

CURRICULUM VITAE

C. Dale Keefe, PhD

CURRENT POSITIONS

Provost & Vice-President Academic,

Acadia University
15 University Ave
Wolfville Nova Scotia Canada
B4P 2R6
Dale.Keefe@acadiau.ca (work)
DaleKeefe@icloud.com (personal)
www2.acadiau.ca/about-acadia/leadership/vice-president-academic.html
(+1)902.585.1358 (office)

Professor of Chemistry (with tenure)

Acadia University

CREDENTIALS

Ph.D., University of Alberta, 1994, Department of Chemistry, Experimental Physical Chemistry
B.Sc.(Hon), Memorial University of Newfoundland, 1990, Chemistry and Mathematics (*Awarded Governor General's Medal for Undergraduate Study as graduating student with highest average*)

PROFESSIONAL DEVELOPMENT

Senior University Administrators Course, Centre for Higher Education Research and Development, University of Manitoba, 2018

Collaborative Leadership in Higher Education, Academic Impressions, 2017

Workshop for New Presidents, Universities Canada, 2017

How to Achieve Exceptional Front-Line Customer Service in Higher Education, Innovative Educators, 2016

Enrolment Management Workshop, Ruffalo Noel Levitz, 2016

Integrated Planning Workshop, Centre for Higher Education Research and Development, University of Manitoba, 2015

Integrated Planning and Budgeting, Centre for Higher Education Research and Development, University of Manitoba, 2014

Working Smart with Outlook, Priority Management, 2014

CAUT Bargaining Training, Canadian Association of University Teachers, 2002

HONOURS

Capers Recognizing Capers Award, 2018

Inductee, Science Atlantic Hall of Fame, 2012

Inductee, *Canadian Who's Who* since 2009

CBU Instructional Leadership Award, 2009

CBU Alumni Association Excellence in Teaching Award, 2009

NSERC Postdoctoral Fellowship, University of Ottawa, 1994 – 1995

Numerous Scholarships and Awards as a student including:

- Izaak Walton Killam Memorial Scholarship, University of Alberta, 1993 – 1994
- Ph.D. Scholarship, University of Alberta, 1990 – 1992
- Postgraduate Scholarship, NSERC, 1990 – 1994
- Medal for Academic Excellence in Chemistry, Memorial University, 1990
- Governor General's Academic Medal for Undergraduate Study, Memorial University, 1990

PREVIOUS ADMINISTRATIVE POSITIONS

- 2015 – 2018 Provost & Vice-President Academic, Cape Breton University, Sydney, NS
- 2016 – 2018 (Interim) President & Vice-Chancellor, Cape Breton University
- 2014 – 2015 (Interim) Vice-President Academic and Research, Cape Breton University
- 2011 – 2014 Dean of Research and Graduate Studies, Cape Breton University
- 2010 – 2011 Dean of Research, July 2010 – June 2011 Cape Breton University
- 2009 – 2010 Chemistry Department Chair, Cape Breton University
- 2008 – 2009 Chemistry Department Vice-Chair, Cape Breton University
- 2006 Chemistry Department Chair, Cape Breton University
- 2005 Physical and Applied Sciences Department Chair, Cape Breton University

PREVIOUS ACADEMIC POSITIONS

- 2008 – 2009 Professor of Chemistry (with tenure), Cape Breton University
- 2006 – 2011 Canada Research Chair, Cape Breton University
- 2001 – 2008 Associate Professor (with tenure), Cape Breton University
- 1999 – 2001 Assistant Professor (with tenure), Cape Breton University
- 1996 – 1999 Assistant Professor (without tenure), Cape Breton University
- 2009 – 2015 Adjunct Professor of Chemistry, Memorial University, St. John's NL
- 2006 – 2009 Adjunct Professor of Chemistry, Dalhousie University, Halifax NS
- 1995 – 1996 Instructor of Chemistry, Central Newfoundland Regional College (Memorial University Junior College), Grand Falls–Windsor, NL
- 1994 – 1995 NSERC Post-Doctoral Fellow, University of Ottawa, Ottawa, ON

