



ARTHRITIS RESEARCH CANADA

Leading research. Finding answers. Saving lives.



2021 | 2022 ANNUAL REPORT

**Helping more than 6 million
Canadians triumph over arthritis.**

MISSION STATEMENT

To transform the lives of people living with arthritis through research and engagement.

VISION STATEMENT

A future where research-based services, tools and knowledge empower people living with arthritis to triumph over pain and disability.



Leading research. Finding answers. Saving lives.

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MESSAGE FROM THE SCIENTIFIC DIRECTOR

Dr. Diane Lacaille

It has been a pleasure to lead Arthritis Research Canada/Arthrite recherche Canada through another year of research excellence to improve the lives of people with arthritis. As the world slowly opened up from the pandemic, and we resumed in-person work, our multi-disciplinary team of world-class scientists continued to accelerate innovation in arthritis research by working in partnership with our patient advisors whose lived experiences drive our passion for discovery.

Our efforts to tackle the challenges of arthritis received an amazing boost this spring when the Province of BC, Ministry of Health awarded Arthritis Research Canada a \$3 million grant. Continuous Ministry funding has been critical for supporting long-term research and maximizing impact. We are grateful to the Province of BC for demonstrating such leadership in making arthritis research a priority and in addressing the growing burden of arthritis.

As I reflect on the year, I am very proud of all that we have collectively accomplished. The scientific team brought in \$9.5 million in competitive grants during the 2021-22 fiscal year, including \$434K to support trainees across the country. We added one new research scientist and three clinical investigators to our team, while the number of trainees increased by 12 – which speaks to our organization's commitment to training and mentoring the arthritis scientists of tomorrow. Additionally, Arthritis Research Canada scientists published 172 articles in high ranking journals and were invited to present their research findings at prestigious conferences around the world.

Our research continues to investigate the ever changing landscape of COVID-19 and what this means for people within our community who are immunosuppressed. Our scientists are creating digital apps and programs that support physical activity, improve sleep, address mental health needs, and help employment. We are leveraging digital health technologies to find new ways of delivering care, so everyone gets the best available treatments and nobody is left behind. We are committed to reducing health inequities. Long-standing partnerships with Indigenous communities continue to be a priority as we work together to develop culturally relevant arthritis services that better meet their needs.

Collaboration and partnerships are key to the success of Arthritis Research Canada and we acknowledge everyone who plays a vital role in fueling life-changing arthritis research. My deepest gratitude to each of you who contribute to supporting practical research that helps over 6 Million Canadians live well with arthritis.

MESSAGE FROM THE EXECUTIVE DIRECTOR

Rob Appleton



It has already been a year since Arthritis Research Canada moved to our permanent home in the Mount Pleasant neighbourhood and the heart of British Columbia's medical and research community. Even though we continue to adapt to a hybrid work environment, the office hums with the activity of research teams collaborating and hard at work.

Arthritis Research Canada is proud to have received an 'unqualified report' at the conclusion of our most recent annual audit. This report confirms that the financial statements are fair and transparent based on our auditors thorough research. As a charitable organization this is an important distinction and reflects the meticulous and orderly way in which we conduct the financial management of Arthritis Research Canada. Our organization will continue with the utmost diligence in this regard. We are humbled by all those who trust in us and invest in our research.

This year has also seen many improvements to our administrative processes as we continue to streamline our systems and practices. The organization has moved to a paperless and efficient cloud platform that combines our HR, payroll, benefits, and workforce management into a single application. As well, we are utilizing e-transfer for the majority of our payables, to further reduce paper usage and save on mailing costs.

In the spring of 2022 our scientists and staff teams took part in a two-part Diversity, Equity, and Inclusion (DEI) training. This initiative was important for both our organization and for the research we conduct. We are committed to looking through the DEI lens with all of our decision-making processes and research initiatives.

A special thank you to our Board of Directors who drive our vision and values and provide us with the solid governance that allows Arthritis Research Canada to flourish as the leading clinical arthritis research organization in North America. Each member of our board brings with them exceptional skills and experiences that collectively provide Arthritis Research Canada with sound leadership and bold actions to support our mission.

To our community of donors, funding partners, collaborators, government, patient advisors and volunteers – thank you for all you do to support critical arthritis research. We couldn't do it without you.



MESSAGE FROM THE BOARD CHAIR

Don Elkington

Owner
Elkington Investments

While I may be completing my first year as Board Chair for Arthritis Research Canada, I have had the privilege of being involved with Arthritis Research Canada for over 21 years. Throughout this time, I have been continually impressed by the expertise of our scientific team and the quality of their research.

I am looking forward to the coming year and continuing to work with the board team to provide the necessary governance to further advance Arthritis Research Canada's mission and impact. My thanks to each member for sharing your diverse set of skills and experience to benefit vital arthritis research.

A special thank you to Naz Panahi as she steps off the board after nine years of service. Naz is an amazing champion for philanthropy and her leadership as a volunteer fundraiser is truly outstanding. She was instrumental in creating Arthritis Research Canada's annual signature event - the ARthritis Soirée, and played a significant role in the acquisition of Arthritis Research Canada's permanent home.

My congratulations to Jordan Langlois for accepting the role of Board, Vice Chair. Jordan joined the board in September 2020 and didn't hesitate to jump in and offer his expertise as we negotiated the purchase of our new space. We look forward to his further contributions as Vice Chair and growing involvement in the organization.

A warm welcome to Samantha Rogers who recently joined the board as the liaison to the Arthritis Patient Advisory Board, to which she serves as Chair.

