

# Teachers as Stakeholders in Mathematics Education Research (MER) BIRS-Workshop\*

Organizers:

Sharon Friesen<sup>†</sup> (Galileo, University of Calgary),  
Klaus Hoechsmann<sup>‡</sup> (PIMS, Vancouver),  
Bharath Sriraman<sup>§</sup> (University of Montana, Missoula),  
Guenter Toerner<sup>¶</sup> (Secretary of DMV, Duisburg, Germany)

Preliminary schedule of the BIRS-Meeting  
December 5, 2010 - December 10, 2010

*Version of November 29, 2010*

## Participants:

Alejandro **Adem**, PIMS (Canada); research mathematician, Director of PIMS.

Melania **Alvarez** is a PIMS-BC Education Coordinator.

Britta **Berndtsen** (Germany); managing assistant within the project *Mathematics Done Differently* of Deutsche Telekom Stiftung (Bonn).

Kim **Beswick** (Tasmania, Australia); mathematics educator; Project MARBLE; incoming President Elect of the Australian Association of Mathematics Teachers. Her research interests are in the beliefs that underpin the practice of mathematics teachers and how professional learning can provide a catalyst for change.

Rolf **Biehler** (Paderborn, Germany); professor of mathematics education and managing director of the German Centre for Higher mathematics education research at University of Paderborn. Fields of interest: Didactics of probability and statistics, use and design of IT media (tool software, elearning) for teaching and learning mathematics, professional development of teachers (pre-service and in service), research and development in mathematics education at tertiary level, mathematical (remedial) bridging courses for beginning college and university students.

Olive **Chapman** (Calgary, Canada); Professor of mathematics education and Associate Dean, Undergraduate Programs, Faculty of Education, University of Calgary; Editor of the *Journal of Mathematics Teachers Education* (JMTE). Research interests include prospective and practising teachers' education/development.

Sharon **Friesen** (Calgary, Canada); associate dean, office of professional and community engagement, director; Galileo, University of Calgary (Canada).

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\* <http://www.birs.ca/>

<sup>†</sup> [sfriesen@ucalgary.ca](mailto:sfriesen@ucalgary.ca)

<sup>‡</sup> [hoek@pims.math.ca](mailto:hoek@pims.math.ca)

<sup>§</sup> [sriramanb@mso.umt.edu](mailto:sriramanb@mso.umt.edu)

<sup>¶</sup> [guenter.toerner@uni-duisburg.de](mailto:guenter.toerner@uni-duisburg.de)

Simon **Goodchild** (Agder, Norway); teachers and learning communities; will report on outcomes of longitudinal in-service projects with teachers in Norway.

Aiso **Heinze** (Kiel, Germany); Professor for Mathematics Education and Director of the Department for Mathematics Education at the IPN-Leibniz Institute for Science and Mathematics Education. Fields of interest: research on teaching and learning of mathematics over the life span (from kindergarten to university level), empirical approaches, cognitive psychological perspective.

Bernard **Hodgson** (Quebec, Canada); Bernard R. Hodgson (Université Laval, Québec, Canada) Former Secretary-General of ICMI (1999-2009); research mathematician (mathematical logic, theoretical computer science); mathematical preparation of schoolteachers (primary and secondary levels); history of mathematics and its use in mathematics education.

Klaus **Hoechsmann** (Vancouver, PIMS, Canada); research mathematician; educational coordinator for PIMS.

Roger **Howe** (USA); active both in mathematics and teacher education; representative of AMS; in 2006 he received the AMS Distinguished Public Service Award for this work<sup>1,2</sup>. He is a member of USNC/MI, which is the US liaison with ICMI, member of Executive Committee of ICMI; member of the “Mathematics Team” for developing the Common Core and on the Planning Committee of the Institute for Mathematics and Education (Bill McCallum’s program at the University of Arizona). Standards.

Konrad **Krainer** (Klagenfurt, Austria); full professor of continuing education, mathematics educator; founding member of ERME, Associate Editor of JMTE (1998-2009); head of the institute of instructional and school development (Klagenfurt and Vienna).

Juerg **Kramer** (HU Berlin; Germany); member of the DFG Research Center MATHEON *Mathematics for Key Technologies*; member and speaker of the DFG International Research Training Group *Arithmetic and Geometry*; member of the Executive Board of the DFG Research Center MATHEON; speaker of the Berlin Mathematical School; our group is active in the following mathematical fields: arithmetic algebraic geometry, theory of automorphic forms and Arakelov invariants. Furthermore we are concerned with teaching of mathematics, furtherance of gifted high school students and popularization of mathematics.

Indy **Lagu** (Mount Royal University); a mathematician, head of Math, Physics and Engineering at Mount Royal University; educational coordinator for PIMS in Alberta; conducts many professional development activities out of his university for teachers; active in the Lesson Study and Math Fairs sponsored by Galileo Network.

Peter **Liljedahl** (Vancouver, SFU, Canada) is an associate professor in the Faculty of Education and co-director of the the David Wheeler Institute for Research in Mathematics Education. His research interests are in pre-service and in-service mathematics teacher education in general and the interplay between mathematics teachers’ beliefs and their professional growth in particular.

**NN** (from Mt. Royal University in Calgary)

**NN** (from Vancouver (Klaus))

John **Pegg** (University of New England, Australia); Director of the National Centre for Science, ICT and Mathematics Education for Rural and Regional Australia (SiMERR National Centre). Research interests include extensive work on analyzing and supporting student and teacher developmental

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<sup>1</sup>Howe has worked diligently over the years to broaden and professionalize the involvement of a research mathematician in educational reform, to lead us towards the goal where involvement of mathematicians in education is viewed as a well-informed professional activity by mathematicians and educators alike.

