

ERCOM

EUROPEAN RESEARCH CENTRES ON MATHEMATICS

A committee of the European Mathematical Society

Report for the period from June 2008 to June 2010

ERCOM is an EMS committee consisting of scientific directors of European Research Centres in the mathematical sciences, or their chosen representatives. Only European centres, predominantly research oriented, with a large international visiting programme, and covering a broad area of mathematical sciences, are eligible for representation in ERCOM. The EMS Executive Committee finally decides the eligibility of centres.

ERCOM aims to contribute to the unity of mathematics, from fundamentals to applications. The purposes of ERCOM are:

- to constitute a forum for communications and exchange of information between the centres themselves and EMS
- to foster collaboration and coordination between the centres themselves and EMS
- to foster advanced research training on a European level
- to advise the Executive Committee of the EMS on matters relating to activities of the centres
- to contribute to the visibility of the EMS
- to cultivate contacts with similar research centres within and outside Europe

The list of the present ERCOM centers can be found in the appendix.

Meetings

In the report period ERCOM has had two annual meetings.

An important aspect of the annual meetings is the mutual contact between the directors and the administrators of the ERCOM centres and the exchange of information between them. Much of this cannot be found in the minutes of these meetings.

Recurring items on the agenda of these meetings are the following reports: on EMS business (by the EMS President), on the European Research Area (e.g. the visibility of mathematics within the EU), on the European Post-Doctoral Institute (EPDI) which is formed by a subset of ERCOM, on the situation on mathematics in Eastern Europa, and on Actions in the Direction of Developing Countries.

The *2009 meeting* took place in Djursholm near Stockholm, Sweden, on March 12 to 14, 2009. The hosting institute was the Institut Mittag-Leffler (IML, director Anders Björner). The meeting was attended by the President of the EMS, Ari Laptev, 21 directors or their representatives, 1 guests (the head of Brussels office of the German Leibniz Association, Claudia Labisch), 8 administrators, and the scientific secretary of ERCOM (Herman te Riele).

The *2010 meeting* took place in Edinburgh, Scotland, UK, on March 12 and 13, 2010. The hosting institute was the International Centre for Mathematical Sciences (ICMS, director John Toland). The meeting was attended by the President of the EMS, Ari Laptev, 20 directors or their representatives, 10 administrators, and the scientific secretary of ERCOM (Stephan Klaus).

Elections

The term of the ERCOM chairman Jan-Karel Lenstra (CWI) and vice chairman John Toland (ICMS) ended in December 2009. Gert-Martin Greuel (MFO) and Jakob Yngvason (ESI) were elected as new chairman respectively vice chairman for the period 2010 - 2013. Stephan Klaus (MFO) was appointed as successor of Herman te Riele (CWI) as new scientific secretary of ERCOM.

Proposal to the European Commission in the Infrastructure Programme

As an action of the ERCOM meeting 2009, Ari Laptev has coordinated the EU Infrastructures' proposal of EMS/ERCOM. The proposal "MATHEI" was composed in 2009 by the ESF (represented by Thibault Lery) with advice by Ari Laptev, Jean-Pierre Bourguignon, Maria Esteban, Gert-Martin Greuel and Mário Primicerio. The proposal was signed by 12 contractual partner (thereof 4 ERCOM members), 17 associate partner (thereof 7 ERCOM members) and 12 international partner. Abstract of MATHEI:

The MATHEI project proposes to deploy a world-class virtual research infrastructure to act as the foundation of sciences and mathematics, which will involve Academia, Researchers and Industry across Europe and beyond. MATHEI will not be based on a physical building or instrument. It will be made of the knowledge and expertise of mathematicians together with mathematical libraries, databases, algorithms, and codes. Through this infrastructure, scientists, researchers and engineers will be provided with access to the best experts, databases, libraries and facilities in order to become and remain competitive internationally and to maintain or regain leadership in their field. The project also aims at enabling a coherent approach to mathematics in Europe by integrating national research efforts, and integrating activities within both pure and applied mathematics.

