Benoît H. Lessard, Assistant Professor, Tier 2 CRC, tenure track
Faculty of Graduate and Postdoctoral Studies Member: yes
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A) Career Highlight

- Tier 2 Canada Research Chair - Advanced Polymer Materials and Organic Electronics
- 2015 John Charles Polanyi Prize - Chemistry
- Over $1.6M in Research grants obtained (NSERC, CFI, ORF, CRC, uOttawa)
- 40 Peer-reviewed Journal publications
- 14 in high-impact pubs. (J. Mater. Chem. A.: 7.44, Appl. Mater. Interfaces: 6.72, Macromolecules: 5.93)
- 5 Patent applications
- h-index = 16
- NSERC Banting Post Doctoral Research Fellow

B) Education

Ph.D. Chemical Engineering, McGill University, 2012
M.Eng. Chemical Engineering (Thesis), McGill University, 2008
B.Eng. Chemical Engineering, McGill University. 2007

C) Employment History

2015 - present **Tier 2 Canada Research Chair**, Dept. Chem. & Bio. Eng. University of Ottawa
2015 - present **Assistant Professor**, Dept. Chem. & Bio. Eng. University of Ottawa
2013 - 2015 **Banting Research Fellow**, Dept. Chem. Eng. & Appl. Chem. University of Toronto
2012 - 2013 **Post Doctoral Research Fellow**, Dept. Chem. Eng. & Appl. Chem. University of Toronto

D) Awards and Fellowships

- 2015 John Charles Polanyi Prize - Chemistry (Council of Ontario Universities)
  Prestigious prizes awarded annually to five outstanding researchers in five different fields - Provincial prize
- Banting Post Doctoral Fellowship (Natural Science and Engineering Research Council), 05/2013-05/2015
  23 distributed annually to canadians or international students studying in Canada in all Science and Engineering - Ranked 4^{th} out of 180 pre-screened applicants.
- MSED/LANXESS Graduate Thesis Award (Macromolecular Science and Engineering Division of the Chemical Institute of Canada in collaboration with LANXESS inc.), 02/2012
  Doctoral Thesis Award: 1 or 2 distributed annually throughout Canada for accomplishments in polymer science
- NSERC CGS (Alexander Graham Bell Canada Graduate Scholarship), 05/2009 - 05/2012
- General Electric Foundation Fund McGill Engineering Doctoral Award (named MEDA), 01/2009 - 01/2012
  McGill University / Faculty of Engineering : Doctoral Fellowship
- CGS - MSFSS (Canada Graduate Scholarships - Micheal Smith Foreign Study Supplement), 01 / 2012
  NSERC: funding for pursuit of exceptional research experiences at research institutions abroad (Declined)
- Graduate Travel Award, 03/2011
- GREAT (Graduate Research Enhancement and Travel Award), 02 / 2010
- Sigma Xi - Grant-in-Aid of Research, 05/2009
- Engineering Graduate Recruitment Fund Award 01/2009
- Eugenie Ulmer Lamothe (EUL) Scholarship, 05/2007 - 08/2007

E) Professional and Scholary Activities

Faculty Research Advisory Committee (FRAC) 10/2015 - Present
One of 2 Representatives for the Department of Chemical & Biological Engineering University of Ottawa
FRAC aims to develop action plans for our Faculty so that we can submit strong, well-coordinated, winning proposals for major research applications such as CFI

Faculty Council Member 07/2016 - Present
Representatives for the Department of Chemical & Biological Engineering University of Ottawa

Departmental Space Committee Member 07/2016 - Present
Department of Chemical & Biological Engineering University of Ottawa
Committee that plans Departmental space optimization, distribution and acquisition

Conference Division Co-Organizer 1/2012 - 10/2012
Canadian Chemical Engineering Society, 63rd Annual Conference, CSChE 2013 Fredericton, NB, Canada
Designed the program for various symposiums and invited keynote speakers for the Macromolecular Science and Complex Fluids Symposium

Conference Session Chair
63rd Canadian Chemical Engineering Conference, CSChE 2013 -Fredericton, NB, Canada
97th Canadian Chemistry Conference and Exhibition, CSC 2014 -Vancouver, BC, Canada
64th Canadian Chemical Engineering Conference, CSChE 2014 -Niagara Falls, ON, Canada

MSED Executive Member at Large 6/2013 - present
Macromolecular Science and Engineering Division of the Chemical Institute of Canada
Offer opinions on the future of the MSED as well as help organize and meet at regional and national meetings

KAUST workshop on Applied Functional Materials Chemistry 10/2014
ACS hosted King Abdul University Science and Technology KAUST , Saudi Arabia
Postdoc Travel Support fund which paid for travel and lodging to KAUST

Visiting Scientist 3/2013 - 1/2014
Prof. Dwight Seferos, Dept. of Chemistry University of Toronto, ON, Canada
Fabricating and testing organic bulk hetero junction solar cells

Visiting Scientist 3/2012
Prof. Robin Hutchinson, Dept. of Chemical Engineering Queen's University, ON, Canada
Determining propagation kinetic rate constants using PLP paired with SEC

Visiting Scientist 7/2011 - 10/2011
Dr. Didier Gigmes, Institut de Chimie Radicalaire Universitée Aix-Marseille / CNRS, France
Determining dissociation constants for copolymers synthesized by NMP using ESR

CSChE Student Design Project Judge 10/2014
Undergraduate Plant Design competition at CSChE 2014
Judge both the written report and the oral presentations.

Global Shaper 7/2013 - present
Global Shapers - An Initiative of the World Economic Forum Toronto Hub
Network of hubs developed and led by young people who are exceptional in their potential, their achievements and their drive to make a contribution to their community. Under 30 and peer nominated

Toronto Science Fair Judge 4/2014
High school science project Judge grade 7-10 Toronto, On, Canada
Volunteer judge for the annual high school toronto science fair.

