



# PME NEWSLETTER

May/June 2014

## PME President's goals of quality and inclusion

An interview with PME President Barbara Jaworski



Barbara Jaworski, current PME President, is a long and active PME member. She recalls her early days of PhD research and the opportunity to attend her first PME Conference in London, England, in 1986 as "overwhelming but exciting."

It was this conference that introduced her to the ideas of "constructivism" and had a strong impact on her research in the following years. As an academic with years of experience as a teacher of school mathematics Barbara has focused her research on better understanding how teaching develops and how teachers themselves are involved in the development of teaching.

She is a pioneer in this research. When she began this work in the late 1980s there were few PME sessions that focused on teaching or teacher education (today this research domain is the largest area of PME research).

At the 1987 PME Conference in Montreal, Canada, Barbara presented her first research report at a PME

meeting. In subsequent years, with colleagues Terry Wood and Sandy Dawson, she started leading the working group on the Psychology of Mathematics Teacher In-service Education which ran for several more years. In 1999 a book was published, *Mathematics Teacher Education – Critical International Perspectives*, with papers from members of this working session.

Moving away from research that tells teachers how to become better teachers, Barbara has always valued more collaborative approaches to teaching, learning and research.

"Teachers are often too overwhelmed by the demands of their school and the norms and expectations of educational systems and school life to pay attention to what they are told by educators," she states. In order to improve practice teachers "need to have a stake in that development – they have to have some vision themselves, to want to innovate or promote change."

It is a mutual learning relationship.

"It became clear to me very quickly that both the teachers and myself learned from this collaboration, and the learning led to developments in teaching."

Developmental research, that both promotes development and studies its processes and issues, is now the focus of her research. Moving from a focus on secondary teachers she is now working at the university level and collaborating with mathematicians to think about how teaching might be improved at this level as well.

Reflecting on her goals for PME as president, Barbara addresses the reach of PME.

"PME has become huge," she said. "This is a success story – it has increasingly attracted researchers from all over the world, who want to come to present their work and meet others."

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## PME Message from the Editors

Welcome to our Newsletter of June/July 2014!

Well, this newsletter has been a long time coming. We apologize for not bringing you PME news more regularly this year. I (Cynthia) now understand what it actually means to organize a conference. Although I had high expectations of being able to continue with the newsletter and co-chair the PME 2014 conference - it was a big job to do both. So we hope you understand and enjoy this issue - although late - as much as the other issues.

We are looking forward to seeing you in Vancouver!  
Cynthia Nicol <[cynthia.nicol@ubc.ca](mailto:cynthia.nicol@ubc.ca)> and  
Maike Vollstedt <[vollstedt@math.fu-berlin.de](mailto:vollstedt@math.fu-berlin.de)>  
Editors of PME-Newsletter  
with Diana Royea as Guest Editor for this edition.

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### Jaworski Interview continued ...

With increasing numbers, PME scholars, Administrative Managers and past Presidents, have taken several measures to improve management systems while continuing to obtain PME's scientific goals. As the current President, Barbara wishes to continue this work while also focusing on two other fundamental issues: *Quality* and *Inclusion*.

“Regarding *quality*: we need to continue seeking the highest levels of quality in our research and our presentation of it. This is essential to the value of our conferences and publications. We hope to start making our publications more accessible though digitisation.”

“Regarding *inclusion*: we wish to include researchers at all levels from all

countries. Where prospective participants have particular needs we seek to provide help and support. Thus, the Skemp fund, over the years, has become central to PME operation in providing financial help.”

In fact, PME is currently making changes to update the administration of the Skemp fund with the goal of making the annual distribution of the fund more appropriate for the different levels of need.

At the same time, many early career researcher need support of a different kind. While PME has always welcomed new researchers and supported them through "pre-submission support" before the annual conference and welcoming meetings for first timers during the conference, PME is piloting a new idea at

the 2014 Conference in Vancouver, Canada. Aimed at improving the inclusion of beginning researchers, *Young Researcher's Day (YRD)*, a special day of networking with a specially designed program for those new to research will be hosted by PME at the University of British Columbia immediately before the regular conference activities. If *YRD* proves to be a success, members' approval to institute it as a regular feature of the annual PME conference will be sought.

As President, Barbara stresses she is open to PME members' ideas, suggestions or criticisms and welcomes all members to feel free to contact her.