This has been another successful year for Arthritis Research Canada and I am extremely proud of the collective accomplishments of the entire organization, including the board appointment of 3 new scientists, a successful funding request from the Province of British Columbia, and a record-breaking ninth annual ARthritis Soirée, as we returned to an in-person event.

On behalf of the board of directors, I want to thank all those who make arthritis research possible, including our donors, patient advisors, and volunteers. Your commitment and support fuels our discovery and is critical to helping to improve the lives of millions of people living with arthritis.

BOARD OF DIRECTORS



Jim Dales

Retired



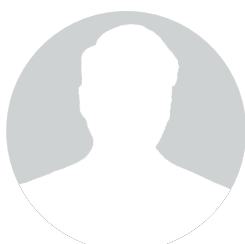
Rahim Esmail

Senior Counsel
TELUS



Pauline Hadley-Beauregard

Partner, Strategic Clarity
Crux



Jordan Langlois

Partner
Kornfeld LLP
VICE CHAIR



Rodrigue Lussier

Investment Counsellor,
Private Wealth
Fiera Capital Corporation
FINANCE CHAIR



Joy MacPhail

Retired



Naz Panahi

Vice President
Pan City Enterprises Inc.



Samantha Rogers

Chair, Arthritis Patient
Advisory Board



Stephen Schwartz

Partner
Burns Fitzpatrick LLP

ARTHRITIS PATIENT ADVISORY BOARD

Samantha Rogers (Chair)

Nikki Bhatti

Jon Collins

Eileen Davidson

Keeva Duffey

Kelly English

Christine Graveline

Alison Hoens

Sadiq Jiwa

Susan Le

Alison Legge

Corinne McCrimmon

Annette McKinnon

Shanon McQuitty

Philippa Mennell

Kohle Merry

Chris Pudlak

Charlotte Ryder-Burbidge

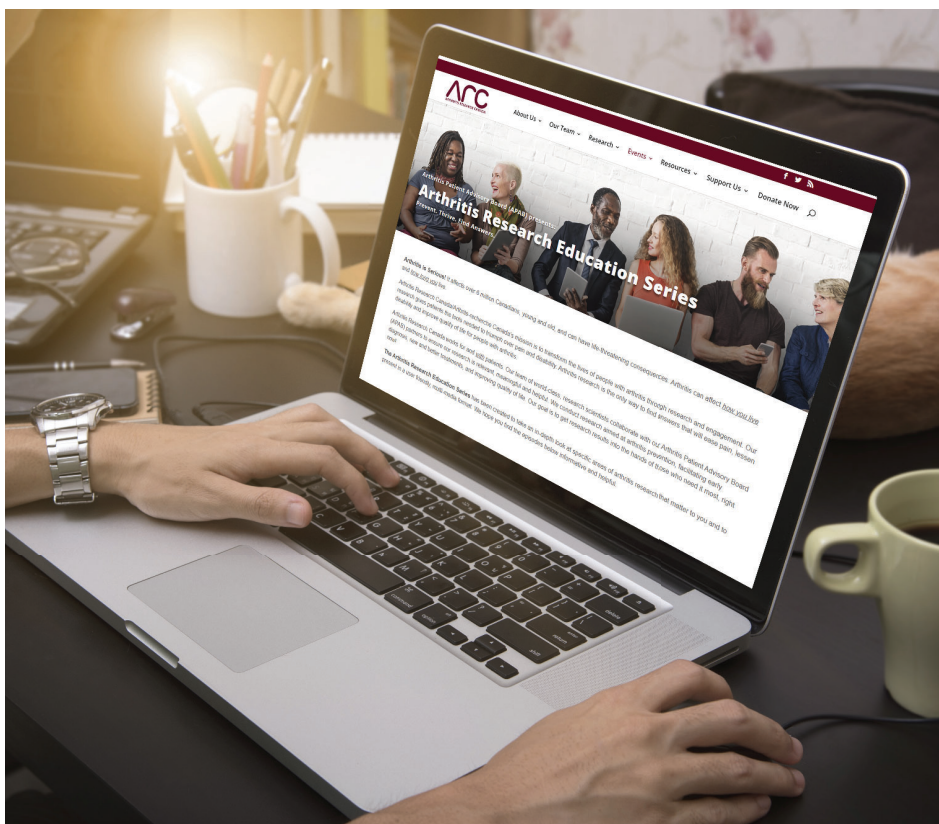
Louella Sequeira

Trish Silvester-Lee

Natasha Trehan

Karen Tsui

Yvonne Wallace



PATIENTS INTERESSES PAR LA RECHERCHE SUR L'ARTHRITE

Dr. Marie-Claude Beaulieu

Paul R Fortin

Hélène Garceau

France Gervais

Jean Légaré

Denise St-Pierre



PATIENT PARTNERS



The Arthritis Patient Advisory Board and the Patients Interesses Par La Recherche Sur L'Arthrite are critical to the research conducted at Arthritis Research Canada/Arthrite-recherche Canada. We are committed to engaging patients as partners in our research and to ensuring their voice be present at all levels of our organization. Our Advisory Board provides the expertise in living with arthritis and their experience is invaluable in how we involve patients in research and share results and knowledge.

The Advisory Board's three-year strategic plan (2019-2021) underwent a full review in December 2021. The updated plan focusses on three priorities that align and support Arthritis Research Canada/Arthrite-recherche Canada's overall organizational plan.

