

PAST ACTIVITIES OF E-MRS

1983

First MRS-Europe meeting held in a hotel in Strasbourg, France, with one symposium.

1984

Second MRS-Europe conference with three symposia, held in the Council of Europe facilities in Strasbourg, France.

1985

E-MRS initiates and proposes the concept of European-multinational scientific networks on advanced materials to the European Commission (EC) in Brussels, "to initiate the process of European cooperation and integration in the field of materials research." The proposal was composed of two sets of topic-specific networks, one on electronic materials and one on nonelectronic materials. E-MRS organizes and manages 16 scientific thematic networks, including a total of 500 public and private laboratories in Europe cooperating in the fields of advanced materials research and development.

First European round table on industry-university collaboration held.

Fall conferences launched in Strasbourg.

1986

Legal establishment of MRS-Europe.

MRS-Europe becomes the European Materials Research Society or E-MRS.

1990

E-MRS network initiative becomes Networks of Excellence as they are incorporated in the European Commission (EC) Framework Programme, both in ESPRIT (Information Society Technologies) and BRITE-EURAM (Industrial and Materials Technologies) as well as in HCM (Human Capital and Mobility).

E-MRS prepares a strategic study, "Prospects of Research on Electronic Materials," for the EC Third Framework Programme, which was submitted and generally accepted.

E-MRS Celebrates 20th Anniversary

Background

The year 2003 marks the 20th anniversary of the technical meeting that led to the formation of the European Materials Research Society (E-MRS). That meeting was held in Strasbourg, France, in late May 1983 and consisted of only one symposium, titled "Laser-Solid Interactions and Transient Thermal Processing of Materials." This was the first meeting of that type and style to be held in Europe, and its success led later to the establishment of E-MRS.

In the late 1970s, the countries of the continent were divided into Eastern and Western Europe, with very little contact between them. In fact, there was very little contact even between individual countries within Europe in matters relating to materials research. Several political events had already taken place by 1983 that formed the seed of a larger European interaction. The Council of Europe was first established in 1949 and had 21 member states in 1983. It has now grown to more than 50 member states, including Russia, Canada, and the United States (the latter two as observers). Also, the European Union was established in 1959 and had grown to contain 10 member states in 1983. By 2004, it is expected to reach a membership of 25.

Materials research was largely centered in the United States in the 1970s, and European scientists closely followed research progress there. Multidisciplinary materials research activities (rather than pure solid-state physics) were begun by a few European scientists during this time period, and a small number of these scientists became aware of the Materials Research Society's (MRS) annual meeting in Boston. This was a very popular meeting for those European scientists to attend, but very few could attend each year. Among the forefront topics at that time were ion implantation and laser processing of silicon, which were directly relevant to the fast-developing semiconductor industry. These same research topics were being investigated independently by the larger European countries. At one of the annual meetings of the French national integrated-circuit chip program (1981), the organizers invited speakers from other European countries. At an informal conference dinner, the suggestion arose that a European meeting should be arranged systematically in the future. This may have been the seed for the creation of MRS-Europe in 1983.

The Birth and Early Days of MRS-Europe

Planning for the establishment of MRS-Europe began in earnest at the 1981 MRS annual meeting in Boston, when about a dozen European attendees met to discuss the possibility of organizing conferences in Europe similar in style and scope to the MRS meetings. This suggestion immediately encountered opposition from the established European national societies, who claimed that all materials topics were already adequately covered by meetings of national societies in the larger European countries. A second problem arose in the question of whether the meeting should be organized at the national level—where attendees could speak in their native language—or at the European level, using English as the conference language. These days, it seems incredible that such questions were asked, but they simply reflected the overall situation in postwar Europe at that time. As a compromise (and those who have had experience in European affairs will be well aware of the necessity for compromise!), it was decided that one group would organize a first conference at the national level, while another group would run a meeting at the European level, with the agreement that both would unite under the style that enjoyed the better success.

For the European-oriented group, the name "MRS-Europe" was chosen, and a first conference was planned for May 25, 1983, in a hotel in Strasbourg. Figure 1 shows the conference announcement, the abstract cover, and list of sponsors. It appears that other than the Council of Europe, only national sponsors supported the initiative. The location in Strasbourg was chosen essentially as a symbol of the French-German reconciliation and because it housed the headquarters of the Council of Europe. Figures 2 and 3 illustrate both the opening session and the social event of this first conference.

It was almost unanimously agreed that the conference organized by MRS-Europe was at a much higher level and with superior attendance than the national meeting. So both groups subsequently joined together within MRS-Europe. The timing of this historic birth could not have been better, for during that same period, the European Union announced some decisive initiatives:

On July 25, 1983, the Council of Ministers decided to prepare a framework program for European research, development, and demonstration, as well as a first research program for the period 1984–1988 in which advanced materials were included.

