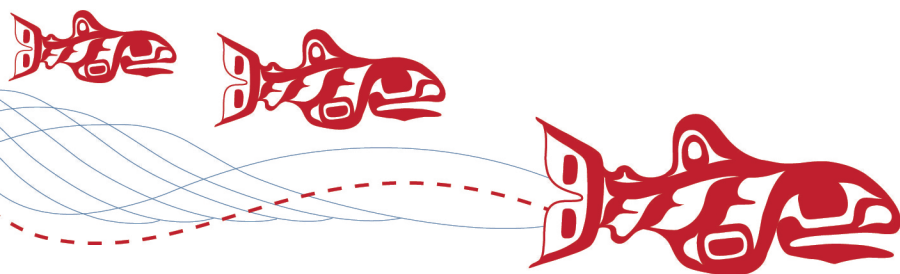


PME 38 / PME-NA 36



Second Announcement

Vancouver, Canada | July 15-20, 2014

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Welcome



to Vancouver



PME 2014

Joint Meeting of the International Group for the Psychology of Mathematics Education (PME 38) and the North American Chapter of the Psychology of Mathematics Education (PME-NA 36) in Vancouver, Canada

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1 Welcome

Peter Liljedahl and Cynthia Nicol (Co-Chairs of PME 38 and PME-NA 36) and the Local Organizing Committee are happy to invite you to attend the *Joint Meeting of the International Group for the Psychology of Mathematics Education (PME 38) and the North American Chapter of the Psychology of Mathematics Education (PME-NA 36) in Vancouver, Canada* from July 15 to July 20, 2014.

“Mathematics Education at the Edge” has been chosen as the theme of the conference. Academically, the theme provides opportunities to highlight and examine mathematics education research that is: 1) breaking new ground or on the cutting edge of innovative research and research methodologies; and 2) exploring issues with groups that are often positioned at the edge or periphery of educational research such as social justice, peace education, equity, and Indigenous education. Geographically, the theme *Mathematics Education at the Edge* describes the very place of the conference setting, Vancouver, a city situated at the edge of Canada on the Pacific Ocean and Coast Mountain Range.

All our efforts will be directed towards making our 2014 meeting socially and scientifically successful. We hope that your stay in Vancouver, Canada will be exciting, informative and inspiring and we look forward to seeing you in July 2014.

1.1 Your Hosts

PME 2014 is being co-hosted by Simon Fraser University (SFU) and the University of British Columbia (UBC) on the beautiful UBC campus.



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1.2 Support

We want to thank our sponsors for their generous support in bringing this conference to you.



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MATHEMATICAL SCIENCES

1.3 Conference Dates

- The registration will start on Tuesday, July 15 at 2:00 PM to 4:00 PM in the Chan Centre.
- The opening session, including the plenary presentation, the cultural event, and the opening reception, will begin on Tuesday, July 15 at 4:00 PM in the Chan Centre.
- The excursions are planned for Friday, July 18 after lunch.
- The conference dinner will take place on Saturday, July 19 at 7:00 PM.
- The conference will end on Sunday, July 20, 2014 around 2:00 PM.

1.4 Dates for IGPME Activities

- **The First Timers Meeting** for colleagues attending a PME or PME-NA conference for their first time will take place on Tuesday, July 15 at 2:45-3:30 pm in the Chan Centre.
- The Policy Meeting gives space for an open discussion with the Member of the International Committee. It is planned for Thursday, July 17 after the lunch break.
- The PME-NA Business Meeting is planned for Thursday, July 17 after the lunch break.
- The Annual General Meeting (AGM) will take place on Saturday, July 19 at 3:40-5:40 am.

Please see conference program for specific times and meeting rooms.

2 Committees of PME 2014

2.1 The International Program Committee (IPC)

Barbara Jaworski	PME	Loughborough University (United Kingdom)
Peter Liljedahl	LOC, PME-NA	Simon Fraser University (Canada)
Cynthia Nicol	LOC	University of British Columbia (Canada)
Kim Beswick	PME	University of Tasmania (Australia)
Olive Chapman	PME	University of Calgary (Canada)
Susan Oesterle	LOC, PME-NA	Douglas College (Canada)
Stefan Ufer	PME	Ludwig Maximilians University of Munich (Germany)
Deborah Moore-Russo	PME-NA	University of Buffalo (USA)

Because PME 2014 is a joint conference, the IPC is constituted by an intersection of members representing the PME International Committee (PME), the PME-NA Steering Committee (PME-NA), and the Local Organizing Committee (LOC). These representatives are working together to ensure that the joint conference delivers a first rate scientific program. The joint conference will operate under PME policies and practices.

2.2 The Local Organizing Committee (LOC)

The local organizing committee for PME 2014 in Vancouver is comprised of volunteers from SFU and UBC, as well as a number of other institutions in British Columbia. As of November 1, 2013 the volunteers are:

Simon Fraser University – Peter Liljedahl, Rina Zazkis, Nathalie Sinclair, David Pimm, Ike Udevi-Aruevoru, Darien Allan, Lyla Alsalim, Harpreet Kaur, Kevin Wells, Krishna Subedi, George Ekol, Andrew Hare, Minnie Liu, Oi-Lam Ng, Sean Chorney, Simin Jolfaee

University of British Columbia – Cynthia Nicol, Ann Anderson, Susan Gerofsky, Leicha Bragg, Diana Royea, Alayne Armstrong, Rob McDonald, Scott Cartmill, Judy Paley, Myron Medina, Ozlem Denzin, Conrad Nickels

Elsewhere – Judy Larsen (UFV), Susan Oesterle (Douglas College), Melania Alvarez (PIMS), Jennifer Thom (UVic), Veda Roodal Persad (Langara)

3 PME Conference Secretariat

For any questions regarding PME 2014 please contact one of the following three conference secretariats:

Conference Scientific Secretariat

For matters related to scientific issues of the conference (program, presentations, equipment, etc.), please contact Peter Liljedahl (liljedahl@sfu.ca).

Conference Registration Secretariat

For matters related to registration and payment, please contact Cynthia Nicol (cynthia.nicol@ubc.ca).

Conference Administrative Secretariat

For matters related to administrative issues of the conference (accommodation, excursion, travel, etc.), please contact Cynthia Nicol (cynthia.nicol@ubc.ca).

3.1 Conference Website

PME 2014 has a website which is accessible at <http://www.pme38.com> where you can find up-to-date information on matters contained within this 2nd Announcement.

4 About PME and PME-NA

The International Group for the Psychology of Mathematics Education (PME) is an autonomous body, governed as provided for in the constitution. It is an official subgroup of the International Commission for Mathematical Instruction (ICMI) and came into existence at the Third International Congress on Mathematics Education (ICME3) held in Karlsruhe, Germany in 1976. The North American Chapter of the PME (PME-NA) is affiliated with PME and shares the same major goals as PME.

The 2014 joint meeting is the 38th meeting of the International Group for the Psychology of Mathematics Education (PME 38) and the 36th meeting of the North American Chapter of the Psychology of Mathematics Education (PME-NA 36). Given the common roots and the uncommon numbering, we have chosen to refer to this joint meeting as PME 2014 and will operate under the PME policies and practices.

4.1 The Constitution of PME

The constitution of PME was adopted at the Annual General Meeting (AGM) on August 17, 1980 and changed at the AGM on July 24, 1987, on August 10, 1992, on August 2, 1994, on July 18, 1997, on July 14, 2005 and on July 21, 2012. The major goals of the group are:

- to promote international contact and exchange of scientific information in the field of mathematical education;
- to promote and stimulate interdisciplinary research in the aforesaid area; and
- to further a deeper and more correct understanding of the psychological and other aspects of teaching and learning mathematics and the implications thereof.

All information concerning PME and its constitution can be found at the PME Website (www.igpme.org).

4.2 Honorary Members of PME

Efraim Fischbein (deceased), Hans Freudenthal (deceased) and Joop Van Dormolen (retired).

4.3 International Committee of PME

President:	Barbara Jaworski	United Kingdom
Vice President:	Stefan Ufer	Germany
Secretary:	Stephen Hegedus	USA
Treasurer:	Bettina Dahl Søndergaard	Denmark
Members:	Olive Chapman	Canada
	Marta Civil	USA
	Marj Horne	Australia
	Keith Jones	United Kingdom
	Guri A. Nortvedt	Norway
	Anke Lindmeier	Germany
	Oh Nam Kwon	South Korea
	Masakazu Okazaki	Japan
	Núria Planas	Spain
	Leonor Santos	Portugal
	Michal Tabach	Israel
	Tai-Yih Tso	Taiwan
	Wim van Dooren	Belgium

4.4 PME Administrative Manager

Bettina Roesken-Winter

Ruhr-Universitaet Bochum
 Fakultaet fuer Mathematik, NA/3/28
 UniversitaetsstraÙe 150
 44780 Bochum, Germany

Phone: +49 (0) 23432-23311

Email: bettina.roesken@rub.de

4.5 The Constitution of PME-NA

The constitution of PME-NA was adopted by the PME-NA AGM on October 24, 1982 and changed by the PME-NA AGM on October 28, 2006. The major goals of the group are the same as PME:

- to promote international contact and exchange of scientific information in the field of mathematical education;
- to promote and stimulate interdisciplinary research in the aforesaid area; and
- to further a deeper and more correct understanding of the psychological and other aspects of teaching and learning mathematics and the implications thereof.

