

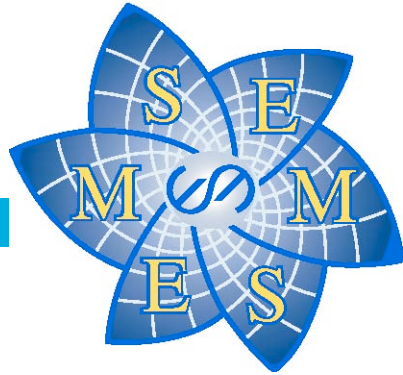
The European Mathematical Society

**The Future World Heritage Digital Mathematics Library:
Plans and Prospects**

Funding agencies and societies

M. Sanz-Solé, EMS President
Professor at the University of Barcelona

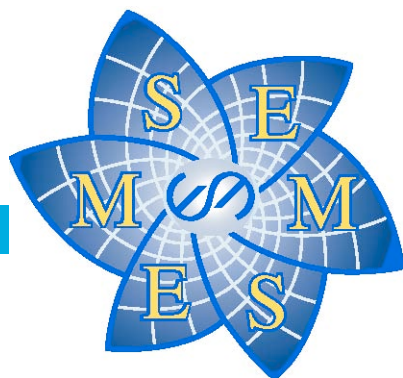
National Academy of Sciences, June 1-3, 2012. Washington DC



The European Mathematical Society

What is the European Mathematical Society??

www.euro-math-soc.eu



The European Mathematical Society

The EMS is a learned society representing mathematicians throughout Europe

Aims

To foster interaction between mathematicians of different countries.

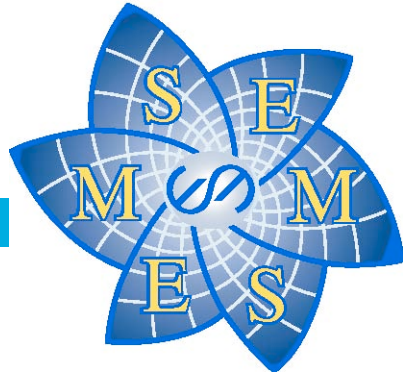
To promote mathematical research.

To assist and advise on problems of mathematical education.

To develop links between mathematics and society.

To establish a sense of identity amongst European mathematicians.

To represent the mathematical community in European institutions.



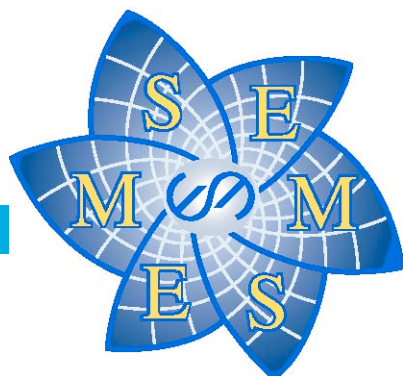
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Membership

- About 60 mathematical societies in Europe
- 30 academic institutional members (research centers, math departments)
- About 2500 individual members

Reciprocity and collaboration Agreements

- AMS, Australian Mathematical Society, Canadian Mathematical Society, Bernoulli Society, International Association for Mathematical Physics.



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Committees of EMS

Executive Committee

Applied Mathematics

Developing Countries

Education

Electronic Publishing

Ethics

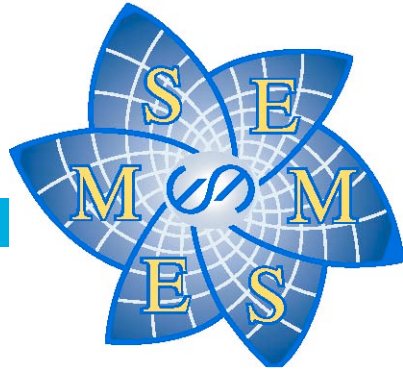
European Research Centres of Mathematics (ERCOM)

Meetings

Raising Public Awareness of Mathematics

Support of East European Mathematicians

Women in Mathematics



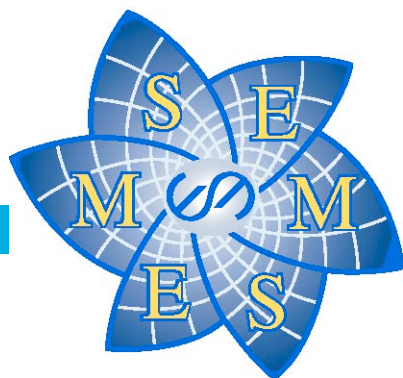
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Executive Committee (2011-...)

