

MARC J. ADLER

Synthetic Organic Chemistry

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Canadian Organic Links
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CURRENT APPOINTMENTS

Toronto Metropolitan University (formerly Ryerson University)

Associate Professor with tenure, Department of Chemistry & Biology *2022-present*

Assistant Professor, Department of Chemistry & Biology *2017-2022*

Full Member, Yeates School of Graduate Studies *2018-present*

VI SIX

startup using fundamental chemistry principles to rapidly mature spirits

Co-Founder

PAST APPOINTMENTS

University of Ontario Institute of Technology (UOIT)

Academic Associate & Adjunct Professor, Faculty of Science *2016-2017*

Adjunct Professor & Associate Graduate Faculty Member, Faculty of Science *2016-present*

Northern Illinois University (NIU)

Assistant Professor, Department of Chemistry & Biochemistry *2011-2015*

Adjunct Professor & Senior Graduate Faculty Member, Department of Chemistry & Biochemistry *2015-present*

Proteorex Therapeutics

Co-Founder & Director of Technology *2015-2017*

EDUCATION & TRAINING

University of Oxford *2009-2011*

Yale University *2008-2009*

Post-Doctoral Research Associate *2008-2011*

Research Advisor Prof. Andrew Hamilton, F.R.S. *currently President, New York University*

Main Project Design and synthesis of small molecule peptidomimetics for inhibition of protein-protein interactions

Duke University PhD *Chemistry, 2008*

Graduate Student *2003-2008*

Research Advisor Prof. Steven Baldwin

Dissertation I. Synthesis of an Advanced Rottlerin Intermediate. II. Development of a Microwave-Assisted Methodology for the Regioselective Synthesis of 2,2-Dimethyl-2H-chromenes.

University of California, Berkeley BSc *Chemistry, 2003*

Undergraduate Student *1999-2003*

Research Advisor (2002-2003) Prof. Dirk Trauner *currently Professor at New York University*

Graduate Student Mentor (2002-2003) Chris Beaudry *currently Associate Professor at Oregon State University*

Main Project Work towards the total synthesis of SNF4435C

Summer Research (2000) The Scripps Research Institute, San Diego

PERSONAL

dual citizen, Canada & USA

born and raised in San Diego, CA, USA

married, one daughter (born 2018), two sons (born 2020, 2023)

hobbies include family, basketball, softball, sports cards, snowboarding, cooking, music, and travel

RESEARCH INTERESTS

organosilanes as reagents/catalysts for organic synthesis and in other applications

bioactive molecules against cancer and neurodegenerative diseases, particularly covalent binders of protein targets

RESEARCH FUNDING

External Funding

- NSERC I2I (submitted)
Mitacs Accelerate (submitted)
Lab2Market Launch 2023
proposal title Accelerated Maturation of Spirits
2023 NSERC Research Tools and Instruments (RTI) Grant
proposal title Raman Spectroscopy for Chemistry and Engineering *lead PI* Stefania Impellizzeri
2022 OICR Cancer Therapeutics Innovation Pipeline (CTIP) - Early Accelerator 2023
proposal title MRCK kinase inhibitors for ovarian cancer therapy *co-PIs* Michael Olson and Russell Viirre
NSERC I2I (as part of Lab2Market program) 2022
proposal title Accelerated Maturation of Rye Spirits
Mitacs Accelerate (as part of Lab2Market Program) 2021
proposal title Accelerated Maturation of Rye Spirits *Industrial partner* Incubate Innovate Network of Canada
Canadian Cancer Society (CCS) Innovation Grant 2020
proposal title MRCK inhibitor optimization for glioblastoma therapy
co-PIs Prof. Michael Olson (main PI) and Prof. Russ Viirre
NSERC Discovery Grant 2020
proposal title Development of Practical and Powerful Synthetic Organic Methods Using Silanes
Nano-Medicines Innovation Network (NMIN) Strategic Initiatives Grant 2019
proposal title Customisable metallo-nanotexaphyrins for cancer imaging and therapy
co-investigators Gang Zheng *UHN/University of Toronto* and Raymond Reilly *University of Toronto*
NSERC Engage Grant with Dalton Pharma 2019
proposal title Development of synthetic organic chemistry methods to selectively transform steroid derivatives to access known metabolites and impurities, and novel drug-like structures
NSERC-USRA
Rebecca Yan *TMU* 2023
proposal title Facile deuteration of natural and synthetic electron-rich arenes
Jada Wright *Ryerson University* 2022
proposal title Green Organosilicon Catalysts for Direct Amidation
Julia Pia *Ryerson University* 2020
proposal title Exploration of Porphyrin Silanes
Melissa D'Amaral *Ryerson University* 2019
proposal title Investigations of Functional Hypercoordinate Organosilanes
Mitacs Globalink
Adam Hilditch *Queens University Belfast, UK* 2023
project title Novel Molecules for Applications in Catalysis, Green Energy, and Biological Imaging
Andrew Slobodianick *Institute of High Technologies National Taras Shevchenko University of Kyiv (Ukraine)* 2023
project title Green methods for chemical synthesis using silanes
Queency Rosario *Bradford University, UK* 2022
project title Novel Molecules for Applications in Catalysis, Green Energy, and Biological Imaging
Luke McCall *Durham University, UK* 2022
project title Green methods for chemical synthesis using silanes
Maximilian Albers *FAU University Erlangen-Nuremberg, Germany* 2021
project title Assessing robustness of reported chemical reactions
Julia Pia 2019 outgoing, with international collaborator/host Prof. Harry Anderson *University of Oxford (UK)*
project title π -Conjugated Porphyrin Nanostructures and Template-Directed Synthetic Methods
Denis Holovan *Institute of High Technologies National Taras Shevchenko University of Kyiv (Ukraine)* 2019
project title Porphyrin Silanes: Novel Molecules for Light-Harvesting Applications in Green Energy & Catalysis
NSERC Engage Grant 2017
proposal title Endogenous Fluorescence Imaging of Clinically Important Bacteria on Surfaces
Industrial Partner Dr. Guennadi Saiko *Oxilight Inc.*
CQDM/OCE Explore Grant 2016
proposal title Innovative technology platform for small molecule fragment screening and lead development against protein-protein interaction drug targets
co-PI Prof. Robert A. Batey *University of Toronto*

