

E·MRS

E-MRS
European
Materials
Research
Society

About E-MRS

Founded in 1983, the European Materials Research Society (E-MRS) has now more than 4,000 members from industry, government, academia and research laboratories, who meet regularly to debate recent technological developments of functional materials.

The E-MRS differs from many single-discipline professional societies by encouraging scientists, engineers and research managers to exchange information on an interdisciplinary platform, and by recognizing professional and technical excellence by promoting awards for achievement from student to senior scientist level. As an adhering body of the International Union of Materials Research Societies (IUMRS), the E-MRS enjoys and benefits from very close relationships with other Materials Research organizations elsewhere in Europe and around the world. Each year, E-MRS organizes, co-organizes, sponsors or co-sponsors numerous scientific events and meetings.

In 1987, the E-MRS pioneered the concept of topic-specific networks, and supported by the European Commission (EC) in Brussels, initiated the first 25 European multinational networks covering major fields in materials science. Groupings of individuals and laboratories, some 300 in total from all corners of Europe, with interest and expertise in specific functional materials topics, such as ion-implantation techniques, III-V semiconductors, biomaterials and laser processing were formed to promote knowledge-sharing and information transfer, and also to bring together specific consortia to seek funding from Brussels. This networking idea was taken up in 1991 by the European Union (EU) as an effective instrument for organizing research, and is today a fundamental philosophy within all Framework Programmes of the EC, the main EU instrument for funding research in Europe.

Throughout the 1990s and more recently E-MRS has broadened its range of activities and enhanced its sphere of influence at European and World level. An overview of some of issues in which the society is involved can be seen in the following pages.



Plenary session at the Spring Meeting 2006

Activities

Since 1983 E-MRS has held a Spring Meeting and in 2002 established a second annual conference, the Fall Meeting, held in September in Warsaw, and has strongly supported the establishment of institutions and been an active participant in various committees and projects as outlined below.

Spring Meeting

The major society conference, the E-MRS Spring Meeting, is organized every year in May or June and offers on average 25 topical symposia. It is widely recognized as being of the highest international significance and is the largest of its kind in Europe with about 2,500 attendees every year. Each symposium publishes its own proceedings that document the latest experimental and theoretical understanding of material growth and properties, the exploitation of new advanced processes, and the development of electronic devices that can benefit best from the outstanding physical properties of functional materials.



Fall Meeting

Since 2002, E-MRS has organized an annual Fall meeting in Warsaw, Poland which provides another opportunity for scientist in Central and Eastern Europe to become involved in the work of the E-MRS. The Fall Meeting offers the same high quality scientific platform as the Spring meeting and is growing in international involvement.



European Materials Forum & MatSEEC

E-MRS became increasingly aware of the fragmentation of the material community. In 2008, E-MRS took the initiative to bring the community by establishing the European Materials Forum (EMF). The forum promotes discussions about the research areas most likely to provide long term economic benefits to the European Union.



When consensus is reached, the Forum's goal is to inform the appropriate EU authorities of these research avenues so they may be pursued. E-MRS, as a leading member of the Forum, initiated a formal approach to the European Science Foundation (ESF) with the objective that the ESF establish a new expert committee for materials. This expert committee, with the acronym MatSEEC is funded by the various national members of the Foundation, and held its initial meeting in October 2009. E-MRS and EMF are subscribing members and have representatives who serve on the committee.



European Institute of Technology

E-MRS welcomed the proposal by the President of the European Commission, José Manuel Barroso, to establish the European Institute of Technology (EIT), but recognized that many aspects needed careful consideration. E-MRS campaigned for the Commission to undertake a prefiguration pro-

programme to establish the optimum structure for governance of the proposed institute. The Commission accepted the need for further study and funded four projects to help formulate policy prior to the formal establishment of the EIT. E-MRS was a partner in one of these projects identified as ComplexEIT.

The E-MRS role in the ComplexEIT project was to integrate research ideas at leading European Universities. Since the world wide contacts of E-MRS have shown that European Research is on a par with world standards, but the industrial and commercial exploitation is not fully realized, universities were chosen by their record of research exploitation as determined by the development of spin-off companies. Once those were chosen and established, the E-MRS would then propose an optimum program for implementation in the EIT.

STOA Workshop - CO₂: a Future Chemical Fuel

The continuous increase in the concentration of CO₂ in the atmosphere and the related consequences have pressed the European Parliament and the European Commission to launch a programme for CO₂ sequestration (CCS). The proposed CCS model foresees three essential steps: collect the CO₂ as close as possible to the source, its transfer by pipelines to adequate locations and then pumping it into the soil.



On 22nd March 2011, an E-MRS workshop on *CO₂: A FUTURE CHEMICAL FUEL* was held at the European Parliament in Brussels, at a meeting of the Parliament's Committee for Science and Technology Options Assessment Panel (STOA). The model proposed at the workshop considers **CO₂ as a RAW MATERIAL** which can be **recycled** as a **CHEMICAL FUEL**, i.e. an **energy source**, thereby generating a completely **NEW INDUSTRY in Europe**.

