

Curriculum Vitae

Dmitrii F. Perepichka
Department of Chemistry
McGill University
801 Sherbrooke St. West
Montreal, QC, H3A 0B8
Canada

dmitrii.perepichka@mcgill.ca
<http://perepichka-group.mcgill.ca>
Office:
Otto Maass Bld, 415, phone (514) 398 6233
Lab:
Otto Maass Bld, 341, phone (514) 398 7091

Positions

04/2014 – **Professor**, McGill University, Canada
06/2010 – 03/2014 **Associate Professor**, McGill University, Canada
10/2005 – 05/2010 **Assistant Professor**, McGill University, Canada
01/2003 – 09/2005 **Assistant Professor**, Institut National de la Recherche Scientifique, Canada
09/2001 – 12/2002 **Postdoctoral Researcher**, UCLA, U.S.A (with Prof. F. Wudl)
07/1999 – 07/2001 **Postdoctoral Researcher**, University of Durham, U.K. (with Prof. M.R. Bryce)

Education

06/1999 PhD in Organic Chemistry, Institute of Physical Organic Chemistry, National Academy of Sciences of Ukraine (with Prof. A.F. Popov)
07/1994 Diploma in Chemistry, Donetsk State University, Ukraine

Honors/Awards

2017-2024 Sir William C. MacDonald Chair in Chemistry (McGill)
2015-2016 Fulbright Visiting Chair (Fulbright/UCLA)
2015 Award for Research Excellence in Materials Chemistry (Canadian Soc. of Chemistry)
2012 Tomlinson Science Award (McGill University)
2009 Feinberg Foundation Visiting Faculty Fellow (Weizmann Inst. Science, Israel)
2008 CNC-IUPAC Travel Award
2006 DuPont Young Professor (DuPont USA)
2003 Nouveaux Professeur-Chercheur Stratégique (FQRNT, Quebec)
1998 Young Scientist Research Fellowship Award (National Acad. Science, Ukraine)
1997 L.M.Litvinenko PhD scholarship (Institute of Physical Organic Chemistry, Ukraine)

Citation impact: >7500 total citations, *h*-index = 46 (Google Scholar 6/2017)

Other evidence of impact

Cover Profile in: *Chem. Phys. Chem.* **2015**, 6, 1102.

Bio-sketch “PPOFILE: Early Excellence in Physical Organic Chemistry”: *J. Phys. Org. Chem.* **2012**, 25, 91.

Peer-reviewed Funding (the lead applicant for collaborative grants; % the funding attributed to my group)

- 2017–2020 DoD –US Army single investigator: *2D Conjugated Polymers from Stable Free Radical Building Blocks* (100%)
- 2017-2020 FQRNT-Team, *New Surface Reactions for the Synthesis of Carbon-Based Semiconducting Nanomaterials* (Rosei, Perepichka) (50%)
- 2017-2020 FQRNT-Team, *Interfacing With Cells Using Transmembrane Block Copolymers Bearing Conjugated Oligomer Units* (Cosa, Perepichka, Sleiman) (33%)
- 2017 NSERC Engage: *Controlling Emissive Properties of Aromatic Luminophores in Non-Conjugated Diblock Copolymers* (100%)
- 2014 NSERC RTI-1: *UV-Vis-NIR spectrofluorometer with integrating sphere*, (Perepichka, Cosa, Friscic)
- 2014 NSERC RTI-1: *Supercontinuum ultrafast fiber laser with tunable outputs*, (Cosa, Blum, Perepichka, Wiseman)
- 2014-2017 MESRST Soutien à des initiatives internationales de recherche, *Graphènes organiques à bande interdite accordable pour usages électroniques et en conversion d'énergie* (Perepichka, Rosei) (50%)
- 2013-2018 NSERC, Discovery Grant, *Molecular and Supramolecular Design of Organic Materials*, \$435,000 (100%)
- 2013 NSERC-Engage, *Organic Field Effect Transistors as Novel Radiation Detectors*, (100%)
- 2013-2016 FQRNT-Team, *Nouveaux phénomènes électroniques dans polymères conjuguées 2D* (Perepichka, Rosei, Guo) (40%)
- 2013-2016 FQRNT-Team, *Conjugated nucleobase-containing polymers for organic electronics* (Sleiman, Perepichka, Cosa) (33%)
- 2012-2015 Tomlinson Science Award (100%)
- 2012-2014 NanoQuebec, *Light-emitting transistors and lasers from highly emissive organic semiconductors*, (Rosei and Perepichka) (50%)
- 2012 McGill Collaborative Research Seed, *Nucleobase-templated approach to conjugated polymers*, (Perepichka and Sleiman) (50%)
- 2011 NSERC RTI-1: *Scanning Probe Microscope to study molecular and polymer self-assembly*, (Perepichka and 3 others)
- 2011 FQRNT-Team, *Nouveaux nanomatériaux pour élargir l'étendue de conversion de l'énergie solaire* (Lennox and 4 others) (20%)
- 2010 Royal Society of Chemistry, Travel Grant for International Authors, (100%)
- 2009-2012 NSERC Strategic Grant, *Fluorescent plastic waveguides for photovoltaic energy conversion* (Perepichka, Andrews) (50%)
- 2009-2012 FQRNT-Team, Synthesis of 2D polymers, (Perepichka, Rosei, McBreen) (33%)
- 2009 NSERC RTI-1: *Molybdenum microfocus X-ray source*, (Schaper and 11 others)
- 2009 NSERC RTI-1: *Vacuum deposition system for organic and molecular electronics*, (Perepichka, Rosei, Andrews, Blum)
- 2008-2011 NSERC, Accelerator Supplement to the Discovery Grant, (100%)
- 2008-2013 NSERC, Discovery Grant, *π -Functional organic molecules for nanodevices* (100%)
- 2008 NSERC RTI-1: *Probe station to study electrical properties of films and molecular solids*, (Perepichka, Lennox, Andrews)
- 2008-2010 NSERC Strategic Grant, *Harvesting Lost Photons: Minimizing Sub-Bandgap Losses in Organic Photovoltaic Devices by Up-conversion* (Santato, Perepichka, Rosei) (33%)

