

HMC 2016

4th Historic Mortars Conference

Scientific Program



10th -12th October 2016

Santorini, Greece

www.HMC2016.com

Laboratory of Building Materials
Dept of Civil Engineering
Aristotle University of Thessaloniki



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Sunday, 9th October

Authors and delegates Reception

17:30 - 20:30 Registration, Reception

Musical performance

Monday 10th October

09:00 - 09:30 Welcome Session

Hall A

Chair: Caspar Groot, Ioanna Papayianni

09:00 - 09:05 **Ioanna Papayianni**, Professor, Aristotle University of Thessaloniki

09:05 - 09:10 **Anastasios-Nicolaos Zorzos**, Mayor of Santorini

09:10 - 09:15 **Konstantinos Katsampalos**, Professor, Dean of the Faculty of Engineering, Aristotle University of Thessaloniki

09:15 - 09:20 **Caspar JWP Groot**, Emeritus Professor, TU Delft, Chair of RILEM Committee

09:20 - 09:25 **Dimitris Tryfonopoulos**, General Secretary of Greek National Tourism Organisation

09:25 - 09:30 **Video projection**, Greek National Tourism Organisation

09:30 - 11:00 Session I – Historical and Constructional aspects of Santorini - Santorine earth

Hall A

Chair: Clair Palyvou, Ioanna Papayianni

09:30 - 10:00 **Akrotiri, Thera, under the volcanic ash: building materials and techniques 3,500 years old**, Clair Palyvou

10:00- 10:30 **Analysis and evaluation of mortars from six historic constructions in Santorini**, Katerina Ritzouli, Maria Stefanidou, Stavroula Konopissi

10:30 -11:00 **Natural pozzolans - Santorine earth. Their importance in constructions**, Ioanna Papayianni

11:00 - 11:30 Coffee break

11:30 - 13:30	Session II / Analysis and characterisation of historic mortars Hall A Chair: Caspar Groot, Rob Van Hees	Session III / Analysis and characterisation of historic mortars Hall B Chair: Beril Bicer-Simsir, Antonio Santos Silva
11:30 - 11:45	Historic Mortars: current issues and future work , John J. Hughes, Caspar JWP Groot, Jan Válek	Analytical Challenges in the Study of New Kingdom Plasters from Tombs in the Valley of the Queens, Luxor, Egypt , Lori Wong, Beril Bicer-Simsir, Jen Porter, Stephen Rickerby, Alaa El-Din M. Sharkawi
11:45 - 12:00	Characterization of archaeological mortars from Messapian and Roman sites in Lecce (Italy) , Davide Gulotta, Lucia Toniolo, Francesco D'Andria, Caterina Polito, Valentina Capogrosso, Sara Mosca, Austin Nevin, Gianluca Valentini	Chemical and mineralogical characterisation of the Hellenistic mortars and plasters from Palaeopolis in Andros, Greece , Alexis Stefanis, Kalliopi Kalinteraki, Athina Chatziantoniou, Panagiotis Theoulakis, Lydia Palaiokrassa
12:00 - 12:15	Defects of surface mortar layers , Milos Drdácý	Characterisation of Incised Plaster Works of Historic Monuments in Delhi, India , S. Divya Rani, Sangeeta Bais, Manu Santhanam
12:15 - 12:30	Characterization of Mortars from the Fort of Nossa Senhora da Graça, Elvas (Portugal) to support the conservation of the monument , António Santos Silva, Ana Rita Santos, Rosário Veiga, Fátima de Llera	Revealing the ancient secret of lime mortar exposed to marine environment used in and around Padaleeswarar temple, Tamil Nadu, India , Selvaraj Thirumalini, Sanya Kannappan Sekar, Ravi Ramadoss
12:30 - 12:45	Two-hundred year old lime putty found in the ground explaining the character of fat historic lime mortars , Kristin Balksten, Jan Erik Lindqvist	“Gansch” as historical building material in the mausoleum Ishrat Khana, Samarkand, Uzbekistan , Steffen Laue, Schukrullo Kamilov
12:45 - 13:00	“Embrechados” cladding - materials and techniques , Ana Velosa, Ana Constança Teixeira, Luís Mariz	Durability of ancient mud mortar in Egypt , Mohamed Abd El-Hady, Mahmoud Abd El-Hafez, Mahmoud Al-Gohary

