

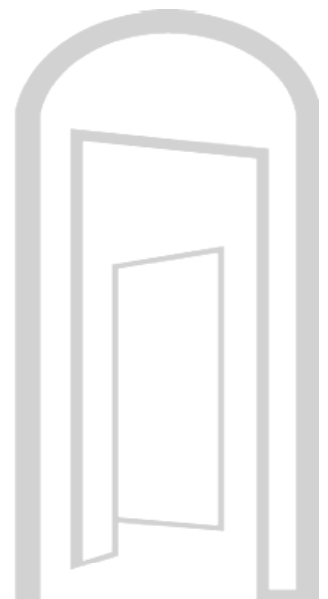


DALHOUSIE
University

*Faculty of
Graduate Studies*

Annual Report to the
Killam National Conference
2002

Killam
Trusts



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INTRODUCTION

The Killam Endowment enables Dalhousie University to maintain five programmes:

1. Killam Memorial Scholarships from the Advanced Studies fund;
2. Funding for Faculty of Graduate Studies Departmental Allocations for Graduate Scholarships are provided by the Killam Memorial Research and Scholarship (Anonymous Donor) fund and the Killam Residue fund;
3. Killam Postdoctoral Fellowships from the Advanced Studies fund;
4. Killam Chairs from the Killam Chair fund; and
5. Dorothy J. Killam Memorial Lecture Series from the Killam Residue fund.

In recognition of the financial support provided to the Faculty of Science by the Killam Endowment, two additional awards were established in 1994-95:

1. Faculty of Science Killam Prize from the Faculty of Science Operating fund; and
2. Faculty of Science Killam Professorships from the Killam Memorial Salary fund.

1) KILLAM MEMORIAL SCHOLARSHIPS

Selection of the 2002-2003 Killam Memorial Scholarship recipients was made by the 2002 Killam Memorial Scholarship Competition Selection Committee members (see Appendix 1). The 2002-2003 Killam Memorial Scholarship competition concluded with the awarding and acceptance of 30 new awards to first-year and continuing students, while 34 students had their award renewed (see Appendix 2). Of the sixty-four 2002-2003 Killam Scholars, 31 were successful in obtaining external awards from NSERC or SSHRC; 50 are Canadian, while 14 are students from eight (8) different countries. (See Appendix 13 for application forms for the Killam Memorial Scholarship.)

2) FACULTY OF GRADUATE STUDIES DEPARTMENTAL ALLOCATIONS

Killam Memorial Research and Scholarship (Anonymous Donor) fund and the Killam Residue fund, for the 2002-2003 academic year, funded awards ranging from \$100 to \$17,200 to 271 Canadian students in the Faculties/Departments/Schools/Programmes of Anatomy & Neurobiology, Biochemistry & Molecular, Biology, Biomedical Engineering, Chemical Engineering, Chemistry, Civil Engineering, Community Health & Epidemiology, Earth Sciences, Economics, Electrical & Computer Engineering, Engineering Mathematics, History, Industrial Engineering, International Development Studies, Mathematics & Statistics, Microbiology & Immunology, Mining & Metallurgical Engineering, Pathology, Pharmacology, Physiology & Biophysics, Political Science, Psychology, Sociology & Social Anthropology, Electronic Commerce, Architecture, Computer Science, Law, Interdisciplinary PhD, Marine Affairs, Maritime Social Work, Business Administration, Health & Human Performance, Health Services Administration, Human Communication Disorders, Library & Information Studies, Nursing, Occupational Therapy, Physiotherapy, Public Administration, Resource & Environmental Studies, and Women's Studies.

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3) KILLAM POSTDOCTORAL FELLOWSHIPS

The Killam Postdoctoral Fellow recipients were selected by the 2002 Killam Postdoctoral Fellowship Competition Selection Committee (see Appendix 3). Four new Killam Postdoctoral Fellowships were awarded in the 2002 competition (see Appendix 4). Seven Killam Postdoctoral Fellows continue at various stages of the second year of their fellowship (see Appendix 5). (See Appendix 14 for the guidelines and application form for the Killam Postdoctoral Fellowship; see Appendix 15 for the Killam Postdoctoral Fellowship 2002 advertisements.)

4) KILLAM CHAIRS

Killam Chairs have been established in Materials Science, Neuroscience (termination June 30, 2002), Ocean Studies, Petroleum Engineering, and Technology, Innovation & Marketing (see Appendix 6). Each Killam Chair prepared a report outlining the incumbent's work over the past year (see Appendix 7).

5) DOROTHY J. KILLAM MEMORIAL LECTURES

The Killam Lecture Committee (see Appendix 8) reviewed submissions for the Dorothy J. Killam Memorial Lecture Series and selected the theme, "Climate Change—Truth and Consequences" for the 2002 Series. The Killam Lectures Organizing Committee (see Appendix 9) has arranged for three world-class experts on climate change and its potential consequences to be in Halifax to identify and discuss relevant issues that we will have to wrestle with in the upcoming decades (see Appendix 10). Imagine the largest uncontrolled and unintended "experiment" ever to be implemented on earth. It may well be happening now! Many believe that humankind is firmly committed to a path of fundamental change in the earth's climate during the next century. Despite huge uncertainties in making reliable long-term predictions of the global climate, the balance of evidence points to changes during the 21st century that will be without precedent in many millennia. Whatever the truth really is, there is no doubt that global climate change is capturing enormous attention in scientific and policy circles. Climate change will affect every Canadian, including every Nova Scotian and Haligonian, in profound ways.

6) FACULTY OF SCIENCE KILLAM PRIZE

The Faculty of Science Killam Prize was established in recognition of the financial support provided to the Faculty of Science by the Killam Endowment. Prizes are awarded annually to enhance the career of promising scientists who have obtained their doctorate within the past eleven years. The Faculty of Science Killam Award is funded by the Dalhousie University Faculty of Science operating budget. The recipients of the 2002 Faculty of Science Killam Prize are Dr. Shelley Adamo, Psychology, working on the evolutionary constraints of immunity, and Dr. Frances Cozens, Chemistry, for her work in the area of ultrafast photochemical reaction kinetics.

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7) FACULTY OF SCIENCE KILLAM PROFESSORSHIPS

The Faculty of Science Killam Professorships were established in recognition of the financial support provided to the Faculty of Science by the Killam Endowment. The Killam Professorships are funded by the Dalhousie University General Salary account. Currently twelve faculty members hold Faculty of Science Killam Professorships (see Appendix 11), each for a term of five years, to recognize the scientific research contributions of the Faculty's most outstanding scientists.

8) KILLAM DINNER

The 2001 Killam Dinner was held in Shirreff Hall on October 29th. This annual event is an important occasion to mark the achievements of the Killam scholars and postdoctoral fellows. There were approximately 190 guests present at the dinner, including Killam Trustees Mr. George Cooper, QC and Mr. John Matthews. Speakers at the dinner included President Tom Traves, Mr. George Cooper, and Dalhousie Killam Postdoctoral Fellow, Dr. Jörg Richstein. The annual announcement of Killam predoctoral and postdoctoral award recipients was placed in the *Chronicle Herald* on Monday, October 29, 2001 (see Appendix 12) to publicly honour the recipients.

9) ADMINISTRATIVE UPDATES

Administration of the Killam programmes continues to be an important and rewarding responsibility for the Faculty of Graduate Studies. In addition to the role played by the Dean, Associate Dean and Killam Administrator, on-going support for the Killam programmes from members of the Faculty of Graduate Studies staff is critical to the success of the programmes. Dr. Cynthia Neville retired from her position as Associate Dean, effective December 31, 2001, to return to research and teaching in the Department of History. She was succeeded by Dr. David Egan (School of Physiotherapy), as Acting Associate Dean for the period January 1-June 30, 2002. Dr. Caolyn Watters (Faculty of Computer Science) was appointed Associate Dean of the Faculty of Graduate Studies effective July 1, 2002, for a five-year term. The Faculty of Graduate Studies is fortunate to have the support of dedicated and professional staff from Financial Services and Personnel Services, faculty and staff in all our graduate programmes, and the Killam Trusts Office, who assist in the administration of the Killam programmes. We gratefully acknowledge the assistance provided by these individuals in contributing to the success of our Killam programmes.

Respectfully submitted,

Dr. Jan C.T. Kwak
Dean, Faculty of Graduate Studies



Appendices

Annual Report to the Killam National Conference 2002

Appendix 1: 2002 Killam Memorial Scholarship Competition Selection Committee

<u>NAME</u>	<u>DEPARTMENT</u>
John Hill (Chair)	Mining & Metallurgical Engineering
David Egan (Coordinating Chair)	Acting Associate Dean, Faculty of Graduate Studies
Neil Burford	Chemistry
Kenneth Renton	Pharmacology
Richard Brown	Psychology
Philip Girard	Law
Barbara Keddy	Nursing
Carol Putnam	Health & Human Performance
Ismet Ugursal	Mechanical Engineering
Z. David Chen	Mechanical Engineering
George Cooper	Killam Trustee, Ex Officio
M. Ann McCaig	Killam Trustee, Ex Officio
John Matthews	Killam Trustee, Ex Officio
Robert Wyman	Killam Trustee, Ex Officio

Annual Report to the Killam National Conference 2002
Appendix 2: Izaak Walton Killam Memorial Scholarships

NEW & RENEWAL SUMMARY

TOTAL NEW AND RENEWAL 2002-2003

Total New Masters Degrees – Female	6
Total New Masters Degrees – Male	4
Total New Doctoral Degrees – Female	11
Total New Doctoral Degrees – Male	9
TOTAL NEW	30
Total Renewal Masters Degrees – Female	2
Total Renewal Masters Degrees – Male	2
Total Renewal Doctoral Degrees – Female	11
Total Renewal Doctoral Degrees – Male	19
TOTAL RENEWAL	34
TOTAL	64

SCHOLARSHIP SUMMARY 2001-2002

New Awards	\$367,066.67
Renewal Awards	\$438,400.00
Travel	\$10,000.00
TOTAL	\$805,466.67

Annual Report to the Killam National Conference 2002
 Appendix 2: Izaak Walton Killam Memorial Scholarships

NEW 2002-2003

Student	Department	Degree	Citizenship	Year of Eligibility	Gender	External Award	Total Killam Award
Hardie, David	Biology	PhD	Canadian	1 of 3	M	NSERC	\$1,900.00
Al Darbi, Muhannad	Chemical Engineering	PhD	Canadian	1 of 3	M	NSERC	\$1,900.00
Geng, Yong	Chemical Engineering	PhD	Chinese	1 of 3	M		\$25,200.00
Cheng, Karen	Chemistry	PhD	Canadian	1 of 3	F	NSERC & Sumner	\$8,266.67
Wood, Tabitha Eden	Chemistry	MSC	Canadian	1 of 2	F	NSERC	\$700.00
Mahmoud, Nesreen	Civil Engineering	PhD	Egyptian	1 of 3	F		\$25,200.00
Nouri, Alireza	Civil Engineering	PhD	Iranian	1 of 3	M		\$25,200.00
Feichtinger, Hans	Classics	MA	German	1 of 2	M		\$22,200.00
Lichodziejewski, Peter	Computer Science	MCSC	Canadian	1 of 2	M	NSERC	\$700.00
Willenbring, Jane	Earth Sciences	PhD	American	1 of 3	F		\$25,200.00
Ma, Changning	Elec & Comp Engineering	PhD	Chinese	1 of 3	M		\$25,200.00
Meek, Heather	English	PhD	Canadian	1 of 3	F		\$21,000.00
McGuire, Shana	French	PhD	Canadian	1 of 3	F	SSHRC	\$3,300.00
Fricker, Christophe	German	MA	German	1 of 2	M		\$22,200.00
Wilkinson, Nicholas	History	MA	Canadian	1 of 2	M		\$18,000.00
Porter, Alexis	International Development Studies	MA	Canadian	1 of 2	F		\$18,000.00
Hoshino, Richard	Mathematics & Statistics	PhD	Canadian	1 of 3	M	NSERC	\$3,700.00
Stewart, Connie	Mathematics & Statistics	PhD	Canadian	1 of 3	F		\$21,000.00
Taylor, Tara	Mathematics & Statistics	PhD	Canadian	1 of 3	F	NSERC	\$1,900.00
Yue, Jin	Mathematics & Statistics	PhD	Chinese	1 of 3	M		\$25,200.00
Kelly, Noreen	Oceanography	MSC	Canadian	1 of 2	F	NSERC	\$700.00
Richard, Cynthia	Pharmacology	PhD	Canadian	1 of 3	F	NSERC	\$3,700.00
Seaville, Victoria Kate	Philosophy	PhD	Canadian	1 of 3	F		\$21,000.00
Hatchard, Timothy D.	Physics	PhD	Canadian	1 of 3	M	NSERC & Sumner	\$1,900.00
Mummery, Jennifer L.	Physiology and Biophysics	MSC	Canadian	1 of 2	F	NSERC	\$700.00
Rosmarin, Danielle	Political Science	PhD	Canadian	1 of 3	F	SSHRC	\$3,300.00
Carr, Amy Christine	Psychology	PhD	Canadian	1 of 3	F	NSERC	\$1,900.00
Harker, Kenneth	Psychology	PhD	Canadian	1 of 3	M	NSERC	\$1,900.00
Walker, Kerry	Psychology	MSC	Canadian	1 of 2	F		\$18,000.00
Bell, Victoria	Sociology and Social Anthropology	MA	Canadian	1 of 2	F		\$18,000.00

Annual Report to the Killam National Conference 2002
 Appendix 2: Izaak Walton Killam Memorial Scholarships

