

CONFERENCE PROGRAM_ORAL_MONDAY, AUGUST 20

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Room 101			2. CONNECTIONS 2.1 CLT Connections		Moderator : Douglas RAMMER
CODE	ABS	TIME	TITLE	AUTHOR(S)	
CON-01-01	S160	10:00-10:20	Assessment of Connections in Cross-Laminated Timber Buildings Regarding Structural Robustness	Johannes Albert Josef HUBER	Mats EKEVAD, Sven BERG, Ulf Arne GIRHAMMAR
CON-01-02	S125	10:20-10:40	Long-Term Behavior of Steel-CLT Connections	Alireza A. CHINIFORUSH	Ali AKBARNEZHAD, Hamid VALIPOUR, Mark BRADFORD
CON-01-03	S680	10:40-11:00	Point-Supported Flat Slabs with CLT-Panels	Bernhard MAURER	Roland MADEREBNER, Philipp ZINGERLE, Ingo FÄRBERBÖCK, Michael FLACH
CON-01-04	S672	11:00-11:20	Corrosion Verification Experiment of The Nail Driven Into CLT	Masaki MAKINO	Ryo TANAKA, Hiroki ISHIYAMA
CON-01-05	S398	11:20-11:40	Tensile and Shear Behaviour of an Innovative Angle Bracket for CLT Structures	Flavio NEBIOLO	Giuseppe D'ARENZO, Giovanni RINALDIN Marinella FOSSETTI, Massimo FRAGIACOMO, Manuela CHIODEGA
CON-01-06	S340	11:40-12:00	The Rotational Stiffness of Cross Laminated Timber Half Lap Joints	Ewan MACPHERSON	Panayiotis PAPASTAVROU, Tristan WALLWORK, Simon SMITH, Allan MCRORBIE

Room 102			3. STRUCTURAL PERFORMANCE 3.1 CLT Structures		Moderator : Tomi TORATTI
CODE	ABS	TIME	TITLE	AUTHOR(S)	
STR-01-01	S437	10:00-10:20	Shaping Cross-Laminated Timber Panels to Rock and Roll as Seismic Pendulum Isolators	Marco Lo RICCO	Al GHORBANPOOR, Douglas RAMMER, Shiling PEI
STR-01-02	S350	10:20-10:40	Strength and Stiffness of CLT Shear Walls in Platform Construction	Md SHAHNEWAZ	Thomas TANNERT, Marjan POPOVSKI, M Shahria ALAM
STR-01-03	S463	10:40-11:00	Seismic Resilient Cross Laminated Timber (CLT) Platform Structures Using Resilient Slip Friction Joints (RSFJs)	Ashkan HASHEMI	Reza MASOUDNIA, Pouyan ZARNANI, Pierre QUENNEVILLE
STR-01-04	S286	11:00-11:20	Experimental Study of Post-Tensioned CLT Wall Systems	Kai-Yi WU	Asif IQBAL, Marjan POPOVSKI
STR-01-05	S205	11:20-11:40	On the Rocking Behavior of CLT Wall Assemblies	Gabriele TAMAGNONE	Massimo FRAGIACOMO

Room 105			2. CONNECTIONS 2.2 Innovative Connections		Moderator : Minghao Li
CODE	ABS	TIME	TITLE	AUTHOR(S)	
CON-02-01	S161	10:00-10:20	Development of Glulam Moment-Resisting Joint Having High Initial Stiffness, Clear Yielding Moment and Rich Ductility	Kohei KOMATSU	Tomohiro MORIMOTO, Shinsuke KURUMADA, Hiroaki TANAKA, Takeshi SHIMIZU, Shigeaki KAWAHARA, Nobuhiko AKIYAMA, Makoto NAKATANI
CON-02-02	S791	10:20-10:40	Pinching-Free Timber Connections - Opening Up New Possibilities for Timber Structures Resisting Earthquakes	Pierre QUENNEVILLE	Nicholas CHAN, Pouyan ZARNANI
CON-02-03	S185	10:40-11:00	Development of an Inter-Panel Connector for Cross-Laminated Timber Rocking Walls	Ian MORRELL	James D. DOLAN, Adam PHILLIPS Hans-Erik BLOMGREN
CON-02-04	S781	11:00-11:20	New Seismic Damage Avoidant Timber Brace Using Innovative Resilient Slip Friction Joints for Multi-story Applications	Seyed Mohamad YOUSEF-BEIK	Pouyan ZARNANI, Ashkan HASHEMI Farhad Mohammadi DARANI, Pierre QUENNEVILLE
CON-02-05	S692	11:20-11:40	Rotational Performance of Resilient Slip Friction Joint (RSFJ) As a New Damage Free Seismic Connection	Pouyan ZARNANI	Armin VALADBEIGI, Ashkan HASHEMI, Farhad Mohammadi DARANI, Seyed Mohamad Mahdi YOUSEF-BEIK, Hamed BAGHERI, Pierre QUENNEVILLE
CON-02-06	S439	11:40-12:00	Out-Of-Plane Experimental Behaviour of a Timber Column with Resilient Slip Friction Joints	Armin VALADBEIGI	Pouyan ZARNANI, Pierre QUENNEVILLE

Room 201			1. MATERIALS 1.1 Cross Laminated Timber I		Moderator : Carlito CALIL Junior
CODE	ABS	TIME	TITLE	AUTHOR(S)	
MAT-01-01	S042	10:00-10:20	Moisture Intrusion in Cross Laminated Timber and the Potential for Fungal Attack	Jeffrey J. MORRELL	Arijit SINHA, Ian N. MORRELL Daniel TREBLEHORN
MAT-01-02	S484	10:20-10:40	Experimental Testing and Numerical Validation of Cross-Laminated Timber Under Debris Impact Loading	Michael STONER	Weichiang PANG
MAT-01-03	S828	10:40-11:00	Effects of Species, Lamina Thickness and Combination on Moisture-Related Strain in Cross-Laminated Timber	Gi Young JEONG	Sung-Jun PANG
MAT-01-04	S122	11:00-11:20	Performance of Wood Adhesives for Cross Laminated Timber Under Elevated Temperature	Samuel ZELINKA	Kenneth SULLIVAN, Shiling PEI Nathan BECHLE, Douglas RAMMER Laura HASBURGH, Noah OTTUM
MAT-01-05	S467	11:20-11:40	Butt Joint Gluing of Cross Laminated Timber	Adam THEMESSEL	Steffen FRANKE, Martin LEHMANN Dario SALZGEBER
MAT-01-06	S421	11:40-12:00	Development of Adhesive Free Engineered Wood Products – Towards Adhesive Free Timber Buildings	Zhongwei GUAN	Adeayo SOTAYO, Marc OUDJENE Imane El HOUJEYRI, Annette HARTE Sameer MEHRA, Peer HALLER Siavash NAMARI, Ahmed MAKRAFI Francois DENEUFBOURG, Salim BELOUETTAR

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Room 202			1. MATERIALS 1.2 Grading and Quality Control			MODERATOR : Laura MOYA		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
MAT-O2-01	S461	10:00-10:20	Some Thresholds for Grading British Grown Spruce to Optimised Strength Classes Using Longitudinal Resonance	Dan RIDLEY-ELLIS Steven ADAMS, Stefan LEHNEKE				
MAT-O2-02	S734	10:20-10:40	Visual Grade Estimation of Lumber Boards for Cross-Laminated Panels Through Damping Ratio Evaluations	Alexander OPAZO-VEGA Franco Benedetti LEONELLI, Sergio Alarcon CAMPOS				
MAT-O2-03	S519	10:40-11:00	Development of an Advanced Fe-Numerical Method for Virtual Grading of Timber	Jan-Willem van de KUILEN Ani Khaloian SARNAGHI				
MAT-O2-04	S799	11:00-11:20	Inline Tomosynthesis for Strength-Based Machine Grading of Large Cross Section Timber	Hyeon-jeong LEE Chul-ki KIM, Jung-kwon OH				
MAT-O2-05	S771	11:20-11:40	Relationships Between Non-Destructive Measurements and Mechanical Properties of Tropical Hardwoods	Jan-Willem van de KUILEN Geert RAVENSHORST				
MAT-O2-06	S626	11:40-12:00	Grading Development of Indonesian Bamboo Culm: Case Study on Tali Bamboo (Gigantochloa Apus)	Naresworo NUGROHO Effendi Tri BAHTIAR, Nurmadina				

Room 203			8. EDUCATION AND FUTURE TRENDS 8.1 Trends in Wood Construction I			MODERATOR : Mariapaola RIGGIO		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
EDU-O1-01	S582	10:00-10:20	Circular Engineering - The Future Generation in Timber	Carsten HEIN Kristjan NIELSEN, Stuart SMITH, Marie BREIDENBACH, Adriano HELLBUSCH				
EDU-O1-02	S424	10:20-10:40	Tall Timber Buildings: Emerging Trends and Typologies	Ivana KUZMANOVSKA Eugenia GASPARRI, David Tapias MONNE, Mathew AITCHISON				
EDU-O1-03	S611	10:40-11:00	New Market Opportunities for Timber Construction in China Tourism Development	Chao LIANG Jian GONG, Bob ZHOU				
EDU-O1-04	S283	11:00-11:20	Building Information Modeling in Timber Construction – a Solution for Planning Process, Design Phases and the Unification of Scope of Works	Elisabeth ABERGER Joerg KOPPELHUBER, Detlef HECK				
EDU-O1-05	S164	11:20-11:40	The Implementation of Japanese Cross Laminated Timber: Current Situation and Future Tasks	Rafael Novais PASSARELLI Mikio KOSHIHARA				
EDU-O1-06	S568	11:40-12:00	Practitioners' Opinions about the En 1995 – Results from Comprehensive Online Survey	Mislav STEPINAC Keerthi RANASINGHE, Jose Manuel CABRERO, Marion KLEIBER				

Room 209			6. ENVIRONMENTAL IMPACT AND ENERGY 6.1 Energy and Thermal Performance			MODERATOR : Moon Jae Park		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
ENV-O1-01	S452	10:00-10:20	Future Requirement for Sustainable Building Envelope	Xiaodong (Alice) WANG Alirio GARZON, Olle HAGMAN, Pierre BLANCHET				
ENV-O1-02	S639	10:20-10:40	Thermal Activation of Solid Timber Elements for Indoor Climate Control	Klaus MINDRUP Stefan WINTER				
ENV-O1-03	S592	10:40-11:00	Energy and Cost Efficiency of a Prefabricated Timber Social House in Chile: an Interdisciplinary Challenge	Eduardo WIEGAND Juan Ignacio BAIXAS, Mario UBILLA, Alejandro Mac CAWLEY, Jorge VERA, Elbio AVANZINI, Enric SERRA, Manuel LUARTE, Sebastián CÁRCAMO, Alberto PEÑALOZA, Francisco CHATEAU, Gonzalo RODRÍGUEZ, Felipe VICTORERO				
ENV-O1-04	S406	11:00-11:20	Hygrothermal Analysis of Timber-Based External Walls across Different Australian Climate Zones	Eugenia GASPARRI Arianna BRAMBILLA, Mathew AITCHISON				
ENV-O1-05	S057	11:20-11:40	Development of Timber-Wood Lightweight Concrete-Composite for Multi-Story Façades	Alireza FADAI Alex MÜLLNER, Joachim Nathanael NACKLER				
ENV-O1-06	S362	11:40-12:00	Application of Shape-Stabilized Phase-Change Material Sheets as Thermal Energy Storage to Reduce Heating Load in Timber House	Hyun Bae KIM Masayuki MAE				

Room 101			2. CONNECTIONS 2.3 Screw Connections			MODERATOR : Mohammad MOHAMMAD		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
CON-O3-01	S266	13:00-13:20	The Effect of Self-Tapping Screw Reinforcement on Moisture Induced Stresses in Dowel-Type Connections	Mari IDA Wen-Shao CHANG				
CON-O3-02	S123	13:20-13:40	Stiffness of Axially Loaded Fully Threaded Screws	Yvonne STEIGE Hans Joachim BLASS				
CON-O3-03	S397	13:40-14:00	Assessing the Seismic Performance of Screws Used in Timber Structures by Means of Cyclic Bending Tests	Flavio NEBIOLO Matteo IZZI, Andrea POLASTRI, Chiara LUZZANI				
CON-O3-04	S359	14:00-14:20	Reliability Analysis of Load-carrying Capacity for Connections Consisting of Inclined Self-tapping Screws	Ruihan ZHAO Thomas JOYCE, Ying Hei CHUI				
CON-O3-05	S317	14:20-14:40	Group Effect for Self-Tapping-Screws in CLT Subjected to Shear and Axial Loads	Afrin HOSSAIN Marjan POPOVSKI, Thomas TANNERT				

Room 102			3. STRUCTURAL PERFORMANCE 3.2 Hybrid System I			MODERATOR : Hiroshi ISODA		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
STR-O2-01	S230	13:00-13:20	Experimental and Numerical Study on Planar Timber Shear Wall - Steel Frame Hybrid Structure with Slotted-Bolted Dampers	Hanlin DONG Zheng LI, Minjuan HE, Qi LUO, Wenchen DONG				
STR-O2-02	S236	13:20-13:40	Parametric Analysis and Direct Displacement-Based Design of Timber-Steel Hybrid Structures	Zheng LI Xijun WANG, Minjuan HE				
STR-O2-03	S309	13:40-14:00	Diaphragmatic Behaviour of Hybrid Cross-Laminated Timber Steel Floors	Cristiano LOSS Filippo GOBBI, Thomas TANNERT				
STR-O2-04	S401	14:00-14:20	Dynamic Response of an Under-Deck Cable-Stayed Timber-Concrete Composite Bridge Under a Moving Load	Zhan LYU Christian MÁLAGA-CHUQUITAYPE, Ana M. RUIZ-TERAN				
STR-O2-05	S455	14:20-14:40	Prefabricated, Pre-Stressed Composite Timber Floor Modules for High Performance Applications	Gianni SCHIRO Ivan GIONGO, Daniele RICCADONNA, Markus ENDERS-COMBERG, Maurizio PIAZZA				

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Room 105 2. CONNECTIONS 2.4 Connections Design MODERATOR : Gi Young JEONG

