ICORD is a world-leading health research centre focused on spinal cord injury (SCI). Located at Vancouver General Hospital in the Blusson Spinal Cord Centre, ICORD is supported by UBC Faculties of Science and Medicine and Vancouver Coastal Health Research Institute, as well as the Rick Hansen Foundation-funded Blusson Integrated Cures Partnership.

OUR MISSION
Conduct research and training towards the development and translation of more effective strategies to promote prevention, functional recovery, and improved quality of life after SCI.

OUR STRATEGY
ICORD’s vision is broad, and therefore, our strategy is not to focus solely on a narrow definition of ‘cure’ for SCI, but rather to foster excellence across the entire research continuum that affects the lives of those with SCI. This includes preclinical discovery science, the development of therapies for acute and chronic SCI, and solutions for successful and fulfilled living with SCI.
welcome from the Director

On behalf of ICORD, I am pleased to present this overview of our activities and accomplishments between April 2014 and March 2015. Be sure to follow the links to get the full stories. If you would like to know more about our research, people, or programs, I encourage you to visit our website (icord.org) or contact me directly.

Wolfram Tetzlaff, MD, PHD
ICORD Director • 604-675-8848

ICORD researchers received competitive grant funding from institutional, national, and international sources. The Blusson Integrated Cures Partnership (BICP), funded by the Rick Hansen Foundation, also provided targeted funding to identify new treatments for SCI, and apply existing treatments for other neurological disorders, injuries and diseases to SCI. The BICP also funds research-related activities such as seminars and symposia, and shared services within the Blusson Spinal Cord Centre.

 Competitive research grants: $23,863,230
  BICP grant: $1,475,000
  Operating funding: $200,000

57 RESEARCHERS
  42 Principal Investigators
  8 Investigators
  7 Associate members

230 TRAINEES
  61 Undergraduate students
  80 Masters students
  60 PhD students
  21 Postdoctoral fellows
  8 Residents

83 STAFF
  67 Technical staff
  16 Admin staff

83 VOLUNTEERS

Dr. West and Krassioukov published a study showing that passive hind-limb cycling improves cardiac function and reduces cardiovascular disease risk in rodent models of SCI. Drs. Cripton and Wellington merged pathology and biomechanics in their new non-surgical CHIMERA model of traumatic brain injury. Drs. Street, Paquette, Dvorak and Kwon described biomarkers in cerebrospinal fluid 24 hours after traumatic SCI. Drs. Stothers and Nigro published several papers on aspects of using near infrared spectroscopy (NIRS) to diagnose urinary tract infection. Drs. Ghahary and Jallil described a skin substitute that improves healing in a hypertrophic scar model. Dr. Ramer published a comprehensive review of experimental treatments for SCI in The Lancet Neurology, examining the potential for treatments in development to move to clinical trial and use. This article was the Editor’s Choice in the December 2014 issue of The Lancet.
news

The Government of BC invested $350,000 to support ICORD’s Physical Activity Research Centre (PARC).

icord.org/news/2014/07/funding-for-parc/

Four new faculty members joined ICORD as Principal Investigators: welcome to Drs. Reza Jalili, John Kramer, Catherine Pallen, and Christopher West. Drs. Kramer and West received Michael Smith Foundation for Health Research scholar awards, co-funded by the Rick Hansen Institute and ICORD. icord.org/news/2014/09/new-faculty-join-icord/

Her Royal Highness Sophie, the Countess of Wessex, visited the Blusson Spinal Cord Centre in September 2014, presenting Rick Hansen Difference Maker Awards to ICORD Trainee Peggy Assinck and staff member Mustafa Hasan. icord.org/news/2014/09/hrh-visits-icord/

A wheelchair ballroom dance showcase held at ICORD in October 2014, inspired Dr. Tania Lam to develop a research project to study the benefits of dance for people with SCI.

