

Report of Meeting

9th Polish-Czech Mathematical School

Osieczany, June 6-8, 2002

The *9th Polish-Czech Mathematical School* was held 6-8 June 2002 in the „Pod Dębami” hotel in Osieczany near Myślenice.

Organizing Institution: Institute of Mathematics of the Pedagogical University of Cracow, Podchorążych St 2, PL-30-084 Kraków (Poland).

There were 43 participants who came from: The Czech Republic (15), The Slovak Republic (7), and from Poland: Częstochowa (5), Kielce (2), Kraków (11), Opole (1), Rzeszów (2).

The conference worked in two sections:

- *Theory of Training Teachers of Mathematics* (34 contributions),
- *Mathematics* (10 contributions).

Scientific Committee: Jiří Cihlař (The Czech Republic), Jan Melichar (The Czech Republic), Adam Płocki (Poland), Jurij Povstenko (Belorussia).

Organizing Committee: Adam Płocki, Ireneusz Krech, Barbara Nawolska, Maciej Major, Janina Wiercioch, and Władysław Wilk (technical assistant).

The 9th Polish-Czech Mathematical School was one of the sequence of conferences organized yearly in Poland or The Czech Republic alternatively. The preceding Mathematical Schools were: 1994, Częstochowa (Poland), 1995, Usti nad Labem (The Czech Republic), 1996, Zakopane (Poland), 1997, Hluboš (The Czech Republic), 1998, Złoty Potok (Poland), 1999, Litoměřice (The Czech Republic), 2000, Częstochowa (Poland), 2001, Usti nad Labem (The Czech Republic).

Adam Płocki

List of Participants

Section: Theory of Training Teachers of Mathematics

Daniela Bittnerová, *The role of notation in mathematics*,
Technical University in Liberec, Faculty of Education, Hálkova 6, 461 17 Liberec, Czech Republic, E-mail: daniela.bittnerova@vslib.cz

Paweł Borkowski, *Learning system based on cellular automata*, Pedagogical University, Institute of Mathematics and Computer Science, Armii Krajowej 13/15, 42-200 Częstochowa, Poland, E-mail: p.borkowski@wsp.czyst.pl

Jaroslava Brincková, *Projects in teaching mathematics*,
Department of Mathematics, Pedagogic Faculty Matej Bel University, Ružová ulica 13, 974 11 Banská Bystrica, Slovakia, E-mail: brincka@pdf.umb.sk

Danuta Drygała, *POWER SET-problems with understanding the idea*, Pedagogical University, Institute of Mathematics, Świętokrzyska 15, 25-406 Kielce, Poland, E-mail: kielce@bigduo.pl

Jindřiška Eberová, *Prospective teachers and mathematical word problems*,
Palacký University Olomouc, Faculty of Education, Žižkovo nám. 5, 771 40 Olomouc, Czech Republic

Ján Gunčaga, *Remarks on continuous fractions*, Catholic University in Ružomberok, Hrabovská cesta 1, 03401 Ružomberok, Slovak Republic, E-mail: guncaga@fedu.ku.sk

Pavol Hanzel, *The finite subsets of natural numbers*, Department of Mathematics, Pedagogic Faculty, Matej Bel University, Ružová ulica 13, 974 11 Banská Bystrica, Slovakia, E-mail: phanzel@pdf.umb.sk

Edyta Jagoda, *On children's understanding of area*, Edyta Jagoda, Rzeszow University of Technology, Department of Mathematics, 35-959 Rzeszów, ul. W. Pola 2, Poland

Weronika Jaśkiewicz, *About practical exercises taken from real life*,
Pedagogical University, Institute of Mathematics, Świętokrzyska 15, 25-406 Kielce, Poland

Henryk Kałol, *Application of Technology in the process of teaching of mathematics*,
Pedagogical University, Institute of Mathematics, Podchorążych 2, 30-084 Kraków, Poland, E-mail: henkakol@wsp.krakow.pl

Pavel Klenovčan, *Pythagorean TRIPLES*,
Department of Mathematics, Pedagogic Faculty, Matej Bel University, Ružová ulica 13, 974 11 Banská Bystrica, Slovakia, E-mail: klenovca@pdf.umb.sk

