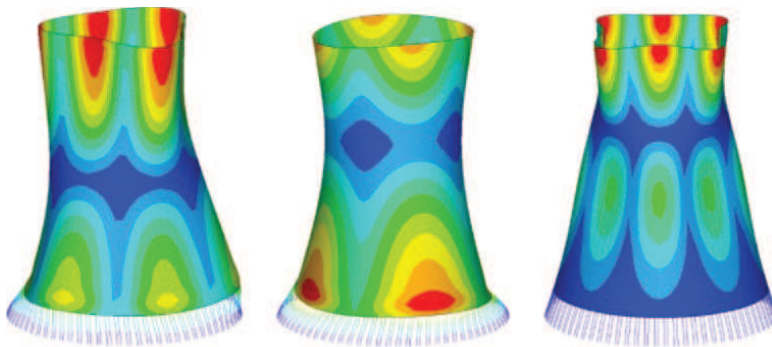




24-26 June, Crete, Greece



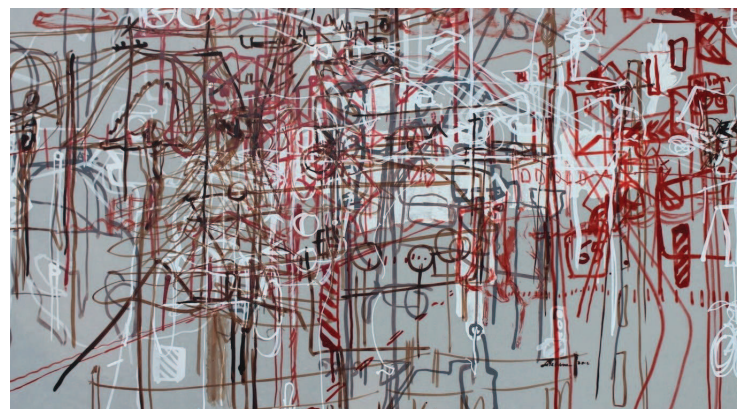
COMPDYN 2019

7th International Conference on
Computational Methods in
Structural Dynamics and
Earthquake Engineering

PROGRAMME

UNCECOMP 2019

3rd International Conference
on Uncertainty Quantification
in Computational Sciences and
Engineering



Conference Secretariat:
Institute of Structural Analysis and Antiseismic Research
National Technical University of Athens, Greece



COMPDYN 2019

**7th International Conference on
Computational Methods in Structural
Dynamics and Earthquake Engineering**

*An ECCOMAS Thematic Conference
An IACM Special Interest Conference*

UNCECOMP 2019

**3rd International Conference on
Uncertainty Quantification in
Computational Sciences and Engineering**

*An ECCOMAS Thematic Conference
An IACM Special Interest Conference*

Crete, Greece, 24-26 June 2019

Programme



**Institute of Structural Analysis and Antiseismic Research
School of Civil Engineering
National Technical University of Athens**

PROGRAMME OVERVIEW

SUNDAY, JUNE 23								
17:00 – 19:00	REGISTRATION							
19:30 – 20:30	Welcome Reception: Antigoni Amphitheater							
DAY 1 - MONDAY, JUNE 24 (part I)								
Time	Aphrodite-Artemis-Athena	Europa-Danae-Leda	Minos East	Minos North-South	Hera	Room 1	Room 2	Room 3
8:00-8:45	REGISTRATION							
8:45-9:00	OPENING							
9:00-11:00	PLENARY LECTURES A. Vakakis, C. Soize, C. Farhat (ZEUS)							
11:00-11:30	Coffee Break							
TECHNICAL SESSIONS								
11:30-13:30	COMPDDYN MS 12 I REPAIR AND RETROFIT OF STRUCTURES	COMPDDYN MS 26 I RECENT ADVANCES ON ENERGY-BASED SEISMIC DESIGN	UNCECOMP MS 6 I MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPDDYN MS 15 I ADVANCES IN NUMERICAL METHODS FOR LINEAR AND NON-LINEAR DYNAMICS AND WAVE PROPAGATION	COMPDDYN RS 13 I NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	UNCECOMP MS 3 I UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS	COMPDDYN MS 11 I POST-EARTHQUAKE ASSESSMENT FOR BUILDINGS AND INFRASTRUCTURES AND REPARABILITY DECISIONS	COMPDDYN RS 4 I DYNAMICS OF CONCRETE STRUCTURES
13:30-14:30	Lunch Break							
TECHNICAL SESSIONS								
14:30-16:30	COMPDDYN MS 12 II REPAIR AND RETROFIT OF STRUCTURES	COMPDDYN MS 26 II RECENT ADVANCES ON ENERGY-BASED SEISMIC DESIGN	UNCECOMP MS 6 II MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPDDYN MS 15 II ADVANCES IN NUMERICAL METHODS FOR LINEAR AND NON-LINEAR DYNAMICS AND WAVE PROPAGATION	COMPDDYN RS 13 II NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	UNCECOMP MS 3 II UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS	COMPDDYN MS 11 II POST-EARTHQUAKE ASSESSMENT FOR BUILDINGS AND INFRASTRUCTURES AND REPARABILITY DECISIONS	COMPDDYN RS 4 II DYNAMICS OF CONCRETE STRUCTURES
16:30-17:00	Coffee Break							
TECHNICAL SESSIONS								
17:00-19:00	COMPDDYN MS 35 DAMAGE MODELLING, DETECTION AND IDENTIFICATION IN COMPOSITE STRUCTURES	COMPDDYN MS 25 SPECIAL DESIGN AND ANALYSIS OF STRUCTURES	UNCECOMP MS 6 III MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPDDYN MS 2 RECENT ADVANCES AND CHALLENGES IN GEOTECHNICAL EARTHQUAKE ENGINEERING	COMPDDYN RS 13 III NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	UNCECOMP MS 3 III UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS	COMPDDYN MS 33 SEISMIC RESILIENCE OF MUSEUM CONTENTS	COMPDDYN RS 4 III DYNAMICS OF CONCRETE STRUCTURES

DAY 1 - MONDAY, JUNE 24 (part II)