CODE	ABS	TIME	TITLE	AUTHOR(S)	
CON-04-01	S043	13:00-13:20	Prefabricated Timber-Steel-Concrete Ribbed Decks: Experimental Study	Felipe RIOLA-PARADA	Wolfgang WINTER, Kamyar TAVOUSHI, Alireza FADAI, Jože LOPATIČ, Ivana PRASNJAK
CON-04-02	S356	13:20-13:40	Extended End Plate Semi-Rigid Composite Joints with CLT Panels and Demountable Shear Connectors	Alireza A.CHINIFORUSH	Mark A.BRADFORD, Hamid R.VALIPOUR, Abdolreza ATAEI
CON-04-03	S503	13:40-14:00	High-Performance Connection System for Mid-Rise CLT Buildings in High Seismic Area	Yoshiharu AZUMI	Tatsuya MIYAKE, Masahide MURAKAMI, Naohito KAWAI, Takahiro TSUCHIMOTO, Hiroshi ISODA
CON-04-04	S285	14:00-14:20	Revision of Bolt Connection Design Formulae for Standard GB 50005-2017 and a Comparison of the Lateral Resistance between National Design Codes	Shuang NIU	Xiaoting WANG, Enchun ZHU

Room 201 1. MATERIALS 1.3 Cross Laminated Timber II MODERATOR : Borjen YEHE

CODE	ABS	TIME	TITLE	AUTHOR(S)	
MAT-03-01	S497	13:00-13:20	Technical Solutions to Increase Competitiveness of Cross-Laminated Timber from the Nordic Countries – an Overview	Magnus FREDRIKSSON	Mattias BRÄNNSTRÖM
MAT-03-02	S495	13:20-13:40	An Improved Model for the Fire Design of Cross Laminated Timber In Bending	Joachim SCHMID	Michael KLIPPEL, Reto FAHRNI, Andrea FRANGI, Mattia TISO, Alar JUST, Norman WERTHER
MAT-03-03	S707	13:40-14:00	Moisture Response of a Full-Scale Cross Laminated Timber Panel During Environmental Simulation: Key Factors in Design and Management	Evan SCHMIDT	Mariapaola RIGGIO, Andre BARBOSA, Ignace MUGABO, Frederik LALEICKE
MAT-03-04	S046	14:00-14:20	Analytical and Experimental Evaluation of the Effect of Knots on Rolling Shear Properties of Cross Laminated Timber (CLT)	Yawei CAO	Jason STREET, Hyungsuk LIM
MAT-03-05	S598	14:20-14:40	Evaluation of Adhesive Systems for Treated Cross-Laminated Timber (CLT)	Sachin TRIPATHI	Hyungsuk LIM

Room 202 1. MATERIALS 1.4 Thermally Modified Wood MODERATOR : Jan-Willem van de KUILEN

CODE	ABS	TIME	TITLE	AUTHOR(S)	
MAT-04-01	S634	13:00-13:20	Effect of Heat Treatment on Sound Absorption Coefficient of Oak Wood	Hyunwoo CHUNG	Yonggun PARK, Sang-Yun YANG, Hyunbin KIM, Yeonjung HAN, Yoon-Seong CHANG, Hwanmyeong YEO
MAT-04-02	S212	13:20-13:40	Effects of Thermal Treatment on the Microstructure of Cell Walls and Thermal Conductivity of Wood	Koji MURATA	Miwako MURO, Toshimitsu HATA
MAT-04-03	S418	13:40-14:00	Evaluation of Non-destructive Test Methods to Predict Bending Properties of Thermally Modified Timber	Joran van BLOKLAND	Stergios ADAMOPOULOS, Anders OLSSON, Jan OSCARSSON, Björn KÄLLANDER
MAT-04-04	S556	14:00-14:20	Thermally Modified Wood: Fracture Toughness in Mode II Examined Using Optical Technique	Václav SEBERA	Miguel REDON, Martin BRABEC, David DĚCKÝ, Petr ČERMÁK, Jaromír MILCH, Jan TIPPNER
MAT-04-05	S627	14:20-14:40	Theoretical Understanding of Self-Sustaining Smoldering of Wood-Fiber Panels and its Experimental Testing	Pablo GUINDOS	Minia-Xisela RODRÍGUEZ, Apurva PATEL

Room 203 8. EDUCATION AND FUTURE TRENDS 8.2 Education I MODERATOR : Robert JOCKWER

CODE	ABS	TIME	TITLE	AUTHOR(S)	
EDU-02-01	S434	13:00-13:20	Teaching Timber Construction in Learn-by-Doing Format Through the Construction of a Full-Scale House	Clément BOUDAUD	Franck MICHAUD, Francesca LANATA
EDU-02-02	S530	13:20-13:40	Structural Engineering and Teaching by Doing: How Wood Contributes to the Implementation of New Pedagogical Approaches	Thierry DESCAMPS	Laurent Van PARYS, Sélim DATOUSSAÏD, David LAPLUME
EDU-02-03	S559	13:40-14:00	New Training Programs in China's Vocational Schools	Chao LIANG	Kerry HAGGKVIST
EDU-02-04	S024	14:00-14:20	Hayward Field Mass Timber Grandstands: Promoting Innovative Design Through Interdisciplinary Education	Judith SHEINE	Mikhail GERSHFELD
EDU-02-05	S737	14:20-14:40	Anatomy of Wood Construction in Chile: 14 Remarkable Works Studied in an Architectural Research Workshop.	Franciso CHATEAU	Andrés SIERRA

Room 209 6. ENVIRONMENTAL IMPACT AND ENERGY 6.2 Environment and LCA MODERATOR : Se Chang OH

CODE	ABS	TIME	TITLE	AUTHOR(S)	
ENV-02-01	S165	13:00-13:20	Mass Timber System in Japan: Environmental and Economic Impact of a Mid-Storey Residential Building	Rafael Novais PASSARELLI	Mikio KOSHIHARA
ENV-02-02	S167	13:20-13:40	The Environmental Impact of Reused CLT Panels: Study of a Single-Storey Commercial Building in Japan	Rafael Novais PASSARELLI	
ENV-02-03	S258	13:40-14:00	Comparison between Local Versus Regional Climate Using Monitoring Data of Timber Structures	Marcus SCHIERE	Bettine FRANKE, Steffen FRANKE, Andreas MÜLLER
ENV-02-04	S145	14:00-14:20	How the Choice of Building Materials affects the Environmental Burdens in Non-residential and Multi-storey Residential Building Construction	Thuy Le Hong NGUYEN	Rijun SHRESTHA, Keith CREWS
ENV-02-05	S047	14:20-14:40	Evaluating Environmental Impacts of Wood Substitution in Existing Buildings Using Life-Cycle Analysis	Ian MORRELL	Arijit SINHA, Thomas MILLER, Kristina MILAJ, John TOKARCZYK

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Room 101			2. CONNECTIONS 2.5 Timber Concrete Composites		MODERATOR : Minjuan HE	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
CON-05-01	S207	08:20-08:40	Investigation on Tcc Beams with Threaded Rebar as Shear Connection	Abdelhamid BOUCHAIR		Adamah MESSAN, Eric FOURNELY, François TSOBNANG, Decroly Djoubissié DENOUE
CON-05-02	S369	08:40-09:00	Behaviour of Mass Timber Panel-Concrete Connections with Inclined Self-Tapping Screws and Insulation Layer	Md Abdul Hamid MIRDAD		Ying Hei CHUI
CON-05-03	S175	09:00-09:20	Investigations on the Effects of Geometry in Timber-Concrete Composite Push-Out Tests with Notched Connections	Simon MÖNCH		Ulrike KUHLMANN
CON-05-04	S643	09:20-09:40	Shear Strength of Different Connection and Concrete Types for Timber Concrete Composites (TCC)	Karol S. SIKORA		Zuwei LIU
CON-05-05	S264	09:40-10:00	Experimental and Numerical Investigations on the Structural Behaviour of Full-Scale Timber-to-Concrete Structures	Hacene AIT-AIDER		E-M MEGHLAT, Marc OUDJENE, Pascal LARDEUR, Mourad KHELIFA, Jean-Louis. BATOZ
Room 102			3. STRUCTURAL PERFORMANCE 3.3 Seismic Performance I		MODERATOR : Zheng LI	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
STR-03-01	S035	08:20-08:40	Influence of Parameters Affecting the Racking Strength of Partially Anchored Timber Framed Walls	Ben ZHANG		Roshan DOHNJU, Abdy KERMANI, Jack PORTEOUS, Bernardino D'AMICO
STR-03-02	S119	08:40-09:00	Full-Scale Shake Table Test of Mass-Timber Building with Resilient Post-Tensioned Rocking Walls	Shiling PEI		John van de LINDT, Andre BARBOSA, Jeffrey BERMAN, Eric MCDONNELL, James DOLAN, Reid B. ZIMMERMAN, Richard SAUSE, James RICLES, Keri RYAN
STR-03-03	S625	09:00-09:20	Damage Report of Wooden Buildings in Mashiki Town Caused by the 2016 Kumamoto Earthquake	Aoi KUWAHARA		Kei TANAKA, Masafumi INOUE, Yuki HIRAOKA
STR-03-04	S202	09:20-09:40	Influence of Varying Strength, from Story to Story, on Modeled Seismic Response of Wood-Frame Shear Wall Structures	Finley A.CHARNEY		Logan A. PERRY, Philip LINE
Room 105			4. BUILDING PERFORMANCE AND MANAGEMENT 4.1 Preservation and Maintenance		MODERATOR : Won Joung HWANG	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
BLD-01-01	S454	08:20-08:40	Agricultural Buildings with Timber Structure – Preventative Chemical Wood Preservation Inevitably Required?	Yuan JIANG		Philipp DIETSCH, Stefan WINTER
BLD-01-02	S433	08:40-09:00	Maintenance Systems and Costs for Wooden Facades	Francesca PAOLONI		Tiziana FERRANTE, Teresa VILLANI
BLD-01-03	S566	09:00-09:20	Pathology in Timber Structures: Risk Class, Recommendations of Inspection Methods and Scabbing Rehabilitation Techniques	Carlito CALIL Jr.		Leandro Dussarrat BRITO
BLD-01-04	S729	09:20-09:40	Developing an Event Tree for Probabilistic Moisture Risk Analysis of Urban Tall Timber Buildings	Sylvain BOULET		Stephan OTT, Andrea TIETZE, Stefan WINTER
BLD-01-05	S310	09:40-10:00	Wood as a Climate Buffer in a Discount Grocery Store	Kristine NORE		Alexander SEVERNISEN, Petter ARNESTAD, Roy ROSSEBø
Room 201			1. MATERIALS 1.5 Glued Laminated Timber		MODERATOR : Jeong Wook SEO	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
MAT-05-01	S144	08:20-08:40	Performance Study of Laboratory and In-Service Kekatong Glued Laminated Timber Railway Sleepers	Norshariza Mohamad BHKARI		AHMAD Z. , Abu BAKAR A. , Paridah Md TAHIR
MAT-05-02	S116	08:40-09:00	Impact Testing for Damage Detection in Glulam	Xiping WANG		Feng XU, Marko TEDER, Yunfei LIU
MAT-05-03	S018	09:00-09:20	Numerical and Experimental Studies on Mechanical Properties of Glued Laminated Timber Beams Made from European Beech Wood	Thomas EHRHART		Pedro PALMA, René STEIGER, Andrea FRANGI
MAT-05-04	S032	09:20-09:40	Improvement of Ash (Fraxinus Excelsior L.) Bonding Quality with One Component Polyurethane Adhesive and a Primer for Glued Laminated Timber	Martin LEHMANN		Gaspar CLERC, Joseph GABRIEL, Christian LEHRINGER, PICHÉLIN, Peter NIEMZ Frederic
MAT-05-05	S739	09:40-10:00	A Stochastic Finite Element Model for Glulam Beams of Hardwoods	Cristóbal TAPIA		Simon AICHER
Room 202			1. MATERIALS 1.6 Physical and Mechanical Properties I		MODERATOR : Richard DESJARDINS	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
MAT-06-01	S017	08:20-08:40	Estimation of the Tensile Strength of European Beech Timber Boards Based on Density, Dynamic Modulus of Elasticity and Local Fibre Orientation	Thomas EHRHART		René STEIGER, Pedro PALMA, Andrea FRANGI
MAT-06-02	S506	08:40-09:00	Simulating Failure Mechanisms in Wooden Boards with Knots by Means of a Microstructure-Based Multisurface Failure Criterion	Markus LUKACEVIC		Josef FÜSSL, Josef EBERHARDSTEINER
MAT-06-03	S081	09:00-09:20	Tensile Strength and Stiffness of Low Quality Beech (Fagus Sylvatica) Sawn Timber	Maximilian WESTERMAYR		Peter STAPEL, Jan Willem van de KUILEN
MAT-06-04	S649	09:20-09:40	Tensile Capacity of Finger Joint Connections - Considering Censored Data	Gerhard FINK		Philipp STADELMANN, Andrea FRANGI
MAT-06-05	S120	09:40-10:00	Assessment Method of Existing Timber Structures for ISO13822	Nobuyoshi YAMAGUCHI		

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Room 203			8. EDUCATION AND FUTURE TRENDS 8.3 Education II		MODERATOR : Almudena MAJANO	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
EDU-03-01	S112	08:20-08:40	From Promethean Architecture to Collective Design: Open Source Timber Building Systems as a Conceptual Framework for a Paradigm Shift in Architectural Education	Ulrich DANGEL		
EDU-03-02	S380	08:40-09:00	Timber in Design/Build Architectural Education in Chile Experiences from the Course "Introduccion a La Construccion"	Cristián SCHMITT	Diego ARROYO	
EDU-03-03	S743	09:00-09:20	Techniques of Wood Construction for Architecture Students: Learning through Drawing	Andrés SIERRA	Mario UBILLA	
EDU-03-04	S614	09:20-09:40	Course for Design of Structural Elements and Timber Unions according to Chilean Standard and Optimization of Calculation Times through the C+T Software	Marcelo GONZÁLEZ	Julio ASTUDILLO, Cristian ASTUDILLO, Ignacio GONZÁLEZ, Pablo GONZÁLEZ, Javiera PADILLA, Jorge CATALÁN	
EDU-03-05	S297	09:40-10:00	Integrated Wood Engineering at the University of Northern British Columbia	Guido WIMMERS	Maik GEHLOFF, Thomas TANNERT	

