

## COREY R. J. STEPHENSON, PHD

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### BIOSKETCH

Corey was born in Collingwood, Ontario, Canada and received his undergraduate degree from the University of Waterloo in 1998. He completed graduate studies under the direction of Professor Peter Wipf at the University of Pittsburgh before joining the lab of Professor Erick M. Carreira at ETH Zürich. In September 2007, he joined the Department of Chemistry at Boston University as an Assistant Professor and served until June 2013. In July 2013, he joined the Department of Chemistry at the University of Michigan as Associate Professor of Chemistry and was promoted to full Professor in 2015. In June, 2024, Corey was appointed a the University of British Columbia as the Canada Excellence Research Chair in Innovative Synthetic Methods for Translational Chemistry with appointments in Chemistry and Biochemistry and Molecular Biology. He also co-leads a new synthesis laboratory at the BC Cancer Research Center with Professor Corinna Schindler.

Since starting his independent career in 2007, Corey has been the recipient of the Thieme Synlett/Synthesis Journal Award (2009), the Boehringer–Ingelheim New Investigator Award (2010), an NSF CAREER award (2011-2016), the Alfred P. Sloan Research Fellowship (2011-2013), the Amgen Young Investigator Award (2011), the Novartis Early Career Award in Organic Chemistry (2012-2015), the Eli Lilly Grantee Award (2013-2015) the Camille Dreyfus Teacher-Scholar Award (2013), the EROS Best Reagent Award (2014), the Pfizer Green Chemistry Award (2015), the Imes and Moore Mentorship Award (2020), Arthur C. Cope Scholar Award (2020), and alumni awards from the University of Waterloo (2023) and the University of Pittsburgh (2024).

### EDUCATION

**Ph.D., Organic Chemistry, 5/2005**

University of Pittsburgh, Pittsburgh, PA, USA

**B.Sc., Honours Applied Chemistry, 05/1998**

University of Waterloo, Waterloo, ON, Canada

### PROFESSIONAL POSITIONS

**Professor of Chemistry, Biochemistry and Molecular Biology, 06/2024 to present**

University of British Columbia, Vancouver, BC, Canada

**Distinguished Scientist, 06/2024 to present**

BC Cancer Research Institute, Vancouver, BC, Canada

**Visiting Professor of Chemistry, 06/2024 to 08/2024**

University of Michigan, Ann Arbor, MI, USA

**Professor of Chemistry, 09/2015 to 05/2024**

University of Michigan, Ann Arbor, MI, USA

**Schulich Visiting Professor, 06/2016**

Israel Institute of Technology, Haifa, Israel

**Associate Professor of Chemistry, 07/2013 to 08/2015**

University of Michigan, Ann Arbor, MI, USA

**Visiting Professor of Chemistry, 12/2014**

University of Muenster, Germany

**Assistant Professor of Chemistry, 09/2007 to 06/2013**

Boston University, Boston, MA, USA

**Post Doctoral Fellow, 03/2005 to 08/2007**

ETH-Zurich, Zurich, Switzerland

Advisor: Professor Erick M. Carreira

**Graduate Research Assistant, 09/1998 to 02/2005**

University of Pittsburgh, Pittsburgh, PA, USA

Advisor: Professor Peter Wipf

**TEACHING  
EXPERIENCE**

**CH 420, Intermediate Organic Chemistry**, University of Michigan, Ann Arbor, MI

An advanced course in undergraduate organic chemistry with a focus on fundamental organic transformations, mechanisms, selectivity, and spectroscopy.

**CH 543, Organic Reaction Mechanisms**, University of Michigan, Ann Arbor, MI

A comprehensive survey of reactions for organic synthesis for graduate students with an emphasis upon transition state analysis and mechanism.

**CH 215, Structure and Reactivity**, University of Michigan, Ann Arbor, MI

Fundamentals of organic chemistry emphasizing functional group transformations.

