, M. R. Gagné *J. Am. Chem. Soc.* **2019**, *141*, 16024-16032.
- (155) "Si–H Bond Activation by Main Group Lewis Acids" Chapter in *Modern Organosilicon Chemistry*, Wiley-VCH, **2019**.
- (154) "Controlling Sugar Deoxygenation Products from Biomass by Choice of Fluoroarylborane Catalyst" Y. Seo, J. M. Lowe, M. R. Gagné *ACS Catalysis* **2019**, *9*, 6648-6652.

- (153) "Site selective amide reduction of cyclosporine A opens new structural space for an important cyclic peptide" M. T. Peruzzi, F. Gallou, S. J. Lee, M. R. Gagné *Org. Lett.* **2019**, *21*, 3451-3455.
- (152) "Harnessing the Reactivity of Poly(methylhydrosiloxane) for the Reduction and Cyclization of Biomass to High-Value Products" N. M. Hein, Y. Seo, S. J. Lee, M. R. Gagné, *Green Chem.* **2019**, *21*, 2662-2669.
- (151) "Silylium (R_3Si^+) catalyzed condensative cyclization for anhydrosugar synthesis" Y. Seo, M. R. Gagné, *ACS Catalysis* **2018**, *8*, 6993-6999.
- (150) "Boron-Catalyzed Reduction of Carbohydrate Derivatives with Catecholborane" J. Lowe, Y. Seo, M. R. Gagné, *ACS Catalysis* **2018**, *8*, 8192-8198.
- (149) "Chemoselective amide reductions by heteroleptic fluoroaryl boron Lewis acids" M. T. Peruzzi,^a Q. Q. Mei,^a S. J. Lee,^b M. R. Gagné, *Chem Commun.* **2018**, *54*, 5855-5858.
- (148) "Computed thermodynamic stabilities of silylium Lewis base adducts" C. Roselli, M. R. Gagné, *Org. Biomol. Chem.* **2018**, *16*, 2318-2323.
- (147) "Positional selectivity in the hydrosilylative partial deoxygenation of disaccharides by boron-catalysts" Y. Seo, M. R. Gagné, *ACS Catalysis*, **2018**, *8*, 81-85.
- (146) "Late-Stage Chemoselective Functionalization of Bioactive Natural Products with "Non-Existent" Silylium Ions" T. A. Bender, P. R. Payne, M. R. Gagné, *Nature: Chemistry* **2018**, *10*, 85-90.
- (145) "Reactions of Monosilyloxonium Ions with Pd(0) Nucleophiles: Reversible Si–O Bond Cleavage and the Trapping of a Pd–Silyl Cation" A. L. Wierschen, M. R. Gagné, *Organometallics*, Submitted.
- (142) "Homogeneous Catalysis for the Valorization of Cellulosic Biomass: Low-Volume High-Value Components of the Integrated Biorefinery" T. A. Bender, J. A. Dabrowski, M. R. Gagné, *Nature Reviews Chemistry* **2018**, *2*, 35-46.
- (144) "Phosphines as Silylium Ion Carriers for Controlled C–O Deoxygenation: Catalyst Speciation and Turnover Mechanisms" A. Gudz, P. Payne, M. R. Gagné, *Organometallics*, **2017**, *36*, 4047-4053.
- (143) "Biomimetic Platinum-Promoted Polyene Polycyclizations – Influence of Alkene Substitution and Pre-Cyclization Conformations" C. McCulley, M. J. Geier, B. M. Hudson, M. R. Gagné, D. J. Tantillo, *J. Am. Chem. Soc.* **2017**, *139*, 11158-11164.