Time	Room 4	Room 5	Room 7	Room 8	Room 9	Room 10	Room 11	Room 12	Room 21
8:00-8:45	REGISTRATION								
8:45-9:00	OPENING								
9:00-11:00	PLENARY LECTURES A. Vakakis, C. Soize, C. Farhat (ZEUS)								
11:00-11:30	Coffee Break								
11:30-13:30	TECHNICAL SESSIONS								
	UNCECOMP MS 2 I BAYESIAN ANALYSIS OF NUMERICAL MODELS	UNCECOMP RS 17 I UNCERTAINTY QUANTIFICATION	EQUALJOINTS-PLUS MEETING	UNCECOMP MS 15 I MACHINE LEARNING APPROACHES TO UNCERTAINTY QUANTIFICATION	COMPDYN RS 26 I STEEL STRUCTURES	UNCECOMP MS 4 I INVERSE METHODS FOR UNCERTAINTY QUANTIFICATION IN LARGE-SCALE APPLICATIONS	UNCECOMP RS 21 MONTE CARLO SIMULATION	COMPDYN MS 6 I SEISMIC SAFETY ASSESSMENT OF STRUCTURES	COMPDYN MS 10 I PROGRESS AND CHALLENGES IN RAIL TRACK DYNAMICS
13:30-14:30	Lunch Break								
14:30-16:30	TECHNICAL SESSIONS								
	UNCECOMP MS 2 II BAYESIAN ANALYSIS OF NUMERICAL MODELS	UNCECOMP RS 17 II UNCERTAINTY QUANTIFICATION	COMPDYN MS 1 I EQUALJOINTS-PLUS	UNCECOMP MS 15 II MACHINE LEARNING APPROACHES TO UNCERTAINTY QUANTIFICATION	COMPDYN RS 26 II STEEL STRUCTURES	UNCECOMP MS 4 II INVERSE METHODS FOR UNCERTAINTY QUANTIFICATION IN LARGE-SCALE APPLICATIONS COMPDYN MS 39 I PERIODICITY EFFECTS IN VIBRO-ACOUSTICS	COMPDYN MS 44 DYNAMIC BEHAVIOUR OF JOINTS AND JOINTED STRUCTURES: MODELLING AND EXPERIMENTS	COMPDYN MS 6 II SEISMIC SAFETY ASSESSMENT OF STRUCTURES COMPDYN MS 23 ADVANCES IN BASE ISOLATION TECHNIQUES	COMPDYN MS 10 II PROGRESS AND CHALLENGES IN RAIL TRACK DYNAMICS COMPDYN RS 7 I DYNAMICS OF STEEL STRUCTURES
16:30-17:00	Coffee Break								
17:00-19:00	TECHNICAL SESSIONS								
	COMPDYN MS 18 I POTENTIAL OF VIBRATIONS MONITORING FOR IMPROVING THE RELIABILITY OF BUILDINGS SEISMIC ASSESSMENT	COMPDYN RS 19 I SEISMIC ISOLATION	COMPDYN MS 1 II EQUALJOINTS-PLUS	UNCECOMP MS 12 UNCERTAINTY QUANTIFICATION USING EXPERIMENTAL DATA	COMPDYN RS 26 III STEEL STRUCTURES	COMPDYN MS 39 II PERIODICITY EFFECTS IN VIBRO-ACOUSTICS	COMPDYN MS 45 ADVANCES ON EXPERIMENTAL AND COMPUTATIONAL SEISMIC ASSESSMENT AND RETROFIT OF MASONRY STRUCTURES	UNCECOMP MS 8 CURRENT TOPICS IN UNCERTAINTY CHARACTERIZATION, OPTIMIZATION AND DESIGN	COMPDYN RS 7 II DYNAMICS OF STEEL STRUCTURES

DAY 2 - TUESDAY, JUNE 25 (part I)								
Time	Aphrodite-Artemis-Athena	Europa-Danae-Leda	Minos East	Minos North-South	Hera	Room 1	Room 2	Room 3
	TECHNICAL SESSIONS							
8:30-10:30	COMPdyn MS 13 I RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS	COMPdyn MS 28 I NEW ADVANCES IN COMPUTATIONAL MODELLING AND EXPERIMENTAL TESTING OF INFILLED FRAMES	UNCECOMP MS 6 IV MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPdyn MS 36 I SEISMIC ASSESSMENT OF EXISTING STRUCTURES BEFORE AND AFTER STRENGTHENING	COMPdyn RS 13 IV NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	COMPdyn MS 3 I EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS	UNCECOMP MS 5 I SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS	UNCECOMP MS 11 I POLYMORPHIC UNCERTAIN DATA FOR NUMERICAL ANALYSIS AND DESIGN OF STRUCTURES
10:30-11:00	Coffee Break							
11:00-13:00	UNCECOMP SEMI-PLENARY I H. Matthies, M. Shields, B. Sudret	UNCECOMP SEMI-PLENARY II J. Olivier, C. Papadimitriou, D. Straub	COMPdyn SEMI-PLENARY I S. Yoshimura, G-P. Cimellaro, B. Jeremic	COMPdyn SEMI-PLENARY II E. Chatzi, G. Degrande, C. Adam				
13:00-14:00	Lunch Break							
14:00-16:00	COMPdyn MS 13 II RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS	COMPdyn MS 28 II NEW ADVANCES IN COMPUTATIONAL MODELLING AND EXPERIMENTAL TESTING OF INFILLED FRAMES	UNCECOMP MS 6 V MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPdyn MS 36 II SEISMIC ASSESSMENT OF EXISTING STRUCTURES BEFORE AND AFTER STRENGTHENING	COMPdyn RS 13 V NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	COMPdyn MS 3 II EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS	UNCECOMP MS 5 II SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS	UNCECOMP MS 11 II POLYMORPHIC UNCERTAIN DATA FOR NUMERICAL ANALYSIS AND DESIGN OF STRUCTURES
16:00-16:30	Coffee Break							
	TECHNICAL SESSIONS							
16:30-18:30	COMPdyn MS 13 III RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS	COMPdyn MS 28 III NEW ADVANCES IN COMPUTATIONAL MODELLING AND EXPERIMENTAL TESTING OF INFILLED FRAMES	UNCECOMP MS 6 VI MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPdyn MS 36 III SEISMIC ASSESSMENT OF EXISTING STRUCTURES BEFORE AND AFTER STRENGTHENING	COMPdyn RS 13 VI NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	COMPdyn MS 3 III EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS	UNCECOMP MS 5 III SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS	UNCECOMP MS 11 III POLYMORPHIC UNCERTAIN DATA FOR NUMERICAL ANALYSIS AND DESIGN OF STRUCTURES
20:30-23:30	Conference Dinner: Zeus							