- 2008-2011 NSERC CRD Grant, *Functional dielectrics for organic electronic devices*, (Rosei, Perepichka, Pignolet) (33%)
- 2008-2011 MDEIE Soutien à des initiatives internationales de recherche, *Nouveaux polymères nanostructures par réactions confinées à la surface*, (Perepichka, Rosei) (50%)
- 2007 CFI Leaders Opportunities Fund, *Laboratory for molecular and nanoelectronics* (100%)
- 2007 NSERC RTI-1, *EPR Microwave Bridge* (Andrews, Perepichka, Bohle, Cosa)
- 2006-2008 ACS-Petroleum Research Fund, AC Grant, *Surface confined polymerization: towards 2D conjugated organic polymers*, (Perepichka, Rosei) (50%)
- 2006-2008 Air-Force Office of Scientific Research, Research Contract, Surface polymerization by Ullmann reaction, (Rosei, Perepichka) (50%)
- 2006-2009 DuPont USA, DuPont Young Professor Grant (100%)
- 2006 NSERC RTI-1, *FTIR spectroscopic studies of organic nanomaterials and molecular devices* (Perepichka, Lennox, Butler)
- 2005-2008 NSERC CRD Grant, *Functionalization of nanostructured biomaterials surfaces by ion implantation*, (Rosei, Nanci, Perepichka) (10%)
- 2005-2008 FQRNT Team Grant, Hybrid organic-inorganic primary devices for micro- and nanoelectronics, (Pignolet, Perepichka, Rosei) (50%)
- 2003-2007 NSERC Accelerator Grant for Exceptional New Opportunities, *Synthesis of 2D conjugated nanostructured materials*, **\$392,000** (100%)
- 2003-2008 NSERC Discovery Grant, *Small organic molecules for nanodevices*, **\$200,000** (100%)
- 2003-2006 FQRNT Nouveaux Chercheurs, Etude fondamentale en nanoelectronique (100%)
- 2003 NSERC RTI-1, *FTIR and Raman spectroscopic studies of organic molecular devices* (Perepichka, Dao)

Dissemination of Research

A. Articles Published / Accepted in Peer-Reviewed Journals (supervised students/post-docs; corresp. authors*)

- 122) G. Galeotti, M. Di Giovannantonio, J. Lipton-Duffin, M. Ebrahimi, S. Tebi, A. Verdini, L. Floreano, Y. Fagot-Revurat, D. F. Perepichka, F. Rosei, G. Contini, The role of halogens in on-surface Ullmann polymerization, *Faraday Trans.* **2017**, in press (FD-ART-03-2017-000099)
- 121) L. Yan, F. Popescu, M. R. Rao, H. Meng*, D. F. Perepichka*, A Wide Bandgap Naphthalene Semiconductor for Thin-Film Transistors, *Adv. Electron. Mater.* **2017**, *3*, 1600556(1-8).
- 120) C. Fu, P. J. Beldon, D. F. Perepichka*, H-bonding Control of Supramolecular Ordering of Diketopyrrolopyrroles, *Chem. Mater.* **2017**, *29*, 2979–2987.
- 119) E. Kynaston, Y. Fang, J. G. Manion, N. K. Obhi, J. Y. Howe, D. F. Perepichka*, D. S. Seferos*, Patchy Nanofibers from the Thin Film Self-Assembly of a Conjugated Diblock Copolymer, *Angew. Chem. Int. Ed.* **2017**, *56*, 6152–6156.
- 118) M. R. Rao, Y. Fang, S. De Feyter, D. F. Perepichka*, Conjugated Covalent Organic Frameworks via Michael Addition–Elimination, *J. Am. Chem. Soc.* **2017**, *139*, 2421–2427.
- 117) M. Di Giovannantonio, M. Tomellini, J. Lipton-Duffin, G. Galeotti, M. Ebrahimi, A. Cossaro, A. Verdini, N. Kharche, V. Meunier, G. Vasseur, Y. Fagot-Revurat, D. F. Perepichka*, F. Rosei*, G. Contini*, Mechanistic Picture and Kinetic Analysis of Surface-Confined Ullmann Polymerization, *J. Am. Chem. Soc.* **2016**, *138*, 16696–16702.
- 116) H. Yu, Y. Guo, C. Yao, D. F. Perepichka, H. Meng*, A Smart Polymer with a High Sensitivity to Temperature and Humidity Based on Polyacrylamide Hydrogel Doped with Polyiodide, *J. Mater. Chem. C* **2016**, *4*, 11055–11058.
- 115) M. A. Mezour, O. Voznyy, E. Sargent, R. B. Lennox*, D. F. Perepichka*, Controlling C60 growth through dipole-induced band alignment at self-assembled monolayer interface, *Chem. Mater.* **2016**, *28*, 8322–8239.
- 114) G. R. McKeown, Y. Fang, N. K. Obhi, J. G. Manion, D. F. Perepichka*, D. S. Seferos*, Synthesis of Macrocyclic Poly(3-hexylthiophene) and Poly(3-heptylselenophene) by Alkyne Homocoupling, *ACS Macro Lett.* **2016**, *5*, 1075–1079 (editor's choice and cover page)
- 113) Y. Guo, W. Li, H. Yu, D. F. Perepichka, H. Meng*, Flexible Asymmetric Supercapacitors via Spray-Coating of a New Electrochromic Donor-Acceptor Polymer, *Adv. Ener. Mater.* **2017**, *7*, 1601623(1-7).
- 112) M. A. Mezour, R. M. Choueiri, O. Lukyanova, R. B. Lennox*, D. F. Perepichka*, Hydrogen Bonding vs Molecule-Surface Interactions in 2D Self-Assembly of [C60]fullerenecarboxylic acids, *Nanoscale* **2016**, *8*, 16955-16962.
- 111) H. T. Black, N. Yee, Y. Zems, D. F. Perepichka*, Complementary Hydrogen Bonding Modulates Electronic Properties and Controls Self-Assembly of Donor/Acceptor Semiconductors, *Chem. Eur. J.* **2016**, *22*, 17251–17261.
- 110) Y.-G. Jia, C. Malveau, M. A. Mezour, D. F. Perepichka, J. X. X. Zhu*, A Molecular Necklace: Threading b-Cyclodextrins onto Polymers Derived from Bile Acids, *Angew. Chem. Int. Ed.* **2016**, *55*, 1197911983.
- 109) M. R. Rao, S. Johnson, D. F. Perepichka*, Aromatization of Benzannulated Perylene-3,9-diones: Unexpected Photophysical Properties and Reactivity, *Org. Lett.* **2016**, *18*, 3574–3577.
- 108) J. A. Schneider, D. F. Perepichka*, A new approach to polycyclic azaarenes: visible-light photolysis of vinyl azides in the synthesis of diazabenzopyrene and diazaperylene, *J. Mater. Chem. C* **2016**, *4*, 7269-7276 (highlighted in *Synfacts* 2016, *12*, 1029 by T. M. Swager, C. Dengiz).
- 107) C. Yan*, H. Zhao, D. F. Perepichka*, F. Rosei*, Lanthanide Ion Doped Upconverting Nanoparticles: Synthesis, Structure and Properties, *Small* **2016**, *12*, 3888–3907.
- 106) L. Yan, Y. Zhao, H. Yu, Z. Hu, Y. He, O. Goto, C. Yan, T. Chen, R. Chen, Y.-L. Loo, D. F. Perepichka, H. Meng*, W. Huang*, Effects of Heteroatoms on the Charge Mobility of Anthracene Derivatives, *J. Mater. Chem. C* **2016**, *4*, 3517–3522.
- 105) C. Fu, F. Belanger-Gariepy, D. F. Perepichka*, Supramolecular ordering of difuryldiketopyrrolopyrrole: the effect of alkyl chains and inter-ring twisting, *Cryst. Eng. Comm.* **2016**, *18*, 4285–4289.

