4th ICCH, Program

Tuesday 3 July, 13:00-16:15  
Malaquais Site

13:00-14:00  Registration-Welcome (Palais des Etudes)
14:30-15:15  Introduction (amphi Binet)
15:15-16:15  Keynote Lecture (amphi Binet)

Dominique Barjot, Université Paris-Sorbonne, France
Why the World Construction Industry was Dominated by European Majors?

Sessions
Tuesday 3 July, 17:00-19:00  
Malaquais Site

401. Construction History, Epistemology & Historiography
Knut STEGMANN, Institute of Historic Building Research and Conservation, ETH Zurich, Switzerland
Analyzing Historical Timber Structures – A Case Study on Ernst Gladbach [1812–1896] and his Research on the “Swiss Style”

João MASCARENHAS-MATEUS, CES – Univ. of Coimbra, Portugal
Ethnographic Studies and their Contribution to Construction History in Portugal

Torsten MEYER, Institute of Historic Building Research and Conservation, ETH Zurich, Switzerland
The Science of Building as a Polytechnic Discipline in the 19th c.

Sascha ROESLER, ETH Zurich, Switzerland
Architectural Anthropology: A Knowledge-Based Approach

404. Architectural & Structural Design 1
Richard A. ETLIN, School of Architecture, Planning, and Preservation, Univ. of Maryland, College Park, MD, USA
Toward an Iconography of Stereotomy

María ANTÓN BARCO, Eva J. RODRÍGUEZ ROMERO, Juan TEJELA JUEZ, CEU San Pablo Univ., Inst. of Technology [EPS], Madrid, Spain
Builders’ Inventiveness in Madrid’s Baroque Convents: Construction Invariables

Dominic BOULERICE, York University, Toronto, ON, Canada
The Northex Vaults of the Church of Saint-Germain-l’Auxerrois in Paris

James W.P. CAMPBELL, University of Cambridge, Great Britain
The First Complete List of All the Models Made for the Construction of St Paul’s Cathedral, London 1675-1720

411. Transfer of Knowledge: the Colonial Situations 1
Benjamin IBARRA-SEVILLA, School of Architecture, Univ. of Minnesota, MN, USA
Transmission of Building Technology from Europe to the Americas: Underlying Geometry and Stereotomy

Studies of Three Ribbed Vaults Constructed in Mexico between 1535 and 1575

Randall BIRD, School of Architecture and Planning University of the Witwatersrand, Johannesburg, South Africa
The Transformation of Architecture and Construction Technology of the Merina Kingdom in Highlands Madagascar, 1820-1880
Alexandra QUANTRILL, Columbia University, New York City, NY, USA
Technical Supremacy: Tropical Architecture and Technologies of the British State

Bo-Hsun YAO, Min-Fu HSU, Dep. of Architecture, National Cheng Kung Univ., Taiwan
The Developmental Procedure of the Traditional Architectural Woodworking Tools in Taiwan

415. Craftsmanship, Gender, Individuals & Communities
Shelley E. ROFF, Univ. of Texas at San Antonio, TX, USA
Building Construction in Medieval Spain: The Female Perspective

Nina BAKER, Univ. of Strathclyde, Glasgow, Scotland
Who Paints the House? Scotswomen as Housepainters and Decorators from 1820

Gemma DOMÈNECH CASADEVALL, Catalan Institute for Cultural Heritage Research, Girona, Spain
Building Trades in Catalonia during the Modern Era: The Case of Immigration to Girona City

Cristina GONZÁLEZ-LONGO,
Dimitris THEODOSOPOULOS, Architecture, Univ. of Edinburgh, GB
From Master Mason to Architect: James Smith’s Construction Techniques at the End of 17th c. in Scotland

420. The Real Estate Market, The Cost of Construction
Virginie MATHÉ, Univ. Ch. De Gaulle-Lille 3, France
How Much did Greek Temples Cost? Economic Issues of Construction in Greek Cities (4th-3rd C. B.C.)

Arnaldo MELO, Maria DO CARMO RIBEIRO, Univ. of Minho, Braga, Portugal
Construction Financing in Late Medieval Portuguese Towns [14th-16th c.]

Michela BARBOT, IDHE (Institutions et Dynamiques Historiques de l’Economie), Ecole Normale Supérieure de Cachan, France
Between Market and Architecture: The Collegio degli Architetti and the Real Estate Pricing in 16th-18th c. Milan

Gema RAMÍREZ PACHECO, Federico GARCÍA ERVITI, Faculty of Architecture at the Polytechnic Univ. of Madrid [ETSA UPM], Spain, María Jesús PEÑALVER MARTÍNEZ, Juan Francisco MACIÁ SÁNCHEZ, Faculty of Architecture at the Polytechnic Univ. of Cartagena [ARQUIDE UPCT], Spain
Building Expropriation Process for the Construction of the New Dock at the Port Of Cartagena [Spain] in the 18th c.

423. Brick & Tile
Gerold EBER, Vienna University of Technology, Austria
Masonry Constructions as Built Archives: An Innovative Analytical Approach to Reconstructing the Evolution of Imperial Opus Testaceum Brickwork in Rome

Moses JENKINS, Historic Scotland and the Univ. of Dundee, Scotland
Three Key Aspects of the History of Brick Construction in Scotland

Sara WERMIEL, Independent Scholar, Boston, MA, USA
Against Replication: Carved Brick at the Dawn of the Terracotta Age

Miles LEWIS, University of Melbourne, Australia
The Marseilles Tile

440. Industrialization & Rationalization
Kinda FARES, CNAM-HTTP, Paris, France
The Dismantled War: Barracks and Industrialization of Light Construction [1914-1918]

Vanessa FERNANDEZ, ENS Architecture Toulouse / CNAM-HTTP, Paris, France
The Simplification of the Frame: Window Experiments in the Work of Le Corbusier in the 1920s

Rafael HERNANDO DE LA CUERDA, School of Architecture, Univ. de Alcalá ETSAPA, Madrid, Spain
Rationalization of Systems and Materials in Construction in the Spanish Modern Movement: Fernando García Mercadal, 1921-1937

Leda DIMITRIADI, ENS Architecture Paris-Malaquais, France
Post-war Industrialized Construction Processes in France and Architectural Flexibility
### Wednesday 4 July, 9:00-10:15
**Malaquais Site, amphi Binet**

**Keynote Lecture:**
Ledlie Klosky, Professional Engineer, United States Military Academy, West Point, NY, USA

*Men of Action - French Influence on the Founding of American Civil and Military Engineering*

### Sessions
**Wednesday 4 July, 11:00-13:00**
**Malaquais Site**

#### 402. Construction History, Education & Diffusion
José Carlos PALACIOS GONZALO, Sandra Cynthia BRAVO GUERRERO, Univ. Politécnica de Madrid, Spain

