

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)

A Constructivist Approach Towards Teaching and Learning Mathematics in Singapore: Rationale, Issues, and Challenges

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 Mougabio (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 Boumedienne, 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 Mathematic

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 Uworwabaye (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)