- (141) "Taming Silylium Ions for Synthesis: *N*-Heterocycle Synthesis *via* Stereospecific C–C Bond Formation" B. S. Moyer, M. R. Gagné, *Synlett*, **2017**, *28*, 2429-2434.
- (140) "Gold(I) catalyzed dearomative Claisen rearrangement of allyl, allenyl methyl, and propargyl aryl ethers" M. T. Peruzzi, S. J. Lee, M. R. Gagné, *Org. Lett.* **2017**, *19*, 6256-6259.
- (139) "Delineating The Multiple Roles of $B(C_6F_5)_3$ in the Chemoselective Deoxygenation of Unsaturated Polyols" T. A. Bender, J. A. Dabrowski, M. R. Gagné, *ACS Cat.* **2016**, *6*, 8399-8403.
- (138) "Investigation of a Catenane with a Responsive Noncovalent Network: Mimicking a Long Range Responses in Proteins" M. K. Chung, P.S. White, S. J. Lee, M. R. Gagné, M. L. Waters, *J. Am. Chem. Soc.* **2016**, *138*, 13344-13352.
- (137) "Tetrameric Pseudo-Peptide Receptors with Allosteric Properties" M. K. Chung, S. J. Lee, M. L. Waters, M. R. Gagné, *Chem. Commun.* **2016**, *52*, 8103.
- (136) "Gold(I)- Catalyzed Addition of Aldehydes to Cyclopropylidene Bearing 1,5-Enynes" C. Roselli, M. R. Gagné, *Org. & Biomol. Chem.* **2016**, *14*, 11261-11265.
- (135) "Chemoselective conversion of biologically sourced polyols into chiral synthons" L. A. Adduci, T. A. Bender, J. A. Dabrowski, M. R. Gagné, *Synform* **2015**, *12*, A169-A171.
- (134) "Diastereoselective $B(C_6F_5)_3$ -Catalyzed Reductive Carbocyclization of Unsaturated Carbohydrates" T. A. Bender, J. A. Dabrowski, H. Zhong, M. R. Gagné, *Org. Lett.* **2016**, *18*, 4120-4123.
- (133) "NHC Carbenes in Catalytic Organic synthesis: Hydroamination" P. R. Payne, M. R. Gagné, *Science of Synthesis* **2016**, *1*, 361.
- (132) "The need for Speed, Targeted Library Screening Yields Minimalist Enzymes for Chem-Bio Decontamination" M. R. Gagné, *JSTO in the news* **2014**, *4(12)*, 1-3.
- (131) "Promoting C–C bond coupling of benzyne and methyl ligands in electron deficient (triphos)Pt–CH₃⁺ complexes" M. D. Aseman, C. A. Roselli, M. R. Gagné, *Organometallics* **2015**, *34*, 2707-2709.
- (130) "Chemoselective conversion of biologically sourced polyols into chiral synthons" L. A. Adduci, T. A. Bender, J. A. Dabrowski, M. R. Gagné *Nature: Chemistry* **2015**, *7*, 576-581.
- (129) "Effects of Helix Macrodipole and Local Interactions on Catalysis of Acyl Transfer by α -Helical Peptides" Q. N. N. Nguyen, M. A. Lodewyk, S. Bezer, M. R. Gagné, M. L. Waters, D. J. Tantillo *ACS Catalysis*, **2015**, *5*, 1617-1622.

