

CHRISTOPHER J. BARRETT

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EDUCATION and APPOINTMENTS

Jan. 2006 – present **Associate Professor**, Department of Chemistry, McGill University.
Oct. 2006 – Feb. 2006 **JSPS Fellow and Visiting Professor**, Tokyo Institute of Technology, Japan.
Jan. 2000 – Dec. 2005 **Assistant Professor**, Department of Chemistry, McGill University.
Dec. 1997 – Nov. 1999 **NSERC Postdoctoral Fellow**, Dept. of Materials Sci. & Eng., M.I.T., Cambridge, MA.
Sept. 1995 – Nov. 1997 **Ph.D.** in Chemistry (Physical Polymer), Queen's University, Kingston, Canada.
Sept. 1992 – Aug. 1994 **M.Sc.** in Chemistry (Photochemistry), Queen's University, Kingston, Canada.
Sept. 1989 – May 1992 **B.Sc.** in Chemistry, Physics, Queen's University, Kingston, Canada.

PROFESSIONAL AFFILIATIONS

Member: FQRNT Centre for Self-Assembled Structures, McGill, 4 other Universities, since May 2002.
Member: McGill Institute for Advanced Materials, various McGill University Departments, since October 2004.
Member: Canadian Institute for Neutron Scattering, National Research Council of Canada, since May 2004.
Member: FQRNT Centre for the Physics of Materials (RQMP), Department of Physics, McGill, since March 2000.
Executive Member-At-Large: Macromolecular Sci. & Eng. Division, Canadian Society for Chemistry, since Aug 2000.

AWARDS and HONOURS

2009 – McGill University ‘Leo Yaffe’ Award for Excellence in Teaching, Faculty of Science

One University Award given per year for excellence in teaching over all Departments in the Faculty of Science.

2009 – JLCS- Japanese Liquid Crystal Society ‘Best Paper’ Award in year 2008 (as co-author)

One Award given per year for the paper deemed to be of the highest impact in the field of Liquid Crystals, published world-wide.

2006/7 – Japan Society for the Promotion of Science (JSPS) Fellowship for Visiting Professors

Travel, accommodation, and Scientific Support for a 4-month 10-Laboratory lecture/exchange tour, based at Tokyo Tech.

2003 – Royal Society of Canada PAGSE “Leader of Tomorrow”

Named one of twenty top young Canadian Scientists, selected to present research in Parliament to MPs, politicians, and the media.

2000 - FCAR Strategic Professor-Researcher

Salary for 5 years and \$45k of research funding from FCAR Quebec, to assist promising new Professors.

1997 - NSERC Postdoctoral Fellowship

Funding for 2 years of postdoctoral research tenable at any university. \$70k over two years.

1996 - Canadian Society for Chemistry Graduate Award in Macromolecular Science and Engineering

Top Prize awarded by the MSE Division of the CSC each year to a Graduate Student in Polymer Science. \$2000.

1996 - Canadian Association of Physicists Newport Graduate Award in Optical Sciences

Top prize awarded by the CAP each year to a Doctoral Student in the fields of optical physics or laser physics. \$3000.

INVITED RESEARCH LECTURES

>90 total invited lectures in years 1999–2012, whereby travel was supported by host, and lecture was part of a regular departmental seminar series or conference symposium. This includes:

University Departments (37): CEA France Institute on Alternative Energies Saclay 2011, Tokyo Int. Tech. (Yokohama) 2011, Kyoto Inst. Tech. 2011, Carleton U. 2011, U. Western Ontario 2010, U. Waterloo 2010, McMaster 2010, Ryerson 2010, U. East Anglia 2010, U. Southern Mississippi 2009, Cambridge Cavendish Labs 2008, Simon Fraser 2008, Queen's 2007, RIKEN 2007, Kumamoto 2007, Osaka 2007, Kyoto 2007, Chitose Institute 2006, Nagoya 2006, Tokyo Tech. (O'oka) 2006, U. Tokyo 2006, Tokyo Tech (Suzu) 2006, Concordia 2005, McGill Biomedical Eng. 2005, SUNY Plattsburgh 2005, McMaster 2005, U. Vermont 2005, Michigan State 2004, McGill Chemistry 2004, U. Alabama 2002, Trent 2002, Université du Québec 2002, U. Montreal 2001, Queen's U. '00, McGill Physics 2000, U. Laval 2000, M.I.T.(PPST Series) 1999.