Internal Funding

- FOS Dean's Research Fund Connector (DRF-C) 2023 – submitted
proposal title Green silicon catalysts for amidation
FOS Dean's Research Fund Booster (DRF-B) 2022
proposal title "Pepcones" As Potential Anti-Alzheimer's Disease Agents
FOS Dean's Research Fund – Post-Doctoral Fellowship (DRF-PDF) program grant 2021
FOS Dean's Research Fund – Connector 2021
proposal title Accelerated Maturation of Rye Spirits

FOS Dean's Research Fund - RTI 2020

proposal title Temperature Controller for Molecular and Plasmonic Spectroscopy
co-PIs Prof. Stefania Impellizzeri (main PI)

Ryerson Faculty of Science Discovery Accelerator Grant 2020

Ryerson University URO 2020

proposal title Greener catalysts and methods for direct amide/peptide synthesis
student Melissa D'Amaral *Ryerson University*

2019 Ryerson Internal Health Research Fund 2019

proposal title New methods in synthetic organic chemistry using silatrane to make molecules of biological significance

Ryerson University Faculty of Science Dean's Research Fund Booster (DRF-B) 2019

proposal title Methods for Efficient and Greener Peptide Synthesis Using Silane Coupling Reagents

Ryerson University Faculty of Science Dean's Discovery Bridging Supplement 2019

Ryerson University Faculty of Science Dean's Travel Fund

January 2019 50th Silicon Symposium *Columbia, South Carolina (USA)*

April 2019 102nd Canadian Chemistry Conference and Exhibition *Quebec City, QC (Canada)*

January 2020 CSC/CCCE (deferred to Summer, 2021) *Virtual*

April 2022 CSC/CCCE *Calgary, AB (Canada)*

Ryerson University Startup Funds 2018

NIU Technology Transfer Office Grant 2016

funds to further develop our patented work on silatrane reduction

Lillian Cobb International Faculty Travel Fellowship 2014

funds to travel to UK to further collaboration with Prof. Andrew G. Jamieson *then at University of Leicester*

NIU Research & Artistry Opportunity Grant 2012, 2013, & 2014

2014 proposal title Towards the Development of a Dynamic Covalent Molecular Switch

2013 proposal title Synthesis and Evaluation of Silicon Lewis Acid Catalysts

2012 proposal title Synthesis and Investigation of Green Silicon-Based Lewis Acid Catalysts

NIU Startup Funds 2011

AWARDS *research, +teaching

YSGS Outstanding Contribution to Graduate Education Award 2022

Ryerson University Faculty of Science Dean's Teaching Award 2021

NIU Women's Basketball "Most Valuable Professor" Honoree⁺ 2015

Mortar Board Outstanding Faculty⁺ *NIU, 2012, 2013, & 2014*

ACS YCC Leadership Development Award Alternate 2013

Dean's Award for Excellence in Teaching, Honorable Mention⁺ *Duke University, 2007*

Charles Bradsher Endowment Award* *Duke University, Department of Chemistry, 2007*