RENEWAL 2002-2003

Student	Department	Degree	Citizenship	Year of Eligibility	Gender	External Award	Total Killam Award
Chen, Yu	Anatomy	PhD	Chinese	3 of 3	M		\$25,200.00
St. Maurice, Martin	Biochemistry	PhD	Canadian	4 of 3	M	NSERC	\$1,900.00
Bejder, Lars	Biology	PhD	Danish	4 of 3	M		\$25,200.00
Harley, Shelton	Biology	PhD	New Zealand	3 of 3	M		\$25,200.00
Liu, Rongzong	Biology	PhD	Chinese	2 of 3	M		\$25,200.00
Sharma, Mukesh	Biology	PhD	Indian	3 of 3	M		\$25,200.00
Webber, Jonathan	Chemical Engineering	PhD	Canadian	3 of 3	M		\$21,000.00
Kennedy, Catherine	Chemistry	PhD	Canadian	3 of 3	F	NSERC & Sumner	\$1,900.00
Lee, Felix	Chemistry	PhD	Canadian	3 of 3	M		\$21,000.00
Spinney, Heather	Chemistry	PhD	Canadian	3 of 3	F	NSERC & Sumner	\$0.00
O'Neill, Seamus	Classics	PhD	Canadian	2 of 3	M		\$21,000.00
Howse, Samuel	Computer Science	PhD	Canadian	2 of 3	M	NSERC	\$1,900.00
You, Mingli	Elec and Comp. Eng.	PhD	Canadian	2 of 3	M		\$21,000.00
Zhang, Xuguang	Elec and Comp. Eng.	PhD	Canadian	3 of 3	F		\$21,000.00
DiSanto, Michael	English	PhD	Canadian	2 of 3	M	SSHRC	\$3,300.00
Leitch, Rory	English	PhD	Canadian	2 of 3	M	SSHRC	\$3,300.00
Poetzsch, Markus	English	PhD	Canadian	2 of 3	M	SSHRC	\$3,300.00
Kallel, Raoudha	French	PhD	Canadian	3 of 3	F		\$21,000.00
Brown, Ralph	History	PhD	Canadian	2 of 3	M	SSHRC	\$3,300.00
Lafferty, Renee	History	PhD	Canadian	3 of 3	F		\$21,000.00
MacInnes, Joseph	Interdisciplinary	PhD	Canadian	2 of 3	M	NSERC	\$21,000.00
Dawe, Sandra	Microbiology	PhD	Canadian	4 of 3	F	NSERC	\$1,900.00
Riveroll, Angela	Microbiology	PhD	Canadian	2 of 3	F	NSERC	\$1,900.00
Haeryfar, S.M.	Microbiology	PhD	Canadian	3 of 3	M		\$21,000.00
Tan, Ernest Yoh	Pharmacology	PhD	Canadian	2 of 3	M	NSERC	\$1,900.00
Bahr, Peter	Philosophy	PhD	Canadian	2 of 3	M	SSHRC	\$3,300.00
Koffman, Jordon	Philosophy	MA	Canadian	2 of 2	M		\$18,000.00
Woodrow, Jennifer	Philosophy	PhD	Canadian	2 of 3	F	SSHRC	\$3,300.00
Peng, Yiran	Physics	PhD	Chinese	2 of 3	F		\$25,200.00
Brunk, Darren	Political Science	MA	Canadian	2 of 2	M		\$6,000.00
Birch, Cheryl	Psychology	PhD	Canadian	2 of 3	F	SSHRC	\$3,300.00
Garon, Nancy	Psychology	PhD	Canadian	2 of 3	F		\$21,000.00
Gregus, Andrea	Psychology	MSc	Canadian	2 of 3	F	NSERC	\$700.00
Goble, Erika	Sociology	MA	Canadian	2 of 2	F		\$18,000.00

Annual Report to the Killam National Conference 2002

Appendix 3: 2002 Killam Postdoctoral Fellowship Competition Selection Committee

<u>NAME</u>	<u>DEPARTMENT</u>
David Egan, Committee Chair	Acting Associate Dean, Faculty of Graduate Studies
Michael Cada	Electrical & Computer Engineering
Alan Fine	Physiology & Biophysics
Susan Howlett	Pharmacology
David Scott	Earth Sciences
Jennifer Smith	Political Science
Farid Taheri	Civil Engineering
Chris Watts	Biological Engineering
Bruce Grindley	Chemistry
Margaret Wood	Killam Administrator, Faculty of Graduate Studies
George Cooper, Q.C.	Killam Trustee, Ex Officio
M. Ann McCaig	Killam Trustee, Ex Officio
John Matthews	Killam Trustee, Ex Officio
Robert Wyman	Killam Trustee, Ex Officio

Annual Report to the Killam National Conference 2001
Appendix 4: Killam Postdoctoral Fellowships – New 2002

Name	Gender	Doctoral University	Discipline	Appointment Date	Research Topic
Sean Lawrence	M	University of British Columbia	English	September 2002	<i>Gifts on Stage: Generosity in Elizabethan Drama</i> , examining the question of generosity and exchange in Renaissance English drama.
Raymond Syvitski	M	University of British Columbia	Pharmacy	September 2002	Determining the structure and function of a small membrane-associated protein using NMR spectroscopy.
Petar Mitrasinovic	M	Florida State University	Chemistry	January 2003	The reactions of “peroxyl radical” based on the vitamin C reactions in a biological environment.
Kevin Strychar	M	Central Queensland University	Marine Biology	January 2003	Canadian deep-sea coral fauna, genetic exchange among populations & their resilience to climate change and environmental stress.

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Appendix 5: Killam Postdoctoral Fellowships – Continuing 2002

Name	Gender	Doctoral University	Discipline	Appointment Date	Research Topic
Murat Bac	Male	University of Alberta	Philosophy	October 2001	Relativism regarding conceptual schemes and forms of life.
Christian Bracher	Male	Munich Technical University	Physics	January 2002	Statistical mechanics of polymers: An ab initio approach towards the theoretical description of macromolecules
Christophe Douady	Male	Queen's University of Belfast	Biochemistry and Molecular Biology	May 2001	Lateral gene transfer among prokaryotes.
Moses Iziomon	Male	University of Freiburg	Atmospheric Science	September 2001	How GCMs account for the effect of atmospheric (particularly aerosols) and sky conditions (i.e. cloud cover) on surface radiation budget.
Lavinia Stan	Female	University of Toronto	Political Science	July 2001	Corruption in the Post-Communist World: The Romanian Case
Zhi Jian Wu	Male	Changchun Institute of Applied Chemistry	Chemistry	October 2001	DNA-protein cross-links
Ruth Fabian-Fine	Female	J.W. Goethe University	Neuroscience/ Psychology	January 2001	Electronmicroscopic investigation of developing synapses in a genetically manipulable organism, <i>Drosophila melanogaster</i>

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Appendix 6: 2002 Killam Chairs

<u>CHAIR</u>	<u>INCUMBENT</u>	<u>YEAR OF APPOINTMENT</u>
Materials Science	Mary Anne White	1997 (3-year extension to 2004)
Neuroscience	Ian Meinertzhagen	1997 (Chair terminated June 30, 2002)
Ocean Studies	Ransom Myers	1997 (3-year extension to 2004)
Petroleum Engineering	Rafiqul Islam	2000
Business Informatics	Philip Rosson	2002

Annual Report to the Killam National Conference 2002

Appendix 7: 2002 Killam Chair Reports

MARY ANNE WHITE, MATERIALS SCIENCE

Introduction

The main aim of my research concerns experimental investigations of properties of materials. Teaching interests are related, and mainly concern the relationships between structure of materials and their properties. In addition, a large portion of my time is dedicated to materials research initiatives both within Dalhousie University, and interacting with outside groups (other universities, government laboratories, industry, and funding agencies).

The following summarizes my activities during my sixth year as Killam Research Chair in Materials Science. (Note that during the previous year it was decided to extend my five-year term for an additional three years, to June 30, 2004.)

Ongoing Scientific Research

During the 2001-2002 academic year, the following research projects were ongoing:

- Thermal stability of inclusion compounds;
- Heat storage materials;
- Physical and chemical properties of nanomaterials;
- Thermoelectric materials;
- Thermochromic materials;
- Thermal properties of framework materials;
- Thermal stability of racemates.

All research was supported by NSERC Research programs, in addition to the Killam Funds. It was carried out with the assistance of two postdoctoral fellows, three PhD students, one MSc student, and two undergraduate summer students.

Publications

Journal Articles Published:

Thermal conductivity and heat capacity of Dianin's compound under pressure. O. Andersson, V. Murashov and M.A. White. *Journal of Physical Chemistry B* 106, 192-196 (2002).

Thermal Properties of Zeolites: Effective Thermal Conductivity of Dehydrated Powdered Zeolite 4A. V. Murashov and M.A. White. *Materials Chemistry and Physics* 75, 178-180 (2002).

Transport Properties of Na₈Si₄6. G.S. Nolas, J.-M. Ward, J. Gryko, L. Qiu and M.A. White. *Physical Review B* 64, 153201 (3 pages) (2001).

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A Method to Estimate Heat Capacities of Complex Inorganic Solids. L. Qiu and M.A. White. *Journal of Chemical Education* 78, 1076-1080 (2001).

Book Chapters Published:

Heat storage systems, 2002 McGraw-Hill Yearbook of Science & Technology, p. 151-153 (2001).

Egg-spllosion in "The Quirks and Quarks Question Book," McClelland and Stewart Ltd., Toronto, 2002.

Papers Accepted for Publication:

Dynamics of anions and cations in cesium hydrosulfide (CsHS, CsDS): Neutron and x-ray diffraction, calorimetry and proton NMR investigations. F. Haarmann, H. Jacobs, W. Kockelmann, J. Sender, P. Müller, C.A. Kennedy, R.A. Marriott, L. Qiu and M.A. White. *Journal of Chemical Physics* (in press).

Control of Particle Size and Surface Properties of Crystals of NaX Zeolite. B.-Z. Zhan, M.A. White, M. Lumsden, J. Mueller-Neuhaus, K.N. Robertson, T.S. Cameron and M. Gharghoury. *Chemistry of Materials* (in press).

Physical Properties of Materials: Development of a Combined Undergraduate/Graduate Course for Science Students. M.A. White. *Journal of Materials Education* (in press).

Cement: Its Chemistry and Properties. Douglas C. MacLaren and Mary Anne White, *Journal of Chemical Education* (in press).

Conference and/or Seminar Presentations

Thermochromic Mixtures. 17th IUPAC Conference on Chemical Thermodynamics, Rostock, Germany, August 2002. (Invited Lecture)

Stability of Clathrate Hydrates. Physics and Chemistry of Ice, St. John's, Newfoundland, July 2002. (Lecture)

Educating Ourselves. Union Carbide Award Lecture, Canadian Society for Chemistry Conference, Vancouver, June 2002. (Invited Lecture)

Thermoelectrics: New Materials by Design? McMaster University, May 2002. (Invited Seminar)

Materials Research: Its Role in Our Lives and in Atlantic Canada. APICS Undergraduate Physics and Astronomy Conference, Halifax, Nova Scotia, February 2002. (Invited Keynote Lecture)

Thermal Properties of Semiconductor Clathrates. Materials Research Society Meeting, Boston, November 2001. (Lecture)

Heat Conduction in Solids: From Structure-Property Relations to New Thermoelectric Materials. Quantum Design, San Diego, CA, November 2001. (Invited talk)

Heat Conduction in Solids: From Structure-Property Relations to New Thermoelectric Materials. Département de Chemie, Université Laval, October 2001. (Invited Seminar)

The Role of Thermodynamics in Understanding Thermoelectric Materials. Calorimetry Conference, Colorado Springs, July 2001. (Lecture)

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Appendix 7: 2002 Killam Chair Reports

Thermoelectrics: New Materials by Design? Hongkong University of Science and Technology, July 2001. (Invited Seminar)

Physical Properties of Materials: Development of a Combined Undergraduate/Graduate Course for Science Students. International Conference on Materials for Advanced Technologies, Singapore, July 2001. (Invited Lecture)

Thermal Properties of Zeolites. International Conference on Materials for Advanced Technologies, Singapore. July 2001. (Poster)

Panel discussion member, "Materials Education: Goals, Challenges, Opportunities". International Conference on Materials for Advanced Technologies, Singapore, July 2001. (Invited Panelist)

Teaching

During 2001-2002, I taught Chemistry/Physics 3303B (Materials Science, a third year class with two lectures and one tutorial per week for 14 weeks). This was the first time in recent years that a class had been given jointly as a Chemistry and Physics class, and, although the two classes had students with quite different backgrounds, it seemed to be successful. In addition, I participated (about 20% contribution) in the teaching of Chemistry 5205A (Statistical Thermodynamics, a graduate class).

Research Funds Raised:

Grants approved during the report period

- Canada Foundation for Innovation (International Program) \$10 million
(Led by B. Gaulin at McMaster University)
- NSERC Major Installation \$800,000
(Led by T.B. Grindley, Dalhousie)

+ several other smaller grants in which I was co-applicant.

In addition, a major effort was made in 2001-2002 to achieve funding from the Atlantic Innovation Fund to allow use of the \$3.5 million approved by the Canada Foundation for Innovation in 2002, for materials research facilities. Since the end of the 2001-2 year, we have learned that we have been successful in an application, which will provide \$6.4 million over the next five years for the Materials Technology Network for Atlantic Canada.

For the General Public

- Guest on one-hour phone-in on science, "Maritime Noon," CBC Radio, June 2002.
- Interviewed on "Quirks and Quarks", CBC Radio, May 2002. (Can airflow from a speeding car be used to provide power to the vehicle?)
- Guest on one-hour phone-in on any topic, "Maritime Noon Food Bank Special", CBC Radio, March 2002.
- Guest on one-hour phone-in on science, "Maritime Noon", CBC Radio, March 2002.
- Guest on "This Morning", CBC Radio, February 2002. (Road salt.)