*Construction of a Pendentive Grid Crossing Vault*

Denis ZASTAVNI, Univ. catholique de Louvain [UCL], Louvain-la-Neuve, Belgium

*Mailart’s Practices for Structural Design [ETH-Bibliothek’s Virtual Exhibition]*

Tullia IORI, Sergio PORETTI, Università di Roma Tor Vergata, Italy

*The Nervi System: A Model-Game to Understand*

Werner LORENZ, Roland MAY, BTU Cottbus, Germany

*CH. ESS: European Summer Schools on Construction History*

#### 405. Architectural & Structural Design 2
Laurent KOETZ, CNAM-HTTP, Paris / LHAC-ENS Architecture Nancy, France

*Nineteenth Century Invention under Scrutiny: Louis Auguste Boileau’s Frame Construction Systems of around 1850*

Ralph GHOCHE, Columbia Univ., New York City, NY, USA

*The Science of the Beautiful: S.C. Constant-Dufeux and the Parabola as Constructive and Symbolic Form*

Bill ADDIS, Co-editor, Construction History, Great Britain

*The Development of Design Charts and other Graphical Calculation Tools for Use by Building and Civil Engineers up to the Early 20th Century*

Ana RODRIGUEZ GARCÍA, School of Architecture, Univ. de Alcalá ETSA-UAH, Madrid, Spain

*Modern Interpretations of the Vernacular Tradition in the Work of J.A. Coderch 1940-1964*

#### 416. Contractors
Joëlle PETIT, CNAM-HTTP, Paris, France

*Private Archives of the 18th and 19th Centuries: Sources for the History of Marble-Working in Belgium*

Koen VERSWIVER, Inge BERTELS, Ine WOUTERS, Quentin COLLETTE, Vrije Universiteit Brussel, Brussels, Belgium

*The Development of Belgian Ironworks in the 19th Century: Case Studies and Reflections on Sources and Historiography*

Maria Luiza de FREITAS, Federal Univ. of Pernambuco [UFPE], Recife, Brazil

*Architecture and Reinforced Concrete in Brazil: The Action of the Largest Construction Companies in Brazil, Christiani & Nielsen and Wayss & Freytag*

Javier MARTINEZ-GONZALEZ, Marta GARCIA-ALONSO, Sc. of Architecture, Univ. of Navarra. Pamplona, Spain

*Building Modern Spain: Some Notes on Huarte y Cía*

#### 424. Structural Bricks & Tiles
Jennifer ZESSIN, John OCHSENDORF, MIT, Cambridge, MA, USA

*Efficiency in Form: Thomas Jefferson’s Serpentine Walls at the University of Virginia*

Esther REDONDO MARTÍNEZ, Department of Building Technology, Universidad Europea de Madrid, Spain

*Test on Tile Vaults in France in the 19th Century*
Nan-Wei WU, University of Edinburgh, Edinburgh, Great Britain
Structural Morphology Presented on Surface Cladding: From Structural Brick to Ornamental Tile in the Westernmost Far East
Gemma MUÑOZ SORIA, Universitat Politècnica de Catalunya, UPC, Spain
Load-Bearing Wall Structures in the Works of Lluís Nadal

432. Vaults & Stereotomy 1
Ursula QUATEMBER, Austrian Archaeological Institute, Vienna, Austria
Opus revinctum in Dome and Barrel Vault Constructions in Roman Asia Minor
Enrique RABASA DÍAZ, Miguel Ángel ALONSO-RODRÍGUEZ, Tomás Gil LÓPEZ, Ana LÓPEZ-MOZO, Univ. Politéc. de Madrid, Spain, José CALVO-LÓPEZ, Univ. Politéc. de Cartagena, Spain, Alberto SANJURJO ÁLVAREZ, Univ. San Pablo-CEU, Madrid, Spain
The 100 Ft Vault: The Construction and Geometry of the Sala dei Baroni of the Castel Nuovo, Naples
Marina ŠIMUNIĆ BURŠIĆ, Univ. of Zagreb, Faculty of Architecture, Croatia
Construction of Early Rib-Vaults in Croatia
Alberto SANJURJO ÁLVAREZ, Univ. CEU-San Pablo, Madrid, Spain
The Chambiges and the Construction of Vaulted Stone Spiral Staircases

436. Wood Structures 1
Silvia DANDRIA, Politecnico di Milano, Verona, Italy
Commercial Categories and Applications of Construction Timber in the Trentino-Verona Area [14th-16th Centuries]
Giuseppe ROCIOLO, ICAR Department, Polytechnic of Bari, Italy
Wooden Embankments in the Lagoon Territory of Capitanata between the 18th and 19th Centuries
Anja WÜNNEMANN, Stefan M. HOLZER, Univ. der Bundeswehr München, Neubiberg, Germany, Clemens VOIGTS, Deutsches Archäologisches Institut, Rome, Italy
Wooden “Italian” Wide-Span Roofs of German 19th Century Theatre Buildings
Stephen BUONOPANE, Bucknell Univ., Lewisburg, PA, USA, Sarah EBRIGHT, Univ. of Wyoming, Laramie, WY, USA,
Alex SMITH, Arup, New York City, NY, USA
The Timber Trusses of R.W. Smith: History, Design and Behavior

441. Prefabrication 1
Francis GUILLEMAND, CNAM, Paris, France
Charles-Henri Besnard de Quelen: A Precursor of Prefabricated Construction (provisional title)
Rafael GARCÍA GARCÍA, Universidad Politécnica de Madrid, Spain
Concrete Meccanos: Precast Constructions after the Second World War in the Netherlands
Hernando VARGAS, Universidad de los Andes, Bogotá, Colombia
RetCel: The Development of Floor and Roof Assemblies of Precast Concrete Cells in Colombia, 1949-1989
Laura GRECO, University of Calabria, Cosenza, Italy
The First ENI-SNAM Headquarters in San Donato Milanese: Some Features of Industrialization in Construction Techniques Applied to Office Buildings in the Post Second World War Period in Italy

443. Hydraulics
Anna DECRi, Institute for the History of Material Culture [ISCUM], Genoa, Italy
The Historical Aqueduct of Genoa: Materials, Techniques and History: A Way to Know
Yasuhiro HONDA, Miyazaki, Japan, Keiko NAGAMURA, Ichiro KOBAYASHI, Graduate School of Science and Technology of Kumamoto Univ., Japan
Naoto TANAKA, Center for Policy Studies, Kumamoto University, Japan
The Role of the Tsujun Irrigation Canal’s Construction and Maintenance in the Creation of a Cultural Landscape (Shiraito Plateau, Kumamoto, Japan)

Carlo TOGLIANI, Politecnico University of Milan, Italy
Water Pumping Plants for Land Drainage in the Po Valley, A Case Study of The Mantua Region [1866-1940]: People, Techniques, Materials

Sessions
Wednesday 4 July, 14:30-16:30

403. Construction History, Heritage & Restoration
Ishanlosen ODIAUA, Univ. Paris 1, France, Abraham A. TAIWO, Rosemary AJAYI, D’ of Architecture, Federal Univ. of Technology, Akure, Nigeria
Use of Modern Materials in the Conservation of Traditional African Buildings

Damiana Lucia PATERNÒ, Politecnico di Milano, Italy
The Interpretation of Palladio’s Building Techniques: Palazzo Chiericati and the Restorations of the 19th c.