C.R. Hauser Fellowship* *Duke University, Department of Chemistry, 2007*

John Herbert Pearson Award⁺ *Duke University, Department of Chemistry, 2007*

NIH-Sponsored Pharmacological Sciences Training Program Fellowship *Duke University, 2004*

Stanley and Alice Thompson Summer Research Award* *UC Berkeley, College of Chemistry, 2002*

CURRENT RESEARCH SUPERVISION at Toronto Metropolitan University

Post-Doctoral Researchers (2)

Dr. Walaa Bedewy *joined 2021*, Dr. Stanley Vasconcelos *joined Fall 2021 (w/Viirre)*

PhD Students (1)

Fawwaz Azam *joined 2021*

MSc Students (2)

Clive Boateng Ameyaw *joined 2022*, John Mulawka *joined 2022*

Undergraduates in Independent Study (8) *Thesis student

Andy Baterdene*, Breanna Seto*, Christine Miller*, Angelina Beltran, Rachel Wong, Rebecca Yan, Igor Ostanin, Adam Hilditch

Research Assistants (1)

Vanessa Ruschetta

PAST RESEARCH SUPERVISION

PhD Students (4)

Vlad Skrypai *Northern Illinois University, 2018*

dissertation Application of 1-Hydrosilatrane as a Robust Reducing Reagent

Senior Research Chemist at Natural Advantage *Louisiana, USA*

Sami Varjosaari *Northern Illinois University, 2018*

dissertation Reduction of Ketones to Alcohols and Tertiary Amines Using 1-Hydrosilatrane
Assistant Professor of Chemistry at Coker College South Carolina, USA

Brian Muller *Northern Illinois University, 2017*

dissertation Development, Control, and Application of the *o*-Hydroxychalcone/Flavanone Molecular Switch Scaffold
Research Chemist at Axalta/Valspar North Carolina, USA

Matthew Zielinski *Northern Illinois University, 2014*

dissertation Investigation of Silicon Lewis Acidity and Design of a Novel Silicon Lewis Acid Catalyst Scaffold
Scientist at Baxter Illinois, USA

MSc Students (8)

Vanessa Ruscetta *co-supervised with Russ Viirre, Toronto Metropolitan University, 2022*

thesis Synthesis of Diazaspirocycles for MRCK Inhibitors as Anti-Cancer Agents

Taj Seaton *co-supervised with Russ Viirre, Toronto Metropolitan University, 2022*

thesis The Synthesis of Novel Triazole Based MRCK Inhibitors

PhD student, University of Bern (Switzerland)

Ali Yaghoubian *co-supervised with Stefania Impellizzeri, Toronto Metropolitan University, 2022*

thesis Accessible, Direct Photochemical Route for the Amine-Free Synthesis of Azoxybenzene and Functional Azoxy Derivatives via Nitroarene Homocoupling

Melissa D'Amaral *Toronto Metropolitan University, 2022*

thesis Synthesis of Organosilanes and Investigation of their Catalytic Activity for Direct Amide Bond Formation

David Raveenthirajan *Toronto Metropolitan University, 2022*

thesis The Metal-Free, One-Pot Synthesis of Homoallylic Amines by Direct Alkylative Reductive Amination Using Allylsilatrane

Co-Founder, RSVM

Fawwaz Azam *Ryerson University, 2021*

thesis Metal-Free Selective Reduction of Acid Chlorides to Aldehydes using 1-Hydrosilatrane

PhD student in the MJA Lab

Theodore Litberg *Northern Illinois University, 2016*

thesis *ortho*-Hydroxy Chalcone: A Molecular Switch and Metal Sensing Fluorophore

PhD student in Chemistry at University of Denver Colorado, USA

Jeremy Hess *Northern Illinois University, 2014*

thesis Exploration of Silicon Lewis Acidity: Catalyst Design and Cooperative Effects

PhD student in Chemistry at Case Western Reserve University Ohio, USA

PAST RESEARCH SUPERVISION (CONT.)

Non-Degree Research Assistants (4)

Thershan Satkunarajah *Ryerson University, 2022*

PhD in Chemistry, McGill University

Zainab Shakeel *Ryerson University, 2018-2021*

Francis Buguis *Ryerson University, 2018*

MSc student in Chemistry, University of Western Ontario

Burhan Hussein *Ryerson University, 2017-2018*

PhD in Chemistry, Durham University (UK), PDF McGill Univ.