- (128) "Aurophilicity in Gold(I) Catalysis – For Better or Worse?" D. Weber and M. R. Gagné, *Topics in Current Chemistry: Homogeneous Gold Catalysis*, **2015**, 357, 167-211.
- (127) "Cross-strand histidine-aromatic interactions enhance acyl-transfer rates in beta-hairpin peptide catalysts" M. Matsumoto,^a S. J. Lee,^b M. R. Gagné, and M. L. Waters, *Org. Biomol. Chem.* **2014**, 12, 8711-8718.
- (126) "Anion Dependent Switch in Reductive Elimination Diastereoselectivity" M. J. Geier, M. D. Aseman, M. R. Gagné, *Organometallics* **2014**, 33, 4353-4356.
- (125) "Selective transamidation of the 3-oxo-N-acyl homoserine lactones by hydrazine derivatives" M. A. Bertucci, S. J. Lee, M. R. Gagné, *Org. Biomol. Chem.* **2014**, 12, 7197-7200.
- (124) "A Catalyst Selection Protocol that Identifies Biomimetic Motifs from Beta-Hairpin Libraries: M. Matsumoto, S. J. Lee, M. L. Waters, M. R. Gagné, *J. Am. Chem. Soc.* **2014**, 136, 15817-15820.
- (123) "Gold-Catalyzed Enantioselective Ring Expanding Cycloisomerization of Cyclopropylidene Bearing 1,5-Enynes" H. Zheng, R. J. Felix, M. R. Gagné, *Org. Lett.* **2014**, 16, 2272-2275.
- (122) "Gold-Catalyzed Diastereoselective Cycloisomerization of Alkylidene Cyclopropane-Bearing 1,6-Diynes" H. Zheng, L. L. Adduci, R. J. Felix, M. R. Gagné, *Angew. Chem. Int. Ed.* **2014**, 53, 7904-7907.
- (121) "Electrophilic Pt(II) Complexes: Precision Instruments for the Initiation of Transformations Mediated by the Cation-Olefin Reaction" R. J. Felix, C. Munro-Leighton, M. R. Gagné, *Accounts Chem Res.* **2014**, 47, 2319-2331.
- (120) "Diastereoselective Pt Catalyzed Cycloisomerization of Polyenes to Polycycles" M. J. Geier, M. R. Gagné, *J. Am. Chem. Soc.* **2014**, 136, 3032-3035.
- (119) "Enantioselective Cascade Cyclization/Protodemetalation of Polyenes with N₃Pt²⁺ Catalysts" H. Nguyen, M. R. Gagné *ACS Cat.* **2014**, 4, 855-859.
- (118) "Metal-free Deoxygenation of Carbohydrates" L. L. Adduci, M. P. McLaughlin, T. A. Bender, J. J. Becker, M. R. Gagné *Angew. Chem. Int. Ed.* **2014**, 53, 1646-1649.
- (117) "Identification and optimization of short helical peptides with novel reactive functionality as catalysts for acyl transfer by reactive tagging" S. Bezer, M. Matsumoto, M. Lodewyk, S. J. Lee, D. Tantillo, M. R. Gagné, M. L. Waters *Org. Biomol. Chem.* **2014**, 12, 1488-1494.
- (116) "Carbonium vs. Carbenium Ion-like Transition State Geometries for Carbocation Cyclization—How Strain Associated with Bridging Affects 5-*exo* vs. 6-*endo* Selectivity" O. Gutierrez, J. G. Harrison, R. J. Felix, F. Cortés Guzman, M. R. Gagné and D. J. Tantillo, *Chem. Sci.* **2013**, 4, 3894-3898.
- (115) "Gold(I)-Catalyzed Formation of Bicyclo[4.2.0]oct-1-enes" R. J. Felix, O. Gutierrez, D. J. Tantillo, M. R. Gagné, *J. Org. Chem.* **2013**, 78, 5685-5690.
- (114) "Thiourea-Catalyzed Aminolysis of N-Acyl Homoserine Lactones" M. A. Bertucci, S. J. Lee, M. R. Gagné *Chem. Commun.* **2013**, 49, 2055-2057.
- (113) "Catalytic Enantioselective Cyclization and C3-Fluorination of Polyprenoids" N. A. Cochrane, H. Nguyen, M. R. Gagné, *J. Am. Chem. Soc.* **2013**, 135, 628-631.
- (112) "Catalytic Platinum-Catalyzed Cation-Olefin Reactions with Alkene Terminating Groups" J. G. Sokol, N. A. Cochrane, J. J. Becker, M. R. Gagné, *Chem Commun.* **2013**, 49, 5046-5048.
- (111) "Iridium-catalyzed hydrosilylative reduction of glucose to hexane(s)" M. P. McLaughlin, L. A. Adduci, J. J. Becker, M. R. Gagné, *J. Am. Chem. Soc.* **2013**, 135, 1225-1227.
- (110) "σ-π-diauration as an alternative binding mode for digold intermediates in gold(I) catalysis" D. Weber, M. R. Gagné, *Chem. Sci.* **2013**, 4, 335-338.
- (109) "An Oxidation Induced Cyclization/Oxygenation Scheme for the Conversion of Polyenes into C3-Oxygenated Polycycles" M. J. Geier, M. R. Gagné, *Organometallics* **2013**, 32, 380-383.
- (108) "Mechanistic Analysis of the Gold(I)-Catalyzed Intramolecular Allene Hydroalkoxylation Reveals an Off-Cycle Bis(gold) Vinyl Species and Reversible C–O Bond Formation" T. J. Brown, D. Weber, M. R. Gagné, R. A. Widenhofer, *J. Am. Chem. Soc.* **2012**, 134, 9134-9137.
- (107) "Self-Assembled Multi-Component Catenanes: Structural Insights into an Adaptable Class of Molecular Receptors and [2]-Catenanes" M.K. Chung, P. S. White, S. J. Lee, M. L. Waters, M. R. Gagné, *J. Am. Chem. Soc.* **2012**, 134, 11415-11429.
- (106) "Self-Assembled Multi-Component Catenanes: The Effect of Multivalency and Cooperativity on Structure and Stability" M.K. Chung, S. J. Lee, M. L. Waters, M. R. Gagné, *J. Am. Chem. Soc.* **2012**, 134, 11430-11443.
- (105) "A Photo-Flow Reactor for the Continuous Photoredox-Mediated Synthesis of C-Glycoamino Acids and C-Glycolids" R. S. Andrews, J. J. Becker, M. R. Gagné, *Angew. Chem. Int. Ed.* **2012**, 51, 4140-4143.