PROFESSIONAL APPOINTMENTS

- 2016 – 2018 Council of Nova Scotia University Presidents
- 2016 – 2018 Universities Canada
- 2016 – 2018 Association of Atlantic Universities
- 2014 – 2018 Nova Scotia Offshore Energy Research Association, (Vice-chair 2014 – 2015, Chair 2015 – 2016)
- 2014 – 2017 Maritime Provinces Higher Education Commission
- 2015 – 2017 Academic Advisory Committee, Maritimes Provinces Higher Education Commission
- 2015 – 2017 Springboard Atlantic Board of Directors
- 2015 – 2017 NSERC Leader
- 2012 – 2015 Alliance of Canadian Comprehensive Research Universities, Executive Member, Founding Member
- 2010 – 2015 SSHRC Leader
- 2010 – 2015 CIHR University Delegate
- 2010 – 2015 NS Health Research Foundation Advisory Group

UNIVERSITY COMMITTEES

ACADIA UNIVERSITY

Senate; Senate Executive; Equity, Diversity & Inclusion (EDI) Committee, Faculty of Acadia University Council; Academic Planning Committee (Chair); Academic program Review Committee; Admission and Academic Standing (Policy) Committee; Board of *Open Acadia* (Chair); Faculty Support Committee; President's Executive Council; Strategic Leadership Council; Provost Council (Chair)

CAPE BRETON UNIVERSITY

(Interim) President & Vice-Chancellor

Board of Governors: Executive Committee, Alumni Committee, Audit Committee, Tributes Committee, Nominating Committee, Bylaws Committee, Investments Committee, Negotiations Advisory Committee

Senate; Unama'ki Advisory Board; President's Executive Council (Chair); President's Council (Chair); Strategic Planning Working Group (Chair);

Vice-President Academic & Provost

President's Executive Team; Senior Management Group; Strategic Planning Steering Committee; Probation, Promotion and Tenure Committee

Senate: Planning and Review Committee, Quality Assurance Committee

Board of Governors: Secretary, Executive Committee, Negotiations Advisory Committee, Bylaws Committee

Selection Committees: Dean of Professional Studies 2014, Dean of Research, Teaching and Graduate Studies (Chair) 2015, Dean Shannon School of Business (Chair) 2016

Dean of Research & Graduate Studies

Provost Group; Probation, Promotion and Tenure Committee

Senate: Research Committee, Research Assistance Committee (Non-voting Member), Research Ethics Board (Non-voting Member)

Sabbatical and Industrial Leaves Committee (Chair)

Selection Committee Research Advancement Officer (Chair), 2010, 2015; Industrial Liaison Officer (Chair) 2010

Faculty member

Probation, Promotion and Tenure Committee 2009 – 2010; Board of Governors 2003 – 2004, Board of Governors *ad hoc* Governance Committee (Chair) 2003 – 2004; Academic Council 1999, 2001 – 2004

CBU Faculty Association: Executive Member 2005 – 2006; Vice-President 2001 – 2004; Committee on Distance Education and Technologically Mediated Courses (Chair) 2001 – 2002; Negotiating Team 2002 – 2003; Association of Nova Scotia University Teachers Representative 2001 – 2004; Publicity Committee 2007 – 2008

Enabling our Future Faculty/Staff Scholarship Campaign (Co-chair) 2003 – 2004; President's Task Force on MacLean's Rankings 2003 – 2007; President's Task Force on Recruitment 2007 – 2008; Librarians Review Committee 2005

28th APICS/CIC Student Chemistry Conference (Faculty Advisor) 2002 – 2003

Sabbatical and Industrial Leave Committee, , 2000 – 2003

B.Sc. Degree Committee 2000 – 2002;

B. Tech. Degree Committee 1996 – 2000

Chemistry Seminar Coordinator 1996 – 2004

Selection Committees (>25) including:

Dean of Arts and Social Sciences 2014; Canada Research Chair Musical Traditions (Chair) 2012; Canada Research Chair Culture and Communities (Chair) 2012; Canada Research Chair Determinants of Healthy Communities (Chair) 2012; Industrial Research Chair in Mine Water Management 2012; Industrial Research Chair in Environmental Remediation 2012; Organic Chemistry Assistant Professor (Chair) 2009; Chief Information Officer 2007; Industrial Research Chair in Mine Water Management 2007; Assistant Professors Chemistry (2 positions - Chair) 2005; Assistant Professor Chemistry (Chair) 2004; Research Officer 2002; Research Manager 2002; Dean, School Science and Technology 2000 – 2001