*written by Diana Royea, University of British Columbia, Vancouver, Canada*

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## PME International Committee Reports

### Treasurer Portfolio Group (TPG) Report

*submitted by Bettina Dahl Søndergaard*

**TPG:** *Bettina Dahl Søndergaard, Denmark, (Treasurer); Tai-Yih Tso, Taiwan; Olive Chapman, Canada; and Keith Jones, UK.*

We are busy, but enjoying it very much! A main task of the TPG is to continuously manage our accounts, which means paying for instance for webhosting, reimbursing people who have paid something out of own account on behalf of IGPME, but also emailing confirmations to people paying membership or donating Skemp funds directly. We also advice on fiscal questions from present and future conference organisers.

We also prepared the IGPME annual fiscal report to be audited by Marianna Tzekaki. This will be presented at the AGM of PME38. The closing balance of IGPME in 2013 was 114,005.90 EUR, including a PME37 surplus of 28,522.78 EUR. Furthermore, our reserve fund (papers) amounted to 20,237.87 EUR. The closing balance of



IGPME in 2012 was 102,857.28, including a PME36 surplus of 7,890.00 EUR. Our reserve fund amounted to 21,152.99 EUR. So IGPME is doing very well financially.

In the TPG/IC we are happy not to have a deficit, but we have also discussed how much money we need on the account. We are not in this business to accumulate money. Are we perhaps too strict when approving conference budgets? On the other hand, we want to be conservative when planning a conference, to avoid a deficit. We need funds in case of a “catastrophic event” where we need to cancel a conference, hereby loosing already paid deposits. IGPME needs to be able to operate for a year (paying webhosting, AM salary, bank fees, etc.) without getting all the income usually collected via the conference (membership fees etc.). We are therefore working on a proposal considering how much insurance is necessary.

## TPG Report Continued...

We also worked on a policy on legitimate use of surplus funds. We have discussed that it might be difficult to run for the IC if you are from a country where for instance travel funds are limited, since being on the IC obliges you to participate in four PMEs. But we need people from all over the world to run for the IC. We are therefore working on a proposal for supporting IC members from such countries with inspiration from the Skemp procedures.

We have also tried to move to a UK based bank. This is a requirement in order to be approved as a Charity

## Vice President's Portfolio Group (VPPG) Report

*submitted by Stefan Ufer*

**VPPG:** *Stefan Ufer, Germany (Vice-President);  
Nuria Planas, Spain; Masakazu Okazaki, Japan;  
Wim van Dooren, Belgium*

The focus of the Vice-President's Portfolio subgroup (VPPG) of the IC is the scientific activity of PME. Since August 2013, the VPPG has been working on several topics. In this report we will focus on five of them. In some cases, these carry forward the work of the VPPG in the previous year.

*Reviewing resubmitted Short Oral and Poster Presentation proposals:* If a Research Report proposal for a conference is rejected, it is a tradition that the International Programme Committee (IPC) may encourage the author to resubmit the contribution as a Short Oral or Poster Presentation. In the past years, the quality of these resubmitted contributions varied widely, since they were not subject to a consideration by the IPC any more. Usual Short Oral and Poster Presentation proposals are considered by the IPC in view of the criteria published on the PME web site. To ensure the quality of all published Short Oral and Poster Presentation contributions, the VPG worked out a concept to make a reviewing of resubmitted contributions possible. This concept was agreed by the IC and will be implemented for PME38.

*Colloquium – a new presentation format:* Continuing work from previous years, Wim van Dooren has worked out a proposal for introducing this new presentation format. A Colloquium session will consist of three usual research reports from different groups, a 10 minute summarizing reaction by a discussant and a joint group

organization in England and Wales. Our account in Finland is with Nordea bank, which is an international bank and we therefore thought it would be easy to transfer from Nordea Finland to a Nordea UK. After a long time discussing with different people in Nordea Helsinki Finland and Nordea London UK, we were told that “Nordea London accepts new customers only if they are so called L-size corporate registered in any Nordic country and maintaining a subsidiary in UK”. This meant no. We were quite disappointed, but have not yet given up hope. We are now trying another option in another UK bank.



discussion of 20 minutes. The idea is to provide the opportunity to present related research from different groups and thus stimulate collaboration

within PME. This proposal will be discussed in the Path to the AGM forum during the next weeks, please find more information there and join the discussion!

*Young Researchers Day:* After intensive discussion in the IC, it was agreed to implement a Young Researchers Day as a pilot before PME38. The basic concept for this format was drafted in the VPG under the lead of Nuria Planas and Wim van Dooren. You will find more information on this activity in this newsletter.