13:00 - 13:30 Discussion Discussion

13:30 - 14:30 Lunch break

14:30 - 16:30 Session IV / Analysis and characterisation of historic mortars
Hall A
Chair: Jan Valek, José Ignacio Alvarez

Session V / Analysis and characterisation of historic mortars
Hall B
Chair: Jan Erik Lindqvist, Ana Velosa

14:30 - 14:45 **Characteristics of Roman period “Cocciopesto” mortars used in Western Anatolia**, Elif Uğurlu Sağın, Hasan Böke

Historical Mortars in Wallonia (Belgium): A New Archaeological Approach. The Case of the Mediaeval Fortress of Pont-de-Bonne (Belgium, Province of Liège), Marie Demelenne, Dominique Bossirou, Fabrice Dagrain, Emmanuel Delye, Laurent Van Parys

14:45 - 15:00 **Characterization of Roman mortars of Nysa in the ancient Caria, Turkey**, Duygu Ergenç, Rafael Fort, Serdar Hakan Öztaner

Research on the 17th c. stucco decorations by the Silva family in the Basilica Santa Maria dei Miracoli in Morbio Inferiore (Tessin), Giovanni Cavallo, Marta Caroselli, Lucia Aliverti, Alberto Felici, Giacinta Jean, Giovanni Nicoli, Stefania Luppichini

15:00 - 15:15 **Roman Mortars from the Amphitheatre of Viminacium**, Emilija Nikolić, Ana Radivojević, Ivana Delić – Nikolić, Dragana Rogić

Characterisation and OSL dating of mortars from the crypt of Saint Seurin basilica in Bordeaux, France: revealing the complex history of the monument, Petra Urbanova, Pierre Guibert, Anne Michel

15:15 - 15:30 **Vitruvian recipes in Roman Aquileia (Italy): the floor bedding mortars of Bestie Ferite and Tito Macro domus**, Simone Dilaria, Anna Addis, Michele Secco, Jacopo Bonetto, Gilberto Artioli, Monica Salvadori

The 19th century revivalisms in the Portuguese architecture: Characterisation of the interior plaster coatings of Monserrate Palace in Sintra, T. Freire, A. Santos Silva, M. R. Veiga, J. de Brito

15:30 - 15:45	Lime slaking in baskets , Robert Wacha, Farkas Pintér	Study of mortars and plasters from the Romanesque Church of St. Michael in Ston, Dubrovnik, Croatia , Veronica Sulic, Marta Caroselli, S. Pollastri
15:45 - 16:15	Discussion	Discussion

16:15 - 16:45 Coffee break

16:45 - 18:30	Session VI / Historic cement & concrete Hall A Chair: Violeta Bokan Bosiljkov, John Hughes	Session VII / Conservation & restoration issues concerning historic masonry & archaeological sites Hall B Chair: Lucia Toniolo, Davide Gulotta
16:45 - 17:00	Development of mortars in Sweden during the period 1800 to 1950 , Jonny Eriksson, Sölve Johansson, Jan Erik Lindqvist	Historical mortars as record in the knowledge of ruins , Donatella Rita Fiorino, Silvana Maria Grillo, Elisa Pilia
17:00 - 17:15	Examples of early age Portland cements applied in historical masonries , Christophe Gosselin, Farkas Pintér	Conservation and Restoration of archaeological and historic buildings - Some successful experiences , Kabila Faris Hmood
17:15 - 17:30	Natural cement in the nineteenth century city of Madrid , Cristina Mayo Corrochano, Felix Lasheras Merino, David Sanz-Arauz	Pathology and approach of the repair Building mortars, constructed on the late of the 19th century, Algiers. Case of Algerian Chamber of Commerce and Industry (CACI) , M. Hamiane, D. Sommain, Jean-P. Clément, M. Bouteflika, W. Zekagh
17:30 - 17:45	Compatibility test to find a mortar repair for Portland Limestone , Marwa Aly, Sara Pavia	Coping with copings - Croatian experiences in conservation and presentation of curated ruins , Tajana Pleše, Irma Huić