Room 209			7. TRADITIONAL AND HISTORIC STRUCTURES 7.1 Modeling and Numerical Approach		MODERATOR : Ario Ceccotti	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
TRD-01-01	S389	08:20-08:40	Possibilities for a Modification of Partial Safety Factors for Existing Timber Structures	Maria LOEBJINSKI	Wolfgang RUG, Hartmut PASTERNAK	
TRD-01-02	S296	08:40-09:00	Energy-Dissipation and Mid-Story Isolation Mechanism of an Antique Wooden Pagoda	Xue Liang WANG	Kai Rui WEI, Lei PENG Qing Rong OUYANG, Ze Cheng LI	
TRD-01-03	S821	09:00-09:20	A Modelling Methodology for Parametric Design of the Tiled Roof of Korean Traditional Wooden Buildings	Hyowon SEO	BongHee JEON, Uri CHAE Soyoung KIM	
TRD-01-04	S151	09:20-09:40	Simple Estimation Equation Strength and Collapse Mode of Japanese Traditional Timber Buildings with Large Hanging Walls	Saki OHMURA	Mina SUGINO, Yasuhiro HAYASHI	
TRD-01-05	S720	09:40-10:00	Parametric Studies of Five-Storied Pagoda by Seismic Response Analysis with 3D Analytical Model	Iuko TSUWA	Takafumi NAKAGAWA, Mikio KOSHIHARA	

Room 101			2. CONNECTIONS 2.6 Connections Performance		MODERATOR : Xiping WANG	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
CON-06-01	S253	13:20-13:40	Experimental Research on Hardwood Connections Loaded Perpendicular to the Grain	Almudena MAJANO-MAJANO	Antonio José LARA-BOCANEGRA, José XAVIER, José MORAIS	
CON-06-02	S413	13:40-14:00	Research on Proposing an Estimation Method of Splitting Strength in Timber Loaded Parallel to Wood Grain	Yo OCHIAI	Kenji AOKI, Masahiro INAYAMA	
CON-06-03	S041	14:00-14:20	Stiffness of Bolted Timber Connection	Nur Liza RAHIM	Pierre QUENNEVILLE, Gary M. RAFTERY	
CON-06-04	S431	14:20-14:40	Numerical and Experimental Study of Punched Metal Plate Connection Used for Long-Span Pitched Timber Roof Truss Structure	Petr SEJKOT	Sigurdur ORMARSSON, Johan VESSBY	
CON-06-05	S128	14:40-15:00	Shear and Tensile Properties of Adhesive Tape Joints between Wood and Sandwich Panels	Sina GLATTACKER	Hans Joachim BLASS	

Room 102			3. STRUCTURAL PERFORMANCE 3.4 Seismic Performance II		MODERATOR : Sardar MALEKMOHAMMADI	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
STR-04-01	S131	13:20-13:40	Cross-Laminated Timber Rocking Wall with Replaceable Fuses: Validation through Full-Scale Shake Table Testing	Hans-Erik BLOMGREN	Shiling PEI, Joshua POWERS, James D. DOLAN, Alex WILSON, Ian MORRELL, Zhibin JIN	
STR-04-02	S501	13:40-14:00	Experimental Seismic Response of a Full-Scale Japanese Conventional Wooden Post and Beam Building	Kotaro SUMIDA	Hiroshi ISODA, Masahiro MATSUDA, Kokoro YOSHIDA	
STR-04-03	S599	14:00-14:20	Lateral Strength and Ductile Behavior of a Mortise-Tenon Connected Timber Frame	Alexandros KOUROMENOS	James MWANGI, Jill NELSON, Cole MCDANIEL	
STR-04-04	S462	14:20-14:40	Development of Resilient Seismic Solutions for Timber Structures Using the Resilient Slip Friction Joint (RSFJ) Technology	Ashkan HASHEMI	Pouyan ZARNANI, Pierre QUENNEVILLE	
STR-04-05	S154	14:40-15:00	Static Loading Test and Shake Table Test on Column Rocking Resistance Using Scale Models	Naohito KAWAI		

Room 105			4. BUILDING PERFORMANCE AND MANAGEMENT 4.2 Fire Safety I		MODERATOR : Christian DAGENAIS	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
BLD-02-01	S134	13:20-13:40	Seismic Effect on the Fire Performance of Wooden Walls Designed for Low Rise Buildings	Yuji HASEMI		
BLD-02-02	S045	13:40-14:00	Fire Performance of Prefabricated Timber-Steel-Concrete Ribbed Decks	Alireza FADAI	Felipe RIOLA-PARADA, Kamyar TAVOUSSI, Wolfgang WINTER, Lukas STOCKERT	
BLD-02-03	S493	14:00-14:20	The Use of Furnace Tests to Describe Real Fires of Timber Structures	Joachim SCHMID	Michael KLIPPEL, Andrea FRANGI, Daniel BRANDON, David LANGE, Johan SJÖSTRÖM	
BLD-02-04	S562	14:20-14:40	Wood Buildings and Fire Risk in Current Urban Context: Case Studies in Tokyo and Vienna	Atsuko TANI		
BLD-02-05	S571	14:40-15:00	Safety Evaluation in Face of Fire of Three Solutions in Timber Fronts in Building's	Paulina González SOTO	Jaume Avellaneda DÍAZ-GRANDE, María Pilar GIRALDO, Diego Valdivieso CASCANTE, Camila Burgos LEIVA	

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Room 201			1. MATERIALS 1.7 Engineered Wood Products I			MODERATOR : Kevin CHEUNG		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
MAT-07-01	S181	13:20-13:40	Adhesive Curing Pressure for Press Gluing Applications Established through Different Fastener Types	Marcus SCHIERE Steffen FRANKE				
MAT-07-02	S504	13:40-14:00	Investigation of the Bond Quality and the Finger Joint Strength of Beech Glulam	Martin LEHMANN Gaspard CLERC, Christian LEHRINGER, Thomas STRAHM, Thomas VOLKMER				
MAT-07-03	S171	14:00-14:20	Mechanics of Diagonally Layered Cross-Laminated Timber	Dietrich BUCK Olle HAGMAN				
MAT-07-04	S393	14:20-14:40	Mechano-sorptive Creep in Reinforced Glulam	Conan O'CEALLAIGH Karol SIKORA, Daniel McPOLIN, Annette M.HARTE				
MAT-07-05	S319	14:40-15:00	Flexural Bending Behaviour of Built-Up Glulam Box-Section Beams	Osama SALEM Nishant VERMA				
Room 202			1. MATERIALS 1.8 Physical and Mechanical Properties II			MODERATOR : Sam SALEM		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
MAT-08-01	S795	13:20-13:40	Micro-Drillings Resistance Measurements of Dense Hardwoods for Hydraulic Structures	Wolfgang GARD Jan-Willem van de KUILEN				
MAT-08-02	S243	13:40-14:00	Friction Under Cyclic Loading	Timo CLAUS Werner SEIM, Jessica LIESE				
MAT-08-03	S299	14:00-14:20	Moisture Driven Damage Growth in Wood Material : 3D Image Analysis for Viscoelastic Numerical Model Validation	Rostand Mouttou PITI Seif Eddine HAMDJ, Joseph GRIL				
MAT-08-04	S572	14:20-14:40	Strengthening of Weak Timber Elements Using Fibre Reinforced Polymers – a Study on Bond	Devin WALLINE Ahmad RTEIL				
MAT-08-05	S206	14:40-15:00	Determination of Shear Modulus of Wood Joists from Torsion Tests and Relationship with Modulus of Elasticity	Aamir KHOKHAR Hexin ZHANG				
Room 203			8. EDUCATION AND FUTURE TRENDS 8.4 Trends in Wood Construction II			MODERATOR : Frane ZILIC		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
EDU-04-01	S590	13:20-13:40	Toward the New Hybrid Hanok for the Next Generations Exploring the Tools of Modern Ecological Engineering	Sodahm Suzanne SHIM Chaeshin YOON				
EDU-04-02	S392	13:40-14:00	Timber Construction Methods for Roof Stacking: Classification and Comparative Analysis	Mohamed AMER Shady ATTIA				
EDU-04-03	S478	14:00-14:20	Architects' Perception of EWPs and Modified Wood in Contemporary Timber Architecture	Manja Kitek KUZMAN Dick SANDBERG, Eva HAVIAROVA				
EDU-04-04	S029	14:20-14:40	A Theoretical Approach towards Ressource Efficiency in Multi-Story Timber Buildings through BIM and Lean	Felipe RIOLA-PARADA Aida SANTANA-SOSA				
EDU-04-05	S481	14:40-15:00	Industrialization of Building Processes - a Chance for Timber to Take the Lead	Stefan WINTER Claudia KÖHLER, Markus LECHNER				
Room 209			7. TRADITIONAL AND HISTORIC STRUCTURES 7.2 Structural Performance			MODERATOR : Cristian SCHMITT		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
TRD-02-01	S472	13:20-13:40	Seismic Behaviour of the Traditional Dieh-Dou Type Timber Roof Frame when Subjected to In-Plane Shaking	Yu-Lin CHUNG Yu-Chih HUANG, Sok Yee YEO, Yu-Hsiang YEH, Min-Fu HSU				
TRD-02-02	S405	13:40-14:00	Out-of-Plane Behaviour of the Taiwanese Traditional Complex Bracket Systems	Sok-Yee YEO Yu-Chih HUANG, Yu-Lin CHUNG, Yu-Hsiang YEH, Min-Fu HSU				
TRD-02-03	S055	14:00-14:20	Influence of Aging on Seismic Performance of "Kura-Zukuri Building"	Yuya TAKAIWA Koichi MATSUNO				
TRD-02-04	S536	14:20-14:40	Lateral Rigidity of Dou-Gong Bracket Complex Made of Glulam: A Case Study of Tianwang Hall, Luzhi, Ming Dynasty	Zherui LI Zeli QUE, Xiaolan ZHANG, Kohei KOMATSU, Akihisa KITAMORI, Hiroshi ISODA, Hongyi LV				
TRD-02-05	S644	14:40-15:00	Influence of Axial Force Application in the Behavior of Timber Framed Masonry Walls under In-Plane Static Cyclic Loading	Yoshihiro YAMAZAKI Hiroyasu SAKATA, Andreea DUTU, Mihai NISTE, Iulian SPATARELU				
Room 101			2. CONNECTIONS 2.7 Glued-in Rods			MODERATOR : Kohei KOMATSU		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
CON-07-01	S108	16:20-16:40	Connections with Glued-in Rods in Trusses Made of Beech-Lvl	Nico MEYER Hans Joachim BLASS				
CON-07-02	S803	16:40-17:00	Capacity Prediction for Glued-in Frp Joints	Till VALEE Marvin KAUFMANN, Benjamin ALTER, Thomas TANNERT				
CON-07-03	S061	17:00-17:20	Experimental Investigations of Grouted Timber Joints Exposed to Different Climate Conditions	Kay-Uwe SCHOBBER Tarick CHAHADE, Wieland BECKER				
CON-07-04	S802	17:20-17:40	Experimental and Numerical Investigations on Glued-in Hardwood Rods Using Bio Adhesives	Till VALLÉE Marvin KAUFMANN, Jana KOLBE				
Room 102			3. STRUCTURAL PERFORMANCE 3.5 Alternative Assemblies			MODERATOR : Hugh MORRIS		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
STR-05-01	S245	16:20-16:40	Interlocking Shear Wall Connections	Timo CLAUS Tobias RIEHLE, Werner SEIM, Tobias GÖTZ				
STR-05-02	S067	16:40-17:00	Reducing Footfall-Induced Vibration in the Timber Floor System Using a Pre-Stressed Shape Memory Alloy-Based Tuned Mass Damper	Haoyu HUANG Wen-Shao CHANG				
STR-05-03	S618	17:00-17:20	Study of Post-Tensioned Glulam Moment Frames	Kai-Yi WU Ryan BEAUMONT, Asif IQBAL				
STR-05-04	S358	17:20-17:40	Mechanical Characterization of Timber Structural Elements Using Integral Mechanical Attachments	Julien GAMERRO Ingebrigt LEMAÎTRE, Yves WEINAND				
STR-05-05	S426	17:40-18:00	Fragility Analysis of a Mass-Timber Frame Structure With Ring-Doweled Moment-Resisting Connections	Andre R. BARBOSA Luis A.C. NEVES, Leonardo RODRIGUES, Jorge M. BRANCO				

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Room 105			4. BUILDING PERFORMANCE AND MANAGEMENT 4.3 Fire Safety II			MODERATOR : Joo Saeng PARK		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
BLD-O3-01	S725	16:20-16:40	Effects of Fuel Load and Exposed CLT Surface Configuration in Reduced-Scale Experiments	Christopher J. BATEMAN		Alastair I. BARTLETT, Lukas RUTKAUSKAS, Rory M. HADDEN		
BLD-O3-02	S201	16:40-17:00	Fire Performance of Firestops, Penetrations, and Fire Doors in Mass Timber Assemblies	Christian DAGENAIS		Lindsay RANGER, Conroy LUM, Tony THOMAS		
BLD-O3-03	S025	17:00-17:20	Fire Safety of Façades in Medium and High-Rise Wood Building: the French Experience	Dr. Stéphane HAMEURY		Dhionis DHIMA, Pauline ANEST-BAVOUX, Quentin JULLIEN, Dr. Nicolas PINOTEAU, Paul LARDET, Véronique GEORGES, Dr. El Mehdi KOUTAIBA		
BLD-O3-04	S607	17:20-17:40	Fire Resistance of Unprotected Cross-Laminated Timber Wall and Floor Assemblies Made in the USA	Lech MUSZYŃSKI		Rakesh GUPTA, Brent PICKETT, Seung hyun HONG, Neil OSBORN		
BLD-O3-05	S777	17:40-18:00	Fire Performance of a Glulam-Frp Composite – Proof of Concept	Cristian MALUK		Harrison WALL, Dilum FERNANDO		