**CH 540, Organic Principles**, University of Michigan, Ann Arbor, MI

This course focuses on important concepts in mechanistic organic chemistry for graduate students including thermodynamics and kinetics as they pertain to reaction mechanisms.

**CH 642, Organic Reactions and Mechanisms**, Boston University, Boston, MA

A comprehensive survey of reactions for organic synthesis with an emphasis upon transition state analysis and mechanism.

**CH 204/214, Sophomore Organic Chemistry II**, Boston University, Boston, MA

Fundamentals of organic chemistry emphasizing functional group transformations.

**CH 211/212, Intensive Organic Chemistry I and II**, Boston University, Boston, MA

Fundamentals of organic chemistry with a focus on reaction mechanisms, molecular orbitals and reactivity.

**Photoredox Catalysis Opportunities in Pharma**, Various Pharmaceutical Companies (Merck-Rahway, Merck-Boston, Abbvie, Pfizer, GSK, Pharmaron, Wuxi, Bioduro, Pharmablock, Gilead). A one to two day course co-taught with Professor David MacMillan (Princeton University) and Tehshik Yoon (University of Wisconsin-Madison) that aims to deliver an overview of photoredox catalysis and its application to organic synthesis as it pertains to those in medicinal/discovery chemistry as well as those in process chemistry.

<b>AWARDS</b>	<p>Canada Excellence Research Chair, University of British Columbia, 2024–2032  University of Pittsburgh Distinguished Alumni Award, 2024  University of Waterloo Alumni Award for Contributions to Science, 2023  ACS Arthur C. Cope Scholar Award, 2020  Imes and Moore Mentorship Award, University of Michigan, 2020  Thomson-Reuters/Clarivate Highly Cited Researcher, 2015–2022  Pfizer Green Chemistry Award, 2015  EROS Best Reagent Award, 2014  Camille Dreyfus Teacher-Scholar Award, 2013–2018  Eli Lilly Grantee Award, 2013–2015  Novartis Early Career Award in Organic Chemistry, 2012–2015  Amgen Young Investigator Award, 2011  Alfred P. Sloan Research Fellow, 2011–2013  NSF Career Award, 2011–2016  Boehringer–Ingelheim New Investigator Award, 2010  Thieme Synthesis/Synlett Journal Award, 2009  ACS Petroleum Research Foundation Type G Award, 2008</p>
<b>EXTERNAL SERVICE</b>	<p>NSF Chemistry panels (2011–2022)  Ad-hoc reviewer (AAAS, DOE, NSF, PRF, NDSEG, NIH)  Chair of 9<sup>th</sup> Pacific Symposium on Radical Chemistry, Asilomar, CA, June 16–21, 2019  Guest Editor of <i>Accounts of Chemical Research</i> Special Issue “Photoredox catalysis in organic synthesis” (with Prof. Tehshik Yoon)  Co-chair of the Photocatalysis in Organic Synthesis Symposium at the 2013 Spring National ACS meeting, New Orleans, LA (with Prof. Tehshik Yoon)</p>
<b>DEPARTMENT, COLLEGE AND UNIVERSITY SERVICE</b>	<p>LSA Safety Committee (Chair 2020–2024; member 2019–2020)  LSA Safety Accountability Liaison to University Safety Committee (2022–2024)  Chemistry Safety Committee (Chair, 2015–2018; Member 2023–2024)  Chemistry Recruiting Committee (Chair, 2015–16)  Chemistry Centers and Industry Committee (2015–2018; 2019–2020)  Chemistry Graduate Admissions Committee (Chair, 2016–2020; Member, 2021–2023)  Chemistry Seminar Committee (2018–2019; 2021–2022)  Chemistry Art Committee (2018–2020)  Chemistry Executive Committee (2019–2023)  Chemistry Publicity and Development Committee (2019–2020)  Chemistry Curriculum Committee (2020–2022)  Chemistry Graduate Committee (2021–2022)  Chemistry Ombudsperson (2022–2023)</p>
<b>EDITORIAL BOARDS</b>	<p>Associate Editor and Executive Board of Editors, <i>Beilstein Journal of Organic Chemistry</i>  Editorial Advisory Board, <i>Chem (Cell Press)</i>  Editorial Advisory Board, <i>Organic and Biomolecular Chemistry</i>  Editorial Advisory Board, <i>Helvetica Chimica Acta</i>  Editorial Advisory Board, <i>ACS Organic and Inorganic Au</i>  Editorial Advisory Board, <i>Advanced Synthesis and Catalysis</i></p>
<b>AFFILIATIONS</b>	<p>American Chemical Society (Division of Organic Chemistry)  Phi Lambda Upsilon (Xi Chapter, University of Pittsburgh)</p>

## REPRESENTATIVE PUBLICATIONS (undergraduate coauthors are underlined>)

“Revisiting the Reactivity of the Dismissed Hydrogen Atom Transfer Catalyst Succinimide-N-oxyl.” Yang, C.; Farmer, L.; Pratt, D. A.; Maldonado, S.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2024**, *146*, 12511.

“A general alkene aminoarylation enabled by N-centered radical reactivity of sulfinamides.” Noten, E. A.; Ng, C. H.; Wolessensky, R. M.; Stephenson, C. R. J. *Nat. Chem.* **2024**, *16*, 599.

“Leveraging the persistent radical effect in the synthesis of trans-2,3-diaryl-dihydrobenzofurans.” Bec J. Roldan, B. J.; Hammerstad, T. A.; Galliher, M. S.; Keylor, M. H.; Pratt, D. A.; Stephenson, C. R. J. *Angew. Chem. Int. Ed.* **2023**, *62*, e202305801.

“Regioselective Rearrangement of Cubanes to Cuneanes: Scope Expansion and Mechanistic Investigations.” Son, J. -Y.; Aikonen, S.; Morgan, N. Harmata, A. S.; Sabatini, J. J.; Ess, D. H.; Paton, R. S.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2023**, *145*, 16355.

“High-Throughput Optimization of Photochemical Reactions using Segmented Flow Nanoelectrospray Ionization Mass Spectrometry.” Sun, A. C.; Steyer, D. J.; Robinson, R. I.; Ginsburg-Moraff, C.; Plummer, S.; Gao, J.; Tucker, J. W.; Alpers, D.; Stephenson, C. R. J.; Kennedy, R. T. *Angew. Chem. Int. Ed.* **2023**, e202301664; *Angew. Chem.* **2023**, e202301664. **VIP Article**.

“Valorization of Ethanol: Ruthenium-Catalyzed Guerbet and Sequential Functionalization Processes.” Davies, A. M.; Li, Z.-Y.; Stephenson, C. R. J.\*; Szymczak, N. K.\* *ACS Catal.* **2022**, *12*, 6729.

“Photochemical formal (4+2)-cycloaddition of imine-substituted bicyclo[1.1.1]pentanes and alkenes.” Harmata, A. S.; Spiller, T. E.; Sowden, M. J.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2021**, *143*, 21223.

“Mechanism of Electrochemical Generation and Decomposition of Phthalimide-N-Oxyl.” Yang, C.; Farmer, L. A.; Pratt, D. A.; Maldonado, S.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2021**, *143*, 10324.

“Synthesis of vitisin A & D enabled by a persistent radical equilibrium.” Romero, K. J.; Keylor, M. H.; Griesser, M.; Zhu, X.; Strobel, E.; Pratt, D. A.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2020**, *142*, 6499.

“Exploiting Imine Photochemistry for Masked N-Centered Radical Reactivity.” Staveness, D.; Collins III, J. L.; McAtee, R. C.; Stephenson, C. R. J. *Angew. Chem. Int. Ed.* **2019**, *58*, 19000.