DAY 2 - TUESDAY, JUNE 25 (part II)									
Time	Room 4	Room 5	Room 7	Room 8	Room 9	Room 10	Room 11	Room 12	Room 21
8:30-10:30	TECHNICAL SESSIONS								
	COMPdyn MS 18 II POTENTIAL OF VIBRATIONS MONITORING FOR IMPROVING THE RELIABILITY OF BUILDINGS SEISMIC ASSESSMENT	COMPdyn RS 19 II SEISMIC ISOLATION	COMPdyn MS 7 RECENT ADVANCES IN THE DEVELOPMENT OF APPROXIMATE MATHEMATICAL TECHNIQUES FOR SOLVING COMPLEX SIMULATION-BASED PROBLEMS INVOLVING UNCERTAINTY	COMPdyn RS 2 I ALGORITHMS FOR STRUCTURAL HEALTH MONITORING	COMPdyn RS 20 I SEISMIC RISK AND RELIABILITY ANALYSIS	COMPdyn RS 29 WAVE PROPAGATION	COMPdyn MS 20 HIGH-PERFORMANCE COMPUTING FOR STRUCTURAL MECHANICS AND EARTHQUAKE / TSUNAMI ENGINEERING	COMPdyn MS 40 DYNAMICS OF BUILDINGS AND BRIDGES AND CONTROL STRATEGIES WITHIN STRUCTURAL ENGINEERING	COMPdyn RS 16 I PERFORMANCE-BASED EARTHQUAKE ENGINEERING
10:30-11:00	Coffee Break								
11:00-13:00									
13:00-14:00	Lunch Break								
14:00-16:00	TECHNICAL SESSIONS								
	COMPdyn MS 29 I AFTERSHOCK RISK ASSESSMENT: STATE OF THE ART AND FUTURE CHALLENGES	COMPdyn MS 19 I DYNAMIC SOIL-STRUCTURE INTERACTION: RECENT ADVANCES AND CHALLENGES	UNCECOMP MS 10 I SOFTWARE FOR UNCERTAINTY QUANTIFICATION	COMPdyn RS 2 II ALGORITHMS FOR STRUCTURAL HEALTH MONITORING	COMPdyn RS 20 II SEISMIC RISK AND RELIABILITY ANALYSIS	COMPdyn MS 9 I NON-LINEAR DYNAMICS, WAVE PROPAGATION AND CONTACT-IMPACT PROBLEMS	COMPdyn MS 30 I STRUCTURAL PERFORMANCE OF NEW AND EXISTING REINFORCED CONCRETE BUILDINGS IN SEISMIC AREAS: NUMERICAL AND EXPERIMENTAL APPROACHES FOR MODELLING	COMPdyn MS 31 I MUSEUMS' COLLECTIONS AND SEISMIC PREVENTION: RESEARCH DEVELOPMENTS AND CASE-STUDIES	COMPdyn RS 16 II PERFORMANCE-BASED EARTHQUAKE ENGINEERING
16:00-16:30	Coffee Break								
16:30-18:30	TECHNICAL SESSIONS								
	COMPdyn MS 29 II AFTERSHOCK RISK ASSESSMENT: STATE OF THE ART AND FUTURE CHALLENGES	COMPdyn MS 19 II DYNAMIC SOIL-STRUCTURE INTERACTION: RECENT ADVANCES AND CHALLENGES	UNCECOMP MS 10 II SOFTWARE FOR UNCERTAINTY QUANTIFICATION UNCECOMP MS 14 ADVANCES IN ENGINEERING SOFTWARE FOR UNCERTAINTY QUANTIFICATION	COMPdyn MS 38 I RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES	COMPdyn RS 20 III SEISMIC RISK AND RELIABILITY ANALYSIS	COMPdyn MS 9 II NON-LINEAR DYNAMICS, WAVE PROPAGATION AND CONTACT-IMPACT PROBLEMS UNCECOMP RS 19 VALIDATION OF STOCHASTIC MODELING TECHNIQUES	COMPdyn MS 30 II STRUCTURAL PERFORMANCE OF NEW AND EXISTING REINFORCED CONCRETE BUILDINGS IN SEISMIC AREAS: NUMERICAL AND EXPERIMENTAL APPROACHES FOR MODELLING COMPdyn MS 31 II MUSEUMS' COLLECTIONS AND SEISMIC PREVENTION: RESEARCH DEVELOPMENTS AND CASE-STUDIES	UNCECOMP RS 16 SYSTEM RELIABILITY ANALYSIS, DESIGN AND RISK ASSESSMENT COMPdyn RS 27 STOCHASTIC DYNAMICS	COMPdyn RS 16 III PERFORMANCE-BASED EARTHQUAKE ENGINEERING
20:30-23:30	Conference Dinner: Zeus								

DAY 3 - WEDNESDAY, JUNE 26 (part I)								
Time	Aphrodite-Artemis-Athena	Europa-Danae-Leda	Minos East	Minos North-South	Hera	Room 1	Room 2	Room 3
9:00-11:00	TECHNICAL SESSIONS							
	COMPdyn MS 13 IV RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS	COMPdyn MS 41 I THIN-WALLED STRUCTURES, STRENGTH, VIBRATION AND STABILITY	UNCECOMP MS 6 VII MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPdyn MS 8 I RIGID BLOCK MODELING APPROACHES FOR STATIC AND DYNAMIC ANALYSIS OF MASONRY STRUCTURES IN SEISMIC AREAS	COMPdyn MS 17 I SEISMIC RISK ASSESSMENT OF BUILDING PORTFOLIOS	COMPdyn MS 3 IV EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS	UNCECOMP MS 5 IV SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS	UNCECOMP MS 9 I UNCERTAINTY PROPAGATION AND QUANTIFICATION WITH COMPUTATIONALLY EXPENSIVE MODELS
11:00-11:30	Coffee Break							
11:30-13:30		UNCECOMP PLENARY I. Elishakoff, R. Ghanem, G. Karniadakis	COMPdyn PLENARY M. Bruneau, Á. Cunha, M. Fardis					
13:30-14:30	Lunch Break							
14:30-16:30	TECHNICAL SESSIONS							
	COMPdyn MS 13 V RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS	COMPdyn MS 41 II THIN-WALLED STRUCTURES, STRENGTH, VIBRATION AND STABILITY	UNCECOMP MS 6 VIII MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPdyn MS 8 II RIGID BLOCK MODELING APPROACHES FOR STATIC AND DYNAMIC ANALYSIS OF MASONRY STRUCTURES IN SEISMIC AREAS	COMPdyn MS 17 II SEISMIC RISK ASSESSMENT OF BUILDING PORTFOLIOS	COMPdyn MS 3 V EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS	UNCECOMP MS 7 I SURROGATE MODELS: BENCHMARK PROBLEMS AND SOLUTIONS	UNCECOMP MS 9 II UNCERTAINTY PROPAGATION AND QUANTIFICATION WITH COMPUTATIONALLY EXPENSIVE MODELS
16:30-17:00	Coffee Break							
17:00-19:00	TECHNICAL SESSIONS							
	COMPdyn MS 13 VI RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS	COMPdyn RS 10 INVERSE PROBLEMS IN STRUCTURAL DYNAMICS	UNCECOMP MS 6 IX MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"	COMPdyn MS 8 III RIGID BLOCK MODELING APPROACHES FOR STATIC AND DYNAMIC ANALYSIS OF MASONRY STRUCTURES IN SEISMIC AREAS	COMPdyn RS 5 DYNAMICS OF COUPLED PROBLEMS	COMPdyn RS 9 IMPACT DYNAMICS	UNCECOMP MS 7 II SURROGATE MODELS: BENCHMARK PROBLEMS AND SOLUTIONS	UNCECOMP MS 9 III UNCERTAINTY PROPAGATION AND QUANTIFICATION WITH COMPUTATIONALLY EXPENSIVE MODELS

