Invited Lecture

The invited lectures will be given by prominent researchers in mathematics education from different parts of the world who are invited by the International Program Committee. The lectures will cover a wide spectrum of topics, themes and issues, and will be presented in parallel. The duration of the session is 60 minutes with 45 minutes of lecture time plus 15 minutes of discussion.

The list below contains the names and countries/regions of persons who have already accepted the invitations. For abstracts, please visit https://www.icme14.org/static/en/news/36.html?v=1622107706405 to download the pdfs.

**Slot I**

**July 16, 15:30–16:30**

- **Openness of Problem Solving in the 21st Century: Mathematical or Social?**  
  **Location:** T219  
  **Takuya Baba** (Hiroshima University, Japan)

- **The Transition from Mathematical Argumentation to Mathematical Proof, A Learning and Teaching Challenge**  
  **Location:** T223  
  **Nicolas Balacheff** (Univ. Grenoble Alpes, France)

- **What do Teachers of Mathematics Know? Insights and Issues from Attempts to Measure Mathematics Teachers’ Knowledge**  
  **Location:** T319  
  **Kim Beswick** (University of New South Wales, Australia)

- **Challenging Tasks: Real-world, Digital Technologies, Affordances – Opportunities for Learning**  
  **Location:** T323  
  **Jill P Brown** (Deakin University, Australia)

- **Chinese Mathematics Curriculum Reform for Compulsory Education in the 21st Century**  
  **Location:** A  
  **Yiming Cao** (Beijing Normal University, China)

- **Online Cognitive Diagnostic Assessment with Ordered Multiple-choice Items for Year Four Topic of Time**  
  **Location:** T419  
  **Chew Cheng Meng, Chin Huan** (Universiti Sains Malaysia, Malaysia)

- **Mathematics Dis|Appearance In Cultures, Spaces, Times: Thinking about Life and Reason for the (Non)Citizen at Times of Crisis**  
  **Location:** W303  
  **Anna Chronaki** (Malmö University, Sweden & University of Thessaly, Greece)

- **(Re)Assessing Mathematics Education in the Digital Age**  
  **Location:** T423  
  **Alison Clark-Wilson** (University College London, UK)

- **Beyond Procedural Skills: Affordances of Typical Problems for the Teaching of Mathematics**  
  **Location:** T523  
  **Jaguthsing Dindyal** (Nanyang Technological University, Singapore)

- **The Roles of Learning Trajectory in Teaching Mathematics Using RME Approach**  
  **Location:** T116  
  **Ahmad Fauzan** (Universitas Negeri Padang, Indonesia)
Students’ Learning Pathways in Structured Problem Solving as a Context for Productive Discussion in Mathematics Professional Development  
Location: T218  
Keiko Hino (Utsunomiya University, Japan)

Developing Mathematical Practices within Communities of Mathematical Inquiry  
Location: T316  
Roberta Hunter (Massey University, New Zealand)

The Ladder and Slide Framework for Visualizing the Integration of Technology by Mathematics Teachers in Their Classes  
Location: T418  
Houssam S. Kasti (Haigazian University Beirut, Lebanon)

What Can History Do for the Teaching of Mathematical Modelling in Scientific Contexts: Why and How?  
Location: W201  
Tinne Hoff Kjeldsen (University of Copenhagen, Denmark)

The Relevance of Taking into Account the Semantic, Syntactic, Semiotic, Epistemological and Praxeological Dimensions in Didactic Studies: Case of High School Algebra and the Local Approximations at the Beginning of the University  
Location: W313  
Rahim Kouki (University Tunis El Manar, Tunisia)

Teaching Maths in Secondary (Middle and High) Schools: Complex Strategy and Its Successful Implementation  
Location: W215  
Oleksandr Kryzhanovskiy (Academic Gymnasium No.45, Ukraine)

Principles of Genetic Constructivism  
Location: W107  
Ladislav Kvasz (Charles University, Czech)

Location: W301  
Ngan Hoe Lee (Nanyang Technological University, Singapore)