Conferences (30): 'Polydays' Humboldt Berlin 2012, IUPAC Polymers Virginia 2012, CSC Calgary 2012, 6th World Congress on Bio-Mimetic Materials Paris 2011, CSC Montreal (2 symp.) 2011, PacifiChem Honolulu 2010, IUPAC Wubao 2010, IUPAC Glasgow 2010, SPIE Photonics Europe Brussels 2010, SPIE Photonics North Quebec 2009, CSC Hamilton 2009, ACS NERM 2008, CSC Edmonton 2008, Am. Conf. on Neutron Scattering Santa Fe 2008, Gordon Il Ciocco 2008, Canadian High Polymer Forum Gananoque 2007, CSC Winnipeg 2007, International Conference on Polymers and Advanced Materials Huatulco 2006, PacifiChem Honolulu 2005, International Materials Research Congress Riviera Maya 2005, ACS Washington 2005, 8th Conference on Frontiers of Polymers and Advanced Materials Cancun 2005, CSC London 2004, ACS Anaheim 2004, CSC/IUPAC Ottawa 2003, Gordon Mt Holyoke 2003, Can. Society for Biological Eng. 2003.

Workshops and Annual Centre Meetings (23): U. Waterloo Nano-Bio Canada/Japan Symposium 2011, M.I.T. Materials DMSE 'Symposium in Honor of Anne Mayes' Boston 2011, RIKEN Tokyo 2011, Trent U. Materials/Environ. Series 2011, U. Montreal CSACS Symp. Keynote 2009, Concordia ABACUS Conference 2008, U. Toronto Polymer/Materials Group 2007, Canadian Institute for Neutron Scattering AGM 2007, MRSEC Research Centre Annual Symposium U. Mass. Amherst 2007, U. Toronto, ORDCF Polymer Workshop Keynote Speaker 2006, Canadian Neutron Beam Centre Annual Symposium 2006, Japan National Institute of Advanced Industrial Sci. & Tech. (AIST) 2006, CERSIM Annual Symposium Keynote Address Laval 2004, Royal Society of Canada "Leaders of Tomorrow" Ottawa 2003.

RESEARCH MENTORING

Graduate Students: (21 Total: 14 Ph.D., 7 M.Sc.; Completed: 7 Ph.D., 6 M.Sc.; Current: 6 Ph.D., 2 M.Sc.)

21. 01/13–	Anna Tomberg (M.Sc.)
20. 09/12–	Michael Landry (Ph.D.)
19. 09/11–	Alex Bushuyev (Ph.D.)
18. 09/11–	Yingshan Gu (Ph.D.)
17. 09/11–	Janet Belliveau (M.Sc.)
16. 09/09–	Thomas Singleton (Ph.D.)
15. 09/08–	Alex Goulet-Hanssens (Ph.D.)
14. 01/08– 04/10	Lucie Riffard (M.Sc.), then to Centre Technician, Ecole Polytechnique Mtl.
13. 09/07–	Miloslav Sailer (Ph.D.)
12. 09/07– 11/12	Zahid Mahimwalla (M.Sc.), then McGill Engineering.
11. 09/05 – 08/07	Mehul Haria (M.Sc.), then to Iogen Biofuels, Ottawa.
10. 01/05 – 08/06	Christopher Godbout (M.Sc.), now a Doctoral Student, Siwick Group, McGill U.
9. 09/04 – 02/11	Peter Lu (Ph.D.), then Research Scientist PolyStar, Montreal.
8. 09/03 – 03/09	Annie Dorris (Ph.D.), then a PDF, Paprican Canada, Montreal.
7. 09/01 – 01/06	Kevin Yager (Ph.D.), then NSERC PDF with Amis Group, NIST Gaithersburg MD.