- (104) "The Role of Electronics and Counterions on Geminal Digold Formation and Reactivity as Revealed by Gold (I)-Aryl Model Complexes" D. Weber, T. D. Jones, L. L. Adduci, M. R. Gagné, *Angew. Chem. Int. Ed.* **2012**, *51*, 2452-2456.
- (103) "Au-Catalyzed Enantioselective Cope Rearrangement of Alkenyl-Methylene Cyclopropanes" R. J. Felix, D. S. Weber, Osvaldo Gutierrez, D. J. Tantillo, M. R. Gagné, *Nature: Chem.* **2012**, *4*, 405-409.
- (102) "Electrophilic Fluorination of Cationic Pt-aryl Complexes" S. B. Zhao, R. Y. Wang, H. Nguyen, J. J. Becker, M. R. Gagné *Chem. Commun.* **2012**, *48*, 443-445.
- (101) "{Bis[2-(diphenylphosphanyl)ethyl]phenylphosphane- κ^3 P,P',P''}[(Z)-8-mesitylcyclooct-4-en-1-yl]platinum(II) tetrafluoridoborate dichloromethane disolvate" S. B. Zhao, R.-U. Wang, M. R. Gagné *Acta Cryst.* **2011**, *E67*, m972.
- (100) "Oxidative Addition of Secondary C-X Bonds to Pd(0): A Beneficial Anomeric Acceleration" C. Munro-Leighton, L. L. Adduci, J. J. Becker, and M. R. Gagné, *Organometallics*, **2011**, *30*, 2646-2649.
- (99) "Investigating the Rate of Photoreductive Glucosyl Radical Generation" R. S. Andrews, J. J. Becker, M. R. Gagné, *Org. Lett.* **2011**, *13*, 2406-2409.
- (98) "Driving Catalyst Reoxidation in Wacker Cyclizations with Acetal-Based Metal-Hydride Abstractors" N. A. Cochrane, M. S. Brookhart, M. R. Gagné, *Organometallics* **2011**, *30*, 2457-2460.
- (97) "Pd(0)/Au(I) RedOx Incompatibilities as Revealed by Pd-Catalyzed Homo-Coupling of Arylgold(I)-Complexes" D. Weber, M. R. Gagné, *Chem. Commun.* **2011**, *47*, 5172 - 5174.
- (96) "Terminating Pt-Initiated Cation-Olefin Reactions with Simple Alkenes" J. G. Sokol, K. C. Sekhar, J. J. Becker, M. R. Gagné, *Angew. Chem. Int. Ed.*, **2011**, *50*, 5658-5661.
- (95) "Facile Synthesis of Salmochelin S1, S2, MGE, DGE and TGE" X. Yu, Y. Dai, T. Yang, J. J. Becker, M. R. Gagné, H. Gong *Tetrahedron*, **2011**, *67*, 144-151.
- (94) "Steric Crowding Makes Challenging C_{sp^3} -F Reductive Elimination Feasible" S.B. Zhao, J. J. Becker, M. R. Gagné, *Organometallics* **2011**, *30*, 3926-3929.
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- (92) "Visible Light-Mediated Intermolecular Addition of Glycosyl Halides to Alkenes" R. S. Andrews, J. J. Becker, M. R. Gagné, *Angew. Chem., Int. Ed.* **2010**, *49*, 7274-7276.
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- (90) "A Dinuclear Gold-Silver Resting State May Explain Silver Effects in Gold(I)-Catalysis" D. Weber, M. R. Gagné, *Org. Lett.* **2009**, *11*, 4962-4965.
- (89) "Hindered Ureas as Masked Isocyanates: Facile Carbamoylation of Nucleophiles under Neutral Conditions" M. Hutchby, C. E. Houlden, J. G. Ford, S. N. G. Tyler, M. R. Gagné, G. C. Lloyd-Jones, K. I. Booker-Milburn, *Angew. Chem. Int. Ed.* **2009**, *48*, 8721-8724.
- (88) "Synthesis of interlocked 56-membered rings by dynamic self-templating" M. K. Chung, P. S. White, S. J. Lee, M. R. Gagné, *Angew. Chem. Int. Ed.* **2009**, *48*, 8683-8686.
- (87) "Gold(I)-Catalyzed Cascade Cyclization of Allenyl Epoxides" M. A. Tarselli, J. L. Zuccarello, S. J. Lee, M. R. Gagné, *Org. Lett.* **2009**, *11*, 3490-3492.
- (86) "Mechanistic Surprises in the Gold(I)-Catalyzed Intramolecular Hydroarylation of Allenes" D. Weber, M. A. Tarselli, M. R. Gagné, *Angew. Chem. Int. Ed.* **2009**, *48*, 5733-5736.
- (85) "Sn-Free Ni-Catalyzed Reductive Coupling of Glycosyl Bromides with Activated Alkenes" H. Gong, R. S. Andrews, J. L. Zuccarello, S. J. Lee, M. R. Gagné, *Org. Lett.* **2009**, *11*, 879-882.
- (84) "Room Temperature Pd(II) Catalyzed Carbonylation of Aryl Urea Derivatives by Selective C-H Activation" C.E. Houlden, M. Hutchby, C.D. Bailey, J.G.Ford, S.N.G. Tyler, M.R. Gagné, G.C. Lloyd-Jones, K. I. Booker-Milburn, *Angew. Chem. Int. Ed.* **2009**, *48*, 1830-1833.
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- (82) "Platinum(II) Enyne Cycloisomerization Catalysis: Intermediates and Resting States" D.L. Nelson, M.R. Gagné, *Organometallics* **2009**, *28*, 950-952.
- (81) "Computational Studies on the Pt(II)-Catalyzed Cycloisomerization of 1,6-dienes into Bicyclopropanes: A Mechanistic Quandary Evaluated by DFT" F. Bell, J. Holland, J. C. Green, M. R. Gagné, *Organometallics* **2009**, *28*, 2038-2045.
- (80) "Gold(I)-catalyzed intermolecular hydroarylation of allenes with nucleophilic arenes: scope and limitations" M. A. Tarselli, A. Liu, M. R. Gagné, *Tetrahedron* **2009**, *65*, 1785-1789.

