

Brazil-MRS Provides Mixture of Ethereal and Practical Topics in Materials Research

The second meeting of the Brazilian Materials Research Society (SBPMat, where the "P" stands for *pesquisa*, or "research"), held in Rio de Janeiro on October 26–29, 2003, was remarkable in several ways. First, every scheduled speaker was present. That reflected a remarkably intensive planning process that was evident well into the meeting, as the meeting's chair, SBPMat president Guillermo Solórzano (Pontifícia Universidade Católica do Rio de Janeiro), managed to accommodate the personal and professional needs of almost every individual at the conference. Some of those needs—like my six-year-old child demanding a Halloween celebration even though Halloween is not a Brazilian tradition—were far off the beaten trail. But guess who received a basket of Brazilian candy on Halloween?

Second, there was an intriguing mixture of ethereal and practical topics. On the ethereal side, I was fascinated by talks from researchers at Brazil's Laboratório Nacional de Luz Síncrotron: I had not realized it was possible to follow the transfer of electrons from one orbital to another along the different atoms of a crystal structure as an atom alights upon a substrate. Gorgeous atomic force microscope pictures of gold substrates and remarkable focused ion-beam work locating and isolating incredibly tiny (<20 nm) features in large-scale devices made for pleasing eye candy. Extracting nanoparticles from soil using plants certainly seemed a novel approach.

On the practical side, a number of talks were aimed toward utilizing Brazil's vast natural resources. One poster presentation showed how milling large-grained SiC made it densify more completely and at much lower temperatures than usual. This effect of particle size on sintering temperature was so well known that I asked the presenter why one even bothered with the experiment. The response—that Brazil had very large amounts of SiC that it could not sell on the world market because no one could demonstrate that it could sinter—put me in my place. I cannot recall the last time a work of mine generated a global market as this young man's had done. There were further interesting efforts—for example, the fabrication of clay–rubber nanocomposites that were translucent and highly birefringent, or the use of bamboo to make paper (one researcher handed out business cards that doubled as samples of this latest re-



(a) Merrilea J. Mayo (2003 President of MRS) gives the opening lecture at the second meeting of Brazil-MRS. (b) Materials researchers discuss one another's works at the poster session. (c) Meeting attendees enjoy informal discussions during the cocktail reception. (d) (Left to right) Ana Roditi (Brazilian Society for Materials Research), José Roberto Leite (Director of CNPq), Robert Nemanich (President of the International Union of Materials Research Societies), Guillermo Solórzano (President of Brazil-MRS), Merrilea J. Mayo (2003 President of MRS), and José Alberto dos Reis Parise (Dean of Pontifícia Universidade Católica do Rio de Janeiro) opened the second meeting of Brazil-MRS, held in Rio de Janeiro.

search). Although the conference of about 400 attendees overflowed with "big names" from North America and Europe, as well as hot topics (e.g., writing with atom probes and molecular inks), it was the Brazilian-specific topics that left me most entranced. They were not only sprinkled throughout the Current Trends

in Nanostructures session, where I spent most of my time, but also in the other sessions: Advances in the Development of Biomaterials II, Materials of Energy Conversion and Environmental Protection, Structural Alloys for Transport Systems, Processing/Properties of Structural Composites, and Supramolecular

Materials for Optics and Electronics. There was additionally a workshop on Growth, Characterization, and Device Applications of Semiconductor Nanostructures Based on Group III Nitrides, which I was not able to attend, but which I heard people talking about with anticipation several days before it started.

I had known before arriving in Rio de Janeiro that Brazil was by far the leading producer of scientific papers in South

America. I also knew it was about sixth in the world with respect to the number of materials degree programs it offered at its universities. I was therefore gratified that this second meeting of the Brazil-MRS was such an unqualified success. It paves the way for Brazil's entry into the International Union of Materials Research Societies and puts Brazil on the world map for materials research. The next Brazil-MRS meeting will convene in

approximately one year at Foz de Iguaçu (southeast Brazil). In 2005, the meeting will return to Rio de Janeiro, on Copacabana Beach, with perfect weather, swimsuits so small the locals call them "dental floss," and the inevitable strains of "The Girl from Ipanema" emanating equally from Muzaked conference rooms and small bands at outdoor cafes.

MERRILEA J. MAYO

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