

Extended version of the Technical Program (as of 2013-06-05).

Tuesday, July 23, 2013	
15:00 – 19:00	Registration (Lobby of the Main Auditorium)
20:00	Welcome Reception (Palace of the Dukes of Bragança - Guimarães)

Wednesday Morning (WeM), July 24, 2013	
8:00 – 19:00	Registration (Lobby of the Main Auditorium)
9:00 – 9:30	Opening Ceremony (Main Auditorium)
9:30 – 11:00	Keynote Lecture (Main Auditorium) Chair: Paulo J.S. Cruz Eduardo Souto Moura <i>“Recent Projects”</i> Félix Escrig <i>“Emilio Pérez Piñero. Inventor of deployability”</i>
11:00 – 11:30	Coffee Break (Lobby of the Main Auditorium)
11:30 – 13:30	Concurrent Technical Sessions: WeM 1 to WeM 6

WeM 1 – Main Auditorium	WeM 2 – Room B1.14	WeM 3 – Room B1.15	WeM 4 – Room B1.16	WeM 5 – Room B1.17	WeM 6 – Room B1.13
<u>Mini-Symposium</u> Modern renaissance timber construction (1)	<u>Special Session</u> From open structures to the cladding of control. A critical call for current tectonic theories and practices in architecture	<u>Special Session</u> Innovation in timber	General Session The borderline between architecture and structural engineering (1)	General Session Computer and experimental methods (1)	General Session Innovative architectural and structural design (1)
Chair: Ian Smith	Chair: Marie Frier Hvejsel	Chair: Andreas Falk	Chair: J.M.M. Sánchez	Chair: Climent Molins	Chair: E. Caetano
CLT buildings as a new Italian architecture and their seismic design <i>A. Ceccotti & A. Polastri</i>	Structural cladding /clad structures. Studies in tectonic building practice <i>A. Beim</i>	Wood structures. Versatility and innovation <i>F. Jensen</i>	Homeostatic patterns <i>A. Erioli, C. Giacobazzi & G. Castellazzi</i>	Modular construction systems for free form architecture <i>S. Schafer J. Reising, S. Abedini, & A. Ljubas</i>	Design of adaptive structures by kinematic synthesis of mechanisms <i>Y. Akgün, F. Maden & K. Korkmaz</i>
	Tectonics of montage. Architectural positions for a tectonic sustainable building practice <i>C. Bundgaard</i>	Cross laminated timber. A key material for the future of structural design <i>M. Nevado</i>	The challenges of structure in today's architectural, economic and social context <i>A. Bernabeu Larena & J. Bernabeu Larena</i>	Seismic rehabilitation of RC structures. Case study: Educational building with GF+4 storey height regime <i>M.C. Calin, D. Jordan & C.S. Dragomir</i>	Prestressed. Technique and innovation in the 1950-1975 architecture <i>J. Anaya Diaz</i>
Merging seismic and fire design of timber buildings and potential and limitations on going high <i>B. Kasal, D. Kruse, N. Ruther & T. Polocoser</i>	Wallpaper & tectonics. A critical discussion of the state of the architectural discipline <i>M.F. Hvejsel & P.H. Kirkegaard</i>	Cross-laminated timber: Driving forces and innovation <i>A. Falk</i>	Conceptual planning by the structural engineer <i>A. Gianoli</i>	Thicker funicular. Particle-spring systems for variable-depth form-responding compression-only structures <i>B. Clifford</i>	A new building system. Structural aspects of COTaCERO system <i>J. Pérez Valcárcel, V. Hermo & J. B. Rodriguez Cheda</i>
	Architectural assemblages and materializations – changing notions of tectonics and materiality in contemporary architecture <i>F. Nilsson</i>	The wooden cooling tower <i>E. Nozhova</i>	Alpexpo building by Jean Prouvé in Grenoble. The specific issue of the suspended façade <i>A. Coste & C. Blachot</i>	Architectural feedback in the structural optimization process <i>J. Felkner, E. Chatzi & T. Kotnik</i>	Diagrid structures. Innovation and detailing <i>T. Boake</i>
Status of cross-laminated timber construction in North America <i>S. Gagnon & E. Karacabeyli</i>		MonaLisa wood pavillion poplar pl(a)ywood <i>G. Callegari, M.Sassone, A.Spinelli & R. Zanuttini</i>	Great light spans. Geometry and simple structural behaviour. 2nd half of the 20thcentury <i>V. Antigüedad García & J. Anaya Díaz</i>	Multimodal structural optimization for conceptual design <i>K. Martini</i>	Housing industrialization, success and failure, universal and local. Limits for housing globalization <i>A. Correia, V. Murtinho & L. Simões da Silva</i>
A review of seismic response of timber frames <i>H. Stamatopoulos & K. Malo</i>		Robustness issues for design of innovative timber structures <i>P.H. Kirkegaard, F. Hald & J.O. Sörensen</i>	Structure and architecture. The illogical results of considering them two separated entities, after the 2009 earthquake in L'Aquila <i>C. Bartolomucci</i>	Control of conservation works for architectural heritage buildings by micro seismic recordings and structural analysis <i>C.S. Dragomir, A. Duțu & E.S. Georgescu</i>	Innovative architectural and structural design to preserve historical centres <i>D. Félix, A. Feio, J.S. Machado & J.M. Branco</i>

Wednesday Afternoon (WeA), July 24, 2013

13:30 – 14:30	Lunch (Restaurant of the University)
14:30 – 16:30	Concurrent Technical Sessions: WeA 1 to WeA 6