F) Media and Outreach

- Canada Research Chair Ceremony: I was guest speaker at ceremony and had a personal interview with Minister Catherine McKenna (12/2/2016)
  Interview with Catherine McKenna, Government of Canada Website, National Observer, Ottawa Buisness Journal, Yahoo Finance
- 2015 Polanyi Prize - Chemistry (18/11/2015)
  Ontario Government website, Ottawa Citizen, Council of Ontario Universities website, uOttawa Gazette, Exchange Morning Post, Ottawa Buisness Journal
- My published research article on the synthesis of a new polymer was highlighted in Materials Views and several other scientific news sources: UofT news, UofT Engineering news, ChemE news, Science Newsline Technology, Materialsgate, Engineering Inspiration.

G) Society Membership

Professional Engineers of Ontario's (P.Eng Licence #:100221805), member since 2016

Center for Catalysis Research and Innovation (CCRI), member since 2015
Canadian Chemical Engineering Society member, CSChE, member since 2011
Canadian Society for Chemistry, CSC, member since 2011
Materials Research Society (MRS) member, CSChE, member since 2015
Ordre des ingénieurs du Québec - membre étudiant, member between 2010-2012

H) Training of Highly Qualified Personnel

Category	Current	Last 6 years	Career Total
Doctoral (Ph.D.)	1	1	1
Master's Thesis (M.A.Sc.)	3	4	4
Master's Project (M.Eng.)	0	2	2
Undergraduate Student Project (U.Pr.)	5	14	14
- *UROP, Thesis, Summer Project or CO-OP*			

University of Ottawa

- Owen Melville (Ph.D.) (08/2015 - present)
- Trevor Grant (M.A.Sc.) (07/2015 - present)
- Nirmal Kannan (M.A.Sc.) (09/2015 - present)
- Alexander Peltekoff (M.A.Sc.) (05/2016 - present)
- Nicolas Boileau (U.Pr.) (6-2016 - present)
- Benjamin King (U.Pr.) (10-2015 - present)
- Ian Therrien (U.Pr.) (10-2015 - present)
- Georgio Feghali (U.Pr.) (5-2016 - present)
- Zoe Pierce (U.Pr.) (5-2016 - present)
- Phillip Williams (U.Pr.) (10-2015 - 05-2016)
- Nada Khalil (U.Pr.) (11-2015 - 02-2016)
- Christaian Imperiale (U.Pr.) (05-2015 - 09-2015)

University of Toronto

- Eun Cho (M.Eng.) - Co-Supervised with Prof. T. Bender (05/2014 - 10/2014)
- Kathleen Sampson (M.A.Sc.) Co-Supervised with Prof. T. Bender (05/2014 - 05/2015)
- Owen Melville (M.Eng.) Co-Supervised with Prof. T. Bender (01/2014 -10/2014)
- Michael Burdett (U.Pr.) - Co-Supervised with Prof. T. Bender (01/2014 - 05/2014)
- Trevor Grant (3 U.Pr.) - Co-Supervised with Prof. T. Bender (05/2013 - 05/2015)
- Kevin Saludares (U.Pr.) - Co-Supervised with Prof. T. Bender (05/2013 - 08/2013)

McGill University

- Xeniya Savelyeva (2 U.Pr.) - Co-Supervisor with Prof. M. Marić (09/2011 - 12/20110)
- Edwin Ling (3 U.Pr.) - Co-Supervisor with Prof. M. Marić (05/2009 - 08/20011)
- Sarah Mackay (U.Pr.) - Co-Supervisor with Prof. M. Marić (09/2010 - 12/2010)
- Chi Zhang (U.Pr.) - Co-Supervisor with Prof. M. Marić (05/2009 - 08/2009)
- Chris Tervo (U.Pr.) - Co-Supervisor with Prof. M. Marić (05/2008 - 08/2008)

I) Teaching

Course Instructor
University of Ottawa

- Princ.& Appl. de Thermodynami. (CHG 3724) (09/2016 - 12/2016)
- Organic Electronics (CHG 4360) (01/2016 - 05/2016)

University of Toronto

- Chemical Properties of Polymers (CHE 562), co-taught with T. Bender (09/2013 - 12/2013)
- Materials Engineering, (CHE 341) co-taught with G. Coates (09/2013 - 12/2013)

Teaching Assistant
University of Toronto

- Chem. Properties of Polymers (CHE 562), taught by P. Yaneff (09/2014 - 12/2014)
- Chem. Properties of Polymers (CHE 562), taught by T. Bender (09/2013 - 12/2013)
- Chem. Properties of Polymers (CHE 562), taught by T. Bender & M. Winnik (09/2012 - 12/2012)

McGill University

- Project Laboratory 2 (CHEE 393), taught by S. Coulomb (01/2012 - 05/2012)
- Polymer Engineering & Science (CHEE 582), taught by M. Marić (01/2012 - 05/2012)
- Process Design (CHEE 453), taught by N. Tufenkji (09/2011 - 12/2011)
- Separation Processes (CHEE 351), taught by J. Gostick (01/2010 - 05/2010)
- Fluid Mechanics (CHEE 314), taught by R. Leask (09/2010 - 12/2010)
- Chem. Eng. Thermodynamics (CHEE 220), taught by D. Cooper (01/2009 - 05/2009)
- Introduction to Chemical Engineering (CHEE 200), taught by V. Yargeau (09/2008 - 12/2008)
- Materials Engineering (CHEE 484), taught by M. Marić (01/2008 - 05/2008)