DAY 3 - WEDNESDAY, JUNE 26 (part II)

Time	Room 4	Room 5	Room 7	Room 8	Room 9	Room 10	Room 11	Room 12	Room 21
9:00-11:00	TECHNICAL SESSIONS								
	COMPdyn RS 8 I GEOTECHNICAL EARTHQUAKE ENGINEERING	UNCECOMP MS 16 FAILURE PREVENTION USING PHYSICAL-BASED MODELS AND DATA-BASED MODELS	COMPdyn RS 23 I SOIL-STRUCTURE INTERACTION	COMPdyn MS 38 II RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES	UNCECOMP MS 13 I MULTISCALE ANALYSIS AND DESIGN OF RANDOM HETEROGENEOUS MEDIA	COMPdyn MS 42 I NOVEL METHODS FOR SEISMIC DESIGN AND INTERVENTION OF CONVENTIONAL AND INTEGRAL BRIDGES	UNCECOMP MS 1 COMPUTATIONAL MULTISCALE MODELLING UNDER UNCERTAINTY	COMPdyn MS 27 ADVANCES IN MODEL REDUCTION TECHNIQUES IN COMPUTATIONAL STRUCTURAL DYNAMICS	COMPdyn RS 16 IV PERFORMANCE-BASED EARTHQUAKE ENGINEERING
11:00-11:30	Coffee Break								
11:30-13:30									
13:30-14:30	Lunch Break								
14:30-16:30	TECHNICAL SESSIONS								
	COMPdyn RS 8 II GEOTECHNICAL EARTHQUAKE ENGINEERING	COMPdyn RS 18 REPAIR AND RETROFIT OF STRUCTURES	COMPdyn RS 23 II SOIL-STRUCTURE INTERACTION	COMPdyn MS 38 III RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES	UNCECOMP MS 13 II MULTISCALE ANALYSIS AND DESIGN OF RANDOM HETEROGENEOUS MEDIA	COMPdyn MS 42 II NOVEL METHODS FOR SEISMIC DESIGN AND INTERVENTION OF CONVENTIONAL AND INTEGRAL BRIDGES	UNCECOMP RS 20 NUMERICAL SIMULATION METHODS FOR STOCHASTIC PROBLEMS	COMPdyn MS 24 I INFLUENCE OF INFILL MASONRY WALLS IN THE RESPONSE AND SAFETY OF BUILDINGS	COMPdyn RS 12 I NONLINEAR DYNAMICS
16:30-17:00	Coffee Break								
17:00-19:00	TECHNICAL SESSIONS								
	COMPdyn RS 3 CONSTITUTIVE MODELLING UNDER EARTHQUAKE LOADING		COMPdyn RS 23 III SOIL-STRUCTURE INTERACTION	COMPdyn MS 38 IV RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES	UNCECOMP RS 4 LARGE-SCALE STOCHASTIC FINITE ELEMENT APPLICATIONS UNCECOMP RS 15 STOCHASTIC FRACTURE AND DAMAGE	COMPdyn RS 14 OPTIMUM DESIGN AND CONTROL IN STRUCTURAL DYNAMICS AND EARTHQUAKE ENGINEERING	COMPdyn RS 22 SOIL DYNAMICS	COMPdyn MS 24 II INFLUENCE OF INFILL MASONRY WALLS IN THE RESPONSE AND SAFETY OF BUILDINGS	COMPdyn RS 12 II NONLINEAR DYNAMICS

Conference Centre Rooms

Hotel Facilities

Lecture Rooms

Conference Center

Level 1	Level 2
Zeus	Minos East
Room 21	Minos North-South
	Europa-Danae-Leda
	Aphrodite-Atremis-Athena

