

DETAILED SCHEDULE OF TECHNICAL SESSIONS

Session A1. Historic Preservation

Paper No	Paper Title	Authors
041	Spokane, the hidden masonry gem	Sara Ganzerli , Alyssa Willmarth
094	A comparative study of the composition and physico-mechanical properties of bricks from different periods	Armando Zagaroli , Francesco Santoro De Vico, Encarnación Agudo, Jan Kubica, Carlos Navarro, Marcin Górski
153	CASE STUDY: Evaluation of historic masonry buildings using nondestructive, destructive, and analytical tools.	Peter Babaian , Connor Bruns
180	Back to the Future: Challenges in Reproduction of Historic Cast Concrete Units at Kalil House a Frank Lloyd Wright Usonian Automatic	Tara Ikenouye
176	Mortar Meet Granite	Emma Cardini, Susannah Davis
145	Masonry Scapegoat - Structural Investigation Reveals the True Culprit	Jack Healy, Jamie Davis, Meera Ramesh

Session B1. Codes & Standards

Paper No	Paper Title	Authors
031	Size effect on concrete masonry shear strength under various grouting and precompression conditions	Jianyixian Zhu , Ahmed Ahmed, George Iskander, Nigel Shrive
036	Influence of Web Geometry on Concrete Masonry Walls Subject to Out-of-Plane Loading	Micah Heide , Lisa Feldman
129	TMS 402 Appendix D: Glass Fiber Reinforced Polymer (GFRP) Reinforced Masonry	Richard Bennett , Heather Sustersic
062	TMS 402/602-22: Changes from the 2016 Edition and Recommendations for the Next Cycle	John Chrysler , Richard Bennett, Gerald Dalrymple, David Pierson, Phillip Samblanet
075	An approach for numerically improving the parameters of the moment magnifier method	Baher Haleem , Ahmed Ahmed, Hasini Rathnayake, Nigel Shrive
047	A new 2-step testing method for measuring moisture-induced shrinkage of concrete blocks, mortar and masonry assemblies	Alexander Menun , Tonushri Das, Lindsay Saad, Adrien Sparling, Daniele Malomo

Session C1. Numerical Modeling and Analysis

Paper No	Paper Title	Authors
038	Accurate simulation of mechanical behavior of unreinforced earth block masonry via finite element detailed micro-modeling	Nitin Kumar , Michele Barbato, Erika Rengifo-Lopez, Fabio Matta
121	Analytic Calibration of Confined Masonry Walls Tested Under Cyclic Lateral Loads with Cracked Sections	Daniel Quiun , James Escamilo, Eric Espinosa-Cazarin
049	An Analysis Model for Partially Grouted Shear Walls Using Macro-Modelling: Importance of Reporting Joint Shear Strength	Amr Ba Rahim , Clayton Pettit, Carlos Cruz Noguez, Jeffrey Hung
055	Numerical simulation of unreinforced hit-and-miss masonry walls subjected to out-of-plane loading: vertical bending	Md Akhtar Hossain , Mark Masia, Mark Stewart,
089	A Possible Replacement to Masonry Prism Test: Calibrating a Numerical Model with Experimental Masonry Prism Compressive Strength Data	James Bristow , Mehrdad Karami, Mahmoud Motahari, Moses Karakouzian
098	Predicting the Ultimate Force and Collapse Mechanism of Masonry Arches via Peridynamic Modeling	Semsi Rakici , Bora Pulatsu, Ece Erdogmus

Session A2. Inspection, Testing, & Quality Assurance

Paper No	Paper Title	Authors
011	Advances in the Determination of the Compressive Strength of Existing Masonry	Birger Gigla
093	Tangential interface stiffness estimation of dry-joint masonry structures through an extended experimental campaign	Carla Colombo , Georgios Vlachakis, Christiam Angel, Anastasios Giouvanidis, Nathanaël Savalle, Nuno Mendes, Paulo Lourenço
115	Seismic testing of adjacent interacting masonry structures	Igor Tomić , Andrea Penna, Matthew DeJong, Christoph Butenweg, Antonio Araujo Correia, Paulo Xavier Candeias, Ilaria Senaldi, Gabriele Guerrini, Daniele Malomo, Katrin Beyer
072	Experimentally testing eccentrically loaded full and half scale masonry walls	George Iskander , Ahmed Ahmed, Nigel Shrive