All information concerning PME-NA and its constitution can be found at the PME-NA Website: www.pmena.org.

4.6 Steering Committee of PME-NA

Chair:	Amanda Jansen	University of Delaware (USA)
Treasurer:	Ji-Eun Lee	Oakland University (USA)
Graduate Rep:	Julie Nurnberger-Haag	Michigan State University (USA)
Webmaster:	José Luis Cortina	Universidad Pedagógica Nacional (México)
Past Conference:	Alison Castro Superfine	University of Illinois at Chicago (USA)
Past Conference:	Mara V. Martinez	University of Illinois at Chicago (USA)
Current Conference:	Peter Liljedahl	Simon Fraser University (Canada)
Current Conference:	Susan Oesterle	Douglas College (Canada)
Future Conference:	Kristen Bieda	Michigan State University (USA)
Future Conference:	Tonya Bartell	Michigan State University (USA)
	Marcey Wood	University of Arizona (USA)
	Verónica Hoyos	Universidad Pedagógica Nacional (México)
	Andy Norton	Virginia Tech (USA)
	Jennifer Eli	University of Arizona (USA)
	Donna Kotsopoulos	Wilfred Laurier University (Canada)
	Wendy Sanchez	Kennesaw State University (USA)
	Amy Hackenberg	Indiana University (USA)
	Erik Tillema	Indiana University – Purdue University Indianapolis (USA)

5 The Scientific Program

The theme of the Joint 38th PME and 36th PME-NA Conference is:

“Mathematics Education at the Edge”

The conference language is English. Papers for the proceedings must be written and presented in English. However, colleagues, including the presenters, are welcome to contribute to discussions and questions in their first languages, following a Research Report or a Short Oral Communication, provided there is translation by someone in the session.

The scientific program includes the following activities that are explained in more detail below:

Plenary sessions

- Plenary Lectures
- Plenary Panel

Personal presentations

- Research Reports (RR)
- Short Oral Communications (SO)
- Poster Presentations (PP)

Group activities

- Research Forums (RF)
- Discussion Groups (DG)
- Working Sessions (WS)
- Ad Hoc Meetings (AH)
- National Presentation (NP)

5.1 Plenary Sessions

5.1.1 Plenary Lectures

There will be four plenary addresses from invited speakers, each lasting 60 minutes. Each plenary address will respond to the theme of the conference from a different perspective. A reactor will be present at some of the plenary sessions to comment on the presentations for 15 minutes; following the reactor's comments the presenter will have 10 minutes to respond.

The plenary speakers for PME 2014 who will speak to the theme of *Mathematics Education at the Edge* related to innovative research and research methodologies are:

George Hart (USA): *Informal Education that Teaches "Math is Cool!"*

Luis Radford (Canada): *On Teachers and Students: An Ethical Cultural-Historical Perspective*

Orit Zaslavsky (Israel and USA): *Thinking with and through Examples*

Gabriele Kaiser (Germany): *Professional Knowledge of (Prospective) Mathematics Teachers – Its Structure and Development*

5.1.2 Plenary Panel

A Plenary Panel will be offered on *The Calculus of Social Change – Mathematics at the Cutting Edge*.

Panel members at PME 2014 are:

- Mamokgethi Setati Phakeng (South Africa, Convenor)
- David Wagner (Canada)
- Paola Valero (Denmark)
- Margaret Walshaw (New Zealand)
- Anjum Halai (Pakistan and Tanzania)

5.2 Personal Presentations

These activities aim at providing individual PME members with the opportunity to present their work and share their ideas with colleagues from around the world. **Each participant is allowed to present only one research report or short oral, and can appear as a co-author at most three times.** No one is allowed to have his or her name on the program more than four times, as an author or co-author, on any kind of presentation or group session (although more than four submissions are possible).

Notifications of decisions of the International Program Committee to accept or reject the proposals were made available in April 2014. The detailed reviews for Research Reports are available in the ConfTool system at www.conftool.com/pme38 (author's personal page).

In order for an accepted proposal to appear in the proceedings, the presenting author(s) must pay the total Conference fee no later than May 26, 2014. The Conference Deposit

already paid by the presenting author(s) for the Pre-Registration is NON-REFUNDABLE and will be deducted from the total Conference fee.

[Presentation Guidelines](#) prepared by the International Committee (IC) are available on the PME 2014 website.

5.2.1 Research Report (RR)

Research Reports (RR) are intended to deal with topics related to the major goals of PME and PME-NA. Reports should state what is new in the research, how it builds on past research, and/or how it has developed new directions and pathways. Some level of critique must exist in all papers.

The deadline for submission of RR proposals was January 15, 2014. The number of submitted proposals was 486, and 222 were accepted.

Each presentation will be allotted a total time of **40 minutes**: 20 minutes for the oral presentation and 20 minutes for questions and comments. A chair will be assigned to each RR session and will introduce the authors and moderate the discussion after the presentation. For more information, please contact the Conference Scientific Secretariat at liljedahl@sfu.ca.

In order for an accepted RR to appear in the proceedings, the presenting author(s) must pay the total Conference fee no later than May 26, 2014.

5.2.2 Short Oral Communication (SO)

Short Oral (SO) Communications are intended for research that is best communicated by means of a short oral communication instead of a full research report.

The deadline for the submission of SO proposals was March 1, 2014. The number of submitted proposals was 331, and 183 were accepted.

The total time for a Short Oral Communication is **20 minutes**: 10 minutes for the oral presentation and 10 minutes for questions and/or comments. Three presentations will be grouped according to distinctive themes. A chair will be assigned to each SO session and he will introduce the presenters and moderate the discussion. Usually a 30 minute discussion period follows the three presentations. However, the chair assigned to the SO session may decide that it is better to have 10 minutes of discussion immediately following each of the 10 minute presentations. For more information, please contact the Conference Scientific Secretariat at liljedahl@sfu.ca.

The one-page summary will appear in the proceedings provided that full payment of the conference fee of the presenting author is made no later than May 26, 2014.

5.2.3 Poster Presentation (PP)

Poster Presentations (PP) are intended for information/research that is best communicated in a visual form rather than as a formal paper presentation. The deadline for the submission of the PP proposals was March 1, 2014. The number of submitted proposals was 96, and 63 were accepted. The size of the poster is limited to a maximum of 100 cm height and 90 cm width. Please use portrait format for your poster.

There will be a **60 minute** Poster Presentations scheduled. Posters will be assigned to one of the sessions. This is an opportunity for authors to discuss their research and their posters with conference participants. For more information, please contact the Conference Scientific Secretariat at liljedahl@sfu.ca.

A one-page summary of the PP will appear in the proceedings provided that full payment of the conference fee of the presenting author is made no later than May 26, 2014.

5.3 Group Activities

Group activities are intended to provide attendees with the opportunity to exchange information and ideas related to the PME. Conference participants will need to pre-select the sessions they prefer to attend and indicate this in their registration. Group activities will take place during parallel time allotments, and will have limited space. Accepted proposals will be included in the conference proceedings provided that the full conference fee for the coordinators is paid before May 26, 2014.

5.3.1 Research Forums (RF)

The goal of a Research Forum (RF) is to create dialogue and discussion by offering PME members more elaborate presentations, reactions, and discussions on topics on which substantial research has been undertaken in the last 5-10 years and which continue to hold the active interest of a large subgroup of PME. A Research Forum is not intended to be a collection of presentations but instead is meant to convey an overview of an area of research and its main current questions, thus highlighting contemporary debates and perspectives in the field. Two 90-minute sessions will be allocated to Research Forums.

The following Research Forums have been approved by the International Program Committee of PME 2014:

RF 1: *The Challenges of Teaching Mathematics with Digital Technologies–The Evolving Role of the Teacher* with Alison Clark-Wilson, Gilles Aldon, Analisa Cusi, Merrilyn Goos, Mariam Haspekian, Ornella Robutti and Mike Thomas.

