REPORT : 2013 ALBERTA COLLEGES MATHEMATICS CONFERENCE AND NORTH-SOUTH DIALOGUE

1 Introduction

The first meeting of the Alberta Colleges Mathematics Conference was held in 1986 at Red Deer College, and it met again sporadically over the next fifteen years. The first meeting of the North-South Dialogue was held at the University of Calgary in 2001, and it has been held annually since then. In about 2004 the two meetings were combined, much to the benefit of both, since a unique platform was thereby provided for both the pedagogical and the research issues related to Mathematics and Statistics in the province of Alberta, and those involved with the pedagogical side or the research side (or both) could all interact over the course of a two day meeting. It is likely that there are very few (if any) analogous provincial meetings in any academic discipline in Canada. For a few further details about the historical aspects of the meeting see the section "HISTORICAL BACKGROUND" in the full meeting programme, which is attached as a separate pdf file.

2 Planning

The planning for the meeting began about a year prior to the meeting. At the conclusion of the 2012 meeting it had been decided that the 2013 meeting should be held at the University of Calgary with the author (Peter Zvengrowski) as Principal Director. His first step was to appoint two other Directors to the Organizing Committee, Manny Estabrooks from Red Deer College and Hassan Safouhi from University of Alberta Campus St. Jean, both of whom were very experienced and enthusiastic. They were of constant assistance and encouragement during the entire year leading up to the meeting. The next two priorities were the grant applications (summer - fall 2012), followed by the invitations for the plenary speakers (winter 2013). Eventually we decided to make four grant applications and all four were successful, the principal sponsor being PIMS (Pacific Inst Math Sci) and the other three being Alberta Innovates, University of Calgary Research Grants, and the University of Calgary Dept of Math and Stat/Faculty of Phys Sci. There was also a small grant from Pearson Publishers.

It was next necessary to augment the planning by adding several local organizers. These included Pearl Paterson (PIMS Secretary for the Calgary Site), Elaine Zvengrowski (banquet), and Professors Nancy Chibry (parking), Ted Bisztriczky (MC for the banquet). In addition the author added a postdoc at the Univ of Calgary, Timur Akhunov, whose help and enthusiasm proved so valuable that he was soon given the position of fourth Director on

the Organizing Committee. The layout and scheduling and technical work on the programme are mainly due to him.

In addition to all these sponsors and organizers thanks are due to PIMS Secretary Ruth Situma, the Calgary PIMS Site Director Clifton Cunningham, three graduate students who helped with registration and other jobs : Salam Alnabulsi, Michael Pors, Pooneh Pordelli, and the author's son Clifford Zvengrowski who produced the artistic banquet tickets. Finally the author would like to thank Professor Thomas Hillen from Univ of Alberta who was not only a plenary speaker but contributed to the meeting in many other ways, and Professors Elena Bravermann and Jingjing Wu, both from University of Calgary, who organized research sessions at the meeting. Many others helped in various ways but it would be too much to list all their names.

With all the modern technology available in the classroom these days, it was also important to be sure that the computer projectors and other lecture aids would be working smoothly so there would be no annoying delays (which happens all too often these days) getting the talks started, and by and large this was successful. In particular the plenary speakers were shown how all the technology worked in the room they would be speaking in, by a member of the campus Communications Media, the day before the meeting.

3   Overview

In this section we shall briefly outline what took place at the meeting itself. Since the full schedule of the meeting follows (Section 5), it is not necessary to give much detail, the great diversity of both pedagogical and research topics covered will be clear from a brief look at the schedule. Furthermore the full Programme for the meeting is attached as a separate file, here the titles and abstracts appear for all talks.

In all about 80 people registered for the meeting, and as a rough guess a further 15-25 participated in one form or another (such as attending lectures). Unfortunately only 27 people filled out the PIMS Demographic Form, even though it was well advertised and distributed to all who registered. So the following demographics of the meeting will not be very exact, they are obtained by proportional multiplicationfrom the forms that were returned. Nevertheless I think they will give a reasonable idea of both the diversity and the numbers of the participants : 59 males, 21 females, 74 in academics, 53 professors, 9 graduate students, 3 undergraduate students, and 3 educators. The disciplines they represent have the following numbers : 44 in pure maths, 27 applied maths, 9 biology, 3 computer science, 6 engineering, 6 statistics, and 6 physics.

The institutions represented are similarly diverse. The plenary speakers represented the University of British Columbia, Stanford University, Dalhousie University, the University of Alberta, and the University of Calgary. The participants represented Alberta Education, all six Alberta Universities

(Alberta, Athabaska, Calgary, Grant MacEwan, Lethbridge, Mt. Royal), and the following Alberta Colleges : Grande Prairie Regional, King's, Red Deer, Augustana, Northern Alberta Inst Tech, Keyano, St. Mary's. In addition, from outside Alberta, Carleton University and the University of Saskatchewan were represented.