- President: **Marta Sanz-Solé** (Spain)
- Vice President: **Mireille Martin-Deschamps** (France)
- Vice President: **Martin Raussen** (Denmark)
- Secretary: **Stephen Huggett** (UK)
- Treasurer: **Jouko Väänänen** (Finland)

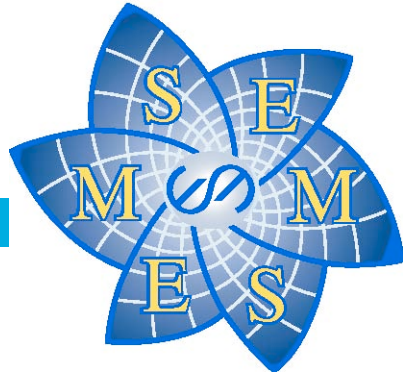
Members

- Zvi Artstein (Israel)
- Franco Brezzi (Italy)
- Rui Loja Fernandes (Portugal)
- Igor Krichever (Russia)
- Volker Mehrmann (Germany)



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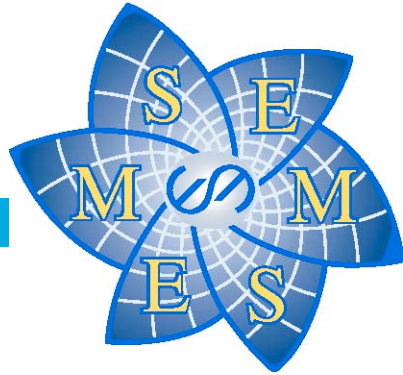
Scientific Activities



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European Congresses of Mathematics (ECMs)

- 1992 Paris
- 1996 Budapest
- 2000 Barcelona
- 2004 Stockholm
- 2008 Amsterdam
- **2012 6ECM, Krakow, July 2-7**
www.6ecm.pl
- **2016** Decision pending



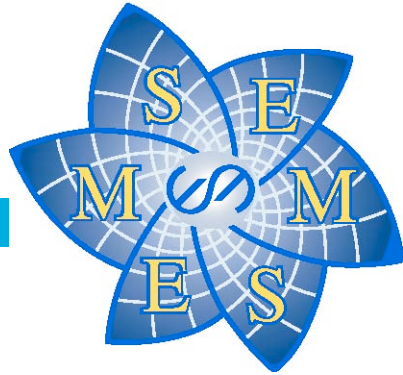
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EMS Prizes

- Ten prizes presented at each ECM.
- To recognize excellent published work in Mathematics by young researchers not older than 35 years.

Some recipients

- Borchers, Gowers, Kontsevitch, Lindenstrauss, Okounkov, Perelman, Smirnov, Villani, Werner (Fields Medalist), Avila, Ben Green, Siylvie Serfaty, Tolsa, Claire Voisin, ...



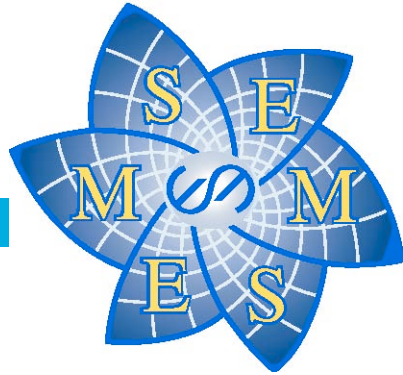
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The Felix Klein Prize

- Established in 1999 by the **EMS** and the endowing organisation, the **Institute for Industrial Mathematics** in Kaiserslautern.
- Awarded to a young scientist, or a small group of young scientists, for using sophisticated methods to give an outstanding solution to a concrete and difficult industrial problem.

Previous recipients

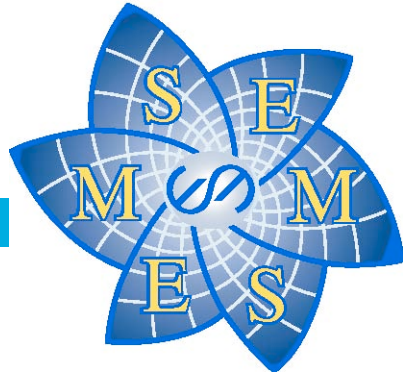
- David Dobson, Joselin Garnier.



