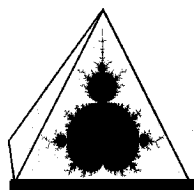


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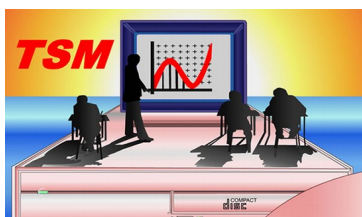


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Parallel Working Group Sessions : Papers 30 min, Workshops 40 min & Short papers 10 min.

Monday Aug 5 11.00 – 13.00 Session 1

Iontas Theatre: Teacher Education/Innovation

Daniel J. Brahier

Research into Practice: 29 Years of Classroom Teaching

Esther Billings & Lisa Kasmer

Learning via Teaching: Examples of Mediated Field Experiences in Early Coursework of Pre-service Teachers

Marta Civil & Roberta Hunter

Supporting Mathematics Teachers to Build Deep Understandings of the Home Contexts of their Students

Mili Das

Curriculum for Mathematics Education – An Approach to Discuss Relation Between Theory and Practice

Iontas Seminar Room: : Problem Solving and Modelling

Kerri Spooner

Authentic Mathematical Modelling Behaviours for Secondary School Students

Hsin-Mei E. Huang, Aiso Heinze, Silke Ruwisch, Jessica Hoth & Hong-Wei Chang

Investigating Junior High School Students' Length Estimation Ability and Strategies

Fui Fong Jiew & Kin Eng Chin

The Embodiment of Mathematical Meanings with Special Reference to Multiplication: Issues and Challenges

Collette Lemieux & Eric Roettger

Students' Reasoning During a Calculus Two-Stage Exam

Room CB5 : Workshops Statistics

Douglas Butler

Helping Statistical Education through Visualisation

Thomas Walsh Jr.

The Survey Toolkit Curriculum Methodology for Researching Information, Survey Questioning, and Analyzing Data with *TinkerPlots*

Lynae Warren & Kay Wohlhuter

Merging Theory and Practice in Statistics in Communities of Mathematical Inquiry

Monday Aug 5 14.00 – 16.00 Session 2

Iontas Theatre: Teacher Education/Innovation

Steven Watson

Bridging Theory and Practice: a Posthuman Perspective on Mathematics Teacher Education

Lyn Webb, Susan Whale & Leslie Meiring

Enabling Grade 3 Teachers to Transform an Intended Curriculum

Yuitza T. Humarán Martínez

Using Manipulatives to Develop the Understanding of the Concept of the Fraction of Preservice Elementary Teachers: The Meaning of Measure

Urška Markun & Jasna Kos

Research Work in a Secondary School Classroom: How Well are Teachers Equipped for it?

Iontas Seminar Room: : Problem Solving & Modelling

Jenna R. O'Dell & Todd R. Frauenholtz

An Unsolved Graph Theory Problem: Comparing Solutions of Grades 4, 6, & 8

Timothy Sibbald

The Confluence of Numeracy with Interdisciplinary Mathematics

Ariana-Stanca Văcărețu

Developing High-school Students' Competences through Math Research Workshops – the M&L Project

John Gordon, Carolyn King & Yanyan Chen

A Problem-Solving Approach to the Introduction to Ordinary Differential Equations for Undergraduate Students at an American Two-year College

Room CB5 : Workshops Technology

Thomas Walsh Jr

Exploring Computer Science with MicroworldsEX to Learn Geometry and Logo Programming Code

S. R. Santhanam

Welcome 2019 – A Workshop on Framing Non-Routine Problems in Mathematics for all Levels

Nadine Adams & Clinton Hayes

Providing Synchronous Mathematics Instruction to Distance Students- Workshop

Monday Aug 5 16.30 – 18.30 Session 3

Iontas Theatre: Teacher Education/Innovation

Sandra Browning

Elementary Preservice Teachers and Questioning Strategies in Mathematics

Shelby Morge, David Pugalee & Premkumar Pugalenti

Addressing Teachers' Culturally Responsive Teaching Beliefs through Course Activities

Joint talk based on two papers: 15min each for two speakers

Janina Morska: From the Purpose of the Lesson to Success

Katarzyna Banach: Ok Notebook as an Untypical Form of Student's Notebook - Own Experience