The Board is working diligently on accomplishing these priorities through the members' direct participation in research study development and implementation, writing plain language summaries of current and completed research,

attending and presenting at conferences such as the Canadian Rheumatology Association and American College of Rheumatology annual meetings, and collaborating on two important knowledge translation initiatives; the quarterly Arthritis Newsletter and the Arthritis Research Education Series. The Education Series produces three episodes each year and provides an in-depth look at specific areas of research while also highlighting the patient experience. Recent episodes include navigating treatment and self-care after an arthritis diagnosis, arthritis and employment, and preventing falls in older adults.

Arthritis Research Canada joins the Arthritis Patient Advisory Board in recognizing and thanking **Jon Collins** for his six years of service on the advisory board, including the last four years as co-chair. Jon's leadership was instrumental in the development of the board's first strategic plan in 2018. We also thank **Susan Le** who recently stepped off the board after two years.

SCIENTIFIC TEAM

Diane Lacaille - *MDCM, MHSc, FRCPC*
Scientific Director

APPOINTMENTS

Mary Pack Chair in Rheumatology Research
Professor, Division of Rheumatology, Department of Medicine, University of British Columbia

John M. Esdaile - *MD, MPH, FRCPC, FCAHS, MACR*
Scientific Director Emeritus

APPOINTMENTS

Professor Emeritus, Division of Rheumatology, Department of Medicine, University of British Columbia
Adjunct Professor of Medicine, University of Calgary

Michal Abrahamowicz - *PhD*
Research Scientist, Biostatistics

APPOINTMENTS

James McGill Professor of Biostatistics, Department of Epidemiology, Biostatistics and Occupational Health, Faculty of Medicine, McGill University
Medical Scientist, Division of Clinical Epidemiology, Research Institute, McGill University Health Centre

Aslam H. Anis - *PhD, FCAHS*
Senior Scientist, Health Economics

APPOINTMENTS

Professor and Director *pro tem*, School of Population and Public Health, University of British Columbia
Director, Centre for Health Evaluation and Outcome Sciences (CHÉOS), Providence Health Care Research Institute
National Director, CIHR Canadian HIV Trials Network (CTN)

J. Antonio Aviña-Zubieta - *MD, MSc, PhD, FRCPC*
Senior Scientist, Rheumatology

APPOINTMENTS

Associate Professor and Head, Division of Rheumatology, Department of Medicine, University of British Columbia
BC Lupus Society Research Scholar
Walter & Marilyn Booth Research Scholar

Catherine Backman - *PhD, FCAOT*
Senior Scientist, Rehabilitation

APPOINTMENTS

Professor, Department of Occupational Science & Occupational Therapy, University of British Columbia
Affiliated Researcher, Vancouver Coastal Health Research Institute

Nick Bansback - *MSc, PhD*
Research Scientist, Health Economics

APPOINTMENTS

Associate Professor, School of Population and Public Health, University of British Columbia
Program Head, Centre for Health Evaluation and Outcome Sciences (CHÉOS), Providence Health Care Research Institute

Claire Barber - *MD, PhD, FRCPC*
Research Scientist, Rheumatology

APPOINTMENTS

Associate Professor, Division of Rheumatology, Department of Medicine and Department of Community Health Sciences, Cumming School of Medicine, University of Calgary
Scientific Director, Bone and Joint Health Strategic Clinical Network (BJH SCN), Alberta Health Services

Megan Barber - *BSc (Honours), MD, PhD*
Research Scientist, Rheumatology

APPOINTMENTS

Clinical Assistant Professor, Division of Rheumatology, Department of Medicine, Cumming School of Medicine, University of Calgary
Director of Clinical Research, University of Calgary
Lupus Centre of Excellence

Cheryl Barnabe - *MD, MSc, FRCPC*
Senior Scientist, Rheumatology

APPOINTMENTS

Deputy Director, McCaig Institute for Bone and Joint Health, University of Calgary
Professor, Division of Rheumatology, Department of Medicine and Department of Community Health Sciences, Cumming School of Medicine, University of Calgary
Canada Research Chair, Rheumatoid Arthritis and Autoimmune Diseases

Susan J. Bartlett - *PhD*

Research Scientist, Licensed Psychologist

APPOINTMENTS

Professor, Department of Medicine, Faculty of Medicine, McGill University

Senior Scientist, Research Institute, McGill University Health Centre

Adjunct Professor of Medicine, Johns Hopkins Medicine

Susanne Benseler - *MD, PhD, FRCPC*

Research Scientist, Pediatric Rheumatology

APPOINTMENTS

Director, Alberta Children's Hospital Research Institute

Professor, Department of Pediatrics, Cumming School of Medicine, University of Calgary

Husky Energy Chair in Child and Maternal Health

Alberta Children's Hospital Foundation Chair in Pediatric Research

Pediatric Rheumatologist, Section Chief Rheumatology, Alberta Children's Hospital

Hyon K. Choi - *MD, DrPH, FRCPC*

Research Scientist, Rheumatology

APPOINTMENTS

Professor of Medicine, Harvard Medical School

Adjunct Professor of Medicine, University of British Columbia

Director, Clinical Epidemiology and Health Outcomes, Division of Rheumatology, Allergy, and Immunology, Department of Medicine, Massachusetts General Hospital

Director, Gout and Crystal Arthropathy Center, Department of Medicine, Massachusetts General Hospital

May Y. Choi - *MD, MPH, FRCPC*

Research Scientist, Rheumatology

APPOINTMENTS

Gary S. Gilkeson Lupus Fellow, Brigham and Women's Hospital

Assistant Professor, Division of Rheumatology, Department of Medicine, Cumming School of Medicine, University of Calgary

Jolanda Cibere - *MD, PhD, FRCPC*

Senior Scientist, Rheumatology

APPOINTMENTS

Associate Professor, Division of Rheumatology, Department of Medicine, University of British Columbia