On September 17, 1984, the Council of Ministers accepted a "political decision/

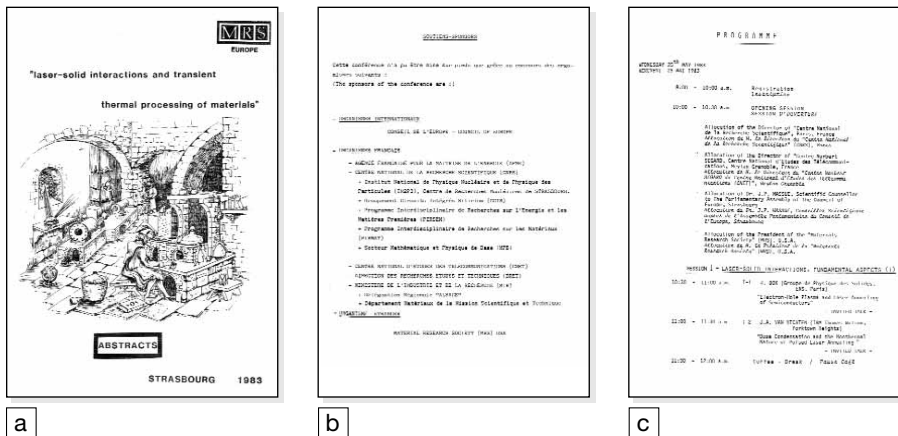


Figure 1. The first materials-oriented conference held at the European level, by a group called MRS-Europe, convened in Strasbourg, France on May 25, 1983: (a) the conference announcement, (b) the abstract cover, and (c) the list of sponsors.



Figure 2. Organizers and guests of the MRS-Europe conference on laser-solid interactions appear before the opening session of the meeting in Strasbourg. (Left to right): P. Siffert, P. Pinard, M. Hanus, M. Camus, C.W. White, and V.T. Nguyen. Courtesy MRS Bulletin VIII (4) (July/August 1983).

resolution on European Networks of Scientific and Technical Cooperation/Resolution on Mobility of Research in Europe."

The interest of the European authorities in research, development, and technology (RDT) activities operated at the European level had several decisive consequences for MRS-Europe. The organization could produce conferences in the Council of Europe and, later, in the European Parliament facilities in Strasbourg, through the director of the Higher Education Division. Furthermore, the European Commission (EC) supported the organization's initiative at the European level to bring the main materials researchers from the various European countries closer together.



Figure 3. During the MRS-Europe 1983 meeting, serious discussions about the future of MRS-Europe dominate the discussion at the conference banquet, as Woody White (pointing) expresses the Materials Research Society's strong interest in fostering a successful European affiliate. Courtesy MRS Bulletin VIII (July/August 1983).

MRS-Europe initiated, as an experiment, the idea of "networks" in 1984. With this new concept in research, the organization launched over a dozen Thematic Networks (see Table I) on specific scientific or technical aspects of materials research. By organizing forums for discussions, MRS-Europe reached another objective, which was to bring researchers from the various countries into closer

1992
E-MRS organizes first major East/West Conference on Advanced Materials, to which 300 high-ranking materials scientists and engineers from the former Soviet Union (mainly from Russia and Ukraine) were invited. The exhibition coincided with the E-MRS 1992 Fall Meeting in Strasbourg, France. The European Commission supported this initiative. The event hosted a total of 1500 participants, including visitors to the accompanying Ukrainian Exhibition on Advanced Materials.

1993
A direct consequence of the E-MRS East/West Conference initiative in 1992 was the joint effort of the E-MRS 1993 Fall Conference in St. Petersburg, Russia, at the invitation of the Russian Academy of Science and the Russian Ministry for Research and Technology Policy as well as the city of St. Petersburg, where the future Russian president Vladimir Putin was present. The contacts established at both conferences (1992 and 1993) have created scientific as well as economical ties. In addition, the conferences created links for the European Commission to support advanced materials research and development in Russia in the European Framework Programmes.

1994
Joint Chinese Materials Research Society (C-MRS) and E-MRS Symposium on Electronic and Optoelectronic Materials held in Beijing, China, at the invitation of the Chinese Academy of Sciences and C-MRS.

1995
E-MRS 1995 Spring Meeting held at the European Council/European Parliament facilities in Strasbourg, France. More than 1200 scientists attended the conference, which offered 14 symposia with 1230 oral and poster presentations. The meeting provided a balance of topics on fundamental and applied research with medium- and short-term perspectives.