17:45 - 18:00	Can we accurately evaluate cement and other constituents in historically-significant concrete structures? Simeon Wilkie, Thomas Dyer	Conservation and Restoration of the Public Fountains of Olinda: São Pedro, Quatro Cantos and Rosário – Colonial System of Water Supply, Vania Avelar Albuquerque
18:00 - 18:30	Discussion	Discussion

20:00 - 21:00 Musical performance, Hall A (optional)

21:00 - 23:00 Conference dinner, Nomikos Conference Center (optional)

Tuesday 11th October

09:15-11:00	Session VIII / Repair mortars for historic masonry Hall A Chair: Rosario Veiga, Jornet Alberto	Session IX / Repair mortars for historic masonry Hall B Chair: Francesca Pique, Maria Stefanidou
09:15 - 09:30	Replication of historic mortars using six different quicklimes , Jan Válek, Eveline van Halem, Alberto Viani, Olga Skružná	Red Ceramic versus White Ceramic Residues as Aggregate for Rehabilitation Mortars , Isabel Torres, Gina Matias
09:30 - 09:45	Long term influence of ACR on lime-based mortars properties , Petra Štukovnik, Marjan Marinšek, Violeta Bokan Bosiljkov	Comparative evaluation of the luminous performance of lime and gypsum pastes , María del Mar Barbero-Barrera, António J. Santos, Rosário Veiga
09:45 - 10:00	Experimental Study on the Mechanical Properties of Lime-Based Mortars Produced for Consolidation , Serhan Ulukaya, Didem Oktay, Nabi Yüzer	A lime based mortar for thermal insulation of medieval church vaults , Tessa Kvist Hansen, Poul Klenz Larsen, Kurt Kielsgaard Hansen, Søren Peter Bjarløv, Ruut Hannele Peuhkuri
10:00 - 10:15	Influence of aggregates nature and particle size distribution on the mechanical properties of lime-based mortars , Ana Rita Santos, M. ^a do Rosário Veiga, António Santos Silva, Jorge de Brito	A field testing method for measuring workability of lime-based repair mortars , Ioanna Papayianni, Maria Stefanidou
10:15 - 10:30	Relationship between particle size and reactivity in natural pozzolans and the compressive strength of lime-pozzolan conservation mortars , Eirini Ampatzioglou, Belinda Colston, Vassilis Kilikoglou	Statistical evaluation of strength of lime-based repair mortars , Katerina Manolopoulou, Ioanna Papayianni
10:30 - 11:00	Discussion	Discussion