PROFESSIONAL ACTIVITIES

Reviewer Mount Saint Vincent University, Application for Tenure & Promotion to Professor, 2014
 Reviewer St. Mary's University, Application for Tenure & Promotion to Associate Professor, 2013
 NSERC RTI Grant Selection Committee, Member 2010 – 2012

Language Editor for Central European Journal of Chemistry 2008 – 2009

Reviewer for Physical Chemistry, 8th Ed, Peter Atkins and Julio de Paula, 2008.

Walter C. Sumner Foundation Scholarship Adjudication Committee, 2007 – present

CBU NSERC Representative, 2001 –2004, 2009 –2010

Atlantic Provinces Council of the Sciences, Chemistry Committee Member, 1996 – 2004

Chemical Institute of Canada, Executive Member Atlantic Section, 1998 – 2003

Scientific Referee (>100 articles since 1996)

Journals include: Spectrochimica Acta, Vibrational Spectroscopy, Journal of Molecular Structure, Journal of Molecular Structure (Theochem), Journal of Physical Organic Chemistry, Journal of Physical Chemistry A, Optics Communications, Applied Spectroscopy Journal of Chemical Education

Grant Application Reviewer:

NSERC Discovery Grant, 2009(2), 2002

ACS PRF, 2007

CRC Nomination 2007

Chair of Scientific Sessions at:

General Physical/Theoretical Session – 89th Conference of the Canadian Society for Chemistry, Halifax, NS May 2006.

2006 Atlantic Theoretical Chemistry Conference, St. F.X. University

2009 Atlantic Theoretical Chemistry Conference, UNB

Judge APICS/CIC Atlantic Student Chemistry Conference, 2000, 2001, 2002

COMMUNITY SERVICE

2019 – Valley Regional Hospital Foundation Board of Directors

2018 – 2019 Cape Breton Partnership Export Advisory Team

2010 – 2019 Cape Breton Badminton Club, Manager, 2010 – 2019

2012 Badminton Event Coordinator, Canada 55+ Games

2007 – 2010 Badminton coach, Malcolm Munroe Junior High,

2008 – 2010 Badminton Coach, Riverview High School

2003, 2005 Member of “CBU for Life” entry in the CIBC Run for the Cure

Science Fair Judge

2005 – 2009 Cape Breton Regional, Sydney, NS

2001 Mi'kmaq Regional, Eskasoni, NS,

1998	Cape Breton Regional, Sydney, NS
1996	F. G. Bursley Memorial Collegiate, Grand Falls–Windsor, NF
1996	Windsor Pentecostal Elementary, Grand Falls–Windsor, NF
1999	Canvasser Canadian Diabetes Association
1997	Helped several students with science project for Regional Science Fair
1996	Co–Organizer – District Science Olympiad, Grand Falls–Windsor, NF

THESIS STUDENTS SUPERVISED

TYPE	NAME	DEGREE	DEPARTMENT	University	Thesis Subject Area	Time Frame
Supervised	E. Campbell	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2013–14
	A. Rudiuk	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2013–14
	J. Gillis	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2011–12
	M. Gillis	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2011–12
	T. Wilcox	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2011–12
	C. Andrews	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2010–11
	S. Jaspers–Fayer	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2010–11
	Z. Istvankova	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2009–10
	J. Pickup	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2008–09
	E. Gillis	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2007–08
	M. Isenor	B.Sc.(H)	Chemistry	CBU	Physical Chemistry	2007–08
	J. MacDonald	B.Tech.	Chemistry	CBU	Physical Chemistry	2005–06
	J. Pearson	B.Tech.	Chemistry	CBU	Physical Chemistry	2002–03
Co–Supervised Committee	Z. Istvankova	M.Sc.	Chemistry	Memorial	Theoretical Chemistry	2011–14
	M. Uddin	M.Sc.	Chemistry	Memorial	Theoretical Chemistry	2013
	A. Brown	B.Sc.	Chemistry	CBU	Inorganic Chemistry	2012
	M. Larade	B.Sc.	Chemistry	CBU	Computational Chemistry	2012
	U. Shezad	B.Sc.	Chemistry	CBU	Inorganic Chemistry	2010
	S. MacDougall	M.Sc.	Chemistry	UPEI	Physical Chemistry	2010
	C. Lavery	B.Sc.	Chemistry	CBU	Inorganic Chemistry	2009
	A. Lee	B.Sc.	Chemistry	CBU	Computational Chemistry	2009
	A. El–Sherbiny	Ph.D.	Chemistry	Memorial	Theoretical Chemistry	2008
	C. White	B.Sc.	Chemistry	CBU	Computational Chemistry	2008
	M. MacIntyre	B.Sc.	Chemistry	CBU	Computational Chemistry	2007