Ann Clarke - *MD, MSc, FRCPC*

Research Scientist, Immunology

APPOINTMENTS

Arthritis Society, Chair in Rheumatic Diseases

Professor, Division of Rheumatology, Department of Medicine, University of Calgary

Professor, Department of Community Health Sciences, University of Calgary

Immediate Past Chair of the Systemic Lupus International Collaborating Clinics (SLICC)

Inés Colmegna - *MD*

Research Scientist, Rheumatology

APPOINTMENTS

Associate Professor, Division of Rheumatology, Department of Medicine, McGill University

Scientist, Research Institute, McGill University Health Sciences, Infectious Diseases and Immunity in Global Health Program Centre for Translational Biology

Deborah Da Costa - *PhD*

Research Scientist, Psychology

APPOINTMENTS

Associate Professor, Department of Medicine, Faculty of Medicine, McGill University

Scientist, Research Institute, McGill University Health Centre, Metabolic Disorders and Complications Program, Centre for Outcomes Research and Evaluation

Mary De Vera - *MSc, PhD*

Research Scientist, Pharmacoepidemiology

Associate Director of Training

APPOINTMENTS

Associate Professor, Faculty of Pharmaceutical Sciences, University of British Columbia

Associate Dean Postdoctoral Fellows, Faculty of Graduate and Postdoctoral Studies, University of British Columbia

Associate Director Education, Collaboration for Outcomes Research and Evaluation

Scientist, Centre for Health Evaluation & Outcome Sciences (CHÉOS)

Paul R. Fortin - *MD, MPH, FRCPC*

Senior Scientist, Rheumatology

APPOINTMENTS

Professor, Division of Rheumatology, Department of Medicine, Université Laval

Canada Research Chair on Systemic Autoimmune Rheumatic Diseases

Clinician-Scientist, Axe Maladies Infectieuses et Immunitaires, Centre de recherche du CHU de Québec-Université Laval

Director, Centre ARThrite de l'Université Laval

SCIENTIFIC TEAM

Donald Garbuz - MD, MHSc, FRCSC
Research Scientist, Orthopaedics

APPOINTMENTS

Professor, Department of Orthopaedics,
University of British Columbia

Nelson Greidanus - MD, MPH, FRCSC
Research Scientist, Orthopaedics

APPOINTMENTS

Assistant Professor, Department of Orthopaedics,
University of British Columbia

Glen Hazlewood - MD, PhD, FRCPC
Research Scientist, Rheumatology

APPOINTMENTS

Associate Professor, Division of Rheumatology,
Department of Medicine and Department of Community
Health Sciences, Cumming School of Medicine,
University of Calgary

Marie Hudson - MD, MPH, FRCPC
Research Scientist, Rheumatology

APPOINTMENTS

Clinician-Scientist, Jewish General Hospital and
Lady Davis Institute

Associate Professor, Department of Medicine,
McGill University

Jacek Kopec - MD, MSc, PhD
Senior Scientist, Epidemiology

APPOINTMENTS

Professor, School of Population and Public Health,
University of British Columbia

Matthew H. Liang - MD, MPH
Professor Emeritus, Rheumatology

APPOINTMENTS

Professor of Medicine, Harvard Medical School
Professor of Health Policy and Management,
Harvard T.H. Chan School of Public Health

Linda Li - BSc(PT), MSc, PhD, FCAHS
Senior Scientist, Clinical Epidemiology

APPOINTMENTS

Professor, Department of Physical Therapy,
University of British Columbia

Harold Robinson Chair/Arthritis Society Chair
in Arthritic Diseases

Canada Research Chair, Patient-oriented
Knowledge Translation

Carlo Marra - BSc (Pharm), PharmD, PhD
Research Scientist, Pharmacoepidemiology

APPOINTMENTS

Professor and Dean, School of Pharmacy,
University of Otago, Dunedin, New Zealand

Deborah A. Marshall - PhD
Senior Scientist, Health Economics and
Preferences Research

APPOINTMENTS

Professor, Departments of Community Health
Sciences and Medicine Cumming School of Medicine,
University of Calgary

Arthur J.E. Child Chair, Rheumatology Research

Laëtitia Michou - MD, PhD
Research Scientist, Rheumatology

APPOINTMENTS

Associate Professor, Division of Rheumatology,
Department of Medicine, Université Laval

Clinician Scientist, Endocrinology and Nephrology Axis,
Centre de recherche du CHU de Québec-Université
Laval

Kamran Shojania - MD, FRCPC
Clinical Trialist, Rheumatology

APPOINTMENTS

Clinical Professor and Head, University of British
Columbia, St. Paul's and Vancouver General Hospital
Divisions of Rheumatology

Medical Director, Mary Pack Arthritis Program

Ian Tsang – MD, FRCPC

Scientist Emeritus, Director of Traditional Chinese Medicine Research

APPOINTMENTS

Clinical Professor (Retired), Division of Rheumatology, Department of Medicine, University of British Columbia
Consultant, Clinical Standard of Traditional Medicine Committee, World Federations of Chinese Medicine Society

Practicing Doctor, CHANGEpain Clinic

Jackie Whittaker – BScPT, PhD

Research Scientist, Musculoskeletal Rehabilitation

APPOINTMENTS

Associate Professor, Department of Physical Therapy, Faculty of Medicine, University of British Columbia

Adjunct Associate Professor, Sport Injury Prevention Research Centre, University of Calgary

Adjunct Associate Professor, Faculty of Rehabilitation Medicine, University of Alberta

