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Dr. Martin Barlow and Dr. James Colliander  
Interim Director and Deputy Director  
PIMS - UBC Site Office  
University of British Columbia  
4176-2207 Main Mall  
Vancouver, BC, V6T 1Z4

Dear Professors Barlow and Colliander:

This is the report on CanaDAM 2015 (Canadian Discrete and Algorithmic Mathematics Conference).

The fifth Canadian Discrete and Algorithmic Mathematics conference (CanaDAM 2015) was held at the University of Saskatchewan from June 1 to June 4, 2015. This conference is held biennially in odd numbered years and alternates with the SIAM Conference on Discrete Mathematics which is held in even numbered years. The CanaDAM conference series is an internationally known and respected conference in Discrete Mathematics. The CanaDAM 2015 meeting had 229 registered participants of which 96 were students. Eight Canadian provinces and at least 22 different countries were represented on the list of participants. A great deal of credit for the success of the conference goes to the Program Committee chaired by Jonathan Jedwab of Simon Fraser University and the Local Arrangements Committee co-chaired by Chris Soteros and Michael Szafron both of the University of Saskatchewan. The strength of the conference is directly related to its scientific program. The program committee under the leadership of Jonathan Jedwab put together an excellent program consisting of eight plenary talks, one public lecture, nine invited minisymposia with a total of 44 talks, 18 contributed minisymposia with a total of 73 talks, and 41 contributed talks which were not part of a minisymposia. The names and affiliations of the plenary speakers, and titles of their talks follow:

- Irit Dinur, Weizmann Institute of Science, Israel, *Lifting locally consistent partial solutions to a global solution.*
- Daniela Kühn, University of Birmingham, UK, *Decomposition problems for graphs.*
- William Martin, Worcester Polytechnic Institute, USA, *Some problems arising in quantum information theory.*
- Brendan McKay, Australian National University, Australia, *Some examples of*

*exhaustive graph generation.*

- Karen Meagher, University of Regina, Canada, *Algebraic Approaches to the Erdős-Ko-Rado Theorem.*
- Dhruv Mubayi, University of Illinois at Chicago, USA, *Independent sets in hypergraphs.*
- Yann Ponty, CNRS/Ecole Polytechnique, France, *RNA Bioinformatics and ensemble dynamic programming.*
- Angelika Steger, ETH Zürich, Switzerland, *Games on Random Graphs.*

Michiel van de Panne, from University of British Columbia, gave a public lecture entitled, *Imagination Amplification: Empowering creativity with optimization algorithms in computer graphics.* This was preceded by a reception hosted in part by the publisher Elsevier. More detail on the various organizing committees, the minisymposia and all the talks can be found on the conference web page <http://canadam.math.ca/2015>.

One of the primary goals of these conferences is to encourage the participation of Canadian graduate students and PDFs. The three Canadian Mathematical Institutes (CRM, Fields and PIMS) each pledged \$9000 towards the support of graduate students and PDFs attending the meeting. We also received \$2000 funding from AARMS, \$2500 from the Ministry of Justice, Government of Saskatchewan, and \$9,000 from the University of Saskatchewan. We gratefully acknowledge all these sources of support. In order to receive financial support graduate students were encouraged to contribute talks. Furthermore, Brett Stevens from Carleton University and Tara Petrie from Simon Fraser University hosted a problem session devoted to the presentation of research problems appropriate for graduate students. A reception for graduate students followed the problem session. The solid participation of students and PDFs could not have happened without the generous support of CRM, Fields, PIMS, AARMS, the CMS, and the University of Saskatchewan.

It is worthwhile noting the diversity of mathematics, applications, and theoretical computer science that is represented at this conference. For example, topics of the minisymposia and talks included algebraic combinatorics, automated analysis, bioinformatics, colourings and homomorphisms, computer graphics, chemistry, combinatorial optimization, complexity theory, computational generation, design theory, extremal combinatorics, game theory, geometric representations of graphs, graph packings and colourings, hypergraph theory, knot theory, matroid theory, physics, probabilistic combinatorics and random graph theory, quantum information theory, statistical mechanics of polymers, structural graph theory and topological graph theory.

The Canadian Mathematics Society(CMS) provides both support for the CanaDAM conference as well as support between conferences. The CMS provided services such as: email services, webpage design and maintenance, abstract submission, and processing of registration fees for CanaDAM 2015. In addition to these services the CMS also provides ongoing financial services support by maintaining a CanaDAM account into which registration fees prior to the conference are deposited. These funds are

transferred to the host institution for the processing of all conference expenses. After the conference expenses have been processed, seed funding for the next CanaDAM meeting (in the amount of approximately \$5000) will be deposited into the CanDAM account at the CMS. The CMS's extensive experience in handling conferences and their online facilities are tremendous asset in the planning of the CanaDAM conferences. The ongoing support during and between conferences helps provide CanaDAM with continuity between meetings. Planning for CanaDAM 2017 is underway. The executive committee for the next meeting has been struck. Its members are Shannon Fitzpatrick (University of Prince Edward Island), Gena Hahn (Université de Montréal), Gary MacGillivray (University of Victoria), Marni Mishna (Simon Fraser University), Joy Morris (University of Lethbridge), and myself. The new chair of the committee is Gary MacGillivray. The host institution for CanaDAM 2017 is Ryerson University supported by the University of Toronto and York University. Bruce Shepherd (McGill University) has agreed to serve as Program Committee Chair.

A handwritten signature in black ink, appearing to read "Brett Stevens", with a long horizontal flourish extending to the right.

Prepared by Prof. Brett Stevens,  
School of Mathematics and Statistics, Carleton University,  
Chair of CanaDAM 2015 Executive Committee.