For this to be achieved, it is necessary to develop European hub RDT centres to coordinate industrial researchers and academic staff, following the example of Germany, USA, Japan and China. The goal will be to develop a *good understanding of the economical and cultural implications* of these new technologies to *reduce Europe's dependence on imported oil, to reduce green house gas emission* in accord with the EEC regulations and to enhance European competitiveness and create employment which cannot be delocalized.

Through this E-MRS initiative, a new milestone has been reached for the society. The correspondence received by the society from seventeen MEPs and an audience of about 100 people (representing the European Commission, academia, industry) following the workshop demonstrates that the initiative was well received and enthusiastically accepted.

World Materials Summit

Distinguished scientists, governmental officials and entrepreneurs from all over the world are invited to present the current industrial status, recent research achievements, and government policies in the field of advanced materials for energy application and to discuss the development policies and the future of these materials.

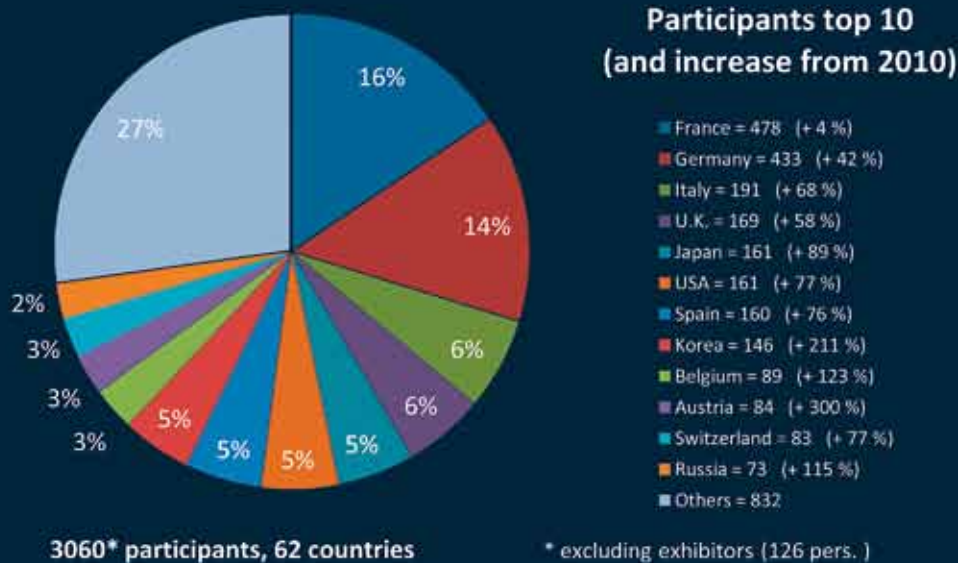


E-MRS organised the inaugural World Materials Summit in conjunction with MRS and C-MRS in Lisbon under the auspices of the Portuguese Presidency of the EU in 2007. The Summit conferences have been established as a biennial event and the 2009 Summit was held in China and the 2011 event will take place in Washington DC in October.

The international dimension

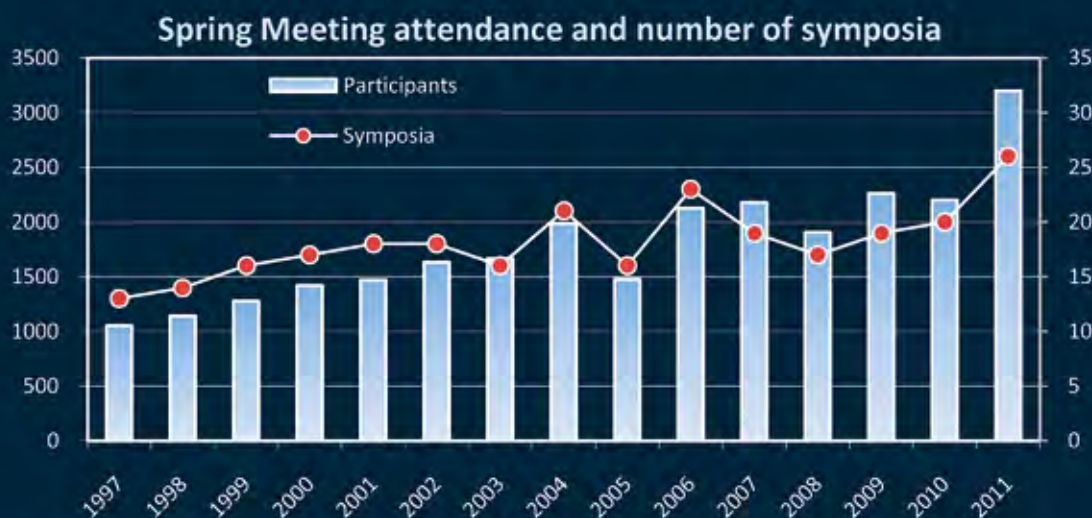
The E-MRS Spring Meeting, Europe's largest materials conference, attracts active participants from more than 60 countries. Representing both quality and quantity, this audience comprises key decision-makers involved in the field of materials research.

