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Advanced Structural Materials—2012

**MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 1485**

Advanced Structural Materials—2012

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PREFACE

This volume is a compilation of papers that were presented at the Symposium 7D of the XXI International Conference of the Mexican Academy of Materials Science – MRS Mexico, organized in collaboration with MRS, “Advanced Structural Materials” which was held from August 13th to 18th, 2012 in Cancun, Mexico. The symposium was devoted to fundamental and technological applications of structural materials, and continued the tradition of providing a forum for scientists from various backgrounds with a common interest in the development and use of structural materials to come together and share their findings and expertise.

The papers contained in this volume are a collection of invited and contributed papers. This year, the symposium was attended by participants from Argentina, Brazil, Canada, Czech Republic, France, India, Japan, Korea, Mexico, Poland, Turkey, Spain, Switzerland, The United States, Ukraine and United Kingdom. All papers have been thoroughly reviewed by at least two referees and edited to the standards of the Materials Research Society. We are grateful to all those referees who, by their comments and constructive criticism, helped to improve the finally printed papers, and to all the authors who made additional efforts to prepare their manuscripts.

The Advanced Structural Materials symposium has been held for the last 15 years with the objective of presenting overviews and recent investigations related to advanced structural metallic, ceramic and composite materials. The topics include innovative processing, phase transformations, mechanical properties, oxidation resistance, modeling and the relationship between processing, microstructure and mechanical behavior. Additionally, papers on industrial application and metrology are included.

The organizing committee gratefully acknowledges the enthusiastic cooperation of all symposium participants, as well as the kind acceptance of the editorial committee of Materials Research Society to publish these proceedings. The financial support of the Instituto Politécnico Nacional (IPN, Mexico) and the Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV-IPN) is also acknowledged. We hope that all readers will come to consider Advanced Structural Materials symposium at Cancun as a suitable forum to present results of their recent research and experience.

Greetings from the Organizing Committee

The organizing committee:

Heberto Balmori-Ramírez (Instituto Politécnico Nacional).

Hector A. Calderon-Benavides (Instituto Politécnico Nacional).

Armando Salinas-Rodríguez (Centro de Investigación y de Estudios Avanzados del IPN).

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