RF 2: *Mathematical Tasks and the Student* with David Clarke, Heidi Strømskag, Heather Lynn Johnson, Angelika Bikner-Ahsbabs, and Kimberly Gardner

RF 3: *Mathematical Modeling in School Education: Mathematical, Curricular, Cognitive, Instructional, and Teacher Education Perspectives* with Marcelo Borba, Rita Borromeo, Jinfa Cai, Michelle Cirillo, Gabriele Kaiser, John A. Pelesko, and Gloria Stillman

RF 4: *Spatial Reasoning for Young Learners* with Natalie Sinclair and Cathy Bruce

RF 5: *Habermas' Construct of Rational Behavior in Mathematics Education: New Advances and Research Questions* with Paolo Boero and Núria Planas

5.3.2 Working Sessions (WS)

The aim of Working Sessions (WS) are to provide PME participants opportunities to collaborate in joint activities on a research topic. For this research topic, there must be a clear

research framework or research strategy and precise goals so that a coherent collaborative activity is ensured. Ideas for a Working Session can result from Discussion Group sessions of previous conferences where a topic was elaborated upon and a research framework or strategy was developed. Each Working Session should be complementary to the aims of PME and ensure maximum involvement of each participant.

Two 90-minute sessions will be allocated to Working Sessions. After the conference, coordinators of each Working Session are required to send a report of its activities to the PME Administrative Manager (info@igpme.org). This report may be included in the PME newsletter. **This report is due by the end of September 2014.**

The accepted Working Sessions for PME 2014 are:

WS 1: *Teacher Noticing: A Hidden Skill of Teaching* by Molly H. Fisher, Edna O. Schack, Jennifer Wilhelm, Jonathan Thomas, and Rebecca McNall-Krall

WS 2: *Developing Preservice Elementary Teachers' Mathematical Knowledge for Teaching* by Lynn Hart and Susan Oesterle

WS 3: *Key Issues Regarding Teacher-Student Interactions and Roles in Assessment for Learning* by Guir A. Nortvedt and Leonor Santos

WS 4: *Mathematics Teacher Educators' Knowledge* by Kim Beswick, Merrilyn Goos, and Olive Chapman

WS 5: *Special Education and Math Working Group* by Helen Thouless, Ron Tzur, Susan Courey, Marie Fisher, Jessica Hunt, Katherine Lewis, Robyn Ruttenberg, and Yan Ping Xin

WS 6: *The Use of Eye-Tracking and Technology in Mathematics Education Research* by Patrick Barmby, Chiara Andrà, David Gómez, Andreas Obersteiner, and Anna Shvarts

5.3.3 Discussion Group (DG)

The objective of a Discussion Group (DG) is to provide attendees with the opportunity to discuss a specific research topic of shared interest. The idea of a Discussion Group may be the result of an Ad Hoc Meeting or an intensive discussion of a Research Report during the previous conference. Discussion Groups may begin with short synopses of research work, or a set of pressing questions. A Discussion Group is exploratory in character, and is especially suitable for topics which are not appropriate for collaborative work in a Working Session because they are not yet elaborate enough or because a coherent research strategy has not been identified. A successful Discussion Group may result in an application for a Working Session one year later.

Two 90-minute sessions will be allocated to Discussion Groups. After the conference, coordinators of each Discussion Group are required to send a report of its activities to the PME Administrative Manager (info@igpme.org) **no later than September 30, 2014**. This report may be included in the PME newsletter. For more information, please contact the Conference Scientific Secretariat at liljedahl@sfu.ca.

The accepted Discussion Groups for PME 2014 are:

DG 1: *A Discussion on Virtual Manipulatives* by Patricia Moyer-Packenham and Jennifer Suh

DG 2: *Exploring Horizons of Knowledge for Teaching* by Nicholas H. Wasserman, Ami Mamolo, C. Miguel Ribeiro, and Arne Jakobsen

DG 3: *Mathematical Discourse that Breaks Barriers and Creates Spaces for Marginalised Students* by Roberta Hunter, Marta Civil, Beth Herbel-Eisenmann, and David Wagner

DG 4: *Negative Numbers: Bridging Contexts and Symbols* by Laura Bofferding, Nicole Wessman-Enzinger, Aurora Gallardo, Irit Peled, and Graciela Salinas

DG 5: *Numeracy Across the Curriculum* by Merrillyn Goos, Helen Forgasz, and Vince Geiger

DG 6: *Observing Teachers Observing Mathematics Teaching: Researching the Unobservable* by David A. Reid, Richard Barwell, Lisa Lunney Borden, Manuel Dominic, Elaine Simmt, and Christine Suurtamm

DG 7: *Preparing and Supporting Mathematics Teacher Educators: Opportunities and Challenges* by Rachael Mae Welder, Amanda Jansen, and Andrea McCloskey

DG 8: *Researching 'Thinking Classrooms'* by Gayle Williams and Peter Liljedahl

DG 9: *School Mathematics Curriculum in Centralized and Decentralized Educational System* by Zahra Gooya and Soheila Gholamazad

DG 10: *The Affordances and Constraints of Multimodal Technologies in Mathematics Education* by Stephen Hegedus, Yenny Otalora, Lulu Healy, and Natalie Sinclair

DG 11: *Visualization in Teacher Education: Toward a Pedagogy* by Barbara Mary Kinach and Andrew Coulson.

DG 12: *What is Quality Teaching-Research?* by Bronislaw Czarnocha

5.3.4 Ad Hoc Meetings (AH)

Ad Hoc Meetings are a form of conference activity that was approved in 2010. During the conference, PME provides time slots and rooms for meetings of 'ad hoc' groups. The idea is that researchers can meet and discuss research topics that spontaneously came up during discussions of previous presentations at the conference. The Ad Hoc Meetings are reserved only for discussions; presentations or a continuation of a Research Report or Short Oral Communication are not allowed.

To organize an Ad Hoc Meeting, at least two persons should prepare an announcement with a short and precise description of the topic, the names of the organizers, and the preferred time slot, and deliver it to the PME Administrative Manager. The Administrative Manager will then assign times and rooms. Since there are only a few time slots and rooms, proposals will be accepted on a first-come, first-served basis.

It is not possible to organize an Ad Hoc Meeting before the conference. For more information, please contact the Conference Scientific Secretariat at liljedahl@sfu.ca.

5.3.5 National Presentation (NP)

The country hosting a PME conference may include a 90-minute National Presentation in the scientific program of the PME conference. The goal of a National Presentation is to present to PME members of other countries the specific history, traditions and perspectives, as well as the most important results, of a national mathematics education community. Accordingly, the National Presentation is organized so that it offers information about the national situation as well as interprets this information within international mathematics educational research.

5.4 Equipment for Presentations

Projectors will be available in all of the presentation rooms but participants will be expected to bring their own laptops and any special laptop-to-projector connectors. For more information, please email the Administration Secretariat at cynthia.nicol@ubc.ca.

5.5 Young Researchers Day

For the first time, and as a pilot, PME is pleased to offer a special day for young (early career) researchers who are also attending the PME conference. The aim of the YRD is to provide early career researchers with opportunities to develop their research skills in various fields, establish new contacts and build networks among themselves and to future PME conferences, and meet and work with international experts in the field. YRD will be held over two half days on the afternoon of July 14, 2014 from 1:00 pm to 6:00 pm and the morning of July 15, 2014 from 9:00 am to 1:00 am at the University of British Columbia, Vancouver. Directly preceding the main PME conference, YRD will comprise of workshops facilitated by internationally recognized PME scholars including local members Dr. David Pimm, Dr. Nathalie Sinclair, and Dr. Susan Gerofsky as well as PME representatives Dr. Tim Rowland and Dr. Joao Filipe Matos. It will also include a social program to provide opportunities for informal exchanges and further networking.

The call for YRD participants has been well received with just over 100 applications received, of which a working limit of 70 have been accepted. Registration fees, coffee breaks and a meal on and for July 15 are complimentary (no cost).

If it proves to be of interest and value, the IC and Local Organizing Committee will propose to the AGM that such an event become a permanent feature of PME activity.

Detailed information can be found at www.pme38.com/scientific_program/ on the conference website.

6 PME 39: The University of Tasmania, Australia

6.1 Pre-Submission Support for PME 39

The PME pre-submission support for Research Reports and Short Oral Communications is intended for novice or inexperienced researchers who have limited access to expert advice and who would like to receive guidance from more experienced PME researchers. Applicants should submit their paper to the coordinator who is appointed by the International Committee. The coordinator will then assign the paper to an appropriate mentor and ensure that the communication between the mentor and novice researcher proceeds smoothly.

The PME pre-submission support coordinator is Nathalie Sinclair (Canada), nathsinc@sfu.ca.

The PME pre-submission support deadline is in September in the year before the conference. People who wish to have a mentor for the PME 39 Conference should submit a Research Report or Short Oral Communication and contact the coordinator as early as possible, but no later than **September 1, 2014**.

The pre-submission support papers should be accompanied by a statement in which the authors describe

1. their limited experience in writing research reports (or journal articles) and
2. their limited access to expert advice.

Mentors will correspond with the applicants and help strengthen their submitted papers.