The inclusion of the ERCOM post-doctoral network EPDI was not possible because of formal constraints in the infrastructure programme. Unfortunately, the European Commission evaluated MATHEI with the following marks for the key criteria (the threshold is 3 for all of them):

- Scientific and Technological excellence: 3 of 5
- Quality and efficiency of the implementation and the management: 2 of 5
- Potential impact through the development, dissemination and use of project results: 4 of 5

As a result, MATHEI was not funded by the European Commission.

New ERCOM members

Procedure for admission of new members. Institutes wishing to become ERCOM member and which expect to meet the criteria for ERCOM membership are advised to fill out a questionnaire (available on the ERCOM website), and submit this to the chairman of ERCOM.

First, the chairman and the vice-chairman of ERCOM, together with the President of the EMS, discuss the application of the candidate member, and propose an advice. Next, the ERCOM members are requested to vote on the new candidate, taking into account this advice. If the outcome of the voting is positive, the candidate is considered to be eligible as ERCOM member, and the nomination is then sent to the EMS for approval by its Executive Committee.

Applications for ERCOM membership. In the report period, the former applications of two centres which have applied for membership of ERCOM were decided, namely:

- the Wales Institute of Mathematical and Computational Science, Swansea (Wales), abbreviated WIMCS, in March 2008
- the International Mathematical Summer Center, Firenze (Italy), abbreviated CIME, in May 2008.

Moreover,

- the Instituto de Ciencias Matematicas (ICMAT), Madrid (Spain), in June 2008,
- the Institute of Mathematics of the Bulgarian Academy of Sciences (IMI), Sofia (Bulgaria), in October 2008

have applied for ERCOM membership in the report period. As a result, none of the four centers could be accepted as ERCOM member as they did not fit to the conditions.



Gert-Martin Greuel

7 July 2010

ERCOM Chairman

Director of the Mathematisches Forschungsinstitut Oberwolfach (MFO)

Appendix: List of ERCOM members 2010

Institute/Acronym	Name of Institute	Place
A. Renyi Institute	Alfréd Rényi Institute of Mathematics	Budapest
CRM	Centre de Recerca Matemàtica	Bellaterra
CIRM	Centre International de Rencontres Mathématiques	Luminy
CRM De Giorgi	Centro di Ricerca Matematica Ennio De Giorgi	Pisa
CIM	Centro Internacional de Matemática	Coimbra
CWI	Centrum voor Wiskunde en Informatica	Amsterdam
ENI	Emmy Noether Research Institute for Mathematics	Ramat-Gan
ESI	Erwin Schrödinger International Institute for Mathematical Physics	Wien
EIMI	Euler International Mathematical Institute	St. Petersburg
EURANDOM	European Institute for Statistics, Probability and Stochastic Operations Research	Eindhoven
FIM	Forschungsinstitut für Mathematik	Zürich
IHES	Institut des Hautes Études Scientifiques	Bures sur Yvette
IHP	Institut Henri Poincaré, Centre Émile-Borel	Paris
IML	Institut Mittag-Leffler	Djursholm
ICMS	International Centre for Mathematical Sciences	Edinburgh
INI	Isaac Newton Institute for Mathematical Sciences	Cambridge
INdAM	Istituto Nazionale di Alta Matematica Francesco Severi	Rom
RICAM	Johann Radon Institute for Computational and Applied Mathematics	Linz
MRI Utrecht	Mathematical Research Institute Universiteit Utrecht	Utrecht
MFO	Mathematisches Forschungsinstitut Oberwolfach	Oberwolfach
MPI-MN	Max-Planck-Institut für Mathematik in den Naturwissenschaften	Leipzig
MPI-M	Max-Planck-Institut für Mathematik	Bonn
Banach Center	Stefan Banach International Mathematical Center	Warsaw
ICTP	The Abdus Salam International Centre for Theoretical Physics	Trieste
Stieltjes Institute	Thomas Stieltjes Institute for Mathematics	Leiden
WIAS	Weierstrass Institute for Applied Analysis and Stochastics	Berlin

Currently there are 26 members in ERCOM.