6. 05/01 – 07/04 Susan Burke (Ph.D.), then NSERC PDF, now at Bauch & Lomb, Rochester, NY.
5. 09/00 – 04/05 Rashida Smith (Ph.D.), then NSERC PDF, now at Xenon Intrn'l, Toronto.
4. 09/00 – 10/06 Oleh Tanchak (Ph.D.), then a Postdoctoral Fellow, Dutcher Group, U. Guelph.
3. 09/00 – 08/02 Rola Halabieh (M.Sc.), then Teaching Science in Lebanon.
2. 09/99 – 12/03 Lana Norman (M.Sc.), then a Doctoral Student, Badia Group, U. Montreal.
1. 09/99 – 11/04 Ozzy Mermut (Ph.D.), then a Postdoctoral Fellow, Somorjai Group, U. C. Berkeley.

Postdoctoral Fellows and Visiting Scientists:

12. Dr. Raquel Fernandez (Ph.D. Spain), postdoctoral fellow 08/2012 - 11/2012
11. Sacha Cavelier (M.Sc. Eng Paris), stagiere 05/2012 - 09/2012
10. Dr. Jaana Vaapavuori (Ph.D. Aalto Finland), postdoctoral fellow 03/2012 - 09/2012
9. Sacha Cavelier (M.Sc. Eng Paris), stagiere 05/2011 - 09/2011
8. Dr. Hassane Assaoudi (Ph.D. Ecole Polytechnique), postdoctoral fellow 12/2010 - 03/2011
7. Prof. Geraldine Bazuin (U. Montreal) sabbatical visitor 2007/2008 occasional
6. Dr. Qian Wang (Ph.D. U. Montreal) postdoctoral fellow 10/2007 - 01/2008
5. Dr. Nasir Ahmad (Ph.D. Manchester) Research Associate 10/2004 - 09/2005
4. Prof. Rigoberto Advincula (Prof. U. Alabama), Visiting Professor 04/2004 - 09/2004
3. Clemence Sicard (M.Sc Eng Ecole Superiere Paris), stagiere 09/2004 - 08/2005
2. Sophie Ault (B.Sc. Bristol), stagiere 09/2003- 08 2004
1. Dr. Nasir Ahmad (Ph.D. Manchester), postdoctoral fellow 04/2000 - 09/2002
now Associate Professor of Chemistry, vice-Dean, NUST Pakistan, Islamabad, PK.

Undergraduate Students: (32 Total: 14 Honours Thesis; 18 Summer Students)

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| 2012: Anna Tomberg, Guillaume Beaulieu-Houle. | 2011: Jenny Liu, Janet Belliveau, |
| 2010: Phillip Gregoire, Natalie Talmi, Katherine Bujold (co-), Brian Park. | |
| 2009: Jessica Robin, Cheen Ang. | 2008: Kevin Ramsey (co-), Julia Del Re. |
| 2007: Valentina Licursi, Kyla Brule, Nahid Punjani, Marc-Andre Rousseau (co-), Ellen Zhou. | |
| 2006: Shreyans Shah, David Hoffman, Noah Mitton, | 2005: Clemence Sicard, Linda Davis (co-). |
| 2004: Sophie Ault, Benjamin Horne, Jennifer Pfeiffer. | |
| 2003: Siara Isaac (2), Shing Kwok, Laura Pederson. | 2001: Kevin Yager, Siara Isaac, Leonard Rodriguez. |

RESEARCH AWARDS TO GROUP

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|-------------|---|
| 2010 | Alex Goulet-Hanssens: FQRNT Scholarship (full funding for final 3 years of study, based on research) |
| 2008 | Kevin Yager: Canadian Society for Chemistry Graduate Award in Macromolecular Science and Engineering (Top Prize awarded by the MSE Division of the CSC each year to a Graduate Student in Polymer Science.) |
| 2007 | Kevin Yager: NSERC PDF Scholarship (full funding for 2 years of postdoctoral study, based on research) |
| 2006 | Kevin Yager: CSC Conference Graduate Oral Presentation Prize (1 st place, Physical Theoretical Division) |
| 2005 | Rashida Smith: NSERC PDF Scholarship (full funding for 2 yrs of postdoctoral study, based on research)
Kevin Yager: Udho Parsini Diwan Award (McGill award to top research paper published in Chemistry)
Kevin Yager: Montreal/CSC Travel Prize (1 McGill award to graduate students based on research) |
| 2004 | Susan Burke: NSERC PDF Scholarship (full funding for 2 years of postdoctoral study, based on research)
Kevin Yager: David Simkin Prize (highest quality research in Physical Chemistry in first 2 years of study)
Emily Cranston: CSC Conference Graduate Presentation Prize (1 st place, Macromolecular Posters) (tie)
Kevin Yager: CSC Conference Graduate Presentation Prize (1 st place, Macromolecular Posters) (tie) |