WeA 1 – Main Auditorium	WeA 2 – Room B1.14	WeA 3 – Room B1.15	WeA 4 – Room B1.16	WeA 5 – Room B1.17	WeA 6 – Room B1.13
<u>Mini-Symposium</u> Modern renaissance timber construction (2)	<u>Special Session</u> Innovation in reciprocal structures	General Session Timber structures(1)	General Session The borderline between architecture and structural engineering (2)	General Session Computer and experimental methods (2)	General Session Innovative architectural and structural design (2)
Chair: Sylvain Gagnon	Chair: Dario Parigi	Chair: M. Sassone	Chair: J.P. Herreras	Chair: K. Martini	Chair: V. Murtinho
Investigation of seismic performance of multi-storey timber buildings within the frame of the SERIES Project <i>M. Piazza & R. Tomasi</i>	Reciprocal systems based on planar elements <i>A. Pugnale & O. Baverel</i>	Connections loaded perpendicular to grain. Analysis of the failure behavior and design approach <i>B. Franke & P. Quennville</i>	A concrete prefabricated attic <i>C. Bocan</i>	Investigating a new material practice <i>P. Nicholas, M. Tamke, P. Ayres & M. R. Thomsen</i>	Sustainable design of a multi-storey welded steel structure located in a seismic area <i>M. Georgescu, V. Ungureanu & M. Szitar</i>
Seismic design of CLT buildings: Definition of a suitable q-factor by numerical and experimental procedures <i>L. Pozza, D. Trutalli, A. Polastri & A. Ceccotti</i>	Reciprocal-frame structures. A digital design instrument <i>U. Thoennissen</i>	Convertible city. Light wood prefab systems in the extension of built environment <i>A. Spinelli</i>	The importance of engineers in the development of modern spanish architecture. Alejandro de la Sota's industrial architecture <i>M. Cabreza & A. Soler Estrela</i>	Study of the sensitivity of different building structures to tunnelling induced settlements <i>C. Molins & C. Camós</i>	Concepts for a movable bridge <i>J. Holowaty</i>
Seismic design of timber structures with displacement based method <i>C. Loss, M. Piazza & D. Zonta</i>	The proposal of an ancient technique for modern construction. A stone reciprocal structure <i>M. Brocato & L. Mondardini</i>	Contribution to the fire resistance of timber construction using boards <i>M. Dufková & P. Kuklík</i>	Architecture and engineering in the new leaning towers <i>M. Cámara, V. Compán & J. Sánchez</i>	Multi-objective optimization of concrete shells <i>T. Mendez Echenagucia, A. Pugnale & M. Sassone</i>	Partial dismantling of 1960's to 80's neighbourhoods. A sustainable holistic solution <i>S. Huuhka</i>
Behaviour of moment connections in timber frameworks <i>A. Polastri, R. Tomasi, M. Piazza & I. Smith</i>	Efficient design and fabrication of free-form reciprocal structures <i>D. Parigi & P.H. Kirkegaard</i>	Low cost construction. State of the art and prospects for using structure wood apartment buildings in Portugal <i>M. Oliveira, J. P. Couto, P.Mendonça, J. Branco, M. Silva & A. P. Reis</i>	Structure as architectural system <i>B. Corotis & A. Daringa</i>	Experimental tests on steel members with variable I welded section <i>I.M. Cristutiu & D.L. Nunes</i>	Dynamic design of slender footbridges <i>E. Caetano & A. Cunha</i>
Seismic performance assessment of a timber-log house <i>J.M. Branco & P.B. Lourenço</i>	Static and kinematic formulation of planar reciprocal assemblies <i>D. Parigi & P.H. Kirkegaard</i>	Embodied information in structural timber <i>E. Jannasch</i>	Closing the gap while celebrating the divide. Tools for A/E collaborative learning <i>M. Donofrio</i>	Performance assessment of mixed CFRP retrofitting solution for RC slabs <i>S.C. Florut, V. Stoian, T. Nagy-György, D. Dan & D. Diaconu</i>	Natural structures and innovative design <i>N. Nawari & A. M. Gutierrez</i>
			A multi-performance comparison of long-span structural systems <i>E. Douville, C.T. Griffin, B. Thompson & M. Hoffman</i>	The use of unconventional reinforcements in structures. Design aspects <i>K. Jaafar</i>	Design of Reconfigurable Doubly-Curved Structure <i>F.Maden, K. Korkmaz & Y. Akgün</i>

Wednesday Evening (WeE), July 24, 2013	
16:30 – 17:00	Coffee Break (Lobby of the Main Auditorium)
17:00 – 19:00	Concurrent Technical Sessions: WeE 1 to WeE 5

