Alberta Health Services
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Bone & Joint Health Strategic Clinical Network™

Academic researchers

Last name	First name	(e.g. PhD, clinician-researcher; PhD candidate; MSc candidate; medical resident; medical fellow etc.)	Primary academic institution	Faculty/department/ institute	Disease (e.g. OA, osteoporosis, low back etc)	Injury type	Population (women's health, Indigenous health, seniors etc.)	Intervention (e.g. exercise, surgery, tissue engineering)	Body part/structure/ system	Other?	Clinical	Policy	Health services	Population health	Biomedical/ basic	Addition info	Website
Aboodarda	Saeid	Assistant Professor	University of Calgary	Faculty of Kinesiology	multiple sclerosis		adults			muscle fatigue; neuromuscular fatigue; pain; neuromuscular adaptations to physcial activity	x				x	Aboodarda's area of expertise is neurophysiology/neuromuscular function.	Saied Jalal Aboodarda | Faculty of Kinesiology | University of Calgary (ucalgary.ca)
Adeed	Samer	Professor	University of Alberta	Faculty of Enginnering, Dept of Civil and Environmental Engineering McCaig (associate member)	scoliosis	shoulder dysfunction; spine dysfunction; fractures	adults	assessment	shoulder; bone; spine; back	topography; biomechanical analyses; digital imaging; fractal analysis; fluid content; shoulder repair; biomechanics; bone growth;					x	Biomechanics: Finite Element Analysis of functional spinal unit; Surface Topography for scoliosis; Biomechanical analysis of shoulder repair constructs; Digital Image correlation in ligaments and biological tissue; Fractal analysis of Bone; Analysis of fluid content in Intervertebral discs in health versus symtptomatic spines; Analysis of bone growth (Long bones and Lower Jaw)	Samer Adeeb, PhD, PEng - Directory@UAlberta
Adesida	Adetola	Professor	University of Alberta	Faculty of Medicine & Dentistry Dept of Surgery McCaig (associate member)	osteoarthritis; OA; post-traumatic osteoarthritis;	cartilage damage and defects; meniscus defects	adults	tissue engineering; mesenchymal stem cells (bone and adipose sources); cell therapies	meniscus; cartilage	Adult-derived mesenchymal stem cells; prevention of post-traumatic osteoarthritis; scaffolds; bioreactors					x	The ultimate goal of the research group is to develop autologous cell-based tissue engineering strategies to repair cartilage and meniscus defects. Adult-derived mesenchymal stem cells (MSCs) have the capacity to form a variety of mesenchymal tissues including bone, adipose and cartilage. In addition, MSCs secrete a myriad of bioactive molecules (i.e. trophic factors) that have the potency to promote cell proliferation and enhance the differentiated status of mature cells. The laboratory's current focus is to investigate the interplay between MSCs from bone marrow (BMSCs) or adipose (ADSCs) sources, and mature cartilage cells (chondrocytes) and meniscus cells for cartilage and meniscus tissue formation. The scientific questions addressed are related to (i) optimal stem cell source of factors promoting cell proliferation and differentiation, (ii) differentiation and anatomical privilege, (iii) identification of potent bioactive molecules for chondrogenic and fibrochondrogenic differentiation, (iv) effect of oxygen tension on profiles of bioactive agents in (iii) and (v) fabrication of bioactive molecules in (iii) into clinically applicable matrices for cartilage and meniscus formation. These projects are at the interface of basic and applied research fostering the expertise and collaborative efforts of chemists, biologist, clinicians, bio-engineers and material scientists.	Profile | Faculty of Medicine & Dentistry (ualberta.ca)
Anglin	Carolyn	Adjunct Professor	University of Calgary	McCaig (associate member)		trauma	adults	surgery ; medical imaging; computer-assisted surgery	knee; hip; spine; back; shoulder	bone and joint analogues for surgical training; medical device development; biomechanics;					x		Carolyn Anglin, PhD | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca) https://www.ucalgary.ca/uceed/about/portfolio/tactile-orthopaedics
Barber	Claire	Assistant Professor	University of Calgary	Cumming School of Medicine Dept of CHS; Dept of Medicine (Division of Rheumatology) McCaig	rheumatoid arthritis; arthritis		adults			quality measures for arthritis; platform ExpertLens; care gaps; wait times rheumatology;	x		x			My research program focuses on the development, testing and implementation of quality measures for arthritis care to inform healthcare delivery. I have advanced the field of quality measure development through a novel use of a platform called ExpertLens (RAND Corporation). This work has led to the identification of gaps in arthritis care, for example in cardiovascular care for patients with RA and in wait times for early rheumatoid arthritis. I have led the first national rheumatology workforce survey called Stand Up and Be Counted. This work highlights a shortage of rheumatologists and a need for alternative models of arthritis care. I have also led the recent development of the Canadian Core Clinical Dataset for Rheumatoid Arthritis. This work helps promote consistent collection of data elements necessary for the provision and monitoring of high quality care.	Claire Barber, MD PhD FRCPC | Faculty of Graduate Studies | University of Calgary (ucalgary.ca)
Barnabe	Cheryl	Associate Professor	University of Calgary	Cumming School of Medicine Dept of Medicine (Division of Rheumatology) McCaig	rheumatoid arthritis; undifferentiated arthritis	periarticular bone and joint space changes	indigenous population	biologics; drugs; medicine		characterize periarticular bone and joint space changes in early Rheumatoid Arthritis and Undifferentiated Arthritis, as well as determining what effect biologic therapies have on joint structure		x	x				Cheryl Barnabe | Research | University of Calgary (ucalgary.ca)
Beaupre	Lauren	Professor	University of Alberta	Faculty of Rehabilitation Medicine Departments of Physical Therapy McCaig	Osteoporosis; Osteoarthritis; OA	fracture; fragility fracture	adults; older adults; seniors	arthoplasty; rehabilitation; surgery; orthopedic surgery	lower extremity; hip; knee	fragility fractures	x		x				Lauren Beaupre, PhD - Directory@Ualberta https://mccaig.ucalgary.ca/beaupre
Benseler	Susanne	Professor	University of Calgary	Cumming School of Medicine Dept of Pediatrics Alberta Children's Hospital Research Institute (ACHRI)	arthritis		pediatrics; children	genomic medicine; diagnosis using biomarker profiles		development of biomarker profiles; inflammation; health outcomes; immune-mediated disorders; inflammatory brain diseases; CNS Vasculitis;	x		x				Susanne (Susa) Benseler - Arthritis Research Canada https://profiles.ucalgary.ca/susa-benseler
Berry	Tanya	Professor	Univesrity of Alberta	Faculty of Kinesiology				health promotion		response to health promotion messaging; decision-making; physical activity; information uptake			x	x		My research examines automatic reactions to health-promotion messages and reactions when the time is taken to think about the messages. I also study how these reactions influence decisions to be physically active or not. I try to find better ways to promote health in an increasingly busy media environment where so many different messages compete for attention.	Tanya Berry, PhD - Directory@UAlberta
Bertram	John	Professor	University of Calgary	Cumming School of Medicine Dept of Cell Biology and Anatomy Dept of Comparative Biology and Experimental Medicine				assessment		movement and locomotion; biomechanical analysis; walk, run;					x	Dr. Bertram's research group investigates the dynamic consequences of movement strategies, primarily directed at walking and running. The overall goal is to generate an understanding of 'why' movement happens as it does, not just document what is happening. He often describes his work as trying to figure out why 'normal' is normal, recognizing that normal has been extremely well described, but is not yet well understood. A proper understanding of normal human locomotion could lead to novel (and potentially non-intuitive) rehabilitation strategies and interventions in pathological gait. Much of Dr. Bertram's work is focused on generating predictive models of movement in which the models contain hypotheses regarding the motivation for specific movement patterns under given circumstances. These predictions can then be tested on subjects in those circumstances. As an example, his group models human movement in reduced gravity (because gravity is a ubiquitous and important effector of human locomotion), and then evaluates the predictive ability of the model using a unique gravity simulation harness.	John EA Bertram | Research | University of Calgary (ucalgary.ca) https://grad.ucalgary.ca/future-students/supervisor/john-ea-bertram
Bischak	Diane	Professor (Emeritus)	University of Calgary	Haskayne School of Business						health services research; resource use; efficiency; health service planning			x			Diane Bischak applies simulation and other management science tools to improve the operational aspects of health services, working closely with physicians and other health care professionals to develop solutions that use limited health resources more effectively and efficiently.	Diane Bischak | Haskayne School of Business | University of Calgary (ucalgary.ca)
Boyd	Steven	Professor	University of Calgary	McCaig; Cumming School of Medicine, Dept of Radiology; Faculty of Kinesiology; Schulich School of Engineering	joint disease	joint injury	adults	medical imaging; assessment of tissue mechanics		orthopedic biomechanics; bones; adaptive mechanisms of tissues of joint structures and tissues to injury or disease;					x	Dr. Boyd's research is in the area of orthopaedic biomechanics. It focuses on adaptive changes to tissues that occur following a joint injury or disease, with particular interest in bone. His two main areas of research are (1) the development of simulation methods to investigate adaptive mechanisms in bone and their influence on tissue mechanics in joint diseases, and (2) the development of non-invasive methods using medical imaging techniques (CT, MR) to provide clinical quantitative assessment of tissue mechanics.	Steven Boyd | Research | University of Calgary (ucalgary.ca)
Bray	Robert	Professor	University of Calgary	McCaig Cumming School of Medicine Dept of Surgery		ACL deficiency; burn	adults	exercise; strengthening; physcial activity; diagnostics; imaging	knee	knee pain; joint structure and function; inflammatory mediators; wound healing; burn scars					x	bone and joint health with a view to create a better understanding of articular vascular physiology to develop novel therapeutic strategies resulting in improved tissue healing and mechanical performance	Robert Bray, M.D. | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca)