- 2003** Ozzy Mermut: IUPAC Conference Graduate Prize (1st place of >100 Macromolecular poster presentations)
 Susan Burke: Gordon Research Conference Student Travel Award (Ion-Containing Polymers, July 2003)
 Kevin Yager: NSERC PGS-B Scholarship (full funding for final 2 years of study, based on research)
- 2002** Ozzy Mermut: NSERC PGS-B Scholarship (full funding for final 2 years of study, based on research)
 Kevin Yager: FCAR Graduate Scholarship (full funding for 2 years of study, based on research)
 Susan Burke: NSERC PGS-B Scholarship (full funding for final 2 years of study, based on research)
 Ozzy Mermut: David Simkin Prize (highest quality research in Physical Chemistry in first 2 years of study)
- 2001** Kevin Yager: MSED Undergraduate Poster Prize (award for top poster at annual national CSC meeting)
- 2000** Kevin Yager: Honours Thesis Prize (top prize for Departmental Undergraduate Research Project)
(and 12 Departmental Travel Prizes to Mermut, Burke, Smith, Dorris, Tanchak, Yager, Mahimwalla, Goulet-Hanssens)

UNIVERSITY ADMINISTRATIVE CONTRIBUTIONS _____

- 2012–2015** McGill University Senate Appointment to Committee on Student Life and Learning. 3yr term.
- 2011–** Office for Sustainability Faculty Rep, and \$2.4M Sustainability Projects Fund Review Cmte Chair.
- 2009–2013** Member of the McGill Campus Capital Campaign Committee, Associate Professor Faculty representative, Steering Committee for Faculty/Staff fundraising, McGill during \$750M campaign.
- 2009–** Member of the ‘Inquiry Network’, Taskforce to Integrate Research and Innovation to Teaching.
- 2005–** Member of the Dean’s Faculty Program Review Group, Faculty of Science, McGill University.
- 2002–2004** Member (2y) and Chair (1y) of the Tomlinson Masters Scholarships Committee, McGill University.
- 2001–2002** Member of Executive Council, McGill University Faculty Club.

GRANTS AWARDED for TEACHING and OUTREACH _____

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|------|--------------------------|--------|--|
| 2003 | Tomlinson Teaching Fund | \$ 20k | Development of Distance Education Software/Hardware |
| 2001 | McGill Science/Chemistry | \$ 8k | Development of Lecture Demonstrations for Thermo Courses |

EXTRA-DEPARTMENTAL TEACHING and OUTREACH _____

- 2010–** Member of Canada’s PAGSE: Partnership Group in Science and Engineering, Ottawa.
- 2010–** Member of PAGSE’s Communications Committee, incl. ‘Bacon and Eggheads’ Organization.
- 2009** Cutting Edge in Science Symposium Series, McGill University. October 2009.
- 2009** Public Lecture on “Alternative Energy Supplies” Lower Canada College Highschool. January 2009.
- 2008** Public Lecture on “Academic Career Paths” Concordia University Student Career Conference. March 2008.
- 2007** Public Lecture on “Materials Science throughout Civilization” Dawson College CEGEP. Oct. 2007, 2009.
- 2007** McGill Faculty of Science ‘Soup and Science’ Lecture Series and Discussions. September 2007.
- 2004–2010** Invitee to 50-person Herzberg Meeting on Government Science Policy, Herstmonceux, UK.
- 2003** Addressed Parliamentary Committee on New Science in Canada. Parliament, Ottawa, ON. October 2003.
- 2001** Summer Teaching Internship Program Founder 2001, and Mentor (*since summer 2001*).
- 2001/2** CBC National Radio, invited guest on ‘Quirks and Quarks’ science show (*November 2001, March 2002*).