WeE 1 – Main Auditorium	WeE 2 – Room B1.14	WeE 3 – Room B1.15	WeE 4 – Room B1.16	WeE 5 – Room B1.17	WeE 6 – Room B1.13
<u>Mini-Symposium</u> Modern renaissance timber construction (3)	General Session Emerging technologies	General Session Timber structures (2)	General Session The borderline between architecture and structural engineering (3)	General Session Building envelopes	General Session Innovative architectural and structural design (3)
Chair: Jochen Kohler	Chair: M. Crisinel	Chair: Artur Feio	Chair: R. Tarczewski	Chair: C. Louter	Chair: J. Pérez Valcárcel
Better than steel? (Part 2). Tall wooden factories and the invention of “slow burning” heavy timber construction <i>R. Langenbach</i>	Monitoring the recovery of architectural heritage <i>P. Diaz Simal, E. López Rodríguez, E. López Burló & J. Lacasa Díaz</i>	Analysis of the elasto-plastic failure behavior of wood under compression <i>S. Franke</i>	Design of the Brasilia TV tower <i>J.M. Morales Sánchez & E. B. C. Azambuja</i>	Life cycle assessment of irish residential buildings and typical building envelope analysis <i>A. Armstrong & J. Goggins</i>	Hybrid structures. A case of a pedestrian bridge <i>M.C. Phocas, T. Sophocleous & A. Michael</i>
	The role of spontaneous construction for post-disaster housing <i>D. Félix, A. Feio, J.S. Machado & J.M. Branco</i>	Fire-resistance analysis of a novel wood-concrete composite deck <i>R. Meena, M. Schollmayer & S. Hehl</i>	Energy efficiency upgrading, architectural restyling and structural retrofit of modern buildings by means of “engineered” double skin façade <i>F. Feroldi, A. Marini, B. Badiani, G.A. Plizzari, E. Giuriani, P. Riva & A. Belleri</i>	Proposals for intervention in obsolete building envelopes in Andalusia <i>M. Molina Huelva, J. M. Rincón-Calderón & P. Fernández-Ans</i>	Reciprocal structures in architectural shaping of floors and roofs <i>M. Piekarski</i>
Performance-based design for mid-rise wood constructions in Canada <i>C. Dagenais, S. Gagnon & R. Desjardin</i>	Comparing the embodied energy of structural systems in parking garages <i>C. Griffin, L. Bynum, A. Green, S. Marandyuk, J. Namsung, A. Burkhardt & M. Hoffman</i>	Optimized generation of non-standard wood structures based on native irregular components <i>V. Monier, G. Duchanois & J-C. Bignon</i>	The architecture of the fall. Metamorphosis of structure in the work of Enric Miralles (1988-1997) <i>C. García Estévez & J.M. Rovira</i>	Integrated design applied in thermal retrofitting solutions for residential buildings <i>A. Ciutina, V. Ungureanu, D. Dubina & D. Grecea</i>	Origami based, deployable disaster relief shelter <i>S. Rihal</i>
Predicting force flows in timber light-frame building superstructures <i>G. Doudak & I. Smith</i>	Bridge design 2.0. Developments in the field of integrated, sustainable and durable bridge design <i>J. Smits</i>	Development of prefabricated timber-concrete composite floors <i>P. Nechanický & P. Kukik</i>	The role of architectural theory in exploiting the potential of iron load-bearing structures <i>M. Härta</i>	Modified plastic materials for a new generation of architecture <i>T. Ries</i>	Three-hinged structures in a historical perspective <i>L. Slivnik</i>
Is cross-laminated timber suitable for building structures to thirty levels? <i>J. Chapman</i>	Earth architecture. Ancient and new methods to improve the durability <i>R. Eires, A. Camões & S. Jalali</i>	Timber framed masonry buildings, an earthquake resistance influenced architecture <i>A. Dutu, J. Gomes Ferreira & C.S. Dragomir</i>	Can collaboration within multidisciplinary teamwork be explained using Belbin? A case study <i>A.S. Dederichs & J. Karlshoj</i>	Isostatic lines' study to optimize steel space grid envelope structures for tall buildings according to their solicitations <i>R. Señís</i>	“Floating roofs”. The Dorton arena and the development of modern tension roofs <i>T. Sprague</i>

Wind design of timber buildings <i>I. Zisis & T. Stathopoulos</i>	Daylight in interiors <i>L. Janeckova & D. Bošová</i>		The interdisciplinary design studio. Identifying collaboration <i>K. Dong, J. Doerfler & T. Fowler</i>	Expanded cork as building envelope. Architectonic and technological aspects <i>P. Sousa & P.J.S. Cruz</i>	Mass-customized architectural design approach. Evaluation and a proposal based on fractal geometry principles <i>M. Asefi & F. Fakourian</i>
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Thursday Morning (ThM), July 25, 2013	
8:30 – 19:00	Registration (Lobby of the Main Auditorium)
9:00 – 10:30	Keynote Lectures (Main Auditorium) Chair: Luís Simões da Silva Andrea Deplazes "Archi-Tectonic" Ulrich Knaack "A façade roadmap"
10:30 – 11:00	Coffee Break (Lobby of the Main Auditorium)
11:00 – 13:00	Concurrent Technical Sessions: ThM 1 to ThM 6