Session B2. Codes & Standards

Paper No	Paper Title	Authors
029	Structural reliability assessment of safety factors for unreinforced masonry veneer walls subjected to out-of-plane loading	Imrose Muhit, Mark Stewart , Mark Masia,
092	Experimental study for the bond development of high-strength steel reinforcement in structural masonry	Omar Khalid , Muhammad Khan, Dimitrios Kalliontzis, John Hochwalt
152	Developing an Existing Masonry Standard in the U.S.	Heather Sustersic , Craig Bennett, Michael Schuller, Can Simsir, Tom Elliot, Amy Woods, Meera Ramesh, Lawrence Kahn
169	Analysis of the test methods for determining masonry flexural bond strength according to NBR 16868-3 (2020) and AS 3700 (2017)	Gustavo Sipp, Murilo Maturana, Lucia Bressiani, Guilherme Parsekian
048	A test for the freeze thaw resistance of mortar	Geoffrey Edgell

Session C2. Seismic Design and Analysis

Paper No	Paper Title	Authors
018	Seismic out-of-plane retrofit of URM walls using timber strong-backs	Ivan Giongo, Dmytro Dizhur, Jason Ingham, Robert Hudson , Marta Giaretton
045	Experimental investigation on in-plane cyclic shear behaviour of reinforced masonry walls with different reinforcement detailing	Seyed Ghaseminia, Tatheer Zahra , Julian Thamboo, Mohammad Asad, David Thambiratnam, Jack Gill
166	Experimental Validation of a Design Methodology for Tie-Columns of Confined Masonry Buildings	Bonisha Borah, Hemant Kaushik , Vaibhav Singhal
096	Shake table experiments on small-scaled masonry arch with finite tensile strength	Rajat Avasthi, Durgesh Rai
127	High Axially Loaded Intermediate Reinforced Fully Grouted Masonry Shear Walls Subjected to Out-of-Plane Cyclic Lateral Load	Tousif Mahmood , Ahmed Gheni, Mohamed ElGawady

Session A3. Historic Preservation

Paper No	Paper Title	Authors
178	Preserving a Landmark: Saving a historic masonry landmark with cost saving restoration design and construction practices	Nathan Harres , Ariel Kousgaard,
155	Parametric study on the effects of repointing historic masonry structures	Daniele Paulino , Michael Schuller
182	Evolution of Architectural Terra Cotta Detailing	Rachel Will , Edward Gerns
183	The challenge of a designer and his confidence in masonry: the case of a 19th century Italian high dome	Giuliana Cardani , Paolo Piantanida

Session B3. Construction Practices & Technology

Paper No	Paper Title	Authors
010	Adhered masonry veneers: Converging the crafts of brick and tile	Scott Conwell , Sunup Mathew
059	Triggering career interest in high school students through masonry wall construction and advanced technology applications	Barbara Oliveira Spitzer, Ece Erdogmus , Jong Han Yoon, Javier Irizarry, Steven Kangisser, Pardis Pishdad-Bozorgi, Ben Kreimer
102	Modularization of Masonry Walls: Numerical Investigation of a Novel Concrete Masonry Panel System	Mahmoud Elsayed , Alan Alonso, Rafael Gonzalez, Samer Adeeb, Douglas Tomlinson, Carlos Cruz-Noguez
109	Strengthening of Unreinforced Brick Masonry Wallets using Engineered Cementitious Composite (ECC) Overlays	Subodh Kumar, Durgesh Rai
159	Masonry Prefabrication and Offsite Construction in North America	Brian Trimble , Pat Conway

Session C3. Numerical Modeling and Analysis

Paper No	Paper Title	Authors
181	Numerical Study on Influence of Ferrocement Overlay on Seismic Strengthening of Unreinforced Masonry Buildings	Anubhab Mukherjee, Hemant Kaushik
040	Sensitivity of Damage Accumulation of Masonry Walls due to Earthquake Vibrations via Finite-Element Models	Paul Korswagen , Michele Longo, Jan Rots, Karel Terwel
143	Modeling Autoclaved Aerated Concrete Shear Walls subjected to Reversed Cyclic Loads using Finite Element Analysis	Cesar Gerardo Freyre Pinto , Ray Fertig, Jennifer Tanner
165	Sensitivity Analysis of Parameters on the In-Plane Behavior of Unreinforced Masonry Wall Strengthened with Steel Wire Reinforced Cementitious Matrix (SWRCM)	Dattatreya Tripathy, Vaibhav Singhal
126	Numerical investigation of the bond behavior between high strength steel bars and concrete masonry	Muhammad Waleed, Omar Khalid, Dimitrios Kalliontzis