- 104) C. Fu, H.-P. Lin, J. L. Macleod, A. Krayev, F. Rosei, D. F. Perepichka*, Unravelling the self-assembly of hydrogen bonded semiconductors in 2D and 3D, *Chem. Mater.* **2016**, *28*, 951–961.
- 103) R. Liu, C. Fu, D. F. Perepichka, M. C. Gallagher*, Supramolecular structures of halogenated oligothiophenes on Si(111)- $\sqrt{3}\times\sqrt{3}$ -Ag surface, *Surf. Science* **2016**, *647*, 51–54.
- 102) G. Vasseur, Y. Fagot-Revurat*, M. Sicot, B. Kierren, D. Malterre, L. Cardenas, G. Galeotti, J. Lipton-Duffin, F. Rosei, M. Di Giovannantonio, G. Contini, P. Lefevre, F. Bertran, V. Meunier, L. Liang, D.F. Perepichka, Quasi one-Dimensional Band Dispersion and Surface Metallization in Long Range Ordered Polymeric Wires, *Nat. Comm.* **2016**, *7*, 10235(1-9).
- 101) D. Cui, J. L. Macleod*, M. Ebrahimi, D. F. Perepichka, F. Rosei*, Solution and air stable host/guest architectures from a single layer covalent organic framework, *Chem. Commun.* **2015**, *51*, 16510–16513.
- 100) L. E. Dinca, J. L. Macleod, J. Lipton-Duffin, C. Fu, D. Ma, D. F. Perepichka, F. Rosei*, Tailoring the Reaction Path in the On-Surface Chemistry in Thienoacenes, *J. Phys. Chem. C* **2015**, *119*, 22432–22438.
- 99) M. R. Rao, H. T. Black, D. F. Perepichka,* Synthesis and Divergent Electronic Properties of Two Ring-Fused Derivatives of 9,10-Diphenylanthracene, *Org. Lett.* **2015**, *17*, 4224–4227.
- 98) J. A. Schneider, H. T. Black, H. Lin, D. F. Perepichka*, Polymorphism in New Thienothiophene-Thiazolothiazole Organic Semiconductors, *ChemPhysChem* **2015**, *6*, 1173–1178 (Invited paper for Special Issue; cover page).
- 97) M. R. Rao, A. Desmecht, D. F. Perepichka*, π -Extended Indenofluorenes, *Chem. Eur. J.* **2015**, *21*, 6193–6201.
- 96) M. A. Mezour, I. I. Perepichka, O. Ivasenko, R. B. Lennox*, D. F. Perepichka*, Tridentate Benzylthiols on Gold(111): Control of Self-Assembly Geometry, *Nanoscale* **2015**, *7*, 5014–5022.
- 95) L. E. Dinca, F. De Marchi, J. M. MacLeod, J. Lipton-Duffin, R. Gatti, D. Ma, D. F. Perepichka, F. Rosei, Pentacene on Ni(111): room-temperature molecular packing and temperature-activated conversion to graphene, *Nanoscale* **2015**, *7*, 3263–3269.
- 94) R. Gatti, J. M. Macleod, J. A. Lipton-Duffin, A. Moiseev, D. F. Perepichka*, F. Rosei*, Substrate, molecular structure and solvent effects in 2D self-assembly via hydrogen and halogen bonding, *J. Phys. Chem. C* **2014**, *118*, 25505–25516.
- 93) I. I. Perepichka, M. A. Mezour, D. F. Perepichka*, R. B. Lennox*, High thermal stability of block-copolymer capped Au and Cu nanoparticles, *Chem. Commun.* **2014**, *50*, 11919–11921.
- 92) H.T. Black, H. Lin, F. Bélanger-Gariépy, D.F. Perepichka,* Supramolecular control of organic p/n-heterojunctions by complementary hydrogen bonding, *Faraday Discuss.* **2014**, *174*, 297–312.
- 91) L. E. Dinca, J. M. MacLeod, J. Lipton-Duffin, C. Fu, D. Ma, D. F. Perepichka, F. Rosei,* Tip-induced C-H activation and oligomerization of thienoanthracenes, *Chem. Commun.* **2014**, *50*, 8791–8793.
- 90) A. Blayney, I.F. Perepichka, F. Wudl, D.F. Perepichka, Advances and Challenges in Synthesis of Poly(p-phenylene vinylene) Based Polymers, *Isr. J. Chem.* **2014**, *54*, 674–688.
- 89) Z. Shi, H.T. Black, A. Dadvand, D.F. Perepichka,* Pentacenodithiadiazole, an n-type semiconductors for field effect transistors, *J. Org. Chem.* **2014**, *79*, 5858–5860.
- 88) Q. Shuai, H. T. Black, A. Dadvand, D. F. Perepichka*, Dithienonaphthothiadiazole Semiconductors: Synthesis, Properties, and Application to Ambipolar Field Effect Transistors, *J. Mater. Chem. C* **2014**, *2*, 3972–3979.
- 87) M. A. Mezour, I. I. Perepichka, J. Zhu, R. B. Lennox,* D. F. Perepichka,* “Directing the Assembly of Gold Nanoparticles with Two-Dimensional Molecular Networks”, *ACS Nano* **2014**, *8*, 2214–2222.
- 86) M. Di Giovannantonio, M. El-Garah, J. Lipton-Duffin, V. Meunier, L. Cardenas, Y. Fagot-Revurat, A. Cossaro, A. Verdini, D. F. Perepichka,* F. Rosei,* G. Contini,* “Reply to the comment by Fei Song to our paper “Insight into organometallic intermediate and its evolution to covalent bonding in surface-confined Ullmann polymerization,” *ACS Nano* **2014**, *8*, 1969–1971.
- 85) H. T. Black, D. F. Perepichka,* Crystal Engineering of Dual Channel p/n Organic Semiconductors by Complementary Hydrogen Bonding, *Angew. Chem. Int. Ed.* **2014**, *53*, 2138–2141.
- 84) R. Gutzler,* L. Cardenas,* J. Lipton-Duffin, M. El Garah, L. E. Dinca, C. E. Szakacs, C. Fu, M. Gallagher, M. Vondracek, M. Rybachuk, D. F. Perepichka,* F. Rosei*, Ullmann-Type Coupling of Brominated Tetrathienoanthracene on Crystalline Copper and Silver, *Nanoscale* **2014**, *6*, 2660–2668.

