

Michael D. Fleischauer
Michael.Fleischauer@nrc-cnrc.gc.ca
Tel: (780) 421-0562
<http://www.ece.ualberta.ca/~mfleisch>

Employment

Research Officer Engineered Materials for Energy NRC-National Institute for Nanotechnology, Edmonton, Alberta	12/2008- present
Research Associate Group Leader: Prof. Michael Brett, Engineered Materials for Energy NRC-National Institute for Nanotechnology, Edmonton, Alberta	06/2007- 12/2008
Postdoctoral fellow Supervisor: Prof. Michael Brett, Dept. of Electrical and Computer Engineering University of Alberta, Edmonton, Alberta	12/2005- 05/2007

Education

Ph. D. “The effect of transition metals on amorphous alloy negative electrode materials for lithium-ion batteries” Supervisor: Prof. Jeff Dahn, Dept. of Physics and Atmospheric Science Dalhousie University, Halifax, Nova Scotia	05/2003- 11/2005
M. Sc. (Physics) “Combinatorial investigations of silicon-aluminum-manganese films for lithium-ion battery applications” Supervisor: Prof. Jeff Dahn, Dept. of Physics and Atmospheric Science Dalhousie University, Halifax, Nova Scotia	09/2001- 04/2003
B. Sc. Specialized Honours (Physics) University of Guelph, Guelph, Ontario	09/1996- 04/2001

Awards

Postdoctoral

- Izaak Walton Killam Memorial Postdoctoral Fellowship (2005-2007)
- Alberta Ingenuity Postdoctoral Fellowship (2005-2007)
- NSERC Postdoctoral Fellowship (2005-2007)

Graduate

- Izaak Walton Killam Memorial Scholarship (2003-2006)
- NSERC Canada Graduate Scholarship / Postgraduate Scholarship B (2003-2005)
- Nominated for Governor General’s Gold Medal (top M. Sc. Graduate at Dalhousie) (2004)
- Walter C. Sumner Fellowship (2003)
- NSERC Postgraduate Scholarship A (2001-2003)
- Ontario Graduate Scholarship (2001-2002, declined)

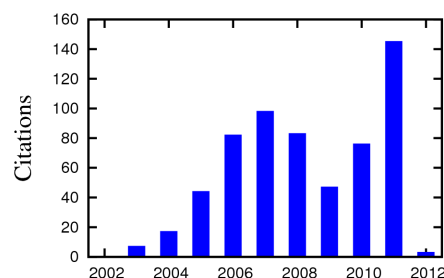
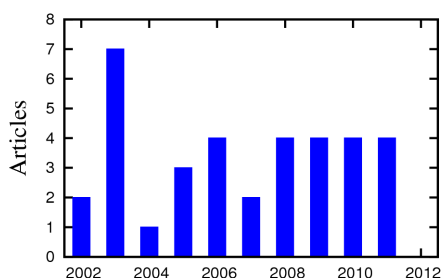
Undergraduate

- J.B. Reynolds Graduation Medal in Physics (U. of Guelph - 2001)
- NSERC Undergraduate Student Research Award (1999, 2000, 2001)
- Copernicus Scholarship in Physics (U. of Guelph - 1998)

Experimental proficiencies

- thin film deposition via magnetron sputtering, thermal and electron-beam evaporation
- various materials characterisation methods including:
 - cyclic voltammetry and other electrochemical techniques
 - x-ray diffraction
 - Mössbauer effect spectroscopy
 - energy / wavelength-dispersive spectroscopy
 - differential scanning calorimetry
 - atomic force microscopy
 - small angle x-ray scattering
- combinatorial and high-throughput experiment design and implementation
- computer hardware and software automation

Refereed Publications



602 citations

378 citing articles

h-index = 14

33. J.G. Van Dijken, M.D. Fleischauer, and M.J. Brett (2011) *Solvent effects on ZnPc thin films and their role in fabrication of nanostructured organic solar cells*. *Organic Electronics* **12** 2111-2119. [abstract](#)
32. J.A. Kelly, A.M. Shukaliak, M.D. Fleischauer, and J.G.C. Veinot (2011) *Size-Dependent reactivity in hydrosilylation of silicon nanocrystals*. *Journal of the American Chemical Society* **133** (24) 9564-9571. [abstract](#) 4 citations
31. R.T. Tucker, M.D. Fleischauer, R.M. Shewchuk, A.E. Schoeller, and M.J. Brett (2011) *Phase formation and morphology control of niobium oxide nanopillars*. *Materials Science and Engineering B* **176** (8) 626-632. [abstract](#)
30. J.G. Van Dijken, M.D. Fleischauer, and M.J. Brett (2011) *Controlled nanostructuring of CuPc thin films via Glancing Angle Deposition*. *Journal of Materials Chemistry* **21** (4) 1013-1019. [abstract](#) 1 citation

