We are pleased to submit our annual report for 2013. This report reflects the accomplishments of an outstanding research team, a great variety of research interests, a remarkable quantity and quality of invited talks and publications, a strong dedication to teaching at all levels (medical, graduate and undergraduate), and an impressive involvement in administrative, scholarly and community activities.

**Research and Publications**

While obtaining funding has become very challenging due to the cuts in the federal budget, Dr. Cuello ranked first in the CIHR competition and was awarded a 5-year operating grant (see below). Notwithstanding Dr. Cuello, 2013 was a difficult year for obtaining new funding or the renewal of grants for most of our researchers. We were lucky that many still had on-going operating grants.

We are listing those who received new funding in 2013 below, either from the Tri-Council agencies, Societies or Foundations. Small grants are not detailed below but salary awards are listed.

**New operating grants**

**Paul Clarke:** NSERC grant – April 2013 – March 2019  Total amount: $145,000  
*Rat ultrasonic vocalizations: significance and mechanisms*

**Claudio Cuello:** CIHR grant – January 2013 – March 2018  Total amount: $832,440  
*Studies of the plasticity of CNS neurons*

**Terry Hébert:** CIHR grant – October 2013 – March 2019  Total amount: $914,684  
*Composition, ontogeny and function of specific GPCR signaling complexes*

**Anne McKinney:** NSERC grant – April 2013 – March 2018  Total amount: $150,000  
*Neuronal-glia mechanisms in excitatory synapse formation, maintenance and plasticity*

**Lisa Münter:** Alzheimer’s Society of Canada grant – September 2013 – August 2016  Total amount: $225,000  
*Lipid/APP metabolism as a new target for therapeutic exploration in Alzheimer disease*

**Alfredo Ribeiro-da-Silva:** Louise and Alan Edwards grant – May 2013 – April 2014  Total amount: $45,000  
*Novel approach to the treatment of neuropathic pain*

**Bernard Robaire:** FMC Corp. R&T – June 2013 – May 2016  Total amount: $523,135  
*A 90-day oral dietary mode of action study of iprodione on the male reproductive system in Sprague Dawley rats*

**Moshe Szyf:** MESRST grant – April 2013 – January 2017  Total amount: $150,000  
*Développement d’outils de diagnostique et thérapeutiques épigénétiques de l’addiction*

**Presentations**

Overall, our professors were invited to give numerous talks, seminars and lectures. Following is a selection of those who presented.
Guillermina Almazan: Plenary Lecture, University of Toronto, Toronto. Neuroinflammation Symposium & MB-ON endMS RRTC retreat, April 2013
  Plenary speaker, endMS conference, St. Sauveur, Quebec, October 2013

Daniel Bernard: Keynote speaker, 41st Annual Southern Ontario Reproductive Workshop, York University, Toronto, April 2013

Derek Bowie: Symposium Chair/speaker, Canadian Neuroscience meeting, Toronto, May 2013

Barbara Hales: Session chair, 5th Florence-Utah Symposium on Genetics of Male Infertility, Florence, Italy, September 2013

Terry Hébert: Plenary lecture, International Society for Heart Research World Congress XXI, San Diego, CA, June 2013
  Session Chair, 14th Annual GPCR Retreat, Cleveland, OH, October 2013

Anne McKinney: Symposium speaker, Mechanisms of GABAergic Synaptic Plasticity, Chexbres, Switzerland, February 2013
  Plenary speaker, Annual Canadian Microscopy Meeting, Vancouver, June 2013

Gerhard Multhaup: Scientific lecturer, AD/PD Congress, 11th International Conference on Alzheimer’s and Parkinson’s Diseases, Florence, Italy, March 2013
  Diane Charlwood memorial lecturer, Tanz Centre for Research in Neurodegenerative Diseases (Tanz-CRND), University of Toronto, Toronto, May 2013

Bernard Robaire: Plenary lecturer, 10th International Congress of Andrology (ICA), Melbourne, Australia, February 2013
  Session chair, 5th Florence-Utah Symposium on Genetics of Male Infertility, Florence, Italy, September 2013

We would like to underline that Moshe Szyf was an invited speaker 23 times across the world in 2013. Although he was not invited as plenary lecturer or as keynote speaker, this is an outstanding contribution and a worldwide recognition of his research.