11:00 - 11:30 Coffee break

11:30-13:15	Session X / Repair mortars for historic masonry Hall A Chair: Rob Van Hees, Ana Velosa	Session XI / Repair mortars for historic masonry Hall B Chair: Suzana Slizkova, Ana Radivojevic
11:30 - 11:45	Wood ash as an Additive: a Study of its Influence on the Physical Properties of Lime Mortars, Lucie Fusade, Heather Viles	Restorative Waste-based Lime Mortars with Inclusion of Spent Cooking Oils, Parsa Pahlavan, Stefania Manzi, Maria Chiara Bignozzi
11:45 - 12:00	The use of a lignosulfonate superplasticizer in repair air lime-metakaolin mortars, M. Pérez-Nicolás, A. Duran, R. Sirera, I. Navarro-Blasco, J.M. Fernández, J.I. Alvarez	Experimental study of bond strength developed between traditional type bricks and lime-based repair mortars, Dimitris Papadimitriou, Ioanna Papayianni
12:00 - 12:15	Behaviour of air lime-metakaolin mortars modified with polynaphthalene sulfonate as superplasticizer, A. Duran, R. Sirera, M. Pérez-Nicolás, I. Navarro-Blasco, J.M. Fernández, J.I. Alvarez	Mechanical and durability properties of lightweight mortars for the backing of ancient mosaics, Sabina Kramar, Martina Lesar-Kikelj
12:15 - 12:30	Preliminary study on the use of ammonium phosphate for the conservation of marble-imitating gypsum-stuccoes, Enrico Sassoni, Gabriela Graziani, George W. Scherer, Elisa Franzoni	Fiber- reinforced lime mortars, Maria Stefanidou, Michael Papachristoforou, Fotini Kesikidou
12:30 - 12:45	Pompeian stucco plaster without aggregates: a case study of reconstruction, Christian Kaiser, Katrin Wilhelm, Ronja Emmerich	Comparative study for water protection of traditional packed floor mortars, Katia Matziaris, Maria Stefanidou, George Karagiannis
12:45 - 13:15	Discussion	Discussion

13:15 - 14:30 Lunch break

14:30 - 16:00 Poster session* (5min oral presentation for each poster)

16:00 - 16:30 Coffee break

16:30-18:30	Session XII / Repair mortars for historic masonry Hall A Chair: Lucia Toniolo, Paulina Faria	Session XIII/ Assessment of mortars and masonry Hall B Chair: Milos Drdácý, Androniki Miltiadou-Fezans
16:30 - 16:45	Hot- or Wet Slaked Lime Mortar? - Restoration of the Façades of Läckö Castle , Ewa Sandström Malinowski, Torben Seir	Comparison of the crushing value of irregular shaped samples of historic mortars with that of that of normal mortars, according to regulations , Ioanna Papayianni, Maria Stefanidou
16:45 - 17:00	Comparative study between industrial mortars for intervention in historical works , Carneiro, A. M. P., Pederneiras, C. M.; Monte Júnior, I. V., Paiva, D. F. L de., Mendonça, L. K. M. de., Fagundes, A. M. de L., Fernandes, I. C.	Experimental archaeology: Reconstruction of Roman techniques based on antique plasters and the descriptions of Vitruvius , Ralf Kilian, Katrin Wilhelm, Laura Thiemann
17:00 - 17:15	Influence of different paint finishes on the water transport characteristics of rendering mortars for old masonry walls , Ana Paula Ferreira Pinto, Diogo Bernardo, Augusto Gomes, Bruna Silva	Building material and production analysis of the industrial lime kiln (19th C.) excavated in the valley of La Panouse, Marseilles , Anne-Marie D'Ovidio, Philippe Bromblet, Annick Riani

- 17:15 - 17:30 **Conservation mortars for historic masonry and archaeological sites: optimizing implementation in situ**, Ioanna Doganis, Amerimni Galanos
- 17:30 - 17:45 **Plastering the Prehistory: Marl as a unique material to cover, maintain and decorate the Neolithic walls of Çatalhöyük**, Duygu Çamurcuoğlu, Ruth Siddall
- 17:45 - 18:00 Discussion
- 18:00 - 18:30 Discussion
- A new fractal model for predicting water transport properties of historic mortars on the basis of MIP results**, Giorgio Pia, Ludovica Casnedi, Enrico Sassoni, Ulrico Sanna, Elisa Franzoni
- Construction Technology in Temples of Central India-Study of Bhojpur Temple, Madhya Pradesh**, Vardia Shweta
- The conservation and restoration of architectural surfaces as a learning process**, Claudia Carvalho, Patricia Cordeiro, Thiago Turino, Gabriel Avellar