29. N.J. Gerein, M.D. Fleischauer, and M.J. Brett (2010) *Effect of TiO₂ film porosity and thermal processing on TiO₂-P3HT hybrid materials and photovoltaic device performance*. Solar Energy Materials & Solar Cells **94** (12) 2343-2350. [abstract](#) 4 citations
28. D.A. Rider, B.J. Worfolk, K.D. Harris, A. Lalany, K. Shahbazi, M.D. Fleischauer, M.J. Brett, and J.M. Buriak (2010) *Stable Inverted Polymer/Fullerene Solar Cells using a Cationic Polythiophene-Modified PEDOT:PSS Cathodic Interface*. Advanced Functional Materials **20** (15) 2404-2415. [abstract](#) 14 citations
27. A.D.W. Todd, P.P. Ferguson, M.D. Fleischauer, and J.R. Dahn (2010) *Tin-based materials as negative electrodes for Li-ion batteries: combinatorial approaches and mechanical methods*. International Journal of Energy Research **34** 535-555. [abstract](#) 16 citations
26. S.A. McClure, B.J. Worfolk, D.A. Rider, R.T. Tucker, J.A.M. Fordyce, M.D. Fleischauer, K.D. Harris, M.J. Brett, and J.M. Buriak (2010) *Electrostatic layer-by-layer assembly of CdSe nanorod/polymer nanocomposite thin films*. ACS Applied Materials and Interfaces **2** (1) 219-229. [abstract](#) 17 citations
25. S.L. McFarlane, D.G. Piercey, L.S. Coumont, R.T. Tucker, M.D. Fleischauer, M.J. Brett, and J.G.C. Veinot (2009) *Toward Thermally, oxidatively, and spectrally stable polyfluorene-based materials: aromatic-ether functionalized polyfluorene*. Macromolecules **42** (3) 591-598. [abstract](#) 4 citations
24. D.A. Rider, K.D. Harris, D. Wang, J. Bruce, M.D. Fleischauer, R.T. Tucker, M.J. Brett, and J.M. Buriak (2009) *Thienyl-silane modified indium tin oxide for an improved anodic interface in polymer/fullerene solar cells*. ACS Applied Materials & Interfaces **1** (2) 279-288. [abstract](#) 12 citations*
23. A.D.W. Todd, P.P. Ferguson, J.G. Barker, M.D. Fleischauer, and J.R. Dahn (2009) *Comparison of Mechanically Milled and Sputter Deposited Tin-Cobalt-Carbon Alloys using Small Angle Neutron Scattering*. Journal of The Electrochemical Society **156** (12) A1034-A1040. [abstract](#) 8 citations
22. M.D. Fleischauer, J. Li, and M.J. Brett (2009) *Columnar thin films for 3D microbatteries*. Journal of the Electrochemical Society **156** (1) A33-A36. [abstract](#) 15 citations
21. A. Bonakdarpour, M.D. Fleischauer, M.J. Brett, and J.R. Dahn (2008) *Columnar support structures for oxygen reduction electrocatalysts prepared by glancing angle deposition*. Applied Catalysts A: General **349** (1-2) 110-115. [abstract](#) 4 citations
20. M.D. Fleischauer, M.N. Obrovac, and J.R. Dahn (2008) *Al-Si thin film negative electrodes for Li-ion batteries*. Journal of The Electrochemical Society **155** (11) A851-A854. [abstract](#) 9 citations
19. S. Tsoi, B. Szeto, M.D. Fleischauer, J.G.C. Veinot, and M.J. Brett (2007) *Control of Alq₃ wetting layer thickness via substrate surface functionalization*. Langmuir **23** (12) 6498-6500. [abstract](#) 1 citation
18. M.D. Fleischauer, R. Mar and J.R. Dahn (2007) *Method to predict phase formation and specific capacity for lithium in co-deposited silicon-transition metal thin films*. Journal of The Electrochemical Society **154** (3) A151-A155. [abstract](#)†

*Highlighted on the journal cover.

†Highlighted in Virtual Journal of Nanoscale Science & Technology **15** (3) (2007).