Tom F. PETERS, Lehigh Univ., Bethlehem, PA, USA
Conceptual Problems in the Restoration and Adaptive Reuse of Historical Structures: The Rhaetian Railway Bridges in Switzerland

Franz GRAF, Univ. della Svizzeria Italiana and Ecole Polytechnique Fédérale de Lausanne, ENAC – IA- TSAM, Switzerland
Material History and Conservation of Contemporary Building Fabric

406. Applied Sciences 1
Sara Franceschelli, Univ.de Lyon, ENS de Lyon, Rhône-Alpin Institute of Complex Systems, Lyon/Ensadiab, ENSAD, Paris, Antoñella MASTRORILLI, ENS Architecture Lyon, LAF, France
Firmitas and the Status of the Laws of Statics and Mechanics

François FLEURY, ENS Architecture Lyon, France
Some Aspects of John Wallis’s Structural Mechanics

Patricia RADELET-DE GRAVE, Univ. catholique de Louvain, Louvain-la-Neuve, Belgium
Newtonian Scientists on the Relation between a Catenary Curve and an Arch Supported by its own Weight

Luc TAMBORERO, ENS Architecture Paris-Malaquis-GSA, France
Curves Mastery at the Royal Academy of Architecture: The Case of Jules Hardouin-Mansart

413. Transfer of Knowledge: Political Initiatives
Francisco PRADO, María F. VARGAS, Univ. Católica de Chile, Santiago, Chile, Renato D’ALENÇON, Daniel KORWAN, Johanna MOSER, Technische Univ. Berlin, Germany
Traces of Construction Following Migration: Transverse Gable; Massive Timber and Carpenter’s Marks in the Houses of the 19th Century German Settlers in Southern Chile

Martin TRAUTZ, RWTH Aachen, Germany, Friedmar VOORMANN, Karlsruhe Institute of Technology, Germany
Early Iron Bridge Construction for the Grand Duchy of Baden and for Central Europe

Hilal Tuğba ÖRMECİOĞLU, Akdeniz Univ. FFA, Dep. of Architecture, Antalya, Turkey, Bilge KUÇUKDOĞAN, Gazi Univ. NIKER-TR Project Office, Ankara, Turkey, Aşlı ER AKAN, Ministry of Science, Industry and Technology, Ankara, Turkey
The Roots of Foreign Effects in Development of the Turkish Construction Sector [1719-1933]

Riichi MIYAKE, Fuji Women’s University, Sapporo, Hokkaido, Japan, Michiko MAEJIMA, Keio University, Tokyo, Japan
A Study of Military Facility Planning from the Viewpoint of Technological Transfer from France to Japan

417. Organization of the Construction Site
Lia BARELLI, Sapienza Università di Roma, Italy
Construction Methods in Carolingian Rome [Eighth-Ninth Centuries]
Andrea BONAVITA, Università Iuav di Venezia, Italy
*Building the New Prisons of Venice and their Bridge [1591-1604]*

Matthieu PINON, ENS Architecture Paris-Malaquais - GSA, France
*The Building of the Arsenal of Le Havre in the 17th and 18th Centuries*

Anne CONCHON, Univ. Paris 1-IDHE, France, Katherine McDONOUGH, Stanford Univ., CA, USA
*Road Construction Sites in 18th-Century France: Labor and Administration in Action*

425. Stone
Dimitris THEODOSSOPOULOS, Univ. of Edinburgh, GB, John BARBER, Graeme CAVERS, Andy HEALD, AOC Archaeology Group, Loanhead, Midlothian, GB
*The Achievement of Structural Stability in the Drystone Iron-Age Broch Towers in North Scotland*

Turgut SANER, Kaan SAĞ, ITU Istanbul, Turkey
*The Aeolian-Style Polygonal Masonry in Larisa [Buruncuk] and its Regional Context*

Wido J. QUIST, TU Delft, the Netherlands, Timo G. NJULAND, TNO, Delft, the Netherlands

Angelo BERTOLAZZI, D’. of Architecture, Univ. of Padua, Italy; ENS Architecture Paris-Malaquais- GSA, France
*Stone Cladding Techniques in French Modern Architecture [1920-1940]*

433. Vaults & Stereotomy 2
Rosa SENENT DOMÍNGUEZ, Miguel Ángel ALONSO RODRÍGUEZ, Enrique RABASA DÍAZ, Polytechnic Univ. of Madrid, Spain, José CALVO LÓPEZ, Polytechnic Univ. of Cartagena, Spain
*The Irregular Ribbed Vault of the Sacristy of the Cathedral of Saint-Jean Baptiste in Perpignan*

Rafael Martín TALAVERANO, Carmen PÉREZ DE LOS RÍOS, Rosa SENENT DOMÍNGUEZ, Polytechnic Univ. of Madrid, Spain
*Late German Gothic Methods of Vault Design and their Relationships with Spanish Ribbed Vaults*

Stefania PETRALLA, Fac. di Architettura, Politecnico di Bari, Italy
*Safavid Ribbed Vaults as a Masterpiece of Iranian Construction Techniques*

Giuseppe FALLACARA, Fac. di Architettura, Dipart. ICAR, Politecnico di Bari, Italy
*The Lecce Vault: History, Construction Techniques and New Design Perspectives*

444. Infrastructure & Public Works, Bridges
Ivan FERRARI, Univ. of Salento, Lecce, Italy
*The Roman Bridges of the Via Traiana: An Innovative Building System*

Stefan M. HOLZER, Anja WÜNENMANN, Universität der Bundeswehr München, Neubiberg, Germany
*Innovation in 19th Century Vaulted Bridge Construction*

Dario A. GASPARINI, Case Western Reserve University, Cleveland, OH, USA
*Sunderland, Birdsall and the Roebling Co: Development and Diffusion of Construction Technologies for Suspension Bridges, 1928-1952*

