

Curriculum Vitae: Douglas W. Stephan FRSC, FRS

Current Address Department of Chemistry, University of Toronto,
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Home Address 47 St. Clair Ave. W., Suite 302,
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Personal Born in Hamilton, Ontario, CANADA July 27 1953, married (Dianne L. Gunn)
two adult children (David and Kathryn)

Citizenship Canadian

Education Ph.D 1980 (University of Western Ontario),
B.Sc. 1976 (McMaster University, summa cum laude)

Positions Held

2018-present University Professor, University of Toronto
2008-2018 Professor, University of Toronto
2016-2019 Chair, Editorial Board of Chemical Society Reviews
2016-2018 Einstein Visiting Fellow, TU Berlin.
2011-2017 Associate Editor, Chemical Society Reviews
2006 (Oct) International Research Guest Professor, WWU Universitaet Muenster
2008-2021 Canada Research Chair in Catalysis and New Materials (UToronto)
2005-2007 Canada Research Chair in Catalysis and New Materials (UWindsor)
2003-2006 Head, Department of Chemistry & Biochemistry
2002-2007 University Professor, University of Windsor
2002-2003 Humboldt Senior Awardee, WWU Universitaet Muenster
2001-2006 NSERC/NOVA Chemicals Corporation Industrial Research Chair
1995 DAAD Visiting Scientist, Muenster, Germany (declined)
1995 NSERC/DFG Visiting Scientist, WWU Universitaet Muenster.
1992-2002 Professor, Chemistry, University of Windsor
1990-1991 Research Professor, Chemistry, University of Windsor
1985-1992 Associate Professor, Chemistry, University of Windsor
1982-1985 Assistant Professor, Chemistry, University of Windsor
1980-1982 NATO Postdoctoral Fellow, Chemistry, Harvard University
1976-1980 NSERC Postgraduate Scholar, Chemistry, University of Western Ontario

International Awards

2014-2017 Thomson Reuters Highly Cited Researcher (one of 4 in Canada in chemistry)
2015 : R U O G T V O R V W , Q I O X H Q W I S D O n C h e m i s t s Q W L I L F O L Q G V
2015 Distinguished Adjunct Professor, King Abdulaziz University
2014 Applied Catalysis Award (Royal Society of Chemistry, UK)
2014 Corresponding Member of Nordrhein-Westfaelia Academy of the Sciences
and Arts (Germany)
2013 Honorary Member of the Israeli Chemical Society
2013 Fellow of The Royal Society (London, UK)
2012 Ludwig Mond Award (Royal Society of Chemistry, UK)
2011 Humboldt Foundation Research Award - Reitation (Forschungpreis)
2010 Fellow of the Royal Society of Chemistry (UK)

2004	Ciappetta Lectureship Award (North American Catalysis Society)
2002-2003	Humboldt Foundation Research Award (Forschungpreis)
1975	ACS Undergraduate Award in Analytical Chemistry.
National Awards	
2014	Canadian Green Chemistry and Engineering Award
2014	CIC Medal (Chemical Institute of Canada)
2013	Henry Marshall Tory Medal (Royal Society of Canada)
2009-2011	Killam Research Fellowship
2007	Paper (ref 106) in 20 most cited papers in <i>Organometallics</i> 1997-2007 (top 1%).
2006	Publication named to Top 50 NSERC Discoveries of 2006
2005	LeSueur Memorial Award (Society for Chemical Industry)
2005	Fellow of the Royal Society of Canada
2003	Synergy Award (with NOVA Chemicals from NSERC of Canada)
2003	Senior Award for Scholarship & Research (University of Windsor)
2001	Alcan Award (Canadian Society for Chemistry)
1994	Fellow of the Chemical Institute of Canada.
1976	Ontario Graduate Scholarship (declined).
1972	Ontario Scholarship, SHS Student Council Scholarship
Distinctions: Lectures	
2018	Keynote Lecturer, International Conference on Coordination Chemistry Sendai
2018	Plenary Lecturer, Boron of the Americas, Boston
2018	Plenary Lecturer, PAC Stifting Meeting, Netherland Student Conference, Utrecht,
2018	Plenary Lecturer, The Netherland Catalysis and Chemistry Conference
2018	Plenary Lecturer, 1st Atlantic Basin Conference on Chemistry, Cancun, Mexico.
2017	Plenary Lecturer, OMCO'19 South Korea
2017	Plenary Lecturer, Intl Conference on Heterocyclic Chemistry, Vancouver, BC
2017	Plenary Lecturer, 12 th Int. Conference on Heteroatom Chemistry, Vancouver
2016	Anton Burg Lecture University of Southern California
2016	Anthony J. Arduengo, III Endowed Lecture Series, U of Alabama.
2016	Plenary Lecturer, COMC, Melbourne Australia
2016	Plenary Lecturer, National Meeting of Mexico

2010 University of Bonn (GDCh Lecture)
 2010 Plenary Lecturer, SwissGermanFrench Organic Symp. Plenary (2 lectures)
 2009 Plenary Lecturer, Chemistry of Organoelement Compounds, Moscow
 2009 Plenary Lecturer, Zing Main Group Conference
 2008 Plenary Lecturer, Intl Conf. on Boron Chem. Spain
 2006 Plenary Lecturer, Maritime IDW
 2004 3 O H Q D U \ / H F W X U H U , Q W T O & R Q J U H V V R Q 2 U J D Q R
 2004 Plenary Lecturer, Canadian Catalysis Symposium, (Montreal)
 2004 Plenary Lecturer, Western States Catalysis Club (Provo UT)
 2003 Universitaet Muenster (GDCh Lecture)
 1994 Closs Lectureship, University of Chicago
 Distinctions: Editing
 2017 Guest Editor, Canadian German Issue of Angew. Chem. 2017.
 2017 Guest Editor, Canadian Issue of Chem. Soc. Rev.
 2017 Guest Coeditor of FLP Issue for Philosophical Transactions (with G. Erker)
 2016-present Member of the scientific advisory board of CHEM (Springer Publishing)
 2016 Cited as Highly Prolific Author by ACS Organometallics
<http://journalstars.acs.org/organometallic/journal/organometallics>
 2016 Guest Editor Dalton Transactions, Main group Chemistry issue.
 2014-2019 Member of the Editorial Board of Philosophical Transactions A (Royal Society)
 2013 Research Highlighted in Silverberg *Chemistry, 1st Canadian Edition*
 2012-2016 Member of the Advisory Board of Chemical Communications
 2012-2014 Member of the Editorial Advisory Board of Dalton Transactions
 2012 Guest Editor, Dalton Trans. issue on FLPs.
 2009-2016 International Advisory Board, Z. Allgem. Anorg. Chem.
 2010-2012 Member of the Editorial Board of Chem. Soc. Rev.
 2010 Guest Editor, Chem. Commun., web issue on Hydrogen Activation
 1997-2000 Member, Editorial Board of Organometallics
 1997-2000 Member, Editorial Board of Can. J. Chem.
 Distinctions: Conferences
 2016-2017 Chair, Fund Raising CSC National Meeting
 2016-2017 Chair: National CSC Inorganic Mixer
 2012 Chair, Int. Symp. For Adv. Chem. Sci. (ISACS 8, Toronto)
 2016-17 Canadian Advisory Board of ICHAC2 (Vancouver BC)
 2010 Program Chair CSC National Meeting
 2003 CSC/IUPAC Symposium Organizer
 1997 Program Chair, National CIC Meeting (Windsor)
 1992 Symposium Organizer Canadian Chemical Congress, Edmonton
 1988-1989 member of the Local Organizing Committee, 14th ICOMC, Detroit.
 1987 Coordinator: 20th Inorganic Discussion Weekend, Ontario, Windsor.,
 Professional Service: Grants
 2015-2018 European Science Foundation, College of Expert Reviewers
 2015-2018 Member of the NSERC Chemistry Evaluation Committee
 2015 Vanier Scholarship Ranking Committee, U of Toronto
 2015-2018 Royal Society Fellowship grants Evaluation committee, Royal Society London
 2014 European Research Commission, Research Grants Committee
 2012 DFG Excellence Initiative External Panel
 2012-2018 ANR (France) External reviewer
 2014-2017 Advisory Board Member: BerlinPotsdam Cluster for Excellence in Catalysis