Session D3. Sustainability & Green Construction

Paper No	Paper Title	Authors
083	PPE and Worker Detection to Improve Safety on Masonry Construction sites using Computer Vision and AI	Kristyna Kvapilova , Palwasha Afsar, Pablo Martinez, Rafiq Ahmad
106	Adobe houses reinforced with welded wire mesh in Peru: 20 years of structural safety	Alvaro Rubiños, Daniel Quiun , Gabriela Esparza
117	Experimental Study and Fabrication of High Content Coal-derived Char Bricks	Hua Yu , Kam Ng, Chooikim Lau, Trina Pfeiffer, Richard Horner

Session A4. Inspection, Testing, & Quality Assurance

Paper No	Paper Title	Authors
014	Experimental analysis of unreinforced masonry buildings through quasi-static test: A half-scale two-story modern masonry building	Abide Aşıkoğlu , Alberto Barontini, Nathanael Savalle, Graça Vasconcelos, Paulo Lourenço
021	A database for post-installed masonry anchors	Gary Ogden , Michael Schuller
053	An Innovative Approach for Estimation of Compressive Strength of Masonry Prisms Using Acoustic Response: An experimental study	Mehrdad Karami , James Bristow, Neil Cox, Moses Karakouzian
087	Statistical Analysis of The Mortar Joint Thickness in Masonry Walls	Sahar Farjad , Nigel Shrive

Session B4. Design Practices

Paper No	Paper Title	Authors
044	Axial compression behavior of reinforced masonry walls and related revisions in the Australian masonry design standards	Tatheer Zahra , Julian Thamboo, Mohammad Asad, Mengli Song, Jack Gill
080	Effect of ASCE/SEI 7 Tornado Provisions on Anchored Veneer Design	Nathan Matthews , Jim Bryja, Richard Bennett
084	Anchorage of Straight, Hooked, and Headed Reinforcement in Concrete Masonry	Christopher Motter , Majid Jarrah

Session C4. Numerical Modeling and Analysis

Paper No	Paper Title	Authors
071	Numerical studies on dry joint stone masonry: a pseudo-static approach for the study of the out-of-plane performance of different wall configurations	Paola Ita , Sandra Santa Cruz, Dominique Daudon, Nicola Tarque
081	Fast and reliable in-plane seismic analysis of loadbearing masonry structures using DE macro-crack networks	Zinan Zhang, Bora Pulatsu, Daniele Malomo
082	Videogame engines for simulating the free-rocking response of unreinforced masonry macro-blocks: an exploratory study	Nicole Han, Lee Brickman Sheldon Andrews, Daniele Malomo
017	Analytical backbone model for partially confined masonry panels	Yi-Hsuan Tu , Bor-Min Chang

Session A5. Historic Preservation

Paper No	Paper Title	Authors
057	Best practices for investigating existing masonry facades	Jordan Dick
068	Review of historic standards for masonry design and construction	Patrick Dillon , Abigail Cowser, Natalie Chavez,
091	Proposed flowchart for a future building code for existing masonry structures	Patrick Dillon
177	Investigation of the Impacts of Rising Damp in a Historic Crypt Structure	Josh Jaskowiak , Erin Murphy
174	Masonry distress: when to relax; when to run and when you just don't know	Edward Gerns , Leah Ruther,
150	Case study on structural health monitoring of a mid-century public school building to identify structural and environmental causes of cracking of loadbearing and infill CMU	Kevin Walsh , Emily Diaz-Gunning, Troy Madlem, Jacob Yoder

Session B5. Environmental Separation: Thermal, Moisture, and Fire Performance

Paper No	Paper Title	Authors
066	Assessment of Thermal Mass on the Energy Consumption of Typical Masonry Buildings	Li Lui, William McGinley
067	Evaluation of the Thermal Performance of Active Thermal Mass in Exterior Masonry	Li Lui, William McGinley
112	Impact of moisture on the dynamic thermal performance of a residential brick veneer wall assembly	Nathaniel Huygen , John Sanders
113	Evolution of hygrothermal properties of fired clay masonry during firing	Nathaniel Huygen , John Sanders
138	Influence of high temperature exposure on masonry mortar compressive strength	Namratha Kondam , David Woodham

Session C5. Materials and Manufacturing

Paper No	Paper Title	Authors
033	Improving the Sustainability of Cement-Lime Masonry Mortar with Portland-Limestone Cement	James Farny, William Kjorlien
099	Non-proprietary ultra-high-performance concrete (UHPC) for masonry construction	Antony Kodsy, Soumitra Das, George Morcous
116	Brick Production Using Lunar Materials	Jake Hendrix , Frederick Rutz
118	Recent Development and Manufacturing of Coal-Derived Building Materials	Kam Ng , Chooikim Lau, Md Tarik Hossain, Hua Yu, Trina Pfeiffer, Richard Horner
147	Toward low carbon footprint and lightweight masonry using hemp-based alkali-activated material	Zina Ebrahim , Mohammad Mastali, Marc Maguire