Eberhard PELKE, Hessen Mobil – Roads & Traffic Management, Wiesbaden, Germany, Karl-Eugen KURRER, Ernst & Sohn, Berlin, Germany
*The Development of Multi-Cable-Stayed Bridges*

306. Rules & Standards: Building Regulation Compared
Julien PUGET, UMR 6570 TELEMME – MMSH, Aix-en-Provence, France
*Construction Market Organization in the 17th century: Norms, Actors and Practices Examples of Extension Plans in Aix and Marseille*

Maria Teresa PALIZA MONDUATE, University of Salamanca, Salamanca, Spain
Robert CARVAIS, CNRS-Univ. Panthéon-Assas, Paris / ENS Architecture Versailles, France
For a Comparative Study of Construction Law

Wednesday 4 July, 17:30-18:30  
Keynote Lecture :  
Shigeru Ban, Architect, Tokyo, Japan  
Works and Humanitarian Activities
**Sessions**

**Thursday 5 July, 9:00-11:00**

**La Villette Site**

**410. Structural Analysis & Modelling 1**

David WENDLAND, TU Dresden, Germany

*Arches and Spirals: The Geometrical Concept of the Curvilinear Rib Vault in the Albrechtsburg at Meissen and Some Considerations on the Construction of Late-Gothic Vaults with Double-Curved Ribs*

Maurizio BROCATO, Lucia MONDARDINI, ENS Architecture Paris-Malaquais-GSA, France

*An Insight into Abeille’s Flat Vault through Numerical Analyses*

Thierry CIBLAC, ENS Architecture Paris La Villette / CNRS MAP-MAACC, Paris, France

*Analysis of Philippe de la Hire’s Arch Theory Using Graphic Statics*

Santiago HUERTA, Univ. Politécnica de Madrid, Spain

*Structural Analysis of Thin Tile Vaults and Domes: The Inner Oval Dome of the Basilica de la Virgen de los Desamparados in Valencia*

**414. Technical Literature, Images & Representation**

Maria Grazia D’AMELIO, Univ. Tor Vergata, Rome, Italy, Fabrizio DE CESARIS, Univ. La Sapienza, Rome, Italy

*Moving St. Peter’s Obelisk as Seen in the Engravings of Giovanni Guerra and Natale Bonifacio: A Transmission of Knowledge, or Pure Propaganda?*

Jean-Sébastien CLUZEL, Institut national d’histoire de l’art, Paris, France

*Hokusai Manga as a Reference Construction Book*

Javier GIRÓN, Univ. Politécnica de Madrid, Spain

*A Review of the Depiction of Ancient Construction by Charles Chipiez in L’Histoire De l’Art*

Hilary BRYON, School of Architecture+Design, Virginia Tech, VA, USA

*Construing Construction with Drawings: Robert Willis’ and Auguste Choisy’s Axonometric Representations of Vaulted Structures*

**418. Scaffolding and Machines**

Lorena FERNÁNDEZ CORREAS, Univ. of Valencia, Spain

*The Study of Medieval Lifting Machines Thanks to Iconography: An Example in Mediterranean Machinery*

Inge BERTELS, Vrije Univ. Brussels / FWO & Univ. Antwerpen, Brussels / Antwerp, Belgium

*Scaffolding: 19th Century Discourses on Innovative Scaffolding Techniques within Architecture and Construction Journals*

Richard C. RYAN, Univ. of Oklahoma, Norman, OK, USA

*Development and Use of Mechanized Heavy Construction Equipment in the United States*

Nicoleta MARCONI, Univ. of Rome Tor Vergata, Italy

*Innovation and Tradition in the Reconstruction of the Basilica of St. Paul Outside the Walls in Rome [1825-1928]: Technologies, Procedures, Protagonists*

**426. Reuse & Recycling**

Stéphane BÜTTNER, Centre d’études médiévales d’Auxerre, CNRS/Univ. de Bourgogne, Auxerre, France

*The Use of the “Already There”: Reuse and Recycling for Monumental Building in the West in Late Antiquity and the Medieval Period*

Emanuela MONTELLI, Università degli Studi “Roma Tre”, Rome, Italy

*The Reuse of Granite Columns in Rome, 15th-16th Centuries*

Martin BACHMANN, German Archaeological Institute, Istanbul, Turkey

*The Revival of Classical Building Techniques in Late Ottoman Architecture in Bergama, Turkey*

Sachiko OKADA, Ichiro KOBAYASHI, Dep. of Civil and Environmental Eng., Graduate School of Sc. and Tech., Kumamoto Univ., Japan, Koichi NAKAMA, Dep. of Civil Eng., Graduate School of Tech., Kyushu Inst. of Tech., Kitakyushu City, Japan

*A Study on Distribution and Reuse of Tram Line Paving Stones in Japan*
427. Earthen & Plaster Structures
Annick DANIELS, Univ. Nacional Autónoma de México, Mexico City, Luis Fernando GUERRERO, Univ. Autónoma Metropolitana Xochimilco, Mexico City, Mexico
Earthen Building Techniques in the Humid Tropics: The Archaeological Site of La Joya, Veracruz, México

Anna ANTONINI, Politecnico di Milano, Italy
Persistence of the Perishable. Wattle-and-Daub Architectures in the Roman Period: A Census of the Archaeological Findings in Gallia Cisalpina and the Case of Mediolanum

Fernando VEGAS, Camilla MILETO, Maria DIODATO, José GARCÍA SORIANO, Carles GRAU GIMÉNEZ, Univ. Politécnica de València, Spain
Traditional Structures Made with Gypsum Pillars: A Reasoned Hypothesis

Luca BOIARDI, Maria Regina TEDESCHINI, Riccardo GULLI, Bologna Univ., Italy
History and Technique of Italian Wooden Floor System Based on Reeds and Gypsum Plaster Frame: The Case of Reggio Emilia

434. Shell & Thin Vaults
Ciarán CONLON, University College Dublin, Ireland
James Hardress de Warenne Waller and his Contribution to Shell Roof Construction, Concrete and Fabric Formwork Technologies

Pepa CASSINELLO, Polytechnic Univ. of Madrid, Spain
Pioneer Concrete Shells in Spanish Architecture: The Innovation System-Design of Ildefonso Sánchez del Río

Roland MAY, BTU Cottbus, Germany
Shell Wars: Franz Dischinger and Ulrich Finsterwalder

Maris SUITS, Estonian Academy of Arts, Tallinn, Estonia
Reinforced Concrete Shells in Estonia during the Soviet Period: Science and Practice

442. Natural & Technical Risk, Earthquake Design
Hélène DESSALES, Ecole normale supérieure, AOROC, Paris, France
Not Built in a Day: Awareness of Vulnerability and Construction Techniques in Roman Times