Publications

In total, our department published 126 papers in peer-reviewed journals. This takes into consideration articles (including Epub ahead of print articles), books, book chapters and reviews. The complete list of publications can be found at: http://www.mcgill.ca/pharma/sites/mcgill.ca.pharma/files/publications_2013.pdf.
**Teaching and learning**

**Medical Teaching**

Our department is heavily involved in Medical teaching. This year, we were involved in both medical curriculums: offering Unit 8, Pathobiology Treatment & Prevention of Disease, for the last time as part of the old curriculum, and adjusting with a new teaching involvement to 1st year medical students as part of the new medical curriculum. This new curriculum will alleviate our teaching load as it does not, at this time, involve any small group teaching. We will assess with time if this is to the benefit of the students and we will adjust accordingly.

**Undergraduate**

Our undergraduate program continued to expand nicely in 2013.

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<tr>
<th>Academic Year</th>
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<th>U2</th>
<th>U3</th>
<th>Total Major</th>
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While we are very pleased with this growth, it has created problems with room bookings and with the design of some courses: difficulties in organizing small group teaching, individual oral presentations, etc. Over the course of 2014, we will discuss this issue and will try to find solutions to the increasing class size. We are still working on our long-term project to establish a lab course adapted to Pharmacology training. Some discussions have already taken place to offer pharmacology lab exposure as part of the mandatory Physiology course, to compensate for the training that we cannot yet offer our first year students. However, research in a laboratory environment is possible when our students reach their third year of undergraduate studies as well as through summer work.

In 2013, the department graduated 30 students with a major in the program, 12 students with honours, and 19 students with a minor in Pharmacology (since winter 2006, 143 students have graduated with a minor).
Graduate

Our Graduate program enrollment for the 2013 year (Winter and Fall) was as follows:

Winter 2013 – 20 MSc, 61 PhD; Fall 2013 – 11 MSc, 50 PhD

The department graduated 4 MSc students and 11 PhD students in 2013.

We wish to underline that our professors, mainly those who work in the field of neuroscience, favored the Integrated Program in Neuroscience (IPN) graduate students to Pharmacology students. In 2013, 16 IPN students were supervised by Pharmacology professors. Obviously this had a direct impact on the enrollment of graduate students in the Department of Pharmacology and Therapeutics. The reason it is important to mention this, is because we should not be perceived as a department that is shrinking, overall we are supervising as many students as before. Most of the students who opt for the IPN degree do it mainly because the course load is less than the Pharmacology one. To contravene this effect, our Graduate Program continued to elaborate a completely re-designed graduate curriculum which, we are confident, will be submitted to the University for approval before the end of 2014. Furthermore, a major campaign was implemented to advertise our new lab rotation program. This initiative aimed at attracting outstanding students newly accepted into our MSc or PhD program to help them find the best laboratory for their research. The students will rotate in 3 different labs during their first year into our program.

Other

Our department attracted several research trainees: in 2013, we hosted 1 undergraduate research trainee from Germany and 5 graduate research trainees from Italy, The Netherlands (2), Germany and Croatia. This gave more visibility to our Department.

Postdoctoral Fellows

The number of Postdoctoral Fellows increased to 36 during 2013. Furthermore, two Visiting Professors, one from China and one from Hungary, worked in Dr. Szyf’s laboratory.

Involvement in the Community

Most of our professors were members of societies and grant panels and were also involved as Editorial Board members. However, we wish to underline the outstanding involvement of Bernard Robaire who was Editor-in-Chief of Biology of Reproduction, Consulting Editor for Biology of Reproduction and Editor of Life Sciences, Moshe Szyf who was Chief Editor of Epigenetics and Claudio Cuello who was an Editorial board member of 8 journals. A complete list is available in the Department of Pharmacology and Therapeutics.

Following is the list of professors who contributed to the organization of conferences/symposiums, chaired important committees/panels, and/or were involved in community activities.

