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Nota di contenuto	Uniqueness of bounded solutions to aggregation equations by optimal transport methods / Jose A. Carrillo, Jesus Rosado -- On the computation of the coefficients of modular forms / Bas Edixhoven -- Effective equidistribution and spectral gap / Manfred Einsiedler -- Survey on aspherical manifolds / Wolfgang Luck -- Wheeled props in algebra, geometry and quantization / Sergei A. Merkulov -- Positive definite functions in distance geometry / Oleg R. Musin -- From sparse graphs to nowhere dense structures: decompositions, independence, dualities and limits / Jaroslav Nešetřil, Patrice Ossona de Mendez -- Bundle gerbes and surface holonomy / Jürgen Fuchs, Thomas Nikolaus, Christoph Schweigert, Konrad Waldorf -- Topological field theories in 2 dimensions / Constantin Teleman -- The revolution of 1907 - Brouwer's dissertation / Dirk van Dalen -- New developments in combinatorial number theory and applications / Jean Bourgain -- Large random planar maps and their scaling limits / Jean-François Le Gall -- Geometry and non-archimedean integrals / François Loeser -- Feynman integrals and motives / Matilde Marcolli -- Topological quantum field theory: 20 years later / Nicolai Reshetikhin -- Computational complexity and numerical stability of linear problems / Olga Holtz, Noam Shomron -- High-dimensional distributions with convexity properties / Bo'az Klartag -- Some recent results about the sixth problem of Hilbert: hydrodynamic limits of the Boltzmann equation / Laure Saint-Raymond -- Graded algebras associated to

Sommario/riassunto

The European Congress of Mathematics, held every four years, has established itself as a major international mathematical event. Following those in Paris (1992), Budapest (1996), Barcelona (2000) and Stockholm (2004), the Fifth European Congress of Mathematics (5ECM) took place in Amsterdam, The Netherlands, July 14-18, 2008, with about 1000 participants from 68 different countries. Ten plenary and thirty-three invited lectures were delivered. Three science lectures outlined applications of mathematics in other sciences: climate change, quantum information theory and population dynamics. As in the four preceding EMS congresses, ten EMS prizes were granted to very promising young mathematicians. In addition, the Felix Klein Prize was awarded, for the second time, for an application of mathematics to a concrete and difficult industrial problem. There were twenty-two minisymposia, spread over the whole mathematical area. Two round table meetings were organized: one on industrial mathematics and one on mathematics and developing countries. As part of the 44th Nederlands Mathematisch Congres, which was embedded in 5ECM, the so-called Brouwer lecture was presented. It is the Netherland's most prestigious award in mathematics, organized every three years by the Royal Dutch Mathematical Society. Information about Brouwer was given in an invited historical lecture during the congress. These proceedings contain a selection of the contributions to the congress, providing a permanent record of the best what mathematics offers today.

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