Giovanni FATTA, Tiziana CAMPISI, Calogero VINCI, Dipartimento di Architettura [DARCH], Univ. degli Studi di Palermo, Italy
Tiled Vaults in Western Sicily: Originality and Continuity of an Imported Building Technique

João CALDAS, Rita LISBOA, Instituto Superior Técnico–Universidade Técnica de Lisboa, Portugal
The Use of Vaults in the Reconstruction of Pombaline Downtown Lisbon

Akio SASSA, RFR Engineers, Paris, France
The First Earthquake-Resistant Structures in Japan: Lessons from the Earthquake of Ischia [1883], Nobi [1891] and San Francisco [1906]

445. Infrastructure & Public Works, Transportation
Matteo Porrino, ENSA Strasbourg/GSA ENSA Paris-Malaquais, Paris, France
Notes on Technological and Architectural Aspects of London Transport Power Stations and Substations, 1880-1915

Ted SHELTON, University of Tennessee, Knoxville, TN, USA
The Highway Comes to the American City: Automobility, Urbanity and the Functioning of City Streets

Evangelia CHATZIKONSTANTINOU, Paschalis SAMARINIS, National Technical University, Athens, Greece, Areti SAKELLARIDOU, Rheinisch-Westfaelische Technische Hochschule, Aachen, Germany
Road Construction in Greece during the Interbellum: The Makris Project

Yuji HOSHINO, Sachiko OKADA, Department of Civil and Environmental Engineering, Graduate School of Science and Technology, Kumamoto University, Kumamoto City, Japan, Daijiro KITAGAWA, The Agency for Cultural Affairs, Tokyo, Japan
Historical Research for Planning and Construction of Misumi Port
Sessions
Thursday 5 July, 11:30-13:00  La Villette Site

303. Transfer of Knowledge: the Colonial Situations 2
Jorge GALINDO DÍAZ, Univ. Nacional de Colombia, Manizales branch, Colombia
Barbetti Serafin: Builder of Vaulted Bridges in South-Western Colombia [c. XIX]

Hsin-Yao HSU, Graduate School of Engineering, Univ. of Tokyo, Japan

Hélène VACHER, ENS Architecture Nancy, France
French overseas territories in the 1950s and building development programs

304. Rules & Standards: Specifications
Beatrice Maria FRACCIA, Politecnico di Torino, Italy
History of Construction in the 18th Century through the “Istruzioni” Written by Filippo Juvarra
History of Construction through the “Istruzioni” by Filippo Juvarra

Katie LLOYD THOMAS, Newcastle University, Great Britain
Describing Construction: Building Specifications and the ‘Process-Based’ Clause

Jeroen CORNILLY, Research Foundation Flanders [FWO]/Catholic University of Leuven, Belgium
Contractors of 19th-Century Public Works in Belgium: Looking for a Research Approach for the Rural Areas

310. Technical Literature, Publications
Dermot O’DWYER, Ronald COX, Dep. of Civil, Structural and Environmental Engineering, Trinity College Dublin, Ireland
George Semple and the Reconstruction of Essex Bridge in Dublin 1753-1755

Christoph RAUHUT, Institute of Historic Building Research and Conservation, ETH Zurich, Switzerland
Handbooks on Construction Site Supervision in the 19th Century

Emmanuelle MINAULT-RICHOMME, Bibliothèque du CNAM
Conservatoire Numérique des Arts et Métiers (CNUM): Constructive Literature Digitized (provisional title)

314. Deconstruction & Reconstruction
Philippe BERNARDI, CNRS-Lamop, Paris, France, Daniela ESPOSITO, Dip. di Storia, Disegno e Restauro dell’Architettura, Sapienza-Università di Roma, Italy
For a History of Deconstruction

Nick BEECH, Bartlett UCL, GB
Rescue, Recover! The demolition industry and its relationship to the London County Council Architect’s Department in the Second World War

Richard BURT, Auburn University, Auburn, AL, USA
The Builder’s Flying Squads: An Analysis of the Ministry of Works Special Repair Service Activities during WWII

316. Reinforced Concrete, The Hennebique Companies
Herrmann SCHLIMME, Bibliotheca Hertziana, Max Planck Institute for Art History, Rome, Italy
François Hennebique’s Patents as Applied on the Building Site: The Mercato Orientale in Genoa [1896-1899] and the Creation of a Local Construction Network

Mónica SILVA-CONTRERAS, Univ. Iberoamericana, México City, Mexico
Béton Armé in a Sinking City: Mexico 1902-1914

Stephanie VAN DE VOORDE, Ghent University/Centre for Flemish Architectural Archives [CVaA], Antwerp, Belgium,
Rika DEVOS, Ghent University/University College of St. Lucas Architectuur, Ghent and Brussels, Belgium
The ‘Scientification’ of Reinforced Concrete in Belgium during the Interwar Period: Development and Dissemination of Scientific, Theoretical and Technical Knowledge
317. Metal Structures 1
Lara SLIVNIK, Univ. of Ljubljana, Fac. of Architecture, Slovenia
A Prefabricated Cast Iron Three-Hinged Arch Bridge in Ljubljana
Volker WETZK, Brandenburg University of Technology, Cottbus, Germany
Five Historic Bridge Bearings: Material Research on Cast Steel
Bernard ESPION, Univ. Libre de Bruxelles, Belgium
The Vierendeel Bridge at its Heyday: Rational Design, Experiments and Brittle Failure

Thursday 5 July, 14:00-19:00
Visits
Friday 6 July, 9:00-10:15 Malaquais Site, amphi Binet
Keynote lecture:
Antonio Becchi, Max Planck Institute for the History of Science, Berlin, Germany
Looking for an Equilibrium Point: A Moonwalk with Vitruvius and Gyro Gearloose

Sessions
Friday 6 July, 11:00-13:00 Malaquais Site

407. Applied Sciences 2
Alberto GRIMOLDI, Politecnico di Milano, Italy
Guarini’s Flat Vaults and Thin Vaults on Wooden Beams in the Duchy of Modena

Carlo BIANCHINI, Dip. di Storia, Disegno e Restauro dell’Architettura, Sapienza-Università di Roma, Italy
The Role of Stereotomy in Guarino Guarini’s Space Research

Andreas KAHLOW, Univ. of Applied Sciences Potsdam, Germany
Theory and Practice in Timber Construction 1800-1830

Federico FOCE, Dip. di Scienze per l’Architettura, Univ. degli Studi di Genova, Italy

408. Structural Analysis & Modelling 2
Jacques HEYMAN, University of Cambridge, GB
The Membrane Analysis of Thin Masonry Shells