Undergraduates in Independent Study (45) *Thesis student

Rebecca Yan *TMU, 2022*

UG in Chemistry, Queens University

Luke McCall *TMU, 2022*

MSc in Chemistry, Durham University (UK)

Queency Rosario *TMU, 2022*

UG in Chemistry, Bradford University (UK)

Jada Wright *TMU, 2022*

Ebad Noman* *RU, 2021-2022*

MSc student in Chemistry, McMaster University

Areeba Yousuf* *RU, 2021-2022*

Shamal Khan* *RU, 2021-2022*

Naomy Kaplan *RU, 2021*

DDS (dentistry) student, New York University

Jayden Shnier *RU, 2021*

undergraduate student, Western University

Brooklyn Kostiuik* *RU, 2020-2022*

MSc student in Pharmacology, University of Toronto

Atif Din* *RU, 2020-2021*

Neo Seoke* *RU, 2020-2021*

Julia Pia* *RU, 2018-2020*

PhD student in Chemistry, University of Toronto

Melissa D'Amaral* *RU, 2019-2020*

MSc student in Chemistry, Ryerson University

Kelvin Urbina* *RU, 2019-2020*

PhD student in Chemistry, Rutgers University

Ali Yaghoubian* *RU, 2019-2020*

MSc student in Chemistry, Ryerson University

Enea Lelaj* *RU, 2019-2020*

MSc student in Chemistry, Ryerson University

Valeria Morozova *RU, 2019-2020*

undergraduate student, Ryerson University

Krishnam Patel *RU, 2020*

MSc student, University of Toronto

Adam Vandenbroek *RU, 2020*

PharmD, University of Toronto

Denys Holovan *RU, 2019*

MSc/PhD in Chemistry, McGill University

Kody Wolfstadt *RU, 2019*

MD student, University of Toronto

Taj Seaton* *RU, 2018-2019*
 Jyotsna Mary George* *RU, 2018-2019*
 Nick Jamkhou* *RU, 2018-2019*
 David Raveenthirarajan* *UOIT, 2016-2017*
 Nicole Krysa *UOIT, 2016-2017*
 Drew Donnally *NIU, 2014-2016*
 Paolo Suating *NIU, 2014-2016*
 Joe Hurley *NIU, 2014-2016*
 Miracle Diala *NIU, 2014-2015*
 Jacob Felckowski *NIU, 2014-2015*
 Jeffrey Moore *NIU, 2013-2015*
 Chanté Pniewski (Muller) *NIU, 2013-2015*
 Reid Yocum *NIU, 2013-2015*
 Juliane Totzke* *NIU, 2013-2014*
 Asim Muhammad *NIU, 2012-2015*
 Ted Litberg *NIU, 2012-2014*
 Vlad Skrypai *NIU, 2012-2014*
 Max Korzec* *NIU, 2012-2014*
 John Price* *NIU, 2012-2013*
 Stefanie DeVlieger (Le) *NIU, 2012-2013*
 Ermal Hoxha *NIU, 2011-2014*
 Jesse Mai *NIU, 2011-2014*
 Caitlin Morton (Tesch) *NIU, 2011-2012*

MSc student in Chemistry, Ryerson University
 MD student, St. George's University
 BMO
 MSc student in Chemistry, Ryerson University
 MD student, Queens University
 Assistant National Customer Manager, Glanbia Performance Nutrition
 PhD student in Chemistry, Tulane University
 PhD student in Chemistry, Florida State University
 undergraduate student, NIU
 PharmD student, University of Iowa
 Associate Quality Control Chemist at Ingredient
 PhD student in Chemistry at University of North Carolina, Greensboro
 MS student in Chemistry, University of Rhode Island
 PhD in Pharmacology, Duke University, now M.D. student in Germany
 Chemist at CSL Behring
 PhD student in Chemistry at University of Denver
 Senior Research Chemist at Natural Advantage
 MD student at Southern Illinois University School of Medicine
 MD student at Uniformed Services University of Health Science
 Senior Quality Technician at MQA Abbott Laboratories
 MBA at NIU
 MEng. student at University of Illinois, Chicago
 Scientist at Flinn Scientific

Thesis Committee Membership

Current, Ryerson University (4) PhD Kathleen May, Malek El-Aooiti, Rachele Carafa *MSc* Abdullah Al-Ramadhan
Ryerson University (18) PhD Sahana Sritharan, Phil Junor; *MSc* Desiree Bender, Zhuo Zhen Chen, Gloria D'Amaral,
 Thershan Satkunarajah, Nicholas Dogantzis, Tavneet Singh, Aviya Akari; *UG Thesis* Jeanette Adjei, Jennalee
 Ramserran, Matthew Hill, Saba Azizi Soldouz, Ashnie Badal, Mariya Kalinina, Sekou Bayo, Philip Januszyk, Breana
 Walker
UOIT (4) MSc, 2017 and PhD, 2021; Adam Cook *UG Honors, 2017*, Dion Chang *2017*, Ifedi Orizu *2016*
NIU (8) PhD Zheng Zhang *2014*, Kenny Boblak *2014*, Rajasekhar Naredla *2013*, Erum Raja *2012*, Anila Kethe *2012*; *MSc*
 Devangi Patel *2013*; *pre-degree* Gashaw Goshu, Travis Helgren
External (4) MSc Zach Raczewolski *Brock U, 2023*, Kayla Fisher *UOIT, 2016*, Renata Barichello *UOIT, 2020*; *PhD* Heng-
 Yen Wang *U Illinois, Chicago, 2013*