1996

E-MRS 1996 Spring Meeting held in Strasbourg, France. More than 1300 scientists and engineers of various disciplines attended, confirming that the annual E-MRS Meeting had developed into the largest forum in Europe for the presentation of new scientific ideas and innovative results in the challenging area of European materials research and development.

Joint E-MRS–MRS of Russia Conference on Radioactive Waste, Storage, Transportation, Recycling, Environment, and Human Impact held in St. Petersburg.

1997

Joint International Union of Materials Research Societies (IUMRS) International Conference on Advanced Materials (ICAM) and E-MRS Spring Meeting held in Strasbourg, France. IUMRS is the international body consisting of materials research societies worldwide. ICAM, its biannual large-scale materials science conference, is a means of worldwide exchange of the latest materials research results. More than 1110 materials scientists from more than 40 countries attended.

1998

E-MRS 1998 Spring Meeting held in Strasbourg, France. More than 1300 papers and posters were presented. The conference has established itself as the largest European “Advanced Materials Forum.”

1999

Contributions from the E-MRS 1999 Spring Meeting held in Strasbourg, France, are published within three months—a very short time—in CD-ROM format.

E-MRS organizes the 11th International Workshop on Room-Temperature Semiconductor X- and γ -Ray Detectors and Associated Electronics, held in Vienna, Austria. The workshop was organized at the International Atomic Energy Agency headquarters in Vienna. It was the continuation of a series of international meetings, the previous four of which were held at Ravello, Italy (1991); San Francisco, USA (1993); Grenoble, France (1995); and Boston, USA (1997).

contact with each other. More than 300 laboratories, involving approximately 3000 researchers and engineers in the materials field, participated in this initiative. This became an excellent venue for the researchers to prepare project proposals that were then submitted to the European Union’s Framework Programme I.

Two initiatives undertaken in the spirit of these networks were also unique at that time. MRS-Europe brought together leaders of national research programs on advanced materials operating in the various European countries in order to establish common links between them. Until then, no contacts existed between any of the different European agencies. MRS-Europe also organized workshops in the industrial sector, bringing together engineers from competitive companies.

These MRS-Europe initiatives, with the great help of both the European Commission and the Council of Europe, have been the seeds of what is now common in Europe, namely, the Network of Excellence and the European RDT projects, which must include different industries from different countries, as is now stated in all of the European framework programs.

These close collaborations with the European authorities encouraged MRS-Europe to adapt its logo as the organization became the European Materials Research Society, or E-MRS (Figure 4).

Legislation and Statutes

After a few years of operation as a club, E-MRS needed to become a legal entity with adopted statutes. At that time (1985–1986), however, there were no European mechanisms available. Therefore, the local laws were used as E-MRS chose to follow the specific laws of Alsace-Lorraine for its deposition to the court in Strasbourg. In line with these statutes, an elected executive committee and board of delegates were set up.

In order to avoid the possibility that any one country could take control of the Society, a complicated election procedure was established. Members had one vote for a candidate from their own country and a second vote for any other candidate from a broader European list.

E-MRS Today

Over the last 20 years, the E-MRS spring meetings have grown from the single symposium with about 150 participants into a meeting with 16 symposia and more than 1600 participants expected at the upcoming 2003 Spring Meeting, June 10–13 in Strasbourg. E-MRS now also organizes a fall meeting, held in Warsaw, Poland. The upcoming 2003 Fall Meeting (September 15–19) will include seven symposia, with an expected attendance of more than 700 scientists. The spring meeting moved to the Palais des Congrès in Strasbourg to accommodate the large meeting attendance in terms of symposia and participants. But despite this provision for increased capacity, meeting attendance has now expanded to the full occupancy of this new venue. Very recently, the E-MRS Headquarters moved to its new offices within the Centre National de la Recherche Scientifique (CNRS) in Strasbourg.

Table I: European Networks of E-MRS.

Non-Electronic Materials

- Network 2: Coordinator: Balkanski; Title: **Solid-state ionics.**
- Network 3: Coordinator: Fredriksson; Title: **Crystal growth and solidification of metals.**
- Network 4: Coordinator: Bottiger; Title: **New methods in metastable alloy production.**
- Network 8: Coordinator: Muster; Title: **Biomaterials.**
- Network 10: Coordinator: Chadwick; Title: **Pressure casting and metal-matrix composites.**
- Network 12A: Coordinator: Rizzuto; Title: **High- T_c massive superconductors.**
- Network 13: Coordinator: Legros; Title: **Materials research in microgravity.**
- Network 15: Coordinator: Waysand; Title: **Materials for low-temperature detectors.**