<sup>2</sup><http://opa.yale.edu/news/article.aspx?id=2184>

cognitive growth based around the SOLO Framework. Recent research initiatives are the Australian National Teacher Professional Standards across four career stages, models of effective professional learning, and characteristics of Faculties achieving outstanding student learning outcomes.

Bettina **Rösken** (Bochum, Germany); is working as lecturer at the department of mathematics of the University of Bochum in Germany. Her research interests are mainly the professional development of mathematics teachers and teacher in-service training. Further, she works in the fields of affect and advanced mathematics thinking. Project *Mathematics Done Differently*, evaluation of inservice measures.

Alan **Schoenfeld** (Berkeley, USA); Alan Schoenfeld is professor of Education and Mathematics at the University of California, Berkeley, USA His work for the past two decades, captured in his new book *How We Think*, has focused on understanding teachers' thinking and decision making, and using that understanding as a basis for the improvement of mathematics teaching.

Natasha **Sirotic** (Vancouver, Canada); teacher

Bharath **Sriraman** (Missoula, USA); mathematics Education (general), Editor of TMME; develop the concept for an edited book as an outcome of the workshop.

Dina **Tirosh** (Tel Aviv, Israel); mathematics Education, unclear whether she is able to participate

Günter **Törner** (Duisburg-Essen, Germany); research mathematician (algebra, geometry, scheduling theory); research also in mathematics education; executive board (Secretary) of German Mathematical Society (DMV); chair of the committee for mathematics education (European Mathematical Society (EMS)).

Ingrid **Veilleux** (Vancouver, Canada); teacher

Ekkehard **Winter** (Bonn); executive director of Deutsche Telekom Foundation which is sponsoring many projects in mathematics education in Germany. He is a PhD in biology.

Stefan **Zehetmeier** (Klagenfurt, Austria); teacher, researcher, teacher educator. Teachers' professional development, quality and evaluation of educational interventions, PhD thesis on *sustainability of professional development* (2008; supervisor: Konrad Krainer).

Pessia Tsamir and Dina Tirosh are very sorry not being able to participate.

Monday, December 6, 2010

08:45 – 09:00	Introduction and Welcome by BIRS Station Manager
09:00 – 09:15	Programme Committee and the workshop
09:15 – 09:45	Hodgson: Report on ICMI Teacher Study
09:45 – 10:15	Krainer: Professional development Action and intervention research
10:15 – 10:30	Break
10:30 – 11:00	Schoenfeld: Creating support structures for helping teachers engage in formative assessments
11:00 – 11:30	Liljedahl: Professional development vs. professional growth: Are we the master or the servant?
11:30 – 13:00	Lunch
13:00 – 14:00	Guided tour and group photo at 14:00
14:00 – 14:30	Beswick: On models underpinning initiatives
14:30 – 14:45	Short summary and discussion
14:45 – 15:00	Break
15:00 – 17:00	Informal discussion rounds: Issue 1: The role of teachers in general Issue 2: Models of professional developments Issue 3: Cultural depending factors
17:00 – 17:30	Coming together

Tuesday, December 7, 2010

09:00 – 09:30	Friesen: Galileo
09:30 – 10:00	Krainer: IMST
10:00 – 10:30	Pegg: SiMMER
10:30 – 10:45	Break
10:45 – 11:15	Goodchild / Sriraman: Norway
11:15 – 11:45	Chapman: AISI
11:45 – 13:00	Lunch
13:00 – 14:00	Individual discussions
14:00 – 14:30	Beswick: Marble
14:30 – 15:00	Kramer / Rösken / Törner: Mathematics Done Differently
15:00 – 15:15	Break
15:15 – 17:00	Informal discussion rounds: Issue 4: Kramer: Interaction between Research Mathematics, Mathematics Teacher Training, and Mathematics Education at Schools Issue 5: Hoehsmann / Alvarez: First nations Issue 6: International cooperations
17:00 – 17:30	Coming together

Wednesday, December 8, 2010

09:00 – 09:30	Zehetmeier: Sustainability
09:30 – 10:00	Rösken: Soft factors influencing professional development
10:00 – 10:30	Heinze: The role of media (videos)
10:30 – 10:45	Break
10:45 – 11:15	Howe: Deficits of US curriculum
11:15 – 11:45	Chapman: Inquiry learning of mathematics teachers
11:45 – 13:00	Lunch
13:00 – 14:30	Individual discussions
14:30 – 15:00	
15:00 – 15:15	Break
14:30 – 16:30	Informal discussion rounds: Issue 7: Video, lesson studies Issue 8: Impacts on teacher education Issue 9: How to evaluate progress
16:30 – 17:00	Coming together

Thursday, December 9, 2010

09:00 – 09:45	Winter: A forthcoming initiative of Deutsche Telekom Foundation: 'National Center of Excellence for the professional development of mathematics teachers'
09:45 – 10:00	Break
10:00 – 10:30	Bharath: the book project
10:30 – 11:30	Discussion round: (a) What are our messages? (b) What do we want to gain? (c) Who are the agents? (d) Who has to be addressed?
11:30 – 13:00	Lunch
13:00 – 14:30	Individual discussions
14:30 – 17:00	Working on a declaration document
17:00 – 17:30	Coming together

Friday, December 10, 2010

09:00 – 09:45	Further initiatives and future plans
09:45 – 10:15	Open questions and issues
10:15 – 10:30	Break
10:30 – 11:00	Programme committee: Conclusions
11:30 – 13:00	Lunch