J) Research Funding

Year	Source	$ Total	/yr	(Type)	Title	Investigator(s)
2016	NSERC	$ 25,000		(G)	Engagement with Epocal Inc. to explore material property variations	Lessard
2015-2016	uOttawa	$ 1,500		(G)	UROP Grant New Fluorinated Materials for Next generation Fuel Cells (3 students)	Lessard
2015	NSERC	$ 1,876		(G)	Connecting uOttawa and Element Instrumentation	Lessard
2015	NSERC	$ 24,825		(G)	Engagement with OTILumionics Inc. to explore surface grafted polymers for organic electronic applications	Lessard
2015-2020	CRC	$ 500,000	/5 yr	(G)	Smart polymer organic electronic sensors	Lessard
2015-2020	ORF	$ 310,833	/5 yr	(C)	Research Infrastructure program : Smart polymers for Organic Electronics	Lessard
2015-2020	CFI	$ 310,833	/5 yr	(C)	John R. Evans Leaders Fund (JELF) : Smart polymers for Organic Electronics	Lessard
2015	uOttawa	$ 75,000		(C)	Faculty Renovations top up - CFI: Smart polymers for Organic Electronics	Lessard
2015-2020	NSERC	$ 125,000	/5 yr	(G)	Discovery Grant : Smart-sensors, exploring the use of smart-polymers in organic electronics	Lessard
2015	NSERC	$ 140,000		(G)	RTI Equipment : Organic electronic Sensor testing using Environmental Chamber	Lessard
2015	uOttawa	$ 40,000		(G)	Department Start-up package	Lessard
2015	COU	$ 20,000		(A)	Charles Polanyi Prize in Chemistry	Lessard
2013-2015	NSERC	$ 140,000	/2 yr	(C)	Banting Post Doctoral Fellowship	Lessard
2009-2012	NSERC	$ 105,000	/3 yr	(C)	Canada Graduate Scholarship	Lessard
2012	MSED	$ 1000		(A)	Graduate Thesis Award	Lessard
2009	NSERC	$ 3500		(C)	CGS - MSFSS	Lessard
2009	Sigma Xi	$ 800		(A)	Operating Grant-in-Aid of Research	Lessard
2011	McGill U.	$ 3,000		(A)	Travel - Visiting scientist in France	Lessard
2010	McGill U.	$ 1,600		(A)	Travel - Conference in Denmark	Lessard
2009	McGill U.	$ 5,000		(A)	Eng. Grad. Recruitment Fund Award	Lessard

**C = contract, A = Award, G = Grant*

K) Publication Summary

Summary since 2007.

- Papers in refereed journals ..... 40+2
- Patents and Patent Application 5
- Book chapters..... 1
- Papers in refereed conference proceedings 3
- Invited and/or Keynote conference proceedings 3
- Other Presentations (Invited talks at other Universities)..... 6
- Papers in other conference proceedings (Refereed abstracts)..... 34
- Total # of citations : **582** - *h*-index : **16** - *i*10-index : **20** (According to GoogleScholar)

L) Refereed Journal Publications

40. **Lessard, B. H.**; Bender, T. P. *Crystal Structures of Bis(phenoxy)-Silicon Phthalocyanines: increasing π-π interactions, solubility and disorder and no halogen bonding observed.* ActaE, 2016, E72, 988-994. doi: 10.1107/S205698901600935X

39. **Lessard, B. H.***; Mackay, S.; Marić, M.* *Poly(styrene-alt-maleic anhydride)-block-poly(methacrylate-ran-styrene) Block Copolymers with Tunable Mechanical Properties by Nitroxide Mediated Controlled Radical Polymerization.* Macromolecular Research,2016 () 1-6. doi: 10.1007/s13233-016-4096-3 (Corresponding Author, impact factor: 1.590)

38. Plint, T.; **Lessard, B. H.**; Bender, T. P. *Assessing the potential of group 13 and 14 metal/metalloid phthalocyanines as hole transporting layers in organic light emitting diodes.* J. Appl. Phys., 2016,119,145502. doi: 10.1063/1.4945377(impact factor: 2.276)

37. **Lessard, B. H.***; Marić, M.* *Thiophene decorated block copolymers templated from poly(styrene-alt-maleic anhydride)-block-poly(styrene) one-shot block copolymer: effect of thiophene inclusion on morphology".* Journal of Polymer Research, 2016, 23,1-6 doi: 10.1007/s10965-016-0931-7 (*Corresponding Author*, impact factor: 1.982)

36. **Lessard, B. H.**; Grant, T. M.; Thibau, E.; White, R. T.; Lu, Z. H.; Bender, T. P. *One small change in the fluorophenoxy structure: one huge change in the acceptor and donor properties of silicon phthalocyanine* J. Mater. Chem. A, 2015, 3, 24512-24524. doi: 10.1039/C5TA07173A (impact factor: 7.443)

35. **Lessard, B. H.***; Bender, T. P.* *Controlled and Selective placement of Boron Subphthalocyanines on Either Chain End of Polymers Synthesized by Nitroxide Mediated Polymerization.* AIMS Macromolecular Science, 2015, 2, 411-426. doi: 10.3934/molsci.2015.4.411 (*Corresponding Author, OPEN ACCESS*)

34. **Lessard, B. H.**; Sampson, K. L.; Plint, T.; Bender, T. P. *Boron Subphthalocyanine Polymers: Avoiding the Small Molecule Side Product and Exploring their use in Organic Light emitting Diodes.* J. Polym. Sci. A: Polym. Chem., 2015, 53, 1996-2006. doi: 10.1002/pola.27685 (Inside Cover, impact factor: 3.245),

33. Melvile, O.; **Lessard, B. H.***; Bender, T. P.* *Phthalocyanine Based Organic Thin-Film Transistors: A Review of Recent Advances.* Appl. Mater. Interfaces, 2015, 7, 13105-13118 doi: 10.1021/acsami.5b01718 (Corresponding author, *OPEN ACCESS*, impact factor: 6.723),

32. **Lessard, B. H.**; White, R. T.; Al-Amar, M.; Plint, T.; Castrucci, J. S.; Josey, D.; Lu, Z. H.; Bender, T. P. *Assessing the potential roles of silicon and germanium phthalocyanines in planar heterojunction organic photovoltaic devices and how pentafluoro phenoxylation can enhance π-π interactions and device performance.* Appl. Mater. Interfaces, 2015, 7, 5076-5088. doi: 10.1021/am508491v (impact factor: 6.723)

