Canadian Statistical Sciences Institute
Institut canadien des sciences statistiques

Simon Fraser University
8888 University Drive
Burnaby BC Canada V5A 1S6

canssi.ca | incass.ca

CANSSI DISTINGUISHED POSTDOCTORAL FELLOWSHIPS (CDPF) PROGRAM DESCRIPTION | 2025

The over-arching goal of the CDPF program (and related programs like the CANSSI Ontario Postdoctoral Fellowship in Statistics and the CANSSI StatLab Distinguished Postdoctoral Fellowship) 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 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 a statistician employed at a Canadian institution. If the Co-supervisor is not at a university, a description justifying the proposed arrangement and describing the Co-supervisor's capacity to supervise research of a postdoctoral fellow is required.

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CANSSI is hosted at Simon Fraser University. L'INCASS est hébergé à l'Université Simon Fraser.

Current Supervisors or Co-supervisors of CANSSI distinguished postdoctoral fellows are not eligible to submit another project.

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 (see NSERC guidelines). 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

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

Educational and communication activities should provide the postdoctoral fellow with the opportunity to gain important teaching and mentoring skills. The amount of activity should be the equivalent of teaching at least one but not more than two courses over two years. The standard expectation is teaching a three-credit, one-semester course, 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

The total salary for CANSSI postdoctoral fellows is $70,000 per year for two years, comprised of contributions from CANSSI, the project supervisors, and their host institutions. Recipients also receive benefits (typically 7–14% of salary) and research support of up to $3,000 per year. Full details and a budget template are available in this document.