Math Problem Posing: Students’ Learning, Teachers’ Professional Growth and Parental Involvement  
Location: W315  
Shuk-kwan S. Leung (Sun Yat-sen University, Taiwan, China)

Using Virtual Manipulatives and Explicit Instruction to Teach Mathematical Concepts to Students with Autism Spectrum Disorders  
Location: T225  
Di Liu (East China Normal University, China)

Attitudes in Mathematics Education  
Location: T519  
Pietro Di Martino (Università di Pisa, Italy)

Mathematics for Human Flourishing  
Location: W211  
Francis Edward Su (Harvey Mudd College, USA)

Relationship between Teacher Knowledge and Teacher Noticing: A Cross-lagged Analysis of a Two-Wave Study  
Location: S  
Xinrong Yang (Southwest University, China)
Slot II
July 17, 17:00–18:00

Why Language Diversity Matters in Mathematics Education
Location: T219
Richard Barwell (University of Ottawa, Canada)

Seeking Social Justice in Mathematics Teaching and Learning
Location: T223
Robert Q. Berry, III, Ph.D. (University of Virginia, USA)

Textbook Transformation as a Form of Textbook Development: Approaches, Issues and Challenges from a Social and Cultural Perspective
Location: A
Lianghuo Fan (East China Normal University, China)

Promoting Active Learning via Problem Solving for Teachers and Students
Location: T319
Patricio Felmer (University of Chile, Chile)

Experimentations in Mathematics Education with Art and Visuality
Location: T323
Cláudia Regina Flores (Federal University of Santa Catarina, Brazil)

Recognizing the Invisibilized Relational Labor of Black Learners in the U.S.: Conceptualizing Racialized and Gendered Work of Mathematics Learning
Location: W303
Maisie Gholson (University of Michigan, USA)

Chinese Lesson Study in Mathematics: A Local Practice or a Global Innovation?
Location: T419
Rongjin Huang (Middle Tennessee State University, USA)

A Study on the Characteristics of Teacher-student Interaction in Mathematics Classroom of Chinese Senior High Schools in the Information Technology Environment
Location: S
Zhongru Li and Chaoran Gou (Southwest University, China)

Fostering Student Agency in learning Mathematics: Perspectives from Expert Teachers in Shanghai
Location: T225
Jun Li (East China Normal University, China), XingFeng Huang (Shanghai Normal University, China), Hua Huang (Shanghai Municipal Education Commission, China)

Effects of Instructional Videos on Students Learning
Location: T423
Rachel Ka Wai Lui (The University of Hong Kong, Hong Kong SAR, China)

On the Notion of Mathematical Competence
Location: T519
Mirko Maracci (University of Pavia, Italy)

The Power of Mathematical Tasks for Teacher Training
Location: T523
Salomé Martínez (Universidad de Chile, Chile)

Mathematical Instruction and Textbook Use in Post-secondary and Tertiary Contexts: A Discussion of Methods
Location: T116
Vilma Mesa (University of Michigan, USA)
Proposed Pedagogical Content Knowledge Tool for Assessing Teachers’ Proficiency in Mathematical Knowledge for Teaching
Location: T218
Marguerite K. Miheso-O’Connor (Kenyatta University, Kenya)

Interdisciplinarity for Mathematics and Science Education: Complexity and Didactical Issues
Location: W313
Fernand Malonga Mounagabio (Université Marien NGOUABI, Republic of CONGO)

Trends, Emphases, and Potential Shifts in Research on Discussion in Mathematics Teaching
Location: T316
Reidar Mosvold (University of Stavanger, Norway)

Information Technology in Teaching Mathematics at High Schools in Vietnam
Location: T418
Nguyen Chi Thanh (Vietnam National University, Vietnam)

Further Questions about the Language as Resource Approach to Multilingual Mathematics Learning
Location: W201
Núria Planas (Universitat Autònoma de Barcelona, Spain)

Investigating Mental Mathematics’ Solving Processes: The Development of a Research Program
Location: W215
Jérôme Proulx (Université du Québec à Montréal, Canada)

Digital Technologies, Cultures and Mathematics Education
Location: W301
Ana Isabel Sacristán (Cinvestav, Mexico)

