2009 SEAOC CONVENTION TECHNICAL PRESENTATIONS

PREFACE
The following are unedited papers presented by the authors at the 2009 SEAOC Convention. These papers reflect the opinions, positions, and commentary of the authors and do not represent a consensus viewpoint of the Structural Engineers Association of California. The material presented in this publication should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability, and applicability by qualified professionals. This document is not intended, nor should it establish or define a "standard of care" or a "standard of practice". Users of information from this publication assume all liability from such use.

1. Retrofit of the Los Angeles World Airport Building by Mass Dampers
   H. Kit Miyamoto, Amir S.J. Gilani, Jaime Garza, Scott Markle, and Stephen A. Mahin

19. Advance Performance Based Analysis for Seismic Retrofit of a Historic High Rise Building
   Anindya Dutta, Ronald O. Hamburger, Ahmet Citipitioglu, and Stephen T. Bono

35. Resilience Criteria for Seismic Evaluation of Existing Buildings:
   A Proposal to Supplement ASCE 31 for Intermediate Performance Objectives
   David Bonowitz

45. SEAOC's Earthquake Performance Evaluation Program: An Update
   Fred Turner, Anthony Court, David McCormick, and Joseph Valancius

63. Stanford University Peterson Hall Renovation: A Case Study of Engineers' Pro-Active Participation in a Seismic Retrofit Project
   Raymond Pugliesi and Nick Alexander

69. Investigation of the Seismic Response of Slender Planar Concrete Walls
   Anna Birely, Joshua Pugh, Laura N. Lowes, Dawn E. Lehman, Daniel Kuchma, Chris Hart, and Ken Marley

81. Shake Table Testing of a Seven-Story Mixed-Use Condominium at Japan's E-Defense
   John W. van de Lindt, Steven E. Pryor, and Shiling Pei

91. Higher-Mode Effects in Performance-Based Seismic Design of High-Rise Buildings
   Gabriele Guerrini and Jose' Restrepo

111. Performance Based Plastic Design (PBPD) Method for Earthquake-Resistant Structures:
     An Overview
     Subhash C. Goel, Shih-Ho Chao, Wen-Cheng Liao, and Mohammad Reza Bayat

125. Comparison of Seismic Demands for a Three-Story SCBF System Considering Fiber and Finite Element Models
     Stephen Mahin, Chui-Hsin Chen, and Yuli Huang
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>143</td>
<td><strong>United States Courthouse:</strong> Integration of Architecture, Seismic Design, Blast and Progressive Collapse&lt;br&gt;Diana E. Nishi, Paul K. Kagoo, and Thomas A. Sabol</td>
<td></td>
</tr>
<tr>
<td>161</td>
<td><strong>Optimization Tools for the Design of Structures</strong>&lt;br&gt;Mark Sarkisian, Eric Long, Chung-Soo Doo, and David Shook</td>
<td></td>
</tr>
<tr>
<td>177</td>
<td><strong>21st Century High Rise Structures in Dubai</strong>&lt;br&gt;Peyman Mohajer, Farhad H Shad, and S.K.Ghosh</td>
<td></td>
</tr>
<tr>
<td>195</td>
<td><strong>Long-Span Bridges and the Art of American Bridge Engineering</strong>&lt;br&gt;Roumen V. Mladjov</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>MGM City Center – A City Within a City:</strong> Peer Review Lessons Learned&lt;br&gt;Saiful Islam, Sampson Huang, Matthew Skokan, and Metin Oguzmert</td>
<td></td>
</tr>
<tr>
<td>213</td>
<td><strong>SEAOC Blue Book:</strong> Seismic Design Recommendations 1959 to 2008&lt;br&gt;John Diebold, Kevin Moore, and Gary Mochizuki</td>
<td></td>
</tr>
<tr>
<td>219</td>
<td><strong>Report on Laboratory Testing of Anchor Bolts Connecting Wood Sill Plates to Concrete with Minimum Edge Distance</strong>&lt;br&gt;W. Andrew Fennell, Gary S. Mochizuki, Kevin S. Moore, Thomas D. Van Dorpe, Philip Line and Thomas A. Voss</td>
<td></td>
</tr>
<tr>
<td>225</td>
<td><strong>Do Complex Codes Produce Safe Designs?</strong>&lt;br&gt;Brent Nuttall</td>
<td></td>
</tr>
<tr>
<td>235</td>
<td><strong>The Quality Assurance Plan of AISC 341</strong>&lt;br&gt;SEAONC Construction Quality Assurance Committee</td>
<td></td>
</tr>
<tr>
<td>245</td>
<td><strong>NEHRP Seismic Design Technical Brief No. 2 – Seismic Design of Steel Special Moment Frames:</strong> A Guide for Practicing Engineers&lt;br&gt;Scott M. Adan, Ronald O. Hamburger, Helmut Krawinkler, and James O. Malley</td>
<td></td>
</tr>
<tr>
<td>253</td>
<td><strong>Viscous Dampers Used to Renovate Twin 17-Story State Buildings</strong>&lt;br&gt;Arthur E. Ross &amp; Kenneth A. Luttrell</td>
<td></td>
</tr>
<tr>
<td>275</td>
<td><strong>Reducing the Risks of Nonstructural Earthquake Damage:</strong> The Structural Engineer’s Role and Responsibility&lt;br&gt;Maryann Phipps, Cynthia Perry, and Ayse Hortacsu</td>
<td></td>
</tr>
<tr>
<td>285</td>
<td><strong>The Structural Engineer’s Responsibility to Provide Constructible and Inspectable Details</strong>&lt;br&gt;Ronald LaPlante</td>
<td></td>
</tr>
</tbody>
</table>
295 The Sustainable Practice of Reusing Buildings
David Cocke and Ben Hays