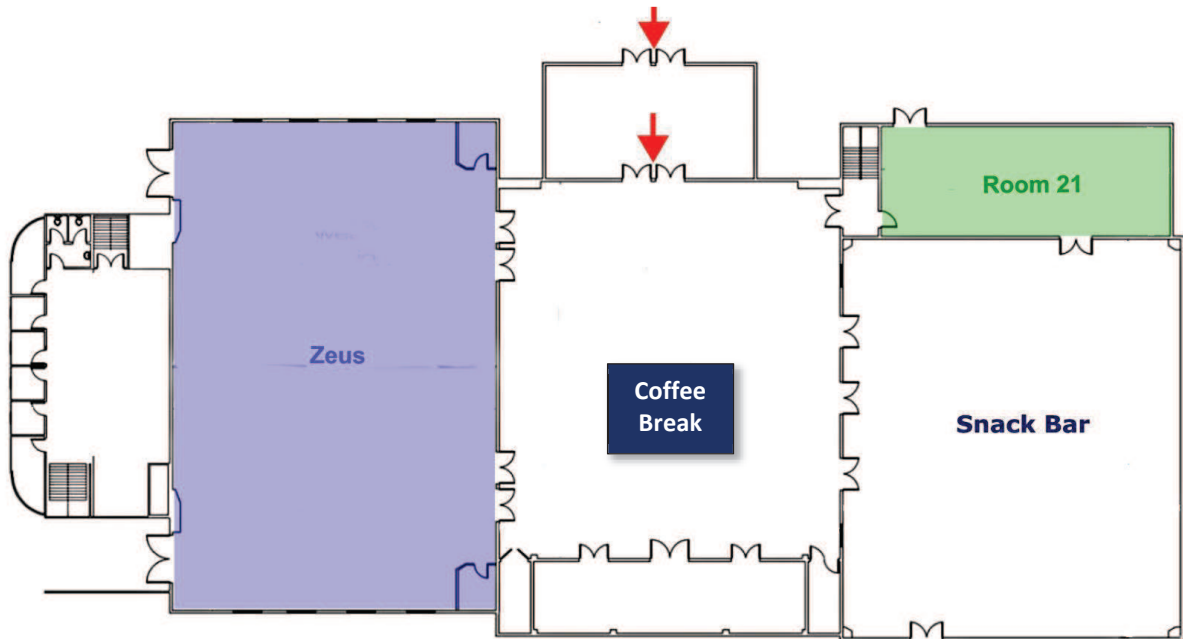
Terra Building

Pool Level	Level 0
Room 7	Room 1
Room 8	Room 2
Room 9	Room 3
Room 10	Room 4
Room 11	Room 5
Room 12	

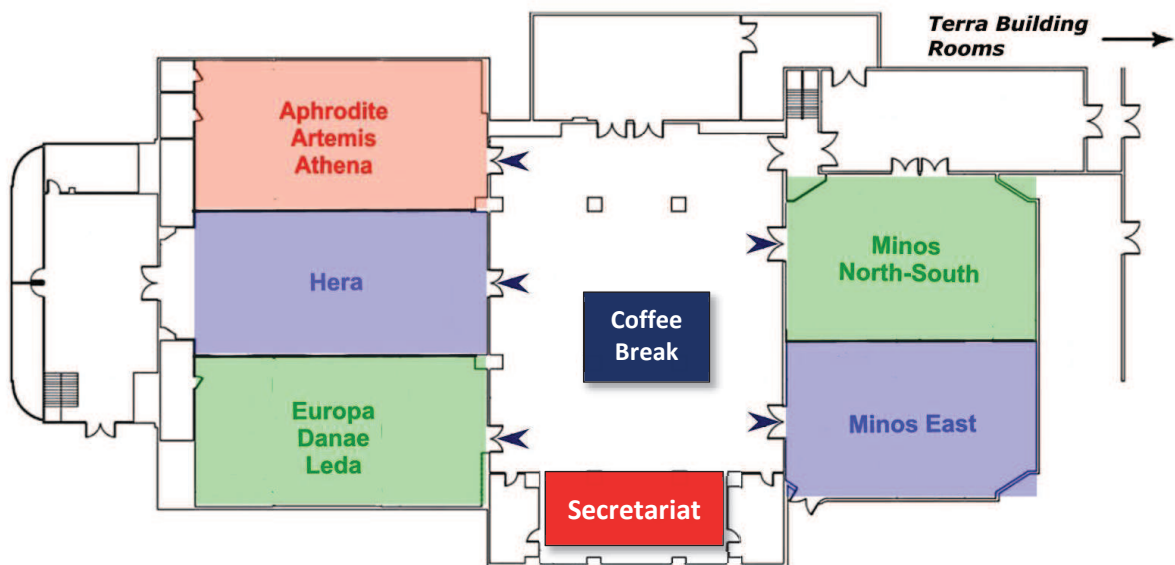


Conference Centre

Level 1

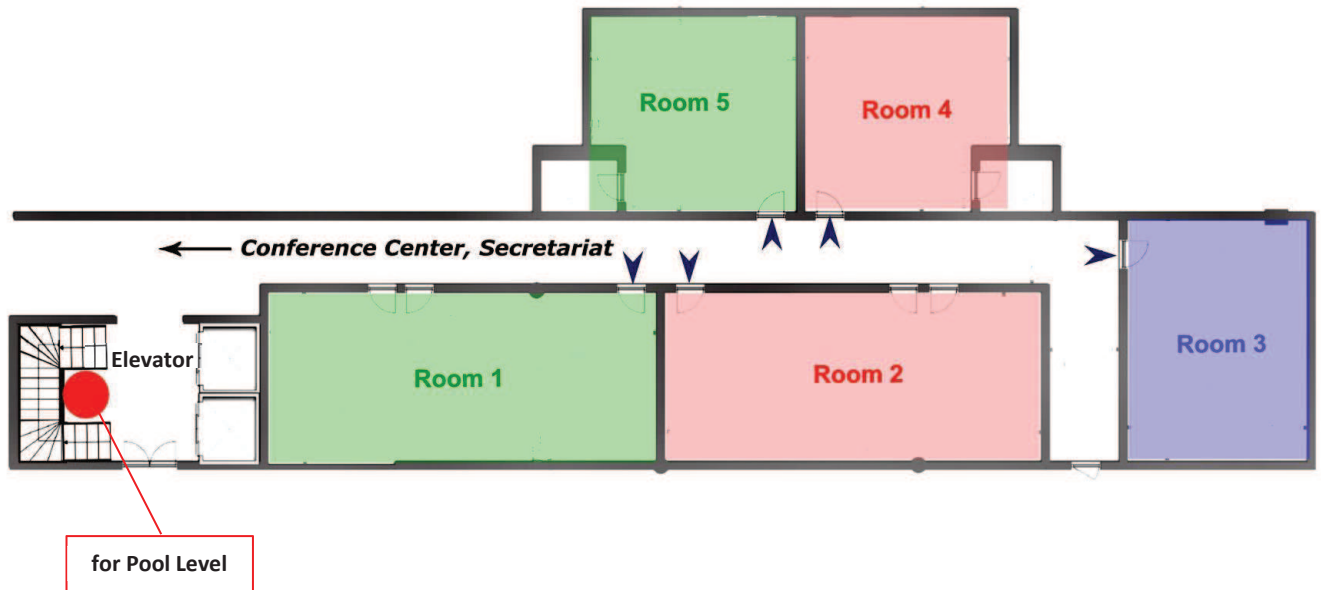


Level 0



Terra Building

Level 0



Pool Level



Greetings from the Chairpersons

Welcome to the 7th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPdyn 2019), jointly organized with and the 3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP 2019).