SUBSTANTIALLY REVISED OR NEW COURSES DEVELOPED AND APPROVED

CHEM 3201/MATH 2113 (CHEM 301/MATH 251): Mathematics for Chemistry I
 CHEM 3203/MATH 2214 (CHEM 302/MATH 252): Mathematics for Chemistry II
 CHEM 3204 (CHEM 305): Symmetry and Molecular Spectroscopy
 CHEM 4301 (CHEM 405): Quantum Chemistry
 CHEM 4900 (CHEM 490): Honours Thesis in Chemistry

TEACHING AWARDS OR RECOGNITIONS RECEIVED

CBU Alumni Association Excellence in Teaching Award, 2009
 CBU Instructional Leadership Award, 2009

BOOKS, CHAPTERS IN BOOKS, EXPOSITORY AND REVIEW ARTICLES

(Students supervised and Keefe indicated by bold)

BOOKS

J. E. Bertie, **C. D. Keefe** and R. N. Jones, 1995. Tables of Intensities for the Calibration of Infrared Spectroscopic Measurements in the Liquid Phase. Oxford: Blackwell Science Ltd.

PHD THESIS

C. D. Keefe, 1994. Absolute Infrared Absorption Intensities of Liquid Benzene. Edmonton: University of Alberta

EXPOSITORY AND REVIEW ARTICLES

C. D. Keefe, T. Wilcox, E. Campbell, 2012. *Measurement and Applications of Absolute Infrared Intensities*. Journal of Molecular Structure, **1009**, 111–122.

PAPERS IN REFEREED JOURNALS

(>50 in total, 10 most recent listed)

1. Zuzana Ištvanová, Victoria Grandy, Raymond A. Poirier, C. Dale Keefe, Joshua W. Hollett, 2015. *Simple models for predicting correlation energy*, Computational and Theoretical Chemistry, **1067**, 64 – 70.
2. K. Manjula, K. Pazhanichamy, S. Kumaran, T. Eevera, C. D. Keefe, K. Rajendran, 2012. *Growth Characterization of Calcium Oxalate Monohydrate Crystals Influenced by Costus Igneus Aqueous Stem Extract*, International Journal of Pharmacy and Pharmaceutical Sciences, **4 Suppl 1**, 261–270.
3. C. D. Keefe, and S. Jaspers–Fayer, 2011. *Infrared Optical Properties and Raman Spectra of *n*-pentane and *n*-pentane-*d*₁₂*. Vibrational Spectroscopy, **57 (7)**, 72 – 80.
4. C. D. Keefe and Z. Istvanova, 2011. *Computational study of proper and improper hydrogen bonding in methanol complexes*. Canadian Journal of Chemistry, **89**, 34–46.
5. K. Rajendran and C. D. Keefe, 2010. Growth and characterization of calcium hydrogen phosphate dihydrate crystals from single diffusion gel technique. Crystal Research and Technology, **45**, 939–945.
6. J.A. D'Angelo, E.L. Zodrow, M. Mastalerz, C.J. Cleal, and D. Keefe, 2010. *Phytochemistry of the fossilized–cuticle frond *Macroneuropteris macrophylla* (Pennsylvanian seed fern, Canada)*. International Journal of Coal Geology, **84**, 71–82.
7. C. D. Keefe and J.E. Pickup, 2009. Infrared optical constants, dielectric constants, molar polarizabilities, transition moments, dipole moment derivatives and Raman spectrum of liquid cyclohexane. Spectrochimica Acta A, **72**, 947–953.
8. C. D. Keefe, E.A.L. Gillis, and L. MacDonald, 2009. Improper Hydrogen–Bonding CH•Y Interactions in Binary Methanol Systems As Studied by FTIR and Raman Spectroscopy. Journal of Physical Chemistry A, **113**, 2544–2550.
9. J.A. D'Angelo, E.L. Zodrow, M. Mastalerz, and D. Keefe, 2009. Compression–cuticle relationship of seed ferns: Insights from liquid–solid states FTIR (Late Palaeozoic–Early Mesozoic, Canada–Spain–Argentina). International Journal of Coal Geology, **79**, 61–73.
10. C. D. Keefe and M. Isenor, 2008. *Ab initio* study of the interaction of CHX₃ (X = H, F, Cl, or Br) with benzene and hexafluorobenzene. Journal of Physical Chemistry A, **112**, 3127–3132.