Wednesday 12th October

09:00-11:00	Session XIV/ Grouts for repair of historic masonry and architectural surfaces Hall A Chair: Beril Bicer-Simsir, Vasiliki Pachta	Session XV / Advances in repair materials and technologies concerning historic structures and archaeological sites Hall B Chair: Noni Maravelaki, Cristina Tedeschi
09:00 - 09:15	Preliminary Study of the Sulfate Resistance of Lime-Based Hydraulic Injection Grouts for the Conservation of Architectural Surfaces , Beril Bicer-Simsir	Radiocarbon dating of lime mortars: a historic overview , Mark Van Strydonck
09:15 - 09:30	Requirements and methods for the choice and consolidation of plasters and renders in situ , Zuzana Slizkova, Rosario Veiga, Rob van Hees	Analysis and characterisation of historic mortars for absolute dating , Roald Hayen, Mark Van Strydonck, Elisabetta Boaretto, Alf Lindroos, Jan Heinemeier, Åsa Ringbom, Sophie Hueglin, Danuta Michalska, Irka Hajdas, Fabio Marzaoli, Francesco Maspero, Anna Galli, Gilberto Artioli, Christophe Moreau, Pierre Guibert, Marta Caroselli
09:30 - 09:45	Non-structural injection grouts with reduced water content: Changes induced by the partial substitution of water with alcohol , Chiara Pasian, Francesca Piqué, Albert Jornet	New strategies for radiocarbon dating of mortars: Multi-step purification of the lime binder , Anna Addis, Michele Secco, Nereo Preto, Fabio Marzaoli, Isabella Passariello, Gian Pietro Brogiolo, Alejandra Chavarria Arnau, Gilberto Artioli, Filippo Terrasi
09:45 - 10:00	Adaptation of test methods used to evaluate properties of non-structural grouts , Andreja Padovnik, Violeta Bokan Bosiljkov	Hybrid methodologies for mortar analysis, a digital view from the Carolina Lowcountry , Frances Ford, Brent Fortenberry

10:00 - 10:15	Holistic methodology for the mix design of hydraulic grouts in strengthening historic masonry structures , Androniki Miltiadou-Fezans and Theodosios P. Tassios	Application of acoustic microscopy technique for the evaluation of the renders applied to masonry , Georgios Karagiannis, Maria Stefanidou, Georgios Apostolidis, Katia Matziaris
10:15 - 10:30	Influence of resins on the properties of lime-pozzolan grouts for surface consolidation , Vasiliki Pachta, Ioanna Papayianni	Obtaining of self-cleaning repair air lime mortars with photocatalysts , M. Pérez-Nicolás, I. Navarro-Blasco, A. Duran, R. Sirera, J.M. Fernández, J.I. Alvarez
10:30 - 11:00	Discussion	Discussion

11:00 - 11:30 Coffee break

11:30-13:30	Session XVI / Advances in repair materials and technologies concerning historic structures and archaeological sites Hall A Chair: Maria Stefanidou, Inigo Navarro	Session XVII/ Grouts for repair of historic masonry and architectural surfaces Hall B Chair: Francesca Pique, Vasiliki Pachta
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11:30 - 11:45	Properties of lime-based pastes with nanosilica , Cristiana Nunes, Zuzana Slížková, Maria Stefanidou	Repeatability and reproducibility in measuring injection grouts properties: three grouts, two operators , Chiara Pasian, Andreja Padovnik, Francesca Piqué, Albert Jornet
11:45 - 12:00	Pozzolanic mortars with nano-TiO₂ for restoration applications: physico-chemical and mechanical assessment , K. Kapetanaki, C. Kapridaki, N. Maravelaki	Rheology of natural hydraulic limes for masonry repair , PFG Banfill, LEH Shimizu
12:00 - 12:15	Optimization of hydraulic lime mortars with nano-SiO₂ , Loucas Kyriakou, Magdalini Theodoridou, Ioannis Ioannou	Consolidation of lime renders. Study of some consolidation treatments applied in multilayer renders , Rita Nogueira, Ana Paula Ferreira Pinto, Augusto Gomes