COMPdyn 2019, is one of the 32 Thematic Conferences of the European Community on Computational Methods in Applied Sciences (ECCOMAS) to be held in 2019 and is also a Special Interest Conference of the International Association for Computational Mechanics (IACM). The purpose of this Conference series is to bring together the scientific communities of Computational Mechanics, Structural Dynamics and Earthquake Engineering, to act as the forum for exchanging ideas in topics of mutual interests and to enhance the links between research groups with complementary activities. We believe that the communities of Structural Dynamics and Earthquake Engineering will benefit from their exposure to advanced computational methods and software tools which can highly assist in tackling complex problems in dynamic and seismic analysis and design, while also giving the opportunity to the Computational Mechanics community to be aware with very important application areas of great social interest. The COMPdyn 2019 Conference is supported by the National Technical University of Athens (NTUA), the European Association for Structural Dynamics (EASD), the European Association for Earthquake Engineering (EAEE), the Greek Association for Computational Mechanics (GRACM) and the Hellenic Society of Earthquake Engineering (HSEE).

UNCECOMP 2019 is also a Thematic Conference of ECCOMAS, with the objective to reflect the recent research progress in the field of analysis and design of engineering systems under uncertainty, with emphasis on multiscale simulations. The aim of the conference is to enhance the knowledge of researchers in stochastic methods and the associated computational tools for obtaining reliable predictions of the response of complex systems. The UNCECOMP conference series, held in conjunction with the COMPdyn conferences, gives the opportunity to the participants to interact with the Computational Dynamics community for their mutual benefit. The UNCECOMP 2019 Conference is supported by the National Technical University of Athens (NTUA) and the Greek Association for Computational Mechanics (GRACM).

Welcome to Crete, the largest island of Greece and the fifth largest in the Mediterranean. Crete has a very long and rich history during several thousand years to the past, and it is nowadays characterized by its high touristic appeal owed to the island's diverse landscape as well as its unique and colorful culture. Birthplace of Zeus according to mythology, and home of the Minoan civilization, Europe's first advanced civilization. Crete presents continuous and uninterrupted habitation since the Paleolithic era.

The organizers would like to thank the authors for submitting their contributions and for their efforts to respect the deadlines. Special thanks go to the 157 colleagues who have been involved in the organization of the Minisymposia and to the Reviewers who, with their work, contributed to the scientific quality of the conference. We want to express our gratitude to all of them and in particular, we want to thank the research students of the Institute of Structural Analysis and Antiseismic Research of the NTUA for providing assistance in the lecture rooms.

The scope of the conferences and the idyllic location of the venue offer a perfect blend for scientific endeavor and recreation. Thus, we invite you to enjoy the conferences and to experience an unforgettable stay in Crete.

Manolis Papadrakakis

Michalis Fragiadakis

**Vissarion Papadopoulos
George Stefanou**

Co-Chairperson of COMPdyn 2019

Co-Chairperson of UNCECOMP 2019

Co-Chairperson of COMPdyn 2019

Co-Chairpersons of UNCECOMP 2019

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COMPDYN 2019

Scientific Committee

C. Adam, Austria
S. Adhikari, UK
O. Allix, France
A. Ansal, Turkey
D. Asimaki, USA
A. Baratta, Italy
A. Barbat, Spain
R. Barros, Portugal
P. Bazzurro, Italy
J. Beck, USA
M. Beer, Germany
D. Beskos, Greece
F. Biondini, Italy
S. Bousias, Greece
M. Bruneau, USA
E. Caetano, Portugal
G.M. Calvi, Italy
P. Castaldo, Italy
K. Casten, Germany
L. Cavaleri, Italy
N. Chouw, New Zealand
G.P. Cimellaro, Italy
A. Combescure, France
M. Constantinou, USA
J. Conte, USA
Á. Cunha, Portugal
G. De Roeck, Belgium
G. Degrande, Belgium
R. Delgado, Portugal
G. Deodatis, USA
A. Der Kiureghian, USA
L. Di Sarno, Italy/UK
F. Di Trapani, Italy
M. Erdik, Turkey
M.F. Faber, Denmark
P. Fajfar, Slovenia
A. Elgamal, USA
A. Filiatrault, USA, Italy
F. Filippou, USA
M. Fragiadakis, Greece
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D. Givoli, Israel
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A. Shabana, USA
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H. Sucuoglu, Turkey
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Conference Guide

Programme Format

The Technical Programme consists of 9 plenary lectures, 12 semi-plenary lectures, 49 keynote lectures, 51 minisymposia and 27 regular sessions. In total 830 presentations will take place during the three days of the conferences.

Plenary Lecturers



Michel Bruneau

University at Buffalo, USA

- C 19928** RECONSTRUCTING A VERY DIFFERENT CHRISTCHURCH: HOW THE 2011 EARTHQUAKES HAVE DRIVEN DECISIONS ON SELECTION OF STRUCTURAL SYSTEMS
Wednesday, 11:30-13:30, Minos



Álvaro Cunha

University of Porto, Faculty of Engineering (FEUP), Portugal

- C 20156** CONTINUOUS DYNAMIC MONITORING PROGRAMS OF LARGE CIVIL INFRASTRUCTURES
Wednesday, 11:30-13:30, Minos



Isaac Elishakoff

Florida Atlantic University, USA

- U 18928** RECENT DEVELOPMENTS IN APPLIED MECHANICS WITH UNCERTAINTIES
Wednesday, 11:30-13:30, Europa-Danae-Leda



Michael Fardis

University of Patras, Greece

- C 21029** PRACTICAL, RULES-BASED SEISMIC ASSESSMENT OF CONCRETE BUILDINGS THROUGH NONLINEAR RESPONSE-HISTORY ANALYSIS
Wednesday, 11:30-13:30, Minos



Charbel Farhat

Stanford University, USA

- C 20694** A COMPUTATIONALLY TRACTABLE FRAMEWORK FOR NONLINEAR, DYNAMIC, MULTISCALE MODELING OF MEMBRANE FABRIC BASED ON MODEL REDUCTION AND MACHINE LEARNING
Monday, 9:00-11:00, Zeus



Roger Ghanem

University of Southern California, USA

- U 19231** PROBABILISTIC LEARNING AND ADAPTATION WITH POLYNOMIAL CHAOS
Wednesday, 11:30-13:30, Europa-Danae-Leda



George Karniadakis

Brown University, USA

- U 19303** UNCERTAINTY QUANTIFICATION FOR PHYSICS INFORMED NEURAL NETWORKS
Wednesday, 11:30-13:30, Europa-Danae-Leda



Christian Soize

Université Paris-Est, France

- U 18610** A PROBABILISTIC LEARNING AS A NEW TOOL IN MACHINE LEARNING AND DATA SCIENCE WITH APPLICATIONS IN COMPUTATIONAL MECHANICS
Monday, 9:00-11:00, Zeus



