

Job advertisement for CRC-2 in THE MATHEMATICS OF COMPLEX QUANTUM SYSTEMS

Faculty Position – Department of Mathematics in the Faculty of Science at the University of British Columbia, Vancouver.

Posting date: October 11, 2023

The Department of Mathematics in the Faculty of Science at the University of British Columbia in Vancouver invites all eligible candidates to apply for a Tier 2 Canada Research Chair (CRC) in **The Mathematics of Complex Quantum Systems**, with an expected start date of July 1st, 2024. This will be a full-time, tenure-stream appointment. As described in full below, this position is restricted to members of the following designated groups: people with disabilities, Indigenous people, racialized people, women, and people from minoritized gender identity groups, with a preference for people with disabilities.

The twenty-first century has already seen a wealth of new mathematics dedicated to a rigorous and systematic study of complex quantum systems, e.g., predicting how macroscopic effects such as superconductivity arise from quantum phenomena, or how quantum matter may open the way to technological applications. The UBC Department of Mathematics intends to establish a group at the forefront of this endeavour. In this group, new mathematics will be developed and applied to fundamental challenges in physics, chemistry and computing.

The successful candidate for this position will develop new mathematical methods to understand complex quantum systems. Examples of concrete topics include, but are not limited to:

- Derivation of effective equations for many-body quantum systems
- Analysis of numerical methods for condensed matter and quantum chemistry
- Entanglement and quantum information theory

You must hold a PhD or equivalent in mathematics or a related discipline. Postdoctoral experience is normally expected. You should be a creative, innovative scientist, with demonstrated research accomplishments and evidence of commitment to effective teaching. You will be expected to maintain a dynamic externally funded research program, and to take active roles in teaching and service, as well as supervision of trainees (graduate, undergraduate and postdoctoral researchers). You will have a strong commitment to equity, diversity and inclusion, to create a welcoming community for all, particularly those who are historically, persistently or systemically marginalized.

Eligibility:

Tier 2 Canada Research Chairs are five-year positions, renewable once, intended for exceptional emerging scholars who have the potential to lead in their fields. Applicants must be eligible to hold a full-time, tenure-stream appointment at the rank of Assistant Professor at UBC. Normally, applicants for Tier 2 Chairs should be no more than 10 years from having earned their highest degree at the time of Chair nomination. Applicants who are more than 10 years from

having earned their highest degree (and where career breaks exist, such as CRC eligible personal or professional leaves, etc.) may have their eligibility for a Tier 2 Chair assessed through the program's Tier 2 justification process.

In accordance with UBC's CRC Equity, Diversity, & Inclusion Action Plan

[\[https://research.ubc.ca/federal-research-chair-programs/canada-research-chairs/ubcs-commitment-equity-diversity-and\]](https://research.ubc.ca/federal-research-chair-programs/canada-research-chairs/ubcs-commitment-equity-diversity-and), and pursuant to Section 42 of the BC Human Rights code, the selection will be restricted to members of the following federally designated groups: people with disabilities, Indigenous people, racialized people, women, and people from minoritized gender identity groups. Currently, UBC has a gap in representation for people with disabilities. Until such time as this is remedied, the names of those self-identifying as having a disability will be provided separately to the search committee, in order for them to follow preferential hiring strategies. Applicants to CRC positions are asked to complete this equity survey [\[https://ubc.ca1.qualtrics.com/jfe/form/SV_6WJHoI7SfPxRMu9\]](https://ubc.ca1.qualtrics.com/jfe/form/SV_6WJHoI7SfPxRMu9) as part of the application, and candidates from these groups must self-identify as belonging to one or more of the designated equity groups to be considered for the position. Candidates must also provide their name in the survey to be considered.

Our department:

The Department of Mathematics at UBC is recognized as one of the largest and strongest in Canada, with research strengths across many fields of pure and applied mathematics. We have close connections with many other units in the Faculties of Science, Engineering, Medicine, and others on campus, through our extensive teaching and research activities. UBC hosts the headquarters of the Pacific Institute for Mathematical Sciences (pims.math.ca) which supports mathematical research activities locally and across Western Canada. The Vancouver campus of UBC is situated on traditional, ancestral, and unceded territory of the x^wməθk^wəy^əm (Musqueam).

How to apply:

- Applications must be submitted through MathJobs and include the following:
- Cover letter (typically 1-2 pages) briefly describing your expertise and experience.
- Curriculum vitae including a list of publications.
- Research statement (typically 3-5 pages) describing your work to date and future plans.
- Teaching statement (typically 1-2 pages) describing teaching experience, innovation and future plans.
- Diversity statement (1 page) describing your lived background experience (if comfortable), and your past experience and future plans regarding working with a diverse student body, and contributing to a culture of equity and inclusion.
- A complete application must include four signed letters of reference (dated, on letterhead, with at least one addressing your teaching), submitted directly by the referees.

The closing date for this position is November 30th, 2023.

UBC hires on the basis of merit and is committed to employment equity. Equity and diversity are essential to academic excellence. An open and diverse community fosters the inclusion of voices that have been underrepresented or discouraged. Inclusion is built by individual and institutional responsibility through continuous engagement with diversity to inspire people, ideas, and actions for a better world. We encourage applications from members of groups that have been marginalized on any grounds enumerated under the B.C. Human Rights Code, including sex, sexual orientation, gender identity or expression, racialization, disability, political belief, religion, marital or family status, age, and/or status as a First Nation, Métis, Inuk, or Indigenous person. In assessing applications, UBC recognizes the legitimate impact that leaves (e.g., parental leave, leave due to illness) can have on a candidate's record of research achievement. These leaves will be taken into careful consideration during the assessment process. All qualified candidates are encouraged to apply; however Canadian citizens and permanent residents will be given priority.

Personal information is collected under the authority of sections 26(a), 26(c) and 26(e) of the BC Freedom of Information and Protection of Privacy Act. The information you provide will be used to determine whether you qualify for participation in this restricted process, and to advance accessibility, equity, and fair adjudication in this process. Data will be collected by the Equity & Inclusion Office and shared confidentially with the search committee. All responses will be stored in a secure database. All qualified candidates are encouraged to apply; however Canadian citizens and permanent residents will be given priority.

Accommodations are available on request for all candidates taking part in all aspects of the selection process. To make a confidential request for accommodations, please contact Kylie Prokopetz (kylie.prokopetz@ubc.ca or 604-822-6985).

The University is committed to creating and maintaining an inclusive and equitable work environment for all members of its workforce. An inclusive work environment presumes an environment where differences are accepted, recognized, and integrated into current structures, planning, and decision-making modes. To learn more about UBC's Center for Workplace Accessibility, visit the website here <https://hr.ubc.ca/health-and-wellbeing/working-injury-illness-or-disability/centre-workplace-accessibility>.