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Appendix 7: 2002 Killam Chair Reports

- Guest on one-hour phone-in on science, "Maritime Noon", CBC Radio, December 2001.
- Interviewed on "Quirks and Quarks", CBC Radio, October 2001. (How are food calories determined?)
- Guest on one-hour phone-in on science, "Maritime Noon", CBC Radio, July 2001.
- Six-Pointed Snowflakes. Grade 1 students, William King Elementary School, Herring Cove, Nova Scotia, November 2001.
- Materials Science - A New Slant on Physics and Chemistry. Association of Science Teachers of Nova Scotia, Halifax, October 2001.
- Chemistry in Our Lives. National Launch of National Chemistry Week 2001, Halifax, October 2001.
- Organizer, National Launch of National Chemistry Week, October 2001.
- Phases of Matter: Not just solids, liquids and gases. Shad Valley Program, Dalhousie University, July 2001.

Service to the Academic Community

Dalhousie:

- Member, supervisory and examining committee, 10 MSc/MEng or PhD students supervised by other professors
- Member, planning committee for High School Science and Engineering Week, Dalhousie University
- Member, University Hearing Committee, Dalhousie University
- Member, PhD Chairs Panel, Dalhousie University
- Chair, Appointments Committee, Department of Chemistry, Dalhousie University
- Outreach Coordinator, Department of Chemistry, Dalhousie University
- Member, Search Committee for Tier II Canada Research Chair in Materials Degradation
- Chair, Search Committee for Tier I Canada Research Chair in NMR Studies of Materials
- Leader in ongoing discussions concerning formalization of Materials Science initiatives at Dalhousie University, and major funding initiatives, including matching funding for Canada Foundation for Innovation grant "Facilities for Materials Characterization". The former led to the founding in 2002 of the Institute for Research in Materials at Dalhousie University.

External:

- Member, Board of Directors, Canada Foundation for Innovation, responsible for allocation of more than \$1,000,000,000 in research infrastructure across Canada
- Associate Member, International Union of Pure and Applied Chemistry Commission I.2 on Thermodynamics
- Editor for Materials Science for McGraw-Hill Encyclopaedia of Science and Technology
- Member, Appeal Panel, NSERC
- Member, Chemistry Reallocations Committee, NSERC
- Member, NSERC/NRCan Greenhouse Gas Mitigation Grant Selection Committee
- Member, APICS (Atlantic Provinces Council on Sciences) Education Committee
- Member, International Council on Materials Education
- Trustee, Canadian Institute for Neutron Scattering

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Honours

- Appointed as founding Director, Institute for Research in Materials (IRM), Dalhousie University, 2002-2005.
- Recipient of The 2002 Union Carbide Award of the Chemical Institute of Canada for Chemical Education (“for outstanding contributions in the field of education in chemistry”); the Nova Scotia Minister of Education also passed a congratulatory resolution in the Legislature
- Elected Fellow, IUPAC (International Union of Pure and Applied Chemistry)

Goals (from my Dean's Report for 2001-2002)

My goals for 2002-2003 are:

- To see the Materials Characterization Facilities at IRM become operational, including the hiring of technical support staff and setting up of management structures;
- To set up the IRM structures and committees to achieve the Institute's goals, especially with regard to interactions between researchers at Dalhousie University, and with outside researchers at other universities, in industry and in government laboratories, through MatNet and other avenues.

These are in addition to my "regular" goals:

- To teach to the best of my ability;
- To interact with my graduate students and other members of my research group as much as possible;
- To discuss science and scientific matters with members of the general public.

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I.A. MEINERTZHAGEN, NEUROSCIENCECollaborative Visits

During the current year, new collaborations were initiated with laboratories in the United States, Europe and Japan, and existing collaborations continued with laboratories in Japan, Germany and Poland. This has involved collaborative visits to a number of laboratories, especially to the Jagiellonian University, in Kraków (Zoological Institute). I have collaborations with a former sabbatical visitor, Prof. Friedrich-Wilhelm Schürmann (Göttingen University); Prof. Bernd Hovemann (Bochum Universität); Dr. Tom Schwarz (Stanford University and Children's Hospital, Boston); Dr. Larry Zipursky (UCLA); Dr. Robert Wyman (Yale University); Dr. Steve Stowers (University of California, Berkeley); and Dr. Hugo Bellen (Baylor College of Medicine, Houston). The latter is an ongoing collaboration on synaptic mutants that is also being conducted with the lab of a former sabbatical visitor Dr. H.L. Atwood, and Dr. G. Boulianne (both at University of Toronto).

Visitors

At Dalhousie, I have hosted the following visitors from Europe and Japan: Dr. E. Pyza (Jagiellonian University, Kraków); Dr. F.-W. Schürmann (Georg-August-Universität, Göttingen); Dr. K. Yasuyama (Kawasaki Medical School, Japan); and Drs. M. Nakagawa and M. Tsuda (Himeji Institute of Technology, Japan). These visits have all resulted in some form of continued collaboration.

Supervision of trainees

I have supervised the following research trainees during the past year:

The following graduate students continued into their M.Sc. programs under my supervision during the report period. Mr. Xuetao Sun (B.Sc. Nankai University), who is working on the effects of dynamin over-expression in the *Drosophila* visual system; and Ms. Janice Imai (B.Sc. Carleton University), who is working on the nervous system of the tadpole larva in ascidians. In addition, Ms. Tara Edwards (B.Sc. Dalhousie University), who is working on the development of the *Drosophila* visual system was admitted to the Ph.D. program. I also continued to supervise Mr. Mohammed Loubani who was the Laing Prize winner of the Faculty of Science. I also examined three undergraduate honours theses in Biology.

Research personnel at the postdoctoral level who worked in my laboratory during all or part of the year of this report included the following. Dr. Jolanta Gorska (Ph.D., Kraków), a visiting postdoctoral fellow at the Jagiellonian University who worked on the gene *milton* in *Drosophila*. Dr. Ruth Fabian-Fine (Ph.D., Frankfurt) a Killam postdoctoral fellow, who worked on immuno electron microscopy of synaptic proteins and the mutant endophilin; Dr. Janusz Borycz (Ph.D., Polish Academy), a NATO Fellow who worked on HPLC methods to determine transmitter substances in the insect brain; Dr. M. Balys (Ph.D., Jagiellonian Univ., Kraków), who worked on tissue culture of the *Drosophila* visual system, Dr. Noel Da Silva (Ph.D., Karlsruhe), who worked on dark-adaptation in the *Drosophila* visual system, and a postdoctoral fellow, Dr. Wenbo Xu (Ph.D., La Trobe Univ., Melbourne), shared with Drs. J. Kreuzer and M. Jericho, who has worked in the Department of Physics on in-line laser holographic microscopy. In addition, two visiting postdoctoral fellows, Drs. S. Brown and W.A. Day (Ph.D., University of Auckland, NZ), spent a short collaborative period in my laboratory.

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Editorial and Reviewing Responsibilities

During the report year, I have served on the Editorial Board of the Journal of Comparative Neurology and as Section Editor of Arthropod Structure & Development. I have reviewed manuscripts for the Journal of Neurobiology, Journal of Comparative Neurology, Microscopy Research & Technique, and Arthropod Structure & Development.

Administrative Responsibilities

During the report year, I served as a Council Member, and Member of the Scientific Committee, of the International Society for Neuroethology; and as a Member of the Scientific Advisory Committee, Central European Conference of Neurobiology. In Canada I completed service on the Reallocations Committee of NSERC for GSC30/31: Integrative Animal Biology, continued service on the College of Reviewers for the Canada Research Chairs Program, and on the Canada Council, as a Member of the Selection Committee for Killam Fellows, as well as being a Nominator for the John D and Catherine T. MacArthur Foundation. Within Dalhousie, I have been a member of the Panel of Ph.D. Defence Chairs, and Director of the Neuroscience Institute. In connection with the latter, I have also served on the Steering Committee of the Brain Repair Centre.

2001 Dorothy J. Killam Lectures

During the report year, I organised the 2001 Series of the Dorothy J. Killam Lectures, delivered by three distinguished brain scientists under the theme Images of the Mind. The three lecturers and their lectures were: Dr. Colin Blakemore (Waynflete Professor of Physiology at the University of Oxford) who spoke on "Minds, Brains and Computers", Dr. Patrick Cavanagh (Professor of Psychology and member of the Vision Sciences Laboratory, at Harvard University), who spoke on "What Art Tells Us About the Brain"; and Dr. Gerald Fischbach (Vice President for Health and Biomedical Sciences at Columbia University), who spoke on "Brain Disorders: New Hope at the New Millennium". The series was widely held to have been a success.

Conferences Attended and Seminars Delivered 2001-

I have attended and given lectures at: A Society of Experimental Biology Symposium on Neurobiology and behaviour of insects: entering the post-genomic era, held at the University of Kent in Canterbury (April 2001); an International Conference on Invertebrate Vision, held in Bäkaskog Castle, Sweden (August 2001); an IV "Anton Dohrn" Workshop on New Perspectives in Tunicate Biology, held at the Stazione Zoologica of Naples, on Ischia (September 2001); a Ciona Annotation Jamboree held at the Joint Genome Institute, Lawrence Berkeley National Lab, Walnut Creek, CA; was a co-chair at a Gordon Conference on Visual System Development, held at Salve Regina College in Newport, RI; was a main speaker at the 9th Regional German Drosophila Meeting, held in Ruhr-Universität Bochum; and finally was invited to the European Ascidian Meeting, held in Marseille. I also organised a symposium on Sensory Processes in Arthropods for the Central European Conference of Neurobiology, in Kraków, Poland.

During visits to other academic institutions, I delivered seminars to the following: the Stazione Zoologica in Naples, Italy; and the Whitney Marine Laboratory, University of Florida; the Department of Biology, Queens University; the Department of Biology, University of New Brunswick; and the Zoological Institute of the Jagiellonian University, Kraków, Poland.

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Funding

I was awarded a renewal of my NIH grant from the National Eye Institute, at an increased level of US\$200,000 for each of the next 4 years and was also awarded a Fellowship from the John Simon Guggenheim Memorial Foundation, with a research gift of US\$27,000. I also retained the funding from a 5-year research grant from NSERC (\$71,500 p.a.) and a collaborative NSERC Genomics Grant (together with Drs. H.L. Atwood and G. Boulianne, from the University of Toronto, and H. Bellen, from Baylor College of Medicine) for a 3-year total to my laboratory of \$195,500.

PublicationsResearch Publications 2001-

- Meinertzhagen, I.A. and Sorra, K.E. (2001). Synaptic organisation in the fly's optic lamina: few cells, many synapses and divergent microcircuits. In: *Concepts and Challenges in Retinal Biology: A Tribute to John E. Dowling* (eds. H. Kolb, H. Ripps and S. Wu). *Progr. Brain Res.* 131, 53-69.
- Okada, T., Stanley MacIsaac, S., Katsuyama, Y., Okamura, Y. and Meinertzhagen, I.A. (2001). Neuronal form in the central nervous system of the tadpole larva of the ascidian *Ciona intestinalis*. *Biol. Bull.* 200, 252-256.
- Meinertzhagen, I.A. and Okamura, Y. (2001). The larval ascidian nervous system: the chordate brain from its small beginnings. *Trends Neurosci.* 24, 401-410.
- Xu, W., Jericho, M.H., Meinertzhagen, I.A. and Kreuzer, H.J. (2001). Digital in-line holography for biological applications. *Proc. Natl Acad. Sci. USA* 98, 11301-11305.
- Kreuzer, H.J., Jericho, M.H., Meinertzhagen, I.A. and Xu, W. (2001). Digital in-line holography with photons and electrons. *J. Phys.: Condens. Matter* 13, 10729-10741.
- Yasuyama, K., Meinertzhagen, I.A. and Schürmann, F.-W. (2002). Synaptic organization of the mushroom body calyx in *Drosophila melanogaster*. *J. Comp. Neurol.* 445, 211-226.
- Verstreken, P., Kjaerulff, O., Lloyd, T.E., Atkinson, R., Zhou, Y., Meinertzhagen, I.A. and Bellen, H.J. (2002). endophilin mutations block clathrin-mediated endocytosis but not neurotransmitter release. *Cell* 109, 101-112.
- Chuman, Y., Matsushima, A., Sato, S., Tomioka, K., Tominaga, Y., Meinertzhagen, I.A., Shimohigashi, Y. and Shimohigashi, M. (2002). cDNA cloning and nuclear localization of the circadian neuropeptide designated as pigment-dispersing factor PDF in the cricket *Gryllus bimaculatus*. *J. Biochem.* 131, 895-903.
- Pennetta, G., Hiesinger, P.R., Fabian-Fine, R., Meinertzhagen, I.A. and Bellen, H.J. (2002). *Drosophila* VAP-33A directs bouton formation at neuromuscular junctions in a dosage-dependent manner. *Neuron* 35, 291-306.
- Richardt, A., Rybak, J., Störtkuhl, K.F., Meinertzhagen, I.A. and Hovemann, B.T. (2002). Ebony protein in the *Drosophila* nervous system: optic neuropile expression in glial cells. *J. Comp. Neurol.* 452, 93-102.

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Book Chapters 2001-

Meinertzhagen, I.A. (2001). Plasticity in the insect nervous system. *Adv. Insect Physiol.* 28, 84-167.

Cole, A.G. and Meinertzhagen, I.A. (2001). Tail-bud embryogenesis and the development of the neurohypophysis in the ascidian *Ciona intestinalis*. In: *Biology of Ascidians* (eds. H. Sawada, H. Yokosawa, C.C. Lambert), pp. 137-141. Tokyo: Springer-Verlag.

Meinertzhagen, I.A. (2002). Cell lineage. In: *Encyclopedia of Evolution* (Ed. M. Pagel), Vol. 1, pp. 142-144. New York: Oxford University Press.

Research Manuscripts In Press

Fabian-Fine, R., Seyfarth, E.-A. and Meinertzhagen, I.A. (2002). Peripheral synaptic contacts at sensory neurons in arachnids and crustaceans: morphological and immunocytochemical characteristics. *Micr. Res. Tech.* 58(4): (in press, accepted 11/9/2001).

Xu, W., Jericho, M.H., Meinertzhagen, I.A. and Kreuzer, H.J. (2002). Digital in-line holography of microspheres. *Applied Optics* (in press, accepted 16/3/02).