Room 201			1. MATERIALS 1.9 Physical and Mechanical Properties III			MODERATOR : Byung Dae PARK		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
MAT-O9-01	S408	16:20-16:40	Bond Quality of One-Component Polyurethane Bonded Laminated Timber Exposed to Wet Climatic Conditions	Zubin KARAMI		Gary M. RAFTERY, James LIM, Catherine NICHOLSON		
MAT-O9-02	S363	16:40-17:00	Correct Temperature Measurements in Fire Exposed Wood	Reto FAHRNI		Joachim SCHMID, Michael KLIPPEL, Andrea FRANGI		
MAT-O9-03	S487	17:00-17:20	Modelling of Mechano-Sorption in Clear Wood by Using an Orthotropic Non-Linear Moisture Flow and Stress Model	Sara FLORISSON		Sigurdur ORMARSSON, Johan VESSBY		
MAT-O9-04	S186	17:20-17:40	Mechanical Properties of Birch Timber under Compression Loading Parallel to Grain	Steven COLLINS		Gerhard FINK		
MAT-O9-05	S187	17:40-18:00	Design of Wooden Notched Beams Using R-Curves in Mixed Mode Failure : Application to Maritime Pine	Edouard SORIN		Jean-Luc COUREAU, M. CHAPLAIN, S. MOREL, F. LANATA, A. COINTE, P. GALIMARD		

Room 202			1. MATERIALS 1.10 Bamboo Products			MODERATOR : John van de LINDT		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
MAT-O10-01	S351	16:20-16:40	Thermal and Flexural Behaviour of Laminated Bamboo Exposed to Severe Radiant Heating	Alastair I. BARTLETT		Alfred CHAPMAN, Calum ROBERTS, Felix WIESNER, Rory M. HADDEN, Luke A.BISBY		
MAT-O10-02	S410	16:40-17:00	Experimental Study on Compressive and Tensile Strength of Bamboo at Elevated Temperatures	Mateo Gutierrez GONZALEZ		Joshua MADDEN, Cristian MALUK		
MAT-O10-03	S479	17:00-17:20	Flammability Studies for the Design of Fire-Safe Bamboo Structures	Angela SOLARTE		Juan P. HIDALGO, Jose L. TORERO		
MAT-O10-04	S470	17:20-17:40	First Advances of Comboo, a Novel Lightweight Bamboo Based Composite Material for Structural and Environmental Applications	Andreas LOTH		Ralf FÖRSTER		
MAT-O10-05	S308	17:40-18:00	Thermal Properties of Bamboo Scrimber at Elevated Temperatures	Zhaoyan CUI		Ming XU, Zhongfan CHEN, Jinhua XIANG		

Room 203			8. EDUCATION AND FUTURE TRENDS 8.5 Design and Design Tools I			MODERATOR : Joachim SCHMID		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
EDU-O5-01	S069	16:20-16:40	Structural Design Optimization of Multidimensional Gridshells: Parametric Interaction of Architecture, Engineering and Manufacturing	Tarick CHAHADE		Kay-Uwe SCHOBER, Leandro MORILLAS		
EDU-O5-02	S280	16:40-17:00	Parametric Timber Toolkit: a Timber Tailored Approach	John Haddal MORK		Marcin LUCZKOWSKI, Bendik MANUM, Anders RØNNQIST		
EDU-O5-03	S465	17:00-17:20	Innovative Developments in the Design and Construction of a Permanent Elastic Timber Gridshell	Antonio José LARA-BOCANEGRA		Antonio ROIG, Almudena MAJANO-MAJANO, Manuel GUAITA		
EDU-O5-04	S127	17:20-17:40	How Stability Coefficient Agrees and Differs between National Codes and How It is Addressed in Standard GB 50005-2017	Enchun ZHU		Liangliang HUO, Shuang NIU		

Room 209			7. TRADITIONAL AND HISTORIC STRUCTURES 7.3 Condition Assessment I			MODERATOR : Hao HUANG		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
TRD-O3-01	S595	16:20-16:40	Finnish Vernacular Architecture: Structure, Construction Process and Energy Performance	Eduardo WIEGAND		Toni LAHTI		
TRD-O3-02	S766	16:40-17:00	Study on the Structural Performance of the Hall-style Wooden Frame and Bracket Complexes in Tang Dynasty	Zhihan CUI		Juan WANG, Qingshan YANG		
TRD-O3-03	S235	17:00-17:20	The Large-Span Wooden Structure of Ancient Chinese Buildings	Bill Li Yu CHEN		Chen CAO, Yincheng JIANG, Xiaohe LIU, Liu JIE, Leiming ZHANG		
TRD-O3-04	S331	17:20-17:40	Micro Tremor Measurement and Damage Investigation on Historic Timber Masonry Composite Pagoda in Nepal -Three Storied Pagoda in Patan	Kaori FUJITA		Takahiro TOYODA, Toshikazu HANAZATO, Jishnu SUBEDI, Diego PONCE, Kohta KAWASHIMA, Sunwook KIM		

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Room 101			2. CONNECTIONS 2.8 Dowel Connections		Moderator : Hans Joachim BLASS
CODE	ABS	TIME	TITLE	AUTHOR(S)	
CON-08-01	S524	08:20-08:40	Stiffness and Slip in Multi-Dowel Flitch-Plate Timber Connections	Thomas P S REYNOLDS	Dario TRABUCCO, Will MIRANDA, Eleni TOUMPANAKI, Robert M FOSTER, Michael H RAMAGE
CON-08-02	S153	08:40-09:00	Experimental Study of Dowel Design in the Shear Plate Dowel Joint	Gustaf LARSSON	Per Johan GUSTAFSSON, Erik SERRANO
CON-08-03	S709	09:00-09:20	Influence of Cross Layers in Laminated Veneer Lumber for Joints with Dowel Type Fasteners	Kenji KOBAYASHI	Motoi YASUMURA, Minoru OKABE, Toshiki NARITA, Wonwoo LEE
CON-08-04	S173	09:20-09:40	Consideration of the Connection Stiffness in Design Process - Experimental Investigations	Julius GAUB	Ulrike KUHLMANN

Room 102			3. STRUCTURAL PERFORMANCE 3.6 Seismic Performance III		Moderator : Pablo GUIDOS
CODE	ABS	TIME	TITLE	AUTHOR(S)	
STR-06-01	S759	08:20-08:40	Full-Scale Static and Dynamic Testing of Timber Frame Houses Damged in the Christchurch Earthquakes	Hugh MORRIS	David CARRADINE, Minghao LI
STR-06-02	S482	08:40-09:00	Estimation of Vibration Property of Japanese Wooden Houses Using Subspace Identification Method	Yuji MIYAZU	
STR-06-03	S246	09:00-09:20	Evaluation of the Behaviour Factor Q for Light-Frame Buildings – a Comparative Study	Johannes HUMMEL	Werner SEIM, Sascha SCHWENDNER
STR-06-04	S247	09:20-09:40	Light-Frame Walls with OSB and GFB Sheathing under Earthquake Impact – A Comparative Study	Werner SEIM	Johannes HUMMEL, Sascha SCHWENDNER
STR-06-05	S668	09:40-10:00	Shear Performance of A Dynamically Loaded Wooden Wall	Kazuma OGAWA	Kento SUZUKI, Ryoma TANAKA, Masayuki NAGANO, Masayoshi KOMIYAMA, Yuichi MASAKI

Room 105			4. BUILDING PERFORMANCE AND MANAGEMENT 4.4 Fire Safety III		Moderator : David BARBER
CODE	ABS	TIME	TITLE	AUTHOR(S)	
BLD-04-01	S184	08:20-08:40	Rolling Shear Capacity of CLT at Elevated Temperature	Felix WIESNER	Darren BELL, Louis CHAUMONT, Luke BISBY, Susan DEENY
BLD-04-02	S149	08:40-09:00	Optimization of the Wood-Based Fire Protection Layer—an Engineering Approach to the Design of Fire-resistant Building Elements Based on a Sacrifice-Layer Concept	Tomoyo YAMAGUCHI	Yuji HASEMI, Daisuke KAMIKAWA, Jun-ichi SUZUKI
BLD-04-03	S114	09:00-09:20	CLT Compartment Fire Test	Alar JUST	Daniel BRANDON, Katrin Nele MÄGER, Rait PUKK, Johan SJÖSTRÖM, Fredrik KAHN
BLD-04-04	S325	09:20-09:40	Structural Behaviour of Large-Size Steel-Wood-Steel Glulam Frame Bolted Connections Subjected to Fire	Osama SALEM	Amirali RAHMANI

Room 201			1. MATERIALS 1.11 Engineered Wood Products II		Moderator : James WACKER
CODE	ABS	TIME	TITLE	AUTHOR(S)	
MAT-011-01	S522	08:20-08:40	Development of I-Shaped Beam Using Diagonal Lattice Panel: Evaluation of Structural Performance in Long-Term Loading	Tsuyoshi AOYAMA	Taisuke NAGASHIMA, Morio TSUCHIYA, Yamato UNNO, Yoshimitsu OHASHI
MAT-011-02	S407	08:40-09:00	Enhancing the Fire Performance of Engineered Mass Timber and its Implications to the Fire Safety Strategy	Andres F. OSORIO	Juan P. HIDALGO, Philip D. EVANS
MAT-011-03	S436	09:00-09:20	Assessing Adequacy of Numerical Representation for Optimisation Performances in Long Span Timber Floors	Sveinung NESHEIM	Kjell Arne MALO
MAT-011-04	S113	09:20-09:40	Capacity and Reliability of LVL Beams Manufactured from Juvenile Hardwood Plantation Logs	Benoit P. GILBERT	Henri BAILLERES, Hao ZHANG, Robert L. MCGAVIN
MAT-011-05	S779	09:40-10:00	Xlam Ribbed Plates	Iztok SUSTERSIC	Bruno DUJIC, Simon AICHER

Room 202			5. TALL WOOD BUILDINGS 5.1 Load Resisting System		Moderator : Juan Jose Ugarte GURRUCHAGA
CODE	ABS	TIME	TITLE	AUTHOR(S)	
TWB-01-01	S200	08:20-08:40	Effect of Type of Lateral Load Resisting System on the Natural Frequencies of Mid- to High-Rise Wood Building	Samuel Cuerrier AUCLAIR	Lin HU, Sylvain GAGNON, Mohammad MOHAMMAD
TWB-01-02	S543	08:40-09:00	On the Lateral Stability of Multi-Story Mass-Timber Buildings Subjected to Tornado-Like Wind Field	Matiyas A. BEZABEH	Anant GAJROLA, Girma BITSUAMLAK, Solomon TESFAMARIAM, Marjan POPOVSKI
TWB-01-03	S703	09:00-09:20	Modal Identification Study of a Four-Story Mass-Timber Building	Andre R. BARBOSA	Ignace MUGABO, Mariapaola RIGGIO
TWB-01-04	S146	09:20-09:40	Progressive Collapse (Robustness) Behaviour of Mid-Rise Mass Timber Frame Buildings	Chunhao LYU	Benoit P. GILBERT, Shanmuganathan GUNALAN, Hassan KARAMPPOUR, Ian D. UNDERHILL, Mahyar MASAELI, Hong GUAN
TWB-01-05	S605	09:40-10:00	Deformation Behaviour of Highly Loaded Elements in Tall Timber Buildings	Robert JOCKWER	Raphael FRÖHLICH, Jonas WYDLER, Konstantinos VOULPIOTIS, Joachim SCHABEL, Andrea FRANGI