Electronic Materials

- Network 1: Coordinators: Boyd, Krimmel; Title: **Laser chemistry, beam, and photon processing.**
- Network 5: Coordinators: Sirtl, Wagner; Title: **High-resolution, high-sensitivity analysis of semiconductors.**
- Network 6: Coordinator: Bentini; Title: **Ion-beam processing of electronic materials.**
- Network 7: Coordinator: Triboulet; Title: **II–VI telluride-based semiconductors.**
- Network 9: Coordinator: Wettling; Title: **Gallium arsenide.**
- Network 11: Coordinator: Zerbi; Title: **Polyconjugated polymers.**
- Network 12B: Coordinators: Bongers, Habermeyer; Title: **High- T_c thin-film superconductors.**
- Network 14: Coordinator: Quilec; Title: **Indium-phosphide-based semiconductors.**



Figure 4. The logo evolved with the Society's name.



Figure 5. Welcome party of the Russian and Ukraine delegation at the first Academies of Sciences exhibition in the West organized in 1992 by E-MRS. Notice that current Russian president Vladimir Putin was a member of the Russian delegation. In 1991–1994, he was chair of the committee for foreign relations of the St. Petersburg Mayor's Office.

The nucleation and growth of MRS-Europe was a very important milestone in the development of international materials research activities. MRS-Europe was the first regional or national society to be founded that was closely affiliated with MRS in that its objectives were the dissemination of information on forefront topics of materials research. Subsequently, 10 other regional or national societies with similar objectives have been formed throughout the world. These societies, along with E-MRS and MRS, now constitute the member societies of the International Union of Materials Research Societies. Each society is responsible for its own organization and activities.

E-MRS played a major role in helping to create one of those societies, MRS-Russia (Figure 5), following the dissolution of the former Soviet Union. E-MRS has also taken initiatives to integrate the central European countries into its own membership. As far back as 1985, individuals from central European countries could belong to MRS-Europe. An E-MRS vice president from Poland has since been elected and an office has been opened in Cracow, Poland. In addition, several workshops have been organized in Ukraine and in Russia.

Conclusions

Many people have contributed to the formation and growth of E-MRS, and the Society today is a testament to their contributions. E-MRS received constant encouragement and support from MRS for its growth and development. Without this support, particularly in the early years, E-MRS would not exist today. Strong support from both the Council of Europe and the European Commission was also essential for its growth.

E-MRS demonstrated that the MRS-style technical meetings could be held in many different parts of the world and could provide opportunities for scientists in those areas to benefit by participation in interdisciplinary symposia in forefront topics of materials research. E-MRS also demonstrated the importance of international collaboration in materials research and proved that a technical society could play a major role in determining directions for regional materials research. The Society expects that much more international collaboration will be necessary to solve world problems such as energy, environment, health, and water, where materials will play very important roles.

E-MRS is a very young society when compared with centuries-old prestigious societies in Europe. Nevertheless, the last 20 years have been outstanding for E-MRS, and the future is very bright for which the international community of materials research professionals will be the major benefactor.

PAUL SIFFERT
E-MRS General Secretary

2000

Joint IUMRS International Conference on Electronic Materials (ICEM) and E-MRS Spring Meeting held in Strasbourg, France, the latest in the series of E-MRS conferences to have taken place at the Palais des Congrès in Strasbourg. About 1900 scientists and materials scientists worldwide attended, making this conference one of the largest interdisciplinary advanced materials meetings held in Europe. Eighteen symposia provided a total of more than 1760 oral and poster presentations at this "World Electronic Materials Meeting."

Inauguration of the E-MRS office in Cracow, Poland.

2001

E-MRS 2001 Spring Meeting held in Strasbourg, France. More than 1600 scientists of various disciplines attended the conference. Nineteen symposia with 1850 oral and poster presentations highlighted recent advances in the development and understanding of advanced materials.

2002

E-MRS 2002 Spring Meeting held in Strasbourg, France. Nineteen symposia, including the TPP7 International Conference (Plasma) and new topics such as colloids, offered a forum to the international materials community for fruitful discussions. More than 2120 papers and posters were presented.

E-MRS 2002 Fall Meeting held in three locations: Moscow, Russia, on Software Development for Process and Materials Design; Warsaw, Poland, on Interfacial Effects and Novel Properties in Nanomaterials; and Zakopane, Poland, on Solid Solutions of the II–IV Compounds—Growth, Characterization, and Applications.

E-MRS endorses the first Materials Science Forum on Future Sustainable Technologies, held in Augsburg, Germany.

E-MRS endorses Science for Materials 2002, held in Kiev, Ukraine.