Alenka Lipovec & Jasmina Ferme

Some Factors Influencing Effectiveness of Mathematics Homework

Iontas Seminar Room: : Problem Solving & Modelling

Cynthia O. Anhalt & Ricardo Cortez

Mathematical Modeling Thinking: Laying the Foundation for Mathematical Modeling Competency

Eoin Gill

Maths Week Ireland: Promoting a Positive Attitude to Mathematics in Ireland

Max Stephens

Developing Algorithmic Thinking in Mathematics in the Primary and Junior Secondary Years

Courtney Fox

Clean Water for Women and Children

Room CB5 : Workshops Research on Learning

Marjorie Curry

Culturally Responsive Math

Patricia Marchand

Interface between Theoretical Guidelines and Classroom Practices to Create Activities that Enhance the Development of Spatial Reasoning in Elementary School

Ian Willson

Formative Assessment and Middle-school Classroom Tasks with the Wolfram Language

Tuesday Aug 6 09.00 – 10.00 Session 4

Iontas Theatre: Statistics

Cristina Cametti, Emmanuel Abatih, An Carbonez, Irène Gijbels, & Karen Francois

Advantages, Challenges and Opportunities in Teaching Statistics in Doctoral Training to a Heterogeneous Group: the Case of FLAMES Summer School

Mike Bedwell

Freedom of Speech

Iontas Seminar Room: : Problem Solving & Modelling

Katie Laskasky, Katharine Clemmer, Danielle Clemmer, Cyndia Acker-Ramirez & Tatiana Mirzaian

Innovative Problem Solving: What happens when Math Education, Business, and Engineering Perspectives Interact

Stephen Woodcock

Not all Equals are Equal: Decoupling Thinking Processes and Results in Mathematical Assessments

Room CB5: Paper/Workshop

Luckson Muganyizi Kaino (10 min)

Enhancing Mathematical Modeling Activities in Classroom Instruction

Bradford Hansen-Smith

Why the Circle cannot be Squared

CB4: Teacher Education/Innovation

Janet M. Herrelko

Change the Paradigm of Solitary Lesson Planning to Collaborative Planning that Unites Research and Practice

Sue Johnston-Wilder & Clare Lee

How can we Address Mathematics Anxiety more Effectively as a Community?

Tuesday Aug 6

11.00 – 13.00

Session 5

Iontas Theatre: Statistics

Steve Krevisky

Using Sports Data in Statistics and Math Classes: An Overview and Update

John R. Ramsay

Mentored Teams of Undergraduates in Real World Consulting

Gail Burrill

Statistical Literacy and Quantitative Reasoning

Maifer Remzie Demirbec (10minutes)

Puerto Rico Gas Prices Fall – “The Math of Cheap Oil”

Thomas P. Dick & Mary E. Pilgrim (10 minutes)

Learning (and Learning Teaching) by Doing Problems

Jenny Pagge (10 minutes)

Effective Use of ICT and Storytelling to Teach Statistics in the Preschool Classroom

Esther Pearson (10 minutes)

Iontas Seminar Room: : Problem Solving & Modelling

Claus Michelsen

The MACAS Symposiums 2005 – 2019. Mathematics Education in an Interdisciplinary Context

Tadashi Takahashi

Proving in Mathematics Education - On the Proof using ATP

Olive Chapman & Paulino Preciado Babb

Prospective Secondary Mathematics Teachers' Development of Knowledge of Modelling for Teaching

Sylwia Kania

Solving Mathematical Problems in the Context of Some Obstacles between Teachers and Students

Room CB5 : Workshops Innovation

Jacqueline Sack & Judith Quander

Secondary Math Teacher Candidates' Perspectives on a Co-Taught Blended Content & Methods Geometry Course

Tierney Kennedy

Exploring the Nature of Teacher Questioning within Challenging Tasks for Inducing Conceptual Change

Nitsa Movshovitz-Hadar, Ruti Segal, Karni Shir, Atara Shriki, Boaz Silverman & Varda Zigerson

Bridging between School Mathematics and Contemporary Mathematics: Turning a Dream into Reality (part 1)