Please note that this procedure is meant to provide feedback on written reports. It is not meant as support for conducting research. This mentoring does not guarantee acceptance, as all submitted papers will still undergo the regular PME reviewing procedures.

6.2 Call for Research Forums for PME 39

Proposals for a Research Forum to be organized at PME 39 should be in hands of the PME Administrative Manager (info@igpme.org) not later than October 1, 2014. Guidelines to submitting Research Forum proposals can be found at the [IGPME website](#).

7 Registration and Payment

7.1 Conference Final Registration

The final registration for PME 2014 will be carried out online using the ConfTool conference registration system, at <https://www.conftool.com/pme38/>. Before registering for the conference or paying the membership fee, you need to register in the ConfTool system.

1. a) If you **are already pre-registered** for PME 2014 **and paid the conference deposit**:
 - Please enter your username and password to login.
 - Select the option “*Register as a Participant*”.
 - Select the status “*Pre-Registered Participant (Deposit Paid)*”.
 - Enter the **pre-registration code** you received via e-mail and proceed to step 2.
1. b) If you **are already pre-registered** for PME 38 **and did not pay the conference deposit**:
 - Please enter your username and password to login.
 - Select the option “*Register as a Participant*”.
 - Select the status “*Pre-Registered Participant (Deposit NOT Paid)*”. Proceed to step 2.
1. c) If you are not pre-registered for PME 2014 but **already have been a user of ConfTool**:
 - Please enter your username and password to login and select the option “*Register as a Participant*”.
 - Select the status “*New Regular Participant*” or “*New Student / Ph.D. Student Participant*” and proceed to step 2.
1. d) If you are a **new user of ConfTool**:
 - Please create a new account and register in the system.
 - You will need to provide your personal information and account information in order to build your own data base in the system.
 - Select the option “*Register as a Participant*”.
 - Select the status “*New Regular Participant*” or “*New Student / Ph.D. Student Participant*” and proceed to step 2.
2. Fill in the requested information concerning the number of accompanying persons, attendance at the social reception, choice of excursion, attendance at the conference dinner, type of proceedings etc. Step by step, the system will take you to the payment form where you can get additional information on payment options for the registration fee.
3. If you choose an online payment, the system will connect you with a secure page for you to complete your payment (see 7.4 Payment Options).

You will receive an automatic confirmation email by ConfTool. If you have any problems with your conference registration, please contact the Conference Registration Secretariat at cynthia.nicol@ubc.ca.

7.2 PME Membership Only

If you have been a PME member in the past and will not attend PME 2014, or you want to become a new PME member who will not attend PME 2014, please pay the annual membership fee for IGPME through ConfTool. This is definitely necessary for maintaining your membership status.

1. a) As a **new member** of PME:
 - Please register as a new user in the ConfTool system.
 - You will need to provide your personal information and account information in order to build your own data base in the system.
 - After filling in these details and submitting all information needed, you are able to select the option “*Register as a Participant*”.
1. b) As a **member** of PME who wants to renew the membership:
 - Please login by entering your username and password and select the option “*Register as a Participant*”.
2. After choosing the status “Membership ONLY (NOT *Participating in the Conference*)” and checking your personal details proceed to step 2. Now select “*Pay PME membership fee ONLY*” and select how much, if any, you wish to donate to the Skemp foundation. Proceed to step 3 to enter your payment option and payment information.
3. If you choose an online payment, the system will connect you with a secure page for you to complete your payment (see 7.4 Payment Options).

If you have any problems with the payment of the membership fee, please contact the Conference Registration Secretariat at cynthia.nicol@ubc.ca.

7.3 Registration Fees

7.3.1 Total Registration Fee

The total registration fee is \$630 CAD and covers:

- PME membership fee of \$60 CAD (exactly 40 €) for the year 2014 with a \$15 CAD (exactly 10 €) compulsory Skemp Fund donation;
- for North Americans it also covers the PME-NA membership fee of \$20 USD (non-students) or \$10 USD (students);
- a set of printed conference proceedings (see below) and access to an electronic version of the proceedings;
- 4 lunches and 8 coffee breaks;
- opening reception (Tuesday, July 15, 2014);
- conference dinner (Saturday, July 19, 2014);
- excursions and social events; and
- the costs of venue, administrative work, and facilities needed for the organization of the conference.

For those who are pre-registered for PME 2014, the Conference Deposit paid during pre-registration will be deducted from the total registration fee in the ConfTool system.

Following the decision of the AGM during PME 36, you have the option to choose if you want to receive printed proceedings or not. As with previous conferences, the **default option** includes both printed and electronic proceedings. During the final registration process via the [ConfTool](#) system, participants can choose the **alternative option** that includes only digital proceedings. **If you choose only digital proceedings (no print proceeding) your registration fee will be reduced by \$50 CAD.**

As announced during the AGM of PME 36, printed proceedings should also be available by a print-on-demand publisher where participants can order online for a price of about 50 €plus shipping costs. The hyperlink will be announced on the conference homepage and the IGPME homepage as soon as it is available.

7.3.2 Accompanying Person Fee

We welcome accompanying persons. The fee for accompanying persons is \$200 per person and covers:

- Opening reception (Tuesday, July 15, 2014);
- Conference dinner (Saturday, July 19, 2013);
- Excursions and social events;
- Some of the administrative work involved, outside of the scientific program.

There is no fee for accompanying children under 14 years of age. If you have any questions, please contact the Administrative Secretary at cynthia.nicol@ubc.ca.

7.3.3 Late Registration Fees

After May 26, 2014 an additional charge of \$75 CAD for conference participants and \$50 CAD for accompanying persons will be added to the registration fee. The option for printed proceedings will not be available after May 26, 2014. Late registrants will have the opportunity to order printed proceedings through the print-on-demand option (see 7.3.1).

7.4 Payment Options

All participants can make their payment by credit card, Interac card, or wire transfer.

If you use a **credit card**, the process will be carried out online. The ConfTool system will connect you to a secure payment site within the accounting system at The University of British Columbia. There you will enter your credit card information and will receive a receipt for your transaction.

If you choose to pay by **Interac card**, the process will be carried out online. Interac payments are only accepted from the following banks: Bank of Montreal (BMO), Royal Bank of Canada (RBC), Scotia Bank, or Toronto Dominion Canada Trust (TD). The ConfTool system will connect you to a secure payment site within the accounting system at The University of British Columbia. There you will enter your Interac card information and will receive a receipt for your transaction.

If you choose to pay by **bank wire transfer**, you will need to transfer the funds to the account printed below. **Make sure that the bank transfer fees are not charged to the recipient.** To finish the payment process, please print the confirmation of bank transfer and send it by email with your full name to registration@pme38.com.

Your registration will only be finalized when the payment process is complete.

Bank transfer in CAD funds

Beneficiary Bank (SWIFT tag 57):	HSBC Bank Canada Vancouver Main Branch 885 West Georgia Street Vancouver, B.C. Institution: 016 Transit: 10020 SWIFT CODE: HKBCCATT
Beneficiary (SWIFT tag 59):	020437218002 University of British Columbia #305-2075 Wesbrook Mall Vancouver, BC, Canada, V6T 1Z1
Remittance detail (SWIFT tag 70):	Scott Cartmill/ EDCP / 2-4531 PG# 15G21923 / CGKH

If you have any questions regarding your payment, please contact cynthia.nicol@ubc.ca.

7.5 Donations to the Skemp Fund

The Richard Skemp Memorial Support Fund is a fund that was established to support academics from under-represented or economically weak countries in attending the annual conference. The spirit of the fund is to help academics who normally would not have access to the PME conference. As such, where applicants are from, where they are living, where they are working, where they are currently studying, as well as the conditions of their employment and studies are important factors when adjudicating the applications.

The Skemp Fund plays an increasingly important role in making the PME annual conference more accessible to mathematics educators who would not otherwise be able to attend the conference. The extent to which we can give this financial assistance depends to a large degree on the generosity of the PME community. For this reason, a compulsory donation of 10 €(about \$15 CAD) is included in the pre-registration fee for the conference. In addition, the International Committee calls on members to make an additional donation, however small, to the Skemp Fund when paying membership fees or registering for annual conferences.

7.5.1 Richard Skemp Memorial Support Fund & Application for Support

A limited amount of financial support is available to researchers who experience difficulty in obtaining financial support to attend a PME conference. **Applicants for a grant from the Fund must submit an individual contribution (RR, SO, PP) and pay the non-refundable conference deposit, prior to the applicant's proposal being reviewed.** A grantee must have at least one proposal (RR, SO, PP) accepted.

In general:

- only one of the authors of a particular proposal will be eligible to apply for a grant;
- those who have already received a grant on two prior occasions will not receive an additional grant; and
- for applicants who have already received a grant in a previous year, priority will go to those who have an accepted Research Report rather than a Short Oral or Poster Presentation.