31. **Lessard, B. H.**; Al-Amar, M.; Grant, T. M.; White, R. T.; Lu, Z. H.; Bender, T. P. *From Chloro to Fluoro, Expanding the Role of Aluminium Phthalocyanine in Organic Photovoltaic Devices.* J. Mater. Chem. A, 2015, 3, 5047-5053. doi: 10.1039/C4TA06759B (impact factor: 7.443)

30. **Lessard, B. H.***; Beouch, L;, Goubard, F.; Wantz, G.; Marić, M.; Gigmes, D.; Dumur, F.* *Poly(2-(N-carbazolyl)ethyl acrylate) as Host for High Efficiency Polymer Light-Emitting Devices.* Organic Electronics, 2015,17, 377-385. doi: 10.1016/j.orgel.2014.12.019 (Corresponding author, impact factor: 3.929)

29. Josey, D. S.; Castrucci, J. S.; Dang, J. D.; **Lessard, B. H.**; Bender, T. P. *Evaluating thiophene electron donor layers for the rapid assessment of boron subphthalocyanines as electron acceptors in organic photovoltaics; solution or vacuum deposition?*. ChemPhysChem, 2015,16, 1245-1250 doi: 10.1002/cphc.201402751. (impact factor: 3.360)

28. **Lessard, B. H.**; Dang, J. D.; Grant, T. M.; Gao, D.; Seferos, D.; Bender, T. P. *Bis(tri-n-hexylsilyl oxide) silicon phthalocyanine is a unique additive in ternary bulk heterojunction organic photovoltaic devices.* Appl. Mater. Interfaces, 2014, 6, 15040-15051. doi: 10.1021/am503038t (impact factor: 6.723)

27. Wang, J; **Lessard, B. H.**; Marić, M.; Favis, B. D. *Hierarchically Porous Polymeric Materials from Ternary Polymer Blends.* Polymer, 2014, 55, 3461-3467 (Communication, impact factor: 4.224). doi: 10.1016/j.polymer.2014.06.042

26. Kazemi, N; **Lessard, B. H.**; Marić, M.; Duever, T. A.; Penlidis, A. *Reactivity Ratio Estimation in Radical Copolymerization: From Preliminary Estimates to Optimal Design of Experiments.* Industrial & Eng. Chem. Research, 2014, 53, 7305-7312. (impact factor: 2.235) doi: 10.1021/ie402765k

25. **Lessard, B. H.**; Bender, T. P. *Boron subphthalocyanine polymers by facile coupling to poly(acrylic acid-ran-styrene) copolymers synthesized by nitroxide mediated polymerization and the associated problems with auto-initiation.* Macromol. Rapid Commun., 2013, 34, 568-573. (Communication, impact factor: 4.929). doi: 10.1002/marc.201200787 (Materials View Article, U of T News, U of T Eng. Faculty News, U of T Chem. Eng. Dept. News, Cover Article)

24. Wang, Z. J.; **Lessard, B. H.**; Marić, M. *Thermo-Responsive Micelles based on Poly(Phenyl Acrylate)-b-Poly(Diethyl Acrylamide) Block Copolymers.* eXPRESS polymer letters, 2013, 7, 1020-1029. (impact factor: 2.953) doi: 10.3144/expresspolymlett.2013.100

23. **Lessard, B. H.***; Guillaneuf ,Y; Mathew, M.; Liang, K; Clement, J.-L.; Gigmes, D.; Hutchinson, R.A.; Marić, M. *Understanding the Controlled Polymerization of Methyl Methacrylate with Low Concentrations of 9-(4-Vinylbenzyl)-9H-Carbazole Comonomer by Nitroxide Mediated Polymerization: The Pivotal Role of Reactivity Ratios.* Macromolecules, 2013, 46, 805-813.(Corresponding author, impact factor: 5.927). doi: 10.1021/ma3023525

22. **Lessard, B. H.**; Savelyeva, X.; Marić, M. *Smart Morpholine-Functional Statistical Copolymers Synthesized by Nitroxide Mediated Polymerization.* Polymer, 2012, 25, 5649-5656.(impact factor: 4.224) doi: 10.1016/j.polymer.2012.10.020

21. Dang, J. D.; Virdo, J.; **Lessard, B. H.**; Paton, A.; Bultz, E.; Bender, T. *A boron subphthalocyanine polymer: Poly(4-methyl styrene)-co-poly(phenoxy-boron-subphthalocyanine).* Macromolecules, 2012, 5, 7791-7798.(impact factor: 5.927) doi: 10.1021/ma301247p

20. **Lessard, B. H.**; Marić, M. *Optimization of 4-Vinylpyridine Nitroxide Mediated Controlled Radical Polymerization: Effect of Initiator Protection and Complexation with C_{60}.* e-Polymer, 2012, 063, 1-16.(impact factor: 0.330) doi: 10.1515/epoly.2012.12.1.741, *Citations = 1*

19. **Lessard, B. H.**; Ling, E. J.; Marić, M. *Fluorescent, Thermoresponsive Oligo(ethylene glycol) Methacrylate/9-(4-vinylbenzyl)-9H-carbazole Copolymers Designed with Multiple LCSTs via Nitroxide Mediated Controlled Radical Polymerization.* Macromolecules, 2012, 45,1879-1891.(impact factor: 5.927) doi: 10.1021/ma202648k

18. **Lessard, B. H.**; Marić, M. *Water-Soluble/Dispersible Carbazole-Containing Random and Block Copolymers by Nitroxide Mediated Radical Polymerization.* Can. J. Chem. Eng., 2012, 91, 618-629.(impact factor: 1.313) doi: 10.1002/cjce.21676

17. Savelyeva, X.; **Lessard, B. H.**; Marić, M. *Amphiphilic poly(4-Acryloylmorpholine)-block-poly(2-(N-Carbazolyl) Ethyl Acrylate) Random Copolymers and Block Copolymers Synthesized by Nitroxide Mediated Polymerization.* Macromol. React. Eng., 2012, 6, 200-212.(impact factor: 1.336) doi: 10.1002/mren.201100076