- (79) "A Diastereoselective Ni-Catalyzed Negishi Cross-Coupling Approach to Saturated, Fully Oxygenated C-Alkyl and C-Aryl Glycosides" H. Gong, M. R. Gagné, *J. Am. Chem. Soc.* **2008**, *130*, 12177-12183.
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- (74) "Chiral Selection in DCC" J. J. Becker, M. R. Gagné, Submitted to "Dynamic Combinatorial Chemistry in Drug Discovery, Bioorganic Chemistry, and Materials Science", Wiley VCH, Ben Miller, Ed. **2009**.
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- (71) "Reversibility Effects on the Stereoselectivity of Pt(II)-Mediated Cascade Poly-ene Cyclizations" J. A. Feducia, M. R. Gagné, *J. Am. Chem. Soc.* **2008**, *130*, 592-599.
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- (65) "Electrophilic Activation of Alkenes by Pt(II): So Much More Than a Slow Version of Pd(II)" A. R. Chianese, S. J. Lee, M. R. Gagné, *Angew. Chem. Int. Ed.* **2007**, *46*, 4042-4059.
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- "Metal Catalyzed Cascade Reactions. Topics in Organometallic Chemistry 9", Book Review, M. A. Tarselli, M. R. Gagné, *J. Am. Chem. Soc.* **2007**, *129*, 2196-2197.
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- "A Molecular Imprinting Approach to Controlling Catalyst Selectivities" *Poly. Prep.* **2000**, *41*(1), 404.
- "Synthesis of telechelic polycarbonates and polyesters as precursors to ABA and ABC triblock polymers" M. R. Korn, M. R. Gagné *Polymer Preprints* **1998**, *39*(3), 216.