The number and size of grants each year depends on the amount available as well as the number of applicants and the relative merits of each application. The Richard Skemp Memorial Support Fund Committee meets during the 2nd International Program Committee meeting, and makes its recommendations once decisions on the acceptance or rejection of proposals have been completed. The PME Administration Manager contacts applicants to inform them of the decision on their application for a Richard Skemp Memorial Support Fund grant. This usually take place before the end of April each year. Please note that grants cannot be carried over to the next year's conference. Grants will be paid at the conference and not available in advance.

Applications are closed for this year. For PME 2015 applicants for a Skemp Fund grant should fill in the application form available from the PME website ([Annual Conference/Skemp Support Fund](#)). The application should be sent by **March 1, 2015** to:

Bettina Roesken-Winter

Ruhr-Universitaet Bochum

Fakultaet fuer Mathematik, NA/3/28

Universitaetsstrasse 150

44780 Bochum, Germany

Email: bettina.roesken@rub.de

If you do not receive an acknowledgement of receipt within 10 days, please resend it. For more information visit the PME Website at www.igpme.org.

8 Cancellation Policy

8.1.1 For pre-registered persons who paid the conference deposit

As usual for PME conferences and as stated in the First Announcement, the conference deposit of \$150 CAD is non-refundable. In all cases, the conference deposit **will not be refunded**; however, the deposit will cover PME membership for the current year 2014, access to the electronic conference proceedings, and costs related to the handling of the proposals.

8.1.2 For registered participants

The final registration for participation in the conference is binding. All cancellations and changes regarding the conference registration must be made in written form to the Conference Registration Secretariat by sending an email to registration@pme38.com.

If a cancellation for conference participation is made after the full registration fee has been paid:

- **Before June 15, 2014**, the refund will be the amount of the full registration fee minus the conference deposit and the fees that the bank charges for processing the refund.

$$\text{refund} = (\text{registration fee} - \text{conference deposit}) - \text{bank fees}$$
- **After June 15, 2014**, the refund will be 50% of the full registration fee minus the conference deposit, and then subtracting the fees that the bank charges for transferring the refund.

$$\text{refund} = 50\% \text{ of } (\text{registration fee} - \text{conference deposit}) - \text{bank fees}$$

8.1.3 For accompanying persons

- **Before June 15, 2014**, the amount paid minus the fees that the bank charges for transferring the refund will be refunded.

$$\text{refund} = \text{registration fee} - \text{bank fees}$$
- **After June 15, 2014**, the refund will be 50% of the full registration fee, subtracting the fees that the bank charges for transferring the refund.

$$\text{refund} = 50\% \text{ of } \text{registration fee} - \text{bank fees}$$

8.1.4 General Information

- Participation is not guaranteed until full payment of the registration fee is received.
- The conference program may be subject to changes (based on decisions by the International Program Committee).
- In the case of unforeseeable events, it is up to the International Program Committee and the International Committee of PME to decide on changes or even the cancellation of the conference and the amount of refund of payments. If the conference is cancelled, the remaining funds will be returned to the participants and no further liability of the local organizers or PME will be accepted.

9 Other Information

9.1 Extra Copies of the Conference Proceedings

PME 2014 participants may purchase extra copies of the printed conference proceedings at a special price when they register online, provided they order and pay for them no later than May 16, 2014.

The price is \$50 CAD for the hard-copy set. The proceedings must be picked up at the conference either personally or by asking a colleague to do it. **They will not be mailed!** For proceedings to be mailed, please use the print-on-demand option (see 7.3.1).

9.2 Name Badges

Participants and accompanying persons will receive a name badge. Everyone is requested to wear this badge during the conference to have access to all conference activities.

9.3 Internet Facilities

Wireless internet access will be available at the conference sites. The easiest way to connect to the internet is to use Eduroam (www.eduroam.org) which is available at UBC. So, if you work at a university where Eduroam is available, it makes sense to create an account at your home institution so that you can use your own account during the conference.

For all other participants, you can access the UBC wireless internet by logging in as a visitor, agreeing to the terms and conditions, and providing a valid e-mail address.

9.4 Food during the Conference

During the coffee breaks, coffee, tea, and water will be provided at the conference site together with cookies and fruits.

With the exception of one day, the participants will have lunch in a well-stocked cafeteria that is within a short walking distance of the conference buildings. A variety of dishes will be provided including vegetarian meals and gluten-free options.

We will arrange for Kosher and Halal food to be provided but, because additional organizational is needed, **a binding reservation will be required in advance**. To make a binding booking for these meals email the Administrative Secretariat (cynthia.nicol@ubc.ca) before June 30, 2014.

10 Important Dates

10.1 Important Dates for PME 2014

Type	Action	Date
Review Results		April 2014
Resubmissions	Resubmissions of RR as SO or PP	May 10, 2014
Final Registration	Necessary for accepted proposals to be included in the PME proceedings	May 26, 2014
Late Registration Fee	Registration fee plus additional \$75 CAD	after May 26, 2014
Ordering extra copies of proceedings (see 8.1)	By ConfTool or by an email to cynthia.nicol@ubc.ca .	May 26, 2014
Special Equipment Requests (see 5.4)	Email to cynthia.nicol@ubc.ca .	June 30, 2014
Special Food Requests (see 8.4)	Email to cynthia.nicol@ubc.ca .	June 30, 2014

10.2 Looking Forward to the Next PME and PME-NA

10.2.1 Deadlines for PME 39

PME 39 University of Tasmania, Hobart, Tasmania, Australia

PME Pre-Submission Support	Contact the PME Pre-Submission Support Coordinator Nathalie Sinclair, nathsinc@sfu.ca	September 1, 2014
Research Forum Proposals	Proposals to the PME Administrative Manager, info@igpme.org	October 1, 2014

10.2.2 The Next PME-NA Conference

The 37th PME-NA Conference will be held in East Lansing, Michigan near the campus of Michigan State University in November 2015.

11 About Vancouver



Vancouver is the largest city in the Canadian province of British Columbia. Located on Canada's west coast, Vancouver is a coastal, seaport city characterized by a mild, oceanic climate and scenic views of both mountains and the sea. Even though Vancouver is located on the mainland, it is surrounded by water on three sides. In addition to being recognized as one of the most liveable cities in the world, Vancouver is also known for its multiculturalism. In fact, it is one of the most

ethnically diverse cities in Canada. The city of Vancouver was founded on First Nations territory and now boasts more than 300 city-run parks, beaches, and gardens, including Stanley Park, one of the largest urban parks in North America. Vancouver is a popular tourist attraction and has been host to many international conferences and events, including the 2010 Winter Olympics. Vancouver and the surrounding area is also home to many universities and colleges, including the University of British Columbia and Simon Fraser University.

For more information on the city of Vancouver, see the following links:

- <http://vancouver.ca/>
- <http://www.vancouverattractions.com/>

11.1 How to reach Vancouver

Vancouver is easily accessible via the Vancouver International Airport ([YVR](#)) – a major international airport with direct flights from many places in Europe, Asia, and North America, arriving many times a day.

If you are considering flying into a different North American city and travelling by car to Vancouver, please keep in mind the potentially large distances between cities that may, at first, appear close in proximity. Canada is the second largest country in the world, spanning a distance of 9306 km from its most eastern point on the Atlantic coast to its most western point on the Pacific coast. The closest major Canadian city to Vancouver is Calgary, which is almost 1000 km away. The closest major American City is Seattle, which is about 225 km from Vancouver. However, driving from Seattle involves crossing a controlled border with line-ups often exceeding 2 hours. Please refer to the table below for travel distances to Vancouver by car from some major North American cities.

Distance to Vancouver

From	Distance in km	Hours of Travel by Car
Calgary, Alberta	1000	10
Chicago, Illinois	3540	32
Los Angeles, California	2100	20
Montreal, Quebec	4900	45
Toronto, Ontario	4400	40
Seattle, Washington	225	3

11.2 From the Airport to the University of British Columbia Campus

If you are arriving by air and staying on campus at the Marine Drive Residence, the Gage Residence, or the West Coast Suites you will need to take either public transit or a taxi to the University of British Columbia.

Building addresses of these accommodations are:

Marine Dr. Residence	Gage Residence	West Coast Suites
2205 Lower Mall University of British Columbia Vancouver, BC Canada, V6T 1X1	5959 Student Union Boulevard University of British Columbia Vancouver, BC, Canada, V6T 1K2	5959 Student Union Boulevard University of British Columbia Vancouver, BC, Canada, V6T 2C9

The UBC campus is located about 17 km from the airport.