16. **Lessard, B.**; Marić, M. *"Smart" Poly(2-(Dimethylamino)ethyl Methacrylate-ran-9-(4-Vinylbenzyl)-9H-Carbazole) Copolymers Synthesized by Nitroxide Mediated Radical Polymerization.* J. Polym. Sci. A: Polym. Chem., 2011, 49, 5270-5283. (Inside Cover Article, impact factor: 3.245) doi: 10.1002/pola.25004

15. Marić, M.; **Lessard, B. H.**; Ling, E. J.; Consolante, V.; *Incorporating Primary Amine Pendant Groups into Copolymers via Nitroxide Mediated Polymerization.* Reactive Funct. Polym., 2011, 71, 1137-1147.(impact factor: 2.822) doi: 10.1016/j.reactfunctpolym.2011.09.006

14. Moayeri, A.; **Lessard, B.**; Marić, M. *Nitroxide mediated controlled synthesis of glycidyl methacrylate-rich copolymers enabled by SG1-based alkoxyamines bearing succinimidyl ester groups.* Polym. Chem., 2011, 2, 2084-2092.(impact factor: 5.231) doi: 10.1039/C1PY00190F

13. **Lessard, B.**; Ling, E. J.; Morin, M. S. T.; Marić, M. *Nitroxide Mediated Radical Copolymerization of Methyl Methacrylate Controlled with a Minimal Amount of 9-(4-Vinylbenzyl)-9H-Carbazole.* J. Polym. Sci. A: Polym. Chem., 2011, 49, 1033-1045.(impact factor: 3.245) doi: 10.1002/pola.24522

12. **Lessard, B.**; Aumand-Bourque, C.; Chaudury, R.; Gomez, D.; Haroon, A.; Ibrahimian, N.; Mackay, S.; Noel, M.-C.; Patel, R.; Sitaram, S.; Valla, S.; White B.; Marić, M. *Poly(ethylene-co-butylene)-b-(styrene-ran-maleic anhydride)$_2$ Compatibilizers via Nitroxide Mediated Radical Polymerization.* International Polym. Processing, 2011, XXVI, 197-204.(impact factor: 0.690) doi: 10.3139/217.2425

11. Zhang, C.; **Lessard, B.**; Marić, M. *Synthesis and Characterization of Benzyl Methacrylate/Styrene Random Copolymers Prepared by NMP* Macromol. React. Eng., 2010, 4, 415-423.(impact factor: 1.638) doi: 10.1002/mren.200900069

10. **Lessard, B.**; Tervo, C.; De Wahl, S. : Clerveaux.; F. J.; Tang, K. K.; Yasmine, S.; Andjelic, S.; D'Alessandro, A; Marić, M. *Poly(Tert-Butyl Methacrylate/Styrene) Macroinitiators as Precursors for Organo and Water-Soluble Functional Copolymers using Nitroxide Mediated Controlled Radical Polymerization* Macromolecules, 2010, 43, 868-878.(impact factor: 5.927) doi: 10.1021/ma9022185

9. **Lessard, B.**; Marić, M. *One-Step Poly(styrene-alt-maleic anhydride)-block-Poly(styrene) Copolymers with Highly Alternating Styrene/Maleic Anhydride Sequences is Possible by Nitroxide Mediated Polymerization* Macromolecules, 2010, 43, 879-885.(impact factor: 5.927) doi: 10.1021/ma902234t

8. **Lessard, B.**; Tervo, C.; Marić, M. *High Molecular Weight Poly(tert-Butyl Acrylate) by Nitroxide Mediated Polymerization: Effect of Chain Transfer to Solvent* Macromol. React. Eng., 2009, 3 (5-6), 245-256.(impact factor: 1.638) doi: 10.1002/mren.200900014 (Cover Article, impact factor: 1.336)

7. **Lessard, B.**; Marić, M. *Incorporating Glycidyl Methacrylate into Block Copolymers using Poly(methacrylate-ran-styrene) Macroinitiators Synthesized by Nitroxide-Mediated Polymerization.* J. Polym. Sci. A: Polym. Chem., 2009, 47, 2574-2588.(impact factor: 3.245) doi: 10.1002/pola.23343

6. **Lessard, B.**; Marić, M. *Nitroxide-Mediated Polymerization of Poly(ethylene glycol) Acrylate Comb-Like Polymers.* Macromolecules 2008, 41, 7870-7880.(impact factor: 5.927) doi: 10.1021/ma800603a

5. **Lessard, B.**; Marić, M. *Effect of an Acid Protecting Group on Livingness" of Poly(acrylic acid)/Poly(styrene) Random Copolymer Macroinitiators for Nitroxide-Mediated Polymerization of Styrene.* Macromolecules 2008, 41, 7881-7891.(impact factor: 5.927) doi: 10.1021/ma801255g

4. **Lessard, B.**; Marić, M. *Effect of Acrylic Acid Neutralization on "Livingness" of Poly(styrene-ran-acrylic acid) Macro-initiators for Nitroxide-Mediated Polymerization of Styrene.* Polym. International 2008, 57:1141-1151.(impact factor: 2.247) doi: 10.1002/pi.2456

3. **Lessard, B.**; Schmidt, S. C.; Marić, M. *Styrene/Acrylic Acid Random Copolymers Synthesized by Nitroxide-Mediated Polymerization: Effect of Free Nitroxide on Kinetics and Copolymer Composition* Macromolecules 2008, 41, 3446-3454.(impact factor: 5.927) doi: 10.1021/ma0718604

2. Jabbar, R.; Graffe, A.; **Lessard, B.**; Marić, M. *Nitroxide-Mediated Synthesis of Styrenic-Based Segmented and Tapered Block Copolymers Using Poly(lactide)-Functionalized TEMPO Macromediators* J. Appl. Polym. Sci. 2008, 109, 3185-3195.(impact factor: 1.640) doi: 10.1002/app.28377