*Future Conferences:* One of the main works this year was to ensure that we will have PME conferences also in the future. Since this was neglected a bit in the past, Stefan Ufer started negotiations with possible hosting groups for the next years and supported them in preparing and improving their conference bids. A decision could be made for PME40, 2016 which will be hosted by the group of Csaba Csikos in Szeged, Hungary. For PME39, 2015, the discussion within the IC is coming to an end. You will find news soon on the IGPME web site.

*Timing of Short Oral Sessions:* Short Oral sessions with their three 10 minute presentations and overall 30 minutes of discussion rely much on a good moderation by the session chair. To offer some support for the chairs, Masakazu Okazaki works on a document that describes possible ways to structure the session and means to facilitate a good discussion that addresses all three contributions. The resulting documents will be provided to the chairs of Short Oral sessions during PME38.

*PME International Committee Reports continued ...*

## Secretary Portfolio Group (SPG) Report

*submitted by Stephen Hegedus*

*Stephen Hegedus USA, (Secretary); Anke Lindmeier, Germany; Guri-Anne Nortvedt, Norway; Oh Nam Kwon, Korea*

The Secretary Portfolio group is responsible to facilitate communication within PME and to keep records of the activities of PME. Last year Silvia Alatorre (Mexico) and Samuele Antonini (Italy) completed their 4 year terms on the International Committee (IC) and the SPG. In addition, Stefan Ufer was elected Vice-President of PME. We thank each of these members for their valuable work over the past year in particular on issues concerning the organization of conferences and the technical tools used by the organization. During PME 37, Stephen Hegedus (USA) was elected Secretary of PME, with three new members to complete the SPG: Anke Lindmeier, Guri-Anne Nortvedt, Norway, and Oh Nam Kwon.

The SPG has been working on various projects this year, which are of interest to the larger PME community.

*PME Conference Guidelines.* We have revised the Guidelines for PME Conference organizers and prospective bidders. This includes a lot of vital information for those interested in running a PME conference in the future. It has been updated to include recent policies and initiatives and includes a lot of great advice from many experienced PME members who have organized conferences in the past.

*Evaluating Reviewers' Comments.* We have begun an evaluation of all reviewers' comments and feedback from contributors on how useful these comments were. This has been an informative activity and we will be presenting more formal results at PME38, which will hopefully help guide contributors and reviewers in the future.



*PME Conference Proceedings.* At the last PME it was decided that members would have access to digital versions of past PME conference proceedings

where available. From PME37, members will have access to the upcoming PME proceedings as a downloadable, searchable PDF. The following year this will be available for registered users from the IGPME website. The group has also been working on creating a space on the IGPME website for all members to download previous proceedings. Prior to 2001, proceedings have just been in print and so we are working with past organizers to generate PDFs from electronic documents where available or to make scans where necessary.

Due to copyright issues we can only make proceedings prior to 2013 accessible to current PME members. We established a print-on-demand service through lulu.com for members who do not wish to travel with the proceedings. This had differing costs based on where you were located in the world. We have sold 79 volumes to date. We appreciate feedback on the quality of this service.

*Communication.* The IGPME website ([www.igpme.org](http://www.igpme.org)) is the main portal for all communication and information regarding PME and past PME, its members, open forums, and working areas for the International Committee. We have also consolidated our present and past members into one database to work with our conference management system (ConfTool) largely in thanks to the hard work of Stefan Ufer.



# For me PME is the best conference I know

*During PME 37 in Kiel, Germany, we had a chance to spend an hour with with long-time PME member, and past PME President, Rina Hershkowitz. Below are excerpts from that conversation.*

## *Tell us about your first PME.*

The first was 1979 in Warwick, UK PME 3, then Berkeley, USA, 1980, followed by Grenoble France [1981], Antwerpen, Belgium [1982], and Shoshon, Israel [1983]. PME 7 in Shoshon was the one I organized. Only one hundred and thirty people and yet it was a lot of headache. Really, a lot of headache. I enjoyed it very much but I was so happy that everything was finished and nothing serious happened.

But then about 10 years ago I had an accident while I was PME president, about 2002. For the last year of my presidency I was in the hospital. It was a bad accident. So I missed a few PMEs but I've attended many PMEs.

## *What are your impressions of PME?*

I will tell you a bit of my story. When I first went to PME 3 in Warwick, UK, I really didn't know what it was. I was very active, but not very much on, on cognitive research. I was very active in doing projects, doing colloquium, leading projects, .....very active. When I came to PME 3 I wasn't sure I would really belong to PME. Yet it was ok and, in Berkeley [PME 4], I gave a presentation and then was asked if I could organize a PME in Israel.