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Room 203			8. EDUCATION AND FUTURE TRENDS 8.6 Design and Design Tools II		MODERATOR : Sang Sik JANG	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
EDU-06-01	S701	08:20-08:40	Simplifying Complex Problems: Use of Parametric Tools to Design and Build Complex Wood Structures	Konstantinos VOULPIOTIS		
EDU-06-02	S697	08:40-09:00	Affordances of Complexity: Evaluation of A Robotic Production Process for Segmented Timber Shell Structures	Oliver KRIEG	Simon BECHERT, Abel GROENEWOLT, Rafael HORN, Jan KNIPPERS, Achim MENGES	
EDU-06-03	S770	09:00-09:20	On the Seismic Vulnerability Assessment of Timber and Steel Large-Span Structures	Eric FOURNELLY	Beatrice FAGGIANO, Alexis MASSE, Giacomo IOVANE, Federico M. MAZZOLANI, Abdelhamid BOUCHAIR	
EDU-06-04	S661	09:20-09:40	Computational Design Techniques as Enablers of Industry 4.0 Approaches in GLT Industry	Gabriele Pasetti MONIZZA	Cristina BENEDETTI, Dominik T. MATT	
Room 209			7. TRADITIONAL AND HISTORIC STRUCTURES 7.4 Condition Assessment II		MODERATOR : Rainer GORLACHER	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
TRD-04-01	S223	08:20-08:40	Species of Palace Building Members in Korea	Yo-Jung KIM	Byung-Hwa SON, Kwang-Hee LEE, Hyun-Min JEONG, Jeong-Wook SEO, Gyu-Seong HAN	
TRD-04-02	S404	08:40-09:00	Analytical and Experimental Study on the Seismic Performance of Roof Structure of Japanese Traditional Temples	Atsuo TAKINO	Saori IKEUCHI	
TRD-04-03	S738	09:00-09:20	Climate-Induced Damage in Historical Cabinet Doors	Rianne A. LUIMES	Akke S.J. SUIKER, André J.M. JORISSEN, Henk L. SCHELLEN, Paul H.J.C. van DUIN	
TRD-04-04	S553	09:20-09:40	Response Control Technique of the Cetral Column in Timber Five-Storeied Pagoda	Nobuo SATO	Toshikazu HANAZATO, Ryuichiro UCHIDA, Motoki MISU, Isao SAKAMOTO	
Room 101			2. CONNECTIONS 2.9 Non-Metallic Dowel Connections		MODERATOR : Enchun ZHU	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
CON-09-01	S685	13:20-13:40	Mechanics and Thermogravimetric Investigation into the Influence of Welding Time and CuCl ₂ Treatment on Wood Dowel Welding	Xudong ZHU	Yingying XUE, Sujun ZHANG, Jie SHEN, Ying GAO	
CON-09-02	S523	13:40-14:00	Evaluation of the Structural Behaviour of Beam-Beam Connection Systems Using Compressed Wood Dowels and Plates	Sameer MEHRA	Conan O'CEALLAIGH, Fatemeh HAMID-LAKZAEIAN, Zhongwei GUAN, Annette M.HARTE	
CON-09-03	S199	14:00-14:20	Studies on Non-Metallic Mechanical Joints for Engineered Timber Constructions	Siavash Mahjourian NAMARI	Jörg WEHSENER, Jens HARTIG, Peer HALLER	
CON-09-04	S486	14:20-14:40	Experimental and Numerical Analysis of Flexible Polymer Connections for CLT Buildings	Boris AZINOVIĆ	Miha KRAMAR, Matija GAMS Tomaž PAZLAR, Arkadiusz KWIECIEŃ Jan WECKENDORF, Iztok ŠUŠTERŠIČ	
CON-09-05	S544	14:40-15:00	Structural Behaviour and Design of Timber Connections with Dowels and Slotted-In Plates Made of Bamboo Composite	Robert JOCKWER	Philipp WIEHLE, Pedro PALMA, Michael KLIPPEL, Andreas WAPP, Andrea FRANGI, Dirk HEBEL	
Room 102			3. STRUCTURAL PERFORMANCE 3.7 Advances in Design		MODERATOR :Alexander SALENIKOVICH	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
STR-07-01	S006	13:20-13:40	Seismic Performance of Timber Structures Designed Under a Simplified Methodology	Peter DECHENT	Gian Carlo GIULIANO, Daniel DOLAN, Rodrigo SILVA, José MATAMALA, Gustavo ACUÑA	
STR-07-02	S158	13:40-14:00	Development of a Versatile Hysteresis Model for Sheathing-to-Framing Nail Connections	Yong ZHONG	Guofang WU, Yingchun GONG, Rongjun ZHAO, Xinting XING, Haiqing REN	
STR-07-03	S747	14:00-14:20	Dynamical Properties of a Large Glulam Truss for a Tall Timber Building	Pierre LANDEL	Andreas LINDERHOLT, Marie JOHANSSON	
STR-07-04	S260	14:20-14:40	Structural Robustness of Timber Buildings	Johannes Albert Josef HUBER	Mats EKEVAD, Ulf Arne GIRHAMMAR, Sven BERG	
Room 105			4. BUILDING PERFORMANCE AND MANAGEMENT 4.5 Acoustics I		MODERATOR : Christian DAGENAIS	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
BLD-05-01	S376	13:20-13:40	Sound Insulation Improvement of Cross Laminated Timber Panel Walls by Using Additional Linings	Manabu TANAKA	Yusuke KASAI, Tsuyoshi MURAKAMI, Shoji KAWATANI, Makoto KAWAI	
BLD-05-02	S749	13:40-14:00	Direct and Flanking Transmission in CLT Buildings: on Site Measurements, Laboratory Measurements and Standards	Federica MORANDI	Alice SPERANZA, Luca BARBARESİ, Niko KUMER, Francesca Di NOCCO	
BLD-05-03	S388	14:00-14:20	Analysis of Airborne Sound Reduction Index of Bare CLT Walls	Federica MORANDI	Nicola GRANZOTTO, Gianfranco QUARTARUOLO, Antonino Di BELLA, Alice Speranza	
BLD-05-04	S068	14:20-14:40	Adequate Impact Sound Protection in Light Construction and Solid Floors – Sequence of Layers. Materials Selection and Dimensioning	Anton KRALER	Ewald KAMMERINGER	
Room 201			1. MATERIALS 1.12 Engineered Wood Products III		MODERATOR : Hiquing REN	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
MAT-O12-01	S139	13:20-13:40	Bending Properties of Innovative Multi-Layer Composite Laminated Panels	Jianhui ZHOU	Jan NIEDERWESTBERG, Ying Hei CHUI, Meng GONG	
MAT-O12-02	S346	13:40-14:00	Shear Properties of Innovative Multi-Layer Composite Laminated Panels	Jan NIEDERWESTBERG	Jianhui ZHOU, Ying Hei CHUI, Meng GONG	
MAT-O12-03	S347	14:00-14:20	Strain Distribution of 5-Layer Composite Laminated Panels Using Digital Imaging Correlation Technique	Jan NIEDERWESTBERG	Jianhui ZHOU, Ying Hei CHUI	
MAT-O12-04	S109	14:20-14:40	Effect of Holes on the Structural Capacities of Laminated Veneer Lumber	Borjen YEHL	Benjamin HERZOG	
MAT-O12-05	S735	14:40-15:00	A Novel Lvl-Based Internal Reinforcement for Holes in Glulam Beams	Cristóbal TAPIA	Simon AICHER	

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Room 202			5. TALL WOOD BUILDINGS 5.2 Building Performance		MODERATOR : Marjan POPVSKI	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
TWB-02-01	S664	13:20-13:40	Technical Feasibility Study for the Construction of Modular Light Wood-Frame Prefabricated Buildings, of Six-Story at High Seismic Risk Regions	Jairo A. MONTAÑO	José L. ALMAZÁN, Hernán Santa MARÍA	
TWB-02-02	S459	13:40-14:00	Experimental Seismic Behavior of a Two-Story CLT Platform Building: Shake Table Testing Results	John W. van de LINDT	M. Omar AMINI, Jace FURLEY, Shiling PEI, Gabriele TAMAGNONE, Andre R. BARBOSA, Philip LINE, Douglas RAMMER, Massimo FRAGIACOMO	
TWB-02-03	S218	14:00-14:20	Experimental Performance of Post-Tensioned Rocking Single-Panel CLT Walls	Minjuan HE	Xiaofeng SUN, Zheng LI	
TWB-02-04	S427	14:20-14:40	Shaking Table Test Study on a Five-Story Post-and-Beam Glulam Structure	Fuwen ZHANG	Xi CHEN, Lingzhu CHEN, Yubing LENG, Mingqian WANG, Qingfeng XU	
TWB-02-05	S138	14:40-15:00	Moisture Monitoring and Modeling of Mass Timber Building Systems	Samuel L. ZELINKA	Steven KORDZIEL, Shiling PEI, Samuel V. GLASS, Paulo Cesar TABARES-VELASCO	
Room 203			8. EDUCATION AND FUTURE TRENDS 8.7 Design Practice and Case Study I		MODERATOR : Kay-Uwe SCHOBER	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
EDU-07-01	S689	13:20-13:40	Closing the Financial and Environmental Gaps of Nearly-Zero Energy Buildings – the Case for Intelligent Timber Construction Solutions	Barbara ROVERE	Jan WECKENDORF, Matevž VRHOVNIK, Martin LOVREČIĆ	
EDU-07-02	S327	13:40-14:00	Case Study: The Use of Mass Engineered Timber for a 72m Long Span Sports Hall in Singapore	Leong Kok SANG	Teh Hee SEANG, Paul CHAIN, James KOH, Chew Keat CHUAN, Punithan SHANMUGAM	
EDU-07-03	S140	14:00-14:20	A Case Study: Prefabricated Wood Framed Panelized Roof System for Single Family Home	Sang Hyeok HAN	Mohammed Sadiq ALTAF, Suat DEMIRER, Mohamed AL-HUSSEIN	
EDU-07-04	S794	14:20-14:40	Versatility of Mass Timber in Higher Education Buildings	Tom Sung-Jin CHUNG		
EDU-07-05	S579	14:40-15:00	Full Scale Laboratory Prototype of a Long Barrel-Vaulted Gridshell. Construction, Testing and Numerical Model	Antonio José LARA-BOCANEGRA	Almudena MAJANO-MAJANO, Juan ORTIZ, Manuel GUAITA	
Room 209			7. TRADITIONAL AND HISTORIC STRUCTURES 7.5 Nondestructive Evaluation		MODERATOR : Kaori FUJITA	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
TRD-05-01	S526	13:20-13:40	Duelling Timber Floats of Japan's Fushiki Hikiyama Festival	Thomas P S REYNOLDS	Robert M FOSTER, Kazumasa WATANABE, Yasushi NIITSU, Michael H RAMAGE	
TRD-05-02	S179	13:40-14:00	Strength Grading of Structural Timber in Historic Buildings – Studies on The Applicability of the Ultrasonic Time-of-Flight Measurement	Gunter LINKE	Wolfgang RUG, Hartmut PASTERNAK	
TRD-05-03	S189	14:00-14:20	Estimation of the Vibration Characteristics of a Traditional Timber Storehouse by Microtremor Measurements	Atsushi TABUCHI	Shinta YOSHITOMI, Sadatomo UEMORI	
TRD-05-04	S594	14:20-14:40	Visualization of Inside of Wood Column Surrounded with Wall by Conducting Tomosynthesis	Chul-Ki KIM	Sang-Joon LEE, Kwang-Mo KIM, Jung-Kwon OH, Hyeon-Jeong LEE, Jun-Jae LEE	
Room 101			2. CONNECTIONS 2.10 Moment Resisting Connections		MODERATOR : Gwang Chul KIM	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
CON-O10-01	S143	16:20-16:40	Screw Reinforcement on Beam-to-Column Dowel-Type Connection	Cong ZHANG	Wen-Shao CHANG, Richard HARRIS	
CON-O10-02	S505	16:40-17:00	Cyclic Load Behaviour of Beam-to-Column Glulam Joints Combining Glued-in Rods with Steel Brackets	Zhibin LING	Weiqing LIU, Huifeng YANG, Zhe XIANG	
CON-O10-03	S616	17:00-17:20	Finite Element Analysis on Seismic Performance of Straight Mortise-Tenon Joints of Ancient Timber Structure Buildings	Lipeng ZHANG	Qifang XIE, Yazhen CUI, Jitao YAO	
CON-O10-04	S277	17:20-17:40	Rotational Behaviour of the Zuo-Dou Joint in Taiwanese Traditional Dieh-Dou Timber Construction and the Efficiency of Reversible Reinforcement	Yu-Hsiang YEH	Tzu-Chi WANG, Yin-Chia HSU, I-Chi YEH	
Room 102			3. STRUCTURAL PERFORMANCE 3.8 Hybrid System II		MODERATOR : Alexander OPAZO	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
STR-08-01	S698	16:20-16:40	Modelling of Ductile Joints in Hybrid Systems Made of Timber and Structural Glass	Mislav STEPINAC	Vlatka RAJCIĆ, Roko ŽARNIĆ	
STR-08-02	S044	16:40-17:00	Long-Term Testing of Prefabricated Timber-Steel-Concrete Ribbed Decks	Felipe RIOLA-PARADA	Kamyar TAVOUSSI, Alireza FADAI, Wolfgang WINTER, Matthias RINNHOFFER	
STR-08-03	S546	17:00-17:20	Development of a Structural System for Buildings with High Energy Absorption Utilizing both Wood-Based Materials and Cold-Formed Steel Framing	Takehiro WAKITA	Satsuya SODA, Kazuki WATAI, Yuji MIYAZU	
STR-08-04	S343	17:20-17:40	Long-Term Performance of Timber Concrete Composite Floors	Md Mehdi EBADI	Hercend Mpidi BITA, Md SHAHNEWAZ, Thomas TANNERT, Adam GERBER	
Room 105			4. BUILDING PERFORMANCE AND MANAGEMENT 4.6 Acoustics II		MODERATOR : Chang Deuk EOM	
CODE	ABS	TIME	TITLE	AUTHOR(S)		
BLD-06-01	S162	16:20-16:40	Multi-Level Modular Wooden Diffusers Based on Fractal Theory	Fang Wen NI	Hong Peng XU, Jian Mei WU	
BLD-06-02	S215	16:40-17:00	Vibration Response of a Long-Span LVL Floor: Comparison between Japanese and Australian Assessment Measures	Bella BASAGLIA	Rijun SHRESTHA, Keith CREWS, Yutaka YOKOYAMA	
BLD-06-03	S476	17:00-17:20	Vibration Behaviour of Glulam Beam and Deck Floors	Mohammad Mehdi EBADI	Thomas TANNERT, Ghasan DOUDAK, Ian SMITH	
BLD-06-04	S058	17:20-17:40	Development of ISO Baseline Vibration Design Method for Timber Floors	Ying-Hei CHUI	Lin HU, Patricia HAMM, Tomi TORATTI, Thomas ORSKAUG	

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Room 201			1. MATERIALS 1.13 Wood Composites I			MODERATOR : Marc OUDJENE		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
MAT-O13-01	S514	16:20-16:40	Composite Panels of Cold-Formed Steel and Timber for High-Density Construction	Thomas REYNOLDS		Pinelopi KYVELOU, Chris BECKETT, Pui Wah WONG, Yuner HUANG		
MAT-O13-02	S480	16:40-17:00	Influence of Defects on Timber Beams that Include Basalt Fibre Rod Reinforcement	Gary M. RAFTERY		Rakesh GUPTA		
MAT-O13-03	S250	17:00-17:20	Moisture-Induced Internal Stress within Adhesive-Bonded Timber–Concrete Composites	Artur GINZ		Werner SEIM		
MAT-O13-04	S403	17:20-17:40	Flexural Behaviour of a Novel Bamboo-Plywood Sandwich Composite Panel	Siavash DARZI		Hassan KARAMPOUR, Benoit P. GILBERT, Henri BAILLERES		
Room 202			5. TALL WOOD BUILDINGS 5.3 Hybrid System			MODERATOR : Paulina GONZALEZ		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
TWB-O3-01	S054	16:20-16:40	Behavior of Load-Bearing Timber-Glass-Composites Façade in Case of Fire Fire Protection Concepts	Alireza FADAI		Matthias RINNHOFER, Andreas SCHLEICHER, Frank PETER, Thomas SICAY		
TWB-O3-02	S307	16:40-17:00	Nonlinear Dynamic Analysis of Wood-Concrete Hybrid System for Tall Buildings	Kuldeep KAUSHIK		Thomas TANNERT, Jiafei JIANG, Haibei XIONG, Carlos VENTURA		
TWB-O3-03	S294	17:00-17:20	Feasibility of Cross-Laminated Timber Cores for the UBC Tall Wood Building	Cristiano LOSS		Thomas CONNOLLY, Manu MOUDGIL, Thomas TANNERT, Asif IQBAL		
TWB-O3-04	S663	17:20-17:40	Seismic Response of Post-Tensioned Timber-Steel Hybrid Braced Frames	Kai-Yi WU		Asif IQBAL, Ali IMANPOUR		
TWB-O3-05	S593	17:40-18:00	Light Frame Timber Tower: Interdisciplinary Design of Prefabricated and Anti-Seismic 5- Story Experimental Building	Eduardo WIEGAND		Juan José UGARTE, Jairo MONTAÑO, Sebastián CÁRCAMO, Christiane DELUCCHI		
Room 203			8. EDUCATION AND FUTURE TRENDS 8.8 Design Practice and Case Study II			MODERATOR : Soon II HONG		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
EDU-O8-01	S237	16:20-16:40	Over-Strength Assessment for Timber Connections and Wall Elements – Comparison of Different Approaches	Werner SEIM		Michael SCHICK		
EDU-O8-02	S577	16:40-17:00	Development of a Spring Model for the Structural Analysis of a Double-Layered Timber Plate Structure with Through-Tenon Joints	Anh Chi NGUYEN		Yves WEINAND		
EDU-O8-03	S498	17:00-17:20	The Tre3 Research Project: a Hybrid Timber-Frame Wall System for Emergency Housing Facilities	Albino ANGELI		Daniele CASAGRANDE, Matteo IZZI, Andrea POLASTRI, Ester SINITO, Gaia PASETTO, Flavio NEBIOLO, Roberto CROCCETTI, Gabriele Pasetti MONIZZA		
EDU-O8-04	S477	17:20-17:40	Structural Feasibility of Timber-Structured Vertical Expansions for Social Housing Buildings in Chile	Cristián SCHMITT		Sebastián CALDERÓN, Sebastián CÁRCAMO, Cristián SANDOVAL, Francisco CHATEAU, Paula MARTÍNEZ		
Room 209			7. TRADITIONAL AND HISTORIC STRUCTURES 7.6 Reinforcement and Rehabilitation			MODERATOR : Gyu Seong HAN		
CODE	ABS	TIME	TITLE	AUTHOR(S)				
TRD-O6-01	S585	16:20-16:40	Renovation of a Wooden Building in a Historic Village – a Case Study from Finland	Johanna LIBLIK		Kasper JÄRNEFELT, Alar JUST, Henrik MÖLLER, Paul LYNCH, Mikko SALMINEN		
TRD-O6-02	S152	16:40-17:00	Characteristics of the Relocation of Korean Wooden Buildings - The Case of Cheongju Mangseollu	Jae Seob KIM		Hwan Chol KIM, Dai Whan AN		
TRD-O6-03	S774	17:00-17:20	Scarf Joint for Replacement of Decayed Rafter ends: Experimental Investigation of Bearing Capacity under Combined Loading	Jiří KUNECKÝ		Hana HASNÍKOVÁ, Michal KLOIBER, Jan TIPPNER, Václav SEBERA		
TRD-O6-04	S642	17:20-17:40	Experimental Study on Spliced Beam with Round Dovetail and Self-Tapping Screws	Kongyang CHEN		Hongmin LI, Frank LAM, Hongxing QIU		
TRD-O6-05	S561	17:40-18:00	Experiments for the Improvement of Fire Performance of Single-Sided External Soil Walls of Historic Town Houses	Eri ADACHI		Daigoro KIKUCHI, Yuji HASEMI, Noboru YASUI, Tadanori KIMURA, Chihiro KAKU		

