

# Cement & Concrete Composites

## Editor

**J. E. BOLANDER**

Department of Civil and Environmental Engineering, University of California–Davis, Davis, CA 95616, USA

## Associate Editors

**D. P. BENTZ**

National Institute of Standards and Technology, Gaithersburg, MD, USA

**O. Kayali**

University of New South Wales, Canberra, Australia

## Honorary Editor

**R. N. SWAMY**

## Editorial Board

**M. Alexander**

University of Cape Town, Rondebosch, Cape Town, South Africa

**N. Banthia**

University of British Columbia, Vancouver, BC, Canada

**J. J. Beaudoin**

National Research Council Canada, Ottawa, Canada

**A. Brandt**

Polish Academy of Sciences, Warszawa, Poland

**S. Chandra**

Gothenburg University, Gothenburg, Sweden

**M. Collepardi**

ENCO Srl, Ponzano Veneto, Italy

**S. Diamond**

Purdue University, West Lafayette, IN, USA

**K. Ghavami**

Pontificia Universidade Catolica/PUC-Rio, Rio de Janeiro, Brazil

**M. N. Haque**

Kuwait University, Safat, Kuwait

**H. Justnes**

Sintef Civil & Environmental Engineering, Trondheim, Norway

**M. Kawamura**

Kanazawa University, Ishikawa, Japan

**V. Kodur**

Michigan State University (MSU), East Lansing, MI, USA

**K. Kovler**

Israel Institute of Technology, Haifa, Israel

**K. Kurtis**

Georgia Institute of Technology, Atlanta, GA, USA

**Y. M. Lim**

Yonsei University, Seoul, South Korea

**P. Lura**

EMPA, Dübendorf, Switzerland  
ETH Zürich, Switzerland

**M. Maslehuddin**

King Fahd University of Petroleum and Minerals, Dhahran, Saudia Arabia

**M. F. Montemor**

Universidade Técnica de Lisboa, São João De Deus, Lisboa, Portugal

**A. E. Naaman**

The University of Michigan, Ann Arbor, MI, USA

**N. Neithalath**

Arizona State University, Tempe, AZ, USA

**J. Pera**

Institut National des Sciences Appliquées de Lyon, URG – Matériaux, Villeurbanne, France

**A. G. Razaqpur**

McMaster University, Ontario, Canada

**M. Sahmaran**

University of Gaziantep, Gaziantep, Turkey

**C. Shi**

Hunan University, Hunan, China

**V. Slowik**

Leipzig University of Applied Sciences, Leipzig, Germany

**G. Spadea**

University of Calabria, Rende, Italy

**K. H. Tan**

National University of Singapore, Singapore

This journal is designed to reflect current developments and advances being made in the general field of cement-concrete composites technology and in the production, use, and performance of cement-based construction materials. The word cement is interpreted in a wide sense, including not only Portland cement but also blended cements and other binding materials. In addition to novel aspects of conventional concrete materials, the journal covers a wide range of composite materials such as fiber-reinforced cement composites, polymer cement composites, polymer impregnated composites, ferrocement, and cement composites containing special aggregate inclusions or waste materials. Original papers dealing with microstructure (as it relates to engineering properties), material properties, testing and test methods, fracture mechanics, durability aspects, composite mechanics/technology, modelling, design, fabrication and practical applications of these materials form the major themes of the journal. Provided there is sufficient linkage to properties defined at the

material scale, papers concerning the behavior of structural components and systems, in situ performance, and field studies will also be accepted for review, as well as those concerning the repair and maintenance, serviceability behavior, and sustainability of structures made with these materials.

The journal has within the above context several specific objectives. It wants to foster a better understanding of construction materials, provide a forum for unusual and unconventional materials, encourage the development of low cost energy saving materials and bridge the gap between materials science, engineering performance, environmental effects, in situ behavior, design/service life and construction. It is the intention of the journal to also publish special issues devoted to topics of current or emerging interest. The journal aims to provide a unifying basis for collaboration between materials scientists, engineers, designers and fabricators.

**Orders, claims, and journal enquiries:** please contact the Elsevier Customer Service Department nearest you:

**St. Louis:** Elsevier Customer Service Department, 3251 Riverport Lane, Maryland Heights, MO 63043, USA; phone: (877) 8397126 [toll free within the USA]; (+1) (314) 4478878 [outside the USA]; fax: (+1) (314) 4478077; e-mail: [JournalCustomerService-usa@elsevier.com](mailto:JournalCustomerService-usa@elsevier.com)

**Oxford:** Elsevier Customer Service Department, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) (1865) 843434; fax: (+44) (1865) 843970; e-mail: [JournalsCustomerServiceEMEA@elsevier.com](mailto:JournalsCustomerServiceEMEA@elsevier.com)

**Tokyo:** Elsevier Customer Service Department, 4F Higashi-Azabu, 1-Chome Bldg, 1-9-15 Higashi-Azabu, Minato-Ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5037; fax: (+81) (3) 5561 5047; e-mail: [JournalsCustomerServiceJapan@elsevier.com](mailto:JournalsCustomerServiceJapan@elsevier.com)

**Singapore:** Elsevier Customer Service Department, 3 Killiney Road, #08-01 Winsland House I, Singapore 239519; phone: (+65) 63490222; fax: (+65) 67331510; e-mail: [JournalsCustomerServiceAPAC@elsevier.com](mailto:JournalsCustomerServiceAPAC@elsevier.com)

© 2011 Elsevier Ltd.