Because we were only few, 130 people, and because it was only the seventh PME meeting, it might have been



more friendly. People knew each other. I think that there was a spirit of change in that period and I think that the spirit of PME is continuing to develop. Many people have told me that for them, the PME conference is the most important conference in

mathematics education.

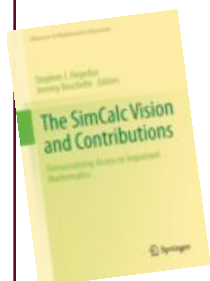
From the scientific point of view, what I like is that each PME, gives you some progress in your area. And if you're coming to the conference with new ideas, you receive a lot of responses. People like to talk with you about what you just did.

For example, Benjamin [a PME participant] was listening to my talk and asked me a few questions after that. We didn't meet, but we continue by email. It's nice because people are sensitive to new progress. New progress that you care about can be presented and you can listen to new progress that is presented.

For me PME is the best conference I know.

## Book Announcement

### The SimCalc Vision and Contributions: Democratizing Access to important Mathematics



**Stephen Hegedus and Jeremy Roschelle (2013)**

The volume organizes over 15 years of sustained research by multiple investigators in different states and countries who together developed an approach called "SimCalc" that radical transforms how Algebra and Calculus are taught. Combining the findings of multiple investigators in one accessible volume reveals the depth and breadth of the research program.  
ISBN 978-94-007-5695-3.

<http://www.springer.com/education+%26+language/mathematics+education/book/978-94-007-5695-3>

## PME from a First Timer's Perspective

*Do you remember your first time? Toward the end of PME 37 in Kiel, Germany, we met with two PME first-time participants Susanna Oksanen of Finland and David Gomez of Chile who remind us of what is good and what could be better about PME.*

Hi, my name is *Susanna Oksanen*. I'm from the University of Helsinki in Finland. I am 27 years old and a second year PhD student and my supervisor is Markku Hannula. I am doing research in mathematics teacher beliefs in Finland because I am teaching both mathematics and German language for the Grades 7 to 9. I am interested in the linguistic side of the research because when we collect the metaphors in Finland and Germany I can do an international comparison.

My name is *David Gomez*. I work at the University of Chile as a postdoc. I finished my PhD about neuroscience in last December. Originally, I am a mathematician and I have a PhD degree in neuroscience. Therefore, I want to put these two things together. Not just general mathematics stuff but the way which the mind respectively the brain represent and code mathematical objects and how it works with them. This is the idea and this is totally new in Chile. It is a challenge setting up a group from the very beginning. My relationship with education results from the institute I am postdoc at as well as my interest since I was twenty.

*Susanna*: When I started my PhD studies two years ago I was involved in an international research group, that worked a Nordic-Baltic comparison project. Immediately It is really interesting because of the German language and the English language. I am really interested also in the international part of this research. Now I have the possibility to come to Germany [for PME 37]. I have met many young German researchers or PhD students. It has been nice to cooperate with them because next autumn I will see them in the MAVI conference in Freiburg, Germany. I can take part in the "Gesellschaft für Didaktik der Mathematik" [society of mathematics education in the German speaking countries] also here in Germany like the elder professor Erkki Pehkonen has done for many years.

Now I can continue this work with the language skills I have.

*David*: Doing neuroscience, you must to be very close to psychology in general. Psychology is to the mind and neuroscience is to the brain – at least it should be related in a way. I was particularly interested in mental

representation of mathematical objects. I have been working specifically on fractions, rational numbers. Hence, for a long time I have been looking for articles in psychology of mathematics. I found many articles in the proceedings of previous PME conferences. I then learned about the group, about the very many conferences that have been organized and then I thought I must go at some point.



*David*: This is a relatively big conference but still you can feel the warmth of people who know each other. Because of that they can recognize who is a newcomer. They try to talk to you. It is really a nice atmosphere for a start. On top of that you can have access to very good research reports and discussions. I like it in many respects.

*Susanna*: I think the newcomer meeting was a nice idea. I made two new contacts. We are all facebook friends now. And every evening we have been somewhere out. I decided not to go with the Finish team but to go with some new people. We have been in different restaurants and to a salsa party. So it is not just a conference program but also a social program.