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Room 101			2. CONNECTIONS 2.11 Numerical Approach		Moderator : Kenji KOBAYASHI
CODE	ABS	TIME	TITLE	AUTHOR(S)	
CON-O11-01	S072	08:20-08:40	Numerical Optimisation of Novel Connection for Mass-Timber Buildings	Hercend Mpidi BITA, Thomas TANNERT	
CON-O11-02	S349	08:40-09:00	Numerical Analysis of Moment-Resisting Bolted Glulam Joints with Initial Cracks	Jing ZHANG, Minjuan HE, Frank LAM, Zheng LI, Yu CHEN	
CON-O11-03	S690	09:00-09:20	Numerical Simulation of Moisture-Induced Crack Propagation in Dowelled Timber Connection Using XFEM	Tadios HABITE, Sara FLORISSON, Johan VESSBY	
CON-O11-04	S228	09:20-09:40	Numerical Investigation on Timber-to-Timber Joints and Composite Beams with Inclined Self-Tapping Screws	Gabriele TAMAGNONE, Massimo FRAGIACOMO, Chiara BEDON	

Room 102			3. STRUCTURAL PERFORMANCE 3.9 Design Codes		Moderator : James D. DOLAN
CODE	ABS	TIME	TITLE	AUTHOR(S)	
STR-O9-01	S674	08:20-08:40	Legislative Background and Building Culture for the Design of Timber Structures in Europe and Japan	Yutaka GOTO, Robert JOCKWER, Kenji KOBAYASHI, Yasuteru KARUBE, Hiroshi FUKUYAMA	
STR-O9-02	S377	08:40-09:00	Design of Timber Frame Assemblies Under Standard Fire Conditions – a Proposal for the Next Revision of en 1995-1-2	Alar JUST, Mattia TISO	
STR-O9-03	S031	09:00-09:20	Canadian Seismic Design Provisions for CLT Structures	Marjan POPOVSKI, Jasmine B. Wang MCFADDEN	
STR-O9-04	S242	09:20-09:40	N2 Method – ADAPTION to CLT Structures	Johannes HUMMEL, Werner SEIM, Sascha SCHWENDNER	

Room 105			4. BUILDING PERFORMANCE AND MANAGEMENT 4.7 Fire Safety IV		Moderator : Jung Kwon OH
CODE	ABS	TIME	TITLE	AUTHOR(S)	
BLD-O7-01	S464	08:20-08:40	Long-Term Tensile Behaviour of Engineered Wood in Parallel to Grain Direction	Alireza A. CHINIFORUSH, Ali AKBARNEZHAD, Prajeet THAKORE, Abdolreza ATAEI	
BLD-O7-02	S529	08:40-09:00	Assessing the Adhesive Performance in CLT Exposed to Fire	Reto FAHRNI, Michael KLIPPEL, Joachim SCHMID, Andrea FRANGI	
BLD-O7-03	S091	09:00-09:20	A Methodology for Quantifying Fire Resistance of Exposed Structural Timber Elements	David BARBER, Lizzie SIEVERTS, Robert DIXON, Jarrod ALSTON	
BLD-O7-04	S188	09:20-09:40	Revisiting Heat Delamination Characteristics of Adhesives in Cross-Laminated Timber	Christian DAGENAIS, Lindsay RANGER	

Room 201			1. MATERIALS 1.14 Wood Composites II		Moderator : Shiro ARATAKE
CODE	ABS	TIME	TITLE	AUTHOR(S)	
MAT-O14-01	S440	08:20-08:40	Experimental Investigation on the Structural Performance of Timber-Filled Tubular Steel Stub Columns	Benoit P. GILBERT, Andrew BISMIRE, Melanie BOURGES, Henri BAILLERES, Hassan KARAMPOUR, Shanmuganathan GUNALAN, Mahyar MASAELI, Hong GUAN	
MAT-O14-02	S751	08:40-09:00	Accuracy Evaluation of Gamma-Method for Deflection Prediction of Partial Composite Beams	Seyed Rasoul ATASHIPOUR, Pierre LANDEL, Mohammad AL-EMRANI	
MAT-O14-03	S094	09:00-09:20	Behaviour and Design of Timber-Wood Lightweight Concrete-Composite Floor Systems	Alireza FADAI, Christoph RADLHERR	
MAT-O14-04	S050	09:20-09:40	Timber Type Effect on Bond Strength of FRP Externally Bonded Timber	Abbas VAHEDIAN, Rijn SHRESTHA, Keith CREWS	

Room 202			5. TALL WOOD BUILDINGS 5.4 Review and Case Study		Moderator : Stefan WINTER
CODE	ABS	TIME	TITLE	AUTHOR(S)	
TWB-O4-01	S483	08:20-08:40	What is Tall Timber? Towards the Formal Classification of Timber as a Material of Tall Building Design.	Robert M FOSTER, Thomas P S REYNOLDS, Michael H RAMAGE	
TWB-O4-02	S511	08:40-09:00	Canada'S Tall Wood Buildings Demonstration Projects	Mohammad MOHAMMAD, Robert JONES, Maureen WHELAN, Richard COXFORD	
TWB-O4-03	S548	09:00-09:20	What does the US Pacific Northwest Public believe about Tall Wood Buildings?	Pipiet LARASATIE, Jose Erín GUERRERO, Troy HALL, Eric HANSEN	
TWB-O4-04	S341	09:20-09:40	Case Study: Haut – a 21-Storey Tall Timber Residential Building	Rob VERHAEGH, Mathew VOLA, Jorn de JONG	
TWB-O4-05	S372	09:40-10:00	Prefabricated Timber-Framed Façade Elements on High-Rise Residential Buildings – Possible or Not?	Thomas BADERGRUBER, Clemens Le LEVÉ, Anton KRALER, Michael FLACH	

Auditorium			9. YOUNG SCIENTIST AWARD		Moderator : Kugbo SHIM
CODE	ABS	TIME	TITLE	AUTHOR(S)	
YSA-01	S080	08:20-08:40	Full-scale Fire Tests of a Two-story Cross-Laminated Timber Structure	Laura E. HASBURGH, Samuel L. ZELINKA, Keith J. BOURNE, David R. TUCHOLSKI, Jason P. OUELLETTE	
YSA-02	S095	08:40-09:00	Application of Particle Tracking in Large Scale Timber Connection Testing	Lisa-Mareike OTTENHAUS, Minghao LI, Roger NOKES	
YSA-03	S733	09:00-09:20	Size Effect of Large Scale Timber Columns	Bridget K. FRYER, Robert M. FOSTER, Michael H. RAMAGE	
YSA-04	S742	09:20-09:40	Probabilistic Serviceability-Performance Assessment of Tall Mass-Timber Buildings Subjected to Stochastic Wind Loads	Matiyas A. BEZABEH, Girma T. BITSUAMLAK, Marjan POPOVSKI, Solomon TESFAMARIAM	

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MATERIALS / BUILDING PERFORMANCE AND MANAGEMENT

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MATERIALS				
CODE	ABS	TITLE	AUTHOR(S)	
MAT-P-01	S026	Mechanical Performance under Cyclic Compressive Load with Laminated Veneer Lumber of Japanese Larch	Wataru KAMBE	
MAT-P-02	S037	Mechanical Properties of Three Layers Cross-Laminated Timber (CLT) Fabricated with Japanese Larch	Yingchun GONG	Guofang WU, Haiqing REN, Yanwei SU
MAT-P-03	S039	Rolling Shear Properties of Fast-Growing Poplar Wood Laminations	Zhiqiang WANG	Weiqun DONG, Huan SONG, Zhuanzhuan WANG, Jianhui ZHOU, Meng GONG
MAT-P-04	S063	Mechanical Stress Monitoring of Timber and Concrete Structures by Fibre Optic Sensors	Lukáš VELEBIL	Kristýna ČÁPOVÁ, Jan VČELÁK, Petr KUKLÍK, Jaroslav DEMUTH, Milan DVORÁK
MAT-P-05	S084	Long-Term Bending Properties of Cross Laminated Timber with Japanese Larch	Ryuya TAKANASHI	Yoshinori OHASHI, Wataru ISHIHARA, Kazushige MATSUMOTO
MAT-P-06	S087	A Novel Technique for Fabricating Laminated Veneer Lumber Subjected to High Voltage Electrostatic Field to Improve its Mechanical Property.	Qian HE	Zhiqiang WANG, Tianyi ZHAN, Haiyang ZHANG, Ping LAN, Zehui JU, Lu HONG, Xiaoning LU
MAT-P-07	S088	Simultaneous Consolidation and Densification of LVL Boards	Cláudio Del MENEZZI	Maria Tereza MONTALVÃO
MAT-P-08	S089	Design Method to Estimate Stiffness and Strength of Hybrid Timber-Steel Beams	Naruhiko FUKUTOMI	Shinichi SHIOYA
MAT-P-09	S115	Long - Term Testing of Timber-Steel Bar Hybrid Beams	Sayaka KIYOTO	Shinichi SHIOYA
MAT-P-10	S183	Bio-Based Adhesive Systems for Engineered Wood Products Application	Emmanouil KARAGIANNIDIS	Panagiotis NAKOS, Eleftheria ATHANASSIADOU
MAT-P-11	S208	Development and Evaluation of Parallel Strand Lumber with Corrugated Strands	Kaoru MIYAZAKI	Koji MURATA, Kenji UMEMURA
MAT-P-12	S221	Duration of Load Factor for Hybrid Timber-Steel Bar Beams	Masahiko NISHITANI	Shinichi SHIOYA
MAT-P-13	S233	Vibration Performance of Adhesive Free Multi-Layered Timber Beams Assembled through Compressed Wood Dowels	Marc OUDJENE	Tuan Anh BUI, Pascal LARDEUR, Mourad KHELIFA, Yann ROGAUME
MAT-P-14	S252	Visual Grading of Beech Wood - a Decision Tree Approach	Goran TURK	Mitja PLOS, Barbara FORTUNA, Aleš STRAŽE
MAT-P-15	S254	Mechanical Properties of Slovenian Structural Beech Timber	Barbara FORTUNA	Goran TURK, Mitja PLOS, Tamara ŠULIGOJ
MAT-P-16	S255	Influence of Thermal Modification Time on Mechanical Properties of Poplar after Pretreatment with Glycerol	Bo-Han XU	Ke LIU, Abdelhamid BOUCHAÏR
MAT-P-17	S257	Stress Developments in Large Timber Cross Sections in Relation to Geometry and Encountered Climate	Bettina FRANKE,	Steffen FRANKE, Marc SCHIERE
MAT-P-18	S261	Strength Properties of Grey Alder	Martti-Jaan MILJAN	Taavet TAMM, Jaan MILJAN
MAT-P-19	S300	Combined Acoustic Emission and X-Ray Micro-Tomography Approach for Structural Health Monitoring of Wood-Based Structures	Rostand Moutou PITTI	Seif Eddine HAMDİ, Malick DIAKHATÉ
MAT-P-20	S329	Comparison of Mechanical Properties within Cross Section between Dimension-Core- and Rectangle-Core- Japanese Larch Gullied Built-Up Beams	Takashi TAKEDA	Yoshihiro HOSOO, Makoto IMAI, Takahisa YOSHIDA
MAT-P-21	S336	Evaluation of In-Plane Shear Strength of CLT Panel with Horizontal Loading Shear Test	Shoichi NAKASHIMA	Yasuhiro ARAKI, Yoshinori OHASHI, Shiro NAKAJIMA, Atsushi MIYATAKE
MAT-P-22	S348	Elastic Constants of Thermally Treated Beech by Ultrasound Tests	Almudena MAJANO-MAJANO	José Luis GÓMEZ-ROYUELA, Antonio José LARA-BOCANEGRA
MAT-P-23	S367	Mechanically and Biologically Properties of Densified and Thermally Modified Wood for Outdoor Applications – Hardness, Bending Strength, Durability and Resistance	Jörg WEHSENER	Christian BRISCHKE, Jens HARTIG, Linda MEYER-VELTRUP, Peer HALLER
MAT-P-24	S379	Singal Chairs. The Curve as Structural Efficient Shape Applied to Furniture Design in Laminated Veneer.	Cristián SCHMITT	Carlos SFEIR, Francisco CHATEAU
MAT-P-25	S381	Research on Moisture Content Distribution and Growth of Shrinkage Cracks in Timber Pillars	Kongyang CHEN	Hongxing QIU, Menglin SUN
MAT-P-26	S384	Development of Structural Materials Composed Of Bamboo and Soil	Daichi HARASAKI	Hiroki ISHIYAMA
MAT-P-27	S387	Study on the Effect of Relative Humidity on Moisture Content and Deterioration of Members of Timber Structures	Akiko OHTSUKA	Kei-ichi IMAMOTO, Chizuru KIYOHARA
MAT-P-28	S396	Colour Change of Exterior Wood	Usami KANA	Hiroki ISHIYAMA, Saori WATANABE
MAT-P-29	S420	The High Performance of Structural Plywood by Vacuum Hot Pressing Molding	Lu HONG	Zhiqiang WANG, Qian HE, Zehui JU, Xiaoning LU
MAT-P-30	S429	Finite Element Modelling and Testing of Timber Laminated Beams Fastened with Compressed Wood Dowels	Adeayo SOTAYO	Siu-Kui AU, Zhongwei GUAN
MAT-P-31	S460	Long-Term Tensile Behaviour of Engineered Wood in Parallel to Grain Direction	Alireza A. CHINIFORUSH	Ali AKBARNEZHAD, Prajeet THAKORE, Abdolreza ATAEI
MAT-P-32	S494	Analysis of the Stiffness of DLT Panels Made with Lamellas of Pinus Taeda and Dowels of Peltogyne SPP., Leguminosae	Carlito CALIL Junior	Marcos Cesar M.PEREIRA
MAT-P-33	S510	Seismic Diagnosis for Temple Buildings and Proposal of Earthquake Resistant Reinforcement Methods for Bearing Walls	Akihito MUROMACHI	Hisamitsu KAJIKAWA, Yuka OKADA, Haruhiko OGAWA
MAT-P-34	S534	Failure Mechanism and Design Methods of Laminated Veneer Lumber Joists with Round Holes	Xiao Lan ZHANG	Ze Li QUE, Zhe Rui LI, Kohei KOMATSU, Akihisa KITAMORI, Hiroshi ISODA
MAT-P-35	S552	Square Timber Drying by Saturated Steam and Superheated Steam based on the Drying Stress Analysis	Yonggun PARK	Sang-Yun YANG, Hyunwoo CHUNG, Hyunbin KIM, Hwanmyeong YEO
MAT-P-36	S557	Cross-Laminated Timber with Renewable and Fast-Growing Tropical Species in South East Asia	Shinya OKUDA	Laurent CORPATAUX, Shravan MUTHUKRISHNAN, Kua Harn WEI
MAT-P-37	S578	Numerical Analysis of Mechanical Behavior of Softwood: Bilinear Elasto-Plastic Orthotropic Model	Tippner JAN	Milch JAROMÍR, Sebera VÁCLAV, Brabec MARTIN, Kunecký JIŘÍ, Kloiber MICHAL