ONGOING RESEARCH COLLABORATIONS

Prof. Stefania Impellizzeri <i>TMU</i>	applications of porphyrin silanes and fluorescent switches
Prof. Michael Olson <i>TMU</i>	anti-cancer small molecules
Prof. Melanie Pilkington <i>Brock University</i>	crystallographic studies of molecules of interest
Prof. Lingyan Shi <i>University of California, San Diego</i>	Raman probes for high-contrast bioimaging
Prof. Russell Viirre <i>TMU</i>	anti-cancer small molecules
Prof. Nick Vukotic <i>University of Windsor</i>	porphyrin silanes in MOFs
Prof. Donald Weaver <i>Krembil Research Institute/UHN</i>	covalent inhibitors of PPIs applied to Alzheimer's disease

PUBLICATIONS *corresponding author, undergraduate author, ^cfeatured on cover of print issue

29. Raveenthirarajan, D.; Satkunarajah, T.; Kostiuk, B.A.; Adler, M.J.* Direct Alkylative Amination Using 1-Allylsilatrane. *original research article, accepted.*
28. D'Amaral, M.C.; Andrews, K.G.; Denton, R.; Adler, M.J.* Silyl Esters as Reactive Intermediates in Organic Synthesis. *SYNTHESIS, in press.*
27. Ruscetta, V.M.; Seaton, T.J.; Shakeel, A.; Vasconcelos, S.N.S.; Adler, M.J.; Viirre, R.D.; Olson, M.F.* MRCK kinases and their inhibitors: chemical biology tools and potential cancer chemotherapeutics. *Cell Signaling* **2023**, *accepted.*
26. Yaghoubian, A.; Hodgson, G.K.; Adler, M.J.*; Impellizzeri, S.* Direct Photochemical Route for Amine- and Catalyst-Free Synthesis of Azoxybenzene and Functional Azoxy Derivatives via Accessible Nitroarene Homocoupling under Ambient Conditions. *Organic & Biomolecular Chemistry* **2022**, *20*, 7332-7337.
posted as preprint on ChemRxiv: <https://doi.org/10.26434/chemrxiv-2022-3f333>
25. Pixler, A.S.; DeLio, A.M.; Varjosaari, S.E.; Skrypai, V.; Adler, M.J.; Gilbert, T.M.* Computational Investigation of the Effect of Alkoxy Carbon Substitution on the Mechanism of Carbonyl Group Reduction by 1-Hydridosilatrane. *Journal of Organometallic Chemistry* **2022**, *957*, 122144