RESEARCH GRANTS AWARDED as the PRINCIPAL INVESTIGATOR (\$2.27M total)_____

2009–2014	NSERC Research	\$ 75k/yr	Light-Responsive Polymer and Biopolymer Thin Films
2007	NSERC Equipment	\$ 128k	Aqueous GP Chromatograph (4 members, Barrett, P.I.)
2004–2009	NSERC Research	\$ 62k/yr	Light-Responsive Polymer and Biopolymer Thin Films
2004–2005	Industrial Contract	\$ 106k/yr	Development of Photo-Reversible Printing Films
2002	FCAR Equipment	\$ 54k	Zeta Potential EP (6 members, Barrett, P.I.)
2002–2003	NSERC Research	\$ 54k/yr	Polymer Thin Films for Electro-Optics and Photonics
2000	CFI New Opportunities	\$ 473k	Photonics Laboratory for Advanced Materials
2000–2003	FCAR New Researcher	\$ 15k/yr	New Polyelectrolytes as Optical and Bio-Active Materials
2000	NSERC Equipment	\$ 147k	Thin Film Fabrication and Optical Characterization Lab
2000–2001	NSERC Research	\$ 35k/yr	Polymer Thin Films for Electro-Optics and Photonics

RESEARCH GRANTS AWARDED as a SECONDARY INVESTIGATOR (\$28.2M total)_____

2011–2016	NSERC CREATE	\$ 300k/yr	Neuro-Engineering (8 members, Lennox, P.I.)
2010–2013	FQRNT Team	\$ 47k/yr	Self-Assembled BioMimetics (2 members, Barthelat, P.I.)
2009–2012	FCAR Centre	\$ 645k/yr	McGill Self-Assembly Centre (33 members, Reven, P.I.)
2007	NSERC Major Facil.	\$ 6,600k	New Neutron Beam Line (10 members, Ryan, P.I.)
2006–2009	CIHR Centre	\$ 310k/yr	NeuroEngineering Materials (10 members, Colman, P.I.)
2003–2009	FCAR Centre	\$ 930k/yr	Physics of Materials Centre (24 members, Sutton, P.I.)
2003	NSERC Major Facil.	\$ 130k	Micromachining Facility (9 members, Grütter, P.I.)
2002–2005	FCAR Team	\$ 70k/yr	Particle-Polymer Interactions (6 members, Reven, P.I.)
2002–2007	FCAR Centre	\$ 512k/yr	McGill Self-Assembly Centre (25 members, Reven, P.I.)
2001	NSERC Major Facil.	\$ 100k	Micromachining Facility (8 members, Grütter, P.I.)
2001	NSERC Equipment	\$ 134k	Static Light Scattering (8 members, Eisenberg, P.I.)
2001	NSERC Equipment	\$ 108k	DSC/TGA analysis (7 members, Lennox, P.I.)
2000	CFI Innovation	\$ 9,400k	Tools for Nanoscience (15 members, Grütter, P.I.)
2000–2003	FCAR Centre	\$ 215k/yr	Physics of Materials Centre (11 members, Grant, P.I.)

DEPARTMENTAL ADMINISTRATIVE CONTRIBUTIONS _____

2011–2012	Director of Undergraduate Studies, Chemistry Department.
2007–	Convenor, all Graduate Students in ‘Materials Chemistry’ Graduate Research Division.
2008–2009	Coordinator, Chemistry Department Weekly Lecture Series.
2008–	Member, Faculty Awards Nominations Committee.
2001–2004	Undergraduate Advisor, all Students in ‘04 year of all Chemistry Programs, each year.
2000–2002	Coordinator, Departmental Summer Undergraduate Research Program.
2000–2003	Member, Undergraduate Scholarships Committee.
2000–2006	Member, Graduate Admissions Committee, to review all applications to make admission offers.
2000–2006	Graduate Student Recruiting Committee, as Member (3 yrs), and Chair (3 yrs).
2001–	New Faculty Search Committees (7 total), as Member (4), and Chair (3).
2005–	Steering Board, FQRNT Quebec Centre for Self-Assembled Chemical Structures (CSACS).