11.2.1 Transit Directions:

From the Airport to Marine Dr. Residence at UBC:

There is no direct bus service from the Airport; take the Canada Line Skytrain and transfer onto a westbound UBC bus at any of the following stations: Oakridge Station, 41st Station (bus #41, or #43), Broadway City Hall Station (bus #99 B-line), or the Olympic Village Station (bus #84). Each of these buses terminates at the UBC Loop across from the Marine Drive Residence. Please note it is approximately a 10 minute walk from the UBC BC loop to the Marine Drive Residence. From the Bus Loop, walk along University Blvd, left on Lower Mall, and follow the signs on your right to the Conferences & Accommodation front desk.

From the Airport to Gage Residence at UBC:

There is no direct bus service from the Airport; take the Canada Line Skytrain and transfer onto a westbound UBC bus at any of the following stations: Oakridge Station, 41st Station (bus #41, or #43), Broadway City Hall Station (bus #99 B-line), or the Olympic Village Station (bus #84). Each of these buses terminates at the UBC Loop across from the Walter Gage Residence.

From the Airport to West Coast Suites at UBC:

There is no direct bus service from the Airport; take the Canada Line Skytrain and transfer onto a westbound UBC bus at any of the following stations: Oakridge Station, 41st Station (bus #41, or #43), Broadway City Hall Station (bus #99 B-line), or the Olympic Village Station (bus #84). Each of these buses terminates at the UBC Loop across from the West Coast Suites.

Your Skytrain fare includes your bus fare and will cost approximately \$8 CAN to travel from the airport to UBC campus. The most convenient public transit routes are listed below. Your expected time of arrival at the airport will help you select the best bus route to take (<http://tripplanning.translink.ca/>).

11.2.2 Taxis

Taxis are also available from the Airport to UBC campus and can cost approximately \$40 CAD and will take between 20 min and 40 minutes depending on traffic. If you are staying on campus then use the above accommodation building addresses.

11.3 From the Airport to Downtown Vancouver

SkyTrain – The airport is located about 15 km from the downtown core of Vancouver. To travel from the airport to the downtown core of Vancouver via public transit, take the [Canada Line SkyTrain](#) from the airport stop (YVR-Airport Station Eastbound) in the direction of the Waterfront Station to the Vancouver City Center Station (11 stops). The approximate time of this trip is 25 minutes and will cost about \$8 CAD.

Taxi – Alternatively, you can hire a taxi to travel from the airport to downtown Vancouver. Taxis are available 24 hours a day and do not require a reservation. The approximate cost of a taxi from the airport to downtown Vancouver is \$35-40 CAD. The trip can take as little as 20 minutes but can take as much as 45 minutes, depending on traffic volume.

11.4 Conference Venues

All of the conference venues are conveniently located on the UBC campus within short walking distances. On campus accommodations are also located within a few minutes of walking distance of the conference venues.

Registration and the Opening Ceremonies on July 15 will occur on the University of British Columbia (UBC) campus at the Chan Centre:

The Chan Centre

6265 Crescent Rd
University of British Columbia
Vancouver, B.C.

11.4.1 Chan Centre for the Performing Arts

The Chan Centre is a multifaceted space that is reputed internationally for its striking design and acoustics. It is among North America's premier performing arts centres. The Chan Centre will host the registration area, opening ceremony, cultural event, and the first plenary presentation. For an interactive map situating the Chan Centre click [here](#).

11.4.2 Buchanan Building

The Buchanan Building is located northwest of the SUB between Main Mall and East Mall roads. This building will also house research reports, short oral presentations, and discussion groups and working sessions. For an interactive map situating the Buchanan Building click [here](#).

11.4.3 Henry Angus Building

This building is located west of the Student Union building on the west side of Main Mall across from the Chemistry Building. Research reports, short oral presentations, discussion groups, and working sessions will be presented in this building. For an interactive map situating the Henry Angus Building, click [here](#).

11.4.4 Woodward IRC

This building is located within the Health Sciences complex and will potentially be the location of the plenary presentations, research fora, panel presentation, poster presentations, and closing ceremony. For an interactive map situating this building, click [here](#).

11.4.5 Student Union Building (SUB)

The current Student Union Building (SUB) opened in 1968 on the site of the old University stadium. It houses several businesses including restaurants, coffee shops, a stationary store with a post office outlet, a convenience store, as well as offices, student study spaces, a student cafeteria, lounging area, as well as other conveniences. The SUB is located within short walking distances of the on campus accommodations, all of the conference venues, and the UBC bus loop. During the conference,

participants will be eating lunch in the SUB cafeteria. For an interactive map situating the SUB on campus, click [here](#).

11.5 Getting Around in Vancouver

The city of Vancouver collaborates with Translink (<http://www.translink.ca/>) to provide an integrated and efficient public transportation system. A visitor's guide to Vancouver's public transit can be found at <http://vancouver.ca/streets-transportation/visitors-guide-to-public-transit.aspx>. From UBC to downtown Vancouver is a single fare costing \$2.75 CAD and can be paid directly to the bus driver (with exact change only). FareSaver tickets can also be purchased in booklets of 10 tickets for \$21 CAD at most food stores and pharmacies. For a list of FareDealers in the Vancouver area, you can consult <http://www.translink.ca/en/Fares-and-Passes/Where-to-buy-FareDealer.aspx>. If you choose to explore other areas of the city, another alternative is to take a taxi. Vancouver has many different [taxi](#) companies for hire. The fares for a taxi may vary between different companies but the average rate is about \$3 CAD for the first km and \$2 CAD for each additional km.

11.6 About Canada

For general information about Canada, please visit <http://www.canada.gc.ca/aboutcanada-ausujetcanada/tour/menu-eng.html>.

11.6.1 Language

Canada has two official languages, English and French, but throughout British Columbia and in Vancouver the majority of people speak English. The official language of the conference is English. There will be no simultaneous translations.

11.6.2 Passport and Visas

Citizens of all countries (**including the US**) require a passport to enter Canada. Citizens of some countries may require a visa to visit Canada. To consult the list of countries and territories whose citizens need a visa, please consult the Citizenship and Immigration Canada section of the Government of Canada website at <http://www.cic.gc.ca/english/visit/visas.asp>.

Alternatively, please contact the nearest Canadian Embassy or consulate for further details about the requirements and formalities of obtaining a visa.

If your visit to Canada requires a visa, please remember to apply for a visa in good time.

Those who need an official invitation in order to obtain a visa for entering Canada please read Section 10.4.3 *Letter of Invitation*.

PME 2014 cannot be held responsible for any matters related to obtaining visas.

11.6.3 Letter of Invitation

Letters of Invitation for those requiring a letter in order to attend the conference are available through ConfTool. Please note that this procedure aims explicitly at assisting delegates who need to obtain a visa or permission to attend the conference. It is not an official invitation

covering fees and other expenses and does not imply any financial support from the conference organizers.

11.6.4 Currency

The currency in Canada is the Canadian dollar (CAD/\$) and cent (¢). For exchange rates, please check the Bank of Canada website: <http://www.bankofcanada.ca/rates/exchange/daily-converter/>.

11.6.5 Electrical Appliances

If you are planning to bring electrical equipment (e.g. battery chargers, laptop power supply, etc.) with you, please check whether you need an adapter. The electrical supply is 110-120 volts and 60 hertz. The power outlets are designed for NEMA connectors - two, flat pronged plugs and grounded, flat pronged plugs.



11.6.6 Safety

In general, Canada is a safe country, Vancouver is a safe city, and UBC is a safe campus. However, as usual it is better to stay in groups when going home in the late evening or in the night.

11.6.7 Tap Water

It is safe to drink tap water. The tap water in Canada is controlled and monitored for its safety to drink.

11.6.8 Tipping

In restaurants, gratuities are seldom included in the tab. Patrons usually give a tip of about 15% on the total bill before tax and up to 20% for exceptional service.

11.6.9 Time Zone

In the summer, Vancouver is on Pacific Daylight Time (PDT), which is seven hours behind Greenwich Mean Time (GMT-7).

11.6.10 Canada Telephone Code

To call Vancouver, Canada, from outside of the local calling area, you must dial the international access code followed by a three-digit area code for Vancouver and the seven-digit phone number. The international access code for Canada is 1. The two area codes for Vancouver are 604 and 778. To call Vancouver from within the local calling area, you must dial the area code followed by the phone number. For example, to call the phone number 555-1234 in the 604 area code from outside the local calling area, you must dial 1-604-555-1234. To call the same number from within the local calling area you must dial 604-555-1234.

11.6.11 Shopping in Vancouver

Vancouver is a great city for shopping. The diverse neighborhoods in Vancouver provide venues for all categories of shopping. Below is a list of some of the most popular shopping locations in Vancouver.

Robson Street and Downtown Vancouver

This area is Vancouver's most famous shopping district. Robson Street is home to more than 200 clothing and accessory shops, book stores, coffee shops, restaurants, and various other services. See <http://www.robsonstreet.ca/> for more information.