1. **Lessard, B.**; Graffe, A.; Marić, M. *Styrene/tert-Butyl Acrylate Random Copolymers Synthesized by Nitroxide-Mediated Polymerization: Effect of Free Nitroxide on Kinetics and Copolymer Composition* Macromolecules 2007, 40, 9284-9292.(impact factor: 5.927) doi: 10.1021/ma071689w

M) Upcoming Peer Reviwed Journal Publicaitons / in Press

2. Melville, O.; Imperiale, C.; King, B.; **Lessard, B.*** *Orthogonally Processable Carbazole-Based Polymer Thin Films by Nitroxide-Mediated Polymerization.* Macromolecules **Submitted, 4/2016**.ID:ma-2016-01223t

1. Plint, T.; **Lessard, B. H.**; Bender, T. P. *Warm White Organic Light Emitting Diodes Enabled by the Dual Electroluminescence Emission of Chloro Boron Subphthalocyanine.* ACS Photonics **Submitted, 6/2016**. ID:ph-2016-00389x

N) Patents and Patents Applications

5. US Provisional Patent Application *Crystallization of additives ar the P/N junctions of bulk-heterojunction photoactive layers* Inventors: T. P. Bender; **B. H. Lessard**: J. Dang, Assignee: SABIC corporation. *Filed May 2014*, **US 61/989,970**

4. US Provisional Patent Application *Process for making axially fluorinated-phthalocyanines and their use in photovoltaic applications* Inventors: T. P. Bender; **B. H. Lessard**: T. M. Grant, Assignee: SABIC corporation. *Filed October 2013*, **US 61/898,226**

3. US Patent *Semiconductor polymers* Inventors: T. P. Bender; **B. H. Lessard**, Assignee: SABIC corporation. May 17, 2016 **US 9,343,688 B2**

2. US Patent *Aryloxy-phthalocyanines of group III metals* Inventors: T. P. Bender; **B. H. Lessard**; A. Abdelrahman, A. Tevtia, Assignee: SABIC corporation. Jan. 13,2015 **US 8,933,238 B2**

1. US Patent *Aryloxy-phthalocyanines of group IV metals* Inventors: T. P. Bender; **B. H. Lessard**; A. Abdelrahman, A. Tevtia, Assignee: SABIC corporation. May 26,2015 **US 9,040,710 B2**

O) Book Chapters

1. **B. H. Lessard***, Chapter 11: Novel Materials: From Nanoporous Materials to Micro-Electronics. In *"Nitroxide Mediated Polymerization: From Fundamentals to Applications in Materials Science"*, Royal Society of Chemistry, Cambridge, 2015, 441-493 - doi: 10.1039/9781782622635-00441

P) Publications in Refereed Conference Proceedings

3. Oral Presentation - J. Wang*; **B. H. Lessard**; M. Marić; B. D. Favis *Hierarchical porous polymeric materials from ternary polymer blends* Society for Polymer Engineering ANTEC 2014 Annual Meeting, (PPS-26) Las Vegas, Nevada, United States - (28-30/4/2014)

2. Oral Presentation - **B. H. Lessard**; M. Marić* *Maleic Anhydride Copolymers by Controlled Nitroxide Mediated Polymerization* Polymer Processing Society 26^{th} Annual Meeting, (PPS-26) Banff, AB, Canada - (7/7/2010)

1. Oral Presentation - **B. H. Lessard***; C. Tervo; M. Marić *Random Copolymerization of tert-Butyl Methacrylate/Styrene by Nitroxide Mediated Controlled Radical Polymerization* 8^{th} World Congress for Chemical Engineering, (WCCE8), Montreal, Canada - (25/9/2009)

*indicates who was the speaker at conference.

Q) Invited and/or Keynote Conference Proceedings (Non-Refereed Contributions)

3. Invited Keynote Oral Presentation - **B. Lessard***. *Silicon Phthalocyanines : From Fullerene Replacements in Planar Heterojunction OPVs to Ternary Additives in Solution Bulk Heterojunction OPVs.* International Workshop on Organic/Hybrid Electronic & Photovoltaic, (GDR/NANORGASOL 5/24-26/2016), Porquerolles, France.

2. Invited Keynote Oral Presentation - **B. Lessard***, T. Bender. *Boron Subphthalocyanine (BsubPc) and their use in Organic photovoltaics.* Canadian Chemistry Society, 97^{th} Annual Conference (CSC 6/1-6/2014), Vancouver, British Columbia, Canada.

1. Keynote Oral Presentation - **B. Lessard***, E.J.Y. Ling, and M. Marić. *Fluorescent, Thermo-Responsive Copolymers Synthesised by Nitroxide Mediated Polymerization.* Canadian Chemical Engineering Society, 61^{st} Annual Conference (CSChE 10/23-26/2011), London, Ontario, Canada.

R) Other Invited Presentations (Invited Seminar)

5. **Universités Bordeaux**, Laboratoire de l'Intgration du Matriau au Systme (IMS), Bordeaux, France, May 27^{th} 2016 (*Invited seminar*)
4. **Université Aix-Marseille**, Laboratoire Chimie Provence Equipe CROPS, Marseille, France, May 20^{th} 2016 (*Invited seminar* - Talk given in French)
3. **Queen's University**, Kingston, Canada, March 28^{th} 2012 (*Invited seminar*)
2. **Université Aix-Marseille**, Laboratoire Chimie Provence Equipe CROPS, Marseille, France, July 13^{th} 2011 (*Invited seminar*)
1. **Technical University of Denmark**, Danish Polymer Centre, Copenhagen, Denmark, January 11^{th} 2010 (*Invited seminar*)

S) Conference Proceedings (Non-Refereed Contributions)

36. Poster Presentation - **B. Lessard***, T. P. Bender. *Silicon phthalocyanines as active materials in organic photovoltaic devices.* 2015 Materials Research Society Fall Meeting & Exhibit (MRS 1-6/12/2015), Boston, MA, USA.
35. Poster Presentation - C. J. Imperiale*, O. A. Melville*, **B. Lessard**. *Engineering Novel Poly(9-vinylbenzyl carbazole) (pVBK) Based Polymers by Nitroxide Mediated Polymerization for Orthogonal Processable Hole Transport Layers.* NANO Ontario, 6^{th} Annual Conference (6-7/11/2015), Ottawa, Ontario, Canada.
34. Oral Presentation - **B. Lessard***, M. AL-Amar, T. P. Bender. *Silicon phthalocyanines as active materials in organic photovoltaic devices.* Canadian Chemistry Society, 98^{th} Annual Conference (CSC 13-17/30/2015), Ottawa, Ontario, Canada.
33. Oral Presentation - **B. Lessard***, T.M Grant, T. P. Bender. *Silicon phthalocyanines as acceptor and ternary additive in bulk heterojunction organic photovoltaic devices.* Canadian Chemistry Society, 98^{th} Annual Conference (CSC 13-17/30/2015), Ottawa, Ontario, Canada.
32. Oral Presentation - **B. Lessard***, K. Sampson, T.G. Plint, T. P. Bender. *Engineering Boron subphthalocyanine (BsubPc) Polymers and their use in Organic Electronic devices.* Canadian Chemistry Society, 98^{th} Annual Conference (CSC 13-17/30/2015), Ottawa, Ontario, Canada.
31. Poster Presentation - **B. Lessard***, T. P. Bender. *Silicon phthalocyanines as active materials in organic photovoltaic devices.* King Abdullah University of Science and Technology (KAUST) workshop in Applied Functional Materials Chemistry (10/27/2014), Thuwal, Saudi Arabia.
30. Oral Presentation - **B. Lessard***, T. P. Bender. *Engineering Novel Boron Subphthalocyanine (BsubPc) Polymers Polymers and their use in organic electronic devices.* Canadian Chemical Engineering Society, 64^{th} Annual Conference (CSChE 10/22/2014), Niagara Falls, Ontario, Canada.
29. Oral Presentation - **B. Lessard***, T. P. Bender. *Boron Subphthalocyanine (BsubPc) Polymers and the Discovery of a Side Product Resulting from the Autotoinitiation of Styrene and Acrylates.* Canadian Chemical Engineering Society, 63^{rd} Annual Conference (CSChE 10/20/2013), Fredericton, New Brunswick, Canada.
28. Oral Presentation - **B. Lessard***, T. P. Bender. *Boron Subphthalocyanine (BsubPc) Polymers and the Discovery of a Side Product Resulting from the Autotoinitiation of Styrene and Acrylates.* Canadian Chemistry Society, 96^{th} Annual Conference (CSC 5/30/2013), Quebec City, Quebec, Canada.
27. Oral Presentation - **B. Lessard***, X. Savelyeva, M. Marić. *Thermo-Responsive, UV-Induced Schizophrenic Behaviour of Poly(phenyl acrylate)-b-poly(hydroxypropyl acrylate-ran-4-acryloyl morpholine) Block Copolymer Micelles.* Canadian Chemical Engineering Society, 62nd Annual Conference (CSChE 10/14-17/2012), Vancouver, British Columbia, Canada.

26. Poster Presentation - **B. Lessard***, M. Marić. *Poly(4-Vinylpyridine) by Nitroxide Mediated Polymerization (NMP) and Post-Polymerization Complexation with the Fullerene (C_{60}).* Canadian Chemical Engineering Society, 62nd Annual Conference (CSChE 10/14-17/2012), Vancouver, British Columbia, Canada.

25. Oral Presentation - **B. Lessard**, X. Savelyeva, M. Marić*. *"Smart" Morpholino-functional Random and Block Copolymers via Nitroxide Mediated Polymerization) Block Copolymer Micelles.* Canadian Chemical Engineering Society, 62nd Annual Conference (CSChE 10/14-17/2012), Vancouver, British Columbia, Canada.

24. Oral Presentation - **B. Lessard***, M. Marić, T. Bender. *Utilizing the Photo-Fries Rearrangement of Poly(Phenyl Acrylate) for the Synthesis of Novel Polymer Materials.* 35^{th} Canadian High Polymer Forum (HPF 08/16/2012), Gananoque, Ontario, Canada.

23. Oral Presentation and Poster Presentation - **B. Lessard*** and M. Marić. *Fluorescent, Thermo-Responsive Copolymers Synthesized by Nitroxide Mediated Polymerization* Engineering Conferences International - Polymer Reaction Engineering 8 Conference (PRE8 5/6-10/2012), Cancun, Mexico.

22. Poster Presentation - **B. Lessard***, Savelyeva, X., and M. Marić. *Carbazole Containing Poly(4-acryloylmorpholine) Amphiphilic Statistical Copolymers and Block Copolymers by Nitroxide Mediated Polymerization* Engineering Conferences International - Polymer Reaction Engineering 8 Conference (RE8 5/6-10/2012), Cancun, Mexico.

21. Poster Presentation - **B. Lessard***, and M. Marić. *Poly(Methacrylates) by Nitroxide-Mediated Controlled Radical Polymerization* Engineering Conferences International - Polymer Reaction Engineering 8 Conference (PRE8 5/6-10/2012), Cancun, Mexico.

20. Poster Presentation - **B. Lessard***, E.J.Y. Ling, and M. Marić. *Fluorescent, Thermo-Responsive Copolymers Synthesised by Nitroxide Mediated Polymerization* NanoQuebec's 2012 conference (3/20-21/2012), Montreal, Canada.

19. Poster Presentation - X. Savelyeva*, **B. Lessard**, M. Marić. *Controlled Homopolymerization of 4-Acryloylmorpholine by Nitroxide Mediated Polymerization: Application to Block Copolymers with Carbazole Functionality.* Canadian Chemical Engineering Society, 61st Annual Conference (CSChE 10/23-26/2011), London, Ontario, Canada.