Hui Xie – BSc, MS, PhD

Research Scientist, Biostatistics

APPOINTMENTS

Professor, Faculty of Health Sciences, Simon Fraser University

Milan and Maureen Ilich/Merck Chair in Statistics for Arthritis and Musculoskeletal Diseases

AFFILIATE KNOWLEDGE BROKER

Alison Hoens – MSc, BScPT

Knowledge Broker

APPOINTMENTS

Knowledge Broker and Clinical Professor, Department of Physical Therapy, Faculty of Medicine, University of British Columbia

Knowledge Translation Lead, School of Population & Public Health, Centre for Clinical Epidemiology & Evaluation, University of British Columbia

Research Associate, Centre for Health Evaluation & Outcomes Sciences (CHÉOS), University of British Columbia

AFFILIATE SCIENTISTS

Jan Dutz – MD, FRCPC

Affiliate Scientist, Dermatology and Immunology

APPOINTMENTS

Professor and Head, Department of Dermatology and Skin Science, Faculty of Medicine, University of British Columbia

Scientist, Children and Family Research Institute

Mark Harrison – MSc, PhD

Affiliate Scientist, Health Economics

APPOINTMENTS

Associate Professor, Faculty of Pharmaceutical Sciences, University of British Columbia

Scientist, Centre for Health Evaluation and Outcome Sciences (CHÉOS), Providence Health Care Research Institute

Allyson Jones – PT, PhD

Affiliate Scientist, Rehabilitation Sciences

APPOINTMENTS

Professor, Department of Physical Therapy, Faculty of Rehabilitation, University of Alberta

Adjunct Professor, School of Public Health, University of Alberta

Anne Townsend – MA, PhD

Affiliate Scientist, Bioethics

APPOINTMENTS

Senior Research Associate, Liverpool and Lancaster Collaboration for Public Health Research, Division of Health Research, Health Innovation One, Lancaster University, UK

CLINICIAN INVESTIGATORS

Neda Amiri – *BSc, MD, MHSC, FRCPC*
Clinician Investigator

APPOINTMENTS

Clinical Assistant Professor, Department of Medicine,
Division of Rheumatology, University of British Columbia
Director of Pregnancy and Rheumatic Diseases Clinic
(PReDICT) at the Mary Pack Arthritis Centre
Rheumatologist, Summit Medical Specialists

Mollie Carruthers – *MD, FRCPC*
Clinician Investigator

APPOINTMENTS

Clinical Associate Professor, Division of Rheumatology,
Department of Medicine, University of British Columbia,
Rheumatologist, Artus Health Centre Vancouver

Jonathan Chan – *MD, FRCPC*
Clinician Investigator

APPOINTMENTS

Clinical Assistant Professor, Division of Rheumatology,
Department of Medicine, University of British Columbia,
Rheumatologist, Artus Health Centre Vancouver

Shahin Jamal – *MD, FRCPC, MSc*
Clinician Investigator

APPOINTMENTS

Clinical Associate Professor, Division of Rheumatology,
Department of Medicine, University of British Columbia,
Rheumatologist, Diamond Health Care Centre,
Vancouver

Jasmin Ma – *PhD, P.Kin*
Clinician Investigator

APPOINTMENTS

Assistant Professor of Teaching, School of Kinesiology,
University of British Columbia

LEADING RESEARCH ACROSS CANADA

TO CHANGE MILLIONS OF LIVES.

Our multi-disciplinary team of world-class scientists is uniquely positioned to find answers to the most pressing issues for people living with arthritis. We conduct arthritis research through the lenses of rheumatology, orthopaedics, physiotherapy, occupational therapy, pharmacy, rehabilitation science, public health, epidemiology, health psychology and behavioural change, health economics, health systems assessment, biostatistics, education, pediatrics, and knowledge translation. This breadth of expertise enables our research team to identify novel ways to improve the lives of people with arthritis.

Reducing falls in older adults.



Falls are a major health problem for older adults and account for 50 per cent of injury-related hospital admissions. Using the Otago Exercise program, we are developing strategies to help reduce the risk of falls.

Turning to technology to prevent complications.



People with inflammatory types of arthritis are more likely to die from complications related to inflammation. We are developing an electronic reminder system built into patient electronic medical records to ensure family physicians follow the latest screening guidelines.

Improving arthritis treatment in children.



Biologic drugs are now available to treat arthritis in children, but may have serious side effects. We are working to understand the biology of arthritis in order to take a personalized approach to treating each child.

Stopping osteoarthritis.