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The Otto Neugebauer Prize in the History of Mathematics

- *Named after Otto Neugebauer, the father of both, Zentralblatt and Math Reviews*
- The prize winner will be presented at each ECM



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Other scientific activities

EMS Mathematical Weekends

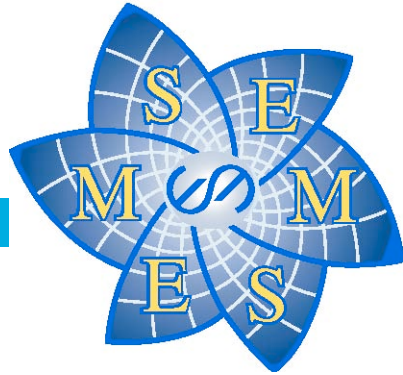
EMS Lectures

EMS Distinguished Speakers

EMS Summer Schools on Applied Mathematics

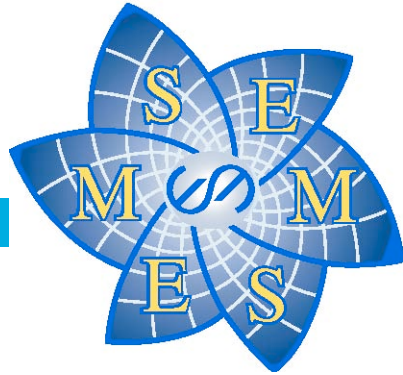
EMS Summer School on Mathematical Physics

Support to initiatives from mathematicians



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Publication Activities



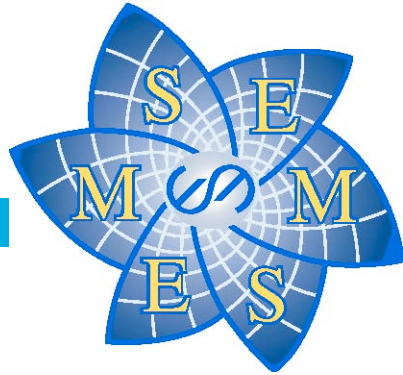
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European Mathematical Foundation

EMS Publishing House

www.ems-ph.org

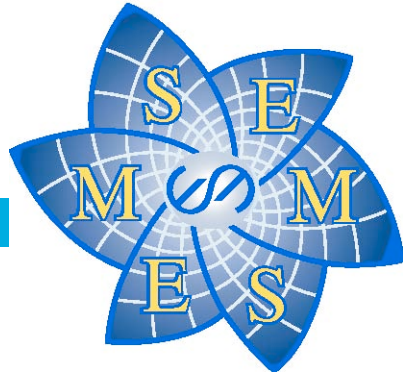
- Created by EMS in 2002.
- Permanent office at ETH, Zürich.
- Board of Trustees consisting of EMS officers and elected members.
- Director: Thomas Hintermann.



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Mission statement of the EMF

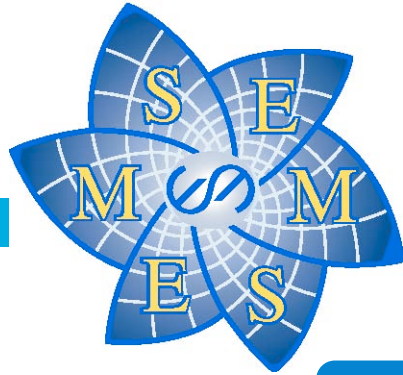
The EMS Publishing House is a not-for-profit organization dedicated to the publication of high-quality peer-reviewed journals and high-quality books, on all academic levels and in all fields of pure and applied mathematics. The proceeds from the sale of our publications will be used to keep the Publishing House on a sound financial footing; any excess funds will be spent in compliance with the purposes of the EMF laid down in its statutes. The prices of our products will be set as low as is practicable in the light of our mission and market conditions.