17. J.D. McGraw, M.D. Fleischauer, J.R. Dahn and R.A. Dunlap (2006) *Mössbauer effect and X-ray diffraction investigation of Si-Fe thin films*. Philosophical Magazine **86** (32) 5017-5030. [abstract](#) 3 citations
16. M.D. Fleischauer, M.N. Obrovac and J.R. Dahn (2006) *Simple model for the capacity of amorphous silicon-aluminum-transition metal negative electrode materials*. Journal of The Electrochemical Society **153** (6) A1201-A1205. [abstract](#) 3 citations
15. J.R. Dahn, R. E. Mar, M. D. Fleischauer and M.N. Obrovac (2006) *The impact of the addition of rare earth elements to $Si_{1-x}Sn_x$ negative electrode materials for Li-ion batteries*. Journal of The Electrochemical Society **153** (6) A1211-A1220. [abstract](#) 5 citations
14. M.D. Fleischauer, M.N. Obrovac, J.D. McGraw, R.A. Dunlap, J.M. Topple and J.R. Dahn (2006) *Al-M ($M = Cr, Fe, Mn, Ni$) thin film negative electrode materials*. Journal of The Electrochemical Society **153** (3) A484-A491. [abstract](#) 13 citations
13. M.D. Fleischauer, J.M. Topple and J.R. Dahn (2005) *Combinatorial investigations of Si-M ($M = Cr + Ni, Fe, Mn$) thin film negative electrode materials*. Electrochemical and Solid-State Letters **8** (2) A137-A140. [abstract](#) 11 citations
12. M.D. Fleischauer, T.D. Hatchard, A. Bonakdarpour and J.R. Dahn (2005) *Combinatorial investigations of advanced Li-ion rechargeable battery electrode materials*. Measurement Science and Technology **16** 212-220. [abstract](#) 24 citations
11. J.R. Dahn, J. Jiang, L.M. Moshurchak, M.D. Fleischauer, C. Buhrmester and L.J. Krause (2005) *High Rate Overcharge Protection of $LiFePO_4$ -based Li-ion cells using the Redox Shuttle Additive 2,5-ditertbutyl-1,4-dimethoxybenzene*. Journal of The Electrochemical Society **152** (6) A1283-A1289. [abstract](#) 38 citations
10. M.D. Fleischauer and J.R. Dahn (2004) *Combinatorial investigations of the Si-Al-Mn system for Li-ion battery applications*. Journal of The Electrochemical Society **151** (8) A1216-A1221. [abstract](#) 24 citations[‡]
9. L.Y. Beaulieu, A. Bonakdarpour, T.D. Hatchard, M.D. Fleischauer and J.R. Dahn (2003) *Reaction of Li with Alloy Thin Films Studied by In-Situ AFM*. Journal of The Electrochemical Society **150** (11) A1457-1464. [abstract](#) 40 citations
8. M.D. Fleischauer, T.D. Hatchard, G.P. Rockwell, J.M. Topple, S. Trussler and J.R. Dahn (2003) *Design and testing of a 64 channel combinatorial electrochemical cell*. Journal of The Electrochemical Society **150** (11) A1465-A1469. [abstract](#) 31 citations[§]
7. T.D. Hatchard, J.R. Dahn, S. Trussler, M. Fleischauer, A. Bonakdarpour, J.R. Meuller-Neuhaus and K.C. Hewitt (2003) *The amorphous range in sputtered Si-Al-Sn films*. Thin Solid Films **443** (1-2) 144-150. [abstract](#)
6. A. Bonakdarpour, K.C. Hewitt, T.D. Hatchard, M.D. Fleischauer and J.R. Dahn (2003) *Combinatorial Synthesis and Rapid Characterization of $Mo_{1-x}Sn_x$ ($0 \leq x \leq 1$) Thin Films*. Thin Solid Films **440** (1-2) 11-18. [abstract](#)
5. T.D. Hatchard, J.M. Topple, M.D. Fleischauer, and J.R. Dahn (2003) *Electrochemical Performance of SiAlSn Films Prepared by Combinatorial Sputtering*. Electrochemical and Solid-State Letters **6** (7) A129-A132. [abstract](#) 11 citations

[‡]Highlighted in ChemInform, **35** (42) (2004).

[§]Selected for the "Tech Highlights" section of Interface **13** 24 (2004).