2006– Member, Departmental Safety Committee, Chair 2009.

THESIS EXAMINATIONS (60)

- Ph.D.** (45) (Bobour, Long, Cameron, Villeneuve, McAloney, Wang, Cojocariu, Bartels, Yin, Burke, Terreau, Lim-Soo, Mermut, Vanerek, Nam, Smith, Yao, Carrigan, Tabard-Cossa, Douglas, Paquet, Lee, Chen, Yager, Tanchak, Chun, Okano, Pradhan, Burns, Gordon, Metera, Aldaye, Dorris, Spina, Mazumdar, Hourani, Siu, Lu, Oberoi, Islam, Guo, Shui, ?, ?, Carneiro)
- M.Sc.** (15) (Bourg, Burke, Chijiwa, Laroche, Dalphond, Norman, Halabieh, Vyhnalkova, Godbout, Haria, Lessard, Houg, Riffard, Mahimwalla)

PROFESSIONAL SOCIETY ACTIVITIES

- 2013** Symposium co-Organizer and Chair, Macromolecular Division of the CSC. (*CSC National Meeting*)
- 2012** Symposium co-Organizer and Chair, Macromolecular Division of the CSC. (*CSC National Meeting*)
- 2011** Symposium co-Organizer and Chair, Macromolecular Division of the CSC. (*CSC National Meeting*)
- 2010** Symposium Organizer and Chair, Polymer Division. (*Pacificchem International Meeting*)
- 2009** Conference Co-Organizer and Co-Chair, Polymers & Organic Chem. (*IUPAC International Meeting*)
- 2007** Symposium Organizer and Chair, Macromolecular Division of the CSC. (*CSC National Meeting*)
- 2006** Symposium Organizer and Chair, Macromolecular Division of the CSC. (*CSC National Meeting*)
- 2005** Symposium Organizer and Chair, Polymer Division. (*Pacificchem International Meeting*)
- 2004** Symposium Organizer and Chair, Macromolecular Division of the CSC. (*CSC National Meeting*)
- 2004** Symposium Co-Organizer and Co-Chair, PMSE Division of the ACS. (*National Spring Meeting*)
- 2003** Symposium Co-Organizer and Co-Chair, Macromolecular Division of the CSC. (*IUPAC Meeting*)
- 2003** Symposium Organizer and Chair, Macromolecular Division of the CSC. (*IUPAC Meeting*)
- 2001–2004** Co-ordinator of Undergraduate Research Awards, Macromolecular Division of the CSC.
- since **2000** Elected Member-at-large, Executive Council, Macromolecular Division of the CSC. (*current*)

REFEREEING and EDITORIAL CONTRIBUTIONS

Active Grant Referee for: *Natural Sciences and Eng. Research Council of Canada, FCAR/FQRNT Quebec, Killam Foundation, European Science Foundation, Petroleum Research Foundation USA, Swiss National Science Foundation...*

Active Journal Referee for: *Nature Materials, Physical Review Letters, Journal of the American Chemical Society, Macromolecules, Journal of Physical Chemistry, Journal of Applied Physics, BioMacromolecules, Advanced Functional Materials, Langmuir, Macromolecular Rapid Communications, Advanced Materials, Journal of Applied Polymer Science, Polymer, Royal Society of Chemistry Journals, Macromolecular Chemistry and Physics, Journal of Chemical Physics, Chemistry of Materials...*

BOOKS AND BOOK CHAPTERS

5. Mahimwalla, Z. S.; Yager, K. G.; Mamiya, J-I.; Shishido, A.; Barrett, C. J. "Photo-Mechanical Azo Polymers, for Light-Powered Actuation and Artificial Muscles" in *Optical Nano and Micro Actuator Technology*, G. Knopf and Y. Otani, eds. CRC Press, New York, NY. (2012). Chapter x, y–z. in production.
4. "Azobenzene Chromophores in Photo-Reversible Materials" in *Smart Light-Responsive Materials: Azobenzene-Containing Polymers and Liquid Crystals*, Y. Zhao and T. Ikeda, eds., John Wiley, Boca Raton, Florida (2009). Chapter 1, pp. 1–46.

