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978-1-107-40833-3 - Concepts in Molecular and Organic Electronics: Materials Research Society
Symposium Proceedings: Volume 1154

Editors: Norbert Koch, Egbert Zojer, Saw-Wai Hla and Xiaoyang Zhu

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**MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 1154**

Concepts in Molecular and Organic Electronics

Symposium held April 13–17, San Francisco, California, U.S.A.

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PREFACE

This proceedings volume contains contributions presented at Symposium B, "Concepts in Molecular and Organic Electronics," held April 13–17 at the 2009 MRS Spring Meeting in San Francisco, California. Organic electronics holds the promise of applications like flexible displays, cheap to produce solar cells and printable electronic circuits. Molecular electronics, on the other hand, aims at ultimate miniaturization with monolayers or even single molecules as the active elements of electronic devices. Research in both areas has been booming over the past years. This symposium focused on stimulating the information interchange between the two communities. Its goal was to encourage scientists to adopt approaches and concepts in their own work from the "other" community. With over three hundred contributions, the resonance in the scientific community to this idea was exceedingly positive. The covered scientific topics included molecular scale electronics, where the absolute need for good statistics when evaluating experimental data was repeatedly stressed, and recent progress in this direction was demonstrated. The session dealing with interfaces as the crucial elements for understanding both macroscopic organic as well as molecular electronics clearly showed the necessity of a multi-disciplinary approach. In particular, improved theoretical approaches for interface modeling were identified to be of truly common interest to the two communities. Charge transport phenomena on several lengths scales, and new developments for different types of organic devices, namely transistors, sensors, solar cells and light emitting devices, were also reported, and the viability of the organic-based technology was highlighted. As symposium organizers, we are particularly grateful to all the participants, who made the symposium a highly stimulating scientific experience, and to all the authors who contributed papers to this proceedings.

Symposium B and this proceedings volume are dedicated to the memory of Bert de Boer. Much to everyone's regret, Bert died in late January 2009. Bert de Boer made significant contributions to the field of organic and molecular devices and was a co-organizer of the symposium. We will always remember him as a highly valued colleague and friend.

Norbert Koch
Egbert Zojer
Saw-Wai Hla
Xiaoyang Zhu

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