4. Vivien K. Cumyn, M.D. Fleischauer, T.D. Hatchard and J.R. Dahn (2003) *Design and testing of a low-cost multichannel pseudopotentiostat for quantitative combinatorial electrochemical measurements on large electrode arrays*. *Electrochemical and Solid-State Letters* **6** (6) E15-E18. [abstract](#) 10 citations
3. A.D.R. Barkhouse, A. Bonakdarpour, M. Fleischauer, T.D. Hatchard and J.R. Dahn (2003) *A combinatorial sputtering method to prepare a wide range of A/B artificial superlattice structures on a single substrate*. *Journal of Magnetism and Magnetic Materials* **261** 399-409. [abstract](#)
2. J.R. Dahn, S. Trussler, T.D. Hatchard, A. Bonakdarpour, J.N. Meuller-Neuhaus, K.C. Hewitt and M. Fleischauer (2002) *Economical sputtering system to produce large-size composition spread libraries having linear and orthogonal stoichiometry variations*. *Chemistry of Materials* **14** (8) 3519-3523. [abstract](#) 29 citations
1. A. Chahboun, V. Fink, M. Fleischauer, K.L. Kavanagh, R.P. Lu, L. Hansen, C.R. Becker and L.W. Molenkamp (2002) *Ballistic electron emission microscopy studies of ZnSe-BeTe heterojunctions*. *Journal of Vacuum Science & Technology B* **20** (4) 1781-1787. [abstract](#) 10 citations

Patents

2. M.J. Brett, J.M. Buriak, M.D. Fleischauer, N.J. Gerein, K.D. Harris, S.A. McClure and D.A. Rider *Photovoltaic device based on conformal coating of columnar structures*, US Provisional Patent Application filed February 12, 2008, Application No.: 61/028111.
1. M.N. Obrovac, J.R. Dahn, R.E. Mar and M.D. Fleischauer *Alloy compositions for lithium ion batteries*, U.S. Patent Application 20070020528.

Invited Talks

6. M. Fleischauer *Thin films for energy storage and conversion*. Wildcat Discovery Technologies, Inc., San Diego, CA, Oct. 14, 2010.
5. M. Fleischauer *Rechargeable batteries for compact devices*. CMC Researcher Workshop on Power Sources for Wireless Sensor Networks, Toronto, ON, May 7, 2010.
4. M. Fleischauer *Rechargeable batteries: a combi perspective*. NCMC-14, A DOE-EERE/NIST Joint Workshop on Combinatorial Materials Science for Applications in Energy, National Institute for Standards and Technology, Gaithersburg, MD USA, Nov. 4, 2008.
3. M. Fleischauer *Structure and chemistry of Li-ion battery electrode materials*. Department of Chemistry, University of Alberta, March 11, 2008.
2. M. Fleischauer *Better batteries via combinatorial materials science*. Department of Physics and Physical Oceanography, Memorial University of Newfoundland, Feb. 22, 2005.
1. M. Fleischauer *Combinatorial investigations of advanced battery electrode materials*. Department of Electrical and Computer Engineering, University of Alberta, Nov. 9, 2004.