3. “Amorphous Azobenzene Polymers for Light-Induced Surface Patterning” in *Smart Light-Responsive Materials: Azobenzene-Containing Polymers and Liquid Crystals*, Y. Zhao and T. Ikeda, eds., John Wiley, Boca Raton, Florida (2009). Chapter 4, pp. 145–176.
2. “Azobenzene Polymers as Photo-Mechanical and Multifunctional Smart Materials” in *Intelligent Materials*, M. Shahinpoor and H. Schneider, eds., Royal Society of Chemistry Press, Cambridge, UK (2007). Ch. 17, pp. 424–446.
1. “Light-Induced Nanostructure Formation using Azobenzene Polymers” in *the Encyclopedia of NanoScience and NanoTechnology*, H. S. Nalwa and S. Miyata, eds., CRC Press, Boca Raton, Florida (2006). Chapter 5, pp. 243–272.

also: **215 Conference Presentations** total, 72 by Barrett, and 143 by group members or collaborators.

REFEREED JOURNAL PUBLICATIONS

60 Papers in total to Oct 2012, including the following Journals with the following Impact Factors (IF):

<i>Macromolecules</i> (16) IF = 5.2	<i>Chemistry of Materials</i> (5) IF = 7.3
<i>Journal of Physical Chemistry</i> (5) IF = 4.8	<i>Journal of Chemical Physics</i> (4) IF = 3.3
<i>Langmuir</i> (4) IF = 4.2	<i>Biomacromolecules</i> (3) IF = 5.5
<i>Angewandte Chemie</i> (1) IF = 13.5	<i>Soft Matter</i> (1) IF = 4.9
<i>Advanced Materials</i> (1) IF = 13.9	<i>Journal of Materials Chemistry</i> (2) IF = 6.0

Career Citations > 3,400 **h-index = 32,** **cites/paper > 55,** **cites/year >400**

McGill work only ('00-'10) > 1,650 **h-index = 23,** **cites/paper > 40,** **cites/year >300**

60. Cavelier, S.; **Barrett, C. J.**; Barthelat, F.; “The Mechanical Performance of a Biomimetic Nanointerface made of Multilayered Polyelectrolytes” *European Journal of Inorganic Chemistry* **2012**, 5380–5389.
59. Goulet-Hanssens, A.; Lai Wing Sun, K.; Kennedy, T.E.; **Barrett, C. J.** “Photoreversible Surfaces to Regulate Cell Adhesion” *BioMacromolecules* **2012**, 13, 2958–2963
58. Singleton, T A.; Ramsay, K. S.; Barsan, M. M.; Butler, I.; **Barrett, C. J.** “Azobenzene Photoisomerization under High External Pressures: Testing the Strength of a Light-Activated Molecular Muscle” *Journal of Physical Chemistry B* **2012**, 116, 9860–9865
57. Mahimwalla, Z. S.; Yager, K. G.; Mamiya, J-I.; Priimagi, A.; Shishido, A.; **Barrett, C. J.** “Azobenzene Photomechanics: Prospects and Potential Applications” *Polymer Bulletin* **2012**, in press. DOI: 10.1007/s00289-012-0792-0
56. Sailer, M.; Lai Wing Sun, K.; Mermut, O.; Kennedy, T. E.; **Barrett, C. J.** “High-Throughput Cellular Screening of Engineered ECM Based on Combinatorial Polyelectrolyte Multilayer Films” *Biomaterials* **2012**, 33, 5841–5847
55. Sailer, M.; **Barrett, C. J.** “Fabrication of Two Dimensional Gradient Layer-by-Layer Films for Combinatorial Bio-Surface Studies” *Macromolecules* **2012**, 45, 5704–5711.