Guillermina Almazan
Chair, MS Society Personnel Review Committee
Member Medical Advisory Committee, National Board of the Multiple Sclerosis Society of Canada
Hosted for 2 days two CEGEP students from Marianopolis College in a research environment, March 2013
Member Award review committee, endMS Transitional Career Development
Dan Bernard

**Basic Science Chair**, The Endocrine Society’s Early Investigator Workshop

**Co-chair**, Research Affairs Core Committee Endocrine Society

**Member**, 46th Annual Meeting of the Society for the Study of Reproduction

**Member editorial board**, Biology of reproduction

**Member editorial board**, J. Molecular Endocrinology


Derek Bowie

**Member**, Executive Committee, Groupe d’étude des protéines membranaires (GEPROM)

**Symposium Chair**, 2013 Annual Canadian Neuroscience Meeting, Toronto, Canada

**Member A grants (NSA) committee**, CIHR Systems & Clinical Neurosciences


Paul Clarke

**Member**, Programme committee SRNT USA meetings

**Member Executive Committee**, Centre for Studies in Behavioral Neurobiology

**Member Scientific Committee**, Centre for Studies in Behavioral Neurobiology


Claudio Cuello

**Member Advisory Board of the Scientific Program**, Springfield-Geneva Meeting on Progress in Alzheimer’s Therapeutics held in Geneva, March 2013

**Member international Scientific Advisory Committee**, AD/PD Meetings in Florence, Italy, June 2013

**Member International Scientific Advisory Board**, AD/PD meeting to be held in Nice, France, in 2015

**Member Organizing Committee**, 14th International Symposium on Cholinergic Mechanisms ISCM held in China, Hangzhou, May 2013

**Associate Editor**, Journal of Alzheimer's disease, IOS Press


Barbara Hales

**Member Program Committee**, Teratology Society

**Chair Credit Program Committee**, Teratology Society

**Member Science committee**, Teratology Society

**Co-Chair**, Chemical Management Plan, Environment Canada

**Member of the Editorial Board**, Birth Defects Research Part B, Reproductive and Developmental Toxicology

**Forum and Review Associate Editor**, Toxicological Sciences


Terry Hebert

**Chair nomenclature committee**, adrenergic receptors IUPHAR

**Co-organizer**, XXVIIth GEPROM symposium

**Member Scientific Board**, Great Lakes GPCR Retreat

**Member Editorial Board**, Journal of Signal Transduction

**Member Editorial Board**, Cellular Signalling

**Member Editorial Board**, Journal of Molecular Signaling

**Member Editorial Board**, Channels

**Chair Scientific Review Committee**, IVb (Electrophysiology and ion channels of the heart), Heart and Stroke Foundation of Canada

**Member Scientific Review Committee**, Senior Personnel Awards for Heart and Stroke Foundation of Canada

Featured as a success story by the CQDM in the 2013 Annual Report (see: http://www.cqdm.org/docs/misc/CQD-002_RapportAnnuel_EN_WEB.pdf)
Dusica Maysinger
Member Organizing committee, 40th CRS annual meeting, Tokyo 2013
Chair Biologicals (scientific content), 40th CRS annual meeting, Tokyo 2013
Chair and organizing committee, Nanomedicine – summer school/graduate course
Member grant review panel, CIHR Pharmacology and Toxicology
Member Editorial Board, Versita
Member Editorial Board, Journal of Nanodelivery and drug targeting
Evaluator of students’ presentations at CEGEP level in Montreal
Advisor for two students for their poster presentations
Advisor for several students from Marianopolis College

Anne McKinney
Symposia Organizer, Zurich-McGill partnership at annual IPN meeting
Organizer for the Swiss Secretary of State’s visit to McGill as part of a Brain@McGill initiative
Member Editorial Board, Frontiers in Neuroscience
Member Editorial Board, Experimental Brain Research
Member Scientific Review Committee, Basic science stroke/neurophysiology/neuroregulation, Heart and Stroke Foundation Canada

Alfredo Ribeiro-da-Silva
Main organizer, first summer school of the FRSQ-funded Quebec Pain Research Network, June 2013
Invited to organize a workshop, Annual meeting of the Canadian Pain Society, Spring 2014
Member Editorial Board, Neuropeptides
Member grant review panel, FRSQ PhD studentship committee

