

Structural Engineering International



Information on submitting papers:
<http://www.iabse.org>

Publisher

IABSE
ETH-Hönggerberg
CH-8093 Zurich, Switzerland
Tel: Int +41-44-633 2647
Fax: Int +41-44-633 1241
e-mail: secretariat@iabse.org
web: <http://www.iabse.org>

SEI Editorial Board

S.F. Bailey, Chairman.
M. G. Bruschi, M. Faber, T. Keller.
S. Nakamura, B. Snijder, J.A. Wium.
A. Golay.

Publications Manager

Ms Brindarica Bose

Correspondents

China: D. Xu. Denmark: N. P. Höj.
Egypt: F. Saad. Finland:
M.-K. Söderqvist. France: B. Godart.
Germany: U. Kuhlmann. India: V. Kumar.
Italy: G. Bignotti. L. Ceriolo.
Japan: J. Kanda. Korea: H.M. Koh.
Norway: L. Toverud. Poland: W. Radomski.
Russia: S.V. Mozalev. Sweden:
H. Sundquist. Thailand: E. Limsuwan.
UK: D. K. Doran. USA: J. Burns.
D. Frangopol.

Advertising Inquiries

Ms Sissel Niggeler, IABSE

Printer

Multicolor Print AG, CH-6341 Baar

Published

Quarterly: 1 Feb., 1 May, 1 Aug., 1 Nov.

Price

Included in IABSE Membership.
Subscription: 216 Swiss Francs (CHF)
including mailing costs.
Available through subscription agencies.

ISSN 1016-8664, E-ISSN 1683-0350

Copyright © IABSE. All rights reserved.
Opinions and positions expressed in signed
articles are those of the authors and are not
necessarily those of *Structural Engineering
International* or IABSE.

Front cover:

Launch of Thurrock Viaduct, UK
Photo: Ros Orpin/Morgan Vinci

See article on page 145

Editorial

Developmental Conscience in Engineering 121
S. S. Chakraborty, India

Information and Communication Technology for Structural Engineering

Information and Communication Technology in Structural Engineering: 122
An Introduction, *J. H. Garrett Jr, USA*
Conceptual Design – How It Can Be Improved, *J. Miles, UK* 122
Applications of Virtual Design and Construction in the Building Industry 129
K. Beucke, B. Bürklin, J. Hanff, D. Schaper, Germany
Progress Manager: IT-Support for Progress Data Collection
on Construction Sites, *J. Reinhardt, J. H. Garrett, USA; B. Firmenich,* 135
K. Beucke, H. Kreuzjans, W. Katzer, Germany
IT – Supported Collaboration for Structural Engineering 139
J. Miles, UK

Structures Worldwide

Launching Thurrock Viaduct, United Kingdom 145
M. Kirk, P. Tavernier, UK; W. Paschetta, France
Widening of the Elche de la Sierra Arch Bridge, Spain 148
P. Tanner, J. L. Bellod, Spain
Retrofitting of Tautendorf Valley Bridge in Highway A9 Berlin, Germany 151
K. H. Reintjes, H. Wolf, Germany

Science and Technology

Temperature in the Box Girder of the Normandy Bridge 156
J.-M. Lucas, UK; M. Virlogeux, C. Louis, France
Non-linear Finite Element Analysis of Masonry Arches 166
for Prediction of Collapse Load, *P. Kumar, N. M. Bhandari, India*

Reports

Stress Variation of External Tendons under Live Load 176
in Prestressed Concrete Bridges, *C. Liu, D. Xu, A. Chen, China*
Cable Force Determination for the Danube Channel Bridge in Vienna 181
R. Geier, Austria; G. De Roeck, Belgium; J. Petz, Austria
A New Category of Semi-integral Abutment in China 186
X. Jin, X. Shao, W. Peng, B. Yan, China
Design for Tsunamis – Coastal Engineering Considerations 189
J. Hinwood, Australia
Disaster Reduction on the Coasts of the Indian Ocean 193
P. Grundy, Australia

Panorama

Role of Structural Engineers towards Reduction of Poverty 197
IABSE Conference New Delhi, India, February 19–22, 2005
IABSE Symposium, Lisbon, Portugal, September 14–17, 2005 200
Brückenbauer aus Leidenschaft – Hans Wittfoht 202
Calendar of Events 203
IABSE Members' Business Cards 203
Application for IABSE Membership 204

Abstracting and Indexing: This publication is abstracted quarterly in Cambridge Scientific Abstracts under CSA Civil Engineering Abstracts: <http://www.csa.com/engineering>, at Emerald Abstracts, International Civil Engineering Abstracts: <http://www.emeraldinsight.com/abstracts>, and at Construction and Building Abstracts (CBA): <http://www.cbaweb.co.uk/>