

2nd Joint Mathematical Weekend

Prague, September 3-5, 2004

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The framework

In order to support the growing sense of European identity that follows the political changes in Europe, the European Mathematical Society organizes many regular events, the European Mathematical Congresses being the largest and most important. To maintain more frequent contact with national societies and to help promote the ideas of cross-European collaboration, the EMS has launched a new series of annual meetings called the Joint Mathematical Weekends. The three-day meetings are financially supported by the EMS, under the requirement that the organizing national society arranges additional funds so that a large number of local, as well as other European mathematicians, may participate without paying an expensive conference fee. The meeting consists of several parallel minisymposia whose topics are chosen to represent the strongest areas of the organizing society. Each minisymposium is coordinated by a local expert who chooses one plenary speaker to represent the area and to give a general lecture introducing the subject to all participants of the conference. Together they select several leading European experts in the area as further invited speakers. Contributed talks are also accepted as the time schedule allows. The first meeting of this type was organized by the Portuguese Mathematical Society in Lisbon in September 2003.

The genius loci

The 2004 Joint Mathematical Weekend was organized by the Czech Mathematical Society in Prague, with further financial and logistic help from the Faculty of Mathematics and Physics of the Charles University in Prague and from the Czech national research centre Institute for Theoretical Computer Science (ITI), which is a platform for the cooperation of research teams from several institutions. The meeting took place in a faculty building at the Lesser Town Square in the close vicinity of Prague Castle, the Charles Bridge, the Astronomical Clock and other celebrated historical monuments. The participants enjoyed the beautiful atmosphere of the historical building, a former Jesuit

seminar, blending with all the advantages of modern technology. A short explanation about its history was given by Ivan Netuka, the dean of the faculty, in his welcoming speech. The participants admired the skills the architects had performed during the recent renovation works, allowing the School of Computer Science to fit so well in a building with old stone doorframes and ceilings decorated with 300-year-old frescos.

Minisymposia and plenary lectures

The meeting itself was opened by Jan Kratochvíl, the president of the Czech Mathematical Society. The European Mathematical Society was represented by the welcoming address of Luc Lemaire, a vice-president of the EMS. The Friday afternoon programme started with the plenary lecture "Some recent applications of the classification of finite simple groups" by Jan Saxl from the University of Cambridge. His plenary talk introduced the minisymposium "**Discrete Mathematics and Combinatorics**", organized by Jaroslav Nešetřil from Charles University in Prague and director of ITI. As the title of the talk suggests, it presented interactions of algebra and combinatorics, presenting applications in various areas of graph theory and discrete mathematics. In the programme of the following days, the invited speakers in this minisymposium were Peter Cameron (University of London), Gábor Tardos (Alfréd Rényi Institute of Mathematics, Budapest), Oriol Serra (Universitat Politècnica de Catalunya, Barcelona) and Patrice Ossona de Mendez (CNRS, Paris). Five contributed talks were also included.

The minisymposium "**Mathematical Fluid Mechanics**" was coordinated by Eduard Feireisl from the Mathematical Institute of the Academy of Science of the Czech Republic in Prague. Since his plenary speaker, H. Beirao da Veiga (Università di Pisa), could not attend the meeting due to an injury, E. Feireisl himself presented this minisymposium's plenary talk "On the mathematical theory of viscous compressible fluids" on Saturday morning. He introduced the audience to methods used for modelling dynamical aspects of liquid and gas media. Invited speakers in this minisymposium were Josef Málek (Charles University, Prague), Victor Starovoitov (CAESAR, Bonn), Marius Tucsnak (Université Nancy), and Antonín Novotný (Université du Sud Toulon-Var). Moreover, there were three more contributed talks.

Mathematical models of the real world



were also the subject of the Saturday afternoon plenary talk "Probabilistic and variational methods in problems of phase coexistence", given by Errico Presutti from Università degli Studi di Roma Tor Vergata. This talk introduced the minisymposium "**Mathematical Statistical Physics**", coordinated by Roman Kotecký from Charles University in Prague. The pattern of this minisymposium differed slightly from the other three. It had only three invited speakers Marek Biskup (University of California, Los Angeles), Dmitry Ioffe (Technion University, Haifa), and Kostya Khanin (Isaac Newton Institute, Cambridge), but the modus operandi hinged on informal discussions following each of the invited talks.

The last plenary talk "Some current trends in proof complexity" was given on Sunday morning by Alexander Razborov from Steklov Mathematical Institute in Moscow and the Institute for Advanced Studies in Princeton. This talk belonged to the minisymposium "**Complexity of Computations and Proofs**", organized by Jan Krajíček from the Mathematical Institute of the Academy of Science of the Czech Republic in Prague. The audience was entertained not only by his very colourful presentation of methods and reasoning in contemporary theoretical computer science, but also by a malicious coincidence that some software-hardware commu-



The mathematical weekend (almost) got its own stamps!

nication problems delayed the beginning of this very computer science oriented talk. The invited talks of this minisymposium were given by Peter Buerigisser (Universität Paderborn), Oleg Verbitsky (Lviv University), Peter Bro Miltersen (University of Aarhus), Albert Atserias (Universitat Politècnica de Catalunya, Barcelona), Stefan Dantchev (University of Leicester), and Pavel Pudlák (Mathematical Institute AS CR, Prague) and further six contributed talks were included.