- 83) A. G. Moiseev, E. A. Margulies, J. A. Schneider, F. Belanger-Gariepy, D. F. Perepichka,* Protecting the triplet state in sterically congested platinum porphyrin, *Dalton Trans.* **2014**, 43, 2676–2683.
- 82) J. A. Schneider, A. Dadvand, W. Wen, D. F. Perepichka*, Tuning the Electronic Properties of Poly(thienothiophene vinylene)s via Alkylsulfanyl and Alkylsulfonyl Substituents, *Macromolecules* **2013**, *46*, 9231–9239.
- 81) Y. Zems, A. Moiseev, D. F. Perepichka,* Convenient Synthesis of a Highly Soluble and Stable Phosphorescent Platinum Porphyrin Dye, *Org. Lett.* **2013**, *15*, 5330–5333.
- 80) R. Gutzler,* D. F. Perepichka,* π -Electron conjugation in two dimensions, *J. Am. Chem. Soc.* **2013**, *135*, 16585–16594.
- 79) M. Di Giovannantonio, M. El-Garah, J. Lipton-Duffin, V. Meunier, L. Cardenas, Y. Fagot-Revurat, A. Cossaro, A. Verdini, D. F. Perepichka,* F. Rosei,* G. Contini,* Insight into Organometallic Intermediate and its Evolution to Covalent Bonding in Surface-Confined Ullmann Polymerization, *ACS Nano* **2013**, *7*, 8190–8198.
- 78) L. Cardenas,* R. Gutzler,* J. Lipton-Duffin, C. Fu, J.L. Brusso, L.E. Dinca, M. Vondráček, Y. Fagot-Revurat, D. Malterre, F. Rosei*, D.F. Perepichka*, Synthesis and electronic structure of a 2D π -Conjugated Polythiophene, *Chem. Sci.* **2013**, *4*, 3263–3268.
- 77) O. Gidron, A. Dadvand, W.-H. Sun, I. Chung, L. J. W. Shimon, M. Bendikov,* D. F. Perepichka,* Oligofuran-containing molecules for organic electronics, *J. Mater. Chem. C* **2013**, *1*, 4358–4367.
- 76) A. Dadvand, A. G. Moiseev, W.-H. Sun, F. Bélanger-Gariépy, F. Rosei, H. Meng, D. F. Perepichka,* 1,5-, 2,6- and 9,10-Distyrylanthracenes as luminescent organic semiconductors, *J. Mater. Chem. C* **2013**, *1*, 2817–2825.
- 75) J. M. MacLeod, Z. B. Chaouch, D. F. Perepichka, F. Rosei,* Two-dimensional self-assembly of a symmetry-reduced tricarboxylic acid, *Langmuir* **2013**, *29*, 7318–7324.
- 74) L. E. Dinca, C. Fu, J. M. MacLeod, J. Lipton-Duffin, J. L. Brusso, C. E. Szakacs, D. Ma, D. F. Perepichka*, F. Rosei,* Unprecedented transformation of anthratetrathiophene into pentacene on Ni(111), *ACS Nano* **2013**, *7*, 1652–1657.
- 73) H. T. Black, A. Dadvand, S. Liu, V. S. Ashby,* D. F. Perepichka,* Perfluoroalkyl-substitution versus electron-deficient building blocks in design of oligothiophene semiconductors, *J. Mater. Chem. C* **2013**, *1*, 260–267.
- 72) C. Fu, F. Rosei, D. F. Perepichka*, 2D self-assembly of fused oligothiophenes: molecular control of morphology, *ACS Nano* **2012**, *6*, 7973–7980.
- 71) R. Gutzler, C. Fu, A. Dadvand, Y. Hua, J. MacLeod, F. Rosei*, D. F. Perepichka*, Halogen bonds in 2D supramolecular self-assembly of organic semiconductors, *Nanoscale* **2012**, *4*, 5965–5971.
- 70) B. Djukic, D.F. Perepichka*, Unexpected formation of a cyclic vinylene sulfate in the synthesis of ethynyl-substituted acenes, *Chem. Commun.* **2012**, *48*, 6651–6653.
- 69) A. Dadvand, A.G. Moiseev, K. Sawabe, W.-H. Sun, B. Djukic, I. Chung, T. Takenobu, F. Rosei, D.F. Perepichka*, Maximizing field-effect mobility and solid-state luminescence in organic semiconductors, *Angew. Chem.Int. Ed.* **2012**, *51*, 3837–3841.
- 68) B. Djukic, D.F. Perepichka*, Non-classical heteroacenes: synthesis and properties of anthra[2,3-c:6,7-c']dithiophene derivatives, *Chem. Commun.* **2011**, *47*, 12619–12621.
- 67) R. Gutzler, O. Ivasenko, C. Fu, J. L. Brusso, F. Rosei*, D. F. Perepichka*, Halogen bonds as stabilizing interactions in a chiral self-assembled molecular monolayer, *Chem. Commun.* **2011**, *47*, 9453–9455.
- 66) O. Lukyanova, M. Lepeltier, M. Laferrière, D.F. Perepichka*, Donor-Acceptor Intermediates and Low-Bandgap Polymers by Electropolymerization of Thienoazaborines, *Macromolecules* **2011**, *44*, 4729–4734.
- 65) O. Gidron, A. Dadvand, Y. Sheynin, M. Bendikov,* D.F. Perepichka,* Towards “green” electronic materials. α -Oligofurans as Semiconductors, *Chem. Commun.* **2011**, 1976–1979.
- 64) M. Kondratenko, A. Moiseev, D.F. Perepichka,* New stable donor-acceptor dyads for molecular electronics, *J. Mater. Chem.* **2011**, *21*, 1470–1478.
- 63) O. Ivasenko, D.F. Perepichka*, Mastering fundamentals of supramolecular design with carboxylic acids. Common lessons from X-ray crystallography and scanning tunneling microscopy, *Chem. Soc. Rev.* **2011**, *40*, 191–206.

- 62) M. Lepeltier, O. Lukoyanova, A. Jacobson, D.F. Perepichka,* New azaborine-thiophene heteroacenes, *Chem. Comm.* **2010**, 2007–2009
- 61) C. Yan, A. Dadvand, F. Rosei,* D. F. Perepichka,* NIR Photoresponse in New Up-converting CdSe/NaYF₄:Yb,Er nano-heterostructures, *J. Am. Chem. Soc.* **2010**, *132*, 8868–8869.
- 60) J.A. Lipton-Duffin, J.A. Miwa, M. Kondratenko, F.Cicoira, B. G. Sumpster, V. Meunier*, D.F. Perepichka*, F. Rosei*, Step-by-step growth of aligned polythiophene wires by surface-confined oligomerization, *Proc. Nat. Acad. Sci. USA* **2010**, *107*, 11200–11204.
- 59) S. Jeeva, O. Lukoyanova, A. Karas, A. Dadvand, F. Rosei, D.F. Perepichka*, New highly emissive thienylene-vinylene oligomers and co-polymers for organic electronics, *Adv. Funct. Mater.* **2010**, *20*, 1661–1669.
- 58) C. Yan, L. Nikolova, A. Dadvand, C. Harnagea, A. Sarkissian, D. F. Perepichka,* D. Xue,* F. Rosei*, Multiple NaNbO₃/Nb₂O₅ nanotubes: a new class of semiconductor heterostructures, *Adv. Mater.* **2010**, *22*, 1741–1744.
- 57) A. Demenev, S. H. Eichhorn*, T. Taerum, D. F. Perepichka*, S. Patwardhan, F. C. Grozema*, L.D.A. Siebbeles, Quasi temperature independent charge carrier mobility in hexagonal columnar mesophases of H-bonded benzotrithiophene derivative, *Chem. Mater.* **2010**, *22*, 1420–1428.
- 56) J. M. MacLeod, O. Ivasenko, C. Fu, T. Taerum, F. Rosei*, D.F.Perepichka*, Supramolecular ordering in oligothiophene-fullerene monolayers studied by STM, *J. Am. Chem. Soc.* **2009**, *131*, 16844–16850.
- 55) T. Taerum, O. Lukoyanova, R. Wylie, D. F. Perepichka*, Synthesis, polymerization and unusual properties of new star-shaped thiophene oligomers, *Org. Lett.* **2009**, *11*, 3230–3233.
- 54) M. Lepeltier, J. Hiltz, T. Lockwood, F. Bélanger-Gariépy, D.F. Perepichka*, Towards crystal engineering of solid state polymerization in dibromothiophenes, *J. Mater. Chem.* **2009**, *19*, 5167–5174.
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C. Non-refereed publications

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F. Invited Academic Seminars

- 57) "pi-Conjugated Covalent Organic Frameworks" *Peking University – Shenzhen Graduate School*, China, June **2017**
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- 55) Supramolecular Design of Organic Semiconductors, *Department of Chemistry, KU Leuven*, Belgium, September **2015**.
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- 51) *RIKEN-Tokyo*, Japan, October **2014**.
- 50) *STM group, Deutsches Museum, Munich*, Germany, September **2014**.
- 49) *Department of Physical Chemistry, University of Malaga*, Spain, September **2014**.
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- 47) *Department of Chemistry, University of Edinburgh, UK, September 2014.*
- 46) *Department of Chemistry, University of Toronto, Canada, September 2013*
- 45) *Department of Chemistry, University of Indiana, USA, April 2013*
- 44) *Department of Chemistry, Brown University, USA, November 2012*
- 43) *Department of Chemistry, University of Sherbrooke, Canada, November 2011*
- 42) *Grad. Program in Mater. Sci. & Engn., Washington State University, Pullman, USA, November 2011*
- 41) *Department of Chemistry, Concordia University, Canada, January 2011*
- 40) *Department of Chem. & Biomolec. Engineer., National University of Singapore, Singapore, December 2010*
- 39) *Department of Mater. Sci. & Engineering, Nanyang University of Technology, Singapore, December 2010*
- 38) *Department of Chemistry, Bangor University, UK, November 2010*
- 37) *Department of Chemistry, University of Alberta, Canada, September 2010*
- 36) *Department of Chemistry, Nagoya University, Japan, August 2010*
- 35) *Departments of Organic and Materials Chemistry, Weizmann Institute of Science, Israel, January 2010*
- 34) *Department of Chemistry, Technion, Israel, January 2010*
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- 31) *Department of Chemistry, University of Montreal, Canada, September 2009*
- 30) *Institute of Solid State Physics, University of Ulm, Germany, August 2009*
- 29) *Department of Chemistry, KU Leuven, Belgium, August 2009*
- 28) *Air Force Research Lab., Wright-Patterson AFB, USA, January 2009*
- 27) *DuPont Experimental Station, USA, June 2008*
- 26) *Department of Chemistry, Concordia University, Canada, April 2008*
- 25) *Materials Research Lab, University of California, Santa Barbara, USA, March 2008*
- 24) *Department of Physics, University of Montreal, Canada, October 2007*
- 23) *Department of Pure and Applied Chemistry, Strathclyde University, UK, May 2007*
- 22) *Department of Chemistry, Durham University, UK, June 2007*
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- 15) *Air Force Research Lab., Wright-Patterson AFB, USA, November 2006*
- 14) *NRC-Industrial Materials Institute, Canada, August 2005*
- 13) *Inter-centre Initiative in Bionanotechnologies, Institut Armand-Frappier, Canada, May 2005*
- 12) *Department of Chemistry, UQAM, Canada, February 2005*
- 11) *Department of Chemistry, McGill University, Canada, January 2005*
- 10) *Department of Chemistry, Sherbrooke University, Canada, November 2004*
- 9) *Department of Chemistry, McGill University, Canada, October 2004*
- 8) *Department of Chemistry, Laval University, Canada, October 2003*
- 7) *Department of Chemistry, University of Durham, UK, September 2003*
- 6) *Department of Chemistry, University of Manchester, UK, September 2003*
- 5) *Department of Chemistry, Southampton University, UK, September 2003*
- 4) *Nanomix Inc., Berkley, CA, USA, August 2002*
- 3) *Institute of Materials Science & Engineering, Singapore, July 2002*
- 2) *Institut National de la Recherche Scientifique, Centre-Énergie et Matériaux, Canada, May 2002*
- 1) *Multiuniversity Research Initiative meeting, Las Vegas, USA, February 2002*