Helfrich-Förster, C., Edwards, T., Yasuyama, K., Wisotzky, B., Schneuwly, S., Meinertzhagen, I.A. and Hofbauer, A. (2002). The extraretinal eyelet of *Drosophila*: development, ultrastructure and putative circadian function. *J. Neurosci.* (in press, accepted 13 August, 2002).

Borycz, J., Borycz, J.A., Loubani, M. and Meinertzhagen, I.A. (2002). tan and ebony genes regulate a novel pathway for transmitter metabolism at fly photoreceptor terminals. *J. Neurosci.* (in press, accepted 28 August, 2002).

Research Manuscripts Submitted

Stowers, R.S., Megeath, L., Gorska-Andrzejak, J., Meinertzhagen, I.A. and Schwarz, T.L. (2002). Axonal transport of mitochondria to synapses depends on Milton, a novel *Drosophila* protein. *Cell* (submitted).

Xu, W., Jericho, M.H., Meinertzhagen, I.A. and Kreuzer, H.J. (2002). Tracking particles in 3-D with in-line holographic microscopy. *Science* (submitted).

Pyza, E. and Meinertzhagen, I.A. (2002). The regulation of circadian rhythms in the fly's visual system: involvement of FMRFamide-like neuropeptides and their relationship to pigment dispersing factor. *J. Exp. Biol.* (submitted).

Hiesinger, P.R., Fischbach, K.-F., Bellen, H.J. and Meinertzhagen, I.A. (2002). Synaptic specification and synapse formation are uncoupled and activity-independent in the *Drosophila* visual system. *Neuron* (under revision).

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Summary of progress during the 5-year period as Killam Chair

My accomplishments during the duration of my Killam can be judged in various ways, some as simple numbers. For example, during the years I have held the Killam Chair in Neuroscience, I have published about 40 papers, roughly 40% of my total publications, and I have secured \$400,000 in annual operating funds from renewable sources, so as roughly to double the funds I held before the Killam commenced. In addition, as applicant or co-applicant, I have participated in equipment grant applications totalling more than \$6M. I have recently been awarded a Guggenheim Fellowship, partly based on accomplishments during the Killam. Likewise, I have been invited to serve on national and international selection committees, aided partly by the visibility conferred through the Killam award. Locally, I have served as Director of the Neuroscience Institute, and organized the successful 2001 Killam Lectures Series "Images of the Mind". In a more qualitative assessment, I have introduced a number of new research directions, which have opened up new opportunities for my laboratory. My postdoctoral fellows have been awarded NATO and Killam fellowships, and my graduate students NSERC and NSHRF studentships. From a personal perspective, the Killam chair has sponsored me in the most exciting and sometimes demanding phase of my research career yet, leading to new collaborations with domestic, US and overseas scientists and their trainees. My debt to the Killam Trust is enormous; and now, at the conclusion of my award, I would like to acknowledge that my gratitude to the Trust is no less.

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PHILIP ROSSON, TECHNOLOGY, INNOVATION AND MARKETING

Research Activities

Book chapters

Philip Rosson, "Sega Dreamcast: National Football Cultures and the New Europeanism," in *Corporate Nationalism: Sport, Cultural Identity and Transnational Marketing*, David L. Silk, David L. Andrews & C.L. Cole, eds., Oxford: Berg Publishers, 2003, in press.

Philip Rosson, "The Internet and Exporting: Canadian Success Stories," in *International Entrepreneurship: The Globalization of sme's Orientation, Environment and Strategy*, H. Etemad, ed., Cheltenham: Edward Elgar Publishing, 2002, in press.

Journal articles

F.H. Rolf Seringhaus & Philip J. Rosson, "Firm Experience and International Trade Fairs," *Journal of Marketing Management*, 17 (7-8), 2001, 877-901.

Philip Rosson, "Football Shirt Sponsorships: sega Europe and Arsenal FC," *International Journal of Sports Marketing and Sponsorship*, 3 (2), 2001, 157-183.

Conference Proceedings

Tony Schellinck & Philip Rosson, "Canadian Companies' Adoption of iso 9000 and 14000," *Proceedings, International Business Division, Administrative Sciences Association of Canada Conference, Winnipeg, 2002*, cd-rom.

Philip Rosson & Charles Davis, "Electronic Marketplaces: The View from Canada," *Proceedings, 17th International Conference on Industrial Marketing and Purchasing, Oslo, 2001*, cd-rom.

Kevin Donovan & Philip Rosson, "The Internet and Internationalization: Nova Scotia smes," *Proceedings, 17th International Conference on Industrial Marketing and Purchasing, Oslo, 2001*, cd-rom.

Submitted

Philip Rosson & Charles Davis, "Electronic Marketplaces and Innovation: The View from Canada," *Submitted to International Journal of Information Technology and Management, 2002*.

In progress

Mary Brooks & Philip Rosson, "Mergers & Acquisitions: The Corporate Visual Identity Dilemma." Research is at write-up stage.

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David Wolfe et al. I am one of 22 researchers working on a Major Collaborative Research Initiative funded by the Social Sciences and Humanities Research Council of Canada. The grant is \$2.5 million for a study of "Innovation Systems and Economic Development: The Role of Local and Regional Clusters in Canada," 1990. I am leading a study of the Halifax biomedical cluster. Research began in the summer of 2002.

Teaching Activities

Graduate Courses Taught

- Busi 6450 Marketing strategy (33 students)
- Busi 6409 Internet marketing (16 students)

Undergraduate Courses Taught

- Comm 3412 Internet marketing (44 students)
- Mgmt 2402 Marketing for public and non-profit organizations (33 students)

Graduate Student Supervision

- Hui Li, "Electronic Barter Systems," Master of Electronic Commerce, graduated in 2002

Service Activities

External Service

- Co-editor, Canadian Journal of Administrative Sciences, 2000–2002.
- Member of Editorial Board, Journal of Business Research, 1997–present.
- Reviewer of papers for International Business Division, Administrative Sciences Association of Canada Conference, Winnipeg; 2002,
- Member of the Editorial Board, Advances in International Marketing, JAI Press, 1990–present and Advances in Business Marketing and Purchasing, JAI Press, 1997–present.
- Reviewer of papers for Journal of International Business Studies & International Marketing Review, 1987–present
- Reviewer of Strategic Grant Applications, Social Science and Humanities Research Council of Canada, 1985–present.
- Member, Design in Business–Nova Scotia, Board of Directors, 1997–present

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Dalhousie Service

- Member Faculty of Graduate Studies Council, 2001–present
Curriculum Committee, 2001–present
Committee to appoint an Associate Dean of Graduate Studies, 2002
- Member Faculty of Management Workload Committee, 2002.
Bachelor of Management Program Committee, 2001– present
Building Committee, 2001–present
- Member School of Business Administration Council, 2001–present
MBA Program Committee, 2001–present
- Chair School of Business Administration Information Systems Committee, 2001–present.

Fundraising

- Iraj Fooladi & Philip Rosson, Social Sciences and Humanities Research Council of Canada awarded a grant of \$60,000 to support the publication of the Canadian Journal of Administrative Sciences, 2001.

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RANSOM A. MYER'S, OCEAN STUDIES

Ransom A. Myer's research group (9 graduate students, 4 postdoctoral fellows and 4 honours students and technical support personnel) carry out a diverse research program with over a million dollars per year of external funding from: NSERC, Canadian Foundation for Innovation, US National Marine Fisheries Service, Canadian Dept. of Fisheries and Oceans, Environment Canada, Nova Scotia Power, Inc, Conservation Council of New Brunswick, World Wildlife Fund, Canada Trust-Friends of the Environment Foundation, Pew Charitable Trusts, George Cedric Metcalf Foundation, Sloan Foundation, Pelagic Fisheries Research Program, Wildlife Habitat Canada.

Meta-analysis of Population Dynamics

We are unable to understand the population dynamics of marine species using the short time series we have available to us. We thus have developed methods to combine data across populations. This approach is revolutionizing our understanding of population dynamics, and how we manage fisheries.

Barrowman, N. J., R. A. Myers, R. Hilborn, D. G. Kehler and C. A. Field. 2003. The Variability among Populations of Coho Salmon in the Maximum Reproductive Rate and Depensation. *Ecol. App.* In press.

Barrowman, N.J. and R.A. Myers. 2002. A new graphical display for meta-analysis: the Raindrop Plot. *Am. Stat.* In press

MacKenzie, B. R., R.A. Myers, and K.G. Bowen. 2002. Stock-recruitment relationships and fish stock carrying capacity in aquatic ecosystems. *Mar. Eco. Prog. Ser.* In press.

Harley, S.J., R.A. Myers and A. Dunn. 2001. Is catch-per-unit-effort proportional to abundance? *Can. J. Fish. Aquat. Sci.* 58: 1705-1772.

Harley, S.J. and R. A Myers. 2001. Hierarchical Bayesian models of length-specific catchability of research trawl surveys. *Can. J. Fish. Aquat. Sci.* 58:1569-1584.

Myers, R.A. 2002. Recruitment: understanding density-dependence in fish populations. In P. Hart and J. Reynold [eds.] *Handbook of Fish Biology and Fisheries*, Blackwell.

Meta-analysis of Community Dynamics

In order to understand the relationship between marine species, we have developed methods to combine results across studies. These studies have shown critical links between the decrease in cod predation and the increase in snow crabs and northern shrimp.

Worm, B. and R. A. Myers. 2002. Top-down versus bottom-up control in oceanic food webs: a meta-analysis of cod-shrimp interactions in the North Atlantic. *Ecology.* In press.

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Montevecchi, W.A., D.K. Carins, and R.A. Myers. 2002. Predation on Atlantic salmon *Salmo salar* by gannets *Morus bassanus* in the Northwest Atlantic. *Can. J. Fish. Aquat. Sci.* 59: 602-612.

Worm, B. et al. 2002. Consumer versus resource control of species diversity and ecosystem functioning. *Nature*. 417: 848-851.

Movement and Conservation of Marine Turtles

Graduate Student Mike James has developed methods to study leatherback turtles in the northern part of their range, i.e. Nova Scotia, where much of the feeding occurs. He was the first person to study the feeding and migration of this species in the area, and has deployed 23 satellite transmitters that has fundamentally changed the way our understanding of this species.

Another student, Penny Doherty, has just completed a theses that demonstrated that leatherback turtles are declining in the North Atlantic as a whole, even though they are increasing in areas where they have been well protected.

Conservation of Pelagic and Coastal Sharks in the Northwest Atlantic

We have developed a new and robust method that we have applied to estimate the changes in abundance of 15 large and medium sized sharks in the Northwest Atlantic. We found declines in each of the species, almost all of the species declined by over 50% in the last 10 years. Using abundance indices for seventeen shark species from the largest dataset in the Northwest Atlantic, we clearly demonstrate serious declines in their populations over the past 8-15 years. Declines in scalloped hammerhead, white and thresher sharks, each estimated to be over 75% in the last 15 years, represent immediate conservation concerns. Similar exploitation pressure throughout the world's oceans suggests that these trends may be general.

Baum, J. K., R.A. Myers, D. Kehler. in review. Collapse of Shark Populations in the Northwest Atlantic. *Science*.

The Population Dynamics and Conservation of Alosids

With graduate student Jamie Gibson, we have developed methods to estimate and minimize the impact of tidal power stations on American shad, alewife, and blueback herring. Improved methods have been developed to estimate the abundance and carrying capacity of these species.

Gibson, A.J.F. and R.A. Myers. In press. A meta-analysis of the habitat carrying capacity and maximum reproductive rate of anadromous alewife in eastern North America. *Trans. Am. Fish. Soc.*

Gibson, A.J.F. and R.A. Myers. in press. A statistical, age-structured, life history based, stock assessment model for anadromous *Alosa*. *Trans. Am. Fish. Soc.*

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Gibson, A.J.F. and R.A. Myers. in press. Effectiveness of a High-Frequency Sound Fish Diversion System at the Annapolis Tidal Hydroelectric Generating Station, Nova Scotia. *N. Am. J. Fish. Manage.*

Gibson, A.J.F. and R.A. Myers. in press. A range extension of Meek's halfbeak (*Hyporhamphus meeki*). *Can. Field Nat.*

Gibson, A.J.F. and R.A. Myers. 2002. A logistic regression model for estimating turbine mortality at hydroelectric stations. *Trans. Am. Fish. Soc.* 131: 623-633.

Techniques to Improve Fish Stock Assessments

An important focus of my research and graduate student training is the assessment and management of Canadian fish stocks.

Myers, R.A. 2002. Fisheries. In *The Encyclopedia of Environmetrics*. Wiley.

Myers, R.A. and T. J. Quinn II. 2002. Estimating and testing non-additivity in fishing mortality: implications for detecting a fisheries collapse. *Can. J. Fish. Aquat. Sci.* 59: 597-601.

Kehler, D.G., Myers, R.A. and C. A. Field. 2002. Measurement Error and Bias in the Maximum Reproductive Rate for the Ricker Model. *Can. J. Fish. Aquat. Sci.* 59: 854-864.

Cadigan, N.G. and R.A. Myers. 2001. A comparison of gamma and lognormal maximum likelihood estimators in a sequential population analysis. *Can. J. Fish. Aquat. Sci.* 58: 560-567.

Stenson, G.B., M.O. Hammill, M.C.S. Kingsley, B. Sjare, W.G. Warren, and R.A. Myers, 2002. Has pup production of Northwest Atlantic harp seals, *Phoca groenlandica*, increased? *ICES J. Mar. Sci.* 59:81-92.

Myers, R.A., N.J. Barrowman, R. Hilborn, and D.G. Kehler. 2002. Inferring the Bayes priors with limited direct data with applications for risk analysis and reference points. *N. Am. J. Fish. Manage.* 22: 351-364.

The Population Dynamics of Fish

Myers, R.A. in press. Extinction risk in marine species. In E.A. Norse and L. Crowder [eds.] *Marine conservation biology: the Science of Maintaining the Sea's Biodiversity*, Island Press.

Myers, R.A. 2001. Stock and recruitment: Generalizations about maximum reproductive rate, density dependence and variability. *ICES J. of Mar. Science.* 58:937-951.

Fogarty, M.J., R.A. Myers and K.G. Bowen 2001. A comparative analysis of recruitment in cod and haddock. *ICES J. of Mar. Science.* 58: 952-961.

Myers, R.A., B.R. MacKenzie, K.G. Bowen, and N.J. Barrowman. 2001. What is the carrying capacity of fish in the ocean? A meta-analysis of population dynamics of North Atlantic cod. *Can. J. Fish. Aquat. Sci.* 58: 1464--1476.

Rose, K. A., J. H. Cowan, K. O. Winemiller, R. A. Myers and R. Hilborn. 2002. Compensatory Density-Dependence in Fish Populations: Importance, Controversy, Understanding, and Prognosis. *Fish and Fisheries.* 2:293-327.

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Fromentin, J.M., R.A. Myers, O.N. Bjrnstad, N. C. Stenseth, J. Gjoseter, and H. Christie, 2001. Effects of density-dependent and stochastic processes on the regulation of cod populations. *Ecology*. 82 (2): 567-579.

The Conservation of Deepwater Sponges

My graduate student Susanna Fuller has developed an extensive program to examine the (FROM NGS proposal). She has completed one submersible cruise (the Alvin), two cruises using robotic submarines. She has found species that were previously unknown to the region. Her research has documented the rapid decline sponge species due to trawling.

The History of Marine Life

The present state of marine life cannot be understood except in terms of the past, and the exploited systems. We have documented some of these changes, and identified the large effect that catch rates of cod have had on the settlement of Atlantic Canada.

Myers, R.A. 2001. Testing ecological models: The influence of catch rates on settlement of fishermen in Newfoundland from 1710 to 1833. *Res. in Mar. Hist.* 21: 13-29.

The Future of Marine Life

In June, I organized an international meeting at the request the Sloan Foundation to focus on the future of marine animal life, which is the modelling component of the Census of Marine Life. A follow up proposal is being considered that will organize a worldwide effort to model and predict the future of marine life based at Dalhousie.

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RAFIQ ISLAM, PETROLEUM ENGINEERING

Awards/Scholarships Received

By R. Islam:

- Einstein Gold Medal, Russian Republic (Highest honor from the Russian Academy of Natural Science)

By R. Islam's Students:

- Muhannad Al-Darbi, Killam Memorial Scholarship
- Alireza Nouri, Killam Memorial Scholarship
- Muhannad Al-Darbi, NSERC Graduate Research Scholarship
- Nancy Bjorndalen, Outstanding Productivity Award (by Industry, administered by Civil Eng. Dept.)
- Shabbir Mustafiz, Innovation Award (by Industry, administered by Civil Eng. Dept.)
- Alireza Nouri received Meyerhof Fellowship
- Several students received Bruce and Dorothy Rosetti Engineering Research Scholarship Awards

International Activities

1. Sept, 2002, Met with Doug Hall Founder and CEO, Lord of Threshfield, USA, developed strategy for collaboration on research and economic development.
2. June, 2002, Met with NOG leaders, Bank executives to discuss collaborative research and joint venture economic development programs in Bangladesh.
3. Jan., 2002, Met with the Director of Solar Research Institute and Tabbin Institute in Egypt to discuss collaborative research initiatives. One of world's largest solar furnace is being transferred to Egypt from Tazakstan.
4. Jan. 2002, Met with the Director General of AES (Tazakstan) that employes 12 PhDs and numerous other scientists. A research collaboration agreement is scheduled to be signed in April, 2002.
5. Jan. 2002, Met with the Head of Media Relations, OPEC.
6. Met with Maj.Gen. Parvez Akmal (CEO, OGDCL, Pakistan) along with two directors to initiate future collaboration in research and training, Jan. 2001; led to the consolidation of OGTI to focus on research and professional development. Met with him in Jan. 2002 and future collaboration agreement in place.

National And International Initiatives

1. Received 2.5 million dollars research grant from AIF and 3 million dollars from several industry partners (both cash and in kind) to conduct four interdisciplinary research projects in oil and gas.
2. Developed a consortium of R&D intensive companies for conducting research in interdisciplinary topics in Atlantic Canada. The members being from various Asian, Middle Eastern, and companies from the Americas.

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Appendix 7: 2002 Killam Chair Reports

Media Coverage Of Islam's Research Activities

Television:

- Global TV (April, 2002), Interview with Stacey Bailey regarding Mideast Energy Policy.
- Newspaper/Magazine:
- Daily News (July 15, 2002), Article by L. Well, outlining Islam's research activities and future directions.
- Ocean Resources (Jan., 2002; August, 2001), Oil and Gas Program at Dalhousie.

New Faculty Recruitment

1. Member of the Search Committee for CRC Chair on Materials.
2. As the Killam Chair at Dalhousie University, played key role in receiving good applicants in Civil Engineering for several positions that recently opened up (Dr. Liu and Dr. Lake). Was also instrumental in several adjunct faculty appointments (e.g. Dr. Q. Malik, Dr. H. Mann, Dr. K. Lee)

Faculty Mentoring

Has written more than 15 proposals with over a dozen collaborators from various disciplines; one faculty member (Mining) received his NSERC operating grant after the 3rd attempt; several others participated in NSERC CRD and NSERC Strategic grant proposal submission for the first time; first submission with interdisciplinary format. AIF proposal included some dozen faculty members from various disciplines and will include more than 30 researchers from 11 disciplines.

Collaboration With Other Professionals

1. Dr. G. Kipouros, Mining Engineering, wrote two proposals for AIF.
2. Dr. E. Gunn, Civil Eng., wrote several proposals on AIF and NSERC initiatives.
3. Dr. Vaziri, BP, Houston, on the CRD NSERC/ACPI project.
4. Dr. J. MacKinnon, Mechanical Engineering, wrote a paper on petroleum engineering education.
5. Dr. M. Satish, Civil Eng., wrote several proposals on AIF and NSERC initiatives.
6. Dr. F. Taheri, Civil Eng., wrote several proposals on AIF and NSERC initiatives.
7. Dr. J. Pinter, Appl. Mathematician, wrote several proposals on AIF and NSERC initiatives.
8. Dr. M. Rahman, Applied Mathematician, wrote several proposals on AIF and NSERC initiatives.
9. Dr. S. Armstrong, Microbiologist, wrote several proposals on AIF initiatives.
10. Dr. G. Gagnon, Environmental Eng., wrote several proposals on NSERC and AIF initiatives.
11. Dr. S. Butt, Metallurgical Engineer, wrote several proposals on NSERC CRD and AIF Initiatives;
12. Dr. D. Scott, wrote a proposal for AIF and other initiatives.

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Editorial Responsibility

1999-present Guest Editor, J. Pet. Sci. Eng.
1999-present Guest Editor, Energy Sources

Service For National And International Organizations

2000-present Chairman, Advisory Council, International Energy Foundation.
2000-present Director, Executive Committee, CIM Nova Scotia.
2002-present Director, Executive Committee, SPE Maritime Section.

Conference Organization And Chairmanship

Jan., 2002 Member, MPC-02 (IEF) Organizing Committee and Chair for 3 sessions and panel discussion.
Oct., 2001 Member and Chair for 3 sessions (Offshore Energy, Material degradation, and Environmental Management), CSChE Annual Conference Program Committee.

Graduate Courses Taught

1. Reservoir Engineering I, Fall, 2001
2. Reservoir Engineering II, Spring, 2002
3. Directed Study (Advanced Numerical Methods in Energy and Environmental Systems) (10 students), Spring, 2002.
4. Directed Study (Emerging Technologies in Energy, Environment and Communication Systems) (9 students), Fall, 2002.

Research Grants Received In 2002

<i>Year</i>	<i>Project</i>	<i>Funding Agency</i>	<i>Amount (Cdn)</i>
2002	A fully coupled integrated virtual reservoir: the ultimate in oil and gas reservoir management	Atlantic Innovation Fund (AIF) and Industry	\$ 5.5 million
2002	Biodegradation and toxicity of oil weathered in sea water	DFO	\$ 19,250
2002	Feasibility Studies for the Use of Oil Mineral Aggregates (OMA) Formation in Ice Infested Waters as an Oil Spill Countermeasure	DFO	\$ 18,975

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HQP Training

Postdoctoral Fellow/Visiting Scholars:

1. M. Tango, PhD in Biological Engineering
2. K. Agha, PhD in Mechanical Engineering
3. Ms. M. B. Ertiken, PhD in Economics, Associate Professor in Turkey (Sept., 2002; started project on Energy Policy)
4. Prof. Y. Kattanah, PhD in Geology, former Prof. in Turkey (Sept. 2002-present)
5. Prof. J. Biazar, PhD in Mathematics (July, 2001-Dec., 2001; July-Sept., 2002)
6. Prof. V. Serebryakov, PhD in Geophysical Engineering (Sept. 2002-present)
7. Dr. L. Serebryakov, PhD in Geology (Sept. 2002-present)
8. Dr. Xiao, PhD in Civil Engineering (Sept. 2001-present), co-supervised by Dr. Vaziri.
9. Dr. T. Cheema, PhD in Geological Engineering (Summer, 1999 at the University of Regina; scheduled to return in Summer of 2002)
10. Q. Malik, PhD in Petroleum Engineering (during 1998-2000 at the University of Regina)
11. E. Choi, PhD in Chemical Engineering (during 1994 at South Dakota School of Mines and Technology)

Graduate Students (current):

12. H. Belhaj, BS in Pet. Eng., MS in Mining Eng., PhD student (Aug., 2001-present) Topic: "Reservoir Characterization for a Fractured Formation"
13. Muhannad Al-Darbi, BS and MS in Chem. Eng., PhD student (Sept., 2000-present) Topic: "New Materials for Corrosion Prevention".
14. Ali Reza Nouri, BS and MS in Civil Eng., PhD student (Sept., 2000-present) Topic: "Numerical and Experimental Modeling of Depletion Induced Sanding".
15. Nancy Bjorndalen, PhD student, MSc in Civil Eng., BS in Industrial Eng., Topic: to be decided (Sept. 2002-present)
16. Shabbir Mustafiz, PhD student, MSc and BS in Civil Eng., Topic: Chaos in Geo-environmental Systems. (Sept. 2002-present)
17. A. Basu, PhD (Aug., 2001-present), MSc in Chem. Eng., Topic: "Multi-component adsorption in heavy metal transport through porous media".
18. I. Khan, PhD student (Jan. 2002-present), MSc in Marine Management (Dal), "Ecosystem Management in Energy Production".
19. Y. Mehedi, PhD student (Jan. 2002-present), MSc in Marine Management (Dal), "Environmental Impact of Energy Production".
20. Arries S., PhD student in Mech. Eng., BS and MS in Mechanical Engineering, Topic: Offshore Structure Monitoring (Sept. 2002-present).
21. K. Bukhari, MSc student (Jan. 2002-present), BS in Chem. Eng., "Experimental and Numerical Modeling of Unstable Flow Through Porous Media".

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22. L. O. Ajjolaiya, MSc student (May, 2002-present), BS in Civil Engineering, "Experimental and Mathematical Modeling of In Situ Emulsification in Porous Media".
23. Ms. N. Saeed, MSc student (Jan., 2002-present), BS in Chem. Eng., "Novel Methods for Prevention of Microbial Corrosion".
24. S. Patwary, MSc student (Jan. 2002-present), BS in Urban Planning, Topic: "Propagation of arsenic in groundwater reservoirs".
25. M. Moniruzzaman, BS in Chem. Eng., MSc student, Topic: "Downhole separation of oil and water", Sept. 2002-present.
26. M. Shahedur Rahman, BS in Civil Eng., MSc student, Topic: to be decided, Sept., 2002-present.
27. O.I. Aziz, BS in Civil Eng., MSc student, Topic: A Novel downhole stiffener.
28. M. Azizur Rahman, BS in Mechanical Engineer, MSc Student in Mechanical Eng., Topic: A Novel perforation tool. (Sept. 2002-present)
29. R. Hoda, BS in Civil Engineering, MSc Student, Topic: to be decided (Sept. 2002-present)
30. Sarath P Panawalage, BS and MEng in Mining Eng., MSc student in Applied Mathematics, topic: In-situ measurement of permeability (Sept. 2002-present)
31. M. Wasim Siddiqui, BS and MSc in Mathematics, MSc student in Applied Mathematics, topic: In-situ relative permeameter (Sept. 2002-present)
32. Haroon Mohammad, MA student in Political Science, topic: New Economic Development Models (Sept., 2002-present)
33. M. Saifur Rahman, BS in Civil Eng., MSc student, topic: "Experimental and Numerical Modeling of Arsenic Remediation with Fish Scales", Sept. 2001-present.

Graduate students (completed):

34. J. Akhtar, MSc student (Sweden), BS in Chem. Eng., "Novel Methods for Acid Gas Removal", MSc degree given from Sweden, research supervised under Dr. Islam, currently employed as a Plant Engineer at Britex in Bridgetown, Nova Scotia.
35. Ziead Muntasser, MSc student (Jan., 2001-Feb., 2002) BS in Mech. Eng., Topic: "Corrosion Prevention in Harsh Climate Conditions", thesis completed Jan., 2002, currently in New York working for EVYONEX.
36. Mushfiqua Zaman, MSc student, (August, 2001-Aug. 2002), BS in Computer Eng., Topic: "Remote sensing of petroleum residues", thesis defended in July, 2002, moved to USA.
37. M. Hafizur Rahman, MSc (Aug., 2001-Aug., 2002), BS in Chem. Eng., Topic "Experimental and Numerical Studies of Arsenic Removal with Wood Ash from Aqueous Streams", thesis defended in Sept. 2002, plans to enroll in PhD program in Jan., 2003.
38. Nancy Bjorndalen, PhD student, (Sept., 2001-Aug., 2002) BS in Industrial Eng., Topic: "Novel Techniques for Cleaning Horizontal Wellbores", MSc thesis defended in August, 2002, now enrolled in PhD.
39. Shabbir Mustafiz, PhD student, (Sept. 2001-Aug., 2002), BS in Civil Eng., Topic "Novel methods for remediating heavy metal contamination in aqueous streams", MSc thesis defended in August, 2002, now enrolled in PhD.
40. Talia Ara, MSc (May, 2000-April, 2002), MSc student, BS in Chem. Eng., Topic: "Modifications of Archie's Law for Dolomite Reservoirs", thesis completed in April, 2002, moved to USA.