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Publications

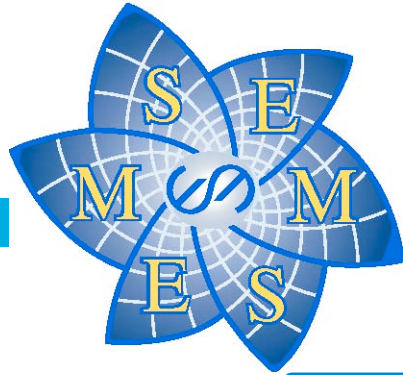
- Books
- e-Books
- Journals
- EMS Newsletter



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Books Series

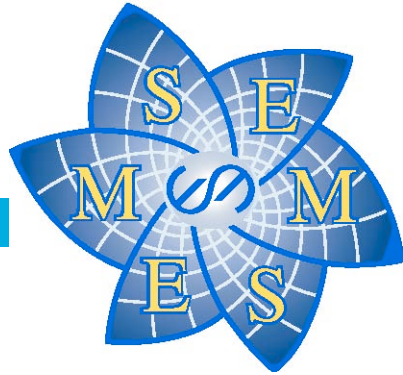
- EMS Monographs in Mathematics
- EMS Series of Congress Reports
- EMS Series of Lectures in Mathematics
- EMS Textbooks in Mathematics
- EMS Tracts in Mathematics
- ESI Lectures in Mathematics and Physics
- Heritage of European Mathematics
- IRMA Lectures in Mathematics and Theoretical Physics
- Zurich Lectures in Advanced Mathematics



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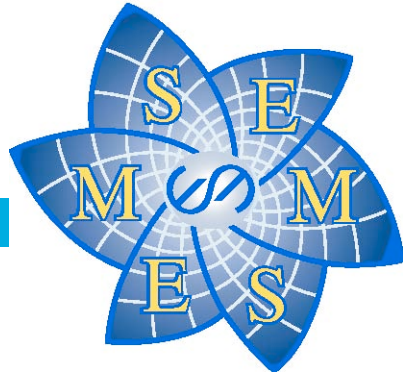
Journals

- Commentarii Mathematici Helvetici
- Groups, Geometry and Dynamics
- Interfaces and Free Boundaries
- Journal of Noncommutative Geometry
- Journal of Spectral Theory
- Journal of the European Mathematical Society
- Portugaliae Mathematica
- Publications of the Research Institute for Mathematical Sciences (Kyoto University)
- Quantum Topology
- Rendiconti Lincei - Matematica e Applicazioni
- Revista Matemática Iberoamericana



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A sample of Projects



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ESF Forward Look Project Mathematics and Industry

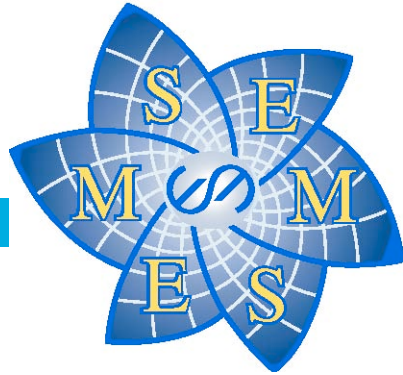
www.ceremade.dauphine.fr/FLMI

Analysis and Design Study

How can mathematics respond to the needs of industry and provide the right tools?

How can industrial issues give birth to new lines of research in mathematics?

How can we extend to the European level isolated positive experiences from different European organisations?



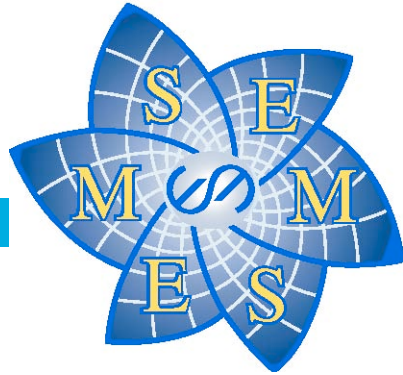
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The European Digital Mathematics Library

www.eudml.eu

The EuDML portal will be a single well-organised resource offering a long-standing reliable system with sophisticated tools available for search and exploration. This will be achieved by implementing a single access portal for heterogeneous and multilingual collections, on top of a rich metadata repository endowed with a user-focused interface.

Funded by the EU Programme CIP (2009 - 2013)



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ESF-EMS-ERCOM Conferences

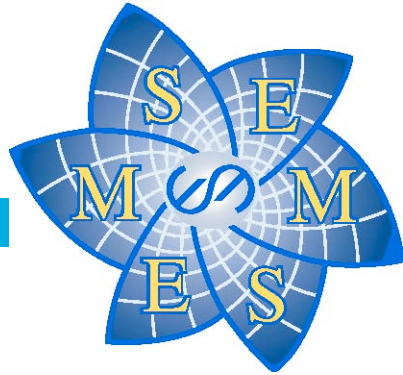
www.esf.org/activities/esf-conferences.html

Partnership with ESF (2008-2013)