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Carson	Valerie	Associate Professor	University of Alberta	Faculty of Kinesiology			youth; children; pediatrics	physical activity; exericse		sedentary behaviour and health; physical activity and health; behavioural epidemiology	x			x		Dr. Carson's research primarily focuses on the relationship between physical activity, sedentary behaviour, and health, as well as the determinants and measurement of physical activity and sedentary behaviour among children and youth. She is particularly interested in physical activity and sedentary behaviour among children of the early years (<5 years old), including social and cognitive development, parental influences, and child care influences. Dr. Carson works with undergraduate and graduate students and postdoctoral fellows within her behavioural epidemiology laboratory.	Valerie Carson, PhD - Directory@UAlberta
Chepeha	Judy	Associate Professor	University of Alberta	Faculty of Rehabilitation Medicine Dept of Physical Therapy		internal rotation deficits; sports related injuries; instability syndromes; rotator cuff	adults; athletes	rehabilitation	shoulder		x					Internal rotation deficits in overhead athletes, development of shoulder rehabilitation guidelines	Judy Chepeha, PhD - Directory@UAlberta
Chiu	Loren	Associate Professor	Univesrity of Alberta	Faculty of Kinesiology			adults	exericse; physical activity; movement		musculoskeletal system; movement; performance multi-joint human; bone and joints influence on physical function; muscle strength and function; evalaution of movement	x				x	Dr. Chiu's research program investigates how the design of the musculoskeletal system influences performance of multi-joint human movement. This research has three inter-related tracks: • Examining how the structure of bones and joints influences physical function • Determining how the strength of key muscles influences performance of multi-joint movement • Developing novel techniques and equipment to evaluate human movement and muscle function	Loren Chiu, PhD, CSCS - Directory@UAlberta
Copeland	Jennifer	Associate Professor	University of Lethbridge	Faculty of Fine Arts Dept of Kinesiology & Physcial Education			adults	exercise; physical activity	endocrine system	physical activity; sedentary behaviour; healthy ageing; exercse; health promotion; exericse impact on stress and resiliance	x		x			My primary research interest is the influence of physical activity and sedentary behaviour on health across the lifespan, with a particular focus on healthy ageing. I address these issues through both experimental and intervention studies as well as through the analysis of large data sets. My doctoral research focused on endocrine responses to exercise, and I continue some work in that area today, often through collaborations when my expertise in endocrinology allows me to contribute to other studies. Through my collaborations I have developed a strong interest in the role of physical activity in physiological resilience to social stress. I am also interested in public health initiatives that promote physical activity.	Jennifer Copeland | University of Lethbridge (ulethbridge.ca)
Doan	Jon	Associate Professor	University of Lethbridge	Faculty of Fine Arts Dept of Kinesiology & Physcial Education		occupational over-loading; soft tissue injury; movement disorders	adults	motion analysis; movement; occupational safety			x					Dr. Doan's research combines mechanical and biological engineering with kinesiology and neuroscience to focus on measuring and interpreting the interaction of human perceptions and actions at work and at play. His current research explores two main topics: 1) perceptual basis of occupational over-loading and soft tissue injury	
Doschak	Michael	Professor	University of Alberta	Faculty of Pharmacy	osteoarthritis; arthritis; osteoporosis		adults	drug therapy; medicine		bone drug therapy; imaging for bone architecture	x					bone biology and imaging tools for bone architecture.	
Doyle-Baker	Tish	Profesor	University of Calgary	Faculty of Kinesiology	chronic disease; osteoporosis; osteoarthritis; arthritis	injury prevention; overtaining syndrome;	adults; children; pediatrics;	exercise; physical activity; health promotion		impact that enegy expenditure has on body composition, bone health, vitamin D, cholesterol and adipocytokines; public health; health promotion; fitness epidemiollogy; movement	x			x		Areas of research: 1 - Investigating blood biomarkers changes in progressive exercise interventions programs in patients with chronic disease. 2 - Fitness epidemiology and health promotion 3 - Primary and secondary prevention related to the impact that enegy expenditure has on body composition, bone health, vitamin D, cholesterol and adipocytokines from a clinical and public health perspective.	Patricia (Tish) Doyle-Baker, Dr.PH/PhD | Faculty of Kinesiology | University of Calgary (ucalgary.ca)
Dufour	Antoine	Assistant Professor	University of Calgary	Mcaig Cumming School of Medicine Dept of Physiology and Pharmacology	inflammatory diseases										x	The goal of my lab is to understand how proteolytic post-translational modifications lead to the activation or inactivation of immune responses in inflammatory diseases. By the irreversible processing of bioactive proteins and signaling molecules, proteases modulate all aspects of biology. We focus on proteases and their substrates on a cell, tissue, biopsy or organism-wide scale.	Antoine Dufour, PhD | Faculty of Graduate Studies | University of Calgary (ucalgary.ca)
Duke	Kajsa	Associate Professor	University of Alberta	Faculty of Engineering Dept of Mechanical engineering				orthopedics		orthopedics; biomechanics					x	Dr. Duke's research is in the area of biomechanics with a strong focus in orthopaedics and design. If you are interested in obtaining more detailed information please contact her directly.	Kajsa Duke, PhD, PEng - Directory@UAlberta
Duncan	Neil	Professor	University of Calgary	McCaig Schulich School of Engineering Dept of Civil Engineering	orthopedic discorders			tissue engineered treatments; imaging technologies;		tissue engineering; bioengineering; biomechanics; mechanical stimuli in MSK tissues; mechanobiology					x	Dr. Duncan's research aims to understand and quantify the mechanobiology transduction pathways which drive biological adaptation to mechanical stimulus in musculoskeletal tissues such as intervertebral disc, tendon, bone and cartilage, as well as in 3D stem cell seeded constructs for tissue engineering. In collaboration with biologists, engineers and surgeons, this research aims to provide a mechanistic understanding of mechanobiological factors in orthopaedic disorders, and provide the basic knowledge needed for the development of novel approaches to quantitative diagnostics and tissue engineered treatments. Imaging technologies of confocal and multi-photon microscopy, laser tweezers/scissors, optical coherence tomography, and ultra-high field magnetic resonance imaging are used in combination with uniquely designed multiscale loading devices, computational modeling and molecular biology for investigations across multiple scales in various musculoskeletal tissues. Imaging technologies of confocal and multi-photon microscopy, laser tweezers/scissors, optical coherence tomography, and ultra-high field magnetic resonance imaging are used in combination with uniquely designed multiscale loading devices, computational modeling and molecular biology for investigations across multiple scales in various musculoskeletal tissues.	Neil Duncan | Schulich School of Engineering | University of Calgary (ucalgary.ca)
Edwards	Brent	Associate Professor	Univesrity of Calgary	McCaig; Faculty of Kinesiology		MSK injuries	adults	prevention; diagnostics		biomechanics; prevention MSK injury; biomechanics;	x				x	The broad focus of my research is to understand the mechanisms underlying musculoskeletal injury and to use this knowledge to develop diagnostic and preventive measures to reduce their occurrence. My research spans multiple dimensional scales ranging from whole-body to tissue-level mechanics, and includes basic, applied, and translational approaches. In addition to my formal education in biomechanics and motor control, I have a strong academic foundation in engineering mechanics. Thus, I draw heavily on experimental, analytical, and modelling techniques from each of these disciplines. Specifically, I am interested in the effects of mechanical loading (or lack thereof) on musculoskeletal health, mechanisms underlying skeletal fatigue and fragility fracture, as well as computational modelling to extract clinically relevant information and help guide clinical decision making.	Brent Edwards | Faculty of Kinesiology | University of Calgary (ucalgary.ca)
Ellsworth	Janet	Professor	University of Alberta	Faculty of Medicine and Dentistry Dept of Pediatrics	arthritis; rheumatology		children; pediatrics										
Emery	Carolyn	Professor	University of Calgary	Faculty of Kinesiology	post-traumatic Osteoarthritis (prevention of)	concusions; MSK sport injuries; soft tissue injuries	youth; adults	exercise; physical activity	brain	physical injury prevention; sport; sport injury prevention; rehabilitation; prevention of obesity, post-traumatic osteoarthritis; post-concussion syndrome			x			The focus of Dr. Emery's research program is in injury prevention in youth sport and recreation, concussion, and pediatric rehabilitation; aimed to reduce the public health burden of injury including long-term consequences (e.g. overweight/obesity, post-traumatic osteoarthritis, post-concussion syndrome). She holds a Chair in Pediatric Rehabilitation (Alberta Children's Hospital Research Institute) and is Chair of the Sport Injury Prevention Research Centre (1 of 10 International Olympic Committee Research Centres in Injury and Illness Prevention in Sport) at the University of Calgary. She leads "SHRed Injuries: Preventing Injuries and their Consequences in Youth Sport and Recreation" (CIHR) and "SHRed Concussions-Surveillance in High Schools to Reduce the Risk of Concussions and their Concequences' (NFL Scientific Advisor Board). Dr. Emery was inducted as a Canadian Academy of Health Sciences Fellow and she is a Royal Society of Canada New Scholar.	Carolyn Emery | Faculty of Kinesiology | University of Calgary (ucalgary.ca) https://www.ucalgary.ca/integrated-concussion-research-program/about/icrp-team/carolyn-emery

