Flexible Electronics 2004—Materials and Device Technology

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Flexible Electronics 2004—Materials and Device Technology

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PREFACE

Flexible electronics is a multidisciplinary research topic with far reaching impact in a number of areas including flat panel displays, organic electronics, and distributed macro-electronic systems and architectures. In fact, flexible electronics covers the whole spectrum from materials and processes for manufacturing thin layers of organic and inorganic semiconductors, dielectrics and other functional layers on thin and flexible substrates, the design and realization of actual electronic devices and dedicated concepts and design methods for implementing complete electronic systems on flexible substrates. Specifically this includes research and development in the fields of flexible interconnects, organic and inorganic thin film transistor processes and display, sensor and photovoltaics concepts that are compatible with the specific constraints of flexible substrates such as low thermal budget, low dimensional stability and mechanical stresses. The synergy between materials, device and system technologies will be the primary driver for pushing large area flexible electronics and optoelectronics into mass market applications with bright commercial prospects.

Symposium I, "Flexible Electronics 2004—Materials and Device Technology," was held April 13–16 at the 2004 MRS Spring Meeting in San Francisco, California. Like the first flexible electronics symposium in 2003, it has been a common forum for materials and device technologists in the field of flexible electronics. With good attendance and high quality papers and posters, the symposium had been very successful in accomplishing the objective of covering the most recent developments in flexible electronics. Though the primary emphasis was on materials and device technologies, the symposium also featured a number of excellent presentations on business and applications aspects of flexible electronics.

The organizers would like to thank all of the authors for their excellent presentations. MRS headquarter staff has been very helpful in planning and organizing this symposium. Finally, the organizers are thankful to MCNC Research & Development Institute and Dr. Robert Reuss, DARPA Microsystems Technology Office, for their support.

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