Section 18:
Teaching and Popularization of Mathematics

Invited Lectures

Monday, 24 August — MA 004

17:15 – 18:00 **Mogens Niss,** Roskilde University, Roskilde, Denmark
Aspects of the nature and the state of research in mathematical education *(I: p.198)*
Chair: Urs Kirchgraber

Tuesday, 25 August — H 104

14:00 – 14:45 **Mariolina Bartolini Bussi,** Università di Modena, Modena, Italy
Drawing instruments: the theory of a practice from history to didactics *(I: p.197)*
Chair: Klaus-D. Graf

15:00 – 15:45 **James Stigler,** University of California, Los Angeles, USA
Classroom Mathematics Instruction in Three Cultures: An Introduction to the TIMSS Video Study *(I: p.200)*
Chair: Thomas Jahnke

16:15 – 18:00 **George Eyre Andrews,** Pennsylvania State University, University Park, USA
D.J. Lewis (moderator), NSF, Arlington, USA
David Alexander Smith, Duke University, Durham, USA
Collegiate Mathematics Instruction for the 21st Century — A Panel Discussion *(I: p.200)*
Chair:

Wednesday, 26 August — H 104

14:00 – 15:45 **Michèle Artigue (speaker),** Université de Paris 7, Paris, France
De la compréhension des processus d'appretissage à la conception de processus d'enseighement *(I: p.202)*
Hans-Georg Steiner (respondent), Universität Bielefeld, Bielefeld, Germany
"From the Understanding of Learning Processes to the Design of Teaching Processes" *(I: p.203)*
Chair: Hans-Christian Reichel

16:15 – 18:00 **Miguel de Guzman,** Universidad Complutense de Madrid, Madrid, Spain
Bernard R. Hodgson, Université Laval, Québec, Canada
Aline Robert, IUFM de Versailles, France
Vinicio Villani (moderator), Università di Pisa, Pisa, Italy
Round table on: *Difficulties in the Passage from Secondary to Tertiary Education* *(I: p.204)*
Chair:

Short Communications and Poster Sessions

Short Communications — Saturday, 22 August

Undergraduate Mathematics at the University — **H 2013**
Chair: Joseph W. Eyles

16:15 – 16:30	**Talma O. Leviatan,** Tel Aviv University, Tel Aviv, Israel *Misconceptions, fallacies, pitfalls, and paradoxes in the teaching of probability*	*(p.361)*
16:30 – 16:45	**Lyudmila Y. Khilchenko,** Yavneh Academy, Los Angeles, CA, USA *An algorithmic approach to the notion of an elementary function*	*(p.360)*
16:45 – 17:00	**Joseph W. Eyles,** University of Texas at Austin, Austin, Texas, USA *Discovering R.L. Moore's Calculus Course*	*(p.358)*

Geometry in the Classroom — **H 2013**
Chair: F. Rudolf Fritsch

17:15 – 17:30	**Klaus-D. Graf,** Freie Universität Berlin, Berlin, Germany *Distance learning fördert die Kreativität im Mathematikunterricht*	*(p.360)*
17:30 – 17:45	**Bernd Zimmermann,** Friedrich-Schiller-Universität Jena, Jena, Germany *Al Sijzi on problemsolving and creativity in elementary geometry*	*(p.364)*
17:45 – 18:00	**F. Rudolf Fritsch,** Mathematisches Institut, München, Deutschland *Remarks on quadrangles*	*(p.359)*

Short Communications — Monday, 24 August

Pedagogical and Psychological Aspects — **H 2013**
Chair: Hans-Joachim Arnold

14:00 – 14:15	**Sou-yung Chiu,** Chang-Hua University of Education, Chang-Hua, Taiwan *Pedagogical Mathematics Knowledge, PMK and P(PMK)K*	*(p.358)*
14:15 – 14:30	**Torsten Fritzlar,** Friedrich-Schiller-Universität Jena, Jena, Germany *Über Möglichkeiten der Sensibilisierung für die Komplexität von Mathematikunterricht*	*(p.359)*
14:30 – 14:45	**Hans-Joachim Arnold,** Universität Duisburg, Duisburg, Germany *Geometrische Relationen-Algebra und Piaget'sche Schematheorie*	*(p.357)*

Miscellaneous I — **H 2013**
Chair: Masao Mori

15:00 – 15:15	**Salem A. Sahab,** King Abdul-Aziz University, Jeddah, Saudi Arabia *Mathematics basic skills for grades 1 to 3*	*(p.363)*
15:15 – 15:30	**Josef Nietzsch,** Humboldt–Universität zu Berlin, Berlin, Germany *The Study of Mathematics by High School Students at the University*	*(p.363)*
15:30 – 15:45	**Masao Mori,** Chuo University, Tokyo, Japan *Beginners Confusion and Terminology in Mathematics*	*(p.362)*

Miscellaneous II — **H 2013**
Chair: Mary E. Morley

16:15 – 16:30	**Ludwig Paditz,** HTW Dresden (FH), Dresden, Germany *Comparision of the statistic calculators TI-83, EL-9600, and CFX-9850G PLUS*	*(p.363)*
16:30 – 16:45	**Mary E. Morley,** Educational Testing Service, Princeton, United States of America *Three Response Types for Broadening the Conception of Mathematical Problem Solving in Computer-Graded Tests*	*(p.362)*
16:45 – 17:00	**Zhongling Xu,** National Natural Science Foundation of China, Beijing, P.R. of China *The Popularization of Mathematical Methods in China*	*(p.364)*

Poster Session — Saturday, 22 August

14:00 – 15:45 — **MA 144**

Gloria L.M. Alves, Instituto Militar de Engenharia, Rio de Janeiro, Brazil
Modernization of Basic Disciplines in Engineering Courses at IME *(p.357)*

Gerhard Brecht, Fachhochschule Lippe, Itzehoe, Germany
Do Mathematical Standards Concern Mathematics? *(p.357)*

Cecilia Crespo Crespo, Department d'Algebra i Geometria, Barcelona, Spain
Thinking about Geometry Teaching *(p.358)*

Paul Fjelstad, Northfield, MN, USA
A Picture for Real Arithmetic *(p.359)*

Peter Kortesi, University of Miskolc, Miskolc, Hungary
Junior Mathematical Congress — Challenge for Future Mathematicians *(p.360)*

Elena Vladimirovna Kuragina, Mari State University, Yoshkar-Ola, Russia
Methodical support for a programming-methodical complex of study methods of optimization *(p.361)*

Julia M. Moshnikova, Karelian State Pedagogical University, Petrozavodsk, Russia
Correspondence School of Mathematics in Karelia *(p.362)*

Yasuhiro Ozaki, Hachinohe Institute of Technology, Hachinohe-shi Aomori, Japan
An Approach in Teaching by Means of the Personal Computer Software "Mathematica" *(p.363)*