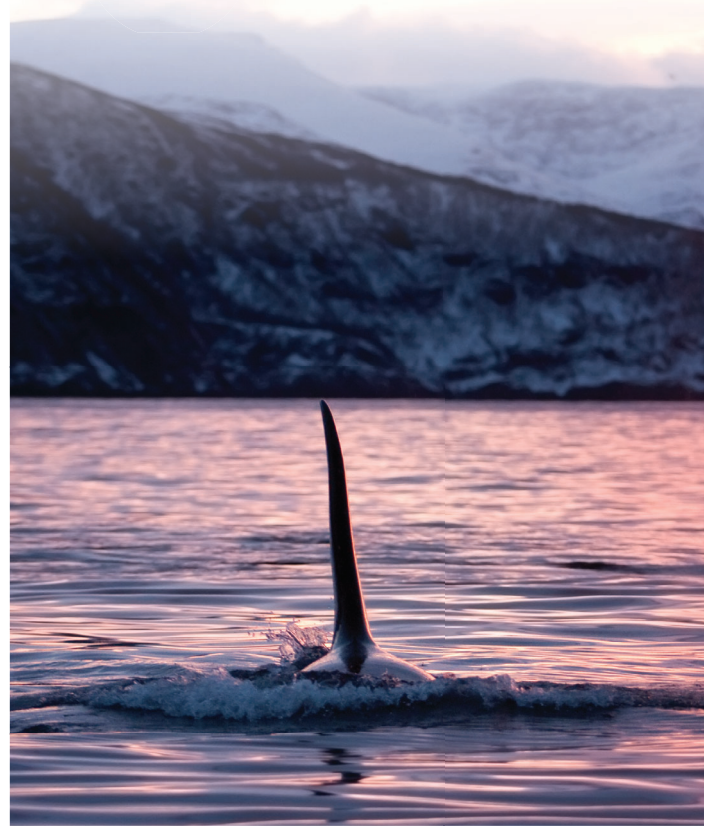
An estimated 500,000 youth in Canada injure their knees while playing sports each year. Of those people, 50 per cent will develop osteoarthritis within 10 years. We've created a unique program, called Stop OsteoARthritis (SOAR). It is virtually-delivered and aims to help people with a prior knee injury reduce their risk of developing osteoarthritis.

4
CENTRES

5
MAJOR
UNIVERSITIES

100+
RESEARCH
STUDIES

RESEARCH IN BRITISH COLUMBIA



For over a decade, Arthritis Research Canada has been partnering with Indigenous communities to improve arthritis services that better meet their needs. We know that Indigenous peoples in Canada get arthritis three times more often and have more severe arthritis than non-Indigenous people, and they face many challenges accessing appropriate medical care. **Scientific Director, Dr. Diane Lacaille**, is working with First Nations communities in BC to co-design and evaluate arthritis services that are culturally sensitive and address the specific needs of the communities. Together, they created The Arthritis Wellness Program and showed that it improved the self-management of arthritis in a manner that is consistent with First Nations' approaches to health and supports the involvement of family. These programs offer much needed alternatives to current care that promote culturally safe management of arthritis.

Having strong muscles is important for people with rheumatoid arthritis (RA), but less than 15 per cent regularly do strength training exercises, even among people with well-controlled disease. The I START project (Improving Strength training and Tailoring among people with Rheumatoid ARthritis) aims to change that. Strength

training has many important benefits for people with RA. In addition to reducing pain and fatigue, it lowers the risk for cardiovascular disease, a leading cause of death in people with RA. This study seeks to learn what motivates people with rheumatoid arthritis to take up strength training, and with that information develop strategies to increase strength training participation through tailored physical activity prescriptions. The I START research is being led by **Clinician Investigator, Dr. Jasmin Ma**, who recently joined Arthritis Research Canada as our first-ever Kinesiology scientist. Welcome, Dr. Ma.

Congratulations to **Senior Scientist Catherine Backman** for receiving the **American Association of Rheumatology Health Professionals' Lifetime Achievement Award**. This prestigious international award recognizes individuals for their sustained and lasting contribution to the field of rheumatology and acknowledges Dr. Backman's passion, innovation, scholarly contributions, and work as an exceptional mentor. Dr. Backman's area of research focuses on reducing the impact of arthritis on everyday activities, such as parenting and employment.

RESEARCH IN ALBERTA

Genetics influence who develops systemic lupus erythematosus (SLE). However, there is increasing evidence suggesting that other factors, such as smoking, obesity, and infections, also play a role. **Research Scientist, Dr. May Y. Choi**, is investigating early detection strategies so that people can, if possible, make lifestyle and other changes to prevent lupus from developing. Screening for lupus has immense potential to improve health outcomes and early detection will allow better decision-making for prevention strategies and for prescribing medications. The study recognizes barriers that can limit a person's ability to achieve a healthy lifestyle, including poverty, racism, and education and emphasizes the importance of addressing these barriers to improve disease prevention among those most vulnerable.

Senior Scientist, Dr. Cheryl Barnabe, is part of a team investigating how changes in the use of emergency services during the COVID-19 pandemic have impacted the health of more vulnerable populations, such as Indigenous peoples, people living in poverty, remote locations, and older populations. The research examines whether people used emergency department (ER) services less frequently during the COVID-19 pandemic, and how that affected the severity of health conditions and complications, such as deaths, when people did eventually seek care. The study will determine whether those changes were greater for more vulnerable populations who are known to rely

more heavily on ER departments for their care of illnesses, such as arthritis. Not only do Indigenous peoples have higher rates of arthritis, they are also less likely to get the care they need, therefore access to ER departments is critical to their arthritis care.

This research highlights the inequities arising from pandemic-driven changes in healthcare and will inform policy to reduce the negative consequences of efforts to manage COVID-19.

Congratulations to **Dr. Claire Barber** on her appointment as **Scientific Director, Alberta Bone and Joint Strategic Clinical Network**. Dr. Barber's passion and international reputation for developing metrics to measure and improve the quality of arthritis care made her the obvious choice for this role. This new position will allow her to connect researchers, patient partners, and health system leaders, to further advance strategies for improving arthritis care.

This past year, Arthritis Research Canada welcomed **Dr. Megan Barber as a Research Scientist to our University of Calgary team**. Dr. Barber completed a PhD in Immunology in addition to her medical training in Rheumatology and a fellowship in Lupus. Dr. Barber's area of expertise and research include clinical trials of new treatments for Systemic Lupus Erythematosus, and establishing a cohort of Antiphospholipid Syndrome, a condition causing blood clots that can have devastating consequences.



