

TEACHING MATHEMATICS: RETROSPECTIVE AND PERSPECTIVES

Tallinn, May 14-16

Thursday, May 14

09.30 - 10.30 Registration of participants
Welcome coffee
(Atrium)

10.30 - 12.30 Plenary session 1: Didactics of mathematics as a research discipline
(room U218)

Opening of the conference

Markku Hannula

International Trends in Mathematics Education Research

Barbro Greyholm

Mathematics Education Research and Researcher Education in the Nordic Countries

12.30 - 13.00 Coffee break
(Atrium)

13.00 - 14.30 Plenary session 2: Mathematics education research and researcher education in Baltic countries
(room U218)

Ricardas Kudzma

Mathematics education research in Lithuania

Agnis Andzans and Dace Bonka

Mathematics education research in Latvia

Madis Lepik

Mathematics education research in Estonia

14.30 - 15.30 Lunch

15.30 - 17.30 Parallel sessions

P11- Didactics of mathematics (room U218)

Tapio Keranto, Jukka Kohonen *Alternative interpretations and use of the times comparative in everyday language and school mathematics*

Inese Melke

Incorrect basic skills formation in elementary school mathematics

Nijole Cibulskaitė

The development of the mathematics problem-solving skills

Barbro Greyholm

Teaching Better Mathematics

Gingulis, Edvins

Some ideas on teaching mathematics in Latvia in the 1920s - 30s and nowadays

P12- ICT in mathematics education (room U543)

Eve Aruņee

Interactive tools in teaching mathematics

Aija Cunska

Use of ICT in mathematics teaching

Jūri Kurviits, Marina Kurviits

Blog in school mathematics

Joana Lipeikienė, Antanas Lipeika

Technological Aids of the Learning Cycle in a Blended Teaching of Mathematics

P13- University mathematics teaching (room U340)

Svetlana Asmuss, Natalja Budkina

Counterexamples in multivariable differential calculus

Natalja Budkina, Aija Pola

On some aspects of teaching mathematics to the students of engineering specialties

Andrejs Cibulis, Halina Lapina

Practical work on series. Educational aspects.

Anda Zeidmane, Ilze Jegere

Forming study modules in the mathematics curriculum development

Indrek Kald

Students attitudes to mathematics at university level

Roma Kačinskaitė, Anna Vintere

Cross-border cooperation in development of the mathematics study process

19.00 Conference dinner

(Conference dinner takes place in Tallinn Teachers' House that is located in the heart of Tallinn. The address of the House is Town Hall Square 14 (Raekoja plats 14).

TEACHING MATHEMATICS: RETROSPECTIVE AND PERSPECTIVES

Tallinn, May 14-16

Friday, May 15

09.30 - 10.30 Plenary session 3 (Room U218)

Erkki Pehkonen *How Finns learn mathematics: what is the influence of 25 years of research in mathematics education?*

10.30- 11.00 Coffee break (Atrium)

11.00- 12.30 Parallel sessions

P21- Didactics of mathematics (room U342)

Jüri Kurvits

Students' understandings of rational number representations

Anna Lundberg, Kirsti Hemmi

Proportion in Swedish upper secondary school textbook tasks

Tapio Keranto, Vesa-Matti Sarenius

The number line as a teaching aid in the grades 1-2: textbook analysis and pupil interview

Els Abel

Mental Calculation Methods Used by 6th and 7th Year Students

P22- Didactics of mathematics (room U213)

Juozas Juvencijus Mačys

School proof of the irrationality of number pi

Grigori Melnichenko

When the n-th root of a sum of two squares is a sum two squares?

Liene Millere

Mathematical content and methodology diverse choice opportunities in the theme

"Mathematical judgments, statements and proofs" for the 10th grade

Romuldas Kašuba

Between easy and nice

Ellen Redi

Heronian triangles, Heronian triples and divisibility of integers

P23- University mathematics teaching (room U340)

Yuri Kochetkov

Possibilities of using mathematical models in teaching students

Vladimir Labeev

A student for math or math for a student

Olga Liivapuu, Olga Panova

Role of formal lectures in teaching mathematics for engineers and economists

Olga Suboč

Perception of mathematics of future engineers

Ingrida Veilande

The mean value method in problems of algorithmic type

12.30 - 13.30 Lunch

13.30 - 15.00 Parallel sessions

P31- Didactics of mathematics (room U213)

Kirsti Kislénko
Tiiu Kaljas
Vaira Karklina
Gunta Lace

Using the Likert scale in educational research
Mathematics Teacher Training in Tallinn University in 1919-2009
Education of mathematics teachers in Liepaja University
The criteria for the evaluation of professional competence of the math teachers.
The competence in math didactics

P32- Extracurricular activities (room U439)

Pavel Shmakov, Natalia Slepova
Laila Racene, Zane Kaibe
Andrejs Cibulis
Nikolay Zimakov, Pavel Shmakov

Math club's educational space modeling
Repetition is the mother of the knowledge
Three Color Problem and its usage in work with pupils and students
Teaching mathematics: puzzles and fairy-tale problems

P33- ICT in mathematics education (room U543)

Grigori Melnichenko
Raitis Ozols
Vahur Vaiksaar, Rein Prank

Use Lazarus IDE for training of objective oriented programming
About problems arising when graphs of functions are created using software packages
Operations with fractions in learning environment T-algebra

15.00- 15.30 Coffee break
(Atrium)

15.30- 17.00 Plenari session 4 Developments of school mathematics in Baltic countries (Room U218)

Eugenijus Stankus and Albina Vilimiene
Janis Mencis and Laura Freija
Lea Lepmann and Tiit Lepmann

Mathematics Education in Lithuania
Mathematics Education in Latvia
Mathematics Education in Estonia

Closing of the conference

18.00 Sight seeing trip (Excursion takes place on Friday, 15th of May, starting at 18.00 in front of the Uus-Sadama building. The excursion includes a bus tour with English-speaking guide around Tallinn for 1.5 hours.)

TEACHING MATHEMATICS: RETROSPECTIVE AND PERSPECTIVES

Tallinn, May 14-16

Saturday, May 16

In addition to the regular conference the **Research Seminar** will be organised on **May 16**. The aim of that half- day seminar is to initiate joint Nordic-Baltic comparative research projects in different areas of mathematics education. The proposed topics for the projects will be:

- proof and proving in school mathematics
- mathematics teachers' educational beliefs
- mathematics textbooks

Experienced researchers from Nordic countries will act as project leaders; they will also be responsible for methodology and general planning of the project. All researchers from Baltic countries interested in those topics are invited to participate. As the result we plan to have a conference and publish some papers or issue a book on it.

10.00- 10.30 Introduction room U648

Main aims of our seminar, possible forms of work, ideas about outcomes; introduction of three group leaders; practical information

10.30- 13.30 Work in three groups

Belief research- room U648

Proof and proving- room U632

Textbook research- room U649

Group leader's presentation: Introduction of the topic, overview of research done in this particular area.

General discussion: group members express their interests and describe research they have done; planning of joint project

13.30- 14.00 Final joint session room U648

The groups will present their plans.