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Ferber	Reed	professor	University of Calgary	Faculty of Kinesiology	osteoarthritis; arthritis; low back pain	patellofemoral pain syndrome; low back pain; iliotibial band syndrome; running injuries; walking injuries	adults; seniors	clinical exams; clinical assessment of MSK injuries; wearable technologies	foot, knee, low back	injury prevention; biomechanics	x					Injury prevention: Research projects include the pathomechanics and optimal treatment of patellofemoral pain syndrome in runners, validation of clinical exams and optimization of treatment for non-specific low back pain, pathomechanics of iliotibial band syndrome, the relationship between foot structure and foot biomechanics, and optimal treatment protocols for knee osteoarthritis using real-time feedback.	Reed Ferber | Research | University of Calgary (ucalgary.ca)
Ferguson-Pell	Martin	Professor	University of Alberta	Faculty of Rehabilitation Medicine Dept of Rehab Science ABJHI			seniors	technologies; virtual reality; robotics; rehabilitation		physical disability; biomechanics; deep tissue injury;	x		x		x	...has dedicated his academic career to the study of secondary complications of physical disability and studying underlying causes to reduce their incidence....His research team is creating a living laboratory network to study the role technologies can play in community care, particularly for vulnerable seniors. At present this work is being undertaken in partnership with Telus Health Solutions and is supported by both Telus and a substantial grant to support graduate students and post-docs through the federally-funded Mitacs program.	Martin Ferguson-Pell, PhD | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca) https://apps.ualberta.ca/directory/person/fe4
Fritzler	Marvin	Professor	University of Calgary	McCaig Cumming School of Medicine Dept of Biochemistry and Molecular Biology	rheumatoid diseases; arthritis; autoimmune diseases; inflammatory diseases			diagnostic techniques; biomarkers							x	A Cumming School of Medicine research team led by Dr. Marvin Fritzler, a world leader in the diagnosis of autoimmune diseases, has developed a series of blood tests that provide a specific immune fingerprint of these diseases, allowing physicians to diagnose lupus, rheumatoid arthritis and other inflammatory and autoimmune diseases much earlier in their development. Once the specific disease is identified, targeted treatment can begin to prevent or slow its progression.	Marvin Fritzler, M.D., PhD | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca)
Gabel	Leigh	Assistant Professor	University of Calgary	McCaig Faculty of Kinesiology			pediatrics; children	exercise; physical activity	bone	bone micro-architecture; bone strength					x	My doctoral research examined the influence of physical activity on bone microarchitecture, density and strength in children and adolescents using high-resolution peripheral quantitative computed tomography (HR-pQCT). I am currently using HR-pQCT to examine the effect of long-duration spaceflight (and recovery after spaceflight) on bone microarchitecture and strength (TBone study).	Leigh Gabel | University of Calgary (ucalgary.ca)
Gross	Doug	Professor	University of Alberta	Faulty of Rehabilitation Medicine Dept Physical Therapy	chronic pain	disability; MSK disorders	adults	prevention; assessment tools; clnical decision support tools; rehabilitation; public health interventions					x	x		Dr. Gross studies the prevention of disability in people with physical and mental health disorders. This includes investigating the effectiveness of clinical and public health interventions, the validity of clinical decision support and other assessment tools, as well as factors associated with disability.	Doug Gross, PT, PhD - Directory@UAlberta
Hagel	Brent	Professor	University of Calgary	Cumming Schoool of Medicine Departments of Community Health Science Dept of Pediatrics			children; pediatrics; youth	prevention; protective equipment (helmets; playground services); prevention policies		prevention policies	x		x			My key research interest area is child and adolescent injury prevention, in particular, sport and recreational injuries. My research has focused on the evaluation of protective equipment effectiveness and the evaluation of policies related to injury prevention. Current work relates to the determinants of child and youth bicycle, ski and snowboard and ice hockey injuries.	Brent Hagel, PhD | Faculty of Graduate Studies | University of Calgary (ucalgary.ca)
Hanley	David	Professor Emeritus	University of Calgary	McCaig Cumming School of Medicine Dept of Medicine (Division of Endocrinology and Metabolism)	osteoporosis	fractures				calcium metabolism; bone strength; effects of flight on bone					x	Dr. Hanley's clinical research interests are in the endocrinology of normal and abnormal calcium metabolism, and metabolic bone disease, including osteoporosis. He is the Calgary centre director for the Canadian Multicentre Osteoporosis Study, a prospective population-based study of the epidemiology of osteoporosis and fractures. More recently he and Dr. Steve Boyd have been co-principal investigators of a clinical trial assessing the effect of high doses of vitamin D on bone.	David Hanley | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca) https://www.osteoporosiscalgary.com/research.html
Hart	David	Professor	University of Calgary	McCaig Cumming School of Medicine Dept of Surgery	autoimmunie disease; inflammatory disease; osteoarthritis; arthritis; rheumatoid arthritis; cystoic fibrosis		adults	stem cells; cell therapies; platelet rich plasma (PRP)		wound healing; healing response; regulation of inflammatory processes; prebiotics; diet; metabolic diseases					x	Inflammatory processes are critical for many aspects of host defense, are involved in the healing response to injury and contribute to pathologic sequelae (autoimmune diseases, cystic fibrosis, etc.). We are interested in the regulation of components of these processes, particularly proteinases and their inhibitors. By better understanding these processes and components, it may be possible to enhance their influence in some circumstances (healing, host defense) and negate their influence in circumstances detrimental to the host (inflamamatory lung and joint diseases). The laboratory uses the tools of molecular and cell biology to study both in vitro and in vivo animal models of inflammation. Through collaborations with a number of Clinical Scientists, we also focus on various aspects of human disease whenever possible.	https://news.ucalgary.ca/news/weighty-subject-how-obesity-epidemic-taking-toll-our-bones-and-joints
Herzog	Walter	Profesor	University of Calgary	McCaig Faculty of Kinesiology Schulich School of Engineering Dept of Mechanical Engineering					knee	joint loading; muscle force regulation; muscle contraction mechanisms; cell mechanics; neuro-biomechanics of the muscuoskeletal system; biomechanics					x	Dr. Herzog studies cells within the living system using confocal and multi-photon microscopy, which allows his lab to study cells in knee joints while the joint is loaded physiologically by muscular contraction. This capability allows his lab to gather information about the cell mechanics and biological response to loading in both normal and arthritic knees. Dr. Herzog's lab also examines the effect that proteins such as Titin have on muscle force regulation. They look at how the protein may affect cells in people with diseased hearts, however there are many applications for this knowledge including the treatment of cerebral palsy. Dr. Herzog's lab has measured myofibrils from children with cerebral palsy and found that they are ten times 'stiffer' than normal. When Herzog's lab removed Titin from the myofibril they returned to normal stiffness.	Walter Herzog | Research | University of Calgary (ucalgary.ca) https://kinesiology.ucalgary.ca/research/faculty-members/walter-herzog
Hilderbrand	Kevin	Professor	University of Calgary	McCaig Cumming School of Medicine Dept of Surgery	osteoporosis	post-traumatic contractures; hip fractures; fragility fractures	adults	orthopedic surgery; surgery; care pathways for hip fractures; care pathways for agility fractures; care pathways for osteoporosis	elbow; wrist		x				x	The major research interest is post-traumatic contractures of the elbow. Research platforms include in vitro collagen gel studies, molecular and immunohistochemical methods to evaluate tissues, animal models with preclinical evaluation of potential therapeutics, clinical research on elbow injury epidemiology, and randomized clinical trials. Specific clinical studies on elbow and wrist disorders, including case reports, retrospective reviews, prospective cohorts and randomized clinical trials, are other research interests. A recent research direction in health services is developing and implementing care pathways in hip fractures and fragility fractures and osteoporosis treatment. This is in conjunction with the Bone and Joint Strategic Clinical Network.	Kevin Hildebrand, M.D., PhD | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca)
Jamali	Fakhreddin		University of Alberta	Faculty of Pharmacy & Pharmaceutical Sciences	arthritis	inflammation	adults	drugs; medicine; pharmacological agents		pharmacokinetics; inflammation; drug-disease interactions; anti-inflammatory drugs					x		Fakhreddin Jamali, D. Pharm., Ph.D. - Directory@UAlberta
Jomha	Nadr	Professor	University of Alberta	Faculty of Medicine & Dentistry, Dept of Surgery	osteoarthritis; arthritis	cartilage damage; cartilage defects; meniscus defects	adults	joint reconstruction; joint transplantation; articular cartilage transplantation; talar bone replacement; tissue engineering of mensicus; ; trauma surgery; stem cells; orthopedic surgery	lower extremity	prosthetics; scaffolds; tissue engineering; transplantation of articular cartilage; animal transplantation models; virification of articular cartilage	x				x		Profile | Faculty of Medicine & Dentistry (ualberta.ca)