CB4: Teacher Education/Innovation

Su Liang

Enquiry-Based Learning in College Mathematics Education: Theory and Practice

Petra Menz & Nicola Mulberry

Open Source Differential and Integral Calculus Material Development to Support Student Accessibility and Learning

Raymond Smith, Cyril Julie & Faaiz Gierdien

Insights Gained from Implementing Teaching Toolkits: A Case of Activating Prior Knowledge

Catherine Paolucci

Supporting Pre-service Mathematics Teacher Development through Transformative Community Engagement

Tuesday Aug 6

14.00 – 16.00

Session 6

Iontas Theatre: Teacher Education/Research on Learning

Glenda Jean Ashleigh

Individual Differences in Cognition and Affect in Multiplicative Knowledge in Basic Mathematics Problems

Daniela Ferrarello, Maria Flavia Mammana, Mario Pennisi, Eugenia Taranto & Ausiliatrice Turrisi

Serious Games in Teaching/learning Mathematics: the Experience of FunGo

Kin Eng Chin & Fui Fong Jiew

Misconceptions or Preconceptions in Making Sense of Decimals

Hanan Innabi, Christina Skodras, Susanne Frisk & Peter Fredriksson

Patterns of Variation in the Work of “Mathematics in the City Project”: A Suggested Research Question

Iontas Seminar Room: : Comparative Education

Paul Webb

Towards a Unifying Logic for the Pedagogy of Mathematics in South Africa

Clement O. Iji & Joseph A. Andortan

Brandishing Ethno-Mathematics Approach as an Interface for Improving Upper Basic Education (UBE) Students' Interest and Achievement in Number and Numeration

Joanne E. Goodell

Learning to Teach Mathematics Through Project-Based Instruction

Satoshi Kusaka

Analysis of the Characteristics of Mozambican Primary Mathematics Textbooks compared with Japanese Textbooks focusing on Tasks and Problems related to the Real World

Room CB5 : Workshops Innovation

Mary E. Pilgrim & Thomas P. Dick

Actively Engaging in Calculus to Support all Students

Nitsa Movshovitz-Hadar, Ruti Segal, Karni Shir, Atara Shriki, Boaz Silverman & Varda Zigerson

Bridging between School Mathematics and Contemporary Mathematics: Turning a Dream into Reality (part 2)

Paul Betts, Ralph Mason, Steve Erickson & Janelle McFeetors

Foundational Experiences as a Design Principle for Mathematics Curriculum for Children

Tuesday Aug 6

16.30 – 18.30

Session 7

Iontas Theatre: Teacher Education/Research on Learning

Jeffrey Thomas

Learning through Self-Assessment towards Understanding the New B.Ed. Curriculum in South Africa: Experiences from the new B.Ed. Programme at Sol Plaatje University

Niamh O'Meara & Fiona Faulkner

Professional Development for Out-of-field Post-primary Teachers of Mathematics: A pre and post Analysis of the Impact of Mathematics Specific Pedagogical Training

Luis Alexander Castro Miguez, Fredy Alejandro Barbosa Meléndez & Adalira Saenz-Ludlow

Diagrammatic Reasoning from Reflections on Peircean Semiotics

Benjamin Fine, Peter Olszewski & Gerhard Rosenberger

The Impact of Mathematics and Mathematicians

Iontas Seminar Room: : Comparative Education

Fouze Abu Oouder & Miriam Amit

Incorporating Ethnomathematical Research in Classroom Practice-The Case of Geometrical Shapes in Bedouin Traditional Embroidery

Hilary Povey

Moral and Political Dilemmas in Working with the Concept of Citizenship within Mathematics Teaching in Schools: a Personal Perspective

Lio Moscardini, Sue Sadler, Cheryl Lubinski & Albert Otto

Collaborating Across the Pond: Cognitively Guided Instruction Project

Porter Coggins, Derek Webb & James Barta

The Mathematical Culture of Ojibwe Students-An Ethnographic Study

Room CB5 : Workshops Innovation/Problem Solving and Modelling

Summer Bateiha & Sadia Mir

Engaging with Mathematics through Three Types of Storytelling

Katharine Clemmer, Katie Laskasky, Cyndia Acker-Ramirez, Tatiana Mirzaian, Danielle Clemmer & Steven Eno
Collaborative Solution Discovery: A Problem Solving Process