ThM 1 – Main Auditorium	ThM 2 – Room B1.14	ThM 3– Room B1.15	ThM 4 – Room B1.16	ThM 5 – Room B1.17	ThM 6 – Room B1.17
<u>Mini-Symposium</u> Modern renaissance timber construction (4)	<u>Special Session</u> Principles in practice for the analysis, conservation and structural restoration of architectural heritage	General Session Timber structures (3)	General Session The borderline between architecture and structural engineering (4)	General Session Steel and composite (1)	General Session Innovative architectural and structural design (4)
Chair: Maurizio Piazza	Chair: G. Arun & S. Kelley	Chair: C. Eckhardt	Chair: M.C.F. Cabo	Chair: M. Eliasova	Chair: Terri Boake
Design concepts and principles for taller multi-storey superstructures incorporating timber frameworks <i>I. Smith</i>	The ISCARSAH principles in practice <i>S. Kelley</i>	On seismic response of retrofitted wooden house by collapsing process analysis <i>T. Takatani & H. Nishikawa</i>	The interaction of architects & str. engineers for the Hellenic World complex in Athens <i>E.S. Kyriazis</i>	Specificity of shaping light gauge steel shells <i>J. Abramczyk</i>	Deployable stage. Proposal of an application with mobile structures <i>N.P. Torres Londoño</i>
Timber beams with end restraints <i>K. Malo & J. Kohler</i>	The building and its structural history (or how the history is the source of endless technical knowledge) <i>M. Segarra Lagunes</i>	Barriers to the design and use of cross-laminated timber structures in high-rise multi-family housing in the United States <i>C. Griffin & J. Schmidt</i>	A structural language for a conceptual design collaboration <i>L. Luyten</i>	Numerical analysis of sliding rigid beam-column joints made from encased tubes for high-rise structures <i>A. Albareda Valls, A. Alentorn Puigcerver & J. M. Carreras</i>	Naturwall©. Timber multifunctional systems in refurbishment sustainable process <i>A. Spinelli & G. Callegari</i>
Behaviour of dowel-type timber connections under cyclic loading <i>S. Zhang, W. Wang, C. Huang & W. Wu</i>	Master builders' design skills in diagnosing the failures <i>G. Arun</i>	A modular timber construction system made with ribbed-box or rather hollow-box elements <i>S. Franke & R. Hausammann</i>	Engineers and the role of structures in architecture <i>B. Manum & D. Nilsen</i>	Experimental and theoretical analysis of bridges with encased filler beams <i>P. Beke, V. Kvocák & R. Vargová</i>	Multi-objective search in the early phase of architectural design <i>T. Mendez Echenagucia, M. Sassone, A. Astolfi & P.A. Croset</i>
Design and production of an heavy timber reaction frame for a laboratory test setup <i>M. Andreaoli, P. Grossi, T. Sartori & R. Tomasi</i>	Physical evaluation of the endless column <i>R. Sofronie</i>	The roman timber framework, a neglected construction method <i>X. Laumain</i>	On the extension of graphical statics into the 3rd dimension <i>M. Schrems & T. Kotnik</i>	Shear connection of composite steel and concrete bridge trusses <i>M. Chárvat & J. Macháček</i>	Using the laser scanning technology in the rehabilitation of existing buildings <i>S. Pescari, D. Dan & V. Stoian</i>

<p>Glulam structures: some Portuguese case studies</p> <p><i>A. Feio, P. Cruz & A. Pinto</i></p>	<p>Structural evaluation of Kilitbahir Castle in Canakkale, Turkey</p> <p><i>A. Turer</i></p>	<p>The behavior of toothed-plate connectors under reversed cyclic loading</p> <p><i>E. Tuhkanen & K. Öiger</i></p>	<p>Configuration design for collective housing building structure -IFD systems configuration</p> <p><i>J. Nikolic</i></p>	<p>Experimental study on steel-concrete shear walls with steel encased profiles retrofitted with FRP composites</p> <p><i>D. Dan, A. Fabian, V. Stoian & T. Nagy-György</i></p>	<p>Computational morphogenesis in architecture. Structure and light as a multi-objective design/optimization problem</p> <p><i>A. Liuti, A. Pugnale & A. Erioli</i></p>
<p>Panel discussion: What are the boundaries on what can be constructed from timber?</p> <p><i>Panelists: A. Ceccotti, B. Kasal, R. Langanbach, I. Smith & J. Kohler</i></p>	<p>Dismantling of foundation system for conservation of masonry structures in Angkor, Cambodia</p> <p><i>Y. Iwasaki, Y. Akazawa, M. Fukuda, J. Nakazawa, K. Nakagawa, I Shimoda & T. Nakagawa</i></p>		<p>Architectural taming of infrastructure: interaction architect. Structural engineers</p> <p><i>R. Tarczewski & P. Ogielski</i></p>	<p>The re-use of disassembled steel structures between architectural design and environmental sustainability</p> <p><i>C. Calderini, M. Pongiglione & A. Giachetta</i></p>	<p>Form structure inte(g)ration</p> <p><i>E. Mele & M. Toreno</i></p>

Thursday Afternoon (ThA), July 25, 2013	
13:00 – 14:30	Lunch (Restaurant of the University)
14:30 – 16:30	Concurrent Technical Sessions: ThA 1 to ThA 6