RESEARCH IN QUEBEC

Patients with rheumatoid arthritis (RA) have higher levels of anxiety and depression compared to the general population. Depression in particular has been linked to having more severe RA, a lower response to treatment, and greater disability. Dealing with depression and anxiety represents an important gap in arthritis care. **Research Scientist, Dr. Susan Bartlett** investigated the burden of anxiety and depression and whether it contributes to symptoms such as fatigue, physical function, pain, and sleep disturbance. The study revealed that 59 per cent of participants were affected by varying degrees of depression and anxiety and showed that even when arthritis is well controlled, anxiety and depression may have a significant impact on health-related quality of life.

Up to 70 per cent of people living with arthritis report sleep issues, including difficulty falling asleep, staying asleep, and/or waking up early. These sleep disturbances (insomnia) worsen other symptoms of arthritis including fatigue, pain, and depression which can negatively affect a person's quality of life. For most people living with arthritis, insomnia goes unidentified and untreated. **Research Scientist, Dr. Deborah Da Costa**, is testing an online program for managing insomnia initially developed for people with cancer that will be adapted for people with

arthritis and will provide effective strategies to improve sleep. This will ultimately also improve their emotional wellbeing and quality of life. A needs assessment survey conducted for this study indicated that people with arthritis who experience sleep problems rarely seek help for their insomnia and prefer non-drug methods for managing insomnia.

A new class of medications, called Immune checkpoint inhibitors, have revolutionized cancer treatment by activating the immune system to fight the cancer. Their use is limited by the development of autoimmune reactions, including rheumatic disease. **Research Scientist, Dr. Marie Hudson and Clinician Investigator, Dr. Shahin Jamal** have co-founded CanRIO a Canadian Network to study patients across Canada who have pre-existing rheumatic diseases or who develop new rheumatic disease symptoms after receiving treatment with immune checkpoint inhibitors. Following these patients over time will help us understand how these medications affect auto-immune diseases and how to treat them without interfering with cancer treatment.



IN TRAINING

Arthritis Research Canada/Arthrite-recherche Canada is committed to training the next generation of arthritis research scientists. Supervising and mentoring trainees at the masters, PhD and post-doctoral levels in a wide variety of disciplines has always been a strategic priority of the organization and what has positioned Arthritis Research Canada as a leading arthritis research training hub.



To further support our upcoming scientists across all sites and create a community of learning and collaboration, Arthritis Research Canada has appointed **Research Scientist, Dr. Mary De Vera, as Associate Director of Training**. Dr. De Vera recently received the Women's Health Research Institute Mentorship Award in Women's Health and the 2021 University of British Columbia's Killam Mentoring Award, making her a natural fit for this new role.

We are proud to highlight a few of our Trainees and their area of research focus.

Nejat Hassen, is pursuing a Master's of Sciences in Population and Public Health at the University of British Columbia, working with supervisor and **Scientific Director, Dr. Diane Lacaille**. Nejat's research focuses on identifying the various factors, beyond the disease itself, that contribute to the quality of life of people living with rheumatoid arthritis. This study will allow a more holistic approach to lessen the impact of arthritis.



As a health geographer pursuing a Postdoctoral Fellowship in Health Systems Impact at the University of Calgary, **Xiaoxiao Liu**, is working with supervisor and **Senior Scientist, Dr. Deborah Marshall**. Xiaoxiao's research aims to reduce inequities in access to care in rural/remote areas by identifying service gaps between primary care and specialists that have prevented people from receiving the care needed to manage their osteoarthritis. This work provides policy makers with important information for allocating health care resources that are responsive to the local needs of Albertans living in rural/remote areas.

Alix St. Aubin, is a kinesiologist completing her Masters of Clinical and Biomedical Sciences at the Université Laval with supervisor and **Senior Scientist, Dr. Paul R. Fortin**. Alix is testing a 12-week home-based exercise program specifically designed for people with rheumatoid arthritis and comparing it to exercise performed under supervision at a physiotherapy clinic.

COVID RESEARCH



As the COVID-19 pandemic persists, Arthritis Research Canada's scientists are continuing to respond and adapt to constantly changing information, guidelines and policies as new variants emerge. This shifting environment requires us to develop a deeper understanding of infection risk for people who are immunocompromised, determine vaccine safety, while continuing to address added concerns such as mental wellness.

Senior Scientist, Dr. Antonio Aviña-Zubieta studied the risk of severe COVID-19 outcomes in people with autoimmune rheumatic diseases in BC compared to the general population in the early phase of the COVID-19 pandemic. The risk of hospitalization was 30 per cent higher and the risk of death 24 per cent higher. Risk was highest for people with systemic vasculitis, likely because they need more medications that suppress the immune system. A further study by Dr. Aviña-Zubieta is underway to examine the role of immunosuppressive medications in increasing the risk of severe COVID-19.

Vaccination against COVID-19 is key to reducing the risks of severe COVID-19 disease, especially in populations at higher risk. However, 20 per cent of the eligible Canadian population is not yet vaccinated, and vaccination rates are even lower in vulnerable groups. **Research Scientist, Dr. Inés Colmegna** is working in partnership with people from vulnerable populations who are not yet vaccinated, to identify why people are hesitant to get vaccinated and to train trusted members within their communities to address those barriers and increase confidence in COVID-19 vaccination. Along with **Senior Scientist, Dr. Paul R. Fortin**, she is also evaluating the effectiveness of two different types of COVID-19 vaccines given as boosters to people treated with Rituximab, an immunosuppressive medication that has been shown to lower the effectiveness of mRNA vaccines.