After the last plenary session, Sir John Kingman, the president of the EMS, officially addressed all participants. He appreciated the importance and significance of this new series of meetings, emphasized the role of the EMS, invited the participants to join the society, and thanked the Czech Mathematical Society for hosting the Weekend.

Conference banquet and photo

On Saturday evening all participants were invited to a conference banquet in the basement of the building, to experience rooms that during the academic year serve as a cafeteria at lunch time and as the faculty club in the afternoons. The pleasant atmosphere was enhanced by toasts of Jaroslav Nešetřil, Bodil Branner and David Salinger, and later also by live music performed by some participants and organizers of the meeting.

Earlier that day the official conference photo was taken during the lunch break from the windows of the conference building. The participants were lined up in front of a historical plague column, one of the baroque sculpture jewels in Prague.

Mathematicians and Physicists, and they have always enjoyed this coexistence and cooperation of closely related sciences. Within the Union, they are grouped in professional units, one of them having been called the Mathematics Research Section since its foundation in 1970's. This name reflected the era of mainly Eastbound oriented international links, governed by the political situation in Europe in the second half of the 20th century, and always required tedious explanations to foreign colleagues. Therefore the name "Czech Mathematical Society" has been frequently, informally and somewhat illegally used in foreign correspondence in the last years. Now, after rigorous voting during the general assembly meeting, this name has become official and legal (with its Czech equivalent Česká matematická společnost). This does not, however, change the fact that we are still organized within the frames of the Union together with our sister Czech Physical Society. The first formal act accomplished under the new name of the Czech Mathematical Society was signing the agreement of collaboration and reciprocal membership with the Catalan Mathematical Society during the EMS weekend banquet, an act which fitted well the spirit of the EMS activities and of the Joint Weekend in particular. (The next agreement on cooperation was signed with the Royal Spanish Mathematical Society shortly after the Weekend.)

The other event associated with the Weekend, the meeting of the EMS Executive Committee, was perhaps less ceremonial but more busy. Most members of the Committee

dean of the Faculty of Mathematics and Physics of the Charles University Ivan Netuka and the director of the Mathematical Institute AS CR Antonín Sochor.

Finally, there was a meeting of the Czech National Committee for Mathematics - the body consisting of leading Czech mathematicians, established under the auspices of the Academy of Sciences of the Czech Republic to deal with basic conceptual and organizational questions of mathematical sciences in the country and to represent the Czech mathematical community in the IMU. One of the main topics was to discuss the somewhat dangerous features of a new evaluation system for the R&D being prepared by the government.

We can proudly admit that the organizing team, Jan Kratochvíl, Jiří Rákosník, Jiří Fiala, Daniel Hlubinka and Pavel Exner (the Czech Mathematical Society), Anna Kotěšovcová (ConforG Agency), Hana Polišenská (secretary of the ITI) and Jaroslav Nešetřil, Eduard Feireisl, Roman Kotecký and Jan Krajíček (the minisymposia coordinators), did a good job and prepared pleasant and friendly working conditions for the participants. As Luc Lemaire mentioned in his welcoming speech, one meeting does not make a series, two meetings in a row do. We in the Czech Mathematical Society feel honoured by the commission to organize the second joint weekend and proud of being present at the birth of a new tradition of what we all believe will prove to become a useful and important series of meetings of European mathematicians.



Additional meetings

Three important work meetings took place behind the scene at the weekend. The Czech Mathematical Society made use of this opportunity and called its general assembly meeting for Friday evening. One of the main agenda items was the change of name for the society. For almost one and a half centuries mathematicians and physicists of this region have been organized in the Union of Czech

enjoyed the mathematical programme of the entire weekend, while their working meeting was scheduled on Sunday afternoon and Monday morning in hotel Vaníček. In recognition of the importance of the EMS, a festive dinner was given for the Executive Committee members by the president of the Academy of Sciences of the Czech Republic Helena Illnerová, the president of the Czech Mathematical Society Jan Kratochvíl, the

Jan Kratochvíl [honza@kam.mmf.cuni.cz], born in 1959, did his Ph. D. in discrete mathematics at Charles University in Prague. Since 1994, he has been at the Department of Applied Mathematics of this university, and since 2003 he is the head of the department and a full professor. He has also lectured several times as a visiting professor at Computer and Information Science Department of the University of Oregon in Eugene, OR. His main research interests are graph theory and computational complexity. He is currently president of the Czech Mathematical Society.

Jiří Rákosník [rakosnik@math.cas.cz], born in 1950, graduated in mathematical analysis from Charles University in Prague. His research interest concentrates on theory of function spaces and theory of integral and differential operators. He is associated to the Mathematical Institute of the Academy of Sciences of the Czech Republic. Since 2001, he is also a member of the Academy Council of the AS CR, responsible for economic and financial matters of the Academy and for cooperation of the Academy in preparing legislation concerning research and development. He heads the Czech Editorial Unit of Zentralblatt MATH.