*David*: Something very nice about PME conference is that it is a big conference but with the atmosphere of a small conference. One of these is that you can get really to know people, to get lots of friendly comments and there is the supportive organization and stuff – but still: it is big.

**PME from a First Timer's View continued ...**

*Susanna:* An improvement could be more start-up questions for conversations that would make it more easy for people to meet and talk. There could be, for example, random questions on the tables in the coffee breaks.

*David:* Actually the social reception for me was quite hard. Once I get the confidence to start-up a conversation then it is okay and I can talk to you. But if I am in the situation of knowing nobody and seeing the Fins talking to Fins, the Germans talking to Germans and so on, that can be a wall that's quite difficult to break. So maybe for the social reception it would have been a great idea like to have some start-up topic.

*Susanna:* When you do something together, football or tennis whatever, going skiing in Vancouver, you find the people who have the same interests. For example I go orienteering. So maybe we could have a small city orienteering or competition or something more like sports. That helps come people together.

*David:* Maybe just move the newcomers meeting to the first day parallel to the registration time.

*Susanna:* One of the best things is that I do not have to wait till next year's PME because there is new technology social media I can use to connect to those people who I have met here. And when we see each other next year, we've already kept in touch during the whole year. I think it is an interesting thing that the PME will be in different countries and cities. So you always have the opportunity to see the world.

*David:* I am really happy to be here and I hope to see you next year. It is just an expression of gratitude because of this has really been a nice experience. I have been in many conferences, not math education related, but I have been in huge conferences and in small conferences. To some of them you really go just because of the topic or because the place is wonderful. There are only few conferences, like PME, that make you feel like I want to come back to see these people again, I want to know what they will be doing in the next one or two years.



First time attending PME: Susanna Oksanen, Finland and David Gomez, Chile. Photo taken in Kiel, Germany PME 37.



PME 38 / PME-NA 36 Annual Conference

Vancouver, Canada | July 15-20, 2014



## Young Researcher's Day

### A new event at PME 2014, Vancouver

As an innovation (pilot) a special day event is being organised directly before PME 38 for early career researchers (Young Researchers) which we are calling a *Young Researcher's Day* (YRD).

This has been advertised and applicants invited: 100 applications have been received, of which 70 (a working limit) have been accepted.

The day is being organised and presented by representatives from PME and from the Local Organising Committee. It will take place during the afternoon of July 13<sup>th</sup> and the morning of July 14<sup>th</sup>, ending with lunch. The main aim of the day is to provide a programme that is of direct interest and value to PME participants in the early stages of their research activity.

Potential participants have been asked to provide information about their programme of study and preferences for the day. Based on their responses a programme of sessions has been prepared. The proposed programme will be sent to participants very soon.

As a new venture of PME, we are monitoring this YRD very closely, and will be seeking feedback from participants. At the PME AGM, we shall be presenting a proposal for YRD events at future conferences, building on what we have learned on this occasion.

Following the YRD and before the main conference starts, there will be an introductory meeting for all participants new to PME. YRD participants are most welcome to join this meeting.

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# Mathematics Education at the Edge