18. Oral Presentation - **B. Lessard*** and M. Marić. *Poly(Ethylene-co-Butylene)-b-Poly(Styrene-ran-Maleic Anhydride)$_2$ Compatibilizers via Nitroxide Mediated Controlled Radical Polymerization* SPIN, 6^{th} international meeting (SPIN 09/26-29/2011), Marseille, France.

17. Poster Presentation X. Savelyeva*, **B. Lessard**, M. Marić. *Next Generation Fluorescent Biomaterials by NMP* 3nd Annual Summer Undergraduate Research in Engineering (SURE, 08/2011) Poster Presentation, Montreal, Canada.

16. Oral Presentation - **B. Lessard***, E.J.Y. Ling, and M. Marić. *Poly(Methacrylates) by Nitroxide Mediated Controlled Radical Polymerization.* 94^{th} Canadian Chemistry Conference and Exhibition (CSC 06/09/2011), Montreal, Québec, Canada.

15. Oral Presentation - **B. Lessard***, M. Marić.*Methacrylates by Nitroxide Mediated Controlled Radical Polymerization.* 34^{th} Canadian High Polymer Forum (HPF 08/20/2010), Ste-Adèle, Québec, Canada.

14. Oral Presentation - **B. Lessard**, M. Marić*.*One-Step Poly(styrene-alt-maleic anhydride)-block-Poly(styrene) Copolymers with Highly Alternating Styrene/Maleic Anhydride Sequences is Possible by Nitroxide Mediated Polymerization.* 93^{rd} Canadian Chemistry Conference and Exhibition (CSC 05/31/2010), Toronto, Canada.

13. Poster Presentation E.J.Y. Ling*, **B. Lessard**, M. Marić. *Nitroxide-Mediated Polymerization of 9-(4-Vinylbenzyl)-9H-Carbazole (VBK).* 2^{nd} Annual Summer Undergraduate Research in Engineering (SURE, 08/2010) Poster Presentation, Montreal, Canada.

12. Oral Presentation (FRENCH) - **B. Lessard***, M. Marić. *Synthèse de Bloc Copolymère d'Anhydride Maléique et Styrène en une Étape à lAide de Polymérisation Radicalaire Contrôlée par Nitroxide* 78e Association Francophone pour le Savoir (Acfas 05/11/2010), Montreal, Canada.

11. Poster Presentation - **B. Lessard***, M. Marić. *One-Step Poly(styrene-alt-maleic anhydride)-block-Poly(styrene) Copolymers with Highly Alternating Styrene/Maleic Anhydride Sequences is Possible by Nitroxide Mediated Polymerization* 8^{th} Annual Center for Self-Assembled Chemical Structures (CSACS 5/6/2010), Montreal, Canada.

10. Poster Presentation - **B. Lessard***, M. Marić. *One-Step Poly(styrene-alt-maleic anhydride)-block-Poly(styrene) Copolymers with Highly Alternating Styrene/Maleic Anhydride Sequences is Possible by Nitroxide Mediated Polymerization* Center for Applied Research on Polymers and Composites colloquium (CREPEC 12/9/2009), Montreal, Canada.

9. Poster Presentation C. Zhang*, **B. Lessard**, M. Marić. *Synthesis of "Living Random Copolymers of Benzyl Methacrylate and Styrene by Nitroxide Mediated Polymerization (NMP).*1st Annual Summer Undergraduate Research in Engineering (SURE, 08/2009) Poster Presentation, Montreal, Canada.

8. Oral Presentation - **B. Lessard***, M. Marić. *Incorporation of Glycidyl Methacrylates into Methacrylate Rich Copolymers by Nitroxide-Mediated Copolymerization (NMP).* 13^{th} International IUPAC Conference of Polymers and Organic Chemistry (POC 07/07/2009), Montreal, Canada

7. Oral Presentation - **B. Lessard***, M. Marić. *Methacrylates by Nitroxide-Mediated Copolymerization (NMP).* 92^{nd} Canadian Chemistry Conference and Exhibition (CSC 06/03/2009), Hamilton, Canada.

6. Poster Presentation - **B. Lessard***, M. Marić. *Nitroxide-Mediated Copolymerization of Acrylic Acid Derivatives with Styrene.* Center for Applied Research on Polymers and Composites colloquium (CREPEC 12/10/2008), Montreal, Canada.

5. Oral Presentation - **B. Lessard***, M. Marić *Effect of Acid Protecting Group on Nitroxide-Mediated Chain Extensions with Styrene by Poly(acrylic acid-ran-styrene) Macroinitiators* Canadian Chemical Engineering Society, 58^{th} Annual Conference (CSChEC 10/22/2008), Ottawa, Canada.

4. Poster Presentation - **B. Lessard***, M. Marić. *Nitroxide-Mediated Polymerization of Poly(ethylene glycol) Acrylate Comb-Like Polymers* Chemical Society 40^{th} Mid Atlantic Regional Meeting (MARM 05/2008),New York, NY, USA.

3. Oral Presentation - **B. Lessard***, M. Marić. *Nitroxide-Mediated Polymerization of Poly(ethylene glycol) Acrylate Comb-Like Homo polymers and block copolymers* CanadianChemical Engineering Society, 58^{th} Annual Conference (CSChEC 10/21/2008), Ottawa, Canada.

2. Oral Presentation - **B. Lessard**, M. Marić*. *Nitroxide-Mediated Copolymerization of Acrylic Acid Derivatives with Styrene.*Chemical Society 40^{th} Mid Atlantic Regional Meeting (MARM 05/2008), New York, NY, USA.

1. Poster Presentation - **B. Lessard***, M. Marić. *Nitroxide-Mediated Copolymerization of Acrylic Acid Derivatives with Styrene.* Week of innovation (INNO, 04/2008), Montreal, Canada.

*indicates who was the speaker at conference.