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Jones	Allyson	Professor	University of Alberta	McCaig Faculty of Rehabilitation Medicine Dept of Physical Therapy	chronic musculo-skeletal (MSK) conditions; degenerative spine stenosis	fracture	adults; seniors	rehabilitation; physical therapy; exercise; total joint arthroplasty; surgery; orthopedic surgery	hip	health outcomes; quality of life	x					Dr. Jones' research interests are in patient health outcomes and health-related quality of life in chronic musculoskeletal conditions common in elderly patient populations. Using multiple methods, including patient surveys, clinical evaluation, performance measures, and administrative databases, Dr. Jones looks at functional, health-related quality of life (HRQL), and health services outcomes to determine how we can maximize successful outcomes with total joint arthroplasty, spinal stenosis and hip fracture. Her current core projects are in the following areas: 1) Patient-related outcomes, determinants of total hip and knee arthroplasties; 2) prognostic factors and outcomes of degenerative lumbar spinal stenosis;and 3) factors affecting functional recovery and health related quality of life after hip fracture.	Allyson Jones | Public Health (ualberta.ca)
Jordan	Matt	Assistant Professor	University of Calgary	Faculty of Kinesiology			adults	resistance training; exericse; physical activity; biomechanical assessment; neuromuscular assessments	knee	neuromuscular adaptations; injury prevention; performance management; physiological determinants of muscle strength and power for health and fitness; assessing neuromuscular performance in speed/power athletes, and evaluating the physiological determinants of muscle strength and power for health and fitness	x				x	My primary research interests are assessing neuromuscular adaptations to resistance training in athletes with a special focus on knee injury prevention and optimizing rehabilitation to support return to performance after knee injuries are sustained. I employ whole body biomechanical and neuromuscular assessments to measure the effects of resistance training on basic muscle properties such as the force-velocity relationship and force-length relationship.	Matt Jordan | University of Calgary Contacts (ucalgary.ca)
Kallos	Michael	Professor	University of Calgary	McCaig Faculty of Biomedical Enginnering, Schulich School of Engineering, Dept of Chemical and Petroleum Engineering	osteoarthritis; arthritis			stem cells; cell therapies; tissue engineering		Regenerative medicine, tissue engineering, bioreactor design, cell culture, biotechnology, animal cells, neural stem cells, embryonic stem cells, induced pluripotent stem cells, serum-free medium development, chemical reactor kinetics, mass transfer, modeling.					x	Dr. Kallos' laboratory has been a leader in the development of bioprocesses for stem cell expansion and differentiation. They have specific experience with expanding cells as aggregates or adherent cells on microcarriers in stirred suspension bioreactors. His laboratory is a state-of-the-art 400-m2 tissue culture facility (Biosafety Level 2) focusing its research on biomedical and biochemical engineering, and specializing in animal/mammalian tissue culture and large scale expansion of stem/progenitor cells	Michael Kallos | Schulich School of Engineering | University of Calgary (ucalgary.ca)
Kawchuk	Greg	Professor	University of Alberta	Faculty of Rehabilitation Medicine Dept of Physical Therapy	spinal disorders		adults	physical therapy; rehabilitation; diagnosis (of spinal conditions)	spine; back		x	x			x	Dr. Kawchuk's research interests focus on defining the mechanisms that initiate and sustain spinal disorders so that clinically relevant strategies can be developed toward their prevention or resolution. A major component of his research involves developing new technologies to assess spinal structure and function, then using those technologies to evaluate various clinical interventions. A suite of methodologies are being developed to assess spinal structure and function in both in vitro and in vivo settings. These methods utilize advancements in robotics, ultrasound, magnetic resonance imaging and kinematics. Using the methods developed in-house, Dr. Kawchuk is evaluating the mechanical and genetic responses of spinal tissues to various conditions (real or simulated) including therapeutic interventions. The performance of several methodologies developed in Dr. Kawchuk's team's lab is now being evaluated in several human trials. He expects that some of these methods will be used to better diagnose spinal conditions or to evaluate various therapies.	Greg Kawchuk, BSc, DC, MSc, PhD - Directory@UAlberta
Kenny	Sarah	Assistant Professor	University of Calgary	Faculty of Kinesiology		dance MSK injuries	adults	dance; movement		prevention (dance injuries)	x	x				Kenny is a dance science researcher who investigates areas described as: 'health for dance' and 'dance for health'. Her **primary research interests** include reducing the burden of dance-related injury, thus optimizing dancer performance and mitigating long-term consequences of musculoskeletal injury among dance populations. Through scientific inquiry, Kenny's work strives for a paradigm shift – away from the 'fear and avoidance' culture of dance injury and towards preventing and/or delaying the onset of musculoskeletal injury through primary and secondary prevention strategies. **Secondary research interests** include enhancing the physical and social well-being of non-dance populations, exploring the impact of recreation and community dance as a form of activity for the general population across the age spectrum.	Sarah Kenny | Faculty of Kinesiology | University of Calgary (ucalgary.ca)
Komeli	Amin	Assistant Professor	University of Calgary	McCaig	osetoarthritis; arthritis		adults		knee	cartilage biomechanics; tissue mechanics; articular cartilage degeneration; osteoarthritis progression					x	My research on cartilage biomechanics aims to discover physical activities and loading conditions that promote chondrocytes biosynthesis and proteoglycan production in the treatment of OA. My research on cartilage mechanobiology involves computational and experimental models to study knee joint function. **Biomedical Diagnostic and Imaging**: The pathology of OA is still unclear, and there is no effective treatment to modify OA. In clinical applications, OA is diagnosed through medical images, mainly MRI. However, manual segmentation of knee cartilage from MRI images takes hours for a reader. Dr. Komeili's team focuses on using data mining and machine learning methods to explore the information contained in MRI images that may help monitor the progression of OA. Tissue Mechanics: Mechanical stimuli, such as stresses and strains, are induced by physical activities and regulate articular cartilage (AC) homeostasis. However, clinicians and researchers still do not know what type and level of mechanical loads are safe and effective in reducing the risk of AC degeneration. We do not have adequate tools to measure and predict how physical activities at the joint level deform AC chondrocytes at the cellular level. Our lab develops experimental apparatus and employs novel microscopy techniques to measure the local deformations of chondrocyte and extracellular matrix at different zones in native AC under dynamic loading conditions. Our multiscale approach allows us to study the microscale deformations of ECM near a microscale crack in AC and elucidate the mechanism of crack propagation in cartilage.	https://mccaig.ucalgary.ca/node/48918
Krawetz	Roman	Associate Professor	University of Calgary	McCaig Cumming School of Medicine Dept of Cell biology & anatomy	osteoarthritis			stem cells; cell therapies; tissue engineering							x	Adult stem cells contribute to the tissue function by counteracting normal wear and tear as well as injury. These cells are present throughout the human body, including the synovial membrane located in some joints. Unlike stem cells taken from normal individuals, stem cells derived from the synovium of patients with osteoarthritis are not completely functional in their ability to become cartilage. In individuals with osteoarthritis, cartilage breaks down resulting in pain, stiffness and inflammation. Through his Canada Research Chair, Krawetz seeks to understand the relationship between joint inflammation and the behaviour of the stem cells, which will be essential in developing new treatments.	Roman Krawetz, PhD | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca)

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Academic researchers

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Kuntze	Gregor	Adjunct Assistant Professor	University of Calgary	Faculty of Kinesiology	osteoarthritis; arthritis	ligament deficiency			knee	rehabilitation; motion analysis; biomechanics; motor control;	x				x	At the Human Performance Laboratory, University of Calgary Gregor developed novel methods for the investigation of multi-muscle activation changes. He joined the Department of Mechanical and Manufacturing Engineering in 2012 to conduct research on the biomechanics and motor control of the ligament deficient and osteoarthritic knee joint. This involves motion analysis, high-speed biplanar video-radiography, electromyography and biomedical imaging. His current work as Research Associate at the Faculty of Kinesiology focuses on the application of interdisciplinary research approaches to clinical paediatrics populations and the evaluation of clinical interventions and rehabilitation.	
Lafave	Mark	Proofessor	Mount Royal University	Health and Physical Education		patellor-femoral instsability	adolescents; youth; adults	physical activity; exercise	knee; shoulder	measurement QoL - ACL;	x						https://www.mtroyal.ca/ProgramsCourses/FacultiesSchoolsCentres/HealthCommunityEducation/Departments/HealthandPhysicalEducation/Faculty/mlafave.htm
Lambert	Robert	Professor	University of Alberta	Faculty of Medicine and Dentistry Dept of Radiology and diagnostic imaging	spondyloarthritis; osteoarthritis; arthritis		adults	screening; assessment	sacroiliac joint	biomarkers; imaging; MRI; screening; assessment; inflammation;	x						Profile | Faculty of Medicine & Dentistry (ualberta.ca)
Larouche	Richard	Assistant Profsesor	University of Lethbridge	Facutly of Health Sciences	obesity		pediatrics; children; youth	physical activity; exercise		movement promotion in children and youth; mobility; sedentary behaviour; outdoor play		x		x		My research focuses on physical activity - predominantly among children and youth - with a special interest in active transportation (e.g., using non-motorized travel modes such as walking and cycling to get to and from places), independent mobility (e.g., children's freedom to move around in public space without adult supervision), and outdoor play.	https://uniweb.uleth.ca/members/1047
Li	LePing	Associate Professor	University of Calgary	Schulich School of Engineering Dept of Mechanical and Manufacturing Engineering					knee; shoulder	cartilage biomechanics; joint mechanics; tissue mechanics; cell mechanics; biomedical instruments					x	Dr. Li's recent research is focused on the mechanics and mechanobiology of articular cartilage and human/animal knee joints, using both computational and experimental methods. He also works on numerical analysis of soil-pipe interaction and other engineering structures. His recent research contributions include the development of a fibril-reinforced theory of articular cartilage, which has been frequently cited in the area of cartilage mechanics. He pioneered the study of fluid pressure load support in patient-specific knee joint models.	Leping Li | Schulich School of Engineering | University of Calgary (ucalgary.ca)
Lou	Edmond	Associate Professor	University of Alberta	Faculty of Engineering Dept of Electrical & Computer Eng	scoliosis; spinal deformities		pediatrics; children	othropedics; rehabilitation	back; spine; back	implantable wireless sensors for detecting loads applied by orthopedic surgeons and bone healing process after surgery; Developing an ultrasound, camera, spatial sensors and pressure control platform to assist orthotists and orthopedic surgeons to deliver better treatment for children who have spinal deformities.	x				x	My research interests are in the areas of low-power wireless embedded systems, artificial intelligence, ultrasound and medical imaging with a strong focus in orthopedics and rehabilitation. I am also focused on the development of tools to provide better assessment and treatment for children who have musculoskeletal disorders, primarily scoliosis Wireless Implanted Sensor Platform: Developing implantable wireless sensors for detecting loads applied by orthopedic surgeons and bone healing process after surgery.	Edmond Lou - Directory@UAlberta
MacInnis	Martin	Assistant Professor	University of Calgary	Faculty of Kinesiology			adults			muscle physiology; response to acute and chronic exercise stimuli					x	We are interested in how physiological systems respond to acute and chronic exercise stimuli to improve aerobic capacity and exercise tolerance and the factors that mediate these responses.	Martin MacInnis | University of Calgary (ucalgary.ca)
Magee	David	Professor	Univrsity of Alberta	Faculty of Rehabilitaiton Medicine	patellofemoral pain syndrome; temporomandibular joint disorder		adults	musculoskeletal physical therapy assessment; physical therapy interventions; electrophysical agents	shoulder; jaw		x					Dr. Magee's research interests lie in musculoskeletal physical therapy assessment and treatment including functional return to activity, systematic reviews and evidence-based musculoskeletal practice. His research is eclectic in nature covering a wide range of topics. His students are currently investigating temporomandibular joint disorder, patellofermoral pain syndrome, electrophysical agents and pain, and the shoulder.	David Magee, PhD - Directory@UAlberta
Maksymowych	Walter	Professor	University of Alberta	Faculty of Medicine and Dentistry Dept of Medicine (Division of Rheumatology)	rheumatoid arthritis; arthritis; ankylosing spondylitis; osteoarthritis; spondyloarthritis		adults	anti-TNF therapy; biologics; medicine; drug therapy	spine; back; knee	inflammation; biomarkers; imaging technologies; MRI; radiography	x		x		x	The imaging technologies Dr. Maksymowych developed quantifies the degree of inflammation in the spine, hip and knee for different forms of arthritis such as spondylitis (inflammation of the vertebrae) and osteoarthritis. The methodology shows the effects a drug is having on inflammation and is the industry standard for evaluation of new therapeutics in clinical trials. Dr. Maksymowych co-discovered that blood protein 14-3-3n is a biomarker that indicates the presence of rheumatoid arthritis, the severity of the disease and a cause of joint inflammation. A blood test developed from the discovery was commercialized as JOINTstat™ and is used widely in North America.	Profile | Faculty of Medicine & Dentistry (ualberta.ca)
Manske	Sarah	Assistant Professor	University of Calgary	McCaig Cumming School of Medicine Dept of Radiology	osteoarthritis; rheumatoid arthritis; arthritis					MSK imaging; biomechanics; medical imaging; HR-pQCT; tomography, MRI; magnetic resonance imaging					x	Sarah's research is focused on musculoskeletal imaging, with particular interests in using high-resolution quantitative computed tomography (HR-pQCT) and magnetic resonance imaging (MRI) to better understand osteoarthritis and rheumatoid arthritis. Her research program aims to reduce the burden of musculoskeletal diseases by improving our understanding of the mechanisms that underpin them.	Sarah Manske | Cumming School of Medicine | University of Calgary (ucalgary.ca)
Marshall	Deborah	Professor	University of Calgary	Cumming School of Medicine Dept of Community Health Sciences	arthritis		adults	arthoplasty; surgery; orthopedice surgery; rehabilitation		health economics; dynamic simulation modeling; decision analyses; personalized medicine; patient preferences;		x	x				HE Deborah Marshall | O'Brien Institute for Public Health | University of Calgary (ucalgary.ca)
Matyas	John	Professor	University of Calgary	McCaig Cumming School of Medicine Dept of Comarative Biology and Experimenal Medicine Dept of Cell Biology and Anatomy Dept of Pathology and Lab Medicine	degenerative joint disease; chronic pain	joint injury		stem cells; cell therapies		functional imaging of connective tissues					x	Dr. Matyas' research focuses on joint tissue pathobiology, and the causes and treatments of degenerative joint disease. This includes comparative animal models of joint injury and repair, contribution of stem cells to skeletal healing, functional imaging of connective tissues (cartilage, bone, intervertebral disc) and stereology of connective tissues. Dr. Matyas also has an interest in chronic joint pain.	John Matyas | Research | University of Calgary (ucalgary.ca) https://mccaig.ucalgary.ca/matyas
Meeuwisse	Willem	Professor (Emeritus)	University of Calgary	Faculty of Kinesiology		concusions; MSK sport injuries	youth; adolesents; adults	exericse; physical activity	brain	physical injury prevention			x	x		Dr. Meeuwisse is the Medical Director of the National Hockey League, and a sport medicine physician with clinical interests that range from recreational to elite athletes. He has had a long career in research on sport health screening, risk analysis and injury prevention. He is the founder of the Sport Injury Prevention Research Centre in the Faculty of Kinesiology at the University of Calgary, which is part of the IOC Medical Research Network. He is also a founding member of the Concussion in Sport Group and recently Co-Chaired the 5th International Consensus Conference on Concussion in Sport. He currently serves as a Senior Associate Editor of the British Journal of Sports Medicine -Injury Prevention and Health Protection	Dr. Willem Meeuwisse | University of Calgary (ucalgary.ca)
Mummery	Kerry	Professor	University of Alberta	Faculty of Kinesiology			adults	physical activity; exercise; health promotion					x	x		My research focuses on the promotion and understanding of health-related physical activity	Kerry Mummery, PhD, FASMF - Directory@UAlberta