Just off Robson Street, you can shop at the Pacific Centre Mall. This mall offers over 90 shops and services ranging from discount and outlet shops to designer and department stores. See www.pacificcentre.ca/ for more information.

About a block south, you can find many fine dining restaurants and high-end boutiques on Alberni Street between Burrard Street and Bute Street. This area is sometimes nicknamed Vancouver's [Mini Rodeo Drive](#).

Metropolis at Metrotown

A 15-minute SkyTrain ride from downtown Vancouver, you will find the largest mall in the province of British Columbia, the Metropolis at Metrotown. With almost 400 stores and services over three levels, you can shop at clothing boutiques, electronic stores, jewelry shops, and more. This mall also offers international and specialty foods, a movie theatre, and free parking. See <http://metropolisatmetrotown.com/> for more information.

Granville Island

Granville Island is an excellent place to shop for gifts and souvenirs with its wide variety of shops featuring handmade arts and crafts, First Nations art and collectibles, locally designed and made clothing and jewelry. It is an excellent place to experience Vancouver art and culture. Granville Island also features the Granville Island Farmer's Market, the Granville Island Brewery, Vancouver TheatreSports League improv comedy shows, art galleries, and street buskers. See <http://granvilleisland.com/> for more information.

Chinatown

Vancouver is home to North America's third largest Chinatown. This neighborhood is known for its cuisine and culture. In addition to dim sum and Chinese bakeries, you will also find many Chinese health food stores and variety shops here. Chinatown is also home to a summer night market.

See <http://vancouver-chinatown.com/> and <http://vancouverchinatownnightmarket.com/> for more information.

Punjabi Market

A lesser known shopping destination is the Punjabi Market, located on Main Street between 48th and 52nd Avenues, about 25 minutes south of downtown Vancouver. Although not formally a market, this six-block area showcases a unique collection of restaurants and stores,

including jewelry stores, fabric shops, and clothing and accessory stores. This is a good area to find everything from high-end saris, to inexpensive gold and silk, to shoes and beaded handbags. See <http://www.tourismvancouver.com/do/activities-attractions/attractions/punjabi-market-guide/> for more information.

11.7 Weather

Canada has a four-season climate and, given its vast size, the weather varies dramatically depending on your location in the country. Vancouver is one of the most temperate cities in Canada with relatively dry, warm summers and mild, rainy winters. In the summer, the temperature tends to be warm during the day and substantially cooler in evening. The following table shows the average high and low temperatures in Vancouver from June to August.

	June	July	August
Average High	19°C / 66°F	22°C / 71°F	22°C / 71°F
Average Low	11°C / 51°F	12°C / 54°F	13°C / 55°F
Average Temperature	15°C / 58.571°F	17°C / 62.5°F	17.5°C / 63°F

For an up-to-date forecast, please check the weather forecast before you leave for Vancouver at www.weather.com.

11.8 Liability and Insurance

Please check the validity of your own insurance before you travel. The Local Organizing Committee does not accept any liability for personal injuries, or for loss or damage to property belonging to conference participants (or their accompanying persons) either during or as a result of the conference.

12 Accommodations

12.1 On Campus Accommodations

We have arranged for a variety of accommodations to be reserved for PME 2014 on the UBC campus. The on campus accommodations are beautifully maintained and within a short walking distance of all conference venues. In addition to being well-maintained and conveniently located, the on campus accommodations are a great value. These accommodations range from apartment style units with multiple bedrooms (\$46 CAD/night) to studio suites (\$129 CAD/night) to spacious hotel suites (\$169 CAD/night). Please read below for details about the available accommodations and prices. All of the rooms are non-smoking.

12.1.1 Stay from July 15 to July 21

Room bookings are done directly through the [University of British Columbia Conference and Accommodation Services](#). The conference centre is currently holding several hundred rooms for PME 2014 from July 15th to July 21st under a group code of **G140713B** at a discounted conference rate. To book a room at UBC with a check-in on or after July 15th and a check-out on or before July 21st please click [HERE](#).

12.1.2 Early arrival or late departure

There are also rooms available at UBC before July 15th or after July 21st. To book rooms outside of the July 15th to July 21st window, please contact UBC Accommodations Services directly at +604-822-1000 or toll free at +1-888-822-1030. This will ensure that they link your extended stay to your conference stay. This applies to YRD participants as well.

12.2 Room Types

12.2.1 Standard Single Room at Gage

Located at the Walter Gage Residence, a Gage Standard Single includes one of six single bedrooms sharing a lounge and a washroom. These rooms are for single occupancy only. The kitchen is equipped with a fridge, stove, coffee maker with Starbucks coffee, and a kettle. There is a LCD television in the shared lounge. This is the most economical choice at \$46 CAD/night and includes breakfast. Furthermore, you can make requests to be roomed with other guests according to specific criteria or you can request specific guests as your roommates.



To book this type of room during the conference, go directly [here](#) and click on the *Budget Rooms and Shared Apt* tab.

12.2.2 Premium Single Room at Gage

Similar to the Gage Standard Single, a Gage Premium Single is located at the Walter Gage Residence, and includes one of four single bedrooms sharing a lounge and a washroom. These rooms are for single occupancy only. The bedrooms and lounge are similar to the Gage Standard Single. The kitchen is equipped with a fridge, stove, coffee maker with Starbucks coffee, and a kettle. There is a LCD television in the shared lounge. The price for a Gage Premium Single is \$57 CAD/night and includes breakfast. Furthermore, you can make requests to be roomed with other guests according to specific criteria or you can request specific guests as your roommates.



To book this type of room during the conference, go directly [here](#) and click on the *Budget Rooms and Shared Apt* tab.

12.2.3 Single Room at Marine Drive

Marine Drive Single rooms are located at the Marine Drive Residence and include one of four single bedrooms with a shared lounge and washroom. The kitchen is equipped with a fridge, stove, coffee maker with Starbucks coffee, and a kettle. There is a LCD television in the shared lounge. The price for a Marine Drive Single is \$60 CAD/night and includes breakfast. Furthermore, you can make requests to be roomed with other guests according to specific criteria or you can request specific guests as your roommates.

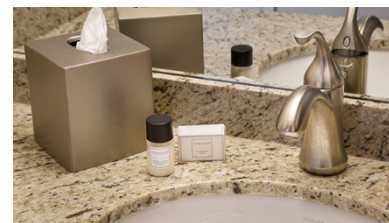
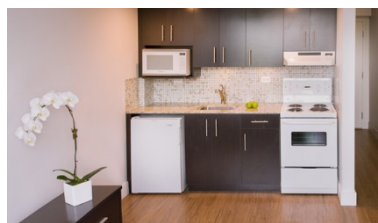


To book this type of room during the conference, go directly [here](#) and click on the *Budget Rooms and Shared Apt* tab.

12.2.4 Studio Suite at Gage

Located at the Walter Gage Residence, a Studio Double Bed Suite is a private studio apartment with a double bed with luxury linens, fully equipped kitchenette with Starbucks coffee, and bathroom. Ideal for single or double occupancy at \$129 CAD/night and includes

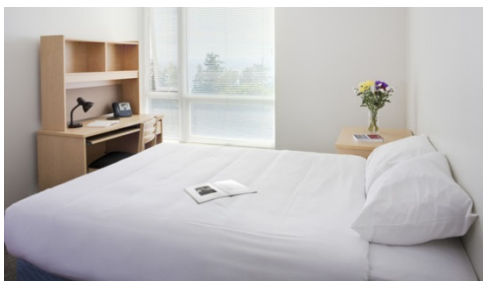
breakfast. Please note that there will be a surcharge for extra guests beyond double occupancy.



To book this type of room during the conference, go directly [here](#) and click on the *Standard Suites* tab.

12.2.5 Studio Suite at Marine Drive

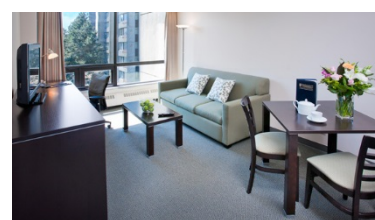
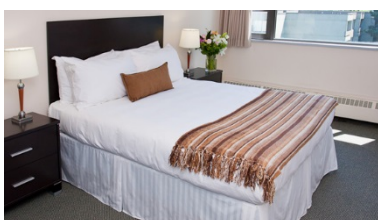
Located at the Marine Drive Residence, a Studio Double Bed Suite is a private studio apartment with a double bed with luxury linens, fully equipped kitchenette with Starbucks coffee, and bathroom. Ideal for single or double occupancy at \$129 CAD/night and includes breakfast. Please note that there will be a surcharge for extra guests beyond double occupancy.



To book this type of room during the conference, go directly [here](#) and click on the *Standard Suites* tab.