With funding from the Blusson Integrated Cures Partnership, ICORD awarded 12 seed grants in 2014. These grants are designed to support novel research projects proposed by ICORD Principal Investigators and Investigators. icord.org/news/2014/12/seed-grants/

Dr. Brian Kwon received a $3M Brain Canada grant to lead a multi-centre collaborative study on biomarkers in SCI. icord.org/news/2014/09/kwon-biomarkers/

ICORD’s 12th Annual Research Meeting took place on March 3 and 4, 2015. With more than 150 participants, three visiting speakers, 40 posters, 12 talks by ICORD researchers, and a special appearance by Rick Hansen, there was a lot of science and enthusiasm in the air. icord.org/news/2015/03/ARM-2015/

ICORD Annual Report 2014-2015 • icord.org
ICORD’s Principal Investigators

Birch, Gary | Executive Director, Neil Squire Society, Adjunct Professor, Electrical & Computer Engineering, UBC | Research interests: brain-computer interface, assistive technology, real-world application design.

Bishop, Paul | Clinical Professor, Orthopaedics, UBC / VCHRI | Research interests: spinal nerve root injury biomarkers, translational research, clinical trials.

Borosoff, Jamie | Canada Research Chair in Rehabilitation Engineering Design, Applied Research, BCIT | Research interests: accessibility, mobility, rehabilitation, sensory substitution, wheelchair design.

Claydon, Victoria | Assistant Professor, Biomedical Physiology and Kinesiology, SFU | Research interests: cardiovascular health, fainting, high altitude.

Cripston, Peter | Professor & Associate Head External, Mechanical Engineering, UBC / VCHRI | Research interests: concussion, helmets, hip injury, injury biomechanics, injury prevention, orthopaedic biomechanics.


Elliott, Stacy | Clinical Professor, Psychiatry & Urologic Sciences, UBC, Medical Director, BC Centre for Sexual Medicine, VCH | Research interests: autonomic dysreflexia, fertility, sensory substitution, sexual rehabilitation, brain neuroplasticity.

Eng, Janice | Professor, Physical Therapy, UBC / VCHRI | Research interests: clinical trials, knowledge translation, stroke, rehabilitation.

Forwell, Sue | Associate Professor, Associate Head, Occupational Science and Occupational Therapy, UBC / VCH | Research interests: chronic disease self-management, fatigue, assessment, rehabilitation treatment, disability policy.

Ghahary, Aziz | Professor, Surgery / BC Professional Fire Fighters’ Burn & Wound Healing Lab, Associate Member, Dermatology & Skin Science, UBC / VCHRI | Research interests: cell transplantation, diabetes, scaffolds, skin substitutes, wound healing.

Hoffer, Andy | Professor, Biomedical Physiology and Kinesiology, SFU | Research interests: diaphragm pacing.

Hundza, Sandra | Assistant Professor, Exercise Science, UVic | Research interests: Neural control of human movement, maintenance & recovery of gait/balance with aging or after neurotrauma.

Jalili, Reza | Assistant Professor, Surgery, UBC / VCHRI | Research interests: wound healing, bioengineered skin substitutes, transplantation immunology.

Kozlowski, Piotr | Associate Professor, Radiology & Urologic Sciences, UBC / VCHRI | Research interests: diagnosis, MRI, myelin, plasticity, prostate cancer.

Kramer, John | Assistant Professor, Kinesiology, UBC / VCHRI | Research interests: clinical trials, MRI, neuropathic pain, outcome measures.

Krassioukov, Andrei | Professor, Physical Medicine & Rehabilitation, UBC / VCHRI / VCH | Research interests: autonomic dysreflexia, cardiovascular health, blood pressure control, vascular dysfunctions, bowel dysfunctions.


Lam, Tania | Associate Professor, Kinesiology, UBC / VCHRI | Research interests: ambulation, locomotor training, outcome measures, plasticity, robotics in rehabilitation.

Laule, Corree | Assistant Professor, Radiology, Pathology & Laboratory Medicine, UBC / VCHRI | Research interests: MRI, myelin, neurodegeneration, pathology.

