

# Contents

<b>1</b>	<b>The George E. Brown, Jr., Network for Earthquake Engineering Simulation (NEES): Reducing the Impact of EQs and Tsunamis .....</b>	<b>1</b>
	Julio A. Ramirez	
<b>2</b>	<b>A Faceted Lightweight Ontology for Earthquake Engineering Research Projects and Experiments .....</b>	<b>11</b>
	Rashedul Hasan, Feroz Farazi, Oreste Salvatore Bursi and Md Shahin Reza	
<b>3</b>	<b>The SERIES Virtual Database: Architecture and Implementation .....</b>	<b>21</b>
	Ignacio Lamata Martínez, Ioannid Ioannidis, Christos Fidas, Martin S. Williams and Pierre Pegon	
<b>4</b>	<b>The SERIES Virtual Database: Exchange Data Format and Local/Central Databases .....</b>	<b>31</b>
	Anna Bosi, Ilias Kotinas, Ignacio Lamata Martínez, Stathis Bousias, Jean Louis Chazelas, Martin Dietz, Rashedul Hasan, Gopal S. P. Madabhushi, Andrea Prota, Anthony Blakeborough and Pierre Pegon	
<b>5</b>	<b>Qualification of Seismic Research Testing Facilities in Europe.....</b>	<b>49</b>
	Maurizio A. Zola and Fabio Taucer	
<b>6</b>	<b>Towards Faster Computations and Accurate Execution of Real-Time Hybrid Simulation .....</b>	<b>65</b>
	Khalid M. Mosalam and Selim Günay	
<b>7</b>	<b>Pseudo-Dynamic Testing Based on Non-linear Dynamic Substructuring of a Reinforced Concrete Bridge .....</b>	<b>83</b>
	Giuseppe Abbiati, Oreste Salvatore Bursi, Enrico Cazzador, Rosario Ceravolo, Zhu Mei, Fabrizio Paolacci and Pierre Pegon	

<b>8 Geographically Distributed Continuous Hybrid Simulation Tests Using Shaking Tables .....</b>	<b>99</b>
Ferran Obón Santacana and Uwe E. Dorka	
<b>9 Hybrid Simulations of a Piping System Based on Model Reduction Techniques .....</b>	<b>117</b>
Md Shanin Reza, Giuseppe Abbiati, Alessio Bonelli and Oreste S. Bursi	
<b>10 A Support Platform for Distributed Hybrid Testing .....</b>	<b>133</b>
Ignacio Lamata Martínez, Ferran Obón Santacana, Martin S. Williams, Anthony Blakeborough and Uwe E. Dorka	
<b>11 Substructuring for Soil Structure Interaction Using a Shaking Table .....</b>	<b>141</b>
Matthew Dietz, Zhenyun Tang, Colin Taylor and Zhenbao Li	
<b>12 On the Control of Shaking Tables in Acceleration Mode: An Adaptive Signal Processing Framework .....</b>	<b>159</b>
Vasileios K. Dertimanis, Harris P. Mouzakis and Ioannis N. Psycharis	
<b>13 Refined and Simplified Numerical Models of an Isolated Old Highway Bridge for PsD Testing .....</b>	<b>173</b>
Fabrizio Paolacci, Luigi Di Sarno, Raffaele De Risi, Giuseppe Abbiati, Arkam Mohammad Zeki Mohamad, Marialaura Malena and Daniele Corritore	
<b>14 Assessment of the Seismic Behaviour of a Retrofitted Old R.C. Highway Bridge Through PsD Testing .....</b>	<b>199</b>
Fabrizio Paolacci, Luigi Di Sarno, Pierre Pegon, Francisco Javier Molina, Martin Poljansek, Oreste Salvatore Bursi, Giuseppe Abbiati, Rosario Ceravolo, Mustafa Erdik, Raffaele De Risi and Arkam Mohammad Zeki Mohamad	
<b>15 Full-scale Testing of Modern Unreinforced Thermal Insulation Clay Block Masonry Houses .....</b>	<b>229</b>
Andreas Jäger, Suikai Lu, Hervé Degée, Christophe Mordant, Ambra Chiocciariello, Zoran T. Rakicevic, Veronika Sendova, Luís Mendes, Paulo Candeias, Alfredo Campos Costa, António A. Correia and Ema Coelho	
<b>16 Assessment of Innovative Solutions for Non-Load Bearing Masonry Enclosures .....</b>	<b>247</b>
João Leite, António A. Correia, Paulo B. Lourenço, Elizabeth Vintzileou, Vasiliki Palieraki, Paulo Candeias, Alfredo Campos Costa and Ema Coelho	