## PME 2014 Vancouver ...

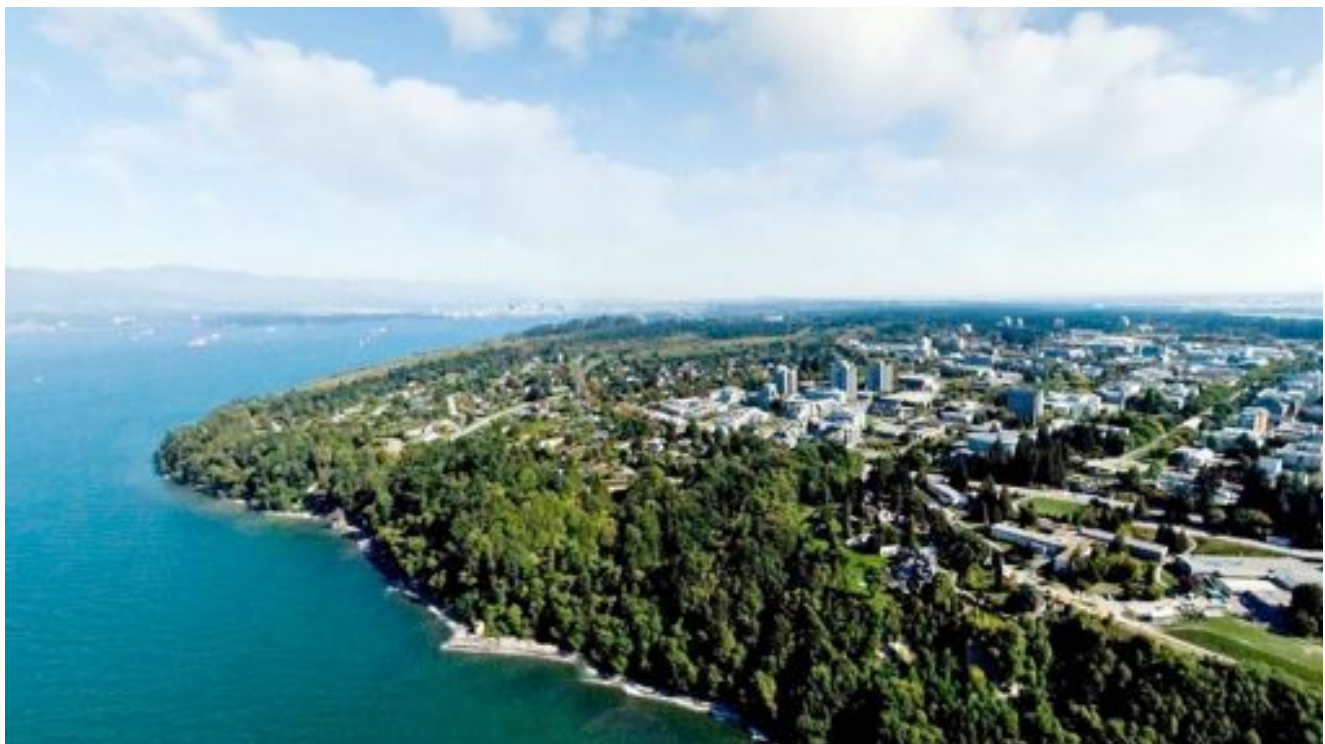
by Diana Royea PME 2014 Local Organizing Committee

The preparations for the joint PME 38/PME-NA 36 conference are well underway. Co-Chairs *Cynthia Nicol*, *Peter Liljedahl*, and the local organizing committee are hard at work planning the details to ensure that the upcoming conference will be successful both with the scientific and social programs.

The PME community has expressed great interest in attending this year's conference. Now that the review process is complete, we can state with confidence that PME 2014 will be scientifically promising with 222 accepted research reports, 291 accepted short oral reports, 147 accepted poster presentations, 12 accepted discussion groups, and 6 accepted working sessions. The number of accepted proposals suggests that this year's conference

in fact be one of the biggest PME conferences.

In addition to the regular scientific program, this year's conference will also be piloting a special day for young or early career researchers who are attending the conference. Young Researcher's Day (YRD) will take place over two half day sessions immediately preceding the conference. The sessions will provide the YRD participants with the opportunity to further develop their research skills and establish new contacts through a variety of workshops facilitated by PME members and representatives



The University of British Columbia, Vancouver, Canada site of PME 2014

# Mathematics Education at the Edge: PME 2014

including Dr. David Pimm, Dr. Natalie Sinclair, Dr. Susan Gerofsky, Dr. Tim Rowland, and Dr. Joao Filipe Matos. More information about YRD can be found at [www.pme38.com/program](http://www.pme38.com/program).

As the venue of PME 38, the University of British Columbia, well represents the city of Vancouver by showcasing the natural beauty that is typical of this coastal city. To enhance the social program of PME 2014, several excursions that highlight some of Vancouver's natural beauty and touristic points of interest have been prepared. The excursions were planned to afford conference participants the opportunity to explore some of the city's most well-known attractions while avoiding long transportation times. Furthermore, the excursions were thoughtfully selected to satisfy a variety of interests. As announced in the second announcement, conference

participants can choose to take a tour of and enjoy renowned shopping in Vancouver's oldest downtown core, explore Stanley Park - one of the world's largest urban parks, visit the beautiful horticultural Queen Elizabeth Park and Bloedel Observatory while taking in a breathtaking view of the city with its mountain backdrop from 152 metres above sea level, tour the scenic North Shore of Vancouver and visit Lynn Canyon, explore Vancouver's Grouse Mountain from an aerial tramway, or even enjoy a strenuous, uphill hike up the Grouse grind.

We are looking forward to seeing you in Vancouver this summer and hope you find the conference productive and enjoyable. More information about the joint PME 38/ PME-NA 36 conference is available at [www.pme38.com](http://www.pme38.com).



The University of British Columbia, Vancouver, Canada site of PME 2014