



Canadian Statistical Sciences Institute
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Revised August 2024

CANSSI DISTINGUISHED POSTDOCTORAL FELLOWSHIPS (CDPF) PROGRAM DESCRIPTION | 2024

The over-arching goal of the CDPF program is to provide a comprehensive training experience centred in statistical sciences to prepare postdoctoral fellows for success in a variety of careers. All aspects of the proposal will be judged through this lens.

The program's application/selection process comprises two stages:

- In Stage 1, **faculty members** are invited to submit proposals that include:
 - A research project supported by a co-mentoring partnership between two researchers at different institutions
 - A significant interaction/collaboration with a researcher/organization/group directly related to experiments, data, and application
 - A substantial experience in teaching/mentoring in order to develop communication and mentoring skills
- In Stage 2, **candidates with recent PhDs** in statistics, biostatistics, actuarial sciences, or data science are invited to submit an application that includes a ranking of their preferred projects.

The first-stage proposals do not include any information on specific prospective postdoctoral fellows.

Supervisor, Co-supervisor, and (Optionally) Mentor

The Supervisor will normally be an Associate Professor or Professor in statistics or biostatistics at a Canadian university with experience supervising PhD students and postdoctoral fellows. The Co-supervisor will be employed at a Canadian institution. In the case that the Co-supervisor is not in a university, a description justifying the proposed arrangement and describing the Co-Supervisor's capacity to supervise research of a postdoctoral fellow is required.

Current Supervisors or Co-supervisors of CANSSI distinguished postdoctoral fellows are not eligible.

Supervisors and Co-supervisors may be listed on only one project.

Note: The supervisor and co-supervisor may both be Assistant Professors, provided that a more senior colleague (i.e., someone in statistics or biostatistics at a Canadian university at the Associate Professor or Full Professor level) is included as a mentor on the project. The mentoring plan for the postdoctoral fellow should include plans for how the more-senior colleague will be integrated into the project.

Research Project

The research project will be in the statistics and inferential data science domain, and fundable by the Natural Sciences and Engineering Research Council of Canada (NSERC; see

science.gc.ca/eic/site/063.nsf/eng/h_FEE7261A.html?OpenDocument#NSERC1).

Novel and substantial progress should be feasible within the timeline of the postdoctoral fellowship. The roles of the Supervisor and Co-supervisor must be clearly defined, along with how they will interact with each other and the postdoctoral fellow.

If a Supervisor or Co-supervisor holds an NSERC Discovery Grant in the same area, a description of how the postdoctoral project relates to the Discovery Grant should be included in the application.

Interdisciplinary/Applied Experience

In order to provide the postdoctoral fellow with a comprehensive experience, the project must include an immersive interdisciplinary or applied project. This should include a significant interaction with a researcher, organization or group directly related to experiments, data and application. Alternately, a methodologic interdisciplinary collaboration could replace this. The proposed experience will contribute to the overall training of the postdoctoral fellow and fit well with the statistical research proposed for the project. The options can include having a Co-supervisor from another discipline. CANSSI may be able to facilitate opportunities such as an appointment to Statistics Canada. Faculty interested in such an opportunity should contact the Directors before preparing the proposal.

Our experience suggests that candidates are more likely to choose projects when the applied part is described in terms of a real-life research question and/or identifies a relevant collaborator and dataset.

Teaching/Training/Education

The teaching/educational/communication activities should provide the postdoctoral fellow with the opportunity to gain important teaching and mentoring skills. The amount of activity is to be the equivalent of teaching one to two one-semester, three-credit courses over two years, but there is considerable flexibility in the activities that could count towards this. Examples include:

- Teaching a three-credit one-semester course in each year of the program
- Participating in a CANSSI-sponsored summer training program
- Mentoring teams of undergraduate or graduate students in project-based studies, e.g., SSC case study competition or summer Data Science Institute activity
- Co-teaching with a team involved in developing or using innovative teaching methods, such as flipped classrooms or case-studies-based education

Mentoring Plan

The postdoctoral fellow will be involved with a wide range of activities. An important part of the proposal is to indicate a mentoring plan to ensure that the fellow's experience is valuable and positive. The Supervisor is ultimately responsible, but the proposal should outline the roles of all mentors. The plan should address:

- Development of skills and intellectual pursuits fitting a long-term career plan
- Professional development and career preparation
- Development of networking, collaboration, and partnership skills
- Language and communication skills
- The environment and opportunities for enriching the experience of the postdoctoral fellowship at the host institutions

Budget Information

- Salary of \$70,000 per year plus benefits (~\$14,875)
- The CANSSI grant will be supplemented by the following contributions:
 - The host institutions (departments, colleges, and/or universities) will contribute \$8,000–\$16,000 salary total over the two years for the teaching component.

- The Supervisor, Co-supervisor, and interdisciplinary partners will contribute from 1 to 4 **months salary** plus benefits total over two years.
- Research support of \$3,000 per year (for computer, travel, supplies, etc.) will be provided by the Supervisor, Co-supervisor, or their institutions.
- A budget for the postdoctoral fellowship detailing all sources of funding should be presented in tabular form, as below.

	<i>Year 1</i>	<i>Year 2</i>
<u>Salary by Source</u>		
<i>CANSSI^a</i>		
<i>Investigator #1 Funds^b</i>		
<i>Investigator #2 Funds</i>		
<i>Total base salary*</i>		
<u>Teaching Salary^c</u>		
<i>Institution #1</i>		
<i>Institution #2</i>		
<u>Other contributions to Salary</u>		
<i>Source</i>		
<i>Total salary (total base+teaching+other)^d</i>	<i>\$70,000</i>	<i>\$70,000</i>
<u>Other Contributions by Source</u>		
<i>Supervisor's research fund – Travel, equipment, supplies</i>	<i>\$3,000</i>	<i>\$3,000</i>

*The cost of mandatory benefits at Institution #1 will be approximately \$xxx annually. CANSSI will contribute a proportionate amount of \$xxx each year and the remainder will come from the supervisors' research funds. (The benefits amount should be that used by the home institution.)

^aCANSSI's contribution will be \$54,000–\$62,000 + benefits per year.

^bThe Supervisor, Co-supervisor, and interdisciplinary partners will contribute 1–4

months salary plus benefits over two years.

^cThe teaching salary is the amount that the postdoctoral fellow will earn teaching (\$8,000–\$16,000).

^dThe total salary (total base + sessional salary + other contributions) must be \$70,000.