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- "Methods of Making Telechelic Oligomers, Methods of Making Block Copolymers and Novel Block Copolymers" M. R. Gagné, M. Korn, U.S. Patent # 6,642,322.
- "Catalyst for Ester Metathesis" M. R. Gagné, M. Korn, U.S. Patent # 6,143,801.
- "Organolanthanide-Catalyzed Hydroamination of Olefins: A Method for the Catalytic Addition of N-H Bonds to C-C Double Bonds" M. R. Gagné, T. J. Marks, U.S. Patent # 5,043,453.
- "Organosamarium Catalysts for the Hydroamination of Olefins" T. J. Marks, M. R. Gagné, S. P. Nolan, U.S. Patent # 5,110,948.

CURRENT ACTIVE GRANTS (total costs shown)

National Institutes of Health, Institute of General Medicine (303K/year, 2018-2022)

National Institutes of Health, Institute of General Medicine (co-PI, ML Waters PI) (370K/year, 2016-2020)

Department of Energy, Office of Basic Energy Sciences (150K/year, 2016-2019)
Army Research Office-Staff Research (100K/year, 2015-2020) -- (Stephen Lee)

CURRENT STUDENT/POSTDOCTORAL COLLABORATORS (Ugrads not included)

Dr. Josh Clarke (Queen's University) 2020-
Kathleen Riley (Mississippi State) 2018-
Neyen Romano (Yale) 2018-
Eric Roos (College of William & Mary) 2019-
Dr. Bishnupada Satpathi 2019-
Dr. Youngran Seo (Seoul National Univ) 2016-
Hannah Starr (UNCCCH) 2017-
Dr. Xuan Wang (Shanghai Univ) 2020-

DEGREES CONFERRED:

- 1997:** Matthew Stanton, M. Sc. "*The Alkali-Metal Alkoxide Catalyzed Ester-Interchange Reaction: Mechanistic Investigations and Synthetic Utility*"
- 1998:** Lori T. Armistead, M. Sc. "*Towards the Synthesis of Ti(IV)-Based Template Molecules for use in Molecular Imprinting and Catalysis*"
- 1999:** Wendy Y. Mills, M. Sc. "*The Syntheses of Carbonates and Esters for a New Polycarbonate Recycling Methodology*"
- 2000:** Brian P. Santora, Ph. D. "*Macroporous Polymers as Supports for Transition Metal Catalysts*"
Rebecca A. Taylor, M. Sc. "*The Utility of Polymer-Supported Rhodium Catalysts in Olefin Transformations*"
Melanie D. Tudor, M. Sc. "*The Mechanism of Diastereomer Interconversion in Chiral BiphepPtX₂ Complexes*"
- 2001:** Nicole M. Brunkan, Ph.D. "*Diphosphine Platinum(II) Binaphtholates: Structures and Application to Molecular Imprinting and Lewis Acid Catalysis*"
Juliet Nabakka, M. Sc. "*Synthesis of Functionalized Binaphthol Ligands for Use in Molecular Imprinting*"
Rebecca M. Kissling, Ph. D. "*Alkali Metal Alkoxide and Mixed Alkoxide/Aryloxide Ester Interchange Catalysts*"
Andrew O. Larsen, Ph. D. "*Rational Design of New Transition Metal Complexes for use in Molecular Imprinting Based Catalysts*"
- 2002:** Jennifer J. Becker, Ph. D. "*Pt(II) and Pd(II) Complexes for use in Molecular Imprinting and Asymmetric Catalysis*"
- 2004:** Kathryn A. Pelz, M. Sc. "*Persistent N-Chirality as the Only Source of Asymmetry in Non-Racemic N₂PdCl₂ Complexes*"
Shannon M. Leeder, Ph. D. "*Solid-Phase Media for Use in Heterogeneous Catalysis: A New Strategy for Differentiating Reactants Based on Sorption Differences*"
- 2005:** William Kerber, Ph.D. "*Platinum(II)-Catalyzed Diene Cycloisomerizations: Rearrangements of Intermediate Metal-Alkyl Cations*"
Kathryn Kilby, M.Sc. "*The Initiation of Catalytic Prins Reactions via Electrophilic Pt(II) Catalysts*"
Chalmers H. Congdon, M.Sc. "*New Diphosphine Syntheses*"
- 2006:** Sharon Voshell, Ph.D. "*Molecular Recognition in Synthetic Systems I. Rigidified Dendritic Systems for Imparting Enantioselective Molecular Recognition to Platinum-Containing Molecularly Imprinted Polymers II. Using Laser Polarimetry to Identify an Enantioselective Receptor for (-)-Adenosine from a Racemic Dynamic Combinatorial Library*"
- 2007:** Jeremiah A. Feducia, Ph.D. "*Exploring the Reactivity of Electrophilic Trisphosphine Platinum(II) Complexes in the Cycloisomerization of Dienes*"
Charles Mullen, Ph.D. "*The Reactivity of Highly Electrophilic Chiral P₂Pt-dications*"