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Academic researchers

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Parent	Eric	Associate Professor	University of Alberta	Faculty of Rehabilitation Medicine Dept of Physical Therapy	scoliosis; low back pain		adults	full-torso surface topography; exercise; physcial activity; physical therapy	back; spine; low back		x					The Schroth Exercise Trial for Scoliosis (SETS) study; The measurement properties of Full-torso surface topography for scoliosis; Spinal stiffness characteristics and muscle thickness asymmetries at different levels of scoliosis curves; Identifying predictors of good therapeutic response to repeated exercises in patients with low back pain; Correlations between the changes in pain and the changes in lumbar pathoanatomical findings in response to repeated movement exercises.	Eric Parent, PhD - Directory@UAlberta
Pasanen	Kati	Assistant Professor	University of Calgary	Faculty of Kinesiology			youth; adolesents	prevention; wearable technologies; neuromuscular exercise; exericse; physical activity	lower extremity; knee; ankle	physical injury prevention; risk; biomechanics; epidemiology; decrease inquiry risk;	x		x			Pasanen's research program is focused on three major areas: (1) identification of risk factors for lower extremity injuries; (2) development of novel methods for training load monitoring by using wearable technology; and (3) development and evaluation of neuromuscular training programs to decrease the risk of injuries in youth sports. Pasanen has five studies in collaboration with Finland investigating risk factors, mechanisms and prevention of musculoskeletal injuries in team sports, recreational runners, and in professional ballet. Knowledge generated from the research and collaboration could ultimately lead to better understanding of causes and mechanisms of lower extremity injuries, which could allow them to develop current injury prevention programs, promote lifelong sport participation and lower public health care costs related to injury in youth sport.	Kati Pasanen | Faculty of Kinesiology | University of Calgary (ucalgary.ca)
Putman	Charles	Associate Professor	University of Alberta	Faculty of Kinesiology				skeletal muscle contractions; external environment response; rodent; animal models; muscle training; fast twitch; slow twitch							x	Skeletal muscle contractions generate the forces that allow us to interact with our environment. The structural and functional characteristics of skeletal muscle fibres determine the nature and quality of those interactions. A post-mitotic tissue, skeletal muscle possesses considerable plasticity that allows it to dramatically change its structural and functional properties to meet new demands placed on it by the external environment. My research uses a rodent model of muscle training (chronic low-frequency electrical stimulation - CLFS) that converts fast contracting (fast-twitch) muscle that fatigues rapidly into a slower contracting, fatigue resistant phenotype. This model forms the primary experimental basis to investigate the mechanistic underpinnings of skeletal muscle plasticity in vivo. Current studies focus on determining: (1) how calcineurin signalling directs CLFS-induced fast-to-slow fibre type transitions; (2) the contributions of muscle progenitor cell populations in directing fast-to-slow fibre type transitions.	
Rancourt	Derrick	Professor	Univeristy of Calgary	Cumming School of Medicine; Dept of Oncology Dept of Medical Genetics Dept of Biochemistry & Molecular Biology				stem cells; cell therapies; tissue engineering							x	The Rancourt lab research program revolves around the derivation, expansion, differentiation and genetic manipulation of mouse and human pluripotent stem cells (PSCs), including embryonic stem (ES) cells and induced pluripotent stem (iPS) cells. Recently, we have discovered that fluid shear stress in SSBs induces pluripotency and significantly increases the efficiency of generating iPS cells.	Derrick Rancourt | Cumming School of Medicine | University of Calgary (ucalgary.ca)
Rolian	Campbell	Associate Professor	Univeristy of Calgary	McCaig Cumming School of Medicine Dept of Comparative Biology & Experiemental Medicine Faculty of Veternary Medicine	osteoarthritis; arthritis; osteoporosis					musculoskeletal anatomy of the limb bones; relationship of limb bone morphology to performance					x	Our research group focuses on musculoskeletal anatomy of the limb bones. Specifically, we are interested in: (i) the genetic and developmental basis of variation in limb bone size and shape, both within and between species, (ii) the evolvability of the postcranial skeleton, (iii) the relationship between limb bone morphology and whole organism performance. To address these questions, we have set up a long-term artificial selection experiment targeting inreases in limb bone length in a mouse population. After 20 generations of selective breeding, we have produced mice, called Longshanks, with tibiae (shin bones) on average 16% longer than a random-bred control cohort, but with the same average body mass (see pic). We have begun to look at the developmental basis of this increase in limb bone length using high-throughput RNA sequencing. In parallel, we are studying the functional consequences of having longer limbs, with respect jumping and running performance. Finally, we are also using this unique model to understand the relationship between limb bone length (as a proxy for height) and rapid growth rates on musculoskeletal disorders such as osteoporosis and osteoarthritis.	Campbell Rolian | Faculty of Veterinary Medicine | University of Calgary (ucalgary.ca) https://mccaig.ucalgary.ca/rolian
Ronsky	Janet	Professor	University of Calgary	McCaig Schulich School of Engineering Dept of Mechanical & Manufacturing Egineering Faculty of Kinesiology	scoliosis; osteoarthritis; arthritis	ACL deficiency				dynamic joint function; muscular neuromotor control; joint mechanics; msculoskeletal system structure; medical imaging; movement analysis; machine learning					x	Our research group is focused on understanding relations amongst static and dynamic function and neuromotor control of the musculoskeletal system, as well as the role which alterations to bone and joint structures, mechanics and integrity associated with injury and aging play in joint health status. This year, we have extended our studies of in-vivo joint dynamic function and structure to include neuromotor control aspects as well as subject specific segmental inertial properties and muscle strength (based on MR imaging). These studies have focused on identifying alterations in in-vivo joint mechanics, joint congruence and function associated with PFPS and anterior cruciate ligament (ACL) deficiency. Additionally, studies investigating the role of ACL deficiency, reconstruction and bracing on dynamic stability and muscular coordination are in progress. Using helical axis approaches, we have successfully demonstrated differences in dynamic joint stability in ACL deficient subjects. In collaboration with Geomatics Engineering, we have identified image and surface registration model enhancements for MRI data, as well as new non-linear reconstruction algorithms based on bundle adjustment techniques that provide improved accuracy and computational efficiency for RSA. Our collaborative research evaluating relations between locomotion, postural control and eye gaze, as a function of joint health status and performance level have provided new insights into differences in movement control strategies utilized between trained "superperformers" and those with joint injuries. Our scoliosis research study expanded to include monthly clinical data acquisitions, comparative evaluations of optical imaging system accuracies between research centres and further development of the scoliosis brace prototype. We developed new approaches to classification of scoliosis curvatures using artificial intelligence approaches, as well as new methods for predictions of scoliotic curvatures based on external torso measurements.	Janet Ronsky | Research | University of Calgary (ucalgary.ca) https://schulich.ucalgary.ca/contacts/janet-lenore-ronsky
Rumsey	Dax	Associate Professor	University of Alberta; Woman's & Children's Health Research Institute	Faculty of Medicine and Dentistry Dept of Pediatrics Dept of Medicine (Divison of Rheumatology)	juvenille idiopathic arthritis; arthritis; enthesistis-related arthritis; spondyloarthritis; pediatric rheumatology		adolescent; youth; males; pediatrics		sacroiliac joint	general to ERA; magnetic resonance imaging; functional performance (6 walk test)			x			Using an existing National database of patients with JIA, which includes data on ~1500 patients and ~15,000 clinic visits over 5 years of follow-up, I am interested in describing the pattern of involvement (number of sites and particular areas of involvement) of enthesitis over time, the effect of enthesitis on quality of life, and the response of enthesitis to various treatments.	Dax Rumsey – WCHRI