Presentations and Posters

63. J.G. Van Dijken, N. Wu, M.D. Fleischauer, J.M. Buriak, and M.J. Brett (2011) Novel methods for morphology control of small molecule organic thin films. Abstract submitted to SPIE Photonics Europe.
62. M.D. Fleischauer, R.T. Tucker, N.A. Beckers, A. Bonakdarpour, D.P. Wilkinson, and M.J. Brett (2011) Columnar metal oxide catalyst supports. Materials Research Society Fall Meeting, Boston, MA USA.
61. N.A. Beckers, R.T. Tucker, M.D. Fleischauer, and M.J. Brett (2011) Composition control of electron beam deposited Nb-TiO₂ thin films. 58th American Vacuum Society International Symposium, Nashville, TN USA.
60. R.T. Tucker, D.A. Rider, J.G. Van Dijken, M. Thomas, B.J. Worfolk, A. Lalany, K.M. Krause, M.D. Fleischauer, M.T. Taschuk, K.D. Harris, J.M. Buriak, and M.J. Brett (2011) Engineering columnar nanostructures for organic photovoltaics. 58th American Vacuum Society International Symposium, Nashville, TN USA.
59. M.T. Thomas, K.D. Harris, J.G. Van Dijken, B.J. Worfolk, D.A. Rider, M.T. Taschuk, M.D. Fleischauer, J.M. Buriak, and M.J. Brett (2011) Towards Improved Organic Photovoltaic Cells: Engineered Nanoscale Morphologies with Glancing Angle Deposition. 24th European Photovoltaic Solar Energy Conference and Exhibition, Hamburg, Germany.
58. J.G. Van Dijken, M.D. Fleischauer, and M.J. Brett (2011) Advanced nanostructuring of metal phthalocyanines for organic photovoltaic devices. 37th IEEE Photovoltaic Specialists Conference, Seattle, WA USA.
57. J.G. Van Dijken, M.D. Fleischauer, and M.J. Brett (2011) Nanostructured metal phthalocyanines for organic solar cells. Photonics North 2011, Ottawa ON.
56. R.T. Tucker, M.D. Fleischauer, A. Bonakdarpour, D.P. Wilkinson, and M.J. Brett (2011) Nanopillar metal oxides as high surface area supports for oxygen reduction catalysts. Hydrogen + Fuel Cells 2011, Vancouver BC.
55. J.A. Kelly, A.M. Shukaliak, M.D. Fleischauer, and J.G.C. Veinot (2011) Size-Dependent reactivity in the functionalization of nanostructured silicon surfaces. Materials Research Society Spring Meeting, San Francisco, CA USA.
54. A. Lalany, R.T. Tucker, M.T. Taschuk, M.D. Fleischauer, and M.J. Brett (2010) Electrical characterization of GLAD thin films. 57th American Vacuum Society International Symposium, Albuquerque, NM USA.
53. R.T. Tucker, A.E. Schoeller, M.D. Fleischauer, R.M. Shewchuk, and M.J. Brett (2010) Control of phase formation in metal oxide GLAD films. 57th American Vacuum Society International Symposium, Albuquerque, NM USA.
52. J.G. Van Dijken, A. Lalany, M.D. Fleischauer, and M.J. Brett (2010) Tailoring CuPc Nanostructures via Glancing Angle Deposition. 35th IEEE Photovoltaic Specialists Conference, Honolulu, HI USA.
51. R.T. Tucker, M.D. Fleischauer, A. Bonakdarpour, H.P. Cheng, D.P. Wilkinson, and M.J. Brett (2009) High surface area catalyst support structures for oxygen reduction. Materials Research Society Fall Meeting, Boston, MA USA.

50. M.D. Fleischauer, R.T. Tucker, A. Bonakdarpour, H. Cheng, D.P. Wilkinson and M.J. Brett (2009) Columnar catalyst support structures for oxygen reduction. 216th meeting of The Electrochemical Society, Vienna, Austria.
49. A.D.W. Todd, P.P. Ferguson, J. Barker, M.D. Fleischauer, and J.R. Dahn (2009) Characterization of sputter deposited and mechanically milled $[\text{Sn}_{0.5}\text{Co}_{0.5}]_{1-y}\text{C}_y$ material for Li-ion battery negative electrodes by small angle neutron scattering. 216th meeting of The Electrochemical Society, Vienna, Austria.
48. J.G. van Dijken, M.D. Fleischauer, and M.J. Brett (2009) Bulk heterojunction CuPc OPV architectures via glancing angle deposition. Nanotech Europe 2009, Berlin, Germany.
47. D.A. Rider, K.D. Harris, M.D. Fleischauer, A. Lalany, M.J. Brett, and J.M. Buriak (2009) Physical and electrical properties of arrays of indium-tin oxide nanostructures from glancing angle deposition and their application as transparent anodes in excitonic photovoltaic solar cells. 92nd Canadian Chemistry Conference, Hamilton, ON.
46. S.A. McClure, R. Tucker, D.A. Rider, B. Worfolk, A. Lalany, M.D. Fleischauer, J.C. Bruce, M.J. Brett and J.M. Buriak (2009) Electrostatic layer-by-layer assembly of CdSe nanorod/polymer composite thin films. 92nd Canadian Chemistry Conference, Hamilton, ON.
45. J.G.C Veinot, S.L. McFarlane, D.G. Piercey, L.S. Coumont, R.T. Tucker, M.J. Brett and M.D. Fleischauer (2009) Aromatic-ether functionalized polyfluorene: convenient, thermally stable blue-emitting PLED materials. 92nd Canadian Chemistry Conference, Hamilton, ON.
44. J.G. Van Dijken, M.D. Fleischauer and M.J. Brett (2009) Morphology enhancement of CuPc thin films for use in organic photovoltaic devices. 18th International Photovoltaic Science and Engineering Conference & Exhibition, Kolkata, India.
43. M.D. Fleischauer, J. Li, and M.J. Brett (2008) Controlled porosity thin films for 3D micro-batteries. 214th meeting of The Electrochemical Society, Honolulu, HI USA.
42. J. VanDijken, M.D. Fleischauer and M.J. Brett (2008) Thin film organic solar cells. 3rd Canadian Solar Buildings Conference, Fredericton, NB.
41. S.L. McFarlane, J.G.C. Veinot, L.S. Coumont, D.G. Piercey, L.A. Glover, M. Sirtonski, J. Ruhl, R.A. Chisholm, R. McDonald, M.D. Fleischauer, R.T. Tucker, and M.J. Brett (2008) Towards stable blue-emitting polyfluorene materials: spiroxanthane and aromatic-ether containing materials. US-Japan POLYMAT 2008 Summit, Ventura Beach, CA USA.
40. D. Rider, J. Bruce, D. Wang, K. Harris, M. Fleischauer, M. Brett, and J. Buriak (2008) Chemisorptive modification of planar and nanocolumnar tin-doped indium oxide electrodes for photovoltaic solar cells. 91st Canadian Chemistry Conference, Edmonton, AB.
39. M. Sirtonski, S.L. McFarlane, L.S. Coumont, D.G. Piercey, L.A. Glover, J.G.C. Veinot and M.D. Fleischauer (2008) Synthesis and characterization of novel aromatic-ether containing polyfluorenes. 91st Canadian Chemistry Conference, Edmonton, AB.
38. S.L. McFarlane, J.G.C. Veinot, L.S. Coumont, D.G. Piercey, L.A. Glover, M. Sirtonski, J. Ruhl, R.A. Chisholm, R. McDonald, M.D. Fleischauer, M. Brett and R.T. Tucker (2008) Towards spectral stability in polyfluorene-based materials. 91st Canadian Chemistry Conference, Edmonton, AB.
37. N.J. Gerein, M.D. Fleischauer, and M.J. Brett (2008) Nanostructured titanium dioxide / polythiophene photovoltaic devices. 33rd IEEE Photovoltaic Specialists Conference, San Diego, CA USA.