Alexander Vakakis

University of Illinois at Urbana, USA

- C 19853** INTENTIONAL IMPLEMENTATION OF STRONG NONLINEARITY IN STRUCTURAL DYNAMICS
Monday, 9:00-11:00, Zeus

Semi-Plenary Lecturers



Christoph Adam

University of Innsbruck, Austria

- C 20099** RELIABILITY ASSESSMENT OF HIGH-SPEED TRAIN-BRIDGE INTERACTION
Tuesday, 11:00-13:00, Minos North-South



Gian Paolo Cimellaro

Politecnico di Torino, Italy

- C 20951** LARGE-SCALE SIMULATIONS OF VIRTUAL CITIES
Tuesday, 11:00-13:00, Minos East



Eleni Chatzi

ETH Zürich, Switzerland

- C 20103** MONITORING AND ASSESSMENT OF INFRASTRUCTURE: SENSEMAKING FROM DATA
Tuesday, 11:00-13:00, Minos North-South



Geert Degrande

KU Leuven, Belgium

- C 21295** MONITORING AND NUMERICAL PREDICTION OF RAILWAY INDUCED VIBRATION IN BUILDINGS
Tuesday, 11:00-13:00, Minos North-South



Boris Jeremic

University of California Davis, USA

- C 20749** NOVEL SEISMIC RISK ANALYSIS METHODOLOGY: TIME DOMAIN, INTRUSIVE, STOCHASTIC ELASTIC PLASTIC FINITE ELEMENT METHOD
Tuesday, 11:00-13:00, Minos East



Hermann G. Matthies

Technische Universität Braunschweig, Germany

- U 18983** PARAMETRIC REDUCED ORDER MODELS, BAYESIAN INVERSION, LOW-RANK APPROXIMATIONS AND DEEP NETWORKS
Tuesday, 11:00-13:00, Aphrodite-Artemis-Athena



Javier Oliver

UPC, Barcelona Tech, Spain

- U 19207** THE RFE2 TECHNIQUE: TOWARDS THE DEFEAT OF THE “TYRANNY OF SCALES” IN MULTISCALE MODELING OF MATERIALS
Tuesday, 11:00-13:00, Europa-Danae-Leda



Costas Papadimitriou

University of Thessaly, Greece

- U 19240** HIERARCHICAL BAYESIAN MODELLING FRAMEWORK FOR DATA-DRIVEN UNCERTAINTY QUANTIFICATION IN ENGINEERING SIMULATIONS
Tuesday, 11:00-13:00, Europa-Danae-Leda



Michael D. Shields

Johns Hopkins University, USA

- U 19194** SAMPLING STOCHASTIC PHENOMENA: FROM ADVANCED MONTE CARLO METHODS TO MANIFOLD INTERPOLATION-BASED SURROGATES
Tuesday, 11:00-13:00, Aphrodite-Artemis-Athena



Daniel Straub

Technical University of Munich, Germany

- U 19190** ALEATORY OR EPISTEMIC - WHY IT MATTERS
Tuesday, 11:00-13:00, Europa-Danae-Leda



Bruno Sudret

ETH Zürich, Switzerland

- U 19257** SURROGATE MODELLING MEETS MACHINE LEARNING
Tuesday, 11:00-13:00, Aphrodite-Artemis-Athena



Shinobu Yoshimura

The University of Tokyo, Japan

- C 20717** SEISMIC RESPONSE OF UNIT 1 OF FUKUSHIMA-DAIICHI NUCLEAR POWER PLANTS DURING THE 2011 OFF THE PACIFIC COAST OF TOHOKU EARTHQUAKE OF 9.0MW
Tuesday, 11:00-13:00, Minos East

Keynote Lecturers

Rui Barros

- C 19523** DEVELOPMENT OF A BRAIN EMOTIONAL LEARNING BASED CONTROLLER FOR APPLICATION TO VIBRATION CONTROL OF A BUILDING STRUCTURE UNDER SEISMIC EXCITATION
Tuesday, 8:30-10:30, Room 12

Dimitri Beskos

- C 19423** A PERFORMANCE-BASED HYBRID FORCE-DISPLACEMENT SEISMIC DESIGN METHOD FOR STEEL, REINFORCED CONCRETE AND COMPOSITE FRAMES.
Tuesday, 8:30-10:30, Room 21

Barbara Borzi

- C 18852** ITALIAN PLATFORM FOR SEISMIC RISK AND DAMAGE SCENARIO EVALUATION
Wednesday, 9:00-11:00, Hera

Christian Bucher

- U 18781** META-MODELS FOR RANDOM SIGNAL ANALYSIS
Wednesday, 14:30-16:30, Room 11

Alessandro Cabbai

- C 19653** FE MODELLING AND VALIDATION OF A SLIP JOINT FOR WIND TURBINES IN AN OFFSHORE ENVIRONMENT
Monday, 14:30-16:30, Room 11

Silvia Caprili

- C 19781** MECHANICAL PERFORMANCE OF ENHANCED STEEL REINFORCING BARS IN UNCORRODED AND CORRODED CONDITIONS
Tuesday, 14:00-16:00, Room 11

Serena Cattari

- C 20004** DISCUSSION ON DATA RECORDED BY THE ITALIAN STRUCTURAL SEISMIC MONITORING NETWORK ON THREE MASONRY STRUCTURES HIT BY THE 2016-2017 CENTRAL ITALY EARTHQUAKE
Monday, 17:00-19:00, Room 4

Andrej Cherkaev

- C 20025** DYNAMICAL HOMOGENIZATION OF A SYSTEM WITH NONCONVEX ENERGY
Monday, 17:00-19:00, Room 10

Joel Conte

- C 19339** TOWARDS A SIMPLIFIED AND RIGOROUS PERFORMANCE-BASED SEISMIC DESIGN OF ORDINARY STANDARD BRIDGES IN CALIFORNIA
Wednesday, 9:00-11:00, Room 10

Pedro Delgado

- C 19764** SEISMIC ANALYSIS OF A MEXICAN VIADUCT WITH NONLINEAR MODELLING OF SOIL-STRUCTURE INTERACTION
Monday, 11:30-13:30, Room 12

Denis Duhamel

- C 19200** AN EFFICIENT TRANSMISSION OPERATOR FOR COMPUTING WAVE PROPAGATION BY DOMAIN DECOMPOSITION
Tuesday, 8:30-10:30, Room 10