2012	Green Centre of Canada Technical Advisory Board
2009-present	Technical Advisory Committee for GreenCentre Canada
2013	Member of Graduate Program Review Team McMaster University
2009	OCGS review committee Brock University, Chemistry
2008	External Review Committee SFU, Chemistry
2006-2009	Member, nominations committee for Physical Sciences of RSC
2003	Member of Evaluation College for EPSRC (UK)
2000-present	Member of Evaluation College for Canada Research Chairs
2003-2004	NSERC AGENO Committee
2001-2004	Inorganic Division Rep., Board of Directors of the CSC
2001-2004	Member, Board of Directors of the Canadian Society for Chemistry
2000, 2001	Member, Seacie Selection Committee NSERC of Canada.
1999-2001	Member, Chemistry ME/MI Grants Selection Committee NSERC
1998-1999	Past Chair, Inorganic Division of the Chemical Institute of Canada
1996-98	Chair, Inorganic Division of the Chemical Institute of Canada
1994-95	Vice Chair, Inorganic Division of the Chemical Institute of Canada
1993-1996	Member, Chemistry Grants Selection Committee NSERC of Canada.
1993-1995	Pacificchem Symp. Organizer: "Early Transition/Group 15,16 Chemistry".
1993	Contributing Editor for Inorg. Chem. to The Canadian Chemical News.
1993-96	Review Panel for ACS Award in Organometallic Chemistry
1986-1987	Vice-President of the Essential Section of the CIC
1984-86	Secretary of the Essential Section of the CIC
1980-present	Member of the Chemical Institute of Canada and American Chemical Society

Publications:

Web of Science H factor: 74 Total Citations 23,056 Google scholar H index 38 citations: 27,796

Books edited

- B1. **Topics in Current Chemistry: Frustrated Lewis Pairs I** Ed: G. Erker, D.W. Stephan; Springer Press 2013 (27391 downloads 2012-2016)
- B2. **Topics in Current Chemistry: Frustrated Lewis Pairs II** Ed: G. Erker, D.W. Stephan; Springer Press 2013 (32433 downloads 2012-2016)

Book Chapters

- B3. C.B. Caputo, D.W. Stephan, Nonconventional Lewis Acids and Bases in Frustrated Lewis Pair Chemistry **Structure and Bonding** 2017, 171, 129. DOI: 10.1007/430_2015_177 (Invited, 100th Anniversary of Lewis Acid Base Chemistry).
- B4. D.W. Stephan, Frustrated Lewis Pairs, Activation of H₂ and Other Small Molecules **Comp. Inorg. Chem. II**. Eds: J. Reedijk, K. Poeppelmeier, Elsevier, Oxford 2013, 1, 1069-1103 (invited)
- B5. D.W. Stephan, G. Erker, Frustrated Lewis Pairs Mediated Hydrogenation **Topics in Current Chem.: Frustrated Lewis Pairs I**, Ed: D.W. Stephan, G. Erker, Springer Press 2013, 85-110.
- B6. D.W. Stephan, Discovery of Frustrated Lewis Pairs: Intermolecular FLPs for Activation of Small Molecules **Topics in Current Chem.: Frustrated Lewis Pairs I**, Ed: D.W. Stephan, G. Erker, Springer Press 2013, 111-133.
- B7. ' : 6 W H S K D Q 3) U X V W U D W H Green Strategy for Hydrogenation Catalysis in ' **Catalysis without Precious Metals** ' : L OMCH, Ed. M. Bullock. (Invited) 2010, 261-276.
- B8. D.W. Stephan, S. Smith, Titanium **Comp. Coord. Chem. 2nd** Ed. 2003 Editor: J. McCleverty, Elsevier Science, UK, 4, 3104.
- B9. D.W. Stephan, E. Hollink, Zirconium/Hafnium **Comp. Coord. Chem. 2nd** Ed. 2003 Editor: J. McCleverty, Elsevier Science, UK, 4, 1053.

Book Reviews

BR10 ' : 6 W H S K D Q % R R N 5 H Y L H Z 3 % H \ R Q G 2 L O D Q G * D V 7 K H

G.A. Olah, A. Goeppert, G.K. S. Parka *Energy Technology*, 2013 1, 777.

Highlights

H11. D.W. Stephan, Dogma Breaking Catalysis *Nature* 2018 553, 160-161. (invited News and Views).

R466. J. Lam, K. Szkop, E. Mosaferi, D.W. Stephenson, *Chem. Soc. Rev.* **46**, 10000 (2017). DOI: 10.1039/C6CS00100A. *Chem. Soc. Rev.* accepted.

C447. V. Fasano, J. H. W. LaFortune, J. M. Bayne, M. J. Ingleson, D. W. Stephan and A. W. Waterstable
Electrophilic Phosphonium Cations: synthesis and reactivity-telluraboromethyl phosphonium salts,
Chem. Commun. 2018 54, 662-665 DOI: 10.1039/C7CC09128A
C446. F.A. Tsao, D.W. Stephan, Synthesis and Reactions of 1,4-Telluraborine,**Chem. Commun.**
2018 54, 208-211 DOI: 10.1039/C7CC08765A

2017

C445. J.H.W. LaFortune, J.M. Bayne, T.C. Johnstone, L. Fan, D.W. Stephan, Catalytic double
hydroarylation of alkynes to 9,9-disubstituted 9,10-dihydroacridine derivatives by an electrophilic
phenoxyphosphonium dication,**Chem. Commun.** 2017, 53, 1331-1335, DOI: 10.1039/C7CC08037A.
(cover invited).
C444. K. Sato, T.T.Y. Tan, F. Schäfers, F.E. Hahn, D.W. Stephan Imidazole-stabilized, electron
deficient boron cations,**Dalton Trans.** 2017, 46, 1640-1647, DOI: 10.1039/C7DT04030J.
C443. C. Tang, Q. Liang, A.R. Jupp, T.C. Johnstone, R.C. Neu, D. Song, S. Grimme, D.W. Stephan, 1,1-
Hydroboration and Borane Adduct of Diphenyldiazomethane: A Prelude to NHC Chemistry?**Angew.**
Chem. Int. Ed. 2017, 56, 16588-16592 (Highlighted in *Angew. Chem.* as VIP)
C442. I. Mallov, A.J. Ruddy, Hui, S. Grimme, D.W. Stephan, -FC Bond Activation by
Silylium/Phosphine Frustrated Lewis Pairs: Mediated Hydrodefluorination of PhCF_3 , PhCF_2H and PhCF_2 ,
Chem. Eur. J. 2017, 23, 17692-17696, DOI: 10.1002/chem.201705276
A441. A.G. Barrado, J.M. Bayne, M. Alcarazo, D.W. Stephan, Cyclopropenium and pyridinium
substituted phosphonium salts: Lewis acid catalysts for Mukaiyama Reaction,**Dalton Trans.**,
2017, 46, 1621-1622.
A440. M. Mehta, T.C. Johnstone, J. Lam, A. Hermannsdorfer, M. Dreiss, D.W. Stephan, Synthesis and
Oxidation of Phosphine Cation,**Dalton Trans.** 2017, 46, 14149-14157, DOI: 10.1039/C7DT03175K
C439. K.M. Szkop, A.R. Jupp, R. Suter, H. Grützmacher, D.W. Stephan, Borane-Stabilized Isomeric
Dimers of the Phosphaethynolate Anion,**Angew. Chem. Int. Ed.** 2017, 56, 14174-14177
<https://doi.org/10.1002/anie.201708646>
C438. M. Xu, A.R. Jupp, D.W. Stephan, Stoichiometric Reactions of Gallium and Indium Silylamides and
Catalytic Synthesis of Ureas,**Angew. Chem. Int. Ed.** 2017, 56, 14277-14281
<https://doi.org/10.1002/anie.201708921>
A437. S.J. Geier, J.H.W. LaFortune, D. Zhu, S.C. Kosnik, C.L.B. Macdonald, D.W. Stephan, S.A.
Westcott, The Phosphinoboration of Carbodiimides, Isocyanates, Isothiocyanates,**Dalton Trans.**
2017, 46, 10876-10885
A436. L.L. Cao, D.W. Stephan. Homolytic Cleavage Reactions of a Neutral Electrophilic Doubly
based stabilized Diborane(B_2),**Organometallics** 2017, DOI: 10.1021/acs.organomet.7b00522
C435. F.A. Tsao, A. Sathaseevan, G. Erker, D.W. Stephan, Stoichiometric catalytic isomerization
of alkenylboranes using bulky Lewis bases,**Chem. Commun.** 2017, 53, 9458-9461. DOI:
10.1039/C7CC04904H
A434. L. Liu, L.L. Cao, Y. Shao, D.W. Stephan, Single Electron Delivery to Lewis Pairs: Small
Molecules Activation to Novel Anions,**J. Am. Chem. Soc.** 2017, 39, 10062-10071
[doi/10.1021/jacs.7b05120](https://doi.org/10.1021/jacs.7b05120)
A433. I. Mallov, T. C. Johnstone, D. C. Burns, D. W. Stephan A Model for C-Activation by
Electrophilic Phosphonium Cations,**Chem. Commun.** 2017, 53, 7529-7532, DOI:
10.1039/C7CC04057A
C432. F.A. Tsao, D.W. Stephan, Avenues for Derivatization of BT-based Heterocycles,**Chem.**
Commun. 2017, 53, 6311-6314 DOI: 10.1039/C7CC03648E
A431. F. G. Fontaine, D.W. Stephan, On The Concept of Frustrated Lewis Pairs,**Philos. Trans. A.**
2017, accepted. (Invited)

C430. J. Zhou, L.L. Cao, L. Liu, D.W. Stephan, FLP reactivity of $[PC]^+$ and $(\sigma\text{-tolyl})_3P$ and the capture of a Staudinger reaction intermediate, *Dalton Trans.* 2017, 46, 9334 ± 9338 DOI: 10.1039/C7DT01726J (invited cover)

A429. L. Liu, L.L. Cao, Y. Shao, G. Mard and D.W. Stephan, A Radical Mechanism for Frustrated Lewis Pair Reactivity, *CHEM*, 2017, 3, 259267. (invited cover)

A428. M. Xu, J. Possart, A. Waked, J. Roy, W. Uhl, D.W. Stephan, Halogenated Triphenylidium in Frustrated Lewis Activations and Hydrogenation Catalysis, *Phil. Trans. R. Soc. A* 2017, 375: 20170014 (Invited)

A427. K.L. Bamford, L.E. Longobardi, L. Liu, S. Grimme, D.W. Stephan, FLP Reduction and Hydroborations of Phenanthrene, *P L Q R T X L Q DQ Online, Dalton Trans.* 2017, 46, 53085319 DOI: 10.1039/C7DT01024A

A426. K.M. Szkop, D.W. Stephan, Metal Free Pincer Chemistry: PNP Pincer Polycationic Phosphonium Lewis Acid, *Dalton Trans.*, 2017, 46, 3921 ± 3928. DOI: 10.1039/C7DT00441A

R425. D.W. Stephan, A Tale of two Elements: The Lewis Acidity/Basicity Umpolung of Boron and Phosphorus, *Angew. Chem. Int. Ed.* 2017, 56, 5984 ± 5992

C424. H. Jin, C. MückLichtenfeld, A. Hepp, D.W. Stephan, F. E. Hahn, Small Molecule Activation with N,NR-MIC Platinum Complexes, *Chem. Eur. J.* 2017, accepted.

A423. J.J. Chi, T.C. Johnstone, D. Voicu, F. Dielmann, E. Kumacheva, D.W. Stephan, Quantifying CO Capture by Lewis Pairs, *Chem. Sci.* 2017, 8, 3270 ± 3275. DOI: 10.1039/C6SC0560

C422. L. Liu, D. Zhu, L.L. Cao, D.W. Stephan, N-Heterocyclic Carbenes Stabilized Parent Sulfenyl, Selenenyl, and Tellurenyl Cations (EH^+ , E = S, Se, Te), *Dalton Trans.* 2017, 46, 30953099. DOI: 10.1039/C7DT00186J (invited cover)

R421. F.G. Fontaine, D.W. Stephan, Metal Free Reduction of CO_2 , *Curr. Opin. Green Sust. Chem.* 2017, 3, 28 ± 32. <http://dx.doi.org/10.1016/j.cogsc.2016.11.004>

A420. L.E. Longobardi, P. Zatsepin, R. Korol, S. Grimme, D.W. Stephan, Reactions of Boron Radicals with Nucleophiles, *J. Am. Chem. Soc.* 2017, 139, 426 ± 435.

A419. S.S. Eaton, K. Huber, H. Elajaili, J. McPeak, G.R. Eaton, L.E. Longobardi, D.W. Stephan, Electron Spin Relaxation of a Boron Containing Heterocyclic Radical, *J. Mag. Res.* 2017, 276, 7 ± 13.

2016

C418. K. Firth, D.W. Stephan, Phosphorus Lewis Acid Activation of a Pyl Fragment, *Chem. Commun.* 2016, 52, 13967 ± 13970 DOI: 10.1039/C6CC08561J

A.417. J. Lafortune, T.C. Johnstone, M. Perez, D. Winkelhaus, V. Podgorny, D.W. Stephan, Electrophilic Phenoxysubstituted Phosphonium Cations, *Dalton Trans.* 2016, 45, 18156 ± 18162, DOI: 10.1039/C6DT03544B.

A416. C. Pranckevicius, D. Ionovan, D.W. Stephan, Three and Four Coordinate Fe Carbodiphosphorane Complexes, *Dalton Trans.* 2016, 45, 16820 ± 16825. DOI: 10.1039/C6DT03453E

C415. A. Augurusa, M. Mehta, M.V. Perez, J. Zhu, D.W. Stephan, Catalytic Reduction of Amide Amines by Electrophilic Phosphonium Cations via FLP Hydrosilylation, *Chem. Commun.* 2016, 52, 12195 ± 12198 DOI: 10.1039/C6CC06914B

C414. F. A. Tsao, A.E. Waked, L. Cao, J. Hoffmann, L. S. Grimme, D.W. Stephan, S(VI) Lewis Acids: Fluorosulfoxonium Cations, *Chem. Commun.* 2016, 52, 1241812421 DOI: 10.1039/C6CC06929K (invited cover).

R413. D.W. Stephan, The Broadening Reach of Frustrated Lewis Pair Chemistry, *Science*, 2016, 354, aaf7229. DOI: 10.1126/science.aaf7229 (invited)

C412. M. Fleige, J. Möbus, T. vom Stein, F. Glorius, D.W. Stephan, Metal Free Direct Hydroboration of Alkynes with Pinacol Borane via Lewis Acid Catalysis, *Chem. Commun.* 2016, 52, 10830 ± 10833 (invited cover).

A411 J. Lam, B. Günther, P. Eisenberger, P.D. Newman, R.L. Melen, C. Crudden, D.W. Stephan, Chiral Carbene-Borane Adducts: Precursors for Borenum Catalysts for Asymmetric FLP Hydrogenations, *Dalton Trans.* 2016 45, 15303-15316 DOI: 10.1039/C6DT02202E (invited cover).

C410. L.E. Longobardi, T.C. Johnstone, R.L. Falconer, C.A. Russell, D.W. Stephan, Hydroboration of Phosphaalkynes, *Chem. Eur. J.* 2016 22, 12665-12669 <http://dx.doi.org/10.1002/chem.201602860>

C409. E. Mosaferi, D. Ripsman, D.W. Stephan, The -Stable Carbocation Salt: [(MeOC₆H₄)CPh₂][BF₄] in Lewis acid Catalyzed Hydrothiolation of Alkenes, *Chem. Commun.* 2016, 52, 8291-8293. DOI: 10.1039/C6CC03970G. (highlighted in www.organicchemistry.org/Highlights/2017/11September.shtml)

A408. L. Fan, D.W. Stephan, PNPCB Heterocycles via Thermal and Lewis Acid Catalyzed trans Hydroborations, *Dalton Trans.* 2016, 45, 9229-9234. DOI: 10.1039/C6DT01659F.

C407. J. Zhu, M. Pérez, D.W. Stephan, C-C Coupling of Benzyl Fluorides Catalyzed by an Electrophilic Phosphonium Cation, *Angew. Chem. Int. Ed.* 2016, 55, 8448-8451.

C406. S. Postle, V. Podgorny, D.W. Stephan, Electrophilic Phosphonium Cations (EPCs) with Perchlorinated Aryl Substituents: Towards Air Stable Phosphorus-based Lewis Acid Catalysts, *Dalton Trans.* 2016, 45, 14651-14657. DOI: 10.1039/C6DT01339B

C405. T. vom Stein, J. Möbus, D.W. Stephan, Cooperative Lewis Acidity in Borane-substituted Fluorophosphonium Cations, *Chem. Commun.* 2016, 52, 6387-6390 DOI: 10.1039/C6CC02607A

A404. M. Mehta, I. Garcia de la Arada, M. Pérez, D. Porwal, M. Oestreich, D.W. Stephan, Phosphine Oxide Reduction Catalyzed by B(C₆F₅)₃ and Electrophilic Fluorophosphonium Cations, *Organometallics* 2016 35, 1030-1035

C403. L.L. Cao, E. Daley, T.C. Johnstone, D.W. Stephan, Cationic Aluminum Hydride Complexes: Reactions of Carbene-Alane Adducts with Triethylborate, *Chem. Commun.* 2016 52, 5305-5307 DOI: 10.1039/C6CC01585A

C402. C. Prankevicus, L. Liu, G. Bertrand, D.W. Stephan, Synthesis and Adducts of a Carbodicyclopropenylidene: A Carbodicarbene based Solely on Carbon, *Angew. Chem. Int. Ed.* 2016, 55, 5536-5540. (Highlighted in *Synfacts* 2016 12, 0579.)

A401. I. Mallov, D.W. Stephan, Ferrocene-derived Electrophilic Phosphonium Cations (EPCs) as Lewis Acid Catalysts, *Dalton Trans.* 2016 45, 5568-5574

C400. L.E. Longobardi, L. Lui, S. Grimme, D.W. Stephan, Stable Cyclic Radicals via Frustrated Lewis Pair Hydrogenation, *J. Am. Chem. Soc.* 2016 138, 11111-11115 (cited in C&E News July 25, 2016).

A399. A.M. McKinty, D.W. Stephan, Ru Alkylidene Compounds Bearing Tridentate, Dianionic Ligands: Lewis Acid Activation and Olefin Metathesis, *Dalton Trans.* 2016, 45, 3844-3852. DOI: 10.1039/C5DT04481B.

C398. E. Mosaferi, L. Pan, T. Wang, Y. Sun, C. Prankevicus, D.W. Stephan. Preparation and Reactivity of A Ru(0) Phosphine-Carbene Complex, *Dalton Trans.* 2016 45, 1354-1358 DOI: 10.1039/C5DT04337A

R397. J. M. Bayne and D. W. Stephan, Phosphorus Lewis Acids: Emerging Reactivity and Applications in Catalysis, *Chem. Soc. Rev.* 2016 45, 765-774 DOI: 10.1039/C5CS00516G (invited, featured on cover).

A396. J.M. Bayne, M.H. Holthausen, D.W. Stephan, Pyridine-Phosphonium Dications: Highly Electrophilic Phosphorus-based Lewis Acids Catalysts, *Dalton Trans.* 2016 45, 5949-5957 (invited, featured on cover) DOI: 10.1039/C5DT03796D

C395. J. Zhu, M. Pérez, C.B. Caputo, D.W. Stephan, Catalytic Benzylations and Alkylations With Subsequent Hydrodefluorination using Trifluoromethyl Groups, *Angew. Chem. Int. Ed.* 2016, 55, 417-21.

- A394. M.H. Hansmann, R.L. Melen, M. Rudolph, F. Rieger, H. Wade, L.H. Gade, D.W. Stephan, A.S.K. Hashmi, Cyclopropanation / Carboboration Reactions of Enynes with Frustrated Lewis Pairs, *J. Am. Chem. Soc.* 2015, 137, 15469-15477. DOI: 10.1021/jacs.5b09311
- A393. D. Voicu, D.W. Stephan, E. Kumacheva, Microfluidic Separation of Ethylene and Ethane Using Frustrated Lewis Pairs, *ChemSusChem*. 2015, 8, 4202-4208. dx.doi.org/10.1002/cssc.201501160. (highlighted in ChemistryViews)
- C392. F.A. Tsao, L. Cao, S. Grimme, D.W. Stephan, Double-Alkyne Exchange Reactions: A Facile Route to Te/B Heterocycles, *J. Am. Chem. Soc.* 2015, 137, 13264-13267. DOI: 10.1021/jacs.5b09526. (Highlighted in SynFact 2016 12, 30)
- C391. J.M. Farrell, D.W. Stephan, Synthesis of a Diboryl Heterocycle and its Conversion to a Bidentate Cationic Lewis Acid, *Chem. Commun.* 2015, 51, 14322-14325. DOI: 10.1039/C5CC06248A
- C390. L.C. Wilkins, M. M. Hansmann, H. Wade, B. Kariuki, L.H. Gade, S.A. Hashmi, D.W. Stephan, R.L. Melen, Diverging Pathways in the Activation of Allenes with Lewis Acids and Bases: Addition, 1,2-Carboboration, and Cyclization, *Organometallics* 2015, 34, 10018-10032. DOI: 10.1021/jacs.5b06794 (Invited perspective, highlighted in JACS Spotlight)
- C388. D. Winkelhaus, M.H. Holthausen, R. Dobrovetsky, D.W. Stephan, Phosphine and Carbene Azido Cations: $[(L)N]^+$ and $[(L)_2N_3]^+$, *Chem. Sci.* 2015, 6, 6367-6372. DOI: 10.1039/C5SC02336J
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242. ACS FLP Symposium, New Orleans
241. Harvard University
240. Cornell University
239. Moses Gomberg Lecture, U of Michigan
238. Maritime IDW (plenary)
237. Phosinet (Plenary Lecture), Regensburg
236. University of Nottingham
235. University of Strathclyde
234. University of Cardiff
233. University of Sussex
232. University of Bristol
231. UCSD
230. UC Irvine
229. UC Berkeley.
228. California Institute of Technology
227. UCLA
- 2012
226. ICOMC (Lisbon)
225. Intl Conf. Homogeneous Catalysis. (plenary) (2 lectures)
224. Intl Conf. Phosphorus Chem. (plenary)
223. LANXESS, Germany,
222. Inorg. Gordon Conference
221. CSC Symposium, Main Group
220. CSC Symposium, Solar Fuel Generation
219. Karlsruhe University
218. Buergenstock Conference (plenary, highlighted in *Chem. Commun.*, 2012, 48, 11597; *Angew. Chem. Int. Ed.* 2012, 51, 8151; *Chimia* 2012, 66, 873)
217. Groningen University
216. Rennes France
215. San Diego ACS Symposium
214. Eastman Chemical Co
213. Princeton University
212. *Distinguished Catalysis Lecture* PNNL
- 2011
211. University of Southern California
210. *Kohler lecture*, UC Riverside
209. *Dow Lecture*, University of Minnesota
208. University of Illinois
207. Rutgers (Newark)
206. IUPAC Main Group Chemistry
205. Oxford University
204. RSC Main Group Forum (plenary)
203. CSC Montreal (Harrod Symp)
202. CSC Montreal (Main group)
201. McMaster University
200. Exxon Corp.
199. Max Planck Muelheim
198. University of Frankfurt
197. Swiss Chemical Meeting
196. University of Louisville
195. Brandeis University
- 2010
194. Pacifichem (transition metal)
193. Pacifichem (main group)
192. Xerox Canada
191. University of Rochester
190. University of Wisconsin
189. Virginia Tech
188. University of Bielefeld
187. University of Bonn (GDCh Lecture)
186. Universitaet Muenster
185. Columbia University
184. Swiss German French Organic Symp. Plenary
183. IUPAC Green Chemistry Conference
182. SABIC (Riyadh) (2 lectures)
181. Beihang University
180. Fudan University
179. Chinese Chemical Society, Xiamen
178. Organometallic Gordon Conf
177. Green Chemistry Gordon Conf.
176. Rutgers University
175. ACS-Symposium, Fluorine Chemistry
174. York University
- 2009
173. Universitaet Muenster (2 lectures)
172. Universitaet Freiburg
171. University of Toulouse
170. Ecole Polytechnique (Paris)
169. RIKEN (Japan)
168. Nagoya University
167. University of Tokyo
166. Harvard University/MIT
165. Chemistry of Organoelement Compounds, Moscow (Plenary Lecture)
164. Laval University
163. CSC Hamilton (Green Chemistry)
162. CSC Hamilton (Transition Metal)
161. CSC Hamilton (Main Group)
160. Bowling Green University
159. University of Chicago

158. University of Vermont
 157. McGill University
 156. Queens University
 155. UC Santa Barbara
 154. UC Berkeley
 153. Zing Main Group Conf. (Plenary)
 2008
 152. D.H.Farrar Lecture University of Toronto
 151. Kent State University
 150. National Chem. Soc Meeting (Korea)
 149. SK Industries
 148. Dague University
 147. KAIST
 146. Korea University
 145. Intl Conf. on Boron Chem. (Plenary) Spain
 144. CSC,Edmonton (Main Group)
 143.CSC, Edmonton (B. Graham)
 142. Mount Alison
 141. Dalhousie University
 140. St. Marys University
 139. University of Waterloo
 138. University of Saskatchewan
 137. University of Toledo
 136. Texas A&M
 2007
 135. Michigan State University
 134. University of Michigan
 2006
 133. John Carroll University
 132. Case Western University
 131. Universitaet Muenster
 130. York University
 129. University of Toronto
 128. Symyx, San Jose CA
 127. CSC Halifax (TM symp.)
 126. CSC Haliifax (main group symp.)
 125. Maritime IDW (Plenary Lecture).
 2005
 124. West Virginia ACS Section
 123. Dow Chemicals, West Virginia
 122. University of Ulm
 121. University of Freiburg
 120. Universitaet Muenster
 119. Lanxess, Leverkusen
 2004
 118. Simon Frazer University

117. University of Victoria
 116. North Illinois University
 115. Exxon, New Jersey
 114. Catalysis Society Met. New York
 113. , Q W ¶ O & R Q J U H V V R Q 2 U J D Q R P H
 (Vancouver) Plenary Lecture
 112. Canadian Catalysis Symposium
 (Montreal) Plenary Lecture
 111. Texas A&M University
 110. Southwest Catalysis Society
 109. University of British Columbia
 108. University of Western Ontario
 107. Western States Catalysis Club
 (Provo UT) Plenary Lecture
 2003
 106. University of Ottawa
 105. McMaster University
 104. St. F. of Xavier University
 103. St. Marys University
 102. University of New Brunswick
 101. Acadia University
 100. Dahousie University
 99. University of Strassbourg
 98. University of Leipzig
 97. University of Wuerzburg
 96. University of Bonn
 95. University of Mainz
 94. University of Marburg
 93. University of Ulm
 92. University of Oxford
 91. University of Sussex
 90. Imperial College
 89. University of East Anglia
 88. University of Durham
 87. Universitaet Muenster (GDCh Lecture)
 2002
 86. COST meeting Lecture (Zurich)
 85. Technical University of Munich
 84. University of Goetingen
 83. University of Muenster
 82. Queens University
 81. University of Alberta
 80. University of Calgary
 79. University of Lethbridge
 78. Dow Chemicals, Midland Michigan
 2001

77.

1980

1. University of Western Ontario

2. University of Toronto

Research Grants and Contracts

Applications Pending

Current Operating Funds

2017	\$25,000	NSERC ENGAGE (Inkbox Ink.) FLP Approaches to New Dyes
2017-2020	\$237,498 (3 yr)	NSERC CRD (PI: D. Song) (Digital Chemicals) Synthesis of New Precursors for Cobalt and Group 13/15 Thin Films
2017-2020	\$95,250 (3 yr)	Digital Chemicals (PI: D. Song) (Digital Chemicals) Synthesis of New Precursors for Cobalt and Group 13/15 Thin Films
2016-2019	449,990 ¼	Eibstein Foundation, Germany (with M Oesterich, M Dreiss) Small Molecule Activation with Main Group Lewis Acids and Bases
2015-2018	\$150,000 (3 yr)	NSERC Strategic (with D. Seferos) Tellurium Based Donor-Acceptor Materials
2015-2018	\$900,000 (3 yr)	Qatar National Priority Research Program (with S. Dastgir) Capturing and Utilization of CO ₂ as a Chemical Feedstock
2014-2017	\$41,701 (3 yr)	NSERC CRD (LANXESS), Hydrogenation catalysis for Latex.
2014-2017	\$40,000 (3 yr)	LANXESS, Hydrogenation catalysis for Latex
2014-2021	\$1,400,000	Canada Research Chair in Catalysis and New Materials
2014-2019	\$775,000	NSERC Discovery Metal-free Synthesis and Catalysis.
2008-2021	\$70,000 (7 yr)	UToronto Chair Support

Past Operating Funds

2014-2016	\$449,400 (3 yr)	NSERC Strategic (with C. Crudden) Asymmetric Boremium Cations in Catalysis
2013-2016	\$100,000 (3 yr)	Digital Specialty Chemicals PI: D. Song, with H. Ruda (Digital Chemicals) Novel Main Group and Transition Metal Precursors for Atomic Layer and Chemical Vapor Deposition
2013-2016	\$149,687 (3 yr)	NSERC CRD PI: D. Song, with H. Ruda (Digital Chemicals) Novel Main Group and Transition Metal Precursors for Atomic Layer and Chemical Vapor Deposition
2015	\$14,000	NSERC I2I MA, Market Assessment Olefin Metathesis Catalysis
2014-2015	\$125,000	NSERC I2I, Olefin Metathesis catalysis
2014-2015	\$484,000 (2 yr)	SABIC Research Contract High Performance Catalyst Technologies for Olefin Polymerization: Molecular Design, Optimization and Utilization
2015-2021	\$1,400,000 (7 yr)	Canada Research Chair in Catalysis and New Materials (UToronto)
2015	\$15,000	Pfizer Student Collaboration (FLP Hydrogenations)
2013-2014	\$25,000	NSERC ENGAGE, (with Altranex) Producing Biodiesel via Olefin Metathesis
2009-2014	\$775,000 (5 yr)	NSERC (Discovery) Frustrated Lewis Pairs, A new Paradigm for reactivity and Catalysis.
2010-2015	\$5,240,000 (5 yr)	NSERC, Strategic Network PI: (J. Kadla (UBC), and 13 others)
2008-2015	\$1,400,000 (7 yr)	Canada Research Chair in Catalysis and New Materials (UToronto)
2009-2012	\$105,000 (3 yr)	PI: D. Song, OCE (Digital) New Process and Product Technologies for Organophosphorus Compounds

2009-2012	\$90,000 (3 yr)	PI: D. Song, Digital Chemicals	New Process and Product Technologies for Organophosphorus Compounds
2009-2012	\$150,000 (3 yr)	PI: D. Song, NSERC CRD (Digital)	New Process and Product Technologies for Organophosphorus Compounds
2012-2013	\$484,000 (2 yr)	SABIC Research Contract	High Performance Catalyst Technologies for Olefin Polymerization: Molecular Design, Optimization and Utilization
2012	\$70,000	PI: E. Kumacheva, A. Guenther, D. Stephan	Conaught Innovation Fund, An automated integrated microfluidic platform for screening formulations for the sequestration of Carbon Dioxide
2011	\$60,000	NSERC (I2I Phase 1b)	Metal Free Hydrogenation to Amines
2011	\$50,000	Green Centre Canada	POP funding: Electrophilic Boranes
2011-2012	\$268,000 (2 yr)	Carbon Management Canada	Frustrated Lewis Pairs: A New Approach to CO ₂ Capture and Utilization
2010-2013	\$435,000 (3yr)	NSERC Strategic Project	Chemistry of Greenhouse Gases: Capture and Use of CO ₂ and N ₂ O by Frustrated Lewis Pairs
2010-2013	\$466,200 (3yr)	NSERC Strategic Project (PI: C. Crudden, Queens)	Metal free methods for the reduction of organic compounds
2011-2014	\$345,000 (3yr)	DCE(LANXESS),,	New Catalysts for Rubber and Elastomeric Polymers
2011-2014	\$294,000 (3 yr)	NSERC CRD(LANXESS),,	New Catalysts for Rubber and Elastomeric Polymers
2011-2014	\$345,000 (3 yr)	LANXESS,	New Catalysts for Rubber and Elastomeric Polymers
2008-2011	\$450,000 (3 yr)	NSERC Strategic Project	Frustrated Lewis Pairs in Hydrogen Storage Materials: A New Paradigm
2008-2011	\$726,000 (3 yr)	SABIC Research Contract	High Performance Catalyst Technologies for Olefin Polymerization: Molecular Design, Optimization and Utilization
2008-2011	\$345,000	OCE(LANXESS),	New Catalysts for Hydrogenation and Metathesis of Butyl Rubber
2008-2011	\$345,000	LANXESS,	New Catalysts for Hydrogenation and Metathesis of Butyl Rubber
2008-2011	\$300,000	NSERC CRD(LANXESS),	New Catalysts for Hydrogenation and Metathesis of Butyl Rubber
2009-2010	\$125,000	NSERC (I2I)	Frustrated Lewis Pairs, A new Paradigm for reactivity and Catalysis
2007-2009	\$345,000	NSERC SRO	Metal-Free Small Molecule Activation: A Breakthrough in Catalysis
2008	\$10,000	Conaught Fund	
2006-2008	\$225,000 (3 yr)	NOVA Chemicals	High Temperature Polymerization Catalysts.
2006-2008	\$210,000 (3 yr)	NSERC CRD(NOVA Chemicals)	High Temperature Polymerization Catalysts
2004-2009	\$365,000 (4 yr)	NSERC (Discovery)	E-H Bond Activation
2005-2007	\$510,000 (3 yr)	Canada Research Chair	Catalysis and New Materials (UWindsor)
2003-2006	\$900,000	NSERC CRO	Advanced Molecular Materials from Catalysis: A German Canadian Collaboration (4 other Canadians)
2001-2006	\$750,000	NOVA Chemicals	Industrial Research Chair in Olefin Polymerization
2001-2006	\$973,000	NSERC Industrial Research Chair	in Olefin Polymerization
2001-2006	\$1,220,000	ORDCF Centre for Catalysis and Materials Research	
2000-2004	\$332,000 (4 yrs)	NSERC (Op)	E-H Bond Activation
1999-2000	\$66,240 (1yr)	NSERC (Op)	Inorganometallics

1997-2001 \$360,000 (3 yr) Research Contract (Nova Chemical)
 1997-2000 \$60,000 (3 yr) NSERC CRD (Imperial Oil) New Phosphorus chalcogenide additives.
 1997-2000 \$30,000 (3 yr) Imperial Oil Research Grant, New Phosphorus chalcogenide additives.
 1998-1999 \$30,000 per yr Research Contract (Imperial Oil)
 1996-1998 \$72,000 (3 yr) Research Grant 2 U W K R 0 F 1 H L O & R S S H U 2 [L G D W L R Q I
 1996-1998 \$72,000 (3 yr) NSERC CRD 2 U W K R 0 F 1 H L O & R S S H U 2 [L G D W L R Q L
 1995-1999 \$248,248 (4 yr) NSERC (Op) Inorganometallics
 1995-1997 \$10,000 NATO Collaborative Grant, Metal Mediated Synthesis of Organosulfur
 Compounds
 1993-95 \$50,000 (US) PRF (ACS), The Synthesis and Chemistry of Early Metal Phosphinidenes.
 1992-95 \$157,500 (3 yr) NSERC Operating, The Chemistry of Early/Late Heterobimetallics.
 1992 \$2,000 (US) DOE (U.S.) Summer Research Support, Towards Electrochemical Sensors.
 1992 \$5,000 (US) PRF (ACS), Summer Supplement
 1991-93 \$40,000 (US) PRF (ACS), Early Metal Dithiolate Complexes: Macrocyclic Metalloligands.
 1989-92 \$34,881 per year NSERC (Op) The Chemistry of Early/Late Heterobimetallics.
 1986-89, \$72,000 (3 yr) NSERC, Organometallic and Bioinorganic Bimetallic Systems.
 1985-86 \$25,000 (1 yr) NSERC (Op) Bimetallic Complexes in Organometallic and Bioinorganic
 Systems.
 198 Bn \$ / F 2 6 2 M a d r o c 1 4 9 3 . 6 6 5 0 1 . 7 9 T m 0 g 0 G [()] T J E T Q E M C / P < < / M C I D 1 5 > > B 1 \$ \$ 0 S / 4 6

1. Connie Tang, 2017, MSc, Hydroboration and Borane Addition with Diphenyldiazomethane,
2. Jay Chi, MSc 2017, Microfluidic Investigations of CO and H₂ Activation by Lewis Pairs,
3. Kelly Firth 2016 MSc, Palladium Complexes with Pendant Electrophilic Phosphonium Cations, Student, Victoria BC
4. Alessandra Augurusa 2016 MSc, Catalytic Investigations a Facile Route to α -fluoroethyl Substituted Compounds, B.Ed. student
5. Vitali Podgorny 2016 MSc, Electrophilic Phosphenium and Phosphonium Cations: Synthesis and Reactivity of Perfluoro & Perchloroaryl Phosphorus Systems, Calgary Chemist.
6. Erika Daley 2016 MSc, Exploring LowCoordinate Aluminum-Based Lewis Acids for Small Molecule Activation Green Chemist, San Diego, CA.
7. Julie Roy 2015, MSc, The Use of Ga(Et)₃ in Frustrated Lewis Pair Chemistry,
8. Rashmi Hiranandani, 2015, MSc, Synthesis and Reactivity of Highly Electrophilic Phosphonium Cations Medical student at Ottawa
9. Sarah Weicker, 2015, MSc, Exploring Tetracoordinate Silicon Lewis Acids for Frustrated Lewis Pair Chemistry, Medical Student at UBC
10. Daniel Dalessandro, 2014, MSc, Studies into the Reactivity of Frustrated Lewis Pairs containing Bases with Hydrogen, Teacher, Toronto.
11. Sanja Resanovic 2011, MSc, Chromium and Neodymium Complexes of Phosphinimine Pincer Ligands and Their Behaviour in 1,3-Butadiene Polymerization, Teacher, Toronto
12. Cheryl Tanur, 2011, MSc, Exploring New Synthetic Routes to Frustrated Lewis Pairs, Project Manager, Toronto.
13. Kanwarpal Multani, 2010, MSc, Group 4 Metal Complexes with Ferrocenyl Amidinates, Medical Student.
14. Erin Gwynne, 2010, MSc, Synthesis, Characterization and Hydrogenation Activity of Group 10 metal Complexes Featuring Bulky Phosphine Ligands, Lawyer, Kingston
15. Travis Ancelet, 2008, MSc, Synthesis, Characterization and Metathesis Activity of Group 8 Metal Complexes Featuring Hemilabile Triolate Ligands, Graduate Student, New Zealand
16. Shamola Labeodan, 2008, MSc, Synthesis and Reactivity of Early Transition Metal "Frustrated Lewis Pairs"
17. Krishan Yadav, 2007, MSc, Titanium Complexes of Phosphinimide Ligands with Pendant Hemilabile Donor, MD, United Kingdom
18. Lourisa Cabreara, 2004, MSc, Lewis Acid-Base Interactions in the Synthesis of Titanium Phosphinimide Cations, Research Scientist, UNAM, Mexico
19. Steve Clemens, 2003, MSc, Olefin Polymerization Using Titanium Phosphinimide Catalysts, Scientist, NOVA Chemicals, Calgary
20. Ramadan Altwier, 2003, MSc, Group 8 and 10 Complexes of Pyridylphosphinimines and Chiral Bis Diiminophosphoranes, Research Scientist, Lecturer,
21. Katie Chan, 2003, MSc, Metalled Group IX and Group X Phosphinimine Complexes, Research Scientist, Toronto
22. Liam Spencer, 2002, MSc, Syntheses and Applications of Group VI and VIII Heterocyclic Phosphinimine Complexes, Research Scientist, Dow Chemicals.
23. Nancy Yue, 2000, MSc, Chemistry of Group (IV) Phosphinimide Complexes
24. Hilde Paulina Berens, 1986, MSc, Studies of Cu(II) Hemocyanin Molecules, Teacher, Waterloo
25. Evelyn Marie Kinsch, 1985, MSc, Studies of Gold Sulfur Chemistry, Chef, Waterloo, Chef, Waterloo

PhD Students

1. Louie Fan 2018, PhD, Ruthenium Based Hydrogenation and Frustrated Lewis Pair Chemistry
2. Fu An (Judy) Tsao, 2017, PhD, Group 16 Elements in Frustrated Lewis Pair Chemistry,
3. Meera Mehta, 2017, PhD, Exploring the Synthesis and Reactivity of Electrophilic Phosphonium Salts, PDF Oxford, (Royal Society Newton International Fellowship)
4. Shawn Postle, 2017 PhD, Fluorophosphonium Chemistry: Applying Strategies Learned from Boron to Phosphorus, NMR Staff U of T.
5. Ian Mallov, 2017 PhD, Synthesis of Boron, Silicon, and Phosphorus Lewis Acids and Frustrated Lewis Pair Complexes for C=O and C-F Bond Activations, PDF York University
6. Lauren Longobardi 2016 PhD, The Synthesis and Reactivity of Main Group Heterocycles via Frustrated Lewis Pair Chemistry, NSERC/Humboldt PDF at MPI Muelheim.
7. Conor Prankevicius, 2016 PhD, Strong Electrophilic Ligands and their Catalytic Applications, NSERC/Humboldt PDF at University of Wuerzburg.
8. Tayseer Mahdi 2015, PhD, Hydrogenation and Hydroamination Reactions Using Boron Based Frustrated Lewis Pairs, Research Scientist at Intel, USA.
9. Chris Caputo 2015, PhD, Electrophilic Fluorophosphonium Cations: The Transition from Boron to Phosphorus Lewis Acids in Frustrated Lewis Pair Chemistry, NSERC PDF at Harvard
10. Adam McKinty, 2014, PhD, Lewis Acid Activated Olefin Metathesis Catalysts, Business Owner, Toronto.
11. Jeff Farrell, 2014, PhD, Hydrogen Chemistry of Heterocyclic Carbenes, Borene Ions, Humboldt PDF, University of Wuerzburg, Germany.
12. Fatme Dahcheh, 2014 PhD, Carbenes in Ruthenium Based Olefin Metathesis Catalysts and Stabilization of Low Coordinate Boron Species, Research Scientist, Green Center of Canada
13. Mike Boone 2013 PhD, Reactivity of Lewis Acids with Coordinated Ligands of Late Transition Metal Complexes, PDF University of Alberta
14. Gabriel Ménard, 2013, PhD, Small Molecule Activation and Transformation Using Aluminum Based Frustrated Lewis Pairs, Assistant Professor, University of California at Santa Barbara
15. Mike Sgro, 2013, PhD, Strategic Ligand Design as a Route to Complexes for Small Molecule Activation and Catalysis, Law Student.
16. Rebecca Neu, 2012, PhD, The Activation of Small Molecules Employing Main Group and Transition Metal Based Frustrated Lewis Pairs, Grants officer MITACS
17. Chris Brown, 2012, PhD, P,N Ligand Development Directed Towards Applications in Late Metal Catalysis, Research chemist, Digital Chemicals.
18. Xiaoxi Zhao, 2012, PhD, Bifunctional Systems in the Chemistry of Frustrated Lewis Pairs, Researcher, Tokyo
19. Meghan Dureen, 2010, PhD, Small Molecule Activation with Main Group Complexes, Lawyer, Ottawa
20. Stephen Geier, 2010, PhD, Transition Metal Complexes and Main Group Frustrated Lewis Pairs for Stoichiometric and Catalytic C-H and H-H Bond Activation, Research Staff, Mt Alison University
21. Sharonna Greenberg, 2009, PhD, New Routes to Pnictogen Containing Polymers, Lecturer, Ryerson University
22. Jenny McCahill, 2008, PhD, "Frustrated" Lewis Pairs: Applications in Olefin Polymerization and Small Molecule Activation, Research Scientist, Calgary
23. Greg Welch, 2008, PhD, 'Frustrated' Lewis Pairs: From Lewis-Basic Adducts to the Reversible, Metal-Free Activation of Hydrogen, Assistant Professor, CRC, University of Calgary

25. Osamah Alhomaïdan, 2008, PhD, Main Group and Early Transition Metal Phosphinimide Complexes, Research Scientist, SABIC, Saudi Arabia
26. Jason Masuda, 2005, PhD, Sterically Bulky Nitrogen Based Ligands: New Chelate Complexes and \$SSOLF DWLRQV LQ 'HK\GURFRXSOLQJ &DWDO\VLV \$VVRFLDW
27. Sarah Hawkeswood, 2005, PhD, Vanadium Phosphinimide Complexes for Ethylene Polymerization and the Chemistry of Phosphinimines and Phosphine Oxides with Borane Reagents, Teacher, Windsor
28. Chad Beddie, 2004, PhD, Titanium Phosphinimide Complexes for Ethylene Polymerization Catalysis: Synthetic, Computational and Polymerization Testing Investigations, Health Canada, Ottawa.
29. Emily Hollink, 2003, PhD, Group IV Phosphinimide Complexes in Catalysis, Health Canada, Ottawa.
30. Silke Courtenay, 2002, PhD, Synthesis and Application of Group 4, 5, 13 and 14 Phosphinimide Complexes, Research Scientist, HP, USA
31. Aaron Hoskin, 2001, PhD, Synthesis and Heteroatom Activation Studies of the Anionic Zirconocene Trihydride $[Cp^*_2ZrH_3]^-$, Research scientist, Health Canada
32. Christopher Ong 2001, PhD, Group 13 and 14 Imine and Phosphinimide Complexes, Plant Manager, LANXESS, Texas
33. Jeff Stewart, 1999, PhD, Phosphinimide Complexes of Titanium: Synthesis and Reactivity Studies of a New Family of Organometallic Compounds, IP Consultant, Toronto
34. Andrea V. Firth, 1998, PhD, Thermal Reactions of Monocyclopentadienyl Titanium Thiolate Complexes, Research Scientist, NRC Ottawa
35. Tricia L. Breen, 1996, PhD, Studies of Terminal Phosphinidene Complexes of Zirconium, Professor, University of Windsor
36. Jianwei Ho, 1994, PhD, Group IV Transition Metal Complexes of Phosphides and Phosphinidenes, Research Scientist, Calma
37. T. Timothy Nadasdi, 1993, PhD, The Characterization and Chemistry of π -allyls
38. Cyclopentadienyl Titanium Thiolates, Research Scientist, Exxon, New Jersey
39. David George Dick, 1991, PhD, Early Transition Metal Phosphides and their Application Towards the Synthesis of Heterobimetallic Complexes, Staff Scientist, University of Northern British Columbia
40. Teresa Anne Wark, 1989, PhD, Thiolate Bridged, Early/Late Heterobimetallic Complexes
41. Graham Sidney White, 1987, PhD, Studies of Early Heterobimetallic Complexes, Health Canada, Ottawa
42. Lucio Gelmini, 1987, PhD, Synthetic Approaches Towards Early/Late Heterobimetallic Complexes, Faculty Grant McGewen College

Former Postdoctoral Fellows

- | | |
|--|---|
| 1. Adam Ruddy (Dal) | 2014-16 PDF Cardiff. |
| 2. Jiangtao Zhu (SIOC) | 2011-16 Chemist, Toronto |
| 3. Juri Mobus (Muenster, DFG) | 2013-16 Chemist, Toronto |
| 4. Isaac García (Oviedo) | 2015-16 PDF, Spain |
| 5. Adam McKinty (U Toronto) | 2015 Business Owner (Toronto, ON) |
| 6. Alexander Pulis (Bristol) | 2013-15 Lecturer, University of Manchester |
| 7. Thorsten vom Steir (Aachen, Humboldt) | 2013-15 (Germany) |
| 8. Mike Boone (U Toronto) | 2014 PDF, University of Alberta |
| 9. Michael Holthausen (U Muenster, Humboldt) | 2013-15 Laboratory Manager, Evonik, Germany |
| 10. Daniel Winkelhaus (Bielefeld) | 2013-15 CAT Catalytic Center, HTMC, Aachen, Germany |
| 11. Manuel Pérez Vázquez (U Vigo) | 2012-15 Research Chemist, Encycle Corp. |
| 12. Roman Dobrowolsky (Technion) | 2011-14 Asst. Professor U. of Tel Aviv |

13. Li Pan (Changchun) 2014 Senior Researcher, Tianjin University, China
14. Yunshun Sun (SIOC) 2011-2014 Research Scientist, Toronto Research Chemicals
15. Lindsay Hounjet (U of A) 2011-13 Natural Resources Canada |
16. Tongen Wang (UBC) 2010-13 Research Scientist, Digital Chemicals, Toronto
17. Bidraha Bagh (U Sask) 2012-14 Assistant Professor at NISER, Bhubaneswar, India
18. Jillian Hatnean (Windsor) 2011-13 Business Development Officer, MITACS
19. Chris Garon (Laval) 2011-13 Production Supervisor, Faurecia (Brampton, ON)
20. Katsuhiko Takeuchi (Tsukuba, JSPS) 2012-13 Assistant Professor, University of Kyoto.
21. Phillip Jochmann (Aachen, Humboldt) 2012 Development Engineer, HILTI (Germany)
22. Peter Dornan (U of T) 2013 (PDF Caltech
23. Rebecca Melon (Cambridge) 2012-13 Lecturer, University of Cardiff
24. Ahmed Abouletta (Wayne State) 2011-13
25. Chunfang Jiang (UZurich) 2010-12 PDF Ottawa
26. Liyuan Liang (Bordeaux) 2011-12 Assoc. Prof. INE Chongqing, China
27. Jo Doeme (Muenster, Humboldt) 2009-11 Industrial Outreach U. Waterloo
28. Renan Cariou (Imp. College) 2009-11 Research Scientist, Toronto Research Chemicals
29. Zach Heiden (Illinois, Ontario PDF) 2009-11 Asst Prof. (Washington State U)
30. Jason Morton (Cornell) 2009-11 Research Scientist, SABIC (Saudi Arabia)
31. Clinton Lund (Sask) 2008-11 Research Scientist, LANXESS (London)
32. Louisa Stanlake (UBC) 2009-10
33. Sharonna Greenberg (Toronto) 2009-10 Lecturer, Ryerson, UTM
34. Todd Graham (UofA) 2008-10 Research Scientist, Cytec (Niagara Falls)
35. Edwin Otten (Groninger NWO) 2008-10 Asst Professor, (Groningen)
36. Birgit Birkmann (Muenster DAAD) 2009-10 Research Scientist, BASF (Germany)
37. Preston Chase (Calgary) 2007-09 Research Scientist, Green Centre (Kingston)
38. Ian Blackmore (Imp. College) 2007-10 Research Scientist, SABIC (Saudi Arabia)
39. Matthais Ullrich (Muenster Humboldt) 2007-09 Research Scientist, Evonik, (Asia)
40. Alberto Ramos 2007-09 Research Chemist, INCAR, Oviedo Spain
41. Consuelo Herrera 2007-09 Research Chemist, Mexico
42. Raj Jain 2007-08 R&D Manager, InVisage Tech.
43. Anjan Das 2005-08 Northern NanoTech (Toronto)
44. Guangcai Bai (Goetingen) 2002-07 Windsor
45. Ioan Ghesner (Calgary) 2005-06 Research Scientist, NOVA Chemicals (Calgary)
46. Chuanbao Zhu 2005-06 Windsor
47. Carsten Cornissen (Muenster) 2004-06 Research Chemist, Sudchmie, Germany
48. Andrew Fenwick 2004-05 Research Chemist, Honeywell, CT
49. Peter Voth (Aachen) 2004-05 Germany
50. Gema Martinez 2004-05 Research Chemist, Spain
51. Pingrong Wei 2001-04 Scientist Staff University of Georgia
52. Chris Fraser 2003-04 Research Chemist, Knowlton Packg. Knowlton,
53. Todd Graham (UofA) 2000-03 Research Scientist, Cytec (Niagara Falls)
54. Denise Walsh (Dal) 2001-03 PDF University College Dublin
55. Jim Kickham (Windsor) 1999-02 Research Chemist, Jamieson Inc. (Windsor)
56. Charles Carrez (Bristol) 1998-01 Research Chemist, UK
57. Luc LePichon 1998-00 PDF, Rennes
58. Fred Guerin (UBC) 1999-00 Research Scientist, LANXESS, (Texas)