“Photochemical synthesis of 1-aminonorbornanes and implications for aniline bioisosterism.” Staveness, D.; Sodano, T. M.; Li, K.; Burnham, E. A.; Jackson, K.; Stephenson, C. R. J. *Chem* **2019**, *5*, 215.

“Arylsulfonylacetimides as Bifunctional Reagents for Alkene Aminoarylation.” Monos, T. M.; McAtee, R. C.; Stephenson, C. R. J. *Science* **2018**, *361*, 1369.

“Redox Catalysis Facilitates Lignin Depolymerization.” Bosque, I.; Magallanes, G.; Rigoulet, M.; Kärkäs, M. D.; Stephenson, C. R. J. *ACS Cent. Sci.* **2017**, *3*, 621.

“Synthesis of Resveratrol Tetramers via a Stereoconvergent Radical Equilibrium.” Keylor, M. H.; Matsuura, B. S.; Griesser, M.; Chauvin, J.-P.; Harding, R. A.; Kirillova, M. S.; Zhu, X.; Fischer, O. J.; Pratt, D. A.; Stephenson, C. R. J. *Science* **2016**, *354*, 1260. Highlighted in C&E News.

“Photochemical Perfluoroalkylation with Pyridine N-Oxides: Mechanistic Insights and Performance on Kilogram Scale.” Beatty, J. W.; Douglas, J. D.; Millar, R.; McAtee, R. C.; Cole, K. P.; Stephenson, C. R. J. *Chem* **2016**, *1*, 456. Highlighted in C&E News.

“A Visible Light-Mediated Radical Smiles Rearrangement and its Application to the Synthesis of a Difluorospirocyclic ORL-1 Antagonist.” Douglas, J. D.; Albright, H.; Sevrin, M. J.; Cole, K. P.; Stephenson, C. R. J. *Angew. Chem. Int. Ed.* **2015**, *54*, 14898.

“A Photochemical Strategy for Lignin Degradation at Room Temperature.” Nguyen, J. D.; Matsuura, B. S.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2014**, *136*, 1218.

“Photoredox Activation and Anion Binding Catalysis in the Dual Catalytic Enantioselective Synthesis of  $\beta$ -Amino Esters.” Bergonzini, G.; Schindler, C. S.; Wallentin, C.-J.; Jacobsen, E. N.; Stephenson, C. R. J. *Chem. Sci.* **2014**, *5*, 112.

“Engaging Unactivated Alkyl, Alkenyl and Aryl iodides in Visible-Light Mediated Free Radical Reactions.” Nguyen, J. D.; D’Amato, E. M.; Narayanam, J. M. R.; Stephenson, C. R. J. *Nat. Chem.* **2012**, *4*, 854.

“Visible Light-Mediated Atom Transfer Radical Addition via Oxidative and Reductive Quenching of Photocatalysts.” Wallentin, C.-J.; Nguyen, J. D.; Finkbeiner, P.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2012**, *134*, 8875.

“Visible Light Photoredox Catalysis in Flow.” Tucker, J. W.; Zhang, Y.; Jamison, T. F.; Stephenson, C. R. J. *Angew. Chem. Int. Ed.* **2012**, *51*, 4144.

“Total Synthesis of (+)-Gliocladin C Enabled by Visible Light Photoredox Catalysis.” Furst, L.; Narayanam, J. M. R.; Stephenson, C. R. J. *Angew. Chem., Int. Ed.* **2011**, *50*, 9655.

“Intermolecular Atom Transfer Radical Addition to Olefins Mediated by Oxidative Quenching of Photoredox Catalysts.” Nguyen, J. D.; Tucker, J. W.; Konieczynska, M. D.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2011**, *133*, 4160.

“Visible Light Mediated Conversion of Alcohols to Halides.” Dai, C.; Narayanam, J. M. R.; Stephenson, C. R. J. *Nat. Chem.* **2011**, *3*, 140.