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Sen	Arindom	Professor	Univrsity of Calgary	McCaig; Schulich school of engineering, Dept of Chemical and Petroleum Egineering		bone & joint injuries		stem cell based therapies; cell therapies		biomedical engineering; scale up production of stem cells for therapeutic applications					x	Dr. Sen's current research interests lie in the areas of biochemical and biomedical engineering. His primary research program focuses on making contributions to the development of adult stem cell based therapies by combining principles from the biological sciences, engineering, and medicine. Stem cells are unspecialized cells that have the ability to divide and generate the different specialized cell types that provide the functional capabilities of a particular tissue. This awesome regenerative capacity means that stem cells hold promise as therapeutic agents in the treatment of those medical conditions that result from the death of specialized cells within a tissue. The replacement of the dead cells with fully functional specialized cells, an approach known as cell based therapy, may be able to reverse these medical conditions. However, stem cells are only present in adult tissues in very sparse quantities, and as such, cannot simply be harvested in clinically relevant numbers. Thus, if stem cell therapy is to achieve widespread clinical significance, standard methods will need to be developed to expand stem cell populations in culture, and then to induce these generated stem cells populations towards desired specialized cell types and tissues. Dr. Sen is working on developing bioreactor based generation systems to scale-up the production of a wide array of stem cell types including neural, pancreatic, hepatic, cardiac, adipose, and mesenchymal stem cells. He is also investigating how physical, chemical and mechanical cues can be used to induce stem cells to become clinically useful specialized cells including those which can be used to repair bone and joint injuries, and reverse neurodegenerative conditions such as Parkinson's disease.	Arindom Sen | Schulich School of Engineering | University of Calgary (ucalgary.ca) https://www.ucalgary.ca/research/scholars/sen-arindom
Shan	Gongbing	Professor	University of Lethbridge	Dept of Kinesiology & Physcial Education		repetative stress injuries;	adults	equipment design		biomechanics; sport performance; music performance; 3D motion analysis; ageing; fall prediction; falls prevention; occupational injury prevention					x	Dr. Shan's research interests cover the areas of biomechanical modelling of sports skills, anthropometry, motor control and learning, injury prevention and population health problems. His current research interests lie in understanding the mechanism of posture control by the way of Biomechanical modelling, artificial neural network modelling (ANN), Biomechanical analysis of musical performances and multi-media application in biomechanical teaching	
Shrive	Nigel	Professor	University of Calgary	McCaig Schulich School of Engineering Dept of Civil Engineering						biomechanics; biomedical engineering; mechanical and structural behaviour of ligaments and articular cartilage; healing of damaged tissue; restoration of normal function of damaged tissue					x	In the Biomechanics area, the research has been focused on the mechanical and structural behaviour of ligaments and articular cartilage. The interest has been in defining how the properties of these tissues change with age, and improving the healing of damaged and transplanted tissues to restore as close to normal function as possible. Many new instruments have been devised for various aspects of the work, with one now under license to a major world-wide manufacturer of testing equipment. Clinical treatment of damaged ligaments has changed as results have been published. Recent work has been centered on testing whole joints with a robot.	Nigel Shrive | Schulich School of Engineering | University of Calgary (ucalgary.ca)
Stefanyshyn	Darren	Professor	University of Calgary	Faculty of Kinesiology		sport injuries	adults; athletes	injury prevention	ankle; knee	biomechanics; joint loading	x				x		Darren Stefanyshyn | University of Calgary Contacts (ucalgary.ca)
Tomkins-Lane	Christy	Professor	Mount Royal University	Dept of Health and Physical Education	spinal stenosis; lumbar spine stenosis; osteoarthritis; arthritis		adults	physical activity; exercise	spine; back; knee	wearable devices; digital health; e-health; outcomes assessment; diagnosis	x		x				Christy Lane | MRU (mtroyal.ca)
Twilt	Marinka	Assistant Professor	University of Calgary	McCaig Alberta Children's Hospital Research Institute (ACHRI) Cumming School of Medicine Dept of Pediatrics	rheumatoid arthritis; TMJ arthritis; juvenile idiopathic arthritis		children; youth; pediatrics			integrated health economic evaluations; precision medicine; inflammation; personalized medicine	x		x			Marinka is a clinician scientist at the Univeristy of Calgary and her research focusses on precision medicine, TMJ arthritis, autoinflammation and immunedysregulation. Marinka is the clinical director clinical research at the Alberta Children's Hospital Research Institute (ACHRI) since December 2018, and has taken over the role of CCHCSP centre lead from Dr Susanne Benseler in March 2019.	Marinka Twilt, M.D., PhD | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca) https://cchcsp.ca/comitees/marinka-twilt/
Vette	Albert	Associate Professor	University of Alberta	Faculty of Engineering Dept of Mechanical Engineering					ankle, back, leg	movement; biomechanics; sensorimotor speed of processing; rehabilitation engineering; balance; biomedical engineering; rehab engineering; gait and posture					x	My research interests are in human movement biomechanics, neuromuscular control of gait and posture, computational neuroscience, determinants of sensorimotor speed of processing, quantitative assessment of movement, and rehabilitation engineering.	Albert Vette, PhD, PEng - Directory@UAlberta
Visentin	Peter	Professor	University of Lethbridge	Faculty of Fine Arts		repetative stress injuries	adults	injury prevention		biomechanics; music; education;			x	x		Peter has been the lead investigator in a project that studies the biomechanics of violin performance, their relationship to the development of repetitive stress injuries, and injury prevention education strategies. This work has been accepted for publication and presented at conferences in the fields of Music and Medicine, Biomechanics, Music Education, and Music. It has drawn attention from newspaper and television media, including the Discovery Channel.	https://uniweb.uleth.ca/members/254
Westover	Lindsey	Assistant Professor	University of Alberta	Faculty of Engineering Dept of Mechanical Engineering	spinal deformity; adolescent idiopathic scolosis	pelvic fracture	adults; adolescents; youth		back; spine; back; pelvis	Asymmetry analysis for evaluation of spinal deformity; Joint biomechanics including evaluation of ligaments and cartilage	x				x	Her research focus is in biomechanics and biomedical engineering. Dr. Westover's research includes laboratory experimental work, computational modeling, and in vivo experimental work. -Vibration analysis for evaluation of osseointegration of percutaneous implants -Joint biomechanics including evaluation of ligaments and cartilage -Asymmetry analysis for evaluation of spinal deformity	Lindsey Westover, PhD, PEng - Directory@UAlberta
Yacyshyn	Elaine	Professor	University of Alberta	Faculty of Medicine & Dentistry Dept of Medicine (Division of Rheumatology)	Rheumatoid Arthritis; rheumatic diseases; arthritis		adults	drugs; medicine; cannabis; medical marijuana			x					She is principal investigator and co-investigator on several clinical trails of drugs for rheumatic diseases. Her research has received numerous grants from regional and national organizations, including industry, and has resulted in many publications, abstracts, review and Delphi papers, and case reports.	Profile | Faculty of Medicine & Dentistry (ualberta.ca)
Yokota	Toshifumi	Professor	University of Alberta	Faculty of Medicine and Dentistry Dept of Microbiology	muscular dystrophies; Duchenne muscular dystrophy; facioscapulohumeral muscular dystrophy			drug therapy; precision medicine		precision medicine; precision health;					x		Toshifumi Yokota | Medical Genetics (ualberta.ca)