ESF Research Conferences Scheme

Up to 6 conferences per year financed 50% by ESF

Conferences should be held at an **ERCOM** center



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www.mathematics-in-europe.eu

Mathematics in Europe

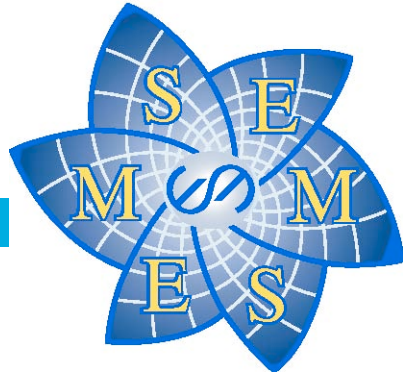
An EMS project funded by Munich Re (Germany)

Addressed to:

- Everyone who is interested in mathematics: journalists, school children, students, teachers, professional mathematicians.
- Everyone looking for suggestions for increasing public awareness of mathematics.

Entries include:

- News, Information, Popularization Activities, Math Help, Math(s) as a profession, Competitions.



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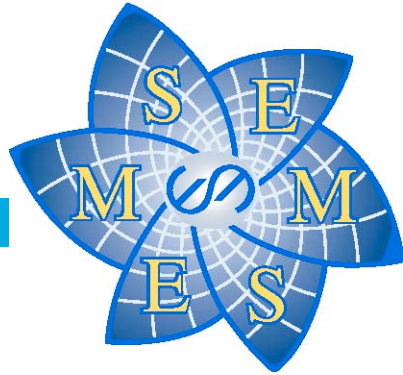
Encyclopedia of Mathematics Wiki

http://www.encyclopediaofmath.org/index.php/Main_Page

Scientific supervision: EMS

Technical Support : Springer Verlag.

Editor in Chief: Ulf Rehmann



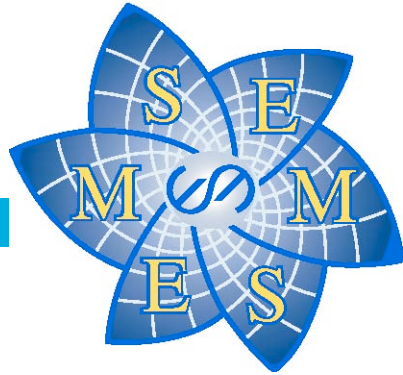
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Zentralblatt MATH

www.zentralblatt-math.org/zbmath

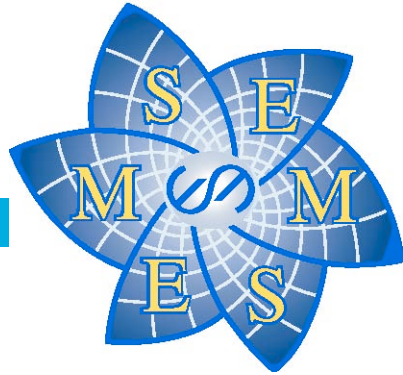
Partners: FIZ Karlsruhe, **EMS**, Heidelberger Akademie der Wissenschaften.

Publisher: Springer Verlag.



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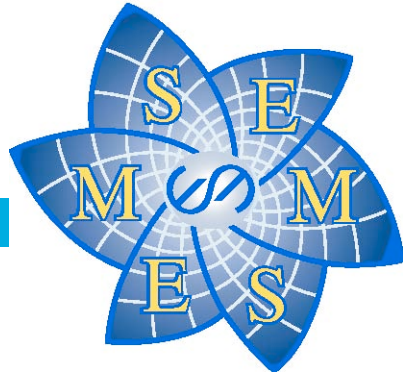
Influence of EMS



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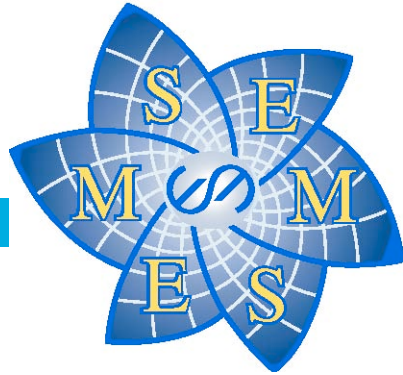


- is the voice of mathematics in Europe,
- is an effective intermediary between mathematicians and politicians at the EU Research and Innovation Directorate General,
- has been influential in the creation of the **European Research Council**,
- Nominates members of the **Abel Prize Committee** and other scientific boards,
- sits as an observer at the Standing Committee for Physical and Engineering Sciences (**PESC**) of the ESF,
- Is a member of **Initiative for Science in Europe**,
- ...