Isaac Elishakoff

C 20067 RECENT DEVELOPMENTS IN CARBON NANOTUBES AND NANOSENSORS
Monday, 14:30-16:30, Hera

Matthias Faes

U 18468 IMPRECISE RANDOM FIELD ANALYSIS FOR TRANSIENT DYNAMICS
Monday, 11:30-13:30, Room 10

Antonio Formisano

C 19195 SIMPLIFIED SEISMIC ANALYSIS OF ANCIENT CHURCHES AT A TERRITORIAL SCALE
Wednesday, 14:30-16:30, Aphrodite-Artemis-Athena

André Furtado

C 19426 EXPERIMENTAL ASSESSMENT OF STRENGTHENING STRATEGY TO IMPROVE THE MASONRY INFILLS OUT-OF-PLANE BEHAVIOUR THROUGH TEXTILE REINFORCED MORTAR
Wednesday, 14:30-16:30, Room 12

Linda Giresini

C 19345 STOCHASTIC ASSESSMENT OF ROCKING MASONRY FAÇADES UNDER REAL SEISMIC RECORDS
Wednesday, 14:30-16:30, Minos North-South

Fabian M. Gruber

C 18832 ACCURATE COMPUTATION OF FREQUENCY RESPONSE FUNCTIONS OF DUAL CRAIG-BAMPTON REDUCED SYSTEMS
Wednesday, 9:00-11:00, Room 12

Adnan Ibrahimbegovic

U 18364 COUPLED MECHANICS-PROBABILITY MULTISCALE APPROACH FOR SIZE EFFECT INTERPRETATION
Monday, 14:30-16:30, Minos East

Alexander Idesman

C 18485 A NEW NUMERICAL APPROACH TO THE SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS WITH OPTIMAL ACCURACY ON IRREGULAR DOMAINS AND CARTESIAN MESHES
Monday, 11:30-13:30, Minos North-South

Fatemeh Jalayer

C 19740 LONG-TERM SEISMIC RISK ASSESSMENT CONSIDERING THE TRIGGERED AFTERSHOCKS
Tuesday, 14:00-16:00, Room 4

Hector Jensen

C 18608 AN EFFICIENT PARAMETRIC SUBSTRUCTURE COUPLING TECHNIQUE FOR RELIABILITY ANALYSIS OF DYNAMICAL SYSTEMS
Tuesday, 8:30-10:30, Room 7

Evangelia Kalligiannaki

U 18588 DATA-DRIVEN COARSE-GRAINED DYNAMICS OF MOLECULAR SYSTEMS
Monday, 17:00-19:00, Room 12

Andreas Kappos

C 21296 SEISMIC ASSESSMENT OF EXISTING STRUCTURES TO THE NEW EUROCODE 8-3
Tuesday, 14:00-16:00, North-South

Oren Lavan

- C 18772** OPTIMIZATION-BASED SEISMIC DESIGN OF NONLINEAR MOMENT RESISTING STEEL FRAMES WITH VISCOUS DAMPERS
Wednesday, 14:30-16:30, Room 8

Nikolaos Lesgidis, Lukas Moschen

- C 20167** A REDUCED ORDER APPROACH FOR THE SIMULATION OF VEHICLE INDUCED GROUND-BORNE VIBRATION
Monday, 11:30-13:30, Room 21

Bing Li

- C 20695** SHEAR STRENGTH PREDICTION OF SHEAR-CRITICAL REINFORCED CONCRETE COLUMNS - PROBABILISTIC CALIBRATION
Monday, 11:30-13:30, Room 3

Geert Lombaert

- U 18789** SAMPLING AND SENSITIVITY-BASED TECHNIQUES FOR BAYESIAN OPTIMAL SENSOR PLACEMENT WITH RESPECT TO RESPONSE PREDICTIONS
Monday, 11:30-13:30, Room 4

George Manos

- C 19707** THE DYNAMIC AND SEISMIC RESPONSE OF A WIND TURBINE. PERFORMANCE OF THE CONNECTION BETWEEN THE STEEL TOWER WITH THE CONCRETE FOUNDATION
Tuesday, 8:30-10:30, Room 1

Naoto Mitsume

- C 18990** PARALLEL TSUNAMI ANALYSIS BASED ON MPS METHOD WITH ERP WALL BOUNDARY MODEL
Tuesday, 8:30-10:30, Room 11

Fabrizio Mollaioli

- C 18618** ON THE IMPORTANCE OF ENERGY-BASED PARAMETERS
Monday, 11:30-13:30, Europa-Danae-Leda

Giuseppe Muscolino

- U 18828** DYNAMICS OF CRACKED BEAMS WITH UNCERTAIN-BUT-BOUNDED DEPTHS: FINITE ELEMENT MODEL VERSUS CONTINUOUS MODELS WITH SINGULARITIES
Monday, 11:30-13:30, Room 1

Roger Ohayon

- U 18452** REDUCED-ORDER MODEL OF NONLINEAR VIBRATION OF STRUCTURE COUPLED WITH COMPRESSIBLE LIQUID IN PRESENCE OF SLOSHING AND CAPILLARITY
Tuesday, 8:30-10:30, Minos East

K. C. Park

- C 19967** A LARGE STEP EXPLICIT INTEGRATION METHOD FOR STRUCTURAL DYNAMICS ANALYSIS
Tuesday, 14:00-16:00, Room 10

Alberto Pavese

- C 19049** CONSEQUENCES OF MECHANICAL PROPERTIES VARIABILITY OF SEISMIC ISOLATION SYSTEMS ON THE STRUCTURAL RESPONSE OF BUILDINGS
Tuesday, 16:30-18:30, Room 8

Maria Polese

C 19602 REPAIRABILITY DECISIONS BASED ON SIMPLIFIED ASSESSMENT PROCEDURES
Monday, 14:30-16:30, Room 2

Marco Preti

C 19010 INFILL WITH SLIDING PANELS WITH A FULL-HEIGHT OPENING
Tuesday, 14:00-16:00, Europa-Danae-Leda

Serge Prudhomme

U 18691 ON THE CONSTRUCTION OF PGD APPROXIMATIONS WITH RESPECT TO QUANTITIES OF INTEREST
Tuesday, 14:00-16:00, Minos East

Bojana Rosic

U 18349 BAYESIAN MULTI-SCALE ANALYSIS OF MECHANICAL STRUCTURES
Monday, 11:30-13:30, Minos East

Gianluigi Rozza

U 18897 WEIGHTED REDUