

ORGANIC ELECTRONICS

This special section of the *Journal of Materials Research* contains articles that were accepted in response to an invitation for manuscripts.

Introduction

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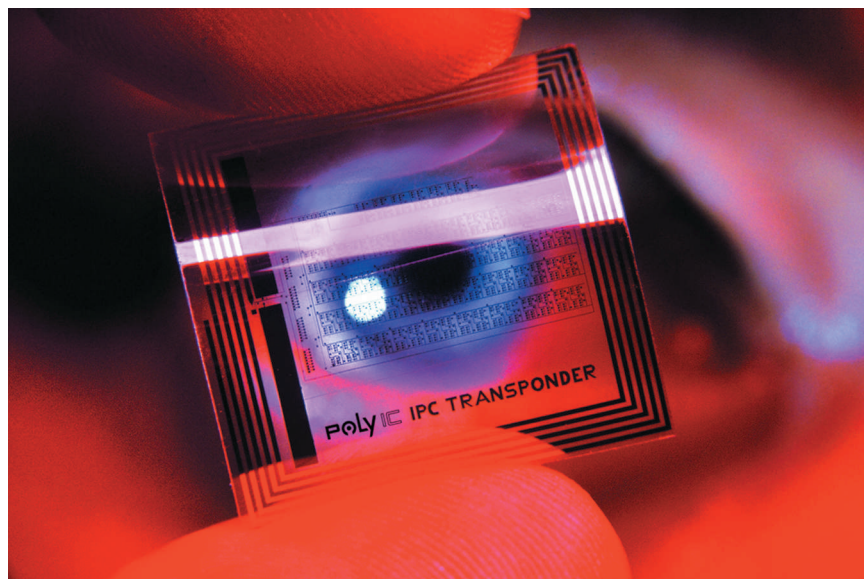
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RFID-tag prototype using the organic semiconductor polythiophen. The integrated circuit was fabricated using a printing process (see paper by W. Clemens et al. in this issue).

About 50 years after the invention of the transistor, silicon still is the material of choice for the fabrication of high-performance semiconductor devices. In recent years, however, a new class of materials, organic semiconductors, has attracted considerable interest for applications as active compounds in low-cost semiconductor devices. Organic semiconductors, consisting of either polymers or large molecules, are being investigated by an increasing number of groups worldwide. Displays based on organic light-emitting diodes have already made their way into commercial products such as car radios and shavers, and semiconductor devices like organic field-effect transistors have been demonstrated and are being rapidly improved.

Topics related to organic electronics have been featured in many international conferences and MRS symposia. This focus issue of the *Journal of Materials Research* contains a number of papers, both invited reviews and progress reports, contributed by authors from different fields. They provide a fairly complete overview of the current status of the field. Papers contained in this issue cover virtually all aspects of organic electronics, from the identification of appropriate molecules and polymers, to the growth of high-quality organic adlayers on appropriate substrates, the fabrication of devices for commercial applications, and the determination of the electrical characteristics of organic electronic devices.

Compared to the field of conventional semiconductor electronics, the field of organic electronics is still in its infancy. Although it is virtually impossible to identify all the topics that will be important in the years to come, this

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issue contains an excellent description of the main current topics in this rapidly developing field, particularly in the review papers. These topics are related to both fundamental research and applications; that is, the fabrication of prototype devices. We can wager that the years to come will bring further significant progress concerning material issues, with an emphasis on the introduction of new polymeric and molecular materials. New fabrication strategies will also be developed, in particular with respect to the tailoring of metal–organic interfaces.

In order to represent accurately the current status of

this rapidly evolving field, we decided to enforce a rather tight schedule for the submission of articles and the subsequent review process. We would like to thank all authors for their willingness to accept the deadlines, and we are grateful to all referees for their timely responses. Putting together this focus issue would not have been possible without the expertise of the JMR staff. We would like to thank Linda Baker, Eileen Kiley, and Gordon Pike, Editor-in-Chief, for their unwavering support. It is clear that this issue would never have appeared without their assistance.