G. Invited Conference Presentations

- 54) *Internat. Conf. on Emerging Macromol. Materials POLYMAT Spotlight, San-Sebastian, Spain, June 2018*

- 53) *18th Internat. Conference on Luminescence (ICL2017)*, Joao Pessoa, **Brasil**, August **2017**
- 52) *13th International Conference on Materials Chemistry (MC13)*, Liverpool, **UK**, July **2017**
- 51) Symposium N: Functional/advanced materials for energy, environment and health, *Internat. Conference on Materials for Advanced Technologies ICMAT 2017*, **Singapore**, June **2017**
- 50) Symposium C: Functionalized π -electron materials and devices, *Internat. Conference on Materials for Advanced Technologies ICMAT 2017*, **Singapore**, June **2017**
- 49) *13th International Symposium on π -Electron Functional Systems Fpi9*, **Hong Kong**, June **2017**
- 48) Symposium "Organic Dyes" *Canadian Chemical Society Conference, CSC-2017*, Toronto, **Canada**, May **2017**.
- 47) Symposium "Crystalline and Semi-crystalline Molecule-based Materials" *Canadian Chemical Society Conference, CSC-2017*, Toronto, **Canada**, May **2017**.
- 46) "Supramolecular control of interfacial structure in organic semiconductors" *ACS Spring Meeting*, **San Francisco**, April **2017**
- 45) "Surface Self-Assembly of Organic Semiconductors" *International Symposium "Advance Microscopy and Spectroscopy of Supramolecular and Macromolecular Systems on Surfaces"* **Hong Kong**, December **2016**
- 44) "Towards supramolecular design of organic semiconductors", *ICSM 2016 – International Conference on Science and Technology of Synthetic Metals*, Guangzhou, **China**, July **2016**
- 43) " π -Conjugated Polymers via Epitaxial Surface Polymerization: Mechanistic Insights and Properties", *International Workshop "On-surface Synthesis"*, San-Sebastian, **Spain**, June **2016**
- 42) "Towards Supramolecular Design of Organic Semiconductors", *Materials Research Society (MRS) Spring Meeting*, Phoenix, **USA**, March **2016**
- 41) "Two-dimensional Conjugated Polymers" *POLYMAT2015*, Mexico, October **2015 (plenary)**
- 40) *8th International Conference on Materials for Advanced Technologies*, Singapore, July **2015**.
- 39) "Self-assembly on Surfaces: from Molecular Networks to "Organic Graphenes"", *Canadian Chemical Society Conference, CSC-2015*, Ottawa, **Canada**, June **2015**.
- 38) "Supramolecular Design of Organic Semiconductors" *Canadian Chemical Society Conference, CSC-2015*, Ottawa, **Canada**, June **2015**. (award lecture)
- 37) "Replacing Thiophene with Furan in Organic Semiconductors:", *Canadian Chemical Society Conference, CSC-2015*, Ottawa, **Canada**, June **2015**.
- 36) " π -Extended Anthracene Derivatives as highly Emissive Organic Semiconductors" *Core-to-Core Symposium on Organic Electronics of Highly-Correlated Molecular Systems*, Otaru, **Japan**, October **2014**.
- 35) "Design of High Charge Mobility in Organic Semiconductors" *IGER Molecular Electronics Workshop*, Nagoya University, **Japan**, October **2014**.
- 34) "Supramolecular control of organic p/n-heterojunctions by complementary hydrogen bonding", *Faraday Discussions 174*, Glasgow, **UK**, September **2014**.
- 33) "2D molecular networks: from templating metal nanoparticle to growing organic graphenes" *ACS Spring National Meeting*, Dallas, **USA**, March **2014**.
- 32) "Two-Dimensional π -Conjugated Polymers", *CERMM Annual Symposium*, Montreal, **Canada**, Nov **2013**.
- 31) "Two-Dimensional π -Conjugated Polymers and Memories of Professor Michael Bendikov" *Lise Meitner-Minerva Symposium on Computational Chemistry*, Rehovot, **Israel**, Nov **2013**.
- 30) "Turning "on" the luminescence in high-mobility organic semiconductors" *Canadian Chemical Society Conference, CSC-2013*, Quebec-city, **Canada**, May **2013**.
- 29) "Surface-templated assembly and synthesis of organic semiconductors" *Canadian Chemical Society Conference, CSC-2013*, Quebec-city, **Canada**, May **2013**.
- 28) "Surface-templated assembly and synthesis of organic semiconductors", *Israeli Chemical Society Meeting*, Tel-Aviv, **Israel**, Feb **2013**.
- 27) "Novel organic semiconducting materials via on-surface assembly of molecular building blocks" *Japan-Canada Nanotechnology Workshop 2013*, Tokyo, **Japan**, Jan **2013**.
- 26) " π -Conjugated Molecules in Flatland" *International Materials Research Congress, IMRC2012*, Cancun, **Mexico**, Aug **2012**.