Bernard Robaire
Member Annual Meeting Steering Committee, Endocrine Society
Member Publications Committee, Society for the Study of Reproduction
Member Institute Advisory Board, Institute of Human Development, Child and Youth Health (IHDCYH), Canadian Institutes of Health Research (CIHR)
Member Strategic Planning Committee, IHDCYH
Chair Environment and Health IHDCYH Committee, for CIHR Signature Initiative
Member Board of Directors, Center for Alternatives to Animal Testing, Johns Hopkins University
Member Annual Meeting Steering Committee, Endocrine Society
Member Program Committee, American Society of Andrology
Member ISA 2013-2017 Planning Committee, International Society of Andrology
Ex-officio member of Board of Director, Society for the Study of Reproduction
Member Local Arrangements Committee, Society for the Study of Reproduction
Member Scientific advisory board, Society for the Study of Reproduction
Member Scientific advisory board, Center for Alternatives to Animal Testing, Johns Hopkins University
Member Program Committee, American Society of Andrology
Developed program for Symposium on Toxicology and Drug Development, McGill CIHR Drug Development Training Program (DDTP) and the McGill University Health Centre, Montreal, April 2013
Member, NIH, Special Emphasis Panel R15
Member grant review panel, CIHR/IHDCYH Skills Update Awards
Member grant review panel, Centre for Alternatives to Animal Testing, Johns Hopkins University

Uri Saragovi
Member Executive board, Réseau Québécois de Recherche sur les Médicaments
Member Scientific advisory board, Mimetogen Pharmaceuticals (Montreal)
Advisor Scientific advisory board, Foundation for Fighting Blindness
Member Editorial Board, Current Medicinal Chemistry-CNS
Member Editorial Board, Medicinal Chemistry Reviews
Member Editorial Board, IOVS
Member grant review panel, CIHR Proof of Principle Committee
Member grant review panel, Agencia Nacional de Promoción Científica y Tecnológica de la Republica Argentina
Member grant review panel, Canadian Cancer Society Research Institute Innovation Committee

Moshe Szyf
Chair grant review panel, NCIC Panel G2
Member grant review panel, CIHR Pharmacology
Member grant review panel, National Cancer Institute (NCI) - Pharmacology, Carcinogenesis, and Chemistry
Member Scientific Advisory Board, Israel Cancer Society

Jason Tanny
Member grant review panel, CIHR Open operating grant panel Biochemistry and Molecular Biology B

Gerhard Multhaup
Member, Faculty Leadership Council (FLC)
Member, Senate Committee on Physical Development
Member, Bellini Recruitment Committee
Member, Drug Development Training Program (DDTP)
Member, IPN Program
Member, Groupe de Recherche Axé sur la Structure des Protéines (GRASP)
Member, GEPROM
Peer reviewer, Federal Ministry of Education and Research - BMBF
Peer reviewer, Deutsche Forschungsgemeinschaft; German Research Foundation (DFG is the central self-governing research funding organization in Germany
Peer reviewer, The Hans und Ilse Breuer Foundation
Peer reviewer, VERUM foundation
Peer reviewer, Alzheimer Forschung Initiative e.V. (AFI-foundation)
Peer reviewer, Studienstiftung des Deutschen Volkes
Peer reviewer, Boehringer Ingelheim Fond
Peer reviewer, European Research Council (ERC)
Peer reviewer, South African Medical Research Council (MRC)
Peer reviewer, CIHR (OOGP)
Peer reviewer, Funding organizations in Belgium, Switzerland, New Zealand
Review Panel Member, Alberta Alzheimer Research Program
Editorial Board member, Journal of Biological Chemistry
Ad Hoc Reviewer, several Journals – approx. 20 articles reviewed in 2013 and approx. 12 grants reviewed in 2013
Board member, VERUM foundation
Spokesperson, International Copper Association
Board Member, Medimabs (R&D antibodies)

Milestones
In an attempt to create better links amongst the Adjunct professors, Associate members and core professors, two retreats were organized. Scientific presentations from core members and presentations from the Business Development Director of Mitacs as well as one from the President of BioGill Consultants Inc. were on the agenda. These presentations were followed by group discussions on the following themes: creating links with
industry, which was and is still amongst the priorities of the Chair who believes that strong contacts with pharma industry may improve funding opportunities. During the December 2013 retreat, the agenda included lectures from the Senior Director of Scientific Affairs for the Quebec Consortium for Drug Discovery (CQDM) and from the Associate Director of Vertex Pharmaceuticals - who is also an Associate Professor at the department. Teaching and long-term vision of the Department were also on the agenda.