Research Scientists, Dr. Susan Bartlett and Dr. Marie Hudson are studying the toll of COVID-19 on the mental health of people at higher risk of complications due to a pre-existing auto-immune disease called scleroderma. More than 500 participants from around the world recruited in early 2020 have been completing monthly surveys to compare mental health before and through the COVID-19 pandemic. This is crucial to understanding the long-term mental health effects of COVID-19, which will likely extend beyond the acute outbreak period, particularly for people with pre-existing medical conditions and elevated risk of complications from COVID-19. Many of these individuals are acutely afraid of infection and have stricter and longer isolation periods than the general population.

WORKING TOGETHER TO ACCELERATE ARTHRITIS RESEARCH



“For more than two decades, Arthritis Research Canada has been accelerating arthritis research and transforming the lives of the millions of people who live with this disease. Our Government is committed to supporting Arthritis Research Canada’s work through \$3 million in funding for the organization to continue its clinical research program and to focus on new and expanding areas. This funding will help Arthritis Research Canada get us one step closer to stamping out this disease and improving the health of people in BC.”

~ The Honourable Adrian Dix, Minister of Health

The Province of British Columbia and the Ministry of Health recognize the growing burden of arthritis on the healthcare system, as well as the over 800,000 people living with different types of arthritis in BC. Both are committed to supporting Arthritis Research Canada’s innovative research because it is the only way to find answers for people who have arthritis.

On May 26, Arthritis Research Canada welcomed The Honourable Adrian Dix, Minister of Health, via video link to our annual signature event, the ARThritis Soirée, to make the special announcement of a \$3 million funding award.

We are grateful to the Province of BC for its continued support of life-changing arthritis research. This is a tremendous boost that will advance arthritis research to help address the most costly chronic disease in the country.

Our heartfelt thanks for this incredible support and amazing leadership that will benefit millions of people living with arthritis.



WITH GRATITUDE

Arthritis Research Canada/Arthrite recherche Canada is honoured to recognize our Fellows Circle donors for their leadership and generosity. Thank you for helping to fuel vital arthritis research. Your support allows our team of world-class research scientists to find answers and provide life-changing solutions for people living with arthritis. Together, we are making arthritis research a priority.



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Paul R. Fortin
Jane & Maurice Wong
Lloyd & Michele Wright
Dr. Hui Xie & Dr. Yi Qian

ARThritis SOIRÉE 2022

On May 26th Arthritis Research Canada/Arthrite recherche Canada held its successful 9th annual ARThritis Soirée at the Roof, Hotel Vancouver. We were excited for the opportunity to welcome guests back to an in-person event, and to announce at the close of the evening that a record-breaking \$3,375,000 was raised for life-changing arthritis research.

Presented by RBC, the 2022 ARThritis Soirée included all of the elements that make our event special, fabulous champagne and wines, delicious caviar and hors d'oeuvres, an exquisite raffle by Montecristo, fantastic art, silent and live auctions - and a 'get up and dance' performance by Angela Kelman of Farmer's Daughter. Our thanks to Fiona Forbes and Fred Lee for their wonderful hosting talents.

To each of our sponsors, guests, artists, donors, and volunteers who helped to make the 2022 ARThritis Soirée such an amazing event - our heartfelt gratitude.



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FINANCIALS

THE ARTHRITIS RESEARCH CENTRE SOCIETY OF CANADA STATEMENT OF FINANCIAL POSITION AS AT MARCH 31, 2022

ASSETS

CURRENT

Cash and Cash Equivalents	\$833,773
Accounts receivables	237,284
Recoverable from government - GST	36,298
Grant Receivable	3,000,000
Prepaid expenses	2,655
	<hr/>
	\$4,110,010

INVESTMENTS	15,550,921
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CAPITAL ASSETS	9,782,516
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\$29,443,447

LIABILITIES AND NET ASSETS

CURRENT

Accounts payable & accrued liabilities	\$204,996
Payable to government - GST	0
Payables - Payroll deductions	22,233
Current portion of deferred revenue	1,285,830
Current portion of long term debt	198,352
	<hr/>
	\$1,711,411

DEFERRED REVENUES	6,802,489
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DEFERRED CAPITAL REVENUE	151,679
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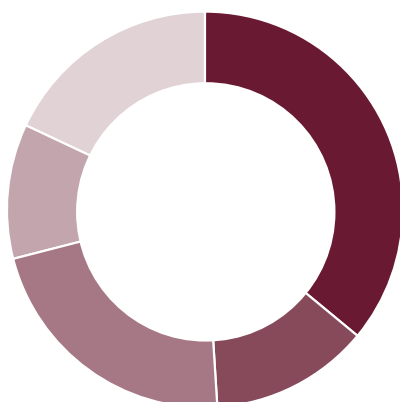
LONG TERM DEBT	6,508,851
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\$15,174,430

FUND BALANCES

Unrestricted	11,754,282
Internally restricted	2,514,735
	<hr/>
	\$14,269,017

\$29,443,447



REVENUE

- 36%** - Research
- 13%** - Operating Grant
- 22%** - Fundraising
- 11%** - Unrealized Gain
- 18%** - Investment Income

Research	\$1,906,637
Operating Grant	671,415
Fundraising and Donations	1,166,507
Unrealized Gains (Losses)	616,271
Investment Income	940,853

Total Revenues	\$5,301,683
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EXPENSES

- 73%** - Research
- 11%** - Fundraising
- 10%** - Administration
- 6%** - Misc. Expenses

Research	\$2,832,401
Fundraising	418,785
Administration	386,726
Misc. Fees	253,242

Total Expenses	\$3,891,154
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Excess (Deficiency) of Revenues over Expenses	\$1,410,529
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