INVITED LECTURES

1. 2009. *Improper Hydrogen Bonding*, St. F. X. University, Antigonish NS.
2. 2009. *Introduction to Vibrational Spectroscopy*, Periyar Maniammai University, India (Via video conference).
3. 2008. *Improper Hydrogen Bonding* Acadia University, Wolfville NS.
4. 2008. *Improper Hydrogen Bonding* Memorial University, St. John's NL.
5. 2006. *Bond or No Bond* Cape Breton University, Sydney NS.
6. 2005. *Molecular Behaviour*, Atlantic Deans of Arts and Science annual meeting, CBU
7. 2005. *Optical Constants: What are they good for? Absolute Intensities*. Dalhousie University, Halifax NS.

2005. *The Measurement and Study of Absolute Absorption Intensities*, Atlantic Provinces Council on the Sciences, Chemistry Tour Speaker, Université de Moncton; University of New Brunswick at St. John; University of Prince Edward Island.
2004. *Popular Chemistry* Association of Science Teachers – A Special Association of The Nova Scotia Teachers Union 2004 Conference, Halifax, NS.
2002. *The Measurement and Study of Absolute Absorption Intensities*, St. Mary's University, Halifax NS.
1995. *Absolute Infrared Absorption Intensities of Benzene*, Memorial University of Newfoundland, St. John's NL.

CONTRIBUTED (NON-INVITED) PAPERS AT CONFERENCES

(Presenting author(s) indicated by *)

(>65 in total, 10 most recent listed)

- J. McDavid* and C. D. Keefe*, 2013. *Defriended by the VP Research? Social media questions in the small institution*, Social Media: Implications for the University, Toronto, ON.
- C. D. Keefe* and M. Gillis, 2011. *A Computational Study of the Conformers of 2,4-Pentadienal*, Canadian Society for Chemistry Conference, Montreal.
- C. D. Keefe* and J. Gillis, 2011. *Computational Studies of Methanol Complexes – An Attempt to Simulate Liquid Spectra*, Canadian Society for Chemistry Conference, Montreal.
- Z. Istvankova* and C. D. Keefe, 2010. *Theoretical study of charge-shift bonding in propellanes*, Canadian Society for Chemistry Conference, Toronto.
- S. Jaspers-Fayer* and C. D. Keefe, 2010. *Infrared & Raman Studies of Cyclopentane, Cyclopentane-d₁₀, n-Pentane and n-Pentane-d₁₂*, Canadian Society for Chemistry Conference, Toronto.
- C. D. Keefe and Z. Istvankova*, 2009. *Computational Study of Proper and Improper Hydrogen Bonding in Methanol Complexes*, Canadian Computational Chemistry Conference Halifax NS.
- Z. Istvankova* and C. D. Keefe, 2009. *Computational Study of Proper and Improper Hydrogen Bonding in Methanol Complexes*, Canadian Society for Chemistry Conference, Hamilton, ON.
- J.E. Pickup* and C. D. Keefe, 2009. *Experimental and Computational Study of the Intermolecular Interactions between Acetic Acid and Pyridine*, Canadian Society for Chemistry Conference, Hamilton, ON.
- C. D. Keefe* and M. Isenor, 2008. *Computational Study of a CHXYZ:C₆H₆ Complexes*, 91st Canadian Chemistry Conference and Exhibition, Edmonton, AB.
- C. D. Keefe* and E. Gillis, 2008. *Improper Hydrogen Bonding in Binary Methanol Solutions*, 91st Canadian Chemistry Conference and Exhibition, Edmonton, AB.