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Batuyong	Eldridge	Clinical Assistant Professor	University of Calgary	McCaig	arthritis		adults		hip, knee foot, ankle								
Bergman	Joseph	Assistant Clinical Professor; MD	University of Alberta				adults	surgery; rehabilitation	shoulder, elbow, wrist		x						His research interests include biomechanics studies as well as surgical techniques and rehabilitative regimes, mostly around the shoulder, elbow and wrist.
Billington	Emma	Assistant Clinical Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Radiology	osteoporosis						x						
Bois	Aaron	Clinical Assistant Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery	rotator cuff pathology	shoulder instability; proximal humerus fractures	adults	imaging;; clinical pathways; surgical care pathways; surgical treatments; non-surgical treatment; conservative treatments	shoulder	shoulder instability; bone loss	x						His current research focus includes advanced imaging of the shoulder as it relates to bone loss in shoulder instability, clinical and surgical care pathways for patients with rotator cuff pathology, and outcomes following both operative and nonoperative treatment of proximal humerus fractures.
Boorman	Richard	Clinican	University of Calgary	Dept of Surgery; Faculty of Kinesiology (Sports Medicine Centre)		rotator cuff injury	adults	non-operative interventions; imaging; Bankart and Latarjet repair; arthroscopy	shoulder		x						
Bouliane	Martin	Assistant Clinical Professor; MD	University of Alberta	Glen Sather Sports Medicine Clinic		trauma; fractures	adults	surgery; immobilizations	shoulder; elbow; wrist; upper extremity	biomechanics; repair	x						
Buckley	Richard	Professor	University of Calgary	Dept of Surgery		trauma; orthopedic trauma; fractures; dislocations	adults	surgery; total hip arthroplasty	hip; foot; ankle; lower extremity		x						
Chan	Robert	Assistant Clinical Professor; MD	University of Alberta			rotator cuff injury	adults	early mobilization	shoulder	meta-analysis	x						Early Mobilization following Rotator Cuff Repair: a Meta-analysis of the Current Evidence (2017-Present)
Clark	Marcia	Clinical Associate Professor	University of Calgary	Dept of Surgery	osteoarthritis; arthritis	fracture		anticoagulation; surgery; arthroplasty; bicompartmental knee arthroplasty; total knee arthroplasty; orthopedic surgery	hip; knee; lower extremity	education; simulation education; waste	x					x	
DeFreitas	Terry	Assistant Professor; MD	University of Alberta	Glen Sather Sports Medicine Clinic		chronic MSK injuries	adults	platelet rich plasma; interdisciplinary care			x						Interdisciplinary care models, team-based care, the application of platelet rich plasma for chronic musculoskeletal injuries
Dodd	Andrew	Clinical Lecturer	University of Calgary	McCaig Cumming School of medicine, Dept of Medicine (Division of Orthopedic Surgery)	charcot neuroarthropathy (CN); arthritis	fracture; disclocation		surgery; total ankle replacement	foot; ankle	residency; surgical services	x		x			x	
Duffy	Paul	Clinical Assistant Professor	University of Calgary	McCaig Cumming School of medicine, Dept of Medicine (Division of Orthopedic Surgery)		trauma	adults	orthopedic trauma surgery; total hip replacement; total knee replacement			x						
Emery	Derek	Professor	Univesrity of Alberta	Faculty of Medicine and Dentistry, Dept of Radiology						choosing wisely; low value care			x				
Evaniew	Nathan	Clinical Assistant Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery	spinal disorders; cervical spondylotic myelopathy; back pain; degenerative disc disease	acute traumatic spinal cord injuries	adults	spinal surgery; lumbar fusion surgery; surgery		pragmatic trials; collaborative multi-center studies; back pain	x						
Hazelwood	Glenn	Associate Professor	University of Calgary	Cumming School of Medicine, Dept of Medicine (Division of Rheumatology)	rheumatoid arthritis; arthritis		adults	biologics; drugs; medicine		patient preferences	x		x				
Hornik	Joanne	Professor	University of Alberta	Faculty of Medicine and Dentistry; Division of Rheumatology		rheumatoid diseases; autoimmune diseases; inflammatory diseases	adults					x		x			
Hu	Richard	Clinical Professor	University of Calgary	Division of Orthopedic Surgery	osteoarthritis; arthritis; lumbar spinal stenosis; back pain			physical activity; exercise	spine; back; knee	biomarkers; accelerometers; phenotypes; function; measurment tools; lifestyle; media campagins	x			x			
Hui	Catherine		University of Alberta			ligament tear; ligament rupture	adults	arthroscopy; imaging; 3D magnetic resonance imaging; high tibial osteotomy	leg; lower extremity	anterior cruciate ligament reconstruction	x						
Hutchinson	Carol	Associate Professor	University of Calgary	McCaig Cumming School of Medicine; Dept of Surgery		trauma; orthopedic trauma	adults	orthopedic surgery; joint transplantation; total joint replacement;			x						no publications since 2015
Illical	Emmanuel		University of Calgary	Cumming School of Medicine; Dept of Surgery		syndesmotic injuries; trauma; ankle fracture; humeral fracture; talar neck fracture; fracture	adults	surgery; orthopedic surgery; open reduction with internal fixation	ankle; hip; lower extremity	length of stay; 30-day re-admissions	x						

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Jacob	Jaremko	Associate Professor	Univesity of Alberta	McCaig Dept of Radiology & Diagnostic Imaging		hip dysplesia	infants; pedatrics; adults	diagnositics; assessments - ultrasound; MRI; semi-quantiative scoring system	hip; knee	cartilage; ultrasound; imagnig; artificial intelligence					x		Hip dysplasia affects 1-3% of all infants born, and leads to dislocated hips in severe cases and premature osteoarthritis in milder cases if missed. Current screening for hip dysplasia uses conventional 2D ultrasound, which is unreliable because the limited view of the hip it shows depends highly on the skill of the sonographer. Since 2012 my research team has been performing 3D ultrasound scans of hundreds of infants suspected of having dysplastic hips. 3D ultrasound provides a much more complete view of the hip, which ought to lead to more reliable diagnosis of hip dysplasia. We are developing visual and quantitative ways to make this diagnosis from 3D data. Many forms of arthritis, previously thought to be inevitable consequences of ageing and untreatable, are increasingly recognized to be at least partly due to treatable inflammation. To decide in whom a treatment is likely to be successful, to test whether a new therapy is effective, and to understand the natural history of each form of arthritis, it is important to have measures of disease that are more objective than patient-reported pain. MRI allows reliable tracking of disease status and changes over time, especially when a semi-quantitative scoring system is applied by a trained user.	Profile | Faculty of Medicine & Dentistry (ualberta.ca)
Jirik	Frank	Professor	University of Calgary	Dept of Biochemistry and molecular biology	inflammatory arthritis; arthritis										x		Relevant: The Jirik lab has considerable experience with the generation and analysis of transgenic animals as a means to study gene function in vivo, including the creation of models of human genetic disease. Engaged in research activities spanning various disciplines, the work has involved a variety of collaborative projects, past and present, including: (i) **studies in inflammation and autoimmunity (involving models of inflammatory arthritis,** T cell and macrophage biology, tumour immunology, models of experimental colitis, and experimental autoimmune encephalomyelitis);	
Johnson	Nicole	MD; Clinical Associate professor	University of Calgary	ACHRI Dept of Paediatrics	rheumatic disease; juvenille idiopathic arthritis;		children; pediatrics	self management (for children); physical activity; exercise; biologics; drugs; medicine		QofL; transition from pedatric health care system to adult health care system for patients with rheumatic disease	x		x				outcomes in children and youth with paediatric rheumatic diseases. A particular area of my research is in the assessment of health-related quality of life in patients with juvenile idiopathic arthritis. I have a specific interest in issues related to the transition of the pediatric rheumatic patient as they move from the pediatric health care systems into the adult care. I have participated in studies using information technology to facilitate self-management skills for youth with juvenile idiopathic arthritis. In addition, I have studied the role of physical activity in patients with juvenile idiopathic arthritis. I have participated in industry clinical trials assessing the safety profile for biologic therapy in juvenile idiopathic arthritis.	
Johnston	Kelly	Clinical Assistant Professor	University of Calgary	McCaig Cumming School of Medicine; Dept of Surgery	acute posterior thigh compartment syndrome	hamstring tendon avulsion; tibial plateau fracture; femoral insufficiency fracture; radioulnar joint instability	adults	joint capsular plication; alendronate therapy; arthroplasty; knee arthroplasty; hip resurfacing arthroplasty;	hip; knee; elbow	biomechanics	x							
Joughin	Elaine	MD; Clinical Assistant Professor	University of Calgary	ACHRI Dept of Paediatrics	osteochondritis; dessicans fo the knee	brachial plexus injury; dislocation of the knee and patella (congenital and acquired)	adults; children; pediatrics	surgery	shoulder		x						Main areas of research interest; brachial plexus injyury, hemophilic arthropathy, osteochondritis dessicans of the knee, congenital and acquired dislocations of the knee and patella Brachial plexus injury - unfunded prospective study - 3 dimensional analysis of shoulder and arm movement during functional tasks preoperative and postoperative shoulder reconstruction surgery. Improved shoulder and arm kinetics have been demonstrated after tendon and arthroscopic shoulder releases to enable children with functional upper limb deficits to achieve measurable goals. Functional improvements that are important to these children include the ability to wash and comb hair, carry heavy objects, reach above the shoulder to place and remove objects on shelves, and cosmetically more acceptable movement of the affected limb. Our results have allowed us to evaluate the effectiveness of surgical procedures so that we can critically evaluate our management for each child.	
Keeling	Stephanie	Professor	University of Alberta	Dept of Medicine; Division of Rheumatology	lupus		adults	diagnositics			x						My research aims to discover ways to diagnose lupus early in its development and to ensure all lupus patients receive consistent high-quality care so that the disease is optimally managed.	

