NATIONAL RESEARCH PROGRAM

Leading the way in Parkinson's research

Research holds the key to unlock the mysteries of Parkinson's disease. Scientific excellence and the courage to test new ideas are vital in the global search for better treatments and a cure for the disease.

Since 1981, Parkinson Canada's National Research Program has funded:

- high-quality, innovative Canadian research by established and promising investigators
- discovery stage research where investigators test new theories and pursue promising new leads
- researchers at the beginning of their careers in order to foster the next generation of Parkinson's scientists
- novel research to build greater capacity, promote creativity and engage more researchers
- more than 550 awards, fellowships, and grants that teach us more about preventing, diagnosing and treating Parkinson's disease

Research that makes a difference

FINDING BETTER TREATMENTS to learn more about the causes, progression, and complications of Parkinson's.

IMPROVING QUALITY OF LIFE for people with Parkinson's and their families so they can live their lives to the fullest, despite the challenges of this disease. This area of research spans a variety of health disciplines such as nursing, occupational therapy, speech language pathology and social work.

BUILDING CAPACITY among the next generation of Canadian researchers. We also fund specialized training for doctors in the diagnosis and management of the disease and other movement disorders so there will be more Parkinson's specialists to provide high quality care.

CONTRIBUTING ON AN INTERNATIONAL SCALE to the collective understanding of this complex disease and to the global search for a cure. Continued investments in research will produce more life-changing discoveries and bring us closer to a world without Parkinson's disease.

ACCELERATING THE PATH TO DISCOVERY as a founding partner of the Canadian Open Parkinson Network.

AREAS OF FOCUS

CAUSES OF PARKINSON'S

Movement is controlled partly by a chemical called dopamine, which carries signals between nerve cells in the brain. Parkinson's motor symptoms appear when a significant proportion of dopamine-producing cells have died. We fund research into the chemical or genetic triggers that start the cell death process in dopamine neurons. Understanding this sequence of events will enable scientists to develop treatments to stop or prevent the loss of dopamine-producing cells. This could lead to a cure for the disease.

COMPLICATIONS OF PARKINSON'S

The familiar symptoms of Parkinson's disease are tremors, loss of balance, and slowness of movement. But non-motor complications of Parkinson's can also impact quality of life. These include depression, anxiety, trouble sleeping, difficulty swallowing, low blood pressure, urinary incontinence, sexual problems or cognitive changes. The nature, severity and impact of symptoms vary with each person. Investigating motor and non-motor complications associated with Parkinson's could lead to improved treatments and better quality of life.

COGNITIVE IMPAIRMENT AND PARKINSON'S

Many people with Parkinson's experience cognitive changes as part of the disease progression including difficulty paying attention, problems finding words, slowness in thinking, difficulty retrieving information, and problems with planning, anticipating consequences and making decisions. Exploring and understanding how these cognitive deficits affect the Parkinson brain can lead to specialized treatments for managing and preventing these symptoms.

BIOMARKERS

Identifying biomarkers to detect the early stages of Parkinson's allows people to start treatments before significant nerve cell loss occurs and motor symptoms, such as resting tremors, appear. Biomarkers could also identify people at risk of developing Parkinson's, improve diagnosis, measure disease progression and determine which treatment will work best. This is a vital promising area of research.

NEUROPROTECTION

Resting tremors and muscle rigidity appear after many dopamine producing cells in the brain have died. Scientists are searching for neuroprotective compounds that can prevent the brain cells from degenerating. Several substances such as caffeine, nicotine, and turmeric may have neuroprotective qualities. Further research could lead to the development of drug therapies that slow, stop and even prevent Parkinson's disease. These could be given to people with early clinical signs of Parkinson's or those known to be at genetic risk.

QUALITY OF LIFE RESEARCH

Researchers from health professions such as nursing, physiotherapy, occupational therapy, speech language pathology and social work are exploring the quality of life for people with Parkinson's and their care partners. Their findings can lead to better treatments, improved support services, and advocacy strategies that help policy makers better understand the particular challenges of Parkinson's disease. Quality of life research can empower people with Parkinson's and their families to live their lives to the fullest, despite the limitations of this disease.

HOW THE FUNDING PROCESS WORKS

1 CALL FOR PROPOSALS
To Canada-based researchers, healthcare professionals, and graduate students.

2 PEER REVIEW**
Scientific Advisory Council (SAC) reviews, scores and ranks each application using Canadian Institutes of Health Research standards.

3 FUNDING RECOMMENDATIONS
Research Policy Committee receives SAC rankings and recommends that the Parkinson Canada's Board of Directors funds those applications with the highest ratings for scientific excellence, innovation and relevance to Parkinson's.

4 FUNDING APPROVED
Parkinson Canada's Board of Directors approves funding and applicants receive awards. Research and clinical fellowships begin.

5 KNOWLEDGE SHARED
Grant recipients provide progress reports and financial accounting yearly and upon completion.

** Members recuse themselves from reviewing any application where there is a conflict of interest.

Research Policy Committee Members

The Research Policy Committee (RPC) and Scientific Advisory Council (SAC) are two separate volunteer committees. The chair of the SAC also sits on the RPC to ensure continuity.