ThA 1 – Main Auditorium	ThA 2 – Room B1.14	ThA 3 – Room B1.15	ThA 4 – Room B1.16	ThA 5 – Room B1.17	ThA 6 – Room B1.13
<u>Mini-Symposium</u> On the “tectonics” in architecture. Between aesthetics and ethics (1)	<u>Special Session</u> From new tools and methods towards new tasks and ideals. The impact of technology and science in the post-war era	<u>Parallel Event</u> Sustainability assessment in early phases of building projects	General Session The borderline between architecture and structural engineering (5)	General Session Steel and composite (2)	General Session Innovative technologies and design
Chair: P. Trovalusci	Chair: Rika Devos	Chair: Luís Bragança	Chair: R. Gentry	Chair: A. Nussbaumer	Chair: M. Georgescu
Shells. Innovation system design by Ildefonso Sánchez (1898-1980) <i>P. Cassinello</i>	The architecture of absence. Building, landscape and the changing character of technology in the post-war era <i>C. Cabral</i>	Opening and presentation of the new SB_Steel methodology <i>H. Koukkari</i>	Infrastructures and environmental impact. The synergy of architectural and structural design <i>M. Pasca</i>	Theoretical and experimental studies on composite steel-concrete structural shear walls with steel encased profiles <i>D. Dan, A. Fabian & V. Stoian</i>	The legacy of the modern movement and its adversities in the face of the current development of changeable housing construction solutions <i>H. Ferreira, V. Murtinho & L. Simões da Silva</i>
The DNA of the avant-gardes <i>L. Enguita</i>	New french architectural treatises for a new kind of public architecture <i>E. Monin</i>	Criteria for sustainable steel-intensive building <i>L. Bragança & J. Andrade</i>	New species of structures <i>J. Pérez-Herreras</i>	Analysis of composite section columns under axial compression and biaxial bending moments <i>E. Fenollosa & I. Cabrera</i>	Nature-inspired structural optimization of freeform shells <i>F. Waimer, R. La Magna & J. Knippers</i>
Conceptual design of a pedestrian bridge by means of topology optimization <i>L. Frattari, J. P. Dagg & G. Leoni</i>	The development of architectural concrete in Belgium during the 1960s and 1970s <i>S. Van de Voorde</i>	LCA approach in steel-framed buildings design <i>B. Rossi</i>	The disappearance of the structural analysis barrier. The Sydney Opera House from a contemporary perspective <i>J. Rey Rey</i>	Great steel structures. The Italian post-war trial <i>F. Fragnoli & M. Zordan</i>	An innovative proposal for a deployable shading system <i>M. Asefi, E. Ebrahimi Salari, Sh. Valadi & Gh. Kouchenani</i>
The nature of tectonic architecture and structural design <i>P.H. Kirkegaard, A. Carter & R. Tyrrell</i>	Working relationships between architects and structural engineers. World War II to the 1970s <i>D. Yeomans</i>	Thermal performance of steel-framed buildings <i>P.Santos</i>	The role of structures in daylighting retrofits for existing buildings <i>M. Sedor, C.T. Griffin & K. Konis</i>	Required performance level of an existing building for over roofing <i>N. Zsolt & M. Cristutiu</i>	“Reticolatus”. An innovative reinforcement for irregular masonry. A numeric model <i>S. Galassi, M. Paradiso, A. Borri & D. Sinicropi</i>

<p>Construction and form-finding of a post-formed timber grid-shell</p> <p><i>F. Portioli, S. Pone, B. D'Amico, R. Landolfo, S. Colabella, B. Parenti, D. Lancia, A. Fiore, M. D'Aniello & C. Ceraldi</i></p>	<p>Finnish architect-engineer cooperation on concrete and shell structures in the 1950s and 1960s</p> <p><i>A. Niskanen</i></p>	<p>Sustainable design of steel structures</p> <p><i>R. Landolfo</i></p>	<p>Built environment sustainability. Breaking the borderlines between architects and civil engineers</p> <p><i>M.A. Szitar, T.O. Gheorghiu & D.M. Grecea</i></p>	<p>Innovative conception and design of structural systems for flexible floor spaces</p> <p><i>C. Odenbreit, O. Hechler & M. Braun</i></p>	<p>Fabric formed concrete structures and architectural elements</p> <p><i>R. Pedreschi</i></p>
			<p>Structuring geometry and abstraction of structures in architectural synthesis</p> <p><i>B. Dzenana, R. Čahtarević & S. Halilović</i></p>	<p>Double curved aluminum façade</p> <p><i>K.Najjar</i></p>	<p>Balconies, analysis of constructive technology current state and foresight of new industrial development</p> <p><i>L. Sierra & J.L. Zamora</i></p>

Thursday Evening (ThE), July 25, 2013	
16:30 – 17:00	Coffee Break (Lobby of the Main Auditorium)
17:00 – 19:00	Concurrent Technical Sessions: ThE 1 to ThE 6