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EU funding



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EU Funding Programmes: Present and Future

2008-2013

7th Framework Programme

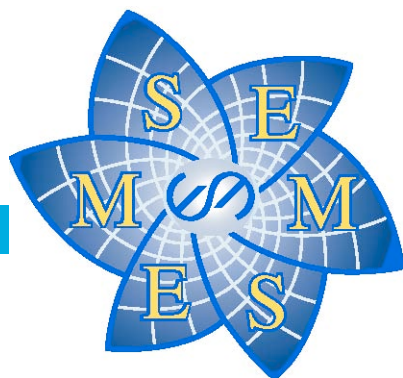
Competitiveness and Innovation Framework Programme

European Institute of Innovation and Technology

Cohesion Policy

2014-2020

HORIZON 2020



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7th Framework Programme

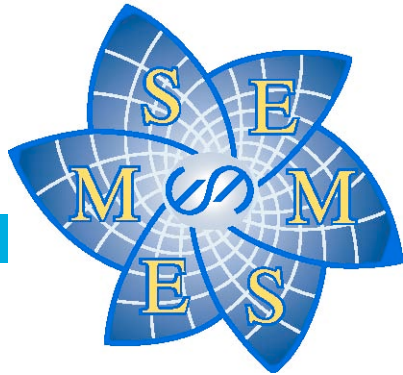
7th Framework Programme:

People: Marie Curie Mobility Grants

Capacities: Infrastructures

Ideas: European Research Council: Starting Grants, Advanced Grants, Proof of Concept, Synergy Grants

Cooperation



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ERC Grants

Starting Grants

2-12 years experience

Up to 1.5 million Euros

Average size in mathematics: 750.000 €

Up to 5 years

Advanced Grants

Up to 3.5 million Euros

Average size in mathematics: 1400

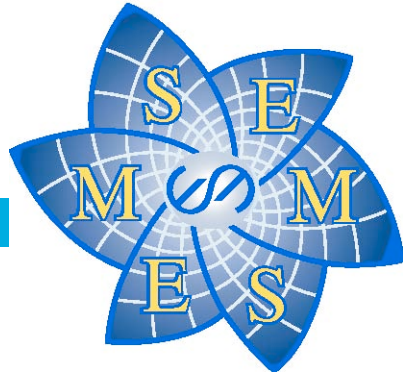
Up to 5 years

Synergy Grants

Groups of up to 2-4

Up to 15 million Euros

Up to 6 years



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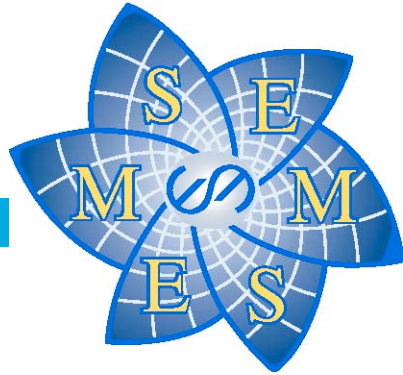
Some partial figures for ERC

First three calls StG: 64/977 projects

First three calls AdG: 54/793 projects

Total approx. 1 22 Million € in Mathematics

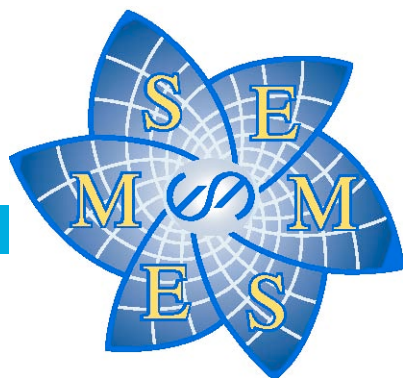
Success rate 9.8% StG; 12.2% AdG



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Some Remarks

- Acting at an **European scale**, we can address crucial questions for mathematics at the **critical level**.
- EMS provides a good structure for the development of **mathematics in its unity**.
- EMS lobbies at the EU and conveys **the specific needs of mathematical research**.
- European research in mathematics is at the highest level. Through its actions, EMS aims to obtain the **appropriate European investment** to maintain this level, and to assure its **long-term development**.



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Not yet a member of EMS?

Please, join!

www.euro-math-soc.eu