Session A6. Design Practices

Paper No	Paper Title	Authors
009	An overview of the design and detailing of masonry beams subjected to torsion	Ece Erdogmus, David Biggs
013	Mechanics of Spatial Funicular Masonry Structure	Mohammad Bolhassani , Valeska Abarca, Angel Sanchez
162	Structural Design of Perforated Masonry ScreenWalls	Brian Trimble , Scott Walkowicz
051	Slender reinforced masonry walls: Analysis of stiffness response	Adrien Sparling , Dan Palermo, Bennett Banting

Session B6. Inspection, Testing, & Quality Assurance

Paper No	Paper Title	Authors
015	Experimental Investigation of Water Penetration in Clay Brick Masonry with Artificial Cracks	Syedmohammad Kahangi Shahreza, Jonas Niklewski, Miklós Molnár
128	Towards real-time digital twins for post-earthquake damage assessment of masonry buildings	Bryan Pantoja-Rosero , Radhakrishna Achanta, Katrin Beyer
114	Longitudinal shear resistance of steel plate connectors in masonry cavity walls	Ambar Baron Bello , Benedict Egbon, Carlos Cruz Noguez, Douglas Tomlinson

Session C6. Numerical Modeling and Analysis

Paper No	Paper Title	Authors
043	Parametric macro-modelling of old Canadian brick masonry walls under in-plane loading	Lucy Davis , Zinan Zhang, Daniele Malomo
070	Influence of boundary conditions on the performance of block arch masonry retaining walls: Numerical study	Hasini Rathnayake , Ahmed Ahmed, George Iskander, Baher Haleem, Nigel Shrive
124	Effects of openings in the seismic rigidity and strength of confined masonry walls using finite element models	Daniel Quiun , Oscar Toro
060	Void distribution parameters and CT scanning of typical North American concrete masonry units	Ahmed Ahmed , George Iskander, Baher Haleem, Nigel Shrive

Session A7. Inspection, Testing, & Quality Assurance

Paper No	Paper Title	Authors
101	Development of a Sag Resistance Test for Plasters and Renders	Monika Pultorak , Paulo Lourenço, Miguel Azenha
104	Using an exterior masonry pre-installation meeting thru construction observation to lower rework costs	Corey Zussman
133	Compressive strength of field-prepared mortar using double punch tests of cast mortar disks	Johnn Judd , Fernando Fonseca, Braden Day
144	A laboratory investigation into the variability of unreinforced masonry shear wall capacities.	Lewis Gooch , Mark Masia, Mark Stewart, Md Akhtar Hossain

Session B7. Design Practices

Paper No	Paper Title	Authors
156	Flexural Bond Strength of Masonry Assemblies with Lightweight Grout	Laura Redmond , Ben Hiner, Stephen Wright, Cooper Banks, Michael Stoner
035	Out-Of-Plane Behavior of a Slender Masonry Wall with Different Base Stiffnesses	Alan Alonso , Rafael Gonzalez, Mahmoud Elsayed, Carlos Cruz-Noguez, Douglas Tomlinson
054	Designing Anchored Masonry Veneer with TMS 402-22	Richard Bennett , Christine Subasic
076	Constructability and Flexural Response of Reinforced Masonry Prisms Using Different Reinforcement Configurations	Rafael Gonzalez , Alan Alonso, Mahmoud Elsayed, Carlos Cruz-Noguez, Douglas Tomlinson

Session C7. Seismic Design and Analysis

Paper No	Paper Title	Authors
085	Backbone models of retrofitted masonry walls for performance-based seismic design	Diana Ramírez Quintero , Sergio Alcocer Martínez de Castro
088	Design of Masonry Coupling Beams	John Hochwalt , Richard Bennett
108	Evaluating In-Plane Seismic Behavior of Intermediate Reinforced Fully Grouted Masonry Shear Walls Subjected to High Axial Loads	Tousif Mahmood , Ahmed Gheni, Mohamed ElGawady
164	Shake table tests of traditional timber framed masonry construction system	Aanisa Gani, Durgesh C Rai , Jan Mohammad Banday
086	Impact of ASCE/SEI 7-22 Seismic Changes on Masonry Design	Richard Bennett , Anindya Dutta, John Hochwalt