

The background features an abstract graphic design. It consists of three overlapping circles of varying sizes, each composed of concentric layers of different shades of blue. These circles are arranged in a triangular pattern. Two thin, light blue lines intersect at the top left, forming a large 'V' shape that frames the circles. The overall aesthetic is clean and modern, with a focus on geometric shapes and a monochromatic color palette.

**Department of
Human Genetics**
Annual Report 2013

Chair: Eric Shoubridge, PhD FRSC

Term 1: July 2013 -

Chairman's Overview

This annual report is my first as Chair of the Department of Human Genetics, a position that I assumed mid-2013 from Dr. David Rosenblatt, who had been chair for the 12 previous years. Our department is a very young one, having been established in 1993, and I am only the third chair. The Department of Human Genetics is both a basic science and a clinical department in the Faculty of Medicine at McGill. It has the dual challenge of promoting excellence in research and teaching in the basic science of human genetics and also a similar challenge for excellence in professional training and patient care. Although our administrative offices are housed in the Stewart Biology Building, none of our faculty has laboratories or offices there. Rather they are dispersed throughout the McGill campus, in the Research Institutes of the McGill teaching hospitals (MUHC, JGH, and Douglas), the Montreal Neurological Institute, the Bellini Life Sciences Complex, and the Genome Quebec Innovation Centre. There are also Departments of Medical Genetics at both the McGill University Health Centre and the Jewish General Hospital. The fact that genetics is pervasive both physically and intellectually throughout the University is, on one hand a strength, in that it permits innovation and collaboration across disciplines and departments, but on the other, it poses particular challenges for departmental coherence.

The department is responsible for the training of graduate students in human genetics, genetic counselors (non-thesis MSc), medical students, and medical residents in the various clinical areas of medical genetics. As we enter the era of so-called personalized medicine, which is in a large part based on genetic stratification, made possible by next generation sequencing technologies, a particular challenge is to translate this scientific advancement to the training of health care professionals and to patient care. This year of change in leadership; at both the university and hospital departments, is a challenging one with respect to the co-ordination of efforts.

The Department of Human Genetics is unusual in that it “evolved” from a “Centre”. Thus, most of the senior members of the department have historic associations with at least one other department, which is often their primary appointment. Many of our senior faculty hold leadership positions at the University, the teaching hospitals, and the research institutes.

Professor Lark Lathrop is the Head of the McGill-Genome Quebec Innovation Centre. Under his leadership, the existing faculty has been nurtured, and a substantial number of excellent investigators have been recruited.

Professor Philippe Gros heads the Complex Trait Group in the Bellini Life Sciences Complex, which has an international reputation in the area of the genetics of host response to infection.

Professor Bartha Knoppers heads the Centre of Genomics and Policy at the McGill University-Genome Quebec Innovation Centre. This centre is a world leader in all areas of law, ethics and policy related to Genetics and Genomics.

Professor Roderick McInnes the director of The Lady Davis Institute of the Jewish General Hospital, is the former head of the CIHR Genetics Institute.

Professor William Foulkes heads the McGill Cancer Genetics Program, one of the best in the world.

Professor Gustavo Turecki is the leader of research at the Douglas hospital, where our department has ground breaking research in psychiatric genetics. Professor Renee St-Arnaud heads a vigorous research unit at the Shriners' Hospital with longstanding ties to our department.

Professor Nada Jabado and I, Professor Eric Shoubridge are co-chairs as the heads of the Medical Genetics and Genomics Axis of the MUHC Research Institute. This axis came out on top of the recent review of the MUHC-RI by the FRQS. It uses its limited funds to support principally the academic activities of the graduate students in the department, most notably their research days.

The Department of Human Genetics has an excellent administrative staff, a vibrant webpage, and an excellent weekly newsletter. At present, Kandace Springer is the Administrator of the Department, Ross MacKay is the Coordinator of Graduate Studies and Kailee Bialaszewski is currently the assistant to the Graduate Coordinator. Our weekly newsletters and an updated website have contributed greatly to the visibility of departmental academic and social events. The philosophy of the administration of the Department of Human Genetics is to always look out for the welfare of faculty and students. Because of the spread of faculty with many demands on many sites, the administration is constantly challenged to serve a large and diverse community.

Accomplishments, Challenges and Opportunities

When I took over as chair in mid-2013, I identified one issue that needed to be addressed immediately. Some of our junior faculty members were in desperate need of an assigned mentor for advice on teaching, grant writing and preparation for eventual applications for consideration for tenure. This was easy to solve, and now all have assigned mentors. Some of these faculty members needed new teaching opportunities, and we are now developing an extremely strong graduate course offering in statistical/epidemiological/population genetics and bioinformatics. In my view this is an essential development if we are to remain at the forefront of new genetic technologies and retain the ability to attract the best graduate students.

I also thought that the academic department needed a focus for academic activities, apart from the research days organized by the graduate students, so in 2014, we will have a formal seminar series, designed to expose our faculty and graduate students to accomplished geneticists at the forefront of the field from around the world.

We were successful in recruiting Vahab Soleimani, a very accomplished stem cell biologist, who trained with Professor Michael Rudnicki at the University of Ottawa, to the LDI. He has been given a Tier II CRC slot. Professor Luda Diatchenko, a CERC chair in the Genetics of Pain also joined McGill and is an associate member of our Department. I expect that she and her group will make major contributions to the academic landscape of McGill and the Department of Human Genetics. Simon Gravel, a leader in population genetics also joined the department, and will add much needed depth in this area. There is a major need for the recruitment of clinically trained medical geneticists at the McGill teaching hospitals. The responsibility for these recruitments lies with the hospital chiefs, but it is essential that the hospital and university departments work together to ensure that both the clinical and academic needs are met. We particularly want to encourage the recruitment of clinician-scientists.

A major challenge for the Department is the recruitment of a clinical co-chair to coordinate the efforts of the academic department with the head (or heads) of Medical Genetics at the MUHC and the JGH. In an ideal world this would be one in the same person. This would make it easier to create a unified vision for genetic education, research and clinical services across the McGill system.

The Department of Human Genetics had previously set out strategic research priorities (Human Genetics and Genomics, Hereditary Cancer, Animal Models and Developmental Biology) for the years 2012-2017 and I think that it will be of interest to re-examine these priorities in light of the strategic research document that is being released by the Faculty of Medicine this spring, and this we will do at a retreat which is being organized for the fall of 2014.

Conclusion

By both design and chance, the Department of Human Genetics is strong and growing. Notwithstanding some of the challenges outlined above, it has made progress in all areas and has a vision for the future. It is blessed with some of the best and most collegial faculty and administrative staff at McGill.

Links

Below you will find the university website links to the 2013 Departmental Listing of Academics in the Department of Human Genetics, Research and Publications, Presentations, Honors & Awards, Abstracts/Presentation and Invited Talks.

Faculty Listing

https://www.mcgill.ca/humangenetics/files/humangenetics/human_genetics_faculty_listing_2013_1.pdf

Grants

https://www.mcgill.ca/humangenetics/files/humangenetics/human_genetics_grants_2013_2.pdf

Publications/Chapters/Articles

https://www.mcgill.ca/humangenetics/files/humangenetics/human_genetics_publication_-_chapters_-_articles_2013.pdf

Abstract/Presentations/Invited Talks

https://www.mcgill.ca/humangenetics/files/humangenetics/human_genetics_abstracts_-_presentations_-_invited_talks_2013.pdf

Honors/Awards

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