Prizes awarded at the 6th European Congress of Mathematics in Krakow

July 2, 2012

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On Monday, July 2, right after the final of the UEFA European Championship, the doors open to the 6th European Congress of Mathematics in the beautiful historic city of Krakow in Poland. Since 1992, the European Mathematical Society (EMS) invites every four years mathematicians from all over the world to this important event. Previous congresses have been held in Paris, Budapest, Barcelona, Stockholm and Amsterdam. This year, the congress is organized by colleagues from the Polish Mathematical Society and the Jagiellonian University in Krakow, chaired by Prof Stefan Jackowski (Warsaw). The Polish President, Mr. Bronislaw Komorowski has accepted the honorary patronage for the congress.

Close to 1.000 mathematicians are expected to participate in the congress that will take place over a whole week at the Auditorium Maximum of the Jagellionian University in the city center of Krakow. They are looking forward to the opening ceremony on Monday morning with excitement for a very particular reason: A total of 12 prizes installed by the European Mathematical Society will be awarded by EMS President Prof Marta Sanz-Solé (Barcelona, Spain) to laureates selected by three prize committees.
The monetary value of each prize is 5000 Euro. All prize winners will be invited to deliver lectures at 6ECM.

Ten EMS prize

10 EMS prizes will be awarded to young researchers not older than 35 years, of European nationality or working in Europe, in recognition of excellent contributions in mathematics. The prize winners were selected by a committee of around 15 internationally recognized mathematicians covering a large variety of fields and chaired by Prof Frances Kirwan (Oxford, UK). Funds for this prize have been endowed by the Foundation Compositio Mathematica.

Previous prize winners have proved to continue their careers with high success. Several of them have won the most important distinction for young mathematicians, the Fields Medal, of which at most four are awarded every four years by the International Mathematical Union. Congress participants may thus be able to attend a lecture by a future Fields Medal winner!

European research politicians should be concerned: Among the ten selected extremely talented young mathematicians, five have chosen to pursue their career in the United States!

List of Prize winners

Simon Brendle, 31 years old, received his PhD from Tübingen University in Germany under the supervision of Gerhard Huisken. He is now a Professor of mathematics at Stanford University, USA. An EMS-prize is awarded to him

for *his outstanding results on geometric partial differential equations and systems of elliptic, parabolic and hyperbolic types, which have led to breakthroughs in differential geometry including the differentiable sphere theorem, the general convergence of Yamabe flow, the compactness property for solutions of the Yamabe equation, and the Min-Oo conjecture.*

Emmanuel Breuillard, 35 years old, graduated in mathematics and physics from Ecole Normale Superieure (Paris); then he pursued graduate studies in Cambridge (UK) and Yale (USA) where he obtained a PhD in 2004. He is currently a professor of mathematics at Universite Paris-Sud, Orsay. He receives an EMS-prize

for his important and deep research in asymptotic group theory, in particular on the Tits alternative for linear groups and on the study of approximate subgroups, using a wealth of methods from very different areas of mathematics, which has already made a long lasting impact on combinatorics, group theory, number theory and beyond.

Alessio Figalli, 28 years old, graduated in mathematics from the Scuola Normale Superiore of Pisa (2006) and he received a joint PhD from the Scuola Normale Superiore of Pisa and the Ecole Normale Supérieure of Lyon (2007). Currently he is a professor at the University of Texas at Austin. An EMS-prize goes to him

for his outstanding contributions to the regularity theory of optimal transport maps, to quantitative geometric and functional inequalities and to partial solutions of the Mather and Mañé conjectures in the theory of dynamical systems.

Adrian Ioana, 31 years old, obtained a bachelor of Science from the University of Bucharest (2003) AND received his Ph.D. from UCLA in 2007 under the direction of Sorin Popa. Currently, he is an assistant professor at the University of California at San Diego. An EMS prize is awarded to him

for his impressive and deep work in the field of operator algebras and their connections to ergodic theory and group theory, and in particular for solving several important open problems in deformation and rigidity theory, among them a long standing conjecture of Connes concerning von Neumann algebras with no outer automorphisms.

Mathieu Lewin, 34 years old, studied mathematics at the École Normale Supérieure (Cachan), before he went to the university of Paris–Dauphine where he got his PhD in 2004. He currently occupies a full-time CNRS research position at the University of Cergy-Pontoise, close to Paris. He receives an EMS-prize

for his ground breaking work in rigorous aspects of quantum chemistry, mean field approximations to relativistic quantum field theory and statistical mechanics.

Ciprian Manolescu, 33 years old, studied mathematics at Harvard University; he received his PhD in 2004 under the supervision of Peter B. Kronheimer. He worked for three years at Columbia University, and since 2008 he is an Associate Professor at UC in Los Angeles. An EMS-prize goes to him

for his deep and highly influential work on Floer theory, successfully combining techniques from gauge theory, symplectic geometry, algebraic topology, dynamical systems and algebraic geometry to study low-dimensional manifolds, and in particular for his key role in the development of combinatorial Floer theory.