24. Azam, F.; Raveenthirajan, D.; Adler, M.J.* The selective reduction of acid chlorides to aldehydes using 1-hydrosilatrane. *Journal of Organometallic Chemistry* **2021**, 956, 122130.
23. Pia, J.E.; Hussein, B.A.; Skrypai, V.; Sarycheva, O.; Adler, M.J.* Porphyrin Silanes. *Coordination Chemistry Reviews* **2021**, 449, 214183.
22. Azam, F.; Adler, M.J.* Preparation of 1-Hydrosilatrane, and Its Use in the Highly Practical Synthesis of Secondary and Tertiary Amines From Aldehydes and Ketones via Direct Reductive Amination. *Org Synth* **2021**, 98, 227-241.
21. D'Amaral, M.C.; Jamkhou, N.; Adler, M.J.* Efficient and accessible silane-mediated direct amide coupling of carboxylic acids and amines. *Green Chemistry* **2021**, 23, 288-295.
20. Hussein, B.A.; Shakeel, Z.; Turley, A.T.; Bismillah, A.N.; Wolfstadt, K.M.; Pia, J.E.; Pilkington, M.; McGonigal, P.R.; Adler, M.J.* Control of Porphyrin Planarity and Aggregation by Covalent Capping: Bissilyloxy Porphyrin Silanes, *Inorg. Chem.* **2020**, 59(18), 13533-13541.
- preprint published in *ChemRxiv*, **2020**, doi: 10.26434/chemrxiv.12195084.v1.
19. Skrypai, V.; Varjosaari, S.E.; Azam, F.; Gilbert, T.M.; Adler, M.J.* Enantioselective Direct Reductive Amination of Ketones Using 1-Hydrosilatrane, *J Org Chem* **2019**, 84(9), 5021-5026.
- highlighted in SynFacts (<https://bit.ly/30pKam6>)
18. James, R.R.; Herlugson, S.M.; Varjosaari, S.E.; Skrypai, V.; Shakeel, Z.; Gilbert, T.M.; Adler, M.J.* One-pot reductive acetylation of aldehydes using 1- hydrosilatrane in acetic acid, *SynOpen* **2019**, 3, 1-3.
- highlighted in SynForm (<https://bit.ly/2Gf92XH>)
17. Varjosaari, S.E.; Skrypai, V.; Herlugson, S.M.; Gilbert, T.M.; Adler, M.J.* Enantioselective Metal-Free Reduction of Ketones by a User-Friendly Silane with a Reusable Chiral Additive, *Tetrahedron Lett* **2018**, 59(29), 2839-2843.
16. Varjosaari, S.E.; Skrypai, V.; Suating, P.; Hurley, J.J.M.; Townsell, A.M.; Gilbert, T.M.; Adler, M.J.* Simple, Metal-Free Direct Reductive Amination Using Hydrosilatrane to Form Secondary and Tertiary Amines, *Adv Syn Cat* **2017**, 359(11), 1872-1878.
- designated as Very Important Publication (VIP)
- 15.^C Varjosaari, S.E.; Skrypai, V.; Suating, P.; Hurley, J.J.M.; Gilbert, T.M.; Adler, M.J.* 1-Hydrosilatrane: a Locomotive for Efficient Ketone Reductions, *Eur J Org Chem* **2017**, 2017(2), 229-232.
14. Hoeksema, C.; Adler, M.J.; Gilbert, T.M.* Computational Study of Ways by which Exo-Silatrane might be Prepared, *J Phys Chem A* **2016**, 120(46), 9315-9323.
13. Muller, B.M.; Litberg, T.J.; Yocum, R.A.; Pniewski, C.A.; Adler, M.J.* Extended Aromatic and Heteroaromatic Ring Systems in the Chalcone-Flavanone Molecular Switch Scaffold, *J Org Chem*, **2016**, 81(13), 5775-5781.
12. Skrypai, V.; Hurley, J.J.M.; Adler, M.J.* Silatrane as a Practical and Selective Reagent for the Reduction of Aryl Aldehydes to Benzylic Alcohols, *Eur J Org Chem*, **2016**, 2016(12), 2207-2211.
11. Varjosaari, S.E.; Suating, P.; Adler, M.J.* One-Pot Synthesis of *O*-Arylcarbamates, *Synthesis* **2016**, 48(01), 43-47.
10. Varjosaari, S.E.; Hess, J.P.; Suating, P.; Price, J.M.; Gilbert, T.M.; Adler, M.J.* Stereoelectronics of Silyloxybenzoic Acids, *Tetrahedron Lett* **2015**, 56(4), 642-645.
- 09.^C Muller, B.M.; Mai, J.; Yocum, R.A.; Adler, M.J.* Impact of Mono- and Disubstitution on the Colorimetric Dynamic Covalent Switching Chalcone/Flavanone Scaffold, *Org Biomol Chem* **2014**, 12(28), 5108-5114.
- 08.^C Mai, J.; Hoxha, E.; Morton, C.E.; Muller, B.M.; Adler, M.J.* Towards a Dynamic Covalent Molecular Switch: Substituent Effects in Chalcone/Flavanone Isomerism, *Org Biomol Chem* **2013**, 11(21), 3421-3423.
- appeared in the RSC themed collection "In Celebration of Andrew D. Hamilton's Career in Chemistry" (<https://rsc.li/2E0c9QG>)
- featured in Undergraduate Research Highlights by the Council for Undergraduate Research (<https://www.cur.org/highlights/>)

Pre-Independent Publications

07. Adler, M.J.; Scott, R.T.W.; Hamilton, A.D.* Enaminone-Based Mimics of Extended and Hydrophilic α -Helices, *Chem Eur J* **2012**, 18(41), 12974-12977.
06. Thompson, S.; Vallinayagam, R.; Adler, M.J.; Scott, R.T.W.; Hamilton, A.D.* Double-Sided α -Helix Mimetics, *Tetrahedron* **2012**, 68(23), 4501-4505.
05. Adler, M.J.; Hamilton, A.D.* Oligophenylenaminones as Scaffolds for α -Helix Mimicry, *J Org Chem* **2011**, 76(17), 7040-7047.
- featured in ACS Virtual Special Issue: Peptide Chemistry, September 7, 2012, 1(2).
04. Adler, M.J.; Jamieson, A.G.; Hamilton, A.D.* Synthetic Mimics of Protein Secondary Structure as Disruptors of Protein-Protein Interactions, *Curr Top Microbiol and Immunol* **2011**, 348, 1-23.
03. Rosenzweig, B.A.; Ross, N.T.; Adler, M.J.; Hamilton, A.D.* Altered Binding of a Multimeric Protein by Changing the Self-Assembling Properties of its Substrate, *J Am Chem Soc* **2010**, 132(19), 6749-6754.
02. Adler, M.J.*; Baldwin, S.W. Direct, Regioselective Synthesis of 2,2-Dimethyl-2H-chromenes. Total Syntheses of Octandrenolone and Precocenes I and II, *Tetrahedron Lett* **2009**, 50(36), 5075-5079.
01. Charkoudian, L.K.; Heymann, J.J.; Adler, M.J.; Haas, K.L.; Mies, K.A.; Bonk, J.F.* Forensics as a Gateway: Promoting Undergraduate Interest in Science and Graduate Student Professional Development Through a First-Year Seminar Course, *J Chem Educ* **2008**, 85(6), 807-812.