“Visible Light Photoredox Catalysis: Aza-Henry Reactions via C–H Functionalization.” Condie, A. G.; González-Gómez, J. C.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2010**, *132*, 1464.

“Electron-Transfer Photoredox Catalysis: Development of a Tin-Free, Reductive Dehalogenation Reaction.” Narayanam, J. M. R.; Tucker, J. W.; Stephenson, C. R. J. *J. Am. Chem. Soc.* **2009**, *131*, 8756.

#### NAMED AND PLENARY LECTURES

- 1) **29th IUPAC Symposium in Photochemistry**, Valencia, Spain, Jul–2024
- 2) **10<sup>th</sup> Pacific Symposium on Radical Chemistry**, Kyoto, Japan, Jun–2023
- 3) **Organic Syntheses Lecture**, Illinois State University, Apr–2023
- 4) **Organic and Medicinal Chemistry 2022**, Wollongong, Australia, Nov–2022
- 5) **Organic Reactions Lecture**, Emory University, Postponed (COVID)
- 6) **Organic Reactions Lecture**, University of Illinois, Feb–2020
- 7) **International Conference on Catalysis and Organic Synthesis**, Moscow, Sep–2019
- 8) **19<sup>th</sup> European Symposium on Fluorine Chemistry**, Warsaw, Poland, Aug–2019
- 9) **ACS National Organic Symposium**, University of Indiana, Jun–2019
- 10) **Photo and Catalytic Science for Sustainable Society**, Tokyo Institute of Technology, Japan, 3–4–Mar–2018
- 11) **German Chemical Society Science Forum 2017**, Berlin, Germany 10–14–Sep–2017
- 12) **Ernest Ritchie Memorial Lecture**, University of Sydney, 2–Aug–2017.
- 13) **12<sup>th</sup> International Symposium on Organic Free Radicals**, Shanghai, China, Oct–2016
- 14) **Schulich Lectureship**, Technion, Israel, 9–Jun–2016
- 15) **4<sup>th</sup> Zing Continuous Flow Chemistry Conference**, Albufeira, Portugal, 25–28–Apr–2016
- 16) **Reactive Intermediates Symposium**, Society of Chemistry and Industry, London, UK, 20–Oct–2015
- 17) **Southern Highlands Conference on Heterocyclic Chemistry**, Sydney, Australia, Aug–2015
- 18) **EROS 2014 Best Reagent Award Lecture**, Université de Montreal, 17–Oct–2014
- 19) **Padwa Lecture**, Columbia University, 2–Oct–2014
- 20) **Alphora Lecture**, University of Toronto, 5–May–2014
- 21) **Banff Symposium on Organic Chemistry**, Banff, Canada, 8–11–Nov–2013
- 22) **Student-invited lecturer**, University of Delaware, 25–Sep–2013
- 23) **Excellence in Chemistry Symposium**, University of Texas–Southwestern Medical Center, 7–May–2013
- 24) **Bristol–Myers Squibb Lecture**, Harvard University, 15–Oct–2012

- 25) ***TY Shen Lecture***, University of Manchester, UK, 9–Jul–2012
- 26) ***30<sup>th</sup> Annual Graduate Student Symposium***, University of Buffalo, 17–May–2012
- 27) ***Lundbeck Lecture***, Université de Sherbrooke, 4–Apr–2012
- 28) ***Novartis Lecture***, Princeton University, 15–Mar–2012
- 29) ***Eli Lilly Lecture***, Northwestern University, 23–Feb–2012
- 30) ***Bristol–Myers Squibb Lecture***, Colorado State University, 13–Feb–2012
- 31) ***Quebec-Ontario Mini-Symposium on Organic and Bioorganic Chemistry***, Montreal, Nov–2011
- 32) ***Amgen Young Investigator Award Symposium***, Amgen, Thousand Oaks, CA, 4–Oct–2011
- 33) ***Organic Chemistry Day***, University of Missouri – Columbia, 9–Apr–2011

**>200 INVITED LECTURES**