36. M.D. Fleischauer, J. VanDijken and M.J. Brett (2008) Morphology control of CuPc thin films using Glancing Angle Deposition. 33rd IEEE Photovoltaic Specialists Conference, San Diego, CA USA. [¶]
35. M.D. Fleischauer, R.T. Tucker and M.J. Brett (2007) Controlled surface area CuPc thin films. Materials Research Society Fall Meeting, Boston, MA USA.
34. M.D. Fleischauer, R.T. Tucker and M.J. Brett (2007) Glancing angle deposition of organic molecules. 54th American Vacuum Society International Symposium, Seattle, WA USA.
33. M.D. Fleischauer, S. Tsoi, B. Szeto, S. Deis, G. Dice, and M.J. Brett (2007) Nanostructured organic thin films. Canadian Association of Physicists Congress, Saskatoon, SK.
32. J.B. Sorge, M.D. Fleischauer and M.J. Brett (2007) *Ion Beam Assisted Square Spiral Photonic Crystal Fabrication*. Materials Research Society Spring Meeting, San Francisco, CA USA.
31. M.D. Fleischauer, R. Joseph and M.J. Brett (2006) *Enhanced control of porous thin film morphology via ion bombardment*. Materials Research Society Fall Meeting, Boston, MA USA.
30. M.D. Fleischauer, R.E. Mar and J.R. Dahn (2006) *Effect of transition metal variety on Si-based negative electrode materials*. International Meeting on Lithium Batteries, Biarritz, France.
29. M.D. Fleischauer, R. Mar and J.R. Dahn (2006) *Effect of transition metal variety on Si-M (M = Co, Cr, Fe, Mn, Ni) negative electrode performance*. 89th Canadian Chemistry Conference, Halifax, NS.
28. P.C.P. Hrudey, B. Szeto, M.D. Fleischauer and M.J. Brett (2006) *Optical properties of porous self-assembled helical nanorod arrays of Alq₃*. 89th Canadian Chemistry Conference, Halifax, NS.
27. M.D. Fleischauer and J.R. Dahn (2005) *Phenomenological model for the capacity of sputtered Si-Al-M (M = Cr, Fe, Mn, Ni) thin film negative electrodes*. 208th Meeting of The Electrochemical Society, Los Angeles, CA USA.
26. M.D. Fleischauer, J.M. Topple and J.R. Dahn (2005) *Combinatorial investigations of Al-Si, Si-M and Al-M (M = Cr, Fe, Mn, Ni)*. Lithium Battery Discussion: Electrode Materials, Arcachon, France.
25. J.D. McGraw, M.D. Fleischauer, J.R. Dahn and R.A. Dunlap (2005) A Mössbauer Effect Study of Fe-Si Prepared by Combinatorial Materials Science Methods. 11th Canadian Forces / Defence Research and Development Canada International Meeting on Naval Applications of Materials Technology, Dartmouth, NS.
24. M.D. Fleischauer, J.M. Topple and J.R. Dahn (2004) *Nanostructured Li-ion battery negative electrode materials*. Canadian Institute of Advanced Research Nanoelectronics Meeting, Vancouver, BC.
23. M.D. Fleischauer and J.R. Dahn (2004) *The relative effects of composition and diffusion in the Si-M (M = Mn, Fe, Cr, Ni) system*. 206th Meeting of The Electrochemical Society, Honolulu, HI USA.
22. M. Fleischauer, T. Hatchard, J. Topple and J. Dahn (2003) *Design and testing of a 64-channel combinatorial electrochemical cell for rapid Li-ion battery electrode material characterization*. Materials Research Society Fall Meeting, Boston, MA USA.