- Andrew Blanchard, MSc. *"Studies on the Synthesis of C-Glycosides"*
- 2008:** Michael Rizzo, MSc. *"Synthesis of Chiral and Achiral Bidentate PN Ligands for Use in Platinum(II) Mechanistic Investigations"*
 Holly Schiltz, MSc. "
 Alison Campbell, Ph.D. *"Platinum(II) Catalyzed Diene Cyclizations"*
 Luke Nelson, Ph.D. *"Electrophilic Reactions with Dicationic Platinum"*
 Michael A. Tarselli, Ph.D. *"Gold-Catalyzed Allene Activation Reactions"*
- 2009:** Alissa Roland, MSc. *"Development of new DCLs Composed of Pincer-Shaped Receptors for Recognition, Sensing and Response to External Stimuli"*
- 2010:** Leila Flagg, MSc, *"Water soluble libraries for Dynamic Combinatorial Chemistry"*
- 2012:** Steve Andrews, Ph.D. *"Mild Methods of Glycosyl Radical Generation for C-Glycoside Synthesis"*
 Dieter Weber, Ph.D. *"Investigation of Gold-Vinyl Intermediates Opens New Avenues in Gold Catalysis"*
- 2013:** Ryan Felix, Ph.D. *"Electrophilic Activation of Carbon-Carbon Bond Unsaturation by Au(I) and Pt(II): Experimental and Theoretical Considerations"*
 Nikki Cochrane, Ph.D. *"New Developments in Platinum-Catalyzed Cyclization and Fluorination of Polyenes"*
 Joseph Sokol, Ph.D. *"Dicationic Platinum-Initiated Cation-Olefin Reactions of Simple Alkenes"*
- 2014:** Allison Hulchanski, MSc. *"Mechanistic Insights into the Role of Silver in Asymmetric Gold(I) Catalyzed Cycloisomerization of 1,6-Ene Allenes"*
 Michael Bertucci, Ph.D. *"Synthetic Agents for the Derivatization of N-Acyl Homoserine Lactones"*
 Michael Geier, Ph.D. *"New Mechanisms for Turnover and Functionalization in the Platinum Initiated Cyclization of Polyenes"*
 Laura Adduci, Ph.D. *"Methods of Carbohydrate Functionalization and Defunctionalization"*
- 2015:** Stephanie Kramer, Ph.D. *"Synthesis of Polymeric Materials for Drug Delivery and Industrial Applications"*
- 2016:** Ha Nguyen, MSc
- 2017:** Trandon Bender, Ph.D. *"Methods for the selective modification of carbohydrates and natural products"*
 Brandon Moyer, Ph.D. *"1) Catalytic Stereoselective Installation of Boron via C-C Bond Formation
 2) Stereospecific Synthesis of N-Heterocyclic Scaffolds via Main Group Lewis Acid Catalysis"*
- 2018:** Christina Roselli, Ph.D. *Strategies for Achieving Selectivity in Homogeneous Catalysis*
- 2019:** Michael Peruzzi, Ph.D. *Catalytic Methods for Dearomatization and Chemoselective Amide Reduction*
- 2020:** Jared Lowe, Ph.D. *Selective Modification of Carbohydrates: Role of Boronium Ions, Solvent, and Computational Investigation*
 Andreas Wierschen, Ph.D. *Synthesis, Characterization, and Reactivity of Silylpalladium Cations*
 Anton Gudz, Ph.D.