

INTERACTIVE PAPER SYMPOSIUM FOCUSES ON PAPER AND ELECTRONICS

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THE FIRST INTERNATIONAL SYMPOSIUM ON INTERACTIVE PAPER FEATURED INTERDISCIPLINARY PRESENTATIONS SPANNING CHEMISTRY, PHYSICS, ELECTRONICS, AND CHEMICAL ENGINEERING.

IN ALL OF HISPANIC AMERICA, THE LEADER IN PULP AND paper education and research is probably the University of Guadalajara in Jalisco, Mexico. Its Departamento of Madera, Celulosa y Papel, headed by Felipe Ramirez Cano, draws students from all over Central and South America to interact with a young and vigorous faculty, educated mostly in Germany and the United States. Their debut as organizers of internationally important conferences was the convocation of the First International Symposium on Interactive Paper in Guadalajara, a city of some six million, Oct. 20-25, 1996.

After a welcome from Victor Manuel Gonzalez Romero, the rector general of the University of Guadalajara, Joseph D. Wright, president of PAPRICAN, had the distinction of giving the first scientific talk at what should become a regular and significant gathering, as the worlds of paper and electronics continue to collide. His talk, "Paper and the Electronic Age: evolution or revolution," set the stage for interdisciplinary presentations that spanned the chemistry, physics, electronics, and chemical engineering of interactive paper. He was followed by Dirk Meier, a young scientist from the University of Padenborn in Germany, who described two mathematical models for the "Removal of volatile organic compounds from paper coatings." G. Graham Allan of the University of Washington, Seattle gave a talk entitled "The potential of the microporosity of cellulose fibers for interactive paper," which discussed how substances capable of receiving and storing energy in some retrievable way might be located within the micropores of the cell wall of pulp.

The afternoon session consisted of presentations on the ways filler could be used for optical, thermal, and electrical recording in paper. These presentations were

"Electrical and surface properties of clay-conducting polymer composites" (M. P. Eastman of Northern Arizona University, Flagstaff, AZ); "Creating new particles for next-generation imaging requirements" (R. Partch of Clarkson University, Potsdam, NY); "The effects of PCC fillers on plain paper ink jet print quality" (A. J. Bauch of Specialty Minerals Inc., Bethlehem, PA); and "Reactive clays for the fixation and stabilization of dye precursors in interactive papers" (J. M. Dominguez of the Mexican Petroleum Institute, Mexico DF, Mexico).

The second day was opened by Tom Lindstrom (Möln och Domsjö AB, Örnsköldsvik, Sweden), with presentations on "New polymer electrolytes from cellulose/polyether networks" (A. Gandini, École Française de Papeterie et des Industries Graphiques, Grenoble, France) and "Paper with polymer/dye compositions as simple and highly sensitive sensors for radiation, chemicals, and electricity" (I. Petkov, University of Sofia, Bulgaria). A second morning session was moderated by J. Puig, chairman of the Chemical Engineering Department of the University of Guadalajara. V. Barachevsky (Institute of Chemical Physics of the Russian Academy of Sciences, Moscow) discussed his research on "Photopolymerizable heterogeneous systems for non-silver light sensitive color papers," which led into a review of "Interactive paper as a security substrate" (J. J. Robillard of University of Guadalajara, Jalisco, Mexico).

In the afternoon, A. W. H. Mau (CSIRO, Clayton, Victoria, Australia) continued with a description of "Polybutadiene films for optical and electrical addressing and retrieval," followed by A. M. Martinez (Eastman Kodak, Rochester, NY), who presented "The effect of resin coated paper support on photographic stability." R. Lessard (Université Laval, Quebec, Canada) then outlined

"The use of interactive paper in holographic recording" as a prelude to an expose of "The influence of microbial contamination on the quality of printing paper" by Linda R. Robertson (Nalco, Naperville, IL).

Evening activities included a trip to the picturesque pueblo of Tlaquepaque and a performance of ancient Mexican music and dance in one of the numerous courtyards of El Refugio, a grand colonial edifice. A typical Mexican banquet followed, enlivened by a singsong initiated by R. Johnston of the Australia Pulp and Paper Institute and Monash University. He broke the ice with a refrain about dingoes, although probably not too many of the attendees were familiar with these creatures, and no enlightenment was provided. R. Lessard then assumed the role of emcee, and in rollicking Québécois style and with a lubrication of fine tequila, cajoled every nationality present to come to the microphone and sing! American, Bulgarian, Canadian, Chinese, Colombian, Cuban, French, German, Italian, Japanese, Scottish, and Swedish songs wafted through the warm Mexican night. When the nationals were exhausted, Joseph Wright gave a brief piano recital and sang a duet with Lessard.

Those that were still not exhausted the following morning toured the excellent pulp and paper facilities of the University of Guadalajara, which are located some distance from the main campus. Thereafter, spirits were restored by a visit to a tequila factory, followed by a folkloric evening of Mexican singing and dancing at the classic Teatro Degollado in Old Guadalajara.

The last morning of the conference, the chairman (R. Partch) and the speakers were all from the United States. S. V. Kanakkanatt (University of Akron, OH) began with a discussion of "Photoerasing paper and thermocoloring film" and showed specimens of such materials based on spirobenzopyrans. S. K. Tripathy (University of Massachusetts, Lowell, MA) followed with a fascinating description of "New paper-based photonic materials for recording and retrieval." A new class of donor-acceptor functionalized azo chromophores attached to polymers was particularly intriguing for the storage of erasable optical data.

After a panel discussion at midday on the future of interactive paper, the afternoon session consisted of presentations on "The potential use of individual components in interactive paper" by Robillard; "Fiber properties and their influence on paper structures" (J. Turrado Saucedo, University of Guadalajara, Jalisco, Mexico); and "Interactive paper for integrated circuits" (Garnier, CNRS, Paris, France).

The conference concluded with a special vote of thanks to professors E. Delgado Fornue and J.J. Robillard for their creativity and initiative in organizing this new type of paper symposium and for arranging the forthcoming publication of the conference proceedings in book form. **TJ**

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