54. Shimamura, A.; Priimagi, A.; Mamiya, J.; Ikeda, T.; Yu, Y.L.; **Barrett, C.J.**; Shishido, A. "Simultaneous Analysis of Optical and Mechanical Properties of Cross-Linked Azobenzene-Containing Liquid-Crystalline Polymer Films" *ACS Applied Materials & Interfaces* **2011**, *3*, 4190–4196.
53. Dorris, A.; Sicard, C.; Chen, M. C.; McDonald, A. B.; **Barrett, C. J.** "Stabilization of Neodymium Oxide Nanoparticles via Soft Adsorption of Charged Polymers" *ACS Applied Materials & Interfaces* **2011**, *3*, 3357–3365.
52. Ahmad, N. M.; Saqib, M.; **Barrett, C. J.** "Novel Azobenzene-Functionalized Polyelectrolytes of Different Substituted Head Groups 3: Control of Properties of Self Assembled Multilayer Thin Films" *Journal of Macromolecular Science A: Chemistry* **2010**, *47*, 571–579.
51. Ahmad, N. M.; Saqib, M.; **Barrett, C. J.** "Novel Azobenzene-Functionalized Polyelectrolytes of Different Substituted Head Groups 2: Control of Surface Wetting in Self-Assembled Multilayer Films" *Journal of Macromolecular Science A: Chemistry* **2010**, *47*, 534–544.
50. Ahmad, N. M.; Saqib, M.; **Barrett, C. J.** "Novel Azobenzene-Functionalized Polyelectrolytes of Different Substituted Head Groups 1: Synthesis, Characterization and Absorption Spectroscopy Studies" *Journal of Macromolecular Science A: Chemistry* **2010**, *47*, 106–118.
49. Lu, X.; Ahmad, N. M.; **Barrett, C. J.** "Stable Photo-Reversible Surface Energy Switching with Azobenzene Polyelectrolyte Multilayers" *Journal of Materials Chemistry* **2010**, *20*, 244–247.
48. Kondo, M.; Miyasato, R.; Naka, Y.; Mamiya, J. Kinoshita, M.; Yu, Y.; **Barrett, C. J.**; Ikeda, T. "Photomechanical Properties of Azobenzene Liquid-Crystalline Elastomers" *Liquid Crystals* **2009**, *36*, 1289–1293.
47. Zhang, Q.; Wang, X.; **Barrett, C. J.**; Bazuin, C. G. "Spacer-Free Ionic Dye-Polyelectrolyte Complexes: Influence of Molecular Structure on Liquid Crystal Order and Photoinduced Motion" *Chemistry of Materials* **2009**, *21*, accepted for publication and in press.
46. Yamada, M.; Kondo, M.; Miyasato, R.; Mamiya, J.; Kinoshita, M.; Yu, Y.; **Barrett, C. J.**; Ikeda, T. "Photoresponsive Behavior of Laminated Films Composed of a Flexible Plastic Sheet and a Crosslinked Azobenzene Liquid-Crystalline Polymer Layer with Different Initial Alignment of Mesogens" *Molecular Crystals, Liquid Crystals* **2009**, *498*, 65–73.
45. Yamada, M.; Kondo, M.; Miyasato, R.; Naka Y.; Mamiya, J.; Kinoshita, M.; Shishido, A.; Yu, Y.; **Barrett, C. J.**; Ikeda, T. "Photomobile Polymer Materials—Various Three-Dimensional Movements" *J. Materials Chemistry* **2009**, *19*, 60–62. (& cover page)
44. Yamada, M.; Kondo, M.; Mamiya, J. Yu, Y.; Kinoshita, M.; **Barrett, C. J.**; Ikeda, T. "Photomobile Polymer Materials – Towards Light-Driven Plastic Motors" *Angewandte Chemie* **2008**, *47*, 4986–4988.
43. Tanchak, O. M.; Yager, K. G.; Fritzsche, H.; Harroun, T.; Katsaras, J.; **Barrett, C. J.** "Ion Distribution in Multilayers of Weak Polyelectrolytes: a Neutron Reflectivity Study" *Journal of Chemical Physics* **2008**, *127*, 84901-1–10.
42. Dorris, A.; Rucareanu, S.; Reven, L.; **Barrett, C. J.**; Lennox, R. "Preparation and Characterization of Polyelectrolyte-Coated Gold Nanoparticles" *Langmuir* **2008**, *23*, 2532–2538.
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