ThE 1 – Main Auditorium	ThE 2 – Room B1.14	ThE 3 – Room B1.15	ThE 4 – Room B1.16	ThE 5 – Room B1.17	ThE 6 – Room B1.13
<u>Mini-Symposium</u> On the “tectonics” in architecture. Between aesthetics and ethics (2)	General Session Special structures	<u>Parallel Event</u> Web-based support tool for decision-making and examples of application	General Session The borderline between architecture and structural engineering (6)	General Session Steel and composite (3)	General Session The tectonic of architectural solutions (1)
Chair: Mario Chiorino	Chair: J. Neugebauer	Chair: Heli Koukkari	Chair: M. Rinke	Chair: C. Odenbreit	Chair: V. Riso
Félix Candela between philosophy and engineering. The meaning of shape <i>M. Savorra & G. Fabbrocino</i>	Shapes and behavior of triangular grid structures. Current trends in architecture of the 21th Century <i>E. Gonzalez & J. Anaya Diaz</i>	Environmental analysis of an office building in France – comparison between structural systems <i>O. Vassart</i>	Examining the architectural engineer <i>M. Uihlein</i>	Comparing the seismic performance of concentrically braced frames with and without self-centering behavior <i>G. O'Reilly & J. Goggins</i>	Alternative affordable housing through simulated 3d architectural tectonic: V3 Residence, Putrajaya <i>R. Ab. Rahman & A. A. Dzaharudin</i>
The recovery of the ethic of constructions. P. L. Nervi vs. S. Musmeci, two structural conceptions compared <i>P. Trovalusci & A. Tinelli</i>	Elevated pedestrian ways in Japan. A historical view <i>H. Isohata</i>	Role of the LCA in the renovation processes based on two case studies <i>J.A. Chica</i>	Traditional and scientific knowledge for a sustainable vulnerability reduction of rural housing in Haiti <i>F. Vieux-Champagne, A. Caimi; P. Garnier, H. Guillaud, O. Moles, S. Grange, Y. Sieffert & L. Daudeville</i>	Efficient solution for large motorways composite bridges <i>E. Petzek, L. Toma & E. Meteş</i>	Tectonics or reinforced concrete and timber and earthquake vulnerability <i>M. Bostenaru Dan</i>
Tensegrity tectonics. Structural concept and architectural expression <i>K. Liapi</i>	Building on planet Mars student project <i>A. Nussbaumer, P. Zurbruegg, S. Erkman & T. Besson</i>	Web-based support tool for the sustainability assessment of steel-framed buildings <i>H. Gervásio</i>	Structures for quality and quantity of natural light in architecture <i>S. Bica, I.M. Cristutiu, & O. Micsa</i>	Technical solutions for rehabilitation of old arch bridges <i>L. Toma, E. Petzek & R. Băncilă</i>	Combining shape grammars and BIM in the rehabilitation design process of the bourgeois house of Oporto: the research progress <i>E. Coimbra & V. Riso</i>
The Nervi system. Between complexity and ethic <i>T. Iori & S. Poretti</i>	Adaptable hybrid steel structures. Kinetic modeling and simulation study <i>M.C. Phocas, M. Matheou & E.G. Christoforou</i>	Examples of application of the web-based support tool <i>V. Ungureanu</i>	The evolutionary process of built heritage influenced by the architecture/engineering borderline decisions <i>A. Tavares, A. Costa & H. Varum</i>	Reconversion process of an old building into a modern commercial centre <i>N. Zsolt & M. Cristutiu</i>	AgwA architecture office : Addressing structure in architecture competitions <i>H. Fallon & B. Vandenbulcke</i>
The school of bridges in Venice: teaching bridge design in an University of Architecture <i>A. Zanchettin, E. Reccia & E. Siviero</i>	Analysis of Portadas de Feria subjected to wind loads incorporating nonlinearity of the guys <i>M.T. Rodríguez León, J.S. Sánchez & F. Escrig</i>	Discussion and conclusions	Confrontation between building and ground: gravity in the work of João Vilanova Artigas <i>L. Borgonovi e Silva & T. Kotnik</i>	Adapting a historic truss viaduct to modern requirements <i>J. Holowaty</i>	Towards an improved architectural quality in contemporary architecture <i>C. Cristensen & P.H. Kirkegaard</i>

	Fondation Loius Vuitton. Exploring new structural typologies <i>A.M. Bordas Geli & M. Peiro Sendra</i>		Structure and architecture in the design studio <i>P. Endres & C. Wetzel</i>	Structural solutions for emergency architecture <i>O. Veronescu & G.D. Mihai</i>	Design engineer construct. Building large scale structures <i>K. Dong & J. Feldman</i>
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Friday Morning (FrM), July 26, 2013	
8:30 – 19:00	Registration (Lobby of the Main Auditorium)
9:00 – 10:30	Keynote Lectures (Main Auditorium) Chair: Paulo J.S. Cruz Mario Chiorino “Pier Luigi Nervi: Architecture as Challenge” Randolph Langenbach “The Great Counterintuitive: Re-evaluating Historic and Contemporary Building Construction for Earthquake Collapse Prevention”
10:30 – 11:00	Coffee Break (Lobby of the Main Auditorium)
11:00 – 13:00	Concurrent Technical Sessions: FrM 1 to FrM 6

FrM 1 – Main Auditorium	FrM 2 – Room B1.14	FrM 3 – Room B1.15	FrM 4 – Room B1.16	FrM 5 – Room B1.17	FrM 6 – Room B1.13
<u>Mini-Symposium</u> Structural glass. Crossing borders (1)	General Session Concrete and masonry structures (1)	General Session The history of the relationship between architects and structural engineers (1)	General Session Comprehension of complex forms(1)	General Session Educating architects and structural Engineers (1)	General Session The tectonic of architectural solutions (2)
Chair: Jan Belis	Chair: C. Molins	Chair: H.R. Camilloni	Chair: H. Giles	Chair: J.M.Songel	Chair: K. Liapi
Double skin façades made of glass. Aspects of structural design and static analysis <i>B. Siebert</i>	Reinforced concrete in the early 20th century. The search for a form language for the material <i>M. Bostenaru Dan</i>	Pier Luigi Nervi in the United States. The height and decline of a master builder <i>A. Bologna & G. Neri</i>	The dynamic phraseology of structures. Enabling the design of complex systems <i>T. Boake</i>	Hybrid architecture. Coupling structural understanding and architectural education <i>R. Balbo, T. Kocaturk & A. Veliz</i>	AgwA architecture office. Study cases on structure and architecture <i>H. Fallon & B. Vandenbulcke</i>
Boosting European education on structural glass. COST action TU0905 training school <i>J. Belis, C. Louter, J. Neugebauer & J. Schneider</i>	Technology of thin shells in the german baroque <i>V. Compán, M. Cámara & J. Sánchez</i>	Doménico Parma and Guillermo González Zuleta. A story of challenges, innovation and development of concrete architecture in Colombia <i>E.C. Cortes Paez & A. Primmer</i>	Railway stations between infrastructural complexity and architectural form <i>E. Conticelli & S. Tondelli</i>	Cultivating the next generation of architects. Through pattern of structural systems <i>M. P. Callahan & I. K. Chang</i>	Viljo Revell. Tectonic structures <i>J.J. Ferrer Forés</i>
Glass structures, from theory to practice <i>N. Emami</i>		Supporting modern architecture. Sources for the Matosinhos Market structural design <i>J. P. Delgado & P.T. Pinto</i>	Structural analysis of the Curators' Lab Arena. An impressive ephemeral timber structure <i>A. Feio & P.J.S. Cruz</i>	Teaching seismic and wind subjects to architecture students <i>I.K. Chang, M.P. Callahan, P. Lu, H.Y Chan & S. Luong</i>	The Tectonic meaning in Le Corbusier's architecture – the case of Le Cabanon <i>F. Hakonsen</i>
Evaluation of the SLG method for applications with adhesive point-fixings <i>J. Dispersyn, K. Calleyl & J. Belis</i>	An approach to patents of prestressed concrete in the 20 th Century's architecture <i>M.P. Lorente, J. Anaya Díaz & M.M. Sánchez</i>	Structure impact on architectural form of multi-storey factory buildings of industrial revolution <i>J. Horicka & T. Šenberger</i>	Structural form as ornament <i>R. Oprita</i>	Embracing the past. Using historical structures to teach engineering fundamentals <i>R. Dermody</i>	Mies' early american work and the tectonic bond between architecture and structure <i>R. Serrano</i>