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MATERIALS / BUILDING PERFORMANCE AND MANAGEMENT

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MATERIALS				
CODE	ABS	TITLE	AUTHOR(S)	
MAT-P-38	S584	Surface Roughness and Wettability of Heat Treated Norway Spruce (PICEA ABIES KARST)	Manja Kitek KUZMAN	Nadir AYRILMIS, Mirko KARIZ, Jin Heon KWON
MAT-P-39	S612	Improvement of Efficiency for Near-Infrared Spectroscopic Classifying of Softwood Lumber Using Interval Partial Least Squares Discriminant Analysis	Sang-Yun YANG	Yonggun PARK, Hyunwoo CHUNG, Hyunbin KIM, Se-Young PARK, In-Gyu CHOI, Ohkyung KWON, Kyu-Chae CHO, Hwanmyeong YEO
MAT-P-40	S620	The Measurement of Physical and Mechanical Properties of Outdoor Exposed Members.	Gwang Chul KIM	Jun Ho KIM
MAT-P-41	S622	The Estimation of Physical Properties of Wood by Accelerated Weathering Test.	Gwang Chul KIM	Jun Ho KIM
MAT-P-42	S635	Reasonable Shape of Timber Against Rain	RYOTA SEKINE	Hiroki ISHIYAMA, Kaito HORITA
MAT-P-43	S638	A Statistics-Based Study on Wood Presentation of Interior Spaces	Jing LI	Hongpeng XU, Mengxuan LI, Jianmei WU, Ling Shuang ZHU
MAT-P-44	S641	Lateral Resistance of CLT Wall Panels Composed of Larch Square Timber Core and Plywood Cross Band	Sang Sik JANG	Bin HA, Ju Suk LEE, Hyoung Woo LEE
MAT-P-45	S657	Estimation of Internal Moisture Distribution in Larix Kaempferi Wood during High Temperature Drying	Hyunbin KIM	Yeonjung HAN, Yonggun PARK, Sang-Yun YANG, Hyunwoo CHUNG, Chang-Deuk EOM, Hyun-Mi LEE, Hwanmyeong YEO
MAT-P-46	S658	Bending and Tensile Strength according to Visual and Machine Grades of Korean Domestic Larch Lumber	Kwang-Mo KIM	Sang-Joon LEE, Chul-Ki KIM, Sun-Hyang PARK, Sung-Jun PANG
MAT-P-47	S662	Effect of Different Loading Conditions on Mechanical Performance of Wood-Based Structural Insulated Panels	Liu XIAONA	Xue SHUO, Wang XIAOHUAN, Zhou HAIBIN
MAT-P-48	S684	Performance of Glued-In Rods in Birch Plywood.	Karlis PUGOVICS	Uldis SPULLE, Kristaps ZIVERTS
MAT-P-49	S686	The Shear Moduli Evaluation of Cross Laminated Timber Using Torsion Test	Wei-Chong LIAO	Chao-Feng LEE, Yen-Kuei CHANG, Yang Ting SHEN
MAT-P-50	S691	Experimental Investigation of the Rolling Shear Property of Cross-Laminated Timber using Digital Image Correlation	Far Ching LIN	Wei Da LYU
MAT-P-51	S706	Study on In-Plane Shear Evaluation of Cross Laminated Timber –Application of Short Column Compression in 45 Degrees to the Major Direction	Yasunobu NODA	Hirofumi IDO, Ken-ichi SUGIMOTO, Masahiko KARUBE, Atsushi MIYATAKE
MAT-P-52	S752	NIR and DVS to Monitor the Water Sorption Properties of Thermal and Chemical Treated Wood Material	Carmen-Mihaela POPESCU	Callum AS HILL, Dongyang SUN
MAT-P-53	S776	First Investigations of Renewable Raw Materials for Engineering Applications	Ralf FÖRSTER	Andreas LOTH, Dahmir DAHLAN, D.L ZARIATIN
MAT-P-54	S782	Impact of Environment on Timber Structures, Bois Duramen 971, the Case of Guadeloupe (FWI)	Eric FOURNELY	Paul QUISTIN, Luc CADOR, Laurence ROMANA, Jean-Mikhaël BARGY, Thierry LAMADON
MAT-P-55	S793	Induction Curing Made Easy – Using Curie Particles	Daniel KOHL	Michael ADAM, Till VALLÉE, Nils RATSCH, Stefan BÖHM, Morten VOß, Benjamin ALTER, Sebastian MYSLICKI
MAT-P-56	S805	Studies on the Relationship between Sound Absorption Capability and Air Permeability of Wood in Longitudinal Direction	Chun Won KANG	Eun Suk JANG, Sang Sik JANG, Ho Yang KANG, Xue Feng ZHAO
MAT-P-57	S807	Fem Models for Elastic Parameters Identification of Cross Laminated Maritime Pine Panels	Felice GIACCU	Giovanna CONCU, Monica VALDÉS, Daniel MELONI
MAT-P-58	S812	Effects of Nailing and Connections on the Lateral Resistance of CLT Wall Panels Composed of Larch Square Timber Core and Plywood Cross Band	Sang Sik JANG	Bin HA, Chun Won KANG, Ju Suk LEE, Kun Young SONG
MAT-P-59	S815	Melamine-Urea-Formaldehyde Resin Adhesives for Cross Laminated Timber Production under Radio Frequency Heating	Byung-Dae PARK	Sung-Hoon BAN
MAT-P-60	S838	A Study on the Mechanical and Morphological Properties of Recycled WPCS	Birm-June KIM	Seung-Kyun KIM, Young-Rok SEO, Jae-Gyoung GWON, Sun-Young LEE
MAT-P-61	S839	Dimensional Stabilization of Korean Pinewood by Heat Treatment after Thermal Compression	Jeong Min LEE	Won Hee LEE, Sung-Wook HWANG, Beom Geun CHO
MAT-P-62	S841	Determination of Orthotropic Elasticities of Domestic Lumber by Ultrasonic Nondestructive Testing Methods	Sei Chang OH	
MAT-P-63	S848	Drying Characteristics of Quercus Mongolica Lumber by Kiln Drying and Radio Frequency - Vacuum Drying System	Yoon-Seong CHANG	Hyun-Kyeong SHIN, Sejong KIM, Kug-Bo SHIM
MAT-P-64	S849	Considerations on Dynamic Identification of Wood Composite Panels using a Cantilever Beam Vibration Method	Gian Felice GIACCU	Daniel MELONI, Giovanna CONCU, Monica VALDES
BUILDING PERFORMANCE AND MANAGEMENT				
CODE	ABS	TITLE	AUTHOR(S)	
BLD-P-01	S096	Prediction of Sound Insulation for Hybrid CLT Fabricated with Lumber and LVL	Xiaoning LU	Zhiqiang WANG, Qian HE, Tianyi ZHAN, Haiyang ZHANG, Lu HONG, Yangfan LIN, Zehui JU
BLD-P-02	S272	Measurement about Walking Vibration on Cross Laminated Timber Floor, and Presentation of a Span Table by Finite Element Method	Yuhei KOYAMA	Hitoshi MATSUSHITA, Shintaro FUKUDA, Yutaka YOKOYAMA
BLD-P-03	S414	Numerical Modelling on Fire Behaviour of Timber-Concrete Composite Beams	Hao DU	Xiamin HU, Bing ZHANG
BLD-P-04	S435	Guidelines Definition for In-Situ Vibration Measurements of Buildings	Clément BOUDAUD	Clément BOUDAUD, Kodzo Vioto AMOUZOU, Francesca LANATA
BLD-P-05	S453	Wood Identification and Nondestructive Evaluation Using the Resistograph of Wood Member in the Daeungeon Hall of Chonwhangsa Temple	Jung-Ae OH	DaeHak PARK, Seo-ryeong KIM, Do Kyong PARK
BLD-P-06	S837	Evaluation of Ground-Contact Durability of Wood Treated with Copper-Based Preservatives	Sae-Min YOON	Jung-Eun PARK, Won-Joung HWANG, Yong-Seok CHOI, Dong-Won SON