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Khan	Aneal	MD; Adjunct Professor	University of Calgary	ACHRI Dept of Paediatrics	bone health in metabolic disorder		children; newborns; infant; pediatrics				x						
Korley	Robert	Clinical Lecturer	University of Calgary	McCaig Cumming School of Medicine, Dept of Medicine; Division of Orthopedic Surgery		meniscal tears; hip fractures;	adults	orthopedic surgery; imaging - CT reconstruction of fractures; total hip replacement; total knee replacement	hip; knee		x						
Kuchinad	Raul	Clinical Lecturer	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery	joint deformity		adults	orthopedic surgery;surgery; total hip replacement; total knee replacement; arthroplasty; knee arthroscopy; revision surgery	knee; hip								
LaMothe	Jeremy	Clinical Lecturer	University of Calgary	McCaig Cumming School of Medicine, Dept of Medicine; Division of Orthopedic Surgery	foot and ankle conditions	trauma	adults	orthopedic surgery; surgery	foot; ankle		x						
LeBlanc	Justin	Clinical Assistant Professor	University of Calgary	McCaig	quadrilateral space syndrome; symptomatic os acromiale; exertional supraspinatus syndrome	rotator cuff injury;		orthopedic reconstruction; shoulder reconstruction; platlet-rich plasma	shoulders, neck; back; spine		x						
Lebrun	Constance		University of Alberta	SURGE Glen Sather Sports Medicine Clinic	patellofemoral pain syndrome	rotator cuff; ACL deficiency	adults	dynamic imaging	knee; shoulder		x						
Lewkonia	Peter		University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery	acute sciatica; facet synovial cysts; cervical trauma	surgical site infectinon	adults	lumbar spine fusion; surgery	spine, lumbar spine; thoracic spine; back	measurement; disease classification; evidence-based medicine	x						last publication on researchgate from 2015
Lo	Ian	Assistant Professor	University of Calgary	McCaig	shoulder conditions			orthopedic surgery; surgery			x						
Longino	David		University of Calgary	Department of Surgery		fractures	adults	Total knee replacement; oxford knee replacement; botox; injections; surgery; orthpedic surgery	knee; shoulder	contractile properties of muscles; muscle weakness; joint mechanics; joint degeneration and role of muscle					x		
Luca	Nadia	MD; Clinical Associate professor	University of Calgary	Dept of Paediatrics; ACHRI	rheumatoid arthritis; arthritis; juvenille idiopathic arthritis;		children; pediatrics; youth	self management; information technologies		outcomes; quality of life; shared decision making	x						My research focus is in measuring health outcomes in children and youth with paediatric rheumatic diseases. Of particular interest is measuring and improving health-related quality of life in patients with juvenile idiopathic arthritis (JIA). I am also involved in studies using information technology modalities (e.g. Skype, iPhone apps) to facilitate self-management skills in youth with JIA and enhance shared decision-making in this population.
MacMullan	Paul	Clinical Associate Professor	University of Calgary	McCaig	Rheumatoid arthritis; arthritis; ankylosing spondylitis												
Mahood	James	Associate Clinical Professor	University of Alberta	Cumming School of Medicine, Dept of Surgery	spinal deformity; scoliosis		adults; adolescent	ultra sound; imaging; surgery; spinal cord surgery	back; spine		x						
Manocha	Ranita	Clinical Associate Professor	University of Calgary	McCaig	Spinal chord; nerve injury; pain			gait aids; bracers		biomechanical effects; orthotics; elecromyography; wheelchair	x						Dr. Manocha's research interests involve the biomechanical effects of gait aids and braces. Her clinical practice includes outpatient electromyography, orthotics, and wheelchair seating.
Martin	Liam	Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Medicine; Division of Rheumotology	rheumatoid arthritis; fibromyalgia; lupus					care access		x					
Martin	Ryan	Lecturer	University of Calgary	Division of Orthopedic Surgery; McCaig		fractures		orthopedic surgery; surgery; imaging	clavical; hip	joint integrity	x						
Miettunen	Paivi	Associate Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Medicine; Division of Rheumotology	Rheumatoid arthritist; arthritis		children; pediatrcis				x						
Mohtadi	Nicholas	Adjunct Associate Professor	University fo Calgary	Facult of Kinesiology		knee injury (soft tissue); ACL ru	adults	assessment; virtual assessment;			x						
Monument	Michael	Assistant Professor	University of Calgary	McCaig Cumming School of Medicine; Dept of Surgery													
Mosher	Diane	Professor	McCaig University of Calgary	McCaig Cumming School of Medicine, Dept of Medicine; Division of Rheumotology	Rheumatoid arthritis; arthritis; ankylosing spondylitis		adults	models of care for arthritis; care pathways		outcomes; patient reported outocmes	x	x					
Ng	Richard	Clinical Lecturer	University of Calgary	McCaig Cumming School of Medicine; Dept of Surgery	pain; osteoarthritis; arthritis; hip impingement		adults		knee	pain pathways in knee OA; biomechanical modelling of hip impingement; quality assurance and quality improvement programming	x						My research background in orthopaedics is diverse and includes the survivorship of orthopaedic implants, atypical periprosthetic femur fractures, and stress and psychological resilience in orthopaedic trainees. Ongoing research projects include pain pathways in knee osteoarthritis and biomechanical modelling of hip impingement. I also am closely involved in quality assurance and quality improvement projects within the Section of Orthopaedic Surgery.
Nicholls	Fred	Clinical Assistant Professor	University of Calgary	Cumming School of Medicine; Dept of Surgery				orthopedic surgery; surgery	spinal alignment		x						

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Pinzon	Jorge	Md; Clinical Professor	University of Calgary	ACHRI Dept of Paediatrics						bone health complications related to eating disorders							Medical complications of children and adolescents with eating disorders, particularly bone health. Transition for youth with special health care needs to the adult health care system	
Powell	James	Clincial Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery; Section of orthopedic surgery	Hip imingement	trauma	adult; youth	orthopedic surgery; surgery; total hip replacement; total knee replacement; hip revision surgery; periacetabular osteotomy	hip		x							
Puloski	Shannon		University of Calgary	Dept of Surgery		surgical site infections; humera	adults	surgery; arthroplasty; hip and knee replacement surgery; total elbow arthroplasty; surgery; early mobilization	hip, leg, knee; elbow	wound infection	x							
Rezansoff	Alex	Clinical Lecturer	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery; Section of orthopedic surgery		soft tissue injuries	adults	orthopedic surgery; total hip replacement; total knee replacement		sports medicine	x							
Sabo	Marlis	Clinical Assistant Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery; Section of orthopedic surgery				shoulder reconstruction; surgery			x							
Salat	Peter	Clinical Assistant Professor	University of Calgary	Dept of Raditology				MSK advanced imaging			x							
Salo	Paul	Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery	cervical and lumbar degenerative disease	joint injuries; inflammation; joint contractures; fractures; dislocations; post-trauma joint contracture	adult	surgery	cervical spine; lumbar spine; elbow; inflammatory pathways in joint injury; joint structures; injury severity						x		Dr. Salo's clinical interests are focused on cervical and lumbar degenerative disease and he maintains a research laboratory focused on inflammatory pathways in joint injury.	Paul Salo, M.D. | McCaig Institute for Bone and Joint Health | University of Calgary (ucalgary.ca)
Scharfenberger	Angela	Associate Clinical Professor	University of Alberta	Faculty of Medicine and Dentisry		fracture		total hip replacement; surgery; orthopedic surgery		primary wound closure; infection; PROSTALAC system	x							
Schmeling	Heinrike	Associate Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Medicine; Division of Rheumotology	juvenille idiopathic arthritis; junveile dermatomyositis		pediatrics; youth; children	pharmacogenetics; drugs; medicine		outcomes research; registry research	x							
Schneider	Kathryn	Associate Professor; Clinican Scientist	University of Calgary	Faulty of Kinesiology SPIR		concusion		prevention; rehabilitation (multi-modal PT)		comparative effectiveness								
Schneider	Prism	Associate Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery; Section of orthopedic surgery		trauma; fractures		medications; drugs		how inflammation affects fracture healing; risks for blood clots and excessive bleeding after fracture	x						Schneider spends half her time performing surgery and treating orthopaedic trauma cases, and the other half doing research on how inflammation affects fracture healing and an individual's risk of developing blood clots or excessive bleeding. Some of this work is done in a lab, using a pre-clinical model to study joint injury and inflammation. But most of her research involves leading clinical trials to find better medications and surgical treatments to control inflammation and optimize healing after injury.	
Schneider	Geoff	Adjunct Assistant Professor	University of Calgary	Dept of Radiology	pain	whiplash	adults		back; neck; cervical spine; low back	cervical spine pain; pain mechanisms; complex pain mechanisms; clinical decision making; low back pain management; advance physiotherapy practice	x		x					
Sharma	Rajrishi	Clinical Assistant Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery; Section of orthopedic surgery				Arthroplasty; surgery; anterior approach to hip replacement		Impact on the patient and the health care system of the anterior approach for hip replacement							My research focuses on the outcomes of hip and knee arthroplasty. My research is driven by clinical questions that lack strength within the literature. In addition to the general area of hip and knee arthroplasty, I have specifically focused my research efforts on the anterior approach to hip replacement. Here we are not only focusing on the clinical impact, but also the impact to the healthcare system as a whole and the outcomes compared to more historical approaches.	
Sheps	David	Assistant Clinical Professor; MD	University of Alberta	SURGE	range of disorders	rotator cuff	adults	surgery	shoulder, elbow, wrist		x						His research interests include the treatment and outcomes of shoulder, elbow and wrist disorders, the epidemiology of shoulder and elbow injuries, the development of clinical pathways for musculoskeletal care, musculoskeletal health care transformation, and health care economics.	
Soroceanu	Alex	Clinical Associate Professor	University of Calgary	Dept of Surgery	spinal deformities; scoliosis; spondylolisthesis; idiopathic scolosis; back pain; .degenerative lumbar sponylolisthesis			spine surgery; surgery	cervical; back; low back; lumbar; spine	outcomes; adverse events; pain; measurement tools	x		x					
Swamy	Ganesh	Clinical Assistant Professor	University of Calgary	Dept of Surgery	spinal deformities; scoliosis; spondylolisthesis; idiopathic scolosis	intervertebral disc inflammation	adults; children; pediatrics	complex spinal reconstructions; spinal fusion; spinal surgery; surgery	lumbar; low back; spine	cost-effectiveness (of surgery)	x							
Thomas	Ken		University of Calgary	Dept of Surgery	low back pain; lumbar degenerative spondylolisthesis; lumbar spinal stenosis; scoliosis		adults	spine surgery; surgery	spine; back	degenerative conditions; cost-effectiveness (of sx interventions); measurement tools			x		x		Research Director - Calgary Spine Program	

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Werle	Jason		University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery; Section of orthopedic surgery	arthritis avascular necrosis		adults	joint replacement surgery; arthroplasty; revision surgery; hip resurfacing; direct anterior hip arthroplasty	hip; knee; lower ext	minimally invasive surgery	x						
White	Neil	Clinical Assistant Professor	University of Calgary	McCaig Cumming School of Medicine, Dept of Surgery		trauma; scaphoid non-unios	adults	orthopedic surgery; low intensity pulsed ultra sound; surgical fixation; surgery		correlation of orthopedic trauma volumes and weather patterns	x		x				https://mccaig.ucalgary.ca/white
Wiley	Preston	Professor	University of Calgary	Faculty of kinesiology	osteoarthritis; arthritis	degenerative injury; overuse injury			knee						x		Dr. Wiley's research interests are in the assessment and management of degenerative and overuse injury. His current research focuses on knee osteoarthritis and degenerative tendon injury.