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|------------------------|---|
| 59. Eva Witt (TUM) | 1999 German Patent Office |
| 60. P. McKarns (Wayne) | 1998 Research Scientist Celanese (USA) |
| 61. Nola Etkin (UofA) | 1995-97 AssocProfessor UPEI |
| 62. Chris Fermin | 1994-96 Chemist In the Philipines |
| 63. Rick Heyn (UCSD) | 1994 Research Chemist SINTEF (Norway) |
| 64. Z. Hou | 1992-93 Research Director at RIKEN (Japan). |
| 65. Yujin Huang | 1991-93 Research chemist (California). |

Previously Trained Undergraduates/Visiting Researchers (incomplete List)

- | | | |
|------|-------------------------------------|--|
| 2017 | Felix Kirscher(Muenster) | Jennifer Moricke (Muenster) |
| | Hannes Backers (Muenster) | Kaoko Sato(Muenster) |
| | Arne Steper(Padeborn) | Solomon Voldarsky (Tel Aviv) |
| | Andreas Hoffman (Aachen) | |
| | Jonathan Gross(Mainz) | Jenny Xiao (U of T) |
| | Rouzbeh OMemar (U of T) | Catherine Yao(U of T) |
| | Ho Yin (Chris) Kum (U of T) | Anson Sathaseevan (U of T) |
| | Jingning (Yvonne) Zhou (U of T) | Farah Farinha(U of T) |
| 2016 | Roman Korol (U of T) | Lewis Wilkins (Cardiff) |
| | Reuben Mirzoyan | Simon Harris(U of T, 299) |
| | Sarah Hill(U of T, 299) | Xhoana Gjergji(U of T, 499) |
| | Brian Tsui(U of T, 499) | Ling Lu (U of T, 299) |
| | Jordan Hofmann(U of T, 299) | Edan Binyamin |
| | David Ripsman | Kevin Schwedtmann (Muenster) |
| | Josephine Possart (Muenster) | Hanpeng Jin (Muenster) |
| | Mirco Fliege (Muenster) | Johannes Backers (Muenster) |
| | Pavel Zatsepina(U Toronto) | Sarah Mather(U Toronto) |
| 2015 | FatmaTürkyilmaz Münster | Kevin SchwedtmannMünster |
| | Rosalyn FalconerBristol | Ibrahim Saleh A. Hayyan SABIC Saudi Arabia |
| | Benjamin GüntherCardiff | Sergej TamkeKarlsruhe |
| | David Ripsman (U of T, NSERC) | Roy Posaratnanathan (U of T, Undergrad. Res. Fund) |
| | Brian Tsui (U of T, NSERC) | |
| | Xhaona Gjergji(U of T, NSERC) | Amanda Wolczanski (U of T, NSERC) |
| | Simon Harris (U of T) | Talia Schmool (U of T, 491) |
| | Julia Bersamm (Mainz) | Julien Heck (Mainz) |
| | Denise Peda (U of T, 299) | Jordan Hoffmann (U of T) |
| | Vitali Podgorny (U of T, 499) | Alessandra Augurusa (U of T, 499) |
| | Edan Binyamin (U of T) | Ruben Mirzoyan (U of T) |
| | Jeremy Hunt (High School Volunteer) | Sharmeila Cherla (High School Volunteer) |
| | Remi Free (U of T School) | Dr. Isaac Garcia de la Arada (Oviedo) |
| 2014 | Julia Bersamm (Mainz) | Julien Heck (Mainz) |
| | Roy Posaratnanathan (U of T) | Filip Nikacecvcic (U of T) |
| | Scott Green (U of T) | Vitali Podgorny (U of T, 499) |
| | Ruben Mirzoyan (U of T) | David Ripsman (U of T) |
| | Alessandra Augurusa (U of T, 499) | Denise Peda (U of T, 299) |
| | Jordan Hoffmann (U of T, 299) | Roman Belli(U of T, 499) |

	Remi Free (U of T School)	Judy Truong (U of T)
	Mariah Colussi (U of T, 299)	Heather Tang (U of T School)
	Abbna Sriskantharajah (Muenster)	
2013	Laura Rush (Bristol)	Arthur Cheung (U of T)
	Michael Pu (U of T)	Sergej Tamk (Karlsruhe)
	Connie Tang (U of T)	Rohan Ravindranath (U of T)
	Christina Eller (Muenster)	
2012	Jan Hilgert (Mainz)	Olga Ekkert (Muenster)
	Sophie Botte (Rennes)	Ryan Wareham (Mt.A)
	Roman Belli (U of T, 299)	Jon De Castillo (U of T, 299)
	Esther Riga (Mainz)	Ka Sing Cheung (U of T)
2011	Anne Kraft (Freiburg)	Yohan Gautier (Rennes)
	Christoph Kreitner (Mainz)	Lina Tran (U of T)
	Sarah Hughes (U of T)	Fred Chiu (U of T)
	Conor Prancevicius (U of T)	Lutz Greb (Karlsruhe)
	Daniel Winkelhaus (Muenster)	
2010	Ilona Preuser (Muenster)	Fatme Dahcheh (U of T)
	Michael Schedler (Mainz)	Rob Di Lorenzo (U of T)
	Conor Prancevicius (U of T)	Michael Schedler (Universitat Mainz)
	Eva Ouyang (U Toronto)	Silke Froeme (Universitat Muenster)
	Frederick Chiu (U Toronto)	Mikheil Gogiashvili (Universitat Muenster)
	Tayseer Mahd (Ryerson University)	
2009	Tanja Voss (Muenster)	Peter Sue (U Toronto)
	Juliette Berthe (U Paris)	Cheryl Tanur (Guelph)
	Veronika Beer (Universitat Mainz)	Eva Ouyang (U Toronto)
	Mike Jones (U Toronto)	Mengzhou Li (U Toronto)
	Marcus Klahn (Rostock)	Danny Hickie (U of T)
2008	Erin Gwynne (Mt. Allison)	Xiaoxi Zhao (U Toronto)
	Kelvin Seto (U Toronto)	Miranda Skjel (U Victoria)
	Christoph Glotzbach (Muenster)	Lukas Reck (École Normale Supérieure)
2007	Andreas Notzon (Muenster)	Laura Ezeife (Windsor)
	Greg Gibson (U Victoria)	Thoresten Holtrichte (Muenster)
	Titel Jurca (Ottawa)	
2006	Toria Piga (U Victoria)	Jennifer Fang (UBC)
	Hanna Thorup (U Victoria)	
2005	Kelsey Dewar (U Victoria)	Roberto Prieto (U Victoria)
2004	Paul Siu (U Victoria)	Gigi Chan (U Victoria)
	Gary Kalaci (U Windsor)	
2003	Louisa Stanlake (U Victoria)	Roopa Patel (Windsor)
	Pei Chun Hang (U Windsor)	Chris Lopez (U Windsor)
	Harsha Malempati (U Windsor)	

Previously Trained Technicians

Ebru Ekici	2004-2006	Germany
Rodica Leu	2003-2006	Undergraduate Teaching Technician, U of Windsor

Former Visiting Professors

2017

Yang, Xianghua (Associate Professor, Guangdong University of Technology)

2016

Yanhua Lu (Institute of Aerospace Chem. Tech. China)

J.J. Vittal (2016) Professor, National University of Singapore, Singapore

2014

Feng Li Associate Professor, Nanjing University of Science and Technology, Chigla@njust.edu.cn

2013

Antonio F. Antinolo Garcia, Universidad Castilla La Mancha

Chunmei Zhang (East China University, Shanghai, China) Sept 2013 - 2014

Atsushi Sanagawa (Osaka University) Dec 2013; sanagawa@chem.eng.osaka.ac.jp

Takashi Shigeta (Kyoto University)

2012

Yasutomo Segawa (Nagoya) July - Sept

Shin-ichi Matsuoka (Nagoya) July - Oct

Current Group Members**Postdoctoral Fellows**

Tim Johnstone (MIT, NSERC)

Andy Jupp (Oxford, Banting)

Jiliang Zhou (SIOC)

Liu Leo Liu (XMU and UCSD)

Saurabh Chitnis (UVic)

Graduate Students

Karlee Bamford (UVic)

Gabriel Wee (U of T)

Ryan Andrews (UBC)

James Lafortune (Ott)

Chris Major (Ryerson)

Louie Fan (York)

Eliar Mosaferi (UBC)

Alex Waked (McGill)

Jolie Lam (U of T)

Julia Bayne (Ott)

Levy Cao (Sask)

Kevin Szkop (Manitoba)

Levy Cao (Sask)

Diya Zhu (Mt A)

Maotong Xu (U of T)

Co-supervised Graduate Students (TU Berlin)

Andre Hermannsdorfer

Maria Vogler

Lars Suesse

Marcel Luecke

Undergraduates

Hlib Razumkov

Haley Cummings

Maegan Ong

Alvaro Briceno Strocchia

Visiting Students

Valerio Fasano (Manchester)

Carolyn Schneider (Aachen)

Visiting Professor