Timothy COOKE, John OCHSENDORF, MIT, Cambridge, MA, USA
The Temple of Diana at Baiæ: History and Structure of an Imperial Roman Dome

Alejandra ALBUERNE, Martin WILLIAMS, Dep. of Engineering Science, Univ. of Oxford, GB, Janet DELAINE, Fac. of Classics, Univ. of Oxford, GB
On the As-Built Geometry of the Vaults of the Basilica of Maxentius

Javier SUÁREZ, Laura CIRERA, School of Architecture, Univ. of Granada, Spain
Structural and Constructive Analysis of the Acequia Real Aqueduct in the Alhambra, Granada

419. Management of the Construction Site
Raúl ROMERO MEDINA, Univ. CEU-Cardenal Herrera, Spain, Manuel ROMERO BEJARANO, Univ. de Sevilla, Spain
Building during the War of Granada: The Project for Reconstructing Fuengirola in 1485

Catherine ISAAC, Univ. Toulouse II – Le Mirail, France
Reconsidering the “Considerable Expense” Involved in Building the Lavaur Bridge in Languedoc [1769-1791]

Kenneth F. ROBSON, Univ. of Oklahoma, Norman, OK, USA
Managing the Design and Construction of the Empire State Building: Are There Lessons for Today’s Projects?

Camilo VILLATE, Brando TAMAYO, Univ. of Los Andes, Bogota, Colombia
The Avianca Tower: Practices Driving Technical Innovations in a Construction Firm in the 60s

421. Institutions
Malcolm DUNKELD, London South Bank Univ., London, GB
The Great Hall of the Institution of Civil Engineers Headquarters Building

Christiane WEBER, Karlsruhe Institute of Technology, Germany, Volker ZIEGLER, Universitätsarchiv Stuttgart, Germany
Construction Material Testing at MPA Stuttgart during the Third Reich

Alicja GZOWSKA, Institute of Art History, Univ. of Warsaw, Poland
An Institution for Structural Innovation: BISTYP [Office for the Study and Design of Industrial Building Types] in Postwar Poland
428. Mortar
Frédéric DAVIDVITS, Geopolymer Institute, Saint Quentin, France
Geological Origin of the Reagents Constituting Roman Mortar, According to Vitruvius
Reinhard HEINZ, Vienna, Austria
The First Verifiable Application of Cast Mortar in Prefabricated Construction in the Coffered Ceiling of the Early Hellenistic Mausoleum of Belevi
Barbara THUSWALDNER, Institute of History of Art, Building Archaeology and Restoration, Dep. for History of Architecture and Building Archaeology, Univ. of Technology, Vienna, Austria
The Use of Mortar in Late Hellenistic Construction: The Case of the Octagon in Ephesus
Marco COFANI, Politecnico di Milano – DIA P, Italy
The Knowledge and the Development of Mortars between the 18th and 19th Centuries: The Case-Study of the Verona Amphitheatre Restoration

429. Reinforced Concrete, Reception & Dissemination
Cédric AVENIER, Anne COSTE, Lab. Cultures constructives, ENS Architecture Grenoble, France
Auguste Perret: The Grenoble Orientation Tower – Architecture, Art and the Press
Edoardo CURRÀ, Dep. of Civil, Building and Environmental Engineering, Univ. of Rome Sapienza, Italy
Manual Abilities and Modern Constructive Techniques in a Building by Arturo Hoerner: The S. A. Supertessile Plant and the System Baroni-Lüling, Rieti-Italy, 1926
Andrew RABENECK, Imperial College, London, GB
The Transformation of Construction by Concrete
Jesús ANAYA DÍAZ, Universidad Politécnica de Madrid, Madrid, Spain
Reinforced and Prestressed Concrete in High-Rise Construction in Spain, 1950-1975: Technique and Innovation

435. Wood Structures 2
Zeynep ERES, Eylem ÖZDOĞAN, Istanbul Univ., Turkey
A New Approach in Studying the Structural Systems of Prehistoric Wooden Post Buildings: A Case Study from Aşağı Pınar in Eastern Thrace
Dietmar KURAPKAT, German Archaeological Institute, Berlin, Germany
A Roof under One’s Feet: Early Neolithic Roof Constructions at Göbekli Tepe, Southeastern Turkey
Alexandra HARRER, Tsinghua University, Beijing, China
Fan-shaped Bracket Sets and their Application in Different Building Materials: A Discussion of the Chinese Fangmu Tradition and Jin-dynasty Tomb Architecture in Southwest Shanxi Province
Christof KRAUSKOPF, Brandenburg State Office for the Preservation of Monuments and Sites, Wünsdorf, Germany
Medieval Timber Structures in Eastern Germany: Archaeological Evidence from Eberswalde

438. Interior Environment, Heating
Lynne C. LANCASTER, Ohio Univ., Athens, OH, USA
Heated Vaulting in Roman Britain and the Invention of Hollow Terracotta Voussoirs
Rainer ATZBACH, Aarhus Univ., Denmark
The Stube: Constructive Evidence for the Concept of a Smoke-Free Heated Living Room between the Alps and Southern Scandinavia
Spyridon PAPAVASILEIOU, Magdalini MAKRODIMI, James CAMPBELL, Univ. of Cambridge, GB
The Construction and Integration of Historic Heating Systems in Churches in the United Kingdom from the 17th to the Early 20th Century
Carlo MANFREDI, Politecnico di Milano, Italy
Comfort Versus Industry: Maintenance of the Royal Palaces of Milan during the 1860s
**Sessions**

**Friday 6 July, 15:00-16:30**

**Versailles Site**

**302. Construction History, Sources & Methods 2**

Pierre GUIBERT, Centre de Recherche en Physique Appliquée à l'archéologie, CNRS-Univ. de Bordeaux 3, France, et alii.