<p>Influence of various factors to mechanical properties of glued joint in glass</p> <p><i>K. Machalická & M. Eliášová</i></p>	<p>Study to evaluate the characteristics of masonry for “Stirbey family chapel” to retrofit the structure</p> <p><i>C.L. Matei & R.C. Matei</i></p>	<p>Memories of Mario. The best structures Professor I never knew</p> <p><i>D. Oakley</i></p>	<p>Diagrids for design and construction of freeform tall buildings</p> <p><i>K.S. Moon</i></p>	<p>Constructing by creative re-use of unexpected materials</p> <p><i>P.L. Carvalho & P.J.S. Cruz</i></p>	
<p>Cones made of glass for a new entrance of a museum</p> <p><i>J. Neugebauer</i></p>	<p>A critical assessment of concrete and masonry structures for reconstruction after seismic events in developing countries</p> <p><i>H. McWilliams & C.T. Griffin</i></p>	<p>From construct to type. The transformation of constituents in the development of trusses</p> <p><i>M. Rinke & T. Kotnik</i></p>			

Friday Afternoon (FrA), July 26, 2013	
13:00 – 14:30	Lunch (Restaurant of the University)
14:30 – 16:30	Concurrent Technical Sessions: FrA 1 to FrA 6

FrA 1 – Main Auditorium	FrA 2 – Room B1.14	FrA 3 – Room B1.15	FrA 4 – Room B1.16	FrA 5 – Room B1.17	FrA 6 – Room B1.13
<u>Mini-Symposium</u> Structural glass. Crossing borders (2)	General Session Concrete and masonry structures (2)	General Session The history of the relationship between architects and structural engineers (2)	General Session Comprehension of complex forms (2)	General Session Educating architects and structural Engineers (2)	General Session Lightweight and membrane structures (1)
Chair: Jan Belis	Chair: Aires Camões	Chair: D. Oakley	Chair: M.C. Phocas	Chair: P. Mendonça	Chair: R. Arens
Analytic models of adhesively bonded steel-glass beams <i>M. Netusil, T. Fremr & M. Eliasova</i>	Application of the operational modal analysis method for the control of the intervention in the Roman Theatre (Cádiz, Spain) <i>E. Rodriguez-Mayorga, P. Pachon, J. F. Jimenez, V. Compan, A. Saez & E. Yanes</i>	Prefabrication and standardization. Arne Jacobsen's contribution <i>Y. Ortega Sanz</i>	Outrigger structures for twisted, tilted and tapered tall buildings <i>K.S. Moon</i>	Interaction of shape and structural performance. Design of structures methods of structural optimization <i>I. Lochner</i>	Fold Here. Optimizing a disaster relief shelter with prototypes <i>R. Arens & E.P. Saliklis</i>
Building integrated photovoltaic. New developments <i>G. Siebert & B. Siebert</i>	Funicular Forms and Earthquake Performance of Low-Strength Masonry Buildings <i>S. Rihal & J. Edmisten</i>	Architect and engineer. The collaboration of Louis I. Kahn and August E. Komendant <i>H. Rodríguez-Camilloni</i>	Discretization solutions for the construction of free form complex surface structures <i>A. Berk & H. Giles</i>	Numerical models of a beam belonging to a tall building: errors and approximations within ordinary design <i>L. Sgambi, N. Basso, R. Pavani, E. Civelli, C. D. Meroni & M. Pagin</i>	Deployable membrane structures design proposal for the scissors-type system <i>O.F. Avellaneda Lopez & R. Sastre</i>
Stress corrosion parameters for glass with different edge finishing <i>M. Vandebroek, C. Louter, J. Dispersyn, D. Sonck & J. Belis</i>	Historical concrete structures in Romania and Italy. Exchange in building and conservation <i>M. Bostenaru Dan & C.O. Gociman</i>	What is a Steel construction? <i>F. Rosenberg</i>	Architectural topology parametrically defined by digital manufacturing <i>M. Garcia del Valle & J. Anaya Diaz</i>	How to build the future with limited and finite resources? <i>Y. Sieffert, J.-M. Huygen & D. Daudon</i>	Minimal-surface-T-connections in architecture <i>G.H. Filz</i>
Exploratory experimental investigations on post-tensioned structural glass beams <i>C. Louter, J.H. Nielsen & J. Belis</i>	Determination of residual load-bearing capacity of existing masonry structures <i>J. Witzany, T. Cejka & R. Zigler</i>	Between Le Duc and Mérimée. Talking about Vézelay <i>A. Rueda, J. Anaya Diaz & P. Cruz Franco</i>	Virtual reality as a multi disciplinary communication tool <i>L.D. Houck, R. Hassan, T.K. Thiis & K. Solheim</i>	Understanding the interplay between structure and architecture using building information modeling (BIM) <i>N. Nawari</i>	Tree like structures and fractal <i>F. Escrig, J. Sánchez Sánchez & T. Rodríguez León</i>
Experimental investigations and numerical modelling of point fitted glass panes <i>O. Hechler, M. Tibolt & C. Odenbreit</i>	Structural behaviour of masonry buildings subjected to landslide. Load path method approach <i>F. Palmisano & A. Elia</i>	Systems of rationalization. New methods and changes of organization in Swedish building construction around 1970 <i>E. Sigge</i>	Parametric Design and Non-Linear Analysis of a Large-Scale Deployable Roof Structure based on Action Origami <i>R. Gentry, D. Baerlecken, M. Swarts & N. Wonoto</i>	Force material form. Transferring historical construction concepts into contemporary architectural design <i>M. Rinke & J. Shwartz</i>	Lightweight architecture. Characteristics for an effective application in case of emergency <i>R. Maffei, A. Zanelli & P. Beccarelli</i>

