

1993 E-MRS Fall Meeting Marks East-West Milestone

The 1993 E-MRS Fall Meeting and 4th European East-West Conference and Exhibition on Materials and Processes was held October 17–21, 1993, in St. Petersburg, Russia. European Material Research Society President Peter A. Glasow characterized it as an "important milestone in the East-West relations of the E-MRS."

The event engaged the cooperation of the mayor of St. Petersburg, the Russian Ministry of Science and Technology, the Academia of Sciences of Russia and Ukraine, the Central Institute of Structural Materials (Prometey), the Commission of European Communities, the European Parliament, the Council of Europe, E-MRS, MatTech, and f.e.m.s. (Federation of European Materials Societies).

The Conference and Exhibition took place in a well-known historical site, the Tavia Palace, built during the reign of Catherine II. "The conference on advanced materials represented a really new dimension for those historical surroundings and attracted the interest not only of materials scientists but also of the Russian media and the general public," said Glasow in remarks to the *E-MRS Newsletter*.

About 650 attendees took part in the plenary meeting, symposia, exhibition, and several roundtable discussions. The symposia covered catalytic materials and coatings, ceramic materials (including in automobiles), manufacturing process control and qualification of advanced materials, materials under extreme conditions, biomaterials, and optical materials and laser technology for telecommunications.

The Vice President of the Russian Academy of Sciences, Mr. Nefedov, described a new Russian program for advanced materials. The program is not limited to a national framework and will be carried out in collaboration with west-

ern partners, particularly those in Europe. Mr. Yanpolsky, Vice Chairman of the State Committee for Defense Industries also emphasized the need for international collaboration. In a conversion process, 85% of the laboratories belonging to the former military industrial complex will be opened up in the near future, said Yanpolsky.

Only about 80 participants came from Western countries, but there were 150 speakers, mainly young scientists—as requested by E-MRS—and 160 posters. Of special interest were excursions to about 30 industrial locations and research centers in the St. Petersburg area. These firms and institutes, some still belonging to the military complex, are fully open to visitors.

Participants were polled for individual contributions to an E-MRS report, *Definition of East-West Research and Development Collaboration Areas in the Field of Advanced Materials*. This activity is strongly supported by the Commission of the European Communities in the hope that it will lead to new programs set up by the European Community.

Ceramics in the Automobile

Papers in this symposium spanned many topics, but a substantial group dealt with structural materials for demanding environments under high stress and high temperature, such as engine components. The work presented covered processing and characterization, measurements of properties linked to specific applications, and performances of specific tools fabricated using advanced materials. A considerable number of papers focused on high-temperature superconductors.

Other topics included ionic conductors for batteries and sensors, glass fibers, nanocomposites, and microwave-processed materials. According to R.J. Brook (Oxford, U.K.) one of the symposium

chairs, the symposium gave "the impression of a vigorous and wide ranging activity addressing questions predominantly raised by the determination to successfully apply the materials under consideration."

Materials Under Extreme Conditions

This symposium covered a variety of materials, e.g., high-temperature alloys; ceramics and composites under extreme thermal, chemical, and mechanical loads; and polymers in aggressive environments. About 50 oral and 130 poster contributions were announced, according to G. Kostorz (Zurich, Switzerland), one of the symposium chairs, but most of the Ukrainian authors were unable to attend so most of the presentations came from Russian authors.

Optical Materials and Laser Technology for Telecommunications

About 120 scientists gathered for this symposium, an appreciable contribution coming from the Vavilov State Optical Institute in St. Petersburg. These contributions were oriented toward optical bulk material such as glass, with remarkably high technological standards, reports Y. Nissim (Bagneux, France), co-chair of the symposium. The contribution from Western participants was limited to five presentations, but due to the difference in scientific approach, they all generated many questions and much interaction, said Nissim. Among them, Dr. Sapriel discussed the resonant acousto-optical properties of GaAs and InP, and Dr. Amzallag presented a new system for nonlinear optics composed of noncentrosymmetric layered GeSe films on (111) Si substrates. □

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