[¶]Organics section poster award.

21. M. Fleischauer, J. Topple, T. Hatchard and J. Dahn (2003) *Understanding the effect of composition on amorphous alloy Li-ion electrochemical performance*. Materials Research Society Fall Meeting, Boston, MA USA.
20. M. Fleischauer, J.M. Topple, T.D. Hatchard and J. R. Dahn (2003) *Combinatorial investigations of the Si-Al-Sn ternary system*. 204th Meeting of The Electrochemical Society, Orlando, FL USA.
19. M. Fleischauer, J.M. Topple, T.D. Hatchard and J. R. Dahn (2003) *Understanding the effect of composition on amorphous alloy electrochemical performance*. 204th Meeting of The Electrochemical Society, Orlando, FL USA.
18. M.D. Fleischauer, T.D. Hatchard and J.R. Dahn (2003) *Combinatorial studies of amorphous alloy anode performance*. Lithium Battery Discussion: Electrode Materials, Arcachon, France.
17. M.D. Fleischauer, J.M. Topple, T.D. Hatchard and J.R. Dahn (2003) *Combinatorial investigations of the Si-Al-Mn ternary system*. Canadian Association of Physicists Congress, Charlottetown, PE.^{||}
16. M.D. Fleischauer, T.D. Hatchard, G.P. Rockwell, J.M. Topple, S. Trussler, S.K. Jericho, M.H. Jericho and J.R. Dahn (2003) *How a physicist can do an electrochemist's work sixty-four times faster*. Canadian Association of Physicists Congress, Charlottetown, PE.
15. T. Hatchard, M. Fleischauer and J. Dahn (2003) *Electrochemical performance of the a-Si_{1-x}Sn_x binary system*. Materials Research Society Fall Meeting, Boston, MA USA.
14. T. Hatchard, M. Fleischauer, A. Bonakdarpour, S. Beattie, D. Stevens and J. Dahn (2003) *An overview of combinatorial materials science at Dalhousie University*. Materials Research Society Fall Meeting, Boston, MA USA.
13. Z. Chen, M. Fleischauer, L. Christensen and J.R. Dahn (2003) *In-situ Resistance Measurements of Metallic Alloy Electrodes*. 204th Meeting of The Electrochemical Society, Orlando, FL USA.
12. T.D. Hatchard, M. Fleischauer, J.M. Topple and J.R. Dahn (2003) *Electrochemical Performance of the a-Si_{1-x}Sn_x Binary System*. 204th Meeting of The Electrochemical Society, Orlando, FL USA.
11. M. Fleischauer, J. Topple, V.K. Cumyn and J.R. Dahn (2002) *A comparison of novel combinatorial and traditional electrochemical methods*. 202nd Meeting of The Electrochemical Society, Salt Lake City, UT USA.
10. T. Hatchard, M. Fleischauer and J. Dahn (2002) *Combinatorial electrochemical study of the Si-Al-Sn ternary system*. 202nd Meeting of The Electrochemical Society, Salt Lake City, UT USA.
9. T. Hatchard, A. Bonakdarpour, M. Fleischauer, S. Trussler, J. Mueller-Neuhaus, K. Hewitt and J. Dahn (2002) *Combinatorial materials physics at Dalhousie University*. Atlantic Undergraduate Physics and Astronomy Conference, Halifax, NS.
8. T.D. Hatchard, A. Bonakdarpour, M. Fleischauer, J. Meuller-Neuhaus, S. Trussler, K. Hewitt and J.R. Dahn (2002) *A combinatorial materials science study of the Si-Al-Sn ternary system*. International Meeting on Lithium Batteries, Monterey, CA USA.
7. J. Dahn, T. Hatchard, A. Bonakdarpour, M. Fleischauer, S. Trussler, V. Cumyn, A. Barkhouse and J. Topple (2002) *64 electrode combinatorial electrochemical cell*. 202nd Meeting of The Electrochemical Society, Salt Lake City, UT USA.

^{||}One of eight papers selected for the 2003 Best Student Paper Competition.

6. A. Chahboun, R.P. Lu, V. Fink, M. Fleischauer, K.L. Kavanagh, L. Hansen, C.R. Becker, and L.W. Molenkamp (2002) *The valence band offset of ZnSe/BeTe heterostructures measured by BEEM*. Canadian Association of Physicists Congress, Québec City, PQ.
5. R. Lu, M. Fleischauer, K.L. Kavanagh, L.H. Hansen, G. Schmidt, C.R. Becker and L.W. Molenkamp (2001) *Lateral uniformity of band offsets at ZnSe/BeTe interfaces*. American Physical Society March Meeting, Seattle, WA USA.
4. M. Fleischauer (2000) *Scanning tunneling microscopy (STM) and magnetic schottky diodes*. Canadian Undergraduate Physics Conference, Québec City, PQ.
3. M. Fleischauer (2000) *Hopper morphology in bismuth crystals: why?* Canadian Undergraduate Physics Conference, Québec City, PQ.
2. M. Fleischauer (1999) *Development of a temperature control system*. Canadian Undergraduate Physics Conference, Edmonton AB.
1. D.J. Gendron, A.J. Alcock, M. Fleischauer and S.K. Nikumb, National Research Council Canada (1999) *Thermal lensing in the Nd:YVO₄ grazing incidence slab laser oscillation*. Canadian Association of Physicists Congress, Fredricton, NB.

Published Illustrations

2. Cover, Applied Physics Letters, June 18, 2007 (from G.D. Dice, M.J. Brett, D. Wang, and J.M. Buriak, Appl. Phys. Lett. **90**, 253101 (2007)).
1. Editor's choice, Science, July 6, 2007 (from G.D. Dice, M.J. Brett, D. Wang, and J.M. Buriak, Appl. Phys. Lett. **90**, 253101 (2007)).

Prior Work Experience

Teaching Assistant	2001-2005
Department of Physics, Dalhousie University	
Supervisor: Forest Fyfe, Robbie Sanderson, Prof. Andrew Rutenburg, Prof. Ian Hill	
NSERC USRA "Nanostructured Porous Silicon Electrodes"	2001
Department of Chemistry & Biochemistry, University of Guelph	
Supervisor: Prof. Dan Thomas	
Advanced Research Project "Electroless Metal Deposition on Porous Silicon"	2001
Department of Physics, University of Guelph	
Supervisor: Prof. Dan Thomas (Chemistry)	
Undergraduate Teaching Assistant / Marker	1999-2001
Department of Physics, University of Guelph	
Supervisor: Prof. Jim Pleva / Dr. Al Richardson	
NSERC USRA "Electronic Materials Characterization"	2000
Department of Physics, Simon Fraser University, Burnaby, B.C.	
Supervisor: Prof. Karen Kavanagh	

NSERC USRA “Spectroscopy of Near-Critical Xenon” Department of Physics and Physical Oceanography Memorial University of Newfoundland , St. John’s, Newfoundland Supervisor: Prof. Maynard Clouter	1999 (co-op)
Optoelectronics Research Assistant National Research Council Canada , Ottawa, Ontario Supervisor: Dr. A. John Alcock	1998 (co-op)
Summer Research Assistant Department of Physics, University of Guelph Supervisor: Prof. Elisabeth Nicol	1998
Spectroscopic Assistant Canadian Space Agency , St. Hubert, Québec Supervisor: Dr. Alexander Dudelzak	1998 (co-op)

Reviewer for:

- Journal of Power Sources (13 manuscripts)
- Journal of The Electrochemical Society (10 manuscripts)
- Electrochemistry Communications (2 manuscripts)
- ACS Nano
- Organic Electronics
- Electrochemical and Solid-State Letters
- NSERC Strategic Project Grants Program

References

Available upon request.