Ivona Grzegorzcyk

Magic Tricks and Activities Supporting Abstract Thinking in Mathematics

Wednesday Aug 7

8.50 – 10.20

Session 8

Iontas Theatre: Research on Learning/Innovation

Catherine Pearn, Max Stephens & Robyn Pierce

Developing and Assessing Algebraic Reasoning in the Middle Years

Adalira Sáenz-Ludlow & Alexandra Jiménez Jiménez

Linkages between a Teacher's Preparation and the Potential for Students' Learning

Dianne Siemon

Connecting Research and Practice – The Case of Multiplicative Thinking

Iontas Seminar Room: : Technology

Peter Johnston, Wendy Loughlin, Christopher Brown, Michael Williams & Dianne Watters

Supporting Transition for Mathematics and Science Students under an Assumed Knowledge Approach

Ildikó-Anna Pomuczne Nagy

How and where can a Mathematics Teacher Utilize his 33 Years of Teaching Experience? A Math Teacher about Teaching Mathematics- Excerpt from 33 Years of Teaching Experience

Malgorzata Mart

The Impact of Teacher Self-Efficacy on the Level of Implementation of Graphing Technology in Teaching Factoring Quadratic Functions in Introductory Algebra

Room CB5 : Workshops Problem Solving and Modelling

Douglas Butler

Exploring Concepts through a Friendly User-interface

Mohammad Akbari, S. Masih Ayyat, Mahmood Parsamanesh & Mohammadreza Galavii

Formulation of the Impulsive Differential Equations having a Time-Dependent Continuous Delay

Wednesday Aug 7

10.30-11.30

Session 9

Iontas Theatre: Research on Learning/Innovation

Barbara Ann Temple, Kathryn Bentley, David K. Pugalee, Carlos Miranda & Natalie Blundell

Designing a Transdisciplinary Approach to Elementary Math Literacy Learning through Science & the Arts

José A. Toro-Clarke

A Participative and Individualized Laboratory: A Strategy for Increasing Student Success in College-Level Math Courses

Iontas Seminar Room: Technology

Irina Gurevich

Do Future Mathematics Teachers Need the Course "Integration of Digital Technologies in Teaching Mathematics", and if so, what exactly can it help them with?

Margaret L. Niess

Online Strategies Enhancing Mathematics Teacher Knowledge for the Digital Age: Discourse and Critical Reflection

Room CB5 : Workshops Problem Solving and Modelling

Bernie (Dov) May (10 minutes)

Engage Students More Hopscotch Math has Students Jumping for Joy

Marguerite K. Miheso-O'Connor (10 minutes)

Teaching Mathematics through Historic Environment. A Time-Travel Grounded Pedagogy

Ben Galluzzo & Katie Kavanagh

Getting Started Getting Students Modeling: Designing and Facilitating Open-ended Math Modeling Experiences (part 1)

Iontas Theatre: Research on Learning/Innovation

Simon Zell

Weekly 10-minute-tasks to Promote Students Solving Equations in a Content-oriented Manner

Bronislaw Czarnocha

Constructivist Teaching Experiment: Constructivist Research and Constructivist Teaching

Avikam Gazit

Math Teachers' Attitudes toward Integrating Humor in Math Lessons

Iontas Seminar Room: Technology

Debra L. Hydorn

Tools for Modern Mathematics: A Course to Introduce Experimental Mathematics

Olga León Corredor, John Páez, Natalia Palomá & Jaime Romero

Integrating Technology and Didactic Resources for Enhancing Learning Processes. An Exploratory Study

Sergiy Klymchuk & David Wilson

Integrating Pen-enabled Tablet PCs in Teaching Engineering Mathematics

Room CB5 : Workshops Problem Solving and Modelling/Teacher Education

Ajayagosh Narayanan (10 minutes)

Peer Tutoring: Developing and Sustaining Effective Teaching Practices with Mathematics Teachers in Lesotho

Atara Shriki & Ilana Lavy

Shedding New Light on Common Algorithms: What can we Learn from the Vedic Mathematics?