<p>Reinforced glass connection. Concept, test and detail</p> <p><i>P. Carvalho, P.J.S. Cruz & F.A. Veer</i></p>		<p>The architect / structural engineer relationship. A symmetrical symbiosis</p> <p><i>R. Oprita</i></p>	<p>Tessellation of Islamic star patterns on complex forms</p> <p><i>M.C. Fernandez-Cabo & A. Casas-Pérez</i></p>		<p>Innovative technological solutions for ultra-lightweight shelters covering archaeological sites</p> <p><i>P. Beccarelli, A.Zanelli, R. Maffei, G. Carra & E. Rosina</i></p>
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Friday Evening (FrE), July 26, 2013	
16:30 – 17:00	Coffee Break (Lobby of the Main Auditorium)
17:00 – 18:40	Concurrent Technical Sessions: FrE 1 to FrE 4

FrE 1 – Room B1.14	FrE 2 – Room B1.15	FrE 3 – Room B1.17	FrE 4 – Room B1.13	
General Session The use of new materials	General Session: The history of the relationship between architects and structural engineers (3)	General Session Educating architects and structural Engineers (3)	General Session Lightweight and membrane structures (2)	
Chair: Aires Camões	Chair: P. Bandeira	Chair: A.L. Rodrigues	Chair: F. Escrig	
Agricultural residues applications in contemporary building industry <i>H. Dahy & J. Knippers</i>	Structural engineering for timber and steel-timber trusses in Italy (1800-1950) <i>E. Zamperini</i>	Conceptual structural design. An important topic in architectural education <i>L. Sgambi, N. Basso & M.E. Codazzi</i>	SPACEPLATES building system <i>A. Romme, I.Sørvin & A.Bagger</i>	
The finishing touch for better energy efficiency of episodically used masonry wall single family houses <i>S. Djambova & O. Simov</i>	"Arup calling". Engineering gets to Paris. Centre Pompidou (1971-77) <i>M. Comba</i>	The advantage of including full-size construction as an educational tool in the architecture education <i>J. Siem, B.O.Braaten, B.Manum, P.Aalto & A.Gilberg</i>	Qualitative investigation: efficiency of a membrane roof project <i>E. F. Nunes, J. B. M. de Sousa Jr., B. Baier & A. M. S. de Freitas</i>	
Light, colour, form and surface <i>C. Eckhardt</i>	Anatomy of structures <i>F. Selmani</i>	Found in translation. Physical models as a structural design tool for architects <i>T. Vilquin</i>	"Corogami hut" case study <i>C. Wiebe</i>	
Cement-bonded particle boards of modified composition with alternative raw sources utilization <i>T. Melichar & Bydžovský</i>	The structural engineer. Finding the philosophy of the profession <i>M. Uihlein</i>	Reframing structures. Frame experimentation in artistic studies <i>I. Vrouwe & B. Pak</i>	Surface- and mesh-based approaches towards a materialization of architectural catenoids <i>G.H. Filz, S. Schiefer & Th. Stecher</i>	
Thermal and energy refurbishment of university buildings using phase change materials <i>R. Vicente, L.N. Gomes, M.S. Rodrigues & T.R. Silva</i>	Steel skeleton and terra cotta skin. Engineering and architecture of the Chicago stock exchange by Adler and Sullivan <i>M. Chiurini</i>	Aesthetics in the education of civil and structural engineers <i>J.M. Songel</i>	Temporary reticulated membrane at PS1 <i>P. Endres</i>	

18:40 – 19:00	Closing Ceremony (Main Auditorium)
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