Developing Caring and Socio-politically Aware Beginning Teachers of Mathematics
Location: W315
Marilyn E. Strutchens, Brea Ratliff (Auburn University, USA)

Modelling and Digital Technologies: Experiences and Challenges for Teacher Education
Location: W203
Mónica E. Villarreal (Universidad Nacional de Córdoba, Argentina)

Learning Analytics to Support Student in the Context of Mathematical Inquiry
Location: W211
Michal Yerushalmy (University of Haifa, Israel)
Slot III
July 18, 15:00–16:00

Embodied Design: Bringing Forth Mathematical Perceptions
Location: T225
Dor Abrahamson (University of California Berkeley, USA)

Learning from Variability in Students’ Mathematics Classroom Participation
Location: T223
Megan Franke (University of California, USA)

Examining Interchangeability of Three Mathematics Tests in the College Entrance Examinations in China
Location: S
Chunlian Jiang (University of Macau, Macao SAR, China)

Are you Really Teaching Mathematics? What Education Can Learn from History
Location: T219
Po-Hung Liu (Chin-Yi University of Technology, Taiwan, China)

Language and learning mathematics: A socio-cultural approach to academic literacy in mathematics
Location: T319
Judit N. Moschkovich (University of California, USA)

Enhancing Language as a Catalyst for Developing Robust Understanding – A Topic-specific Research Approach
Location: T323
Susanne Prediger (TU Dortmund University & IPN Leibniz Institute Kiel, Germany)

Professional Development of Mathematics Teachers: Perspectives and Experience from East Africa
Location: T419
Veronica Sarungi (Aga Khan University, Pakistan)

Influence of University-based Learning Opportunities on the Professional Development of Future Mathematics Teachers
Location: T423
Björn Schwarz (University of Vechta, Germany)

Advances in Argumentation and Mathematics Education
Location: T519
Baruch B. Schwarz (The Hebrew University of Jerusalem, Israel)

The Affecting of the Traditional Numeration System by Western Currency Introduced after Coastal Contact with Africa: A Case Study of Mental Arithmetic Procedures of the Yoruba-Idaasha of Benin Republic (West Africa)
Location: T523
Aimé Dafon Segla (Université d’Abomey-Calavi Benin Republic, Benin)

Learning Transversal Knowledge through Research Situations: Example of Discrete Mathematics Experimentation on the Problem of Packing Equal Circles
Location: T116
Ahmed Semri (Université des Sciences et de la Technologie Houari Boumediene, Algeria)

Mathematics: Code for Interdisciplinary Dialogues
Location: T218
Hyunyong Shin (Korea National University of Education, Korea)

Culture and Mathematics or Mathematics in the Service of a Universal Civilization
Location: T316
Moustapha Sokhna (Université Cheikh Anta Diopde Dakar, Senegal)
Duos of Artefacts, A Model to Study the Intertwining of Tangible and Digital Tools in Mathematics
Location: T418
Sophie Soury-Lavergne (University Grenoble Alpes, France)

Language in Mathematics Education: Issues and Challenges
Location: W201
Konstantinos Tatsis (University of Ioannina, Greece)

What Matters for Effective Mathematics Educator: Preservice or In-service Training?
Location: W211
Alphonse Uworwabayeho (University of Rwanda, Rwanda)

Capacity Building While Scaling Up: A Model for Rollout of Mental Mathematics Teaching in South Africa
Location: W215
Hamsa Venkat (University of the Witwatersrand, South Africa)

Challenging Deficit Perspectives in Developing Countries: Teachers’ Explanations of Fraction Concepts
Location: W301
Debbie Marie B. Verzosa (University of Southern Mindanao, Philippines)

Gifted Students Education in China——Introduction of Chinese Mathematical Competitions
Location: A
Bin Xiong and Yijie He (East China Normal University, China)

Freudenthal Ideas Continues In Indonesia: From ICME 1994 to ICME14 In Shanghai
Location: W203
Zulkardi Zulkardi (Universitas Sriwijaya, Indonesia)