The banquet was also very successful. Again about 80 people attended the banquet, in about a half dozen cases registered participants who were unable to attend the banquet gave their tickets to students. In addition to the excellent cuisine, Ted Bisztriczky did a very nice job as MC, adding his usual humorous touch, and there were excellent talks given by Robert Woodrow and Peter Lancaster. This was followed by three mathematical/humorous songs with guitar, presented by the author.

4   Closing Remarks

As is usual, at the conclusion of the meeting, there was a short discussion and interchange of ideas. The venue for the 2014 meeting was also discussed, and it was decided to have it at the Augustana campus of the Univ of Alberta, in Camrose, with Bill Hackborn as the Director. The name of the meeting is obviously unwieldy, and it was decided to rename it simply "Alberta Mathematics Conference" in the future, with the overall format of the meeting remaining more or less the same but with minor modifications/improvements possible. The idea of having a preliminary planning meeting sometime in the fall, attended by the Organizing Committee and other interested parties, was also discussed.

5   Schedule

MAY 2 2013, SCHEDULE : ALBERTA COLLEGES MATHEMATICS CONFERENCE

All presentations on May 2 take place in Science Theatre (ST) 141. Registration, coffee/snacks, and publisher displays will be in the hallway outside this room. The names in brackets are the session chairs.

08:00 Registration, coffee/light breakfast. Registration consists of simply going to the desk and picking up your folder (your name tag should be attached to it). It will be open until 16:00. The folder will contain the Programme, a campus map, your banquet ticket, and your parking voucher (if you requested one).

09:00   Opening Remarks

09:15   Invited Lecture, Melania Alvarez   [Robert Woodrow]

10:15 - 10:40   Coffee break

10:40 - 11:30   Kris Reid and Christine Henzel   [Robert Woodrow]

11:30 - 12:45   Eric Roettger, Pamini Thangarajah, Peter Zizler

[Roberta LaHaye]

12:45 - 14:00   Lunch in Empty Space Room, MacEwan Student Centre

14:00-15:00   Invited Lecture, R. James Milgram   [Peter Zvengrowski]

15:00-15:50   Nataliya Zadhorozhna, Wanhua Su   [Tiina Hohn]

15:50 - 16:20   Coffee break

16:20 - 17:45   Jeremy Sylvestre, Siwei (Alfred) Ye, Aidan Inglis-Claude LaFlamme   [Manny Estabrooks]

17:45 - 18:20 Open discussion about current difficulties in post-secondary education in Alberta, especially in the light of the recent provincial budget.

[Manny Estabrooks]

18:30 - 21:30   Banquet, Blue Room in University Dining Centre. Please present your ticket when entering. Cash bar starting 18:30, dinner at 19:00.

MAY 3 2013, SCHEDULE : NORTH-SOUTH DIALOGUE

Apart from the Invited Lectures, the talks are each 20 minutes + 5 minutes question time. This day registration and all snacks/ coffee breaks are in the department lounge, 4th floor of the Math Sci Bldg. (MS) This day the Invited Lectures are again in ST 141, all else takes place on the 3rd and 4th floors of the Math Sci Bldg.

08:30   Snacks and coffee, all in Department Lounge on Friday, May 3, 4th floor of Math Sci Bldg

09:00   Invited Lecture, Renzo Piccinini, ST 141   [Roberto Bencivenga]

10:00 - 10:25   Coffee break

10:25 - 11:40   Session on Applied and Computational Harmonic Analysis in MS 431 : Bin Han, Yi Shen, Zhenpeng Zhao   [Elena Braverman]

10:25 - 11:40   Session on Algebra and Geometry in MS 427 : Aiden Bruen, Sooroosh Yazdani, David Krebes   [Eric Roettger]

10:25 - 11:40   Session on Applied Mathematics in MS 325 : Andreas Bottenschien, Samuel Reid, Quinton Farr   [Thomas Hillen]

11:40 - 12:55   Lunch in Empty Space Room, MacEwan Student Centre

12:55 - 13:55   Invited Lecture, Thomas Hillen, ST 141 [Hassan Safouhi]

13:55 - 15:10   Session on Partial Differential Equations in MS 431 : Ion Bica, Timur Akhunov, Richard Slevinsky   [Peter Zizler]

13:55 - 15:10   Session on Statistical Methodologies and Data Analysis in MS 427 : Chao Qui, Xuewen Lu, Karen Kopiuk   [Jingjing Wu]

13:55 - 15:10   Session on Analysis and Geometry in MS 325 : Prachi Loliencar, Cristian Ivanescu , Jedrzej Sniatycki   [Hassan Safouhi]

15:10 - 15:40   Coffee Break

15:40 - 16:40   Invited Lecture, Richard Cushman   [Jedrzej Sniatycki]

16:40 - 16:55   Closing Remarks