*The Use of Dating Methods for Studying Building Materials and Constructions: State of the Art and Current Challenges*

Rita VECCHIATTINI, Dep. of Sciences for Architecture, Univ. of Genoa; ISCUm – Institute of the History of Material Culture, Genoa, Italy, Giovanni L.A. PESCE, Dep. of Architecture and Civil Engineering, Univ. of Bath, GB /ISCUm – Institute of the History of Material Culture, Genoa, Italy

*A Study on the Traditional Production of Lime: The Role of Oral Sources*

Mariachiara FALIVA, Thornton Tomasetti, Inc., New York City, NY, USA

*Integrated Methods for the Study of Construction Techniques*

**305. Rules & Standards: Architectural and Urban Norms**

Juliette HERNU-BELAUD, Univ. of Nantes, Institut national d’histoire de l’art, Paris, France

*The Architecture pratique by Pierre Bullet [1691] and the Normalisation of the Construction Process*

Esperanza GONZÁLEZ REDONDO, Alcalá University, Madrid, Spain

*The Structure of Houses in Madrid 1669-1900: Buildings and Documents*

Sílvia Amaral PALAZZI ZAKIA, Faculdade de Arquitetura e Urbanismo de São Paulo [FAU-USP], Brazil

*The First Building Code of Campinas – 1934: A Legal Instrument of the Urban Modernization Process of the City*

**308. Training & Education 1, Engineers**

Willemijne LINSEN, Krista DE JONGE, Univ. of Leuven, Belgium

*How Belgian Engineers Passed on Their Knowledge between 1830 and 1865: Education, Association and Publication*

Mike CHRIMES, Institution of Civil Engineers, London, GB

*Short of Education or Short of Engineers: British Civil Engineering 1890-1910*

Simona TALENTI, Univ. of Salerno, Italy

*The Italian Engineers’ Architecture and Technique Training*

**309. Technical Literature, Manuscripts**

Paola TRAVAGLIO, Politecnico di Milano, Italy

*“De Fenestris”: An Unpublished Treatise from the Mid 15th Century on the Construction of Windows and Stained Glass*

Francesco MENCHETTI, Laura S. PELISSETTI, Fac. of Science and Architecture, Politecnic of Milan, Italy

*Guidobaldo del Monte as Architect and the Construction of Santa Maria degli Angeli in Pesaro*

Marisa TABARRINI, Sapienza Università di Roma, Rome, Italy

*An Unpublished Treatise on Waters by Vincenzo Della Greca, Civil and Military Architect of the Camera Apostolica: A Source of Carlo Fontana’s Utilissimo Trattato Delle Acque Correnti*

**311. Craftsmanship & Technical Tasks**

Silke KAPP, Ana Paula BALTAZAR, Univ. Federal de Minas Gerais, Belo Horizonte, Brazil

*Metropolitan Vernacular: On the History of Informal Construction in a Brazilian City*

Gülsah CELIK, Fac. of Architecture, Middle East Technical Univ., Ankara, Turkey, Kemal Reha KAVAS, Dep. of Architecture, Akdeniz Univ., Antalya, Turkey

*A Case Study of Local Builder’s Carpentry Tools: Traditional Constructions of Ürûnlû, Turkey*

Elizabeth COOK, College of William and Mary, Williamsburg, VA, USA

*Building Culture and Competence: Demonstrating Knowledge on Construction Sites in 18th-Century Virginia*
Concrete Constructors:

Univ. Christine Construction Work in Four German States: before, during and after the Cold War

Bauen Jörn The Significance of Building Labour to the Production of the Built Environment

Linda 312.

Theory "Purpose" and "Means" of Architectural Design: Construction Julien Guadet’s

307. Training & Education 2, Architects

Hélène ROUSTEAU-CHAMBON, Univ. de Nantes, France Teaching Construction in the Académie Royale d’Architecture


Guy LAMBERT, ENS Architecture Paris-Belleville, CNAM- HTTP, Paris, France “Purpose” and “Means” of Architectural Design: Construction in Julien Guadet’s Teachings in Architectural Theory

312. Labor Market

Linda CLARKE, Charlie MCGUIRE, Christine WALL, Univ. of Westminster, London, GB The Significance of Building Labour to the Production of the Built Environment

Jörn JANSSEN, European Institute for Construction Labour Research, London, GB, Ernst-Ludwig LAUX, Industriegewerkschaft Bauen-Agrar-Umwelt, Mülhtal, Germany Construction Work in Four German States: before, during and after the Cold War

Christine WALL, Linda CLARKE, Charlie MCGUIRE, Centre for the Study of the Production of the Built Environment [ProBE], Univ. of Westminsiter, London, GB Concrete Constructors: Oral History Accounts of Building Work on a Large, Complex Site in 1960s Britain
313. Ownership of Property
Musa SROOR, Dep. of History, Birzeit Univ., Palestine
*The Role of the Islamic Pious Foundations [Waqf] in Building the Old City of Jerusalem during the Islamic Periods [637-1917]*

Clara PIMENTA DO VALE, Centre for Architecture and Urbanism, Faculty of Architecture, University of Porto, Porto, Portugal, Vítor TRINDADE ABRANTES, Faculty of Engineering, University of Porto, Porto, Portugal
*Urban Dynamics and Horizontal Property: Case Study of the Boavista Axis, Porto, Portugal*

Miguel ARTOLA BLANCO, Univ. Autónoma de Madrid, Spain
*Changing Patterns in Residential Construction and the Real Estate Market: Spain, 1910-1960*

318. Interior Environment, Lighting
Laura BALBONI, Paolo CORRADINI, Angelo LANDI, Politecnico di Milano, Italy
*Artificial Light in the Aristocratic Palaces in the Po Valley between the 17th and 18th Centuries*

Giulio SAMPAOLI, Accademia di Architettura, Mendrisio, Switzerland
*Artificial Light in Architecture in France and Italy during the First Years of the 20th Century: From Gas Light to Electric Light*

Giulia MARINO, EPFL-ENAC, Lab. of Techniques and Preservation of Modern Architecture – TSAM, Lausanne, Switzerland
*The World Health Organization Headquarters in Geneva [1960-1966]: How Mechanical and Electrical Services are Integral to Reading Built Form*

319. Saving & Recovery Energy
Kambiz MOSTHTAGHE GOHARI, ENS Architecture Paris-Malaquais-GSA, France
*The Morphological Evolution of the Vertical Axle Windmill between the Second and the 18th Centuries A.D.*

Daniel A. BARBER, Barnard COLLEGE, Columbia University, New York City, NY, USA
*Constructing a Solar House, c. 1959*

Samaher WANNOUS, CNAM- HTTP, Paris, France
*The Thermal Insulation of Facades after the Oil Crisis of 1974 to the 80s*

322. Infrastructure & Public Works
Carla Maria AMICI, Univ. del Salento, Lecce, Italy
*A “Cloaca Maxima” in the Roman Town of Privernum, Lazio, Italy: The Project, the Plan, the Construction*

Rosana MUÑOZ, Federal University of Bahia, Salvador, Brazil
*The Most Important Construction in Bahia’s 19th Century History: Salvador’s Mountain Retaining Wall*

Davide DEL CURTO, Francesco Carlo TOSO, Politecnico di Milano, Italy
*Technical Systems and Networks for a Modern High Altitude Settlement: The Construction of the Sanatorium Village in Sondalo [1932-1946]*

**Friday 6 July, 18:40-19:40 Versailles Site**

Keynote Lecture:
Robin Middletown, Department of Art History and Archaeology, Columbia University, New York City, NY, USA
*Jean Rondelet’s Pioneering Attempt to Write a History of Construction, 1801-02*
Saturday 7 July, 9:00-10:00 Malaquais Site, amphi Binet

