



Bit by bit: Funding our future

From internal funding to major grants, the Bone and Joint Institute fosters support for all researchers

Securing funding in Canada's research environment can be very challenging, as the three federal research agencies change their programs to better support research, training and innovation — the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Social Sciences and Humanities Research Council of Canada (SSHRC).

Despite the sparse research dollars up for grabs, Bone and Joint Institute members have thrived. As of 2017, institute investigators held more than 500

grants worth \$100 million in total multi-year funding, nearly twice what they had in 2015.

One of the new programs by CIHR is the extremely competitive foundation grants that support the research programs of a handful of health research leaders for up to seven years.

While only 10 foundation grants are held across Western University, three are held by Bone and Joint Institute scientists: Dr. Terry Peters, Dr. David Holdsworth, and Dr. Frank Beier.

"The Bone and Joint Institute gave me a leg up for sure," said Beier, chair of Physiology and Pharmacology at Western. "It's one of the main things the institute does. Just the environment, the collaborators you have, the

reputation it has."

It's no coincidence Bone and Joint Institute Scientists hold three foundation grants, Beier said. By pushing musculoskeletal health to the forefront, Western University elevates Bone and Joint Institute members.

"My foundation grant gives me stability and allows me to do more long-term, risky, high impact research," Beier said.

The environment created by the Bone and Joint Institute helps secure federal research funding and more — it awards smaller grants and internal, kickstarter funding.

One branch of internal funds are awarded via the institute's collaborative training program in musculoskeletal health research. Through transdisciplinary education,

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Western
Bone and Joint Institute

undergraduate, graduate, and post doctoral trainees are encouraged to work across fields, through program activities and the co-mentorship they receive from Bone and Joint faculty members.

The awards help strengthen that training program.

“The institute for me has been essential,” Nikolas Knowles, a PhD student in biomedical engineering, said. “When I started my Masters I was awarded the Transdisciplinary Training Award, which allowed me to present my work at a variety of international conferences.

“The success of my academic career can be directly traced back to the institute granting me a training award,” Knowles added.

The Bone and Joint Institute also funds catalyst grants to help members establish a proof of concept for their work. Those catalyst grants often provide a stepping stone to larger external funding.

Dr. Ana Luisa Trejos, a mechanical engineer, was the recipient of a catalyst grant last year, one of numerous ways the Bone and Joint Institute has helped her from a funding standpoint.

“They’ve been supportive in helping me with grant writing,” Trejos said. “And those grants have allowed me to establish some unexpected collaborations.”

After joining the institute, Trejos applied for an Ontario Research Funding grant, for which she would not have applied without the institute’s support. “We didn’t get the grant, but it created a comprehensive research plan,” Trejos said.

Staff at the institute helped write parts of Trejos’s next grant, a Collaborative Health Research Project. That grant was successful.

Applying for funding takes time and resources. That’s one reason the foundation grants were implemented by

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the CIHR: to free up time for top researchers like Beier, Holdsworth and Peters.

Scientists can also save time and resources by applying for joint funding with other researchers. Often times, grants are more likely to be successful due to those collaboration.

“I’ve always done collaborative research,” Dr. Trevor Birmingham, the Canada Research Chair in Musculoskeletal Rehabilitation,



Dr. Ana Luisa Trejos

said. “Everything I have done has been with other experts to make sure we’re doing good quality work.”

Birmingham’s emphasis on collaboration across disciplines helped him land a number of grants including one with Holdsworth. That \$3 million grant, from the Canada Foundation for Innovation, would not have come through if not for Birmingham’s collaboration in the institute.

Collaboration also helps minimize risk. A health sciences researcher like Birmingham, for instance, can use their collaborations to launch more complex projects.

“I don’t know if you can directly trace that to the Bone and Joint Institute or not, but certainly I would say so,” Birmingham said. “The reason David and I collaborate so much is because the institute facilitates it.”



Collaborative teams solve complex problems at the Wolf Orthopaedic Biomechanics Laboratory, a state-of-the-art biomechanical research facility co-directed by Dr. Trevor Birmingham.