Štefan Kováčik, *Computers and teaching mathematics*,
Department of Mathematics, Pedagogic Faculty, Matej Bel University, Ružová ulica 13, 974 11 Banská Bystrica, Slovakia, E-mail: skovacik@pdf.umb.sk

Ján Kuruc,
Catholic University in Ružomberok, Faculty of Education, nám. Andreja Hlinku 56/2, 034 01 Ružomberok, Slovak Republic

František Kuřina, *Wallas - Polya - Hadamard and creativity*
University Hradec Králové, V. Nejedlého 573, 500 03 Hradec Králové, Czech Republic, E-mail: FRANTISEK.KURINA@UHK.CZ

Maciej Major, *Solutions to a certain problem illustrating the idea of fusionism in the probability theory*,
Pedagogical University, Institute of Mathematics, Podchorążych 2, 30-084 Kraków, Poland, E-mail: mmajor@wsp.krakow.pl

Jan Melichar, *Mathematical logic and mother tongue*, Department of Mathematics
Pedagogical Faculty of University J. E. Purkyně, Ústí nad Labem, Hoření 13, CZ-400 96 Ústí nad Labem, Czech Republic, E-mail: melichar@pf.ujep.cz

Barbara Nawolska, *The probability distribution of random variables as a problem in the theory of combinations*,

Pedagogical University, Department of Preschool and School Education, Ingardena 4, 30-060 Kraków, Poland, E-mail: bnawol@wsp.krakow.pl

Bohumil Novák, *Prospective teachers and mathematical word problems*,

Palacký University Olomouc, Faculty of Education, Žižkovo nám. 5, 771 40 Olomouc, Czech Republic, E-mail: novakb@pdfnw.upol.cz

Bożena Pawlik, *On the understanding of geometric transformations by mathematics freshmen*,

Pedagogical University, Institute of Mathematics, Podchorążych 2, 30-084 Kraków, Poland, E-mail: bpawlik@wsp.krakow.pl

Štěpán Pelikán, *Probability and statistics. A modular system of instruction at the University of J. E. Purkyně in Ústí nad Labem*,

University of J. E. Purkyně in Ústí nad Labem, Faculty of Education, České mládeže 8, 400 96 Ústí nad Labem, Czech Republic, E-mail: pelikans@pf.ujep.cz

Jaroslav Perný, *The space imagination on the cube*,

Technical University in Liberec, Faculty of Education, Hálkova 6, 461 17 Liberec, Czech Republic, E-mail: jaroslav.perny@vslib.cz

Adam Płocki, *Street gambling, mathematization and the mathematical expectation*,

Pedagogical University, Institute of Mathematics, Podchorążych 2, 30-084 Kraków, Poland, E-mail: adplocki@ap.krakow.pl

Jana Příhonská, *The "sets of generated problems" with a view to use the graph coding close to solving of given problems*,

Technical University in Liberec, Faculty of Education, KMD, Hálkova 6, 461 17 Liberec, Czech Republic, E-mail: jana.prihonska@vslib.cz

Tadeusz Ratusiński, *Use of computer in dissolving of mathematical problems*,

Pedagogical University, Institute of Mathematics, Podchorążych 2, PL 30-084 Kraków, Poland, E-mail: ratusita@ap.krakow.pl

Bożena Rożek, *Perception of rectangular and skew structures in a row-column arrangement of figures*,

Pedagogical University, Institute of Mathematics, Podchorążych 2, 30-084 Kraków, Poland, E-mail: brozek@wsp.krakow.pl

Grażyna Rygał, *Long-term projects at school*,

Pedagogical University, Institute of Mathematics and Computer Science, 42-200 Częstochowa, Poland, E-mail: grygal@szkoly.edu.pl

Petr Rys, *Implicit function in the calculus infinitesimalis*,

Department of Mathematics, Pedagogical Faculty of Purkyně, University in Ústí nad Labem, České mládeže 8, Ústí nad Labem 400 96, Czech Republic, E-mail: Rysp@pf.ujep.cz

Robert Sochacki, *On a test concerning the notion of the set*,

Instytut Matematyki i Informatyki, Uniwersytet Opolski, Oleska 48, 45-052 Opole, Poland, E-mail: sochacki@math.uni.opole.pl