PATENTS

01. Adler, M.J.; Gilbert, T.M.; Skrypai, V.; Varjosaari, S.E. "Compositions and Methods for Reduction of Ketones and Aldehydes and Iminiums, and products produced by" US Patent 9,981,992.

PUBLIC RESEARCH PRESENTATIONS **invited*

27. 105th Canadian Chemistry Conference and Exhibition *Calgary, AB, CAN, 14 June 2022* – + poster judge
26. 102nd Canadian Chemistry Conference and Exhibition *Québec, QC, CAN, 7 June 2019* – + session chair & poster judge
25. 50th Silicon Symposium *Columbia, SC, USA, 14 May 2019* – also session chair
- 24.* University of Ontario Institute of Technology *Oshawa, ON, CAN, 27 Feb 2019*
- 23.* Dalton Pharma *Toronto, ON, CAN, 22 Feb 2019*
- 22.* Ryerson University *Toronto, ON, CAN, 28 Feb 2018*
21. 100th Canadian Chemistry Conference and Exhibition *Toronto, ON, CAN, 31 May 2017*
- 20.* Brock University *St. Catharines, ON, CAN, 23 Oct 2015*
- 19.* Ryerson University *Toronto, ON, CAN, 03 Jun 2015*
- 18.* Southern Illinois University, Carbondale *Carbondale, IL, USA, 25 Apr 2014*
- 17.* Southern Illinois University, Edwardsville *Edwardsville, IL, USA, 24 Apr 2014*
- 16.* Elmhurst College *Elmhurst, IL, USA, 09 Apr 2014*
- 15.* Ryerson University *Toronto, ON, CAN, 28 Mar 2014*
- 14.* University of Toronto, Scarborough *Scarborough, ON, CAN, 27 Mar 2014*
13. 246th National ACS Conference *Indianapolis, IN, USA, 08 Sep 2013* – + session chair
12. 96th Canadian Chemistry Conference and Exhibition *Québec, QC, CAN, 29 May 2013*
11. 45th Silicon Symposium *Lubbock, TX, USA, 22 May 2013*
- 10.* Symposium in Honor of Professor Andrew D. Hamilton *Oxford, UK, 26 Jun 2012* – + session chair
- 09.* ACS Rock River Section *Rockford College, Rockford, IL, USA, 21 Mar 2012*
- 08.* Sigma Xi Brown Bag Talk *Northern Illinois University, DeKalb, IL, USA, 17 Nov 2011*
- 07.* Northern Illinois University *DeKalb, IL, USA, 12 Apr 2011*
- 06.* University of Southern Mississippi *Hattiesburg, MS, USA, 21 Feb 2011*
05. 4th Chemistry of the Cell Conference *Oxford, UK, 06 Sep 2010*
04. 240th National ACS Conference *Boston, MA, USA, 23 Aug 2010*
03. 40th National Organic Symposium *Durham, NC, USA, 03 Jun 2007*
02. 232nd National ACS Conference *San Francisco, CA, USA, 13 Sep 2006*
01. 120th NCACS Local Meeting *Durham, NC, USA, 22 Apr 2006*

TEACHING (COURSE DESIGNER & INSTRUCTOR)

Graduate Courses

Organic Methodology *TMU, MS 8115, F18 & 20*

Physical Organic Chemistry *NIU, Chem 432/632, W15*

Undergraduate Courses

Organic Chemistry *TMU, CHY 142/242, AY 17-18, W20, F21 & 22; UOIT, Chem 2020/2021, S16, AY 16-17; NIU, Chem 336/337/338/339 (majors), AY 11-12, 12-13, & 13-14; NIU, Chem 330/331/332/333 (non-majors), AY 14-15*