12.2.6 One Bedroom Suite at Gage

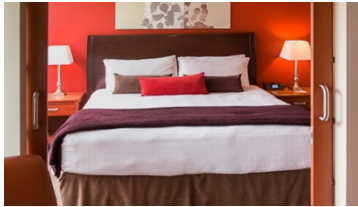
Located at the Walter Gage Residence, a One Bedroom Suite offers a queen bed in the bedroom with an additional pull-out queen sofa bed in the living room, with luxury linens, fully equipped kitchenette with Starbucks coffee, and bathroom. The rate is \$159 CAD/night based on single or double occupancy and includes breakfast. Please note that there will be a surcharge for extra guests beyond double occupancy.



To book this type of room during the conference, go directly [here](#) and click on the *Standard Suites* tab.

12.2.7 West Coast Suite

The West Coast Suites are one-bedroom, 450 square foot hotel suites fully equipped with a king or queen-size bed in the bedroom with luxury linens, a double sofa bed in the living room, kitchen with Starbucks coffee, in-room safe, and more. The rate is \$179 CAD/night based on single or double occupancy and includes breakfast. Please note that there will be a surcharge for extra guests beyond double occupancy.



To book this type of room during the conference, go directly [here](#) and click on the *West Coast Suite* tab.

13 Conference Excursions & Tours

In addition to the scientific program, we have prepared seven excursion tours. All of the excursions are in the immediate Vancouver area avoiding long transportation times between the conference venue and the excursions.

13.1 Vancouver City & Stanley Park Tour

This tour includes a bus tour of Vancouver scenery, with a stop in historic Gastown, tour of world famous Stanley Park followed by a final stop in the Kitsilano area for shopping and dinner.

Tour highlights: *Gastown* was Vancouver's first downtown core and is named after "Gassy" Jack Deighton, a Yorkshire seaman, steamboat captain and barkeep who arrived in 1867 to open the area's first saloon. It is rich in Vancouver's history, offers excellent shopping, pubs and there once were 300 licensed establishments within the twelve-block area. *Stanley Park* is a must see and is one of the largest urban parks in the world at 1,001-acres and borders downtown Vancouver. The participants will have a choice of leisurely walks around the park perimeter (40 to 80 min) and be picked up by the bus at the next stop. The tour ends in the beautiful *Kitsilano area* which is a neighborhood in the city of Vancouver known for their retail stores, restaurants and organic food markets.

13.2 Stanley Park & Vancouver Shopping Tour

This city tour includes a tour of world famous Stanley Park with stops for pictures, a stop in historic Gastown followed by a final stop in the Robson St. shopping area.

Tour highlights: *Stanley Park* is a must see and is one of the largest urban parks in the world at 1,001-acres and borders downtown Vancouver. Unlike other large urban parks, Stanley Park is not the creation of a landscape architect, but rather the evolution of a forest and urban space over many years. Most of the structures we see today were built between 1911 and 1937. Additional park attractions, such as a polar bear exhibit, aquarium, and miniature train, were added in the post-war period. *Gastown* was Vancouver's first downtown core and is named after "Gassy" Jack Deighton. It is rich in Vancouver's history, offers excellent shopping, pubs and there once were 300 licensed establishments within the twelve-block area. The tour ends near *Robson Street* which is famous for its high end designer shops and many restaurants. The Hudson Bay shopping center is also located within walking distance.

13.3 Queen Elizabeth Park & Gastown Shopping Tour

This tour includes a stop at the beautiful Queen Elizabeth Park and entrance in to the Bloedel Observatory, followed by a final stop in historic Gastown for shopping & dinner.

Tour highlights: *Queen Elizabeth Park*, Vancouver's horticultural jewel, is a major draw for floral display enthusiasts and view-seekers. At 152 metres (500 feet) above sea level, it's the highest point in Vancouver and makes for spectacular views of the park, city, and mountains on the North Shore. There is also a gorgeously landscaped quarry garden, the arboretum with

its collection of exotic and native trees, sculptures including one by internationally renowned artist Henry Moore. The 52-hectare park is home to the stunning Bloedel Conservatory which is a domed lush paradise with more than 200 free-flying exotic birds, 500 exotic plants and flowers thrive within its temperature-controlled environment. **Gastown** was Vancouver's first downtown core and is named after "Gassy" Jack Deighton, a Yorkshire seaman, steamboat captain and barkeep who arrived in 1867 to open the area's first saloon. It is rich in Vancouver's history, offers excellent shopping, pubs and there once were 300 licensed establishments within the twelve-block area.

13.4 Grouse Grind Hike

WARNING: THIS TOUR INCLUDES A STRENUOUS STEEP 60-90 MINUTE UPHILL HIKE (see <https://www.grousemountain.com/grousegrind> for details)

This tour includes a driving tour of world famous Stanley Park with a stop in the park for pictures on the way to Grouse Mountain where you will be able to hike the Grouse Grind! After you have reached the top and taken time to explore, you will enjoy a gondola ride back to the bottom (included in the tour).

Tour highlights: *Stanley Park* is a must see and is one of the largest urban parks in the world at 1,001-acres and borders downtown Vancouver. *Grouse Mountain* is the location of the very popular hiking trail known as the Grouse Grind. It is a steep trail that climbs 853 m (2800 feet) from the gate at the bottom of the trail to the "Grind Timer" at the top of the trail, over a distance of 2.9 km (1.8 mi), with an average grade of 17 degrees (or 31%) and short sections of up to 30 degrees. The trail, nicknamed "Mother Nature's Stairmaster" is notoriously gruelling due to its steepness and mountainous terrain. Hikers, who often time themselves on the trail, reach the top in approximately 90 minutes on average although some who are very fit can finish in less than 45 minutes. Once you reach the top you can enjoy the breathtaking views of Vancouver along with several restaurants/pubs and attractions including a lumberjack show, raptor show, cinema, wildlife refuge with bears, wind turbine, and more! Grouse Mountain Skyride down from top is included.

13.5 Grouse Mountain Tour

This tour includes a driving tour of world famous Stanley Park with a stop in the park for pictures on the way to Grouse Mountain where you will ride a gondola 850 metres (2800 feet) to the top.

Tour highlights: *Stanley Park* is a must see and is one of the largest urban parks in the world at 1,001-acres and borders downtown Vancouver. *Grouse Mountain*, one of the icons of Vancouver, is located on the North Shore Mountains at 1,200 m (4,000 feet) at its peak, is the site of an alpine ski area in the winter season overlooking Greater Vancouver with four chairlifts facilitating 26 runs. You will access this via an aerial tramway called the Grouse Mountain Skyride. Once you reach the top you can enjoy the breathtaking views of Vancouver along with several restaurants/pubs and attractions including lumberjack show, raptor show, cinema, wildlife refuge with bears, wind turbine & more!

NOTE: THE NUMBER OF SEATS FOR THIS TOUR IS LIMITED SO REGISTER EARLY!

13.6 Lynn Canyon & North Shore Tour

This tour includes a driving tour of world famous Stanley Park with a stop in the park for pictures on the way to Lynn Canyon, followed by a final stop at Lonsdale Quay Market where you can enjoy the market and have dinner.

Tour highlights: *Stanley Park* is a must see and is one of the largest urban parks in the world at 1,001-acres and borders downtown Vancouver. *Lynn Canyon Park* is in North Vancouver and is home to a suspension bridge 50 meters (160 feet) above the river below. When the park officially opened in 1912 it was only 12 acres (4.9 ha) in size, but it now encompasses 617 acres (250 ha). The park has many hiking trails of varying length and difficulty, and includes an optional guided 35-45 minute easy/moderate hike. The Lynn Canyon Ecology Centre features interactive exhibits about BC's natural history and local and global environmental issues. *Lonsdale Quay Market* boasts 80 fresh food vendors, unique retail shops, artisans and restaurants. Whether it's taking in a local band during an afternoon concert on the waterfront plaza, or braving the 77 steps to the top of the iconic Q Tower for the best view in the city, lasting memories are created daily at Lonsdale Quay Market.

13.7 Pre & Post Tours Options

[Destination Tours](#) has created a number of pre and post conference tours specifically for PME 2014 participants. Please contact them directly to book these and if you have any questions.

- #1A Whistler Day Trip, July 14– from \$119 CAD
- #1B Whistler Day Trip, July 21 – from \$119 CAD
- #2 Whistler Tour, July 21-23 – from \$349 CAD
- #3 Vancouver Island Tour, July 21-23 - from \$599 CAD

14 Credits

14.1 Front Cover Salmon Design

Billy NC Yovanovich Jr., Haida name Kuuhlanuu, of the Ts'aahl Eagle Clan Skidegate Haida Gwaii, British Columbia.

14.2 PME 2014 First Announcement Graphic Designer

Kirsty Robbins, Art Technician, Department of Curriculum and Pedagogy, University of British Columbia.

14.3 Welcome Page Photo Credits

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14.4 Vancouver Attraction Photo:

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