Department of Experimental Surgery & Injury Repair Recovery Program
2020-2021 Virtual Seminar Series

Tuesday, February 16, 2021
1:00 – 2:30 PM EST

LINK TO SEMINAR

“Advice to Young Scientists”

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Member of the Order of Canada

Abstract:

Follow your dreams; be determined and not put off by failures; go round road blocks; always help others as others helped you; keep knocking on that door; work hard; be very thorough in proving a point experimentally and in discussion; make sure you really know the literature in your field; don’t be afraid to use and create new technology to meet your goals; don’t be a prisoner of your technology like some are; collaborate with others with complimentary skills so that together you can tackle a research topic that is not possible on your own; never cut corners in your experimental work; communicate concisely and clearly in a manner that all can understand; be really patient; plan ahead and keep on top of your grant and manuscript writing; believe in yourself; always remember what a privilege it is to be a scientist and to be able to help others through your work; maintain a careful balance between work and relaxation with family, friends and loved ones.

Biography:

Robin Poole received his BSc degree in microbiology/biochemistry, chemistry and zoology in 1961 from Reading University. This was followed by a PhD in 1969 in physiological chemistry and microbiology. He worked in England, initially as a microbiologist in industry, then on lysosomal enzymes and tumour invasion, followed by work on membrane fusion at the University of London. In 1970 he moved to the Strangeways Research Laboratory in Cambridge until 1975 where he worked on lysosomal proteases in cartilage degradation. In 1977 he moved from the Department of Pathology, University of Cambridge to Montreal having been previously appointed by Professor and later Dean Richard Cruess as director of the newly created Joint Diseases Laboratory, Shriners Hospital, McGill University. The laboratory grew to over 30 scientists, technicians and support staff. It became one of the largest and most successful laboratories of its kind. It closed in 2005 on his retirement from full time research.

Appointed Professor in the Departments of Surgery and Microbiology/Immunology, he researched the molecular basis of skeletal growth and development and what causes joint articular cartilage damage in arthritis in children and adults and how it can be treated and detected in vivo. His research involved the study of proteolysis and biosynthesis in physiology and pathology and the development of new immunoassays to detect and measure, in vitro and in vivo, the synthesis and degradation of cartilage-specific matrix molecules, such as type II collagen and the cartilage proteoglycan aggrecan. Starting in 1980, these assays were used to study the growth plate and identify new therapeutic targets to arrest and treat joint damage in arthritis. At this time he pioneered the development and commercialization of blood and urine biomarker immunoassays. These were used to measure skeletal growth in children and detect the onset of cartilage damage in patients with arthritis. The assays could also be used to monitor disease activity and predict progression through its effect on cartilage type II collagen degradation. The biomarkers can detect and measure disease-modifying responses to treatment in days and weeks in rheumatoid arthritis (RA) and osteoarthritis (OA) rather than many months in RA or 1-2 years in OA. These immunoassay kits have been
commercialized and are marketed by IBEX Technologies, Montreal for use in basic research and clinical trials involving the pharmaceutical industry.

He played a leading role in the launching of the biomarker component of the United States government’s NIAMS, National Institutes of Health/Industry Osteoarthritis Initiative in 2000. It focussed on new ways of detecting and treating OA. He was a co-founder and a scientific director of the Canadian Arthritis Network (CAN), a National Center of Excellence. With $60 million of funding over its full term of 14 years (1998-2012) by the federal government of Canada, it was the first-time scientists, surgeons, physicians and patients and pharmaceutical and biotech companies had worked together in equal partnership at the national level. CAN researchers discovered new ways of detecting, managing and treating arthritis and rapidly moved new discoveries to the clinic to treat patients. CAN provided an outstanding innovative training ground for new scientists and the first major involvement of patients as informed advisors in medical research programs.

In 1994, he founded the Canadian Connective Tissue Conference (CCTC). It was created specifically for trainees and their mentors. Here young scientists in different research fields, but sharing common interests, such as arthritis, skin, heart and vascular disease, could meet, share knowledge, technologies and explore opportunities for future research positions in Canada. This was the first known scientific meeting whereby trainees in science had a meeting devoted entirely to them and chaired by them and which met in Canada with many distinguished guest speakers. CCTC later became part of the more recently created Canadian Connective Tissue Society.

Throughout his own research, the creation of CCTC and CAN, he helped train and attract Canadian and foreign scientists and make Canada a leader in musculoskeletal research. He personally trained 50 young scientists in Montreal and continues to help others worldwide.

He has received numerous research awards. These include President, and Symposium Chair, 6th World Congress of Inflammation Research Associations, Vancouver, 2003; Honorary Member, British Society for Matrix Biology; the Holley Research Prize (ACR) and Master of the American College of Rheumatology (ACR); the Carol Nachman International Research Prize in Rheumatology; the Kappa Delta Award of the American Academy of Orthopaedic Surgeons and Orthopaedic Research Society (ORS); President of the Canadian Orthopaedic Research Society; Doctor of Science degree from his alma mater Reading University, England and Professor Emeritus, McGill University. He received three Lifetime Achievement Awards: from the Osteoarthritis Research Society International, International Cartilage Repair Society and the Canadian Connective Tissue Society. In 2020 he received the Order of Canada. He has published 258 peer-reviewed papers and 96 invited reviews and chapters in medical and scientific textbooks.

He remains involved in collaborative research programs, particularly in ongoing biomarker R&D, mentoring students and young scientists and peer review. Since its inception in 2012, he has been Chair of the International Academic Advisory Board of the Toronto Western Hospital, University of Toronto Arthritis Program, now the largest arthritis program in Canada and a leader in arthritis research and treatment nationally and internationally.

He has written and published a book called "Living a Dream" for his children and grandkids so they now know a bit more about Dad/Grandad and what he did with his time when he went off to “the lab” each day or was away on business.

In recent years, since “retiring” from the Shriners Hospital in 2005, he enjoys more time with his family, his hobbies of wildlife photography, birding, enjoying nature, gardening, the cottage in Vermont and being by water. In giving back to the local community, he is actively involved as a volunteer in major wetland and environmental conservation and restoration projects. He started fundraising in 2012 as committee Chair for the Cooper Marsh Conservators Inc. raising, with his colleagues, over $700,000 for wetland conservation. He was Board Chair from 2016–2019. Since 2014 he has been Board member and Secretary for the River Institute in Cornwall and, in recent years, Chair of its International Research Advisory Council and Animal Care Committee.

His career spanning almost 60 years was made possible by the amazing support given to him by his wife Mary and his children Jenny, Lucianne and Jonathan.