Ben Galluzzo & Katie Kavanagh

Getting Started Getting Students Modeling: Designing and Facilitating Open-ended Math Modeling Experiences (part 2)

Iontas Theatre: Research on Learning/Innovation

Jenny Missen

Researching and Implementing in the Mathematics Classroom Australian Curriculum General Capabilities

Mark Prendergast, Niamh O'Meara & Paraic Treacy

Incentivising the Study of Higher Level Mathematics

Yangchun Xie

APOS Theory-Based Investigation of High School Statistics Teaching

Gregory A. Wickliff, David Pugalee & Alisa B. Wickliff

Communicating Mathematics and Science: Teaching and Tutoring Writing in a Summer Program for High School Students

Iontas Seminar Room: : Teacher Education/Research on Learning

Heidi B. Hansen & Marta T. Magiera

Working Together: A Cross-cultural Study Addressing Mathematics Anxiety in K-8 Pre-service Teachers

Dennis Showers

Real-world Maths: Preparing Teachers to use Real-life Contexts for Teaching Maths

Kenneth Horwitz

Utilizing Analytics to show Representations used in Comparing and Ordering Unit Fractions

Colin Jackson

Going Against the Grain: Critical Thinking in and Beyond Mathematics

Room CB5 : Workshops Problem Solving and Modelling/Innovation

Douglas Butler

Exploring Concepts through a Friendly User-interface

Pam Dorrington

Family Maths: Experiential Learning

Ralph Mason, Paul Betts, Steve Erickson, Janelle McFeetors

Foundational Experiences as a Curriculum Design Principle for Secondary Mathematics

Iontas Theatre: Research on Learning/Innovation

Ryan G. Zonnefeld & Valorie L. Zonnefeld

Innovative Pathways in STEM Teacher Preparation: Bridging the Gap between University Expectations & Secondary School Needs

Michael Lousis

Recommendations for Instructional Designers and Textbook Writers Concerning the Correction of Significant and Persistent Errors in Arithmetic and Algebra

Kehinde Emmanuel Adenegan

Managing Pupils with Dysgraphia in Early Child Numeracy

María Estela Navarro Robles

Variation Theory used to make a Personalized Diagnostic in the Level of Knowledge of Fundamental Concepts about Rational Numbers and their Operations in Undergraduate Students

Iontas Seminar Room: Research on Learning /Teacher Education

David Tannor

Effective Mathematics Instruction: Two-Year College Mathematics Instructors’ Knowledge and Self-Efficacy

Brianna Bentley

College Students’ Views of Fraction Arithmetic

Alan Zollman

Collective Participation: A Story of Business, Community, Schools and University Partnering in STEM Education

Josephine Shamash

From Equations to Structures: Linking Abstract Algebra and High-School Algebra for Secondary School Teachers

Room CB5 : Workshops Problem Solving and Modelling/Technology

Ken Collins

Using CAS to Improve Student Understanding of Calculus Concepts

Marina Rugelj

Counting with 10 Fingers as a Man, with 8 fingers as a Hen or with 2 Switches on a Computer

Papers not workshops below

Shagufta Raja, Alisa B. Wickliff David Pugalee(30min)

Using GIS to Develop Spatial Reasoning and Analysis of Data

Jenny Pagge (10 minutes)

Effective Use of ICT and Storytelling to Teach Statistics in the Preschool Classroom

Esther Pearson (10 minutes)

“STEPS” to a Brighter Future

Working Group Reviews (40min)

Iontas Theatre:

Innovation & Classroom Practice **Teacher Education**

Iontas Seminar Room:

Technology **Statistics and Applications** **Comparative Education**

Room CB5:

Research on Learning **Problem Solving & Modelling**

Iontas Theatre Plenary (50min)

Feedback, Review of the week, Presentation of Romania 2021!

The Mathematics Education for the Future Project thanks: Budapest Semesters in Mathematics Education, MACAS, MUED, DQME3, Education University of Hong Kong, EMS, MAV, AWM, AAMT, MERGA, Wholemovement, Institute for Mathematics, Faculty of Sciences, Eötvös Lóránd University, Budapest, International Symmetry Association and WTM-Verlag. (Wissenschaftliche Texte & Medien– scientific texts & media)