Grégory Miermont received his education at Ecole Normale Supérieure in Paris during 1998–2002. He defended his PhD thesis, which was supervised by Jean Bertoin, in 2003. Since 2009 he is a professor at Université Paris-Sud 11 (Orsay). During the academic year 2011–2012 he is on leave as a visiting professor at the University of British Columbia (Vancouver). An EMS prize is awarded to him

for his outstanding work on scaling limits of random structures such as trees and random planar maps, and his highly innovative insight in the treatment of random metrics.

Sophie Morel, 32 years old, studied mathematics at the École Normale Supérieure in Paris, before earning her PhD at Université Paris-Sud, under the direction of Gerard Laumon. Since December 2009, she is a professor at Harvard University. She receives an EMS-prize

for her deep and original work in arithmetic geometry and automorphic forms, in particular the study of Shimura varieties, bringing new and unexpected ideas to this field.

Tom Sanders studied mathematics in Cambridge; he received his PhD in 2007 under the supervision of William T. Gowers. Since October 2011, he is a Royal Society Univeristy Research Fellow at the Univeristy of Oxford. An EMS-prize goes to him

for his fundamental results in additive combinatorics and harmonic analysis, which combine in a masterful way deep known techniques with the invention of new methods to achieve spectacular applications.

Corinna Ulcigrai, 32 years old, obtained her diploma in mathematics from the Scuola Normale Superiore in Pisa (2002) and defended her PhD in mathematics at Princeton University (2007), under the supervision of Ya. G. Sinai. Since August 2007 she is a Lecturer and a RCUK Fellow at the University of Bristol. An EMS prize is awarded to her

for advancing our understanding of dynamical systems and the mathematical characterisations of chaos, and especially for solving a long-standing fundamental question on the mixing property for locally Hamiltonian surface flows.

Felix Klein Prize

The Felix Klein prize, endowed by the Institute for Industrial Mathematics in Kaiserslautern, will be awarded to a young scientist (normally under the age of 38) for using sophisticated methods to give an outstanding solution, which meets with the complete satisfaction of industry, to a concrete and difficult industrial problem. The Prize Committee that selected the winner consisted of six members, chaired by Prof Wil H.A. Schilders from Eindhoven in the Netherlands.

Emmanuel Trélat, 37 years old, obtained his PhD at the University of Bourgogne in 2000. Currently he is a full professor at the University Pierre et Marie Curie (Paris 6), France, and member of the Institut Universitaire de France, since 2011. He receives the Felix Klein Prize

for combining truly impressive and beautiful contributions in fine fundamental mathematics to understand and solve new problems in control of PDE's and ODE's (continuous, discrete and mixed problems), and above all for his studies on singular trajectories, with remarkable numerical methods and algorithms able to

provide solutions to many industrial problems in real time, with substantial impact especially in the area of astronautics.

Otto Neugebauer Prize

For the first time ever, the newly established Otto Neugebauer Prize in the History of Mathematics will be awarded for a specific highly influential article or book. The prize winner was selected by a committee of five specialists in the history of mathematics, chaired by Prof Jeremy Gray (Open University, UK). The funds for this prize have been offered by Springer-Verlag, one of the major scientific publishing houses.

Jan P. Hogendijk obtained his Ph.D. at Utrecht University in 1983 with a dissertation on an unpublished Arabic treatise on conic sections by Ibn al-Haytham (ca. 965-1041). He is now a full professor in History of Mathematics at the Mathematics Department of Utrecht University. He is the first recipient of the Otto Neugebauer Prize

for having illuminated how Greek mathematics was absorbed in the medieval Arabic world, how mathematics developed in medieval Islam, and how it was eventually transmitted to Europe.

Photos

From the prize ceremony, and in particular, photos of all prize winners, will be publicly available around 12 am on the web pages

http://www.6ecm.pl/en/programme/ems-prizes/photos and

http://www.euro-math-soc.eu/prizewinners.html

Further documents:

Congress web site: http://www.6ecm.pl/

Prizes to be awarded: http://www.6ecm.pl/en/programme/ems-prizes

Congress logo: http://www.6ecm.pl/www/images/template/header_logo.gif

EMS web site: http://www.euro-math-soc.eu/

Prizes: http://www.euro-math-soc.eu/prizes.html

EMS logo: http://www.euro-math-soc.eu/files/garland_logo.png

EMS president Marta Sanz-Solé: http://www.mat.ub.edu/~sanz/fotos/mss.jpg

Fields medal: http://www.mathunion.org/general/prizes/fields/photos/