Anna Stopenová, *Space imagination as a precondition for geometry learning*,

Palacký University Olomouc, Faculty of Education, Žižkovo nám. 5, 771 40 Olomouc, Czech Republic, E-mail: stopen@pdfnw.upol.cz

Marie Tichá, *On the role of translations between modes of representation — case of fractions*,

Academy of Sciences of the Czech Republic, Mathematical Institute, Department of Didactics of Mathematics, Žitná 25, 115 67 Praha 1, Czech Republic, E-mail: ticha@math.cas.cz

Jerzy Tocki, *The systematical construction of aims in mathematical education*,

University of Rzeszow, Institute of Mathematics, skr. poczt. 155, 35-959 Rzeszów, Poland,
E-mail: jjtocki@univ.rzeszow.pl

Aleksandra Urbańska,

Pedagogical University, Institute of Mathematics, Podchorążych 2, PL 30-084 Kraków,
Poland. E-mail: alurb@ap.krakow.pl

Tomáš Zdráhal, *Slow divergence of the harmonic series,*

Department of Mathematics Pedagogical Faculty of Purkyne, University in Ústí nad
Labem, České mládeže 8, Czech Republic, Ústí nad Labem 400 96, E-mail: Tomáš Zdráhal:
zdrahalt@pf.ujep.cz

Anna Żeromska, *Selected aims of teaching mathematics and the problem-solving process,*
Pedagogical University, Institute of Mathematics, Podchorążych 2, 30-084 Kraków, Poland,
E-mail: annaz@wsp.krakow.pl

Section: Mathematics

Vasyl Fedorchuk, *On new differential equations of the first order in the space*
 $M(1,4) \times R(u)$ *with non-trivial symmetries,*

Pedagogical Academy, Institute of Mathematics, Podchorążych 2, 30-084, Kraków, Poland
Pідstryhach Institute of Applied Problems of Mechanics and Mathematics of the National
Ukrainian Academy of Sciences, Naukova Street 3b, Lviv, 7960, Ukraine,
E-mail: fedorchuk@ap.krakow.pl

Roman Frič, *Duality: random variables versus observables,*

Catholic University in Ružomberok, Hrabovská cesta 1, 03401 Ružomberok, Slovak
Republic, E-mail: fric@saske.sk

Karel Hrach, *Two problems solved with MS-Ezcel,*

FSE UJEP, Moskevská 54, 400 96 Ústí nad Labem, Czech Republic, E-mail:
hrach@fse.ujep.cz

Ireneusz Krech, *Awaiting the series of colors — stochastic graph as a means of*
mathematical treatment and argumentation,

Pedagogical University, Institute of Mathematics, Podchorążych 2, 30-084 Kraków, Poland,
E-mail: ikrech@wsp.krakow.pl

Gennady Medvedev, *No arbitrage condition for financial market with inflation,*

Institute of Mathematics and Computer Science, Pedagogical University, ul. Armii
Krajowej 13/15, 42-200 Częstochowa, Poland, E-mail: g.medvedev@wsp.czyst.pl

Jurij Povstenko, *Non-Riemannian geometry and the theory of lattice imperfections,*

Institute of Mathematics and Computer Science, Pedagogical University of Częstochowa, al.
Armii Krajowej 13/15, 42-200, Częstochowa, Poland

Robert Sochacki, *A method of comparison of Post-complete propositional logics,*

Instytut Matematyki i Informatyki, Uniwersytet Opolski, Oleska 48, 45-052 Opole, Poland,
E-mail: sochacki@math.uni.opole.pl

Jana Šimsová, *Wavelet Galerkin method for solving the Fredholm's integral equation of*
the second kind,

Jan Evangelista Purkyně University, Faculty of Social and Economic Studies, Moskevská
54, 400 96 Ústí nad Labem, Czech Republic, E-mail: simsova@fse.ujep.cz

Oleg Tikhonenko, *Generalized Erlang problem for queueing systems with accumulation,*

Institute of Mathematics and Computer Sciences, Pedagogical University of Częstochowa,
al. Armii Krajowej 13/15, 42-201 Częstochowa, Poland, E-mail: o.tikhonenko@wsp.czyst.pl

Pavel Tlustý, *The optimal strategy in one stochastic game,*

Department of Mathematics JU, Jeronýmova 10, 371 15 České Budějovice, Czech Republic,
E-mail: tlusty@pf.jcu.cz