Advanced Organic Chemistry *TMU, CHY 437, W18, 22, & 23 and CHY 600, F19*

Biochemistry *TMU, BCH 261, W19; UOIT, Biol 2080, W16*

Pharmaceutical Chemistry *TMU, CHY 436, W20 (co-taught)*

Chemistry Laboratory Research Project *TMU, CHY 307, S18 and CHY 399, W20*
undergraduate research course in synthetic organic chemistry

General Chemistry *UOIT, Chem 1020, W & S16*

Chemistry and Forensics *Duke University, Chem 49S, S06 & 07*
first-year seminar course for non-scientists

COMMITTEE MEMBERSHIP *elected position

Toronto Metropolitan University/Ryerson University

FOS Dean's Review Committee 2022-present
Departmental Hiring Committee 2022-present
Chemistry Curriculum Committee 2019-present
Teaching and Learning Spaces Working Group 2019-present
Faculty of Science Undergraduate Awards Selection Committee 2019-2021
Departmental Seminar Committee 2019-2020
Departmental Health and Safety Committee 2017-2021 Committee Chair 2017-2021
Department of Chemistry & Biology Undergraduate Awards Committee 2017-present
Committee Chair 2019-2022, Chair of NSERC USRA Departmental Ranking Subcommittee 2018, 2021, & 2022

UOIT

Outreach Committee, Recruitment Committee, Large Classes Working Group 2016-2017

NIU

Executive Committee*, External Chair Search Committee* 2014-2015
Public Relations Committee, Colloquium Committee 2011-2015
Undergraduate Grade Appeals Panel 2013-2014
Graduate Program Committee, Library Committee 2011-2013

VOLUNTEER APPOINTMENT-RELATED ACTIVITIES

Invited guest speaker, Chemistry Course Union Careers Panellist Event, 2020 & 2021
Co-chair/co-organizer, Chemistry & Biology's "Science at the Interface Symposium" 2019, 2020, 2021, & 2022
Poster Competition Judge, Ryerson University Chemistry & Biology's "Science at the Interface Symposium" 2015 & 2018
Invited Faculty Guest Speaker, "Landing Your Dream Job" (Ryerson Biomedical Science Course Union) 2018
Representative for Ryerson Chemistry at Ontario Universities' Fair 2017, 2018, & 2019
Representative for UOIT Chemistry at UOIT Open House & Ontario Universities' Fair 2016
First-Year Chemistry Orientation Presentation, UOIT 2016
Poster Competition Judge, UOIT "Student Research Showcase" 2016
Faculty Participant at UOIT "iBegin" for incoming students 2016
Faculty Supervisor, NIU Chem Club "Chem Demos" Night 2011-2015
Faculty Advisor, NIU STEM House General Science Floor 2013-2014
Participant, NIU PI Academy 2013
Faculty Advisor, NIU Honors Program 2012-2014
Faculty Advisor, Mortar Board Senior Honors Society, NIU Pleiades Chapter 2012-2014
Judge, NIU Undergraduate Research & Artistry Day Poster Competition 2012, 2013, & 2014
NIU PI Academy participant AY 2012-2013
Faculty Participant in NIU "Meet the Professor" & "Chat Nights" for incoming students 2012 & 2013

EXTERNAL PROFESSIONAL ACTIVITIES

Organic symposium organizer, "OC in 2023" 106th Canadian Chemistry Conference and Exhibition (CCCE) 2023
General Organic Session symposium organizer, 104th Canadian Chemistry Conference and Exhibition (CCCE) 2021
Co-chair/co-organizer, 48th Southern Ontario Undergraduate Student Chemistry Conference (SOU SCC48) 2020
National Center for Faculty Development and Diversity "Faculty Success Program" participant 2020
Oral session chair and/or poster competition judge, QOMBOC 2017, 2019, & 2022, POMS 2019, ACS 2013
Creator and maintainer of Canadian Organic Links resource website 2017-present
Judge, Inaugural Science Genius Toronto Rap B.A.T.T.L.E. Competition 2016
Journal Reviewer, various publications 2009-present
Textbook Reviewer, various organic chemistry textbooks 2014-present
Participant, NIH Mentoring Workshop for New Faculty in Organic and Biological Chemistry 2014
Consultant for organic chemistry-related legal issues, Williams & Connolly, LLP 2007

PROFESSIONAL ORGANIZATION MEMBERSHIPS

Chemical Institute of Canada 2013-present
Communications Officer (Executive Committee), CSC Division of Organic Chemistry, 2018-present
American Chemical Society, Division of Organic Chemistry 2005-present
Sigma Xi, Northern Illinois University Chapter 2012-2015
Phi Lambda Upsilon, Alpha Pi Chapter 2004-2008
Recruitment Co-Chair 2004-2006, Webmaster 2004-2006, Academic Speaker Coordinator 2005-2007