303 Wood – A Natural Choice for a Structural Sustainable Building Material
Michelle Kam-Biron and Lisa Podesto

329 Engineering for Most of the World: Tips on Working in Lesser Developed Countries
Eric Lehmkuhl

339 A New Method for Collector Design in Stiff Diaphragms
Benjamin Mohr and Stephen K. Harris

345 Higher Mode Effects on the Seismic Response of Tall Cantilever Wall Buildings Subjected to Near Fault Ground Motions
Marios Panagiotou, Vladimir Calugaru, and Tea Visnjic

359 “First in California” 55 Story Tower, Using Un-Stiffened Thin Steel Plates
Nabih Youssef, Ryan Wilkerson, Kurt Fischer and Daniel Tunick

379 Performance-Based Design of Tall Buildings: A Comparison of Recent Projects
SEAONC Performance-Based Design of Tall Buildings Committee

393 Sensitivity Analysis of a Modeling Scheme for Masonry-Infilled RC Frames
Andreas Stavridis and Benson Shing

409 Performance-Based Seismic Design of a Large Seismically Isolated Structure: Istanbul Sabiha Gökçen International Airport Terminal Building
Atila Zekioglu, Huseyin Darama, and Baris Erkus

429 Modal-Pushover-Based Ground Motion Scaling Procedure for Nonlinear Response History Analysis of Structures
Erol Kalkan and Anil K. Chopra

443 A Direct Analysis Method for Drift-Sensitive Steel Moment Frames
John L. Harris III
PREFACE
The following are unedited papers that the 2009 SEAOC Convention Technical Committee deemed deserving of inclusion in the Proceedings. These papers were not presented at the Convention due to logistical constraints. These papers reflect the opinions, positions, and commentary of the authors and do not represent a consensus viewpoint of the Structural Engineers Association of California. The material presented in this publication should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability, and applicability by qualified professionals. This document is not intended, nor should it establish or define a "standard of care" or a "standard of practice". Users of information from this publication assume all liability from such use.

461 Parking Structure Overload Damage: Investigation and Repair
Scott M. Adan and René W. Luft

467 Response of a Low Rise Steel Building to Air Blast
Young Seo Hwang and James C. Anderson

475 B.I.M. Solving the Problems in Design-to-Construction Implementation That We Have Created?
Richard L. Hess