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STRUCTURAL PERFORMANCE				
CODE	ABS	TITLE	AUTHOR(S)	
STR-P-01	S020	Lateral Performance Study on Semi-Rigid Timber Portal Frame	Yingyang LIU	Feng ZHANG, Haibei XIONG, Frank LAM
STR-P-02	S022	Loading Test of Three Dimensional Portal Frame with Combined Columns for Timber Building	Katsuhiko KOHARA	Kenji TAMAOKI, Mai YASHIRO, Minoru TAKIMOTO, Kiyotaka TERUI, Kentaro HOSHIAI, Masaru TABATA, Mitsuo FUKUMOTO, Kazuyoshi KOMOTO, Shin SAKATA
STR-P-03	S023	A Study on Development of Visco-Elastic Structural Control Dampers for Wood Frame Construction	Katsuhiko KOHARA	Kaoru YASUI, Yosuke KAWABATA, Tomokazu TAKADA, Takeshi NOMURA, Shin SAKATA
STR-P-04	S027	Seismic Performance of Post-Tensioned Moment-Resisting Portal Frames	Zhiyong CHEN	Marjan POPOVSKI, Adam GERBER
STR-P-05	S034	Design and Practical Application of Post-Tensioned Timber Frames with Hardwood	Jelena OGRIZOVIC	Flavio WANNINGER, Andrea FRANGI
STR-P-06	S048	Hybrid Timber- Steel Bar Beams Producing Energy Dissipation and Re-Centering	Takahiro IJU	Kazuaki OTSUKI, Naruhiko FUKUTOMI, Shinichi SHIOYA
STR-P-07	S060	Static and Dynamic Structural Performance of Modern Timber Bridges	Hideyuki HONDA	
STR-P-08	S064	Racking Strength and Stiffness of Mechanically Jointed Cross Laminated Timber Wall Panels	Lukáš VELEBIL	Petr KUKLÍK
STR-P-09	S071	Disproportionate Collapse Investigation for Mid-Rise Timber Buildings	Hercend Mpidi BITA	Thomas TANNERT
STR-P-10	S074	Case Studies on Simpler and Robust Wood Construction	Atsushi TAKANO	Hiroshi FUKUYAMA
STR-P-11	S101	Analysis and Design Approaches for CLT Shearwalls Subjected to Lateral Load	Ghasan DOUDAK	Daniele CASAGRANDE, Vincent NOLET
STR-P-12	S102	Study on Collapse Risk of Wooden House by Aftershocks	Seiji TAKANASHI	Katsutoshi OHDO, Hiroki TAKAHASHI, Nobuyoshi MICHIBA, Yoshimitsu OHASHI
STR-P-13	S106	Study on Strength Degradation Suppression of Wooden Shear Walls by Damping Materials: The Influence of Differences in Construction Condition and Construction Accuracy	Ryoichi SATOMI	Hideyuki NASU, Kiyotaka TERUI, Hiroshi KAWASE
STR-P-14	S117	Experimental Study with Wall Pillar Type of Timber Structure for Mid-Rise Large Scale	Masaki YOSHIDA	Mizuho YANAGISAWA, Toshio KITAMURA, Hideyuki NASU
STR-P-15	S129	Study on an Evaluation Method for the Damage Level with Checking Strain of Wooden Shear Wall	Daiki KATO	Keita MORI, Hideyuki NASU
STR-P-16	S133	Cross-Laminated Timber Rocking Wall with Replaceable Fuses: Validation through Full-Scale Shake Table Testing	Hans-Erik BLOMGREN	Zhibin JIN, Shiling PEI, Joshua POWERS, James D. DOLAN, Alex WILSON, Ian MORRELL
STR-P-17	S155	Study on Seismic Reinforcement for Traditional Timber Buildings Using Amida-Shaped Frame	Yasuhiro HAYASHI	Yukiko NAKATSU, Tetsuro KOIKE, Saki OHMURA, Mina SUGINO
STR-P-18	S157	Impact of Volcanic Ash Fall on Seismic Performance of Timber-Framed Buildings	Takeshi YAMAMOTO	Yu OOKA
STR-P-19	S163	Asymmetric High Performance SIPS Panels for Loadbearing Walls	André JORISSEN	Johnny van RIE, Remco van ROESTEL, Hèrm HOFMEYER
STR-P-20	S166	Development of Deterioration Diagnosis Method Combining Load Measuring Device and Driver Pin	Ryu NODA	Tomohumi HUZITA, Humihiko GOTOU
STR-P-21	S169	Experimental Study on Bending Performance of Two Layers Glued Build-Up Member Made of Cedar	Makoto TANOUE	Toshiaki SATO, Toshihiko NINAKAWA, Akane TAGUCHI
STR-P-22	S170	Experimental Study on Seismic Reinforcement of Traditional Wooden Town Houses in Kyoto	Mina SUGINO	Tetsuro KOIKE, Saki OHMURA, Yasuhiro HAYASHI
STR-P-23	S176	Timber Shear Walls for Seismic Retrofit of Reinforced Concrete Buildings	Junko SUGA	Masahito ONO, Kazuo AOKI, Tatsuhiko MAEDA, Takeshi FUKUHARA, Takaaki KURIHARA
STR-P-24	S180	Experimental Study on CFRP PBL Beams	Haitao LI	Chenwei WANG, Libin WANG, Ottavia CORBI, Ileana CORBI, Chengjie ZHAO, Yuan YUAN, Tongwei CAO, Haoran DONG, Jieying DING, Dongdong WEI, Conggan YUAN, Wenfeng LIU
STR-P-25	S214	Application of Self-Tapping Screw on Glulam Beam-Column Connection Reinforcement	Min-Chyuan YEH	Yu-Li LIN
STR-P-26	S220	Construction Examples of On-Site Timber Stress-Laminated Box-Beam Bridges	Tomohumi HUZITA	Humihiko GOTOU, Takanobu SASAKI, Ryu NODA
STR-P-27	S238	Seismic Performance of Japanese-Style Two-Story Wooden House Against a Consecutive Strong Earthquake Motions	Hayato NISHIKAWA	Tomiya TAKATANI
STR-P-28	S244	Modal Frequencies and Shapes for Vibrations of Two- or Three-Span Continuous Timber Flooring Systems	Binsheng ZHANG	Yohannes BRHANE, Martin CULLEN, Tony KILPATRICK
STR-P-29	S342	Properties of Compreg and Application on Wooden Fire Doors	Sheau-Hong LIN	
STR-P-30	S375	Evaluation of Seismic Performance of Structure Combining Wood Friction Wall and Common Walls of Wooden House.	Yoshiaki WAKASHIMA	Hidemaru SHIMIZU, Koichiro ISHIKAWA, Akihisa KITAMORI, Doppo MATSUBARA, Yasushi FUJISAWA
STR-P-31	S390	Experimental Investigation of Cracked Notched Glulam Beams Repaired with Screws	Marija TODORVIĆ	Ivan GLIŠOVIĆ, Boško STEVANOVIĆ
STR-P-32	S423	Reinforcement Methods for Timber Frame Connections against Compression Perpendicular to Grain	Farnaz ALINOORI	Farzad MOSHIRI, Bijan SAMALI, Pezhman SHARAFI, Simon VUILLEUMIER
STR-P-33	S447	Numerical Simulation to Predict the Seismic Response of a Multi-Storey Building with Cross-Laminated Timber Panels	Beatriz GONZÁLEZ-RODRIGO	Alberto FRAILE-DE-LERMA, Juan Carlos MOSQUERA-FEIJOO
STR-P-34	S451	Cyclic Behaviour of Shear Connectors in Steel-Timber Composite Beams	Alireza A. CHINIFORUSH	Abdolreza ATAIEI, Hamid R. VALIPOUR, Mark A. BRADFORD
STR-P-35	S469	Experimental Study on CFRP-Reinforced Glulam-Concrete Composite Beams	Yuchen JIANG	Xiamin HU, Roberto CROCETTI, Wan HONG, Chun CHEN

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CODE	ABS	TITLE	AUTHOR(S)	
STR-P-36	S473	Punching Behaviour of Continuous Two-Way CLT Flat Slabs at Interior Connections to Columns	Marcel MUSTER	Andrea FRANGI
STR-P-37	S474	Evaluation Method of Dynamic Torsional Coupling for Single-Story Wooden Structure Considering In-Plane Flexibility of Floor Diaphragm	Yoshihiro YAMAZAKI	Hiroyasu SAKATA
STR-P-38	S489	Performance of Hybrid Cross Laminated Timber-Concrete Composite Floor	Mai Quang Khai	Lee KIHAK
STR-P-39	S532	Seismic Energy Analysis of a Multi-Story Traditional Timber Pagoda	Xiaobin SONG	Yajie WU, Lie LUO
STR-P-40	S537	Seismic Resilience of Timber Structures during the Earthquake Events of the Past Decade in Italy	Ivan GIONGO	Roberto MODENA, Daniel BERTACCO, Andrea GASPARI, Maurizio PIAZZA
STR-P-41	S540	Cyclic Response of Wood Framed Shear Walls with Sturdy end Studs and Strong Hold Down Anchorages	Felipe GUÍÑEZ	Hernán Santa MARÍA, José Luis ALMAZÁN, Jairo MONTAÑO, Juan José UGARTE
STR-P-42	S547	Residual Strength of Shear Resisting Walls with Partial Decay at Wall Legs	Takuro MORI	Kei TANAKA, Toko NAGAMI, Maki SHIBAO, Susumu NISHINO, Yutaka TAKI, Ryuya TAKANASHI, Masahiko TODA, Ryosuke TOMITAKA, Mitsunori MORI, Yasunobu NODA
STR-P-43	S549	Moment Resisting Behaviour of Corner Element of CLT Panel	Akihisa KITAMORI	Mami WADA, Hiroshi ISODA, Takafumi NAKAGAWA, Yasuhiro ARAKI
STR-P-44	S555	A Case Study on In-Plane Shear Performance of Composite Structure With CLT Infilled in Steel Frames	Kazumi KANAZAWA	Akihisa KITAMORI, Teruaki YAMANISHI, Shoichi NAKASHIMA, Yasuhiro ARAKI, Hiroshi ISODA
STR-P-45	S574	4-Point Bending Tests of Timber-Concrete Composite Slabs with Micro-Notches	Katharina MÜLLER	Andrea FRANGI
STR-P-46	S575	Structural Behaviour of Lateral Load Bearing Capacity of Timber Frame Walls Filled with Hempcrete	Husam WADI	Sofiane AMZIANE, Evelyne TOUSSAINT, Mustapha TAAZOUNT
STR-P-47	S583	Design and Assessment of the First Vehicular Bridge Made of Engineered Wood Products in Uruguay	Leandro DOMENECH	Vanesa BAÑO, Carlos MAZZEY, Laura MOYA
STR-P-48	S629	Global Analysis of Light-Framed Timber Construction Detailing and its Performance during Major Contemporary Earthquakes	Pablo GUINDOS	Tulio CARRERO, Fabiola URETA-CÉSPEDES, Tamara CABRERA, Sebastián CÁRCAMO, Hernán Santa MARÍA
STR-P-49	S645	Mechanical Properties of Laminated Veneer Lumber (LVL) Made of Secondary Quality Oak and Beech: The Effect of Veneer Thickness	Citra Yanto Ciki PURBA	Joffrey VIGUIER, Julien RUELLE, Louis DENAUD, Meriem FOURNIER, Guillaume POT
STR-P-50	S696	Development of Timber Assembly Continuous Column Connecting Structure	Hisamitsu KAJIKAWA	Akito KIKUCHI, Haruhiko OGAWA, Kohei IMAMIYA, Ayumu MITSUHASHI, Yuka OKADA
STR-P-51	S710	The Proposal for the Predictive Damage Assessment Method Timber Building in Large Earthquakes Using Data Measured by Seismograph (In the Case of a Co-operative Town Located on a Slope)	Hisamitsu KAJIKAWA	Yuka OKADA, Ryotaro SHIRAI
STR-P-52	S719	Requirements for Engineered Wood Products and Their Influence on the Structural Fire Performance	Felix WIESNER	Michael KLIPPEL, Christian DAGENAIS, Andrew DUNN, Birgit ÖSTMAN, Marc L. JANSSENS, Koji KAGIYA
STR-P-53	S727	Deflection of CLT Shear Walls in Platform Construction	Md SHAHNEWAZ	Thomas TANNERT, Marjan POPOVSKI, M. Shahría ALAM
STR-P-54	S772	Experimental Study on Mechanical Behavior of Passively Controlled Timber Structure with Self-Centering-Type CLT Wall Columns	Kazuhiro MATSUDA	Yusuke KAKUDA, Hiroyasu SAKATA
STR-P-55	S786	Finite Element Modelling of Hybrid Frp-Timber Thin-Walled Cee-Section Columns in Compression	Li MIN	Benoit P.GILBERT, Dilum FERNANDO
STR-P-56	S787	Seismic Renovation of Brick Building by Usage of Bamboo	Hiroki ISHIYAMA	Tadahiko MIZUTANI
STR-P-57	S811	Thermal Resistance and Condensation in the Light-Frame Timber Wall Structures with Various Composition of Insulation Layers	Sang Yeon CHUN	Bin HA, Sang Sik JANG, Jung Ho PARK
STR-P-58	S818	A Study on Structural Behavior of Wood Frame Joints Reinforced with Glass Fiber Sheet and Carbon Steel	Seung-Joe YOON	Seung Woung HO
STR-P-59	S819	A Study about Structural Behavior of CFRP Bar Embedded into Wood Surface	Seung Woung HO	
STR-P-60	S820	A Study on the Bond Properties between Reinforced Deformed Bar and Epoxy on a Bending Wooden Beam	Seung Woung HO	
STR-P-61	S833	Study on Evaluation of Flexural Strength of Steel Plate Embedded Glued-Laminated Timber	Keum Sung PARK	Myong Keun KWAK, Sang Sup LEE, Kyu Woong BAE, Yoon Seob BOO
STR-P-62	S834	Study On Evaluation Of Flexural Strength Of "C"-Shaped Steel-Wood Composite Beams	Keum Sung PARK	Kyu Woong BAE, Myong Keun KWAK, Sang Sup LEE, Gi Yo MIN
TALL WOOD BUILDINGS				
CODE	ABS	TITLE	AUTHOR(S)	
TWB-P-01	S249	Numerical Simulations of Tall Timber Buildings Using CLT and Glulam under Fire Conditions	Binsheng ZHANG	Xuan ZHAO, Iain SANDERSON, Tony KILPATRICK
TWB-P-02	S353	Comparison of Two Kinds of Connections between Timber Module and Concrete Structure Based on Non-Linear Numerical Analysis	Jiawei CHEN	Haibei XIONG, Jiafei JIANG
TWB-P-03	S527	Finite Element Simulation of Global Structural Behaviour of Multifamily Timber Buildings Using Prefabricated Volume Modules	Sigurdur ORMARSSON	Marie JOHANSSON
TWB-P-04	S545	Test Methods to Evaluate the Adhesive Performance in CLT when Exposed to Fire	David BARBER	Steven CRAFT, Michael KLIPPEL, Joachim SCHMID, Andrea FRANGI
TWB-P-05	S569	Wood Frame Shear Wall Model for a Finite Element Program Through a Shell Element	Sebastián CÁRCAMO	Hernán Santa MARÍA, Sebastián ZISIS
TWB-P-06	S600	Recent Developments in Global Cross-Laminated Timber (CLT) Market	Raquel R. ALBEE	Lech MUSZYŃSKI, Eric N. HANSEN, Christopher D. KNOWLES, Pipiet LARASATIE, Jose E. GUERRERO
TWB-P-07	S660	Urban Renovation and Densification: Economic and Technical Viability of Social Housing Based on Industrialized Prefabricated Timber Construction Systems	Eduardo WIEGAND	Rodrigo TAPIA, Cristián ROBERTSON

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CODE	ABS	TITLE	AUTHOR(S)	
TWB-P-08	S730	Numerical Modeling of CLT Diaphragms Tested on a Shake-Table Experiment	Andre R. BARBOSA	Leonardo RODRIGUES, Arijit SINHA, Christopher HIGGINS, Reid B. ZIMMERMAN, Scott BRENNEMAN, Shiling PEI, John van de LINDT, Jeffrey BERMAN, Eric MCDONNELL, Jorge M. BRANCO, Luis C. NEVES
TWB-P-09	S846	Assessing the Impacts of Climate Change on the Durability of Tallwood Building Envelopes	Maurice DEFO	Abhishek GAUR, Michael A. LACASSE

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TRADITIONAL AND HISTORIC STRUCTURES / EDUCATION AND FUTURE TRENDS

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CONNECTIONS			
CODE	ABS	TITLE	AUTHOR(S)
CON-P-01	S092	Results of Fire Tests on Full-Size Glulam Beam to Column Connections to ASTM E119	David BARBER
CON-P-02	S097	Effect of Embedded Condition of Lagscrewbolt in Cross Laminated Timber on the Pull-out Properties	Makoto NAKATANI Takuro MORI, Kei SUZUKI
CON-P-03	S150	Pull-Out and Moment Resisting Test of Glued-In Rod Joint Using Toughness Metal Connector	Juriya INOUE Kazuki UETSUKI, Nozomi SATO, Kei TANAKA, Masafumi INOUE
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