- 25) "Turning "on" the luminescence in high mobility organic semiconductors" *International Conference on Science and Technology of Synthetic Metals, ICSM2012*, Atlanta, **USA**, July **2012**.
- 24) "Molecular Design and Assembly of Materials for Nanoelectronics", *9th International NANOTECH2012 Conference*, San-Luis Potosi, **Mexico**, May **2012**.
- 23) " π -Functional Molecules in Flatland" *Canada-Japan Joint Symposium on Supramolecular Nanomaterials Science*, Whistler, **Canada**, May **2012**.
- 22) "Electroactive Materials for Organic and Nanoelectronics" *Gordon Research Conference "Electrochemistry"*, Ventura, **USA**, January **2012**.
- 21) " π -Conjugated Molecules in Flatland" *MNPC 2011*, Obernai, **France**, October **2011**.
- 20) "Self-Assembled Molecular Networks for Organic and Nano Electronics" *2011 CMOS Emerging Technologies Workshop*, Whistler, **Canada**, June **2011**
- 19) "Organic Optoelectronics and Beyond: Synthesis of New Properties", *Canadian Chemical Society Conference, CSC-2011*, Montreal, **Canada**, June **2011**
- 18) "Thiophene-based materials. Teaching an Old Dog the New Tricks" *Advances in Organic Materials*, UCSB, **USA**, January **2011**
- 17) "Imaging, Organizing and Polymerizing π -Conjugated Molecules on Flat Surfaces" *Pacificchem 2010*, Honolulu, **USA**, December **2010**
- 16) "New Organic and NanoMaterials to Meet the Challenges of Solar Energy" *2nd International Symposium "Zero Carbon Energy"*, Kyoto, **Japan**, August **2010**
- 15) " π -Electron Functional Organic Molecules in Flatland. Why Synthetic Chemists need Scanning Tunneling Microscopy?" *2010 Canadian Association of Physicists Congress*, Toronto, **Canada**, June **2010**
- 14) "New Old Polythiophenes" *Canadian Chem. Society Conference, CSC-2010*, Toronto, **Canada**, May **2010**
- 13) "Improving emissive properties of oligo- and polythiophenes" *9th International Symposium on π -Electron Functional Systems Fpi9*, Atlanta, **USA**, May **2010**
- 12) "Making Conjugated Polymers Wires and 2D Polymers by Surface Confined Reactions", *MC9 and IUPAC Congress 2009*, Glasgow, **UK**, August **2009**
- 11) "Two-dimensional molecular networks: an approach to molecular electronics" *Surface Canada 2009*, Hamilton, **Canada**, June **2009**
- 10) "Two-dimensional molecular networks: a possible road for molecular electronics" *Nanotechnology Insight 2009*, Barcelona, **Spain**, March **2009** (keynote lecture)
- 9) "Nanostructured conjugated polymers by surface-confined reactions" *XVII International Materials Research Congress*, Cancun, **Mexico**, August **2008**
- 8) "Fused thiophene derivatives for organic and nanoelectronics" *ICSM 2008 – International Conference on Science and Technology of Synthetic Metals*, Porto de Galinhas, Pernambuco, **Brazil**, July **2008**.
- 7) "Carbon nanotubes in molecular electronics", *Canadian Chemical Society Conference, CSC-2008*, Edmonton, **Canada**, May **2008**
- 6) "Two-dimensional molecular networks: a possible approach to molecular electronics", *XVI International Materials Research Congress*, Cancun, **Mexico**, October **2007**
- 5) "Surface nanopatterns with tunable periodicity" *NSF workshop "Periodic Patterns & Categories of Well-Defined Nanoscale Building Blocks"*, Central Michigan U., **USA**, September **2007**
- 4) "Surface nanopatterning with hydrogen bonded and covalent conjugated polymers" *ICACC2007*, Cocoa Beach, FL, **USA** January **2007**
- 3) "Asymmetrically functionalized single wall carbon nanotubes for molecular electronics" *Pacificchem 2005*, Honolulu, Hawaii, **USA** December **2005**
- 2) "Donor-acceptor diads for molecular electronics" *Materials Research Society (MRS) Fall Meeting*, Boston, **USA**, December **2005**
- 1) "Substituted polythiophenes. Towards highly stable polymeric conductors" *2nd McGill Nano Engineering Workshop*, Montreal, **Canada**, May **2005**

