canadian museum of nature
nature
musée canadien de la nature

FOSTERING NATURE'S FUTURE

THE SCIENTIFIC TRAINING PROGRAM AT
THE CANADIAN MUSEUM OF NATURE

Canada

The Scientific Training Program at the Canadian Museum of Nature

Educating the public about the natural world, the Canadian Museum of Nature (CMN) is one of six national museums across Canada serving over 4 million visitors annually.

An integral part of the global scientific community, the museum has a century-long history of conducting and facilitating scientific research. It has expertise in botany, mineral sciences, palaeontology, zoology and advanced collection management and preservation techniques. The museum's national natural science collection of over 14.2 million fishes, plants, birds, mammals, minerals, fossils, and other natural history specimens forms the foundation of the museum's permanent gallery space, educational offerings, and research programs.

The museum also offers Canada's one-of-a-kind Scientific Training Program which provides financial and experiential opportunities to students, visiting scientists and staff. This program helps to nurture a future generation of highly qualified professionals with collection-based research and curation experience and first-hand knowledge of the important and central role natural history museums play in understanding our rapidly changing planet.

THE CHALLENGE

An Urgent Need for Natural History Expertise

Threats to our ecosystems and environment are constantly changing, and we must ensure there are natural science experts with knowledge of organisms – what they are, where they live and how they live– to address these threats.

Challenges to human health, food security, conservation management, recreation, and many other parts of our society are abundant, and natural history knowledge is part of the solution to these challenges.

Research scientists, curators, and collection experts at the Canadian Museum of Nature contribute to the critical work of collecting, documenting, and characterizing Canada's biological and geological diversity, and sharing knowledge with other professionals and the public who can then act in informed ways that protect our natural surroundings.

A lack of current and comprehensive biodiversity information at local, national, and global scales has real-world implications. For example, conservation area employees must have access to information about what plants and animals exist in their area in order to manage and conserve that biodiversity. Without the museum collections and the scientists who have collected, documented, and preserved their specimens, land-use managers will not be able to make informed decisions about conservation of the habitats in their jurisdictions.

Despite the importance of natural history knowledge to science and society, many natural science students today face a lack of exposure and training in hands-on, collection-based, organism-focused learning experiences in their formal college and university education—experiences that are critical to helping them apply the theoretical knowledge they've gained in classrooms to practical applications.

Canada must invest in training students and supporting professionals by providing hands-on learning experiences, opportunities to collaborate with and learn from experts, and access to collections.

THE SOLUTION

Cultivating the Scientific Community

The Canadian Museum of Nature is well-positioned to support investment in training collection-based natural science experts through its Scientific Training Program. The program provides financial and experiential opportunities to students, visiting scientists and staff to develop skills in collections care and collection-based research in the field and laboratory, pursue research questions based on the museum's scientific expertise, and increase the profile of the museum's research and collections program. Students at all academic levels will have access to the museum's collections and laboratory facilities and will be supervised and mentored by museum scientists who have expertise in the students' area of interest. Visiting scientists will share their expertise with CMN scientists and students, enabling the scientific community to learn from each other and make new discovery possible through collaboration.

Paul Parent

The program has five goals:

Build and develop student skills in collections care at the museum's Natural Heritage Campus, specially designed to foster advanced collection management and preservation techniques for natural history collections

Build and develop student skills in collection-based research in the field and laboratory through pursuit of research questions based on the museum's scientific expertise

Increase the profile of the museum's research and collections program

Facilitate access to the collections by external experts

Support CMN staff training in state-of-the-art research, collections care, conservation, and data management by providing opportunities for employees of the museum to gain access to professional organizations and leading institutions to maintain and enhance CMN best practices

Christina helping to prepare specimens for the Canada Goose Arctic Gallery

"I was thrilled to be selected from many highly qualified candidates for the Scientific Training Program at CMN. The opportunity to work with incredible natural history specimens along with the many talented researchers and museum professionals was a unique experience that could not be compared. The invaluable skills and work experience that I obtained… made it possible to follow my career goals of working at a national museum, in a position I love, with people who are as passionate about science and biodiversity as I am!"

—Christina Jenness, CMN Collection Information Technician, and past participant in the Undergraduate Scientific Training Program

By offering students and visiting scientists financial support for hands-on experience in our collections and research work, we will continue to facilitate and ignite discovery through ongoing research, collections, and sharing of information with the scientific community and public. The following chart demonstrates costs and the potential number of recipients in any given year.

TRAINING PROGRAM LEVEL	AMOUNT AWARDED	NUMBER OF RECIPIENTS
Undergraduate	$3,000/month, for up to 4 months(summer training)	6
Master's degree	$17,500 per year for 2 years + $5,000/year/student operating funds	2
Doctoral degree	$25,000 per year for 3 years + $5,000/year/student operating funds	1
Post-doctoral Fellowships	$45,000 per year for 2 years + $5,000/year/postdoc operating funds	2
Visiting Scientist	$20,000 per year (divided among applicants based on need)	5–10
Staff Training	$20,000 per year (divided among applicants based on need)	5–10

Supporting the Next Generation

With the help of our donor community, we are ready to transform people's understanding of Canada's natural world by inspiring the next generation of natural science experts. We aim to raise funds to support their participation in our training programs, and we would be pleased to discuss how you can join us in supporting them.

LAURA EVANS
Chief Development Officer

613-286-7606


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