<b>17</b>	<b>Seismic Behaviour of Thin-Bed Layered Unreinforced Clay Masonry Frames with T- or L-Shaped Piers .....</b>	<b>269</b>
	Christophe Mordant, Matthew Dietz, Colin Taylor and Hervé Degée	
<b>18</b>	<b>Shake Table Testing of a Half-Scaled RC-URM Wall Structure .....</b>	<b>295</b>
	Marco Tondelli, Sarah Petry, Igor Lanese, Simone Peloso and Katrin Beyer	
<b>19</b>	<b>Experimental and Numerical Investigation of Torsionally Irregular RC Shear Wall Buildings with Rurtherma Breakers .....</b>	<b>307</b>
	Ahmet Yakut, Alain Le Maoult, Benjamin Richard, Gabriela M. Atanasiau, Frederic Ragueneau, Stefen Scheer and Seref Diler	
<b>20</b>	<b>Assessment of the Seismic Response of Concentrically-Braced Steel Frames .....</b>	<b>327</b>
	Brian M. Broderick, Jamie Goggins, Darko Beg, Ahmed Y. Elghazouli, Philippe Mongabure, Alain Le Maoult, Alan Hunt, Suhaib Salawdeh, Primoz Moze, Gerard O'Reilly and Franc Sinur	
<b>21</b>	<b>Shaking Table Test Design to Evaluate Earthquake Capacity of a 3-Storey Building Specimen Composed of Cast-In-Situ Concrete Walls.....</b>	<b>345</b>
	Salvador Ivorra, Dora Foti, Ilaria Ricci, Giada Gasparini, Stefano Silvestri and Tomaso Trombetti	
<b>22</b>	<b>High-Performance Composite-Reinforced Earthquake Resistant Buildings with Self-Aligning Capabilities .....</b>	<b>359</b>
	Bohumil Kasal, Tiberiu Polocoser, Pablo Guindos, Shota Urushadze, Stanislav Pospisil, Andreas Heiduschke, Norbert Rüther and Zbigniew Zembaty	
<b>23</b>	<b>Experimental Study on Seismic Performance of Precast Concrete Shear Wall with Joint Connecting Beam Under Cyclic Loadings .....</b>	<b>373</b>
	Xilin Lu, Dun Wang and Bin Zhao	
<b>24</b>	<b>The Importance of connections in Seismic Regions: Full-Scale Testing of a 3-Storey Precast Concrete Building.....</b>	<b>387</b>
	Dionysios Bournas, Paolo Negro and Francisco Javier Molina	
<b>25</b>	<b>Caisson Foundations Subjected to Seismic Faulting: Reduced-Scale Physical Modeling .....</b>	<b>405</b>
	Ioannis Anastasopoulos, Orestis Zarzouras, Vasileios Drosos and George Gazetas	

<b>26</b>	<b>Development of New Infinite Element for Numerical Simulation of Wave Propagation in Soil Media .....</b>	<b>423</b>
	Vlatko Sesov, Mihail Garevski, Kemal Edip and Julijana Bojadjieva	
<b>27</b>	<b>Analysis of the Dynamic Behaviour of Squat Silos Containing Grain-like Material Subjected to Shaking Table Tests—ASESGRAM Final Report.....</b>	<b>437</b>
	Dora Foti, Tomaso Trombetti, Stefano Silvestri, Laura Di Chiacchio, Salvador Ivorra, Colin Taylor and Matthew Dietz	
<b>28</b>	<b>Multi-Building Interactions and Site-City Effect: An Idealized Experimental Model.....</b>	<b>459</b>
	Logan Schwan, Claude Boutin, Matthew Dietz, Luis Padron, Pierre-Yves Bard, Erdin Ibraim, Orlando Maeso, Juan J. Aznárez and Colin Taylor	
<b>29</b>	<b>Centrifuge Modeling of Dynamic Behavior of Box Shaped Underground Structures in Sand .....</b>	<b>477</b>
	Deniz Ulgen, Selman Saglam, M. Yener Ozkan and Jean Louis Chazelas	
<b>30</b>	<b>Dynamic Response of Shallow Rectangular Tunnels in Sand by Centrifuge Testing.....</b>	<b>493</b>
	Grigorios Tsinidis, Emmanouil Rovithis, Kyriazis Pitilakis and Jean Louis Chazelas	
<b>31</b>	<b>Centrifuge Modelling of the Dynamic Behavior of Square Tunnels in Sand .....</b>	<b>509</b>
	Grigorios Tsinidis, Charles Heron, Kyriazis Pitilakis and Gopal S. P. Madabhushi	
<b>32</b>	<b>FLIQ: Experimental Verification of Shallow Foundation Performance Under Earthquake-Induced Liquefaction .....</b>	<b>525</b>
	George D. Bouckovalas, Dimitris K. Karamitros, Gopal S. P. Madabhushi, Ulas Cilingir, Achilleas G. Papadimitriou and Stuart K. Haigh	
<b>33</b>	<b>Centrifuge Modelling of Retaining Walls Embedded in Saturated Sand Under Seismic Actions.....</b>	<b>543</b>
	Stefano Aversa, Luca de Sanctis, Rosa Maria Stefania Maiorano, Michele Tricarico, Giulia Viggiani, Riccardo Conti and Gopal S. P. Madabhushi	
<b>34</b>	<b>Experimental and Numerical Investigations of Nonlinearity in Soils Using Advanced Laboratory-Scaled Models (ENINALS Project): From a Site-Test to a Centrifuge Model.....</b>	<b>563</b>
	Francesca Bozzano, Salvatore Martino, Alberto Prestininzi, Gabriele Scarascia-Mugnozza, Luis Fabian Bonilla, Alberto Bretschneider, Jean Louis Chazelas, Sandra Escoffier, Luca Lenti and Jean-François Semblat	

<b>35 Damping Estimation from Seismic Records.....</b>	<b>579</b>
Dionisio Bernal	
<b>36 Development of Wireless Sensors for Shake Table and Full Scale Testing and Health Monitoring of Structures.....</b>	<b>595</b>
Zoran T Rakicevic, Igor Markovski, Dejan Filipovski, Slobodan Micajkov and Mihail Garevski	
<b>Index.....</b>	<b>611</b>

Experimental Research in Earthquake Engineering

EU-SERIES Concluding Workshop

Taucer, F.; Apostolska, R. (Eds.)

2015, XXVII, 614 p. 463 illus., Hardcover

ISBN: 978-3-319-10135-4