Miller, Bill | Professor & Associate Dean, Occupational Science & Occupational Therapy / Health Professions, UBC / VCHRI | Research interests: aging, fatigue, mobility disability, self-efficacy, wheelchair, self-efficacy.

Mills, Patricia | Clinical Associate Professor, Medicine, UBC / VCHRI | Research interests: autonomic dysreflexia, cardiovascular health, clinical trials, traumatic & non-traumatic SCI.

Moore, Wayne | Clinical Professor, Pathology & Laboratory Medicine, UBC / VCHRI | Research interests: MRI pathology.

Mortensen, Ben | Associate Professor, Occupational Science & Occupational Medicine, UBC / VCHRI | Research interests: accessibility, aging, assistive technology, mobility.

Nigro, Mark | Clinical Professor, Urology, UBC / VCHRI | Research interests: infertility, organ transplantation.

Oruc, Ipek | Assistant Professor, Ophthalmology, UBC / VCHRI | Research interests: facial recognition, psychophysics, visual perception.

Oxland, Tom | Professor, Orthopaedics, Mechanical Engineering, UBC / VCHRI | Research interests: aging, mechanical testing, orthopaedic biomechanics, rehabilitation, surgical implants.

Pallen, Catherine | Professor, Pediatrics, UBC | Research interests: cell signaling, myelin, regeneration, neuropathic pain.

Paquette, Scott | Neurosurgeon, SPINE, UBC / VGH | Research interest: surgical education.

Ramer, Matt | Associate Professor, Zoology & Neurosurgery, UBC / VCHRI | Research interests: pain, plasticity, regeneration, sensory neurons, sympathetic neurons.

Sawatzky, Bonita | Associate Professor, Orthopaedics, UBC / VCHRI | Research interests: fatigue, mobility, segway, tire pressure, wheelchair propulsion biomechanics, wheelchair skills, spasticity, crutch gait, children.

Sparrey, Carolyn | Assistant Professor, Mechatronic Systems Engineering, Engineering Science, SFU | Research interests: Patient specific technologies, SCI mechanics, SCI models, finite element methods, cost effective healthcare technologies.

Spering, Miriam | Assistant Professor, Ophthalmology, UBC / VCHRI | Research interests: eye movements, hand-eye coordination, visual perception.

Steeves, John | Professor, ICORD, UBC / VCHRI | Research interests: arm and hand rehabilitation, clinical trials, myelin, outcome measures, plasticity.

Stothers, Lynn | Professor, Urologic Sciences, UBC / VCHRI / VCH | Research interests: NIIRS, neurogenic bladder, telehealth, urodynamics.


Tetzlaff, Wolfram | Professor, Zoology & Surgery, Director, ICORD, UBC / VCHRI | Research interests: cell transplantation, diet, myelin, neuroprotection, regeneration.

Warburton, Darren | Professor, Kinesiology and Experimental Medicine, UBC | Research interests: cardiovascular health, chronic disease, clinical exercise rehabilitation, sport cardiology.

Wellington, Cheryl | Professor, Pathology and Laboratory Medicine, UBC | Research interests: traumatic brain injury, injury models.

West, Christopher | Assistant Professor, Kinesiology, UBC / VCHRI | Research interests: cardiovascular health, exercise, rehabilitation, sport cardiology.

Whitehurst, David | Assistant Professor, Health Sciences, SFU | Research interest: health economics.

Willerth, Stephanie | Assistant Professor, CRC in Biomechanical Engineering, Mechanical Engineering and Medical Science, UVic | Research interests: biomaterials, regeneration, scaffold, stem cell, tissue engineering.

Zehr, Paul | Professor & Director, Rehabilitation Neuroscience Laboratory, UVic | Research interests: ambulation, coordination, neural control, rehabilitation, stroke.

---

see icord.org for full profiles and details about ICORD’s Investigators & Associate Members