12:15 - 12:30	Design of repair air lime mortars combining nanosilica and different superplasticizers , J.M. Fernández, M. Pérez-Nicolás, A. Duran, R. Sirera, I. Navarro-Blasco, J.I. Alvarez	Injection grouts based on lithium silicate binder: a simulated cavity test , Andrew Thorn
12:30 - 12:45	POSS-based epoxy soft nanomaterial for repairing historic clay/stone sites , Yanli Ma, Ling He	Reattachment of wall paintings in a 16th century post-Byzantine church , Ioanna Papayianni, Thanasis Karvounaris, Vasiliki Pachta,
12:45 - 13:00	Influence of combined nano-particles in traditional binding systems , Maria Stefanidou, Eirini Tsardaka, Eleni Pavlidou	Performance of grouts with reduced water content: the importance of porosity and related properties , Chiara Pasian, Michele Secco, Francesca Piqué, Stephen Rickerby, Gilberto Artioli, Sharon Cather
13:30 - 13:30	Discussion	Discussion

13:30-14:00 Closing Session
Hall A
Chair: Caspar Groot, Rob Van Hees, Ioanna Papayianni, Rosario Maria Veiga, Jan Valek, John Hughes

14:00 - 15:00 Lunch break

15:00-19:00 Technical visit to the archaeological site of Akrotiri (optional)

*** Poster session**

- 1 **Assessing susceptibility of new mortars for restoration to pink colonization**, Ioana Gomoiu, Ileana Mohanu, Dan Mohanu, Madalin Enache, Simona Neagu, Roxana Cojoc, Cristina Serendan, Karina Paviliuc
- 2 **Sand regions in Austria – an interdisciplinary approach to characterise sandy aggregates for conservation purposes**, F. Pintér , R. Wacha , A. Huber, K. Stingl
- 3 **Lime binder aggregate interface for indigenous scottish sands: a preliminary investigation**, Alan M Forster, Clare Torney, Lee Masson, Phil Banfill, Benny Suryanto
- 4 **Analysis and characterization of historic mortars, case of Roman, Byzantine and Ottoman periods in Algeria**, M.Hamiane, N. Mahinded, S. Dressi, M.Saidi, A. Boukenouf, W. Zekar
- 5 **Pozzolan reactions of hydraulic lime mortar components (siliceous aggregate and binder) with lime**, Frankeová Dita, Slížková Zuzana
- 6 **Influence of diethyl carbonate as an additive in the carbonation process of lime mortars**, Duygu Ergenç, Rafael Fort, David Sanz Arauz
- 7 **Influence of metakaolin on natural hydraulic lime based grouts for historic masonry repair**, Anja Vavričuk, Violeta Bokan Bosiljkov, Sabina Kramar
- 8 **Influence of porosity on adhesion between air lime mortars and antique tiles**, Sandro Botas , Rosário Veiga , Ana Velosa
- 9 **Injection techniques with foam mortar for the restoration of historic masonry made out of gypsum mortars and stone**, Thomas Köberle
- 10 **The use lime mortar in the conservation the frescoes of the wooden churches in Romania**, Ileana Mohanu, Dan Mohanu, Ioana Gomoiu
- 11 **The Work of Renaissance Stuccoers on Telč Chateau (UNESCO, Czech Republic) - Material characterisation**, Renata Tišlová, Thomas Köberle
- 12 **Lime-Cement Mortars Study: Variation Granulometric and origin of sand**, R.L.S. Ferreira, M. Medeiros, A.M.P. Carneiro, T.C.S. Costa, I.M.S. Barros, M.V.V. Almeida
- 13 **Restoration of Sefibal's Monastery of Jesus"**, Francesco Marcelli
- 14 **Drilling resistance measurement in masonry buildings: A statistical approach to characterize non-homogeneous materials**, E. Valentini, A. Benincasa

Organizer



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