H. Contributed Conference Presentations

- 25) "Crystal Engineering of Bulk p/n Heterojunction by Complementary Hydrogen Bonding" MRS 2015 Spring Meeting, San Francisco, **USA**, April **2015** (oral)
- 24) "Two dimensional conjugated polymer" *IMRC2014*, Cancun, **Mexico**, Aug **2014** (oral)
- 23) "Turning "on" the luminescence in high mobility organic semiconductors" *International Materials Research Congress, IMRC2012*, Cancun, **Mexico**, Aug **2012** (oral)
- 22) "Epitaxial Growth of Conjugated Polymers by Surface Confined Reactions" *ICSM 2010 – International Conference on Science and Technology of Synthetic Metals*, Kyoto, **Japan**, July **2010** (oral)
- 21) "Molecularly Templated Networks for Organic and Nano Electronics" *MRS 2010 Spring Meeting*, San Francisco, **USA**, April **2010** (oral)
- 20) "Molecular-level control of oligothiophene-fullerene self-organization in 2D" *MRS 2010 Spring Meeting*, San Francisco, **USA**, April **2010** (oral)
- 19) "Synthesis, self-assembly and OFET applications of new oligothiophene semiconductors with increased dimensionality", *Canadian Chemical Society Conference, CSC-2009*, Hamilton, **Canada**, May **2009** (oral)
- 18) "2D Molecular Networks for Organic and Molecular Electronics", *MRS 2009 Spring Meeting*, San Francisco, **USA**, April **2009** (oral)
- 17) "Fused thienoacene semiconductors with increased dimensionality", *MRS 2009 Spring Meeting*, San Francisco, **USA**, March **2008** (oral)
- 16) "Two-dimensional molecular networks: an approach to molecular electronics", *Surface Chemistry, Zing Conference Series*, **Antigua and Barbuda**, January **2008** (oral)
- 15) "Surface nanopatterning with hydrogen-bonded and conjugated polymers", *ACS Fall Meeting*, Boston, **USA**, August **2007**(oral)
- 14) "Light Emitting Transistors based on 2-(4-pentylstyryl)tetracene", *European MRS Meeting*, Strasbourg, **France**, May **2007** (oral)
- 13) "Asymmetric Functionalization of Single Wall Carbon Nanotubes", *7th International Symposium on Functional π -Electron Systems F π 7*, Osaka, **Japan**, May **2006** (oral)
- 12) "Topochemical solid state polymerisation of halogenated (hetero)aromatic molecules" *Pacificchem 2005*, Honolulu, Hawaii, **USA** December **2005** (oral)
- 11) "Donor-acceptor molecules with exceptionally low HOMO-LUMO gap, their electronic properties and applications" *Pacificchem 2005*, Honolulu, Hawaii, **USA** December **2005** (oral)
- 10) "Asymmetrically functionalized single wall carbon nanotubes for molecular electronics" *Materials Research Society (MRS) Fall Meeting*, Boston, **USA**, December **2005** (oral)
- 9) "Novel electronic materials based on substituted polythiophenes" *32nd Canadian High Polymer Forum*, Aylmer, **Canada**, August **2005** (oral)
- 8) Synthesis of conducting polymers by topochemical solid state polymerization, *6th Internat. Symposium on Functional π -Electron Systems F π 6*, Ithaca, **USA**, June **2004** (oral)
- 7) The tetrathiafulvalene-based donor-acceptor diads for molecular electronics, *APS March Meeting*, presentation P37-4, Montreal, **CANADA**, March **2004** (oral)
- 6) The first genuine covalent TTF-TCNQ diad: extremely low HOMO–LUMO gap and high quality Langmuir-Blodgett films, *MRS Fall Meeting*, pres. K9.9, Boston, **USA**, December **2003** (oral)
- 5) The first genuine covalent TTF-TCNQ Diad, *NATO ASI: "Organic Conductors, Superconductors and Magnets: From Synthesis to Molecular Electronics"*, Corfu, **Greece**, May **2003**. (oral)
- 4) Electrochemical generation of charge-separated species from D– σ –A diad, – *Gordon Research Conference "Electrochemistry"*, Ventura, CA, **USA**, January **2002** (flash-oral and poster)
- 3) Push-pull fluorene acceptors as electron transport materials for holography, *International Conference on Science and Technology of Synthetic Metals (ICSM'2000)*, Bad Gastein, **Austria**, July **2000** (poster).

Research Mentoring

My current group consists of **1** PDF, **4**PhD and **2**BSc (research assistant) students. 4 MSc and 3 PhD theses have been accepted/defended; 17 post-doctoral fellows, 4 visiting scientist and >25 undergraduate researchers have completed their training in my group since 2003.

Eight of my former trainees have since moved to research leadership positions across the world: Jaclyn Brusso (associate professor at U Ottawa), Marc Lepeltier (associate professor at U Versailles), Clara Santato (associate professor at Ecole Polytechnique de Montreal), Fabio Cicoira (assistant professor at Ecole Polytechnique de Montreal), Maksym Rybachuk (lecturer at Technical U Queensland), Badruz Zaman (Laurentian U), Rico Gutzler (group leader, MPI-Stuttgart), Cheglin Yan (group leader, Inst. Integrative Nanoscience, IFW-Dresden). My former graduate and undergraduate students continue their training (as post-doctoral and PhD researchers) in some of top schools in North America (Harvard U, Berkeley U, Northwestern U, MIT, U of Toronto, etc). A number of my trainees have received prestigious post-doctoral (NSERC, FQRNT) and doctoral (NSERC, FQRNT, Vanier) fellowships and awards (MSED-Lanxess doctoral, several best poster/oral presentation, etc) in my group, and upon leaving (NSERC, EU Marie-Curie, FWO researcher, etc).

Thesis evaluation: Member of defense committee / external examiner on >25 PhD thesis (since 2006)

Teaching

Courses Taught

Intro Organic Chemistry 2 (200-600 students)	8 terms
Seminars in Advanced Materials (~20 students)	5 terms
Physical Organic Chemistry (~10-20 students)	9 terms
Structural Organic chemistry (15 students)	1 term

Professional Service

Reviewing proposals: NSERC, NSF, ACS-PRF, DoD, Austr. Science Fund, ANR–France, and others (>**50** total)

Reviewing papers: (~**60-70**/year) *ACS Nano*, *Adv.Mater.*, *Angew.Chem.*, *Chem.Comm.*, *Chem.Mater.*, *J.Amer.Chem.Soc.*, *J. Mater. Chem.*, *J. Org. Chem.*, *J. Phys. Chem.*, *Langmuir*, *Macromol.*, *Nano Lett.*, *Org. Lett.*, *Science*, *Nat. Chem.*, *Nat. Comm. Nat. Mater.* etc

Editorial work: I.F.Perepichka, D.F.Perepichka (Eds.) “Handbook of Thiophene Based Materials”, 2-vol., *Wiley VCH* (August **2009**)

D.F.Perepichka, S. De Feyter, F.Rosei (Eds.) “Molecule-based surface chemistry”, a Special Issue of *Chemical Communications*, RSC (**2011**)

M.Bendikov, N.Martin, D.F.Perepichka, M.Prato, (Eds), a Special Issue of *J. Mater. Chem.* in honor of Fred Wudl.

Workgroups: *IUPAC General Assembly* (Canadian delegation; Glasgow, August **2009**)
NSF workgroup on Nomenclature of Nanoscale Building Blocks (Central Michigan U, September **2007**)

Workgroup on Nanobiotechnology Initiative, INRS-EMT/IAF, Canada, Spring **2005**.

Organizing conferences: *Chemical Society of Canada meeting* (symposium organizer), Montreal, June **2011**

Chemical Society of Canada meeting (symposium organizer), Calgary, May **2012**

Zing Conference “Supramolecular Chemistry at Surfaces” (**co-chair**), Lanzarote, Spain, February **2012**

XXI & XXII International Materials Research Congress (symposium organizer), Cancun, Mexico, August **2012 & 2014**

Pacificchem 2015 (symposium organizer), Honolulu, USA, December **2015**.

International Workshop “Organic Electron. of Highly-Correlated Molecular Systems” Montreal, May **2017**