RESEARCH GRANT AND CONTRACT INFORMATION

Funding (Total: >\$1 230 000)

Natural Sciences and Engineering Research Council (NSERC) Discovery Grant, \$117 150, 2007 – 2012

American Chemical Society Petroleum Research Fund \$55 000 US, 2007 – 2010

Commonwealth Exchange Program, Department of Foreign Affairs and International Trade Canada, \$10 000, 2010

Tier II Canada Research Chair \$500 000, 2006 – 2011.

Canadian Foundation for Innovation Infrastructure Grant to Support Canada Research Chair, \$119 751, 2006

Nova Scotia Research and Innovation Trust, Infrastructure Grant to Support Canada Research Chair, \$119 752, 2006

Enterprise Cape Breton Corporation/Atlantic Canada Opportunities Agency – FTIR and GC–MS equipment grant, \$250 000, 2005

NSERC Discovery Grant, \$115 000, 2002 – 2007

NSERC Discovery Grant, \$45 650, 1998 – 2002

Internal CBU Grants, \$133,370, 1997 – 2008

RESEARCH ASSISTANTS

Name	Type of Assistant	Time Frame
Erica Campbell	Summer Undergraduate Research Assistant	2011 – 2014
Amy Clemens	Summer Undergraduate Research Assistant	2013
Karan Pahil	Summer Undergraduate Research Assistant	2011 – 2012
Tiffany Wilcox	Summer Undergraduate Research Assistant	2011 – 2012
Margaret Gillis	Summer Undergraduate Research Assistant	2010 – 2012
Jean Gillis	Summer Undergraduate Research Assistant	2010 – 2012
Cara Andrews	Summer Undergraduate Research Assistant	2010 – 2011
Raj Kalia	Visiting Professor	2008 – 2009, 2011
Scott Jaspers–Fayer	Summer Undergraduate Research Assistant	2007 – 2011
Nazeema Basheer	Visiting Commonwealth Ph.D. Scholar	2010
Zuzana Istvankova	Summer Undergraduate Research Assistant	2008 – 2010
Janet Pickup	Summer Undergraduate Research Assistant	2005 – 2009
Lisa MacDonald	Summer Undergraduate Research Assistant	2008
Kyle Johnston	Summer Undergraduate Research Assistant	2007 – 2008
Merrill Isenor	Summer Undergraduate Research Assistant	2006 – 2007
Elizabeth Gillis	Summer Undergraduate Research Assistant	2005 – 2007
Kevin McCormack	Summer Undergraduate Research Assistant	2006
Jennifer MacDonald	Summer Undergraduate Research Assistant	2003 – 2006
Michael Horechuk	Summer Undergraduate Research Assistant	2005
Vania Szeto	Summer Undergraduate Research Assistant	2005
Ellen Butler	Summer Undergraduate Research Assistant	2004
Lori Jessome	Summer Undergraduate Research Assistant	2002 – 2004
Shaun MacInnis	Summer Undergraduate Research Assistant	2001 – 2003
Jason Pearson	Summer Undergraduate Research Assistant	2000 – 2003
Andree Taylor	Summer Undergraduate Research Assistant	2001
Erin Brand	Summer Undergraduate Research Assistant	2000
Johanna Barrett	Summer Undergraduate Research Assistant	2000
Amy MacDonald	Summer Undergraduate Research Assistant	2000
Stephen Fleet	Summer Undergraduate Research Assistant	1998 – 2000
Tara Burchell	Summer Undergraduate Research Assistant	1999
Chris Kaiser	Summer Undergraduate Research Assistant	1999
Leslie Donovan	Summer Undergraduate Research Assistant	1998 – 1999
Janet Pittman	Summer Undergraduate Research Assistant	1997

REFERENCES

Available on request