Keynote Lecture:
Susan Webster, Department of Art and Art History, College of William & Mary, Richmond, VA, USA
*Constructing the Future, Consolidating the Past: Andean Builders in Colonial Quito*

Sessions
Saturday 7 July, 10:30-12:30 Malaquais Site

409. Structural Analysis & Modeling 3
Paula FUENTES, Technical University of Madrid, Spain
*The Islamic Crossed-Arch Domes in Cordoba: Geometry and Structural Analysis of the “Capilla de Villaviciosa”*

Fouad GHOMARI, Aboubeik University, Timcen, Algeria
*The Minaret of the Mosque of Mansourah: A Half-Ruin Elucidated*

Maria Teresa COMO, Univ. degli studi Suor Orsola Benincasa, Naples, Italy
*Structural Devices Concerning the Progressive Outer Shell Construction in Brunelleschi’s Dome*

José Antonio GARCÍA ARES, Ignacio Javier Gil CRESPO, Polytechnic University of Madrid, Spain
*The Ciborium or Lantern of Valencia Cathedral: Geometry, Construction and Stability*

412. Transfer of Knowledge: Scientific Exchanges
Arturo ZARAGOZA CATALÁN, Academia de Bellas Artes de San Carlos de Valencia, Spain, José CALVO-LÓPEZ, Pau NATIVIDAD-VIVÓ, Univ. Politécnica de Cartagena, Spain
*Stereotomic Exchanges between Iberia and France in the 16th Century: Benoît Augier, Valencian Stairways and the Escalier de Toulouse*

Hentie LOUW, SAPL Newcastle University, GB
*‘Machine pour ouvrir une fenêtre par contre-poids’: A Case Study Revealing the Nature of Invention and Innovation in Late-17th Century Northern European Architecture*

Fabio TELLIA, Jose Carlos PALACIOS GONZALO, Escuela Técnica Superior de Arquitectura, Univ. Polit. de Madrid, Spain
*The Squinch Vaults in Joseph Ribe’s Libre De Trasas De Vias Y Muntea*

Linnéa ROLLENHAGEN TILLY, CNAM-HTTP, Paris, France
*Knowledge of Architecture and Building Technologies in 18th Century Sweden*

422. Politics & Policies
Roberto Eustáquio DOS SANTOS, Pontificia Universidade Católica de Minas Gerais, Brazil
*The Plot of Concrete in Brazil: A History of the Technology Diffusion of Reinforced Concrete*

Ricardo TOLOSA, Jorge GALINDO DÍAZ, Universidad Nacional de Colombia, Manizales campus, Manizales, Colombia
*Construction of Railway Workshops in Colombia during the First Half of the 20th Century: A National Engineering Triumph*

Christel FRAPIER, Historienne de l’architecture, Paris, France
*Conceiving the Industrialization of Construction in France in the 1950s*

Felipe CONTIER, Renato L.S. ANELLI, Instituto de Arquitetura e Urbanismo da Universidade de São Paulo, São Carlos, Brazil

430. Innovations in Reinforced Concrete
Armande HELLEBOIS, Yves RAMMER, Jean-Claude VERBRUGGE, Building, Architecture and Town Planning Dep., Ecole Polytechnique de Bruxelles, Univ. Libre de Bruxelles, Belgium
*Concrete Piling: Major Developments in the Historical Practice of Pile Foundations*

Alessandra BELLICOSO, Dep. of Architecture and Urban Planning, Univ. of L’Aquila, Italy
*Technological Innovation and Traditional Building Methods in the First Application of Reinforced Concrete in L’Aquila: The “New Provincial Insane Asylum” [1903-1916]*
John MCGUINNESS, Maidenhead, GB
Air Raid Shelters in the United Kingdom 1939-1945: An Initial Investigation

Pierre JARTOUX, Association Eugène Freyssinet
Eugene Freyssinet, Engineer: Inventor of Pre-Stressing (provisional title)

431. Foundations & Masonry
Francisco PINTO PUERTO, José María GUERRERO VEGA, Univ. of Seville, Spain
The Scaenae Frons of the Roman Theatre of Itálica: Notes on the Construction Process

Maud DE VOGHT, Krista DE JONGE, Univ. of Leuven, Belgium
Foundation Techniques in the Early Modern Low Countries [1600-1750]: A Problematic Case: St. Walpurgis in Antwerp

Philip S.C. CASTON, Neubrandenburg University of Applied Sciences, Germany
The Pentagon Ramparts and Bastions of Fortress Rosenberg in Kronach, Germany

Antonia BRAUCHLE, Technische Universität Berlin and Stiftung LEUCOREA, Wittenberg, Germany
Cellars: Construction and Insulation through the Beginning of the 20th Century

437. Metal Structures 2
Bernhard HERES, Brandenburg University of Technology, Cottbus, Germany
The Iron Structures in the Buildings of the State Hermitage St. Petersburg Erected 1838 – 1850: Forming Structures and Details in Early Structural Steelwork

Sergej FEDOROV, Karlsruhe Institute of Technology, Germany
Rebuilding St. Petersburg’s Winter Palace in the Context of Early European Steel Structures 1838-1850: Contemporary Sources and Documents

Donald FRIEDMAN, Old Structures Engineering, New York City, NY, USA, Brian BOWEN, Georgia Institute of Technology, Atlanta, GA, USA
Two Crystal Palaces: Constructive Technology and Practice; Great Britain 1851 – United States 1853

Ines PROKOP, Berlin University of the Arts, Germany
Wrought Iron and Steel Structures in Berlin in their Prime from 1875 to 1925, with a Focus on Buildings for the Arts

439. Interior Environment, Heating, Ventilation & Hygiene
Maaike VAN DER TEMPEL, Ine WOUTERS, Filip DESCAMPS, Dorien AERTS, Department of Architectural Engineering [ae-lab], Vrije Universiteit Brussel, Belgium
Innovations in Ventilation: Wind Cowls in the 19th Century

Francesca TURRI, Emanuele ZAMPERINI, Building and Territorial Engineering Department, University of Pavia, Italy
The Military Engineers and Hygiene in Barracks in the Second Half of the 19th Century

Dirk VAN DE VUVER, University of Utrecht, Utrecht, the Netherlands
Hygiene in Belgian Architecture: The Case of Victor Horta [1861-1947]

Emmanuelle GALLO, CNAM- HTTP, ENS Architecture Paris-Belleville, France
Scientific Developments of Heating and Ventilation Professional Unions and Learned Societies in France during the First Part of the 20th Century

Saturday 7 July, 12:30 – 13:00 closing
Malaquais Site, amphi 2