The first annual Pharmacology Undergraduate Research Expo (PURE) was held on April 5, 2013. This event won the prize of the best undergraduate event of the year.

The inaugural Theodore L. Sourkes Lecture in Neuropharmacology was given by Etienne Hirsch from the Centre de recherche de l'Institut du cerveau et de la moelle épinière, on October 1st, 2013 in Montreal as part of the 3rd World Parkinson's Congress.

**Promotion**

**Dr. Terry Hébert** was promoted to the rank of full professor in June 2013.

**New Hires**

**Dr. Jane Pappas** who was previously a Postdoctoral Fellow in the laboratory of Dr. Moshe Szyf, was hired on January 1st, 2013 as a Research Associate in the same laboratory.

**Ms. Josie Plescia** joined the department in January 2013 as Administrative Coordinator to the Chair.

**Ms. Charlotte McCaffrey**, who was temporarily assigned to that position of Chair’s secretary, was offered a temporary, part-time position as departmental secretary as of January 2013.

**Ms. Yaned Gaitan** joined the Green Chemistry team on March 1st, 2013.

**Dr. Jean-François Trempe** joined the Department as Assistant Professor, tenure-track, on August 1st, 2013.

**Dr. Sheila Ernest** came back from her maternity leave at the end of August 2013.

**Dr. Mark Hancock** was relocated from the McGill SPR and Multiplexing Facility to our Department. Dr. Hancock will be the Manager of the SPR-MS Pharmacology facility. He joined our department on October 1st, 2013.

**Ms. Nathalie Croteau** joined the laboratory of Dr. Trempe as a Laboratory Technician on November 1st, 2013.

**Departures**

At the end of July 2013, **Dr. Szofia Nemoda**, visiting professor since 2011, left the laboratory of Dr. Moshe Szyf to go back to Hungary and resume her duties as Assistant Professor.

**Dr. Jibin Zheng** left our department after her one-year contract terminated. She was replacing Dr. Ernest.

**Honours, awards and prizes**

**Dr. Terry Hebert** was awarded the Faculty Honour List for Educational Excellence, Faculty of Medicine, McGill University and the Canadian Association for Medical Education, Certificate of Merit Award in 2013.

**Drs. Bernard Robaire** and **Moshe Szyf** were elected Fellows of the Royal Society of Canada.

**Dr. Bernard Robaire** was also elected Fellow of the Society for the Study of Reproduction.

**Dr. Gerhard Multhaup** was nominated as Honorary Professor at Free University of Berlin.
We are not listing all the fellowships that our graduate students received (a complete list is available in the Department) but we wish to acknowledge, below, some of our students who were awarded prizes.

**France-Helene Paradis** PhD student in Dr. Hales’ laboratory was awarded the Marie Taubeneck award at the annual Teratology Society meeting in Tucson, AZ in June 2013 in recognition of scholarship in teratology and service to the Teratology Society.

**Li-Chun Wang**, PhD student in Guillermina Almazan's lab, received a Poster Presentation Award at the 2013 end MS Conference.

**Ankush Madaan**, PhD student in Sylvain Chemtob’s lab won the best poster award at the Annual Research day, Faculty of Pharmacy, UdeM/Hospital Sainte Justine, the best oral presentation award at the Journee de la recherche, Dept. of Pharmacology, University of Montreal, the best poster award from the Group de recherche en sciences de la vision, School of Optometry, University of Montreal and finally the best oral presentation in the PhD category at the 19th Annual FRSQ Research in Vision Health conference.

**Sebastien Boridy**, a PhD student in Dusica Maysinger's lab, participated in *Three Minutes to Change the World*, a TED-talk style event featuring McGill graduate students giving three-minute presentations about their research initiatives and their impact on the community.