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41. Ali Reza Soleimaninazar, visiting PhD student, MS in Chem. Eng.(June, 2000-present) Topic: "Thermodynamic Hydrodynamic Modeling of Wax Deposition during Crude Oil Transport", dissertation to be defended in Nov., 2001.
42. Wasiuddin, N., MAsC student (Jan., 2001-March, 2002) Topic: "Utilization of Petroleum Drilling Waste", thesis defended in February, 2002, currently a PhD student in Oklahoma University, USA.

Undergraduate research students:

1. Deanne Kelly (Oct., 2001-present): Novel methods for enhanced oil recovery.
2. Craig Sampson (Sept., 2001-present): Novel Drilling Techniques.
3. A Labecki (Aug. 2000-Dec., 2000): Chaos in Porous Media.
4. Yasmeen Mohiuddin (May-Aug., 2002), Journalism student, Carlton University: Energy Policy Research.

Thesis Advisory/Examining Committee:

1. Trevor Dykstra, MAsC, Civil Eng. Dept, Dalhousie University, 2002.
2. Sila Dharma, I.B., PhD, Civil Engineering, Dalhousie University, 2001.

List Of Publications In The Reporting Year

Refereed Publications

In press:

1. Siddiqui, S., Talabani, S., Saleh, S., and Islam, M.R., "Foam Flow in Low-Permeability Berea Sandstone Cores: A Laboratory Investigation", J. Pet. Eng. Sci. Eng., in press.
2. Siddiqui, S., Talabani, S., Yang, J., Saleh, S., and Islam, M.R., "An Experimental Investigation of the Diversion Characteristics of Foam in Berea Sandstone Cores of Contrasting Permeabilities", J. Pet. Sci. Eng., in press.
3. Vaziri, H.H., Lemoine, E., Xiao, Y., and Islam, M.R., "Physical modeling study of the influence of shale interbeds and perforation sequence on sand production", J. Pet. Sci. Eng., in press.
4. M. AlDarbi, K. Lee, H. Mann, M. R. Islam, "Biodegradation of Natural Oil and Sea Water", Energy Sources, in press.
5. AlAwadhy, F., Abou-Kassem, J.H., Islam, M.R., "Experimental and Numerical Modeling of Sulfur Plugging in a Carbonate Reservoir", Energy Sources, accepted for publication.
6. Aboudheir, A., Tontiwachwuthkul, P., Chakma, A., Islam, M.R., "Experimental and Numerical Modeling of a Chemically Active Laminar Jet", Chem. Eng. Commun., in press.
7. J. Biazar, E. Babolian, M.R. Islam, "Solution of a System of Volterra Integral Equations of the First Kind by Adomian Method", accepted for publication in Applied Mathematics and Computation, in press.
8. J. Biazar, E. Babolian, M.R. Islam, "An alternate algorithm for computing Adomian polynomials in special cases Journal", Applied Mathematics and Computation, in press.

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9. J. Biazar, M. Tango, E. Babolian, and M.R. Islam, "Solution of the kinetic modeling of lactic acid fermentation using Adomian decomposition method", *Applied Mathematics and Computation*, in press.
10. A. Nouri, H. Vaziri, M.R. Islam, "A New Theory and Methodology for Modeling Sand Production", *Energy Sources*, in press (accepted Feb. 23, 2002).
11. N.M. Wasiuddin, M. Tango, M.R. Islam, "A Novel Method for Arsenic Removal at Low Concentrations", *Energy Sources*, in press (accepted Feb. 23, 2002).
12. M. AlDarbi, M. Jaralla, M.R. Islam, "The Inhibitive Characteristics of Mixed Inhibitor Combinations Under Heat and Mass Transfer Conditions", *Energy Sources*, in press (accepted Feb. 23, 2002).
13. M. AlDarbi, and M.R. Islam, "Control of Microbial Corrosion Using Coatings and Natural Additives", *Energy Sources*, in press (accepted Feb. 23, 2002).
14. S. Mustafiz, A. Basu, O. Chalaal, A. Dowaidar, M.R. Islam, "A Novel Method for Heavy Metal Removal", *Energy Sources*, in press (accepted Feb. 23, 2002).
15. deMontigny, D., Tontiwachwuthkul, P., Chakma, A., Islam, M.R., "Comprehensive Modeling of a Membrane for Multicomponent Gas Separation", *Chem. Eng. Commun.*, in press.
16. Zhong, L., Kaleli, H.A., and Islam, M.R., "The Performance of Two Types of Bacteria for Plugging Highly Permeable Porous Media", to be published in *Env. Chemistry and Toxicology*, accepted in April, 1998.
17. Nouri, A., Vaziri, H., Al-Darbi, M.M., Islam, M.R., "Deflection criteria for numerical assessment of the sand production potential in an openhole completion". Accepted for publication in *Energy Sources*.

Published:

Book Review

18. Islam, M.R., 2001, Book Review on *Gas Migration and Events Preceding Earthquakes* by Khilyuk, L.F., Chilingar, G.V., Robertson, J.O., Jr., and Endres, B., 2000, Gulf Publishing Co., *J. Pet. Sci. Eng.*, vol. 29 (1), 83-84.

Refereed Book Contributions:

19. M.R. Islam, et al., 2002, "Mathematical Modelling of Abnormally High Formation Pressures", *Abnormally High Pressure Reservoirs*, G.V. Chilingar, Serebryakov, V.A., and Robertson, J.O., Jr., (eds.), Elsevier, Amsterdam, 311-351.
20. M.R. Islam, 2001, Foreword, *Petroleum Geology of the South Caspian Basin: Description of Selected Oil and Gas Reservoirs* by L. A. Buryakovsky, G.V. Chilingar, F. Aminzadeh, Gulf Publishing, Boston, MA.

Refereed Journal Publications:

21. Nouri, A., Komak Panah, A., Pak, A., Vaziri, H., Islam, M.R., 2002, "Evaluation of hydraulic fracturing pressure in a porous medium by using the finite element method", *August*, vol. 24, no. 8, 715-725.
22. M.S.A. Tango, and M.R. Islam, 2002, "Potential of Extremophiles for Biotechnological and Petroleum Applications", *Energy Sources*, June, vol. 24, no. 6, 543-559.

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23. M.R. Islam, 2002, "Emerging Technologies in Subsurface Monitoring of Petroleum Reservoirs", *Petroleum Res. J.*, vol. 13, 33-46.
24. M.Z. Saghir, M. Chacha, M.R. Islam, 2002, "Transient convection of Te doped GaSb induced by g-jitter", *J. Crystal Growth*, vol. 234 (2-4), 285-295.
25. M. Nejad, M. Z. Saghir, and M. R. Islam, 2001, "Role of Thermal Diffusion on Heat and Mass Transfer in Porous Media", *Int. J. Comput. Fluid Dynamics*, vol. 15, no. 3, 157-168.
26. Vaziri, H., Jalali, J.S., Islam, M.R., 2001. An analytical model for stability analysis of rock layers over a circular opening. *Int. J. Solids and Structures*, vol. 38, 3735-3757.
27. M.Z. Saghir, H. Vaziri, M.R. Islam, 2001, "Heat and Mass Transfer Modeling of Fractured Formations", *Int. J. Comput. Fluid Dynamics*, vol. 15, no. 4, 279-292.

Invited, Key-Note, And Panel Speeches

28. "Petroleum Engineering Education in the Information Age", SPE Dinner Speech, Nov. 3, 2002, Islamabad.
29. "Future of Petroleum Engineering: Excelling in the Information Age", Inaugural Seminar on Petroleum Engineering Seminar Series, Dalhousie University, Sept. 18, 2002.
30. "Energy, Environment, and Communication in the Information Age", Panel on Information Technology in Energy, Softworld-2002, Charlottetown, Prince Edward Island, Canada, Sept. 9, 2002.
31. "A Clean Environment and a Good Life - Can we have both on the same plate?" NDP Panel on Revitalizing Democracy, Halifax, July 5, 2002.
32. "Top 10 Misconceptions in Research and Economic Development", Keynote Speech, MPC-02, Seventh Mediterranean Petroleum Conference, Tripoli, Libya.
33. "Future of Petroleum Research", Seventh Mediterranean Petroleum Conference, Keynote Speech, MPC-02, Tripoli, Libya.
34. "Top 10 Misconceptions in Research and Economic Development", Keynote Speech, ICME-2001, International Conference in Mechanical Engineering, Dec., 2001, Dhaka, Bangladesh.
35. "International Opportunities in Collaborative Research", BUET, Bangladesh, July 2001.

Non-Refereed Conference Proceedings And Publications

36. H. Belhaj, A. Nouri, S. Butt, M.R. Islam, 2002, "Experimental Modeling of Matrix/Fracture Flow in Sandstone Reservoirs", *Proc. SPE Annual Technical Conference*, Islamabad, Nov., 2002.
37. H. Belhaj, A. Nouri, H. Vaziri, M.R. Islam, 2002, "Experimental Determination of the Effect of Pore Collapse on Permeability and Porosity of Sandstone Reservoirs", *Proc. SPE Annual Technical Conference*, Islamabad, Nov., 2002.
38. N.M. Wasiuddin, N. Ali, M.R. Islam, "Use of Offshore Drilling Waste in Hot Mix Asphalt (HMA) Concrete as Aggregate Replacement", paper no. EE 29168, ETCE '02, Feb. 4-6, 2002, Houston, Texas.

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Conference Presentations (Abstracts Only)

39. N. Saeed, M. AlDarbi, M.R. Islam, "A Novel Corrosion Resistent Cement", CSChE Conference, Vancouver, Canada, Oct., 2002.
40. H. Rahman, M.R. Islam, "A Novel Method for Removal of Arsenic from Aqueous Streams", CSChE Conference, Vancouver, Canada, Oct., 2002.
41. M. AlDarbi, K. Lee, H.Mann, M.R. Islam, "Biodegradation of Natural Oils", OTANS Conference, Halifax, Oct., 2002.

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Appendix 8: Killam Lecture Committee

<u>NAME</u>	<u>DEPARTMENT</u>
Jan Kwak (Committee Chair)	Faculty of Graduate Studies
James MacKinnon	Mechanical Engineering
Frederic Wien	Social Work
Steven Barnes	Physiology & Biophysics
Andrew Wainwright	English
Louise Carbert	Political Science
Ian Meinertzhagen (2001 Organizer)	Neuroscience
Peter Duinker (2002 Organizer)	Resource & Environmental Studies



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Appendix 9: 2002 Killam Lecture Series Organizing Committee

<u>NAME</u>	<u>DEPARTMENT</u>
Peter Duinker (Committee Chair)	Resource & Environmental Studies
Ulrike Lohmann	Physics
Bill Freedman	Biology
Robert Moore	Oceanography
Judith Guernsey	Community Health & Epidemiology

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Appendix 10: 2002 Dorothy J. Killam Memorial Lectures

Lecture 1: Global Warming: How Uncertain is the Look into the Future?

Speaker: Dr. Thomas Stocker

Wednesday, 09 Oct 2002, 8:00 pm

Ondaatje Auditorium, McCain Building, Dalhousie University

Do scientists understand the climate system well enough to support the IPCC prediction that the global mean temperature will rise between 1.4 and 5.8 degrees C by the year 2100? The latest climate-system models give a clear message: most of the observed warming over the last fifty years is attributable to human activities. The lecture will explore the nature of uncertainties in such climate modelling, as well as some key implications of unabated warming in northern regions. Dr. Thomas Stocker is Professor of Climate and Atmospheric Physics at the University of Bern, Switzerland. He studied environmental physics at ETH Zurich and was a postdoctoral fellow at University College (London), McGill University, and Columbia University. In his current research, he develops climate-system models to understand past and future climate changes at time scales of decades to hundreds of thousands of years. Dr. Stocker recently served as a Coordinating Lead Author and Contributor for the Third Assessment Report (2001) of the UN Intergovernmental Panel on Climate Change.

Lecture 2: Cumulative Effects of Climate Change and Human Use on Freshwater Communities

Speaker: Dr. David Schindler

Tuesday, 15 Oct 2002, 8:00 pm

Rebecca Cohn Auditorium, Dalhousie Arts Centre, Dalhousie University

Climate warming and human uses will lead to severe problems with freshwater quantity, quality and biodiversity. With warmer air and little change in precipitation, the increased evaporation can lead to large decreases in river flows. Concomitantly, lake levels decline, wetlands dry up, and groundwater availability declines. Associated water quality problems include eutrophication, acidification, exposure to UV radiation, pollution with pathogens and toxins, and invasions of alien species. Destruction of wetlands and riparian areas, along with other land-use changes, will further exacerbate the freshwater problem. Comprehensive watershed planning and water conservation measures are urgently needed to protect freshwaters in the remainder of the 21st century. Dr. David Schindler is Killam Memorial Professor of Ecology at the University of Alberta, Edmonton. From 1968 to 1989, he directed the Experimental Lakes Project in Northwestern Ontario, conducting interdisciplinary research on the effects of eutrophication, acid rain, climate change and other human insults on boreal aquatic ecosystems. Dr. Schindler now focuses his research on effects of climate warming, alien fish stocks, airborne contaminants and other human impacts on freshwaters of the Rocky Mountains. He has received numerous awards for his research, including the Volvo International Environment Prize in 1998 and the NSERC Gerhard Herzberg Gold Medal for Science and Engineering. In addition, he holds seven honorary doctorates from Canadian and US universities.

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Appendix 10: 2002 Dorothy J. Killam Memorial Lectures

Lecture 3: Climate Change: Does Global Warming Warrant a Health Warning?

Speaker: Dr. Tony McMichael

Wednesday, 23 Oct 2002, 8:00 pm

Ondaatje Auditorium, McCain Building, Dalhousie University

What consequences might we expect for human health due to continued global warming? While humans are better buffered against environmental stressors than any other species, we are still vulnerable to the wide spectrum of environmental hazards influenced by climate change. The lecture will touch on a wide range of human-health impacts ranging from severe weather events, heat waves, infectious diseases and altered water quality, to economic dislocation and population displacement. Most of the health impacts will be adverse. Adaptive policies and practices are needed immediately to lessen human vulnerability to the potential ravages of climate change. Dr. Tony McMichael studied medicine at the University of Adelaide in South Australia. Today he is Director of the National Centre for Epidemiology and Population Health at the Australian National University, Canberra, Australia. From 1994 to 2001, he was Professor of Epidemiology at the London School of Hygiene and Tropical Medicine. His current research deals with occupational diseases, diet and cancer, and environmental health hazards. Since 1994, Dr. McMichael has chaired the assessment of human-health risks for the UN Intergovernmental Panel on Climate Change.

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Appendix 11: Faculty of Science Killam Professorship Recipients

<u>NAME</u>	<u>DEPARTMENT</u>	<u>YEAR AWARDED</u>
Chris Beaumont	Oceanography	2002-2003
Richard Brown	Psychology	2002-2003
Amares Chatt	Chemistry	2001-2002
Richard Dunlap	Physics	2001-2002
Patrick McGrath	Psychology	2001-2002
Darcy Santor	Psychology	2001-2002
Henry (Hal) Whitehead	Biology	2000-2001
John Cullen	Oceanography	2000-2001
Ray Klein	Psychology	1999-2000
Rebecca Jamieson	Earth Sciences	1999-2000
Anthony Bowen	Oceanography	1998-1999
Neil Burford	Chemistry	1998-1999



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Appendix 12:

Chronicle Herald/Mail Star (Monday, October 29, 2001)



Congratulations to our Killam Scholars



The Killam Scholarships & Fellowships are among the most prestigious graduate awards in Canada. Established by Dorothy Killam in memory of her husband Izaak Walton Killam, these scholarships and postdoctoral fellowships attract the brightest and best students to Dalhousie University and Nova Scotia. The Faculty of Graduate Studies is proud to honour this year's recipients.

NEW IZAAK WALTON

KILLAM SCHOLARS

Peter Timothy Bahr
Cheryl Birch
Ralph Brown
Darren Brunk
Michael DiSanto
Nancy Garon
Erika Gobie
Andrea Gregus
Samuel Howse
Elizabeth Hughes
Jordan Koffman
Matthew Lafond
Roderick Leitch
Rongzong Liu
Angela Lizama
W. Joseph MacInnes
David Mitchell
Adam Nickerson
Seamus O'Neill
Barbara Osimani
Yiran Peng
Markus Poetzsc
Stephen Punshon
Ernest Yoh Tan
Jennifer Lee Woodrow
Mingli You

RENEWED IZAAK WALTON

KILLAM SCHOLARS

Audrey Barnett
Lars Bejder
Evelyn N. Bennett
Susan E. Boehnke

Catherine Brown
David Bryce
Beverly Butler
Mary Campbell
Amy Carr
Yu Chen
Theodore Chiasson
Nancy Clarke
Natalie Corbett
Sampson
Sandra Dawe
Lorraine DeVanthey
Nina DiStefano
Michael Ellery
Sarah Emsley
Shannon Fitzpatrick
Mansour Haeryfar
Jeff Hancock
Shelton Harley
Bonny A. Ibhawoh
Raoudha Kallel
Catherine Kennedy
Renee Nicole Lafferty
Claude Lapre
Ka Wai Helen Lau
Rosemary Laycock
Felix Lee
Lucian Livadaru
Douglas C. MacLaren
Mitja Mastnak
Ikechi Maduka Mgbeoji
John Allan Mitchell
Bruce Musgrave
Allyson O'Donnell
Luke Rendell

Matthew Robinson
Irena Rot-Nikcevic
Margaret Ruyak
Mukesh Sharma
Chanjuan Shi
Trond Slagstad
Sandra Sparkes
Heather A. Spinney
Martin St.-Maurice
Jingtian Wang
Rong Wang
Adrienne M. Wasik
Jonathan Webber
Carrie-Ann Whittle
Garnett Wilson
Reza Yahaghi
Xuguang Zhang

NEW KILLAM

POSTDOCTORAL FELLOWS

Murat Bac
Christian Bracher
Christophe Douady
Moses Iziomon
Lavinia Stan
Zhi Jian Wu

CONTINUING KILLAM

POSTDOCTORAL FELLOWS

Ruth Fabian-Fine
Howard Falcon-Lang
Serguei Iakovlev
Jörg Richstein
Renee Sylvain
Bi-Zeng Zhan

Congratulations to you all!

DR. JAN KWAK — *Dean of Graduate Studies*



Killam Memorial Scholarship Application Forms

**Nomination for Izaak Walton Killam Memorial Scholarship**
2002 Nomination Form for New Killam**Instructions:**

This form is to be used for new Killam nominations. This Microsoft Word version is to be filled out electronically and then printed.

Note: In order to be eligible for Killam Scholarship support, students must have applied for external awards for which they are eligible. This applies to students who have not yet commenced their programmes as well as those already in a graduate programme.

Section A is to be completed by the student. Note that not all sections are required for all categories of application. The information requested in Appendix A is for statistical purposes.

Section B must be completed in confidence by the student's research supervisor (or potential research supervisor) or by a Dalhousie faculty member who has detailed knowledge of the student's work.

Section C is for a Departmental recommendation.

Files must be submitted in duplicate, including all attachments.

Attachments:

1. Transcripts: Nominations must be accompanied by a copy of transcripts from all universities attended, including an up-to-date Dalhousie transcript from the Registrar's office.
2. Other support: Two or more letters of reference (e.g. admission letters) are required for all applicants. Copies of GRE scores or TOEFL scores or any other relevant information may be attached.

Name of the Nominee:**Banner ID#:**

New not at present registered in the Faculty of Graduate Studies at Dalhousie University, but already accepted to

Masters Programme in the Department/School of:

Doctoral Programme in the Department/School of:

Continuing not a Killam Doctoral Scholar at present, and registered in the Faculty of Graduate Studies at Dalhousie in the following program:

Masters Programme in the Department/School of:

Doctoral Programme in the Department/School of:

Transferred from Master's to Ph.D in the Department/School of

The date of transfer was

Section A

To be completed by the student or by the Graduate Coordinator for students not yet enrolled but accepted into the Faculty of Graduate Studies

Name:

Banner ID#:

Department/School:

Degree:

Mailing Address:

E-Mail Address:

University Degrees (including degrees in progress); include the Dalhousie graduate program into which you have been accepted if this application is in the NEW category):

University	Degree	Month/Year Started	Month/Year Completed/Expected	Subject

External Scholarships: In order to be eligible for Killam Scholarship support, students must have applied for external awards for which they are eligible. Please indicate any external scholarships currently held, including the name of the scholarship, the value per year, the start date, the end date and an indication of the renewal status (if it is renewable, please indicate when renewal application must be made). If you are not eligible for external scholarships, please explain.

Publications (published or in press only): Give all authors in the original order. Include the title, journal name, volume, year, first and last page numbers. Do **NOT** send copies. List publications on a separate page if necessary.

Section A, continued

Student Report (not to exceed 250 words): This section requests a brief research proposal or a report of the research undertaken to date, whichever is relevant. The proposal or report should indicate current programme of study and/or level of thesis preparation, and must be written in layperson's terms.

Section A, Appendix

To be completed by the student (or by the Graduate Coordinator for students not yet enrolled but accepted into the Faculty of Graduate Studies). The information requested here is intended for statistical use.

Name:

Banner #:

Department/School:

Degree Sought:

Gender: Male Female

Birthdate:

Place of Birth (City/Prov./Country):

Citizenship:

Section B

To be completed by the student's supervisor after Section A has been completed by the student

Student's Name:

Note: For new students, this section is optional. (It must be completed for all students currently enrolled in the program.) If not completing it, please indicate.

- Student has not yet arrived in the program, so there is too little information on which to make an informed statement.

Number of months of graduate work completed by the student in the current programme (indicate 0 if incoming student):

Anticipated date for completion of the degree is

Research progress and potential: The Killam Scholarship is awarded only to students demonstrating outstanding scholarly potential. Use this space to comment on the research progress and scholarly potential of the student. Include assessments of the candidate's preparedness, originality, industry and communication skills. Specific comparison with previous winners of competitive scholarships would be helpful. Please detail any particular attribute or achievement which, in your opinion, makes the candidate outstanding among the peer group. For a student in the program, please comment on the publication record in regard to the norm for this field.

Name of Supervisor:

Department:

Title:

Date:

Signature: _____

Section C

To be completed by the Departmental Chair or Graduate Coordinator

Student's Name:

The Killam Scholarship is a prestigious and highly competitive award. It is the responsibility of the nominating department to document adequately the scholarly ability or potential of the nominee. Inadequately documented files will be returned to the Department/School. Clear documentation of adequate progress is required for doctoral students currently enrolled at Dalhousie, but not holding Killam scholarships.

Ranking:

Of _____ graduate students at a comparable level presently enrolled in or accepted to this Department/School, this student may be ranked as _____.

Explain the method used to arrive at this ranking. For example, is 'comparability' defined by the degree level (Master's vs. PhD)? By the year in which the student is currently enrolled in one of these degrees?

Please comment also on each of the following criteria: completion of coursework with a grade of A- or better; timely completion (and passing) of comprehensive examinations; submission and/or approval of the thesis proposal; significance on publication venues (if pertinent).

For registered doctoral students who are not currently Killam scholars, specify other criteria for, or comments on, adequate progress not indicated above.

For students in the "NEW" category, comment on your Department's experience with graduate students from the same institution(s) as this nominee.

Section C, continued

Name of Graduate Coordinator or Chair:

Department:

Title:

Date:

Signature:

List of Attachments:

Transcripts: (copies of official transcripts from all postsecondary education **must** be included)

University	Years (Start – End)	Degree Obtained

Letters of Support (required for nomination of students not currently at Dalhousie [“New” category]; optional for all others):

Name	Position	University or Firm

- Copy of GRE score (if required for Admission)
- Copy of TOEFL score (if required for Admission)

Other (specify): (Optional)

Name (Graduate Coordinator or Department Chair):

Position:

Department:

Title:

Date:

Signature: _____

**Nomination for Izaak Walton Killam Memorial Scholarship
2002 Nomination Form for Killam Renewals****Instructions:**

This form is to be used for Killam renewal nominations. This Microsoft Word version is to be filled in electronically and then printed.

Note: In order to be eligible for Killam Scholarship support, students must have applied for external awards for which they are eligible. This applies to students who have not yet commenced their programmes as well as those already in a graduate programme.

The terms of the Killam will state clearly that scholarship renewals will be granted only "if the standard of work and the future plans of the scholar concerned justify such renewal".

Section A is to be completed by the student. The information requested in Appendix A is for statistical purposes.

Section B must then be completed in confidence by the student's research supervisor (or potential research supervisor) or by a Dalhousie faculty member who has detailed knowledge of the student's work.

Section C is for a confidential Departmental recommendation.

Files must be submitted in duplicate, including all attachments.

Attachments:

1. Transcripts: Nominations must be accompanied by a copy of an up-to-date Dalhousie transcript from the Registrar's Office. No other transcripts are required.
2. Other support: Other relevant information pertinent to the renewal process may be attached.

Name of the Nominee:**Banner ID#:****Renewal** A Killam Scholar applying for renewal of the scholarship for the Masters Programme in the Department/School of: Doctoral Programme in the Department/School of:

Section A
(To be completed by the student.)

Name:

Banner ID#:

Department/School:

Degree:

Mailing Address:

E-Mail Address:

Degree Currently in Progress:

External Scholarships: In order to be eligible for Killam Scholarship support, students must have applied for external awards for which they are eligible. Please indicate any external scholarships currently held, including the name of the scholarship, the value per year, the start date, the end date and an indication of the renewal status (if it is renewable, please indicate when renewal application must be made). If you are not eligible for external scholarships, please explain.

Publications (published or in press only): Give all authors in the original order. Include the title, journal name, volume, year, first and last page numbers. Do **NOT** send copies. List publications on a separate page if necessary.

Section A, continued

Student Report (not to exceed 250 words): This section requests a brief research proposal or a report of the research undertaken to date, whichever is relevant. Renewal of the Killam Scholarship will be awarded only upon presentation of evidence that the student has maintained the level of achievement for which the award was initially made. The proposal or report should indicate current programme of study and/or level of thesis preparation, and must be written in layperson's terms.

Section A, Appendix

To be completed by the student (or by the Graduate Coordinator for students not yet enrolled but accepted into the Faculty of Graduate Studies). The information requested here is intended for statistical use.

Name:

Banner #:

Department/School:

Degree Sought:

Gender: **Male** **Female**

Birthdate:

Place of Birth (City/Prov./Country):

Citizenship:

Section C

To be completed by the Departmental Chair or Graduate Coordinator

Student's Name:

The Killam Scholarship is a prestigious and highly competitive award. Renewal is by no means automatic. It is the responsibility of the nominating department to document adequately the scholarly achievement and potential of the nominee since the award was first made. Inadequately documented files may result in the Committee's decision not to renew the award. Clear documentation of adequate progress is required for doctoral students currently enrolled at Dalhousie, but not holding Killam scholarships.

Ranking:

Of _____ graduate students at a comparable level presently enrolled in or accepted to this Department/School, this student may be ranked as _____.

Explain the method used to arrive at this ranking. For example, is 'comparability' defined by the degree level (Master's vs. PhD)? By the year in which the student is currently enrolled in one of these degrees?

Please comment also on each of the following criteria: completion of coursework with a grade of A- or better; timely completion (and passing) of comprehensive examinations; submission and/or approval of the thesis proposal; significance on publication venues (if pertinent).

For registered doctoral students who are not currently Killam scholars, specify other criteria for, or comments on, adequate progress not indicated above.

Section C, continued

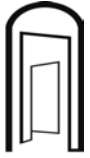
Name of Graduate Coordinator or Chair:

Department:

Date:

Signature: _____

Killam Postdoctoral Fellowship Guidelines and Application Form



Killam
Trusts

I ZAAK WALTON KILLAM
POSTDOCTORAL
FELLOWSHIP

Dalhousie
University



GENERAL QUALIFICATIONS

The intention of the Izaak Walton Killam Memorial Postdoctoral Fellowship program is to attract recently graduated scholars (within the past two years) of superior research ability to Dalhousie University, and to provide the recipients with the opportunity to establish themselves as productive members of the academic community. The doctoral degree is understood to be a degree awarded primarily for the completion of independent research which is publishable in the normal, refereed scholarly manner that is characteristic of a particular discipline.

Those persons who meet the above qualification, but hold a permanent academic position to which they will return will not, as a rule, be considered in this competition. Exceptions may be made in the case of individuals who, for example, are substantially changing their field of research or who come from countries in which immediate employment is guaranteed to all competent PhD holders.

There are no restrictions regarding nationality of applicants, but successful candidates must meet all Canadian Immigration requirements.

Since these Fellowships are intended to attract new scholars to Dalhousie, those scholars already at Dalhousie are not eligible to apply. You are not eligible to apply if you:

- a) hold a PhD or JSD degree from Dalhousie or are currently completing a PhD or JSD degree at Dalhousie.
- b) have held previously, or hold as of the application deadline, an appointment of any kind at Dalhousie or King's College. The word "appointment" is defined as any position receiving remuneration through either the Dalhousie or King's payroll offices.
- c) are physically at Dalhousie or King's from the beginning of the academic year (September 1st) in which the competition is held, and are funded independently of the above payroll offices.
- d) received your doctoral degree prior to January 1, 2000.

Questions of eligibility for these Fellowships are decided by the Associate Dean, Faculty of Graduate Studies, to whom any inquiries may be directed.

A Fellow may not hold another full award but can opt for an Honorary Killam Postdoctoral Fellowship if the other postdoctoral fellowship is held at Dalhousie.

TENURE

Fellowships are awarded for a term of two years except in the case of an Honorary Killam which is given the same term as the external fellowship. If the external fellowship is only for one year, the Killam may be used for an additional year. A fellowship may be taken up at any time between May 1st and January 15th of the academic year in which the award applies, but preferably by September 15th.



TEACHING

Fellows may engage in teaching or other similar duties in the University. Such activities must not involve more than three hours per week of the Fellow's time. No other paid work at Dalhousie or elsewhere may be undertaken by a Fellow without the permission of the Dean, Faculty of Graduate Studies.

TRAVEL ALLOWANCES

Travel grants are provided to meet the cost of transportation, by the most direct route, from the place of residence at the time of being offered the award, to Halifax. Grants will not exceed the cost of economy airfare for the Fellow and spouse. Unfortunately, we are not able to provide an allowance for the transportation of children or personal effects.

INSURANCE

Fellows are covered under the University's Group Life, Accidental Death and Dismemberment, and Long-Term Disability insurance. These insurances are mandatory and the costs are nominal. Supplemental medical and dental coverage is optional.

Non-Canadians are not covered by the provincial Medical Services Insurance (MSI) until the seventh month of employment. It is advisable that International Fellows take out general medical coverage during this six-month period.

DEADLINE FOR RECEIPT OF COMPLETED APPLICATIONS

The deadline is December 15th for receipt of completed applications and supporting documents in the Department. (Please allow three weeks for delivery within Canada and four weeks for delivery from outside of Canada).

NOTIFICATION OF RESULTS

Individual Departments pre-screen applications and forward the two top-ranked candidates for consideration by the University Killam Postdoctoral Fellowship Committee. The results of the competition are generally announced in mid-February, and all applicants recommended to the Dalhousie University Killam Postdoctoral Fellowship Committee are notified of the results by the Office of the Dean, Faculty of Graduate Studies. The successful candidates are notified by facsimile. The waitlisted and unsuccessful candidates are notified by post. Those candidates who are not recommended to the University Killam Postdoctoral Fellowship Committee will be notified by the Department to which the candidate applied.

CURRENT LEVEL OF FINANCIAL SUPPORT

Salary	\$ 37,000 CAD / year
Research Grant *	\$ 5,000 CAD / 2 years
Conference Travel Grant *	\$ 1,000 CAD / 2 years
Travel Grant	(see page 2)

* available upon request

ADDITIONAL INFORMATION

Additional information is available at:

Killam Trust	http://www.dal.ca/~ktrust/dal.htm
Dalhousie University	http://www.dal.ca
Halifax Regional Municipality	http://www.region.halifax.ns.ca/
Province of Nova Scotia	http://www.gov.halifax.ns.ca/
Government of Canada	http://canada.gc.ca/
Immigration	http://www.canadainternational.gc.ca/menu-e.asp
Medical Services Insurance (MSI)	(902) 496-7008

APPLICATION INSTRUCTIONS

As a first step in the application process, you should contact the Department to which you intend to apply to discuss the feasibility of your application and the potential for support from a faculty member. To complete the application, please adhere to the following guidelines:

Applications must be word-processed or typed and forwarded to the Killam Postdoctoral Fellowship Committee, c/o the Chair of the Department to which you are applying.

1. Indicate the grade of honours attained with all degrees you have received.
2. Note relevant employment experience, dates, employer, and position. If presently employed, state clearly whether this is a permanent position (see General Qualifications).
3. Provide names and addresses of three referees who do NOT hold an appointment at Dalhousie University. Referees should be familiar with your work and in a position to evaluate your research potential and able to provide a substantive evaluation of your ability. Please contact these people to request the appropriate letters before the application is submitted. Confidential reference letters are to be addressed to the Killam Postdoctoral Fellowship Committee, c/o Chair of the Department in which you wish to work.



4. Supplementary material required to complete your application:

a) TRANSCRIPTS

You must arrange for official transcripts of your complete undergraduate and graduate records to be forwarded directly to the Killam Postdoctoral Fellowship Committee, c/o Chair of the Department to which you are applying.

b) PUBLICATIONS

Indicate co-authors, title, journal or publisher, and date of publications on your list of publications.

c) RESEARCH PROPOSAL

In order to facilitate adjudication both by a Departmental Killam Postdoctoral Fellowship Committee, consisting of academics with expertise in your discipline, and by the University Killam Postdoctoral Fellowship Committee, consisting of academics from a wide range of disciplines, please provide the following:

- i) A one-page discussion of your research proposal, concluding with a paragraph describing the significance of the research or projects that you would like to carry out while at Dalhousie.
- ii) A lay summary of your research proposal of one page or less, written at a level that could be understood by the general public reading it in a newspaper.

d) LETTER OF SUPPORT

A letter of support should be provided by the Dalhousie faculty member with whom you wish to work. The letter should indicate the benefits that would accrue, both to the applicant and to the University, from the proposed collaboration.

Applicants assume total responsibility for ensuring that their applications are received and complete by the deadline of December 15. Applicants should contact the appropriate Department for confirmation that their application is complete.

Applicants should not submit any additional documentation except when specifically requested by the Department. Only the documentation listed above will be forwarded to the University Killam Postdoctoral Fellowship Committee.



DALHOUSIE KILLAM POSTDOCTORAL FELLOWSHIP APPLICATION CHECKLIST

A complete application will consist of the following:

Submitted to Department by Applicant:

- completed Dalhousie Killam Postdoctoral Fellowship Application form
- list of publications
- research proposal
- lay summary of research proposal
- optional statement explaining interruptions in study or extenuating circumstances that impacted on your academic records

Arranged by Applicant (submitted directly to Department on behalf of Applicant):

- letter of support from the Dalhousie faculty member with whom you wish to work
- three confidential letters of reference
- official transcripts of all undergraduate and graduate study

ALL DOCUMENTS MUST BE FORWARDED TO:

Killam Postdoctoral Fellowship Committee
c/o the Chair of the Department to which the candidate is applying
Dalhousie University
Halifax, Nova Scotia
Canada, B3H 4H6



DALHOUSIE UNIVERSITY DEPARTMENTS

Anatomy and Neurobiology
Architecture
Biochemistry and Molecular Biology
Biological Engineering
Biology
Biomedical Engineering
Business Administration
Chemical Engineering
Chemistry
Civil Engineering
Classics
Clinical Departments, Faculty of Medicine
Community Health & Epidemiology
Comparative Religion
Computer Science

- Electronic Commerce

Dentistry
Earth Sciences
Economics
Electrical and Computer Engineering
Engineering Mathematics
English
Environmental Studies
Food Science & Technology
French
German
Health and Human Performance

- Health Education
- Kinesiology
- Leisure Studies

Health Services Administration
History
Human Communication Disorders
Industrial Engineering
International Development Studies
Internetworking
Law
Library and Information Studies
Mathematics
Mechanical Engineering
Microbiology and Immunology
Mining and Metallurgical Engineering
Music
Neuroscience
Nursing
Occupational Therapy
Oceanography
Oral & Maxillofacial Surgery
Pathology
Pharmacology
Pharmacy
Philosophy
Physics
Physiology and Biophysics
Physiotherapy
Political Science
Psychology
Public Administration
Russian Studies
Social Work
Sociology and Social Anthropology
Spanish
Statistics
Theatre
Urban and Rural Planning
Women's Studies

For further information, please contact:

Faculty of Graduate Studies
Dalhousie University
Arts & Administration Building
3rd Floor, Room 314
Halifax, NS, Canada B3H 4H6
Telephone: (902) 494-2485
Facsimile: (902) 494-8797
E-Mail: graduate.studies@dal.ca

APPLICATION FOR DALHOUSIE KILLAM POSTDOCTORAL FELLOWSHIP

APPLICATION MUST BE WORD-PROCESSED OR TYPEWRITTEN.

NAME: _____ <div style="display: flex; justify-content: space-between; width: 90%; margin-left: 10%; margin-right: 10%;"> FAMILY NAME (IN CAPITAL LETTERS) GIVEN NAMES </div>			
NATIONALITY:		CITIZENSHIP:	
GENDER:	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE		
INDICATE EXTENT OF ENGLISH LANGUAGE KNOWLEDGE:			
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> WRITTEN <input type="checkbox"/> EXCELLENT <input type="checkbox"/> GOOD <input type="checkbox"/> POOR </div> <div style="text-align: center;"> READ <input type="checkbox"/> EXCELLENT <input type="checkbox"/> GOOD <input type="checkbox"/> POOR </div> <div style="text-align: center;"> ORAL <input type="checkbox"/> EXCELLENT <input type="checkbox"/> GOOD <input type="checkbox"/> POOR </div> </div>			
MAILING ADDRESS: _____ _____ _____		HOME TELEPHONE: _____ (INCLUDE COUNTRY & CITY CODE)	
PERMANENT ADDRESS: (IF DIFFERENT FROM ABOVE) _____ _____ _____		OFFICE TELEPHONE: _____ (INCLUDE COUNTRY & CITY CODE)	
		FACSIMILE: _____ (INCLUDE COUNTRY & CITY CODE)	
		EMAIL: _____	

NAME OF DEPARTMENT IN WHICH YOU WISH TO WORK: _____

NAME OF PERSON YOU WISH TO WORK WITH AT DALHOUSIE: _____

IF GRANTED, DATE YOU WOULD LIKE TO TAKE UP AWARD (BETWEEN MAY 1ST AND JANUARY 15TH): _____

NUMBERS IN THE FOLLOWING SECTIONS CORRESPOND WITH THOSE FOUND IN THE IZAAK WALTON KILLAM POSTDOCTORAL FELLOWSHIP BROCHURE APPLICATION INSTRUCTIONS.

1. DEGREES OR DIPLOMAS:

DEGREE	PROGRAMME	UNIVERSITY	MONTH/YEAR

IF APPLICABLE, YOU ARE INVITED TO ATTACH A STATEMENT EXPLAINING INTERRUPTIONS IN STUDY OR EXTENUATING CIRCUMSTANCES THAT IMPACTED ON YOUR ACADEMIC RECORDS.

STATEMENT ATTACHED?: Yes No



Killam Postdoctoral Fellowship Advertising Campaign



Annual Report to the Killam National Conference 2002
Appendix 15

APPEARANCES

<i>Publication</i>	<i>Issue Dates</i>	<i>Cost (in CDN dollars)</i>
The Chronicle of Higher Education	June 15, September 7	\$1,592
Times Higher Educational Supplement	June 15, September 7	\$1,081
Nature	June 15, September 7	\$1,699
University Affairs	June/July , August/September	\$684
CAUT Bulletin	September	\$105
TOTAL		\$5,161



IZAAK WALTON KILLAM
POSTDOCTORAL
FELLOWSHIPS
FOR 2002-2003
DALHOUSIE UNIVERSITY



— VALUE —

Fellowships valued at \$37,000* per year, plus a travel allowance, and one-time re-
search (\$5,000*) and conference travel (\$1,000*) grants. Fellowships are tenable for up
to two years at Dalhousie University in most fields of study. *2001-02

— QUALIFICATIONS —

Applicants should have recently completed a PhD (a PhD completed prior to 2000 is
not eligible) at a recognised university and have no current affiliation with Dalhousie
University.

— APPLICATION —

Requests for applications must be submitted by October 15, 2001. Completed applica-
tions must be received no later than December 14, 2001.

— ENQUIRIES —

Izaak Walton Killam Postdoctoral Fellowship
Faculty of Graduate Studies, Dalhousie University
Halifax, Nova Scotia, Canada B3H 4H6
E-Mail: graduate.studies@dal.ca

Guidelines & Application Forms can be found at: www.dalgrad.dal.ca