Dr. Martin McKeown
Chair, Research Policy Committee

Dr. Ron Postuma
Chair, SAC; McGill University; Montreal General Hospital

Dr. Wendy Horbay Vice-Chair, Independent Heath Related Strategic Planning Consultant

Dr. Daniel Levesque
Université de Montréal

Dr. Julie Nantel
University of Ottawa

Dr. Angela Roberts
Lawson Health Research Institutes

Ms. Sharon Yardley
Pacific Parkinson's Research Centre, Vancouver Coastal Health – UBC site

Scientific Advisory Council Members

A volunteer panel of experts reviews funding applications to determine scientific excellence and relevance to Parkinson's disease, providing the highest quality of objective adjudication.

Dr. Ron Postuma
Chair, Associate Professor of Neurology and Neurosurgery, Faculty of Medicine, McGill University; *Staff neurologist,* Montreal General Hospital; *Researcher* at the Research Institute of the McGill University Health Centre (MUHC) and at Sacré Coeur Hospital

Dr. Silke Appel-Cresswell
Assistant Professor, Medicine/ Neurology, University of British Columbia; *Clinician Scientist,* Pacific Parkinson's Research Centre and Djavad Mowafghian Centre for Brain Health

Dr. Frédéric Calon
Professor, Department of Pharmacy, Université Laval

Dr. Robert Chen
Professor of Medicine (Neurology), University of Toronto; *Senior Scientist,* Krembil Research Institute; Senior Scientist

Dr. Bin Hu
Professor, Departments of Clinical Neurosciences, Cell Biology & Anatomy, University of Calgary

Dr. Lorraine Kalia
Assistant Professor and Clinician-Scientist, Division of Neurology at University of Toronto; *Neurologist,* Movement Disorders Centre, Toronto Western Hospital

Dr. Wayne Martin
Professor, Division of Neurology, Movement Disorders Program, University of Alberta, Kaye Edmonton Clinic

Dr. Mario Masellis
Associate Scientist, Sunnybrook Health Institute; *Assistant Professor, Neurology,* Department of Medicine, University of Toronto

Dr. Abid Oueslati
Assistant Professor, Faculty of Medicine, Université Laval

Dr. Caroline Paquette
Assistant Professor, Department of Kinesiology and Physical Education, McGill University

Dr. Tamara Pringsheim
Associate Professor, Department of Clinical Neurosciences, Psychiatry, Pediatrics and Community Health Sciences, University of Calgary

Dr. Ekaterina Rogaeva
Professor, Department of Medicine, University of Toronto

Dr. Abbas Sadikot
Neurosurgeon, Montreal Neurological Institute, McGill University

Dr. Antonio Strafella
Senior Scientist, Research Imaging Centre at CAMH; *Professor,* Department of Medicine's Division of Neurology at the University Health Network (UHN); *Senior Scientist,* Division of Brain Imaging & Behaviour Systems-Neuroscience, Toronto Western Research Institute (TWRI);, *Adjunct Professor,* McGill

Dr. Louis-Eric Trudeau
Professor, Department of Pharmacology, Faculty of Medicine, University of Montreal

Dr. Jean-François Trempe
Assistant Professor, Department of Pharmacology & Therapeutics, McGill University

Dr. Joel Watts
Assistant Professor, Department of Biochemistry, University of Toronto; *Principal Investigator,* Tanz Centre for Research in Neurodegenerative Diseases (CRND)

CANADIAN OPEN PARKINSON NETWORK

Parkinson Canada is a founding partner, investing and collaborating with leading researchers from across Canada to create the Canadian Open Parkinson Network (C-OPN).

C-OPN will bring together Canada's best in Parkinson's research and will give them a platform to share information and make new connections. The network will give investigators access to unprecedented data and will support large-scale, multidisciplinary projects that would not be possible at a single research site. This initiative will build on and benefit from the existing and highly successful model of the Quebec Parkinson Network (QPN), which is currently helping to run over 20 studies in 15 centres and has 900 patients registered.

NETWORK Goals

- promote and facilitate multi-centric and multidisciplinary research in Parkinson's disease and related disorders
- pool datasets to better understand pathophysiology
- increase opportunity and participation in clinical trials
- contribute to the development of new treatments
- optimize translational research to clinicians and caregivers more rapidly
- improve prevention and treatment strategies and accelerate the discovery of a cure

LEGEND

- ★ Coordinating Site
- Canadian Open Parkinson Network Sites
- Potential future sites *(as funding and C-OPN capacity grows)*
- Quebec Parkinson Network

www.COPN-RPCO.ca

C-OPN Sites (Phase 1):

★ **University of Calgary**
Dr. Oury Monchi Principal Investigator, Director
Dr. David Park Co-Principal Investigator

University of Edmonton
Dr. Richard Camicioli Co-Principal Investigator

University of British Columbia, Vancouver
Dr. Jon Stoessl Co-Principal Investigator;
Dr. Martin McKeown Co-Principal Investigator

McGill University
Dr. Edward Fon Co-Director C-OPN; Director, Quebec Parkinson Network;
Dr. Guy Rouleau Co-Principal Investigator

Laval University
Dr. Nicolas Dupré Co-Principal Investigator

University of Montreal
Dr. Michel Panniset

University of Toronto (UHN)
Dr. Antonio Strafella Co-Principal Investigator

University of Ottawa
Dr. David Grimes Co-Principal Investigator

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