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978-1-605-11471-2 — Oxide Semiconductors and Thin Films

Edited by André Schleife , Martin Allen , Craig B. Arnold , Steven M. Durbin , Nini Pryds , Christof W. Schneider , Tim Veal

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**MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 1494**

Oxide Semiconductors and Thin Films

Symposia held November 25–30, 2012, Boston, Massachusetts, U.S.A.

EDITORS

André Schleife

Lawrence Livermore National Laboratory
Livermore, California, U.S.A.

Martin Allen

University of Canterbury
Christchurch, New Zealand

Craig B. Arnold

Princeton University
Princeton, New Jersey, U.S.A.

Steven M. Durbin

University at Buffalo, The State University of New York
Buffalo, New York, U.S.A.

Nini Pryds

Technical University of Denmark
Roskilde, Denmark

Christof W. Schneider

Paul Scherrer Institute
Villigen PSI, Switzerland

Tim Veal

University of Liverpool
Liverpool, U.K.



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PREFACE

Symposium Z, “Oxide Semiconductors,” and Symposium F, “Oxide Thin Films for Renewable Energy Applications,” were held Nov. 25–Nov. 30 at the 2012 MRS Fall Meeting in Boston, Massachusetts.

Oxide materials are attracting considerable attention both as semiconductors for a wide range of potential device applications but also in energy research spanning from photo- and electro-catalysis, to electrolytes and electrodes used in batteries or fuel cells. This symposium proceedings volume collects recent reports from the meeting aimed at providing a fundamental understanding of bulk oxide materials as well as thin films and nano-structures. The topics covered in this volume are quite broad and include such areas as growth and doping, defects and characterization, and device applications. For convenience, the papers are divided into three sections: (1) ZnO and Related Materials, (2) Non-ZnO Oxides, and (3) Devices and Applications.

All the contributions to the symposia focused on solving pressing issues and providing scientific insight. We hope that the reader finds this collection of papers to convey the multidisciplinary approach of physics, chemistry, materials science, and engineering needed to advance this field.

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Martin Allen
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The papers published in this volume result from two MRS Fall 2012 symposia—Z and F. We sincerely thank all of the oral and poster presenters of the symposia who contributed to this proceedings volume. In particular, we are grateful to the many invited speakers all of whom provided well-attended and valuable additions to the meeting. We also thank the reviewers of these manuscripts, who provided valuable feedback to the editors and to the authors. It is an understatement to say that the symposia and the proceedings would not have happened without the organizational help of the Materials Research Society and its staff, particularly the publications staff for guiding us smoothly through the submission/review process. The organizers of Symposium Z thank the Air Force Research Laboratory for its financial support under grant W911NF-13-1-0021.

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