Spring Meeting 2011 in Nice, France



Expansion of E-MRS

Attendance for the annual Spring Meeting has fluctuated over the years, but has exhibited a general upward trend. The meetings have grown from a single symposium with about 150 participants in 1983 to a record attendance at the Spring Meeting in 2011 with more than 3,000 attendees representing 62 countries and 26 offered symposia.



E-MRS Influence in Europe

A major objective of E-MRS has been to support the European Union in defining European scientific research programmes on functional materials. As research has become more expensive, the economic benefits from European research, funded primarily from the European Commission, have not been seen as cost-effective. E-MRS promotes the more efficient use of research funding and resources, coupled with an integrated collaborative atmosphere and has developed into a front-runner for planning and economic development.

Since its establishment the members of the Society have recognized the scientific and political benefits of promoting the concepts and philosophy of E-MRS by establishing contacts with scientists and research institutions in the countries in Eastern Europe. It has always been recognized that the countries which have joined the EU in the last decade have developed in their own way and have many resources and benefits to contribute to the scientific community in Europe. E-MRS has developed interactions to maximize the benefits for individual scientists, laboratories and institutions as well as the countries from which these ideas and discoveries come.

The society has encouraged the participation of scientists from countries such as Romania, Bulgaria, Czechoslovakia, now Slovakia and the Czech Republic, and Poland since 1992. And in the late 1990s the decision was made to establish an E-MRS Committee for Eastern Europe, based in Poland to further encourage the participation of scientists from the materials community from the EU candidate countries, which only came into full membership of the EU in 2004.

Awards

The E-MRS Award program strives to acknowledge outstanding contributors to the progress of materials research, and to recognize their exciting and profound accomplishments. We seek to honour those whose work has already had a major impact in the field, and those young researchers whose work already leads to great expectations for future leadership.



E-MRS Graduate Student Awards are intended to encourage graduate students whose academic achievements and current research display a high level of excellence and distinction. The awards are presented at the Plenary Session during the Spring meeting. The prizes consist of a 450 EUR cash prize accompanied with a diploma.

EU-40 Materials Prize

This E-MRS award, established in 2010 is awarded in recognition of outstanding contributions to materials research by scientists aged under 40.



Czocharlski Award

Professor Jan Czocharlski was one of the most famous Polish scientists. One of his most important discoveries was the technology for growing single crystals, now known as the Czocharlski Method, which is the basis of a the modern electronics industry.

Taking account of his achievements in materials science, technology transfer to industry, and international collaboration, E-MRS established the Jan Czocharlski Award.

Anniversary Award

On the occasion of the 20th anniversary, in 2003, the E-MRS decided to inaugurate a quinquennial award to recognise the career contribution of a scientist to the fundamental understanding of the science of materials through experimental and/or theoretical research.



Awards Strategy Report „Materials for Key Enabling Technologies“ for the HLG

The report gives an assessment of the current situation with the view of E-MRS and makes recommendations for the future R&D funding. The report has been prepared on the occasion of the Key Enabling Technologies (KETs) initiative launched by the European Commission to give an overview of the current status and recommendations on the role Materials Science and Engineering should play in Europe for key enabling technologies.

The report is the result of a joint effort of the E-MRS and of the MatSEEC of the European Science Foundation and has been edited by Hans Richter, Vice President of E-MRS, based on the contributions of 22 members of E-MRS and MatSEEC and with contributions from MRS and EPS.

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E-MRS publications

Proceedings

The E-MRS Proceedings series consists of over 250 print volumes, most of which are available for purchase (subject to availability).

Monographs

In addition to the Proceedings series, E-MRS and Elsevier publish also a series of monographs.

E-MRS Officers 2011-2012

President

Rodrigo MARTINS
rm@uninova.pt

Vice Presidents

Thomas K. LIPPERT
thomas.lippert@psi.ch

Joan Ramon MORANTE
jrmorante@irec.cat

Hans RICHTER

richter@ihp-microelectronics.com

General Secretary

Paul SIFFERT
emrs@emrs-strasbourg.com

Immediate Past President

Francesco PRIOLO
priolo@ct.infn.it

Social event - Spring Meeting 2011



Exhibition - Spring Meeting 2011

E-MRS

BP 20

67037 STRASBOURG CEDEX 2

FRANCE

Tel: +33 3 88 10 63 72

Fax: +33 3 88 10 63 43

emrs@emrs-strasbourg.com

www.european-mrs.com

