

## **Post-Doctoral Fellow (PDF) in Forest Pathology at the University of Alberta**

A postdoctoral position in forest pathology is available immediately for a team member to join a collaborative project investigating the genomics of lodgepole pine resistance to western gall rust (caused by *Endocronartium harknessii* [J. P. Moore] Y. Hiratsuka). Quantitative resistance to this pathogen in lodgepole pine, jack pine and their hybrids has been reported, but little is known about the genomic architecture of host resistance. The goal of this collaborative project is to use genomics approaches to identify markers for resistance to *E. harknessii* that can be integrated into breeding programs. As part of this team, the PDF will develop a reliable, robust and sensitive inoculation assay that can be used to conduct large scale resistance screening of pine seedlings under controlled conditions. Materials from these assays will be used for large-scale genotyping, for analysis by the quantitative genomics team. In tandem with the resistance screening, the PDF will use next generation sequencing to develop SNP markers for *E. harknessii* to investigate the population genetics of this forest pathogen. Depending on the successful candidate's background and interests, the incumbent may participate in other aspects of the project to a greater or lesser extent, and/or define an original area of research that is connected to the overall goals and objectives of the project.

Applicants must have a PhD degree from a recognized university in plant pathology or related discipline; previous experience in forest pathology and genomics and/or population genetics is preferred. The ability to effectively communicate and collaborate with a diverse group of colleagues from universities, governments and other research organizations is essential. The position will be based in the Department of Biological Sciences, University of Alberta in the laboratory of Dr. Janice Cooke, with collaborative linkages to the Canadian Forest Service (Dr. Tod Ramsfield, forest pathologist), Alberta Environment and Sustainable Resource Development (Dr. Deogratias Rweyongeza and Mr. Andy Benowicz, forest tree geneticists) and Department of Agriculture, Food and Nutritional Science, U of A (Dr. Rong-Cai Yang, quantitative geneticist). Facilities and resources available for this project include genomic datasets for lodgepole pine, jack pine and their hybrids, Illumina next generation sequencers, bioinformatics expertise and computational capacity, plant growth facilities, and genotyping facilities.

This is a three year project. As per Department of Biological Sciences policy, the initial appointment will be for one year, with possible extension depending upon satisfactory performance. The salary is competitive and commensurate with qualifications and experiences; a benefits package is included, as described at <http://www.postdoc.ualberta.ca/>. Interested candidates should submit a full curriculum vitae, statement of qualifications and experience, and names of three referees to:

Dr. Janice Cooke  
Department of Biological Sciences  
University of Alberta  
Edmonton, Alberta, Canada T6G 2E9  
Email: [janice.cooke@ualberta.ca](mailto:janice.cooke@ualberta.ca)  
Phone: 780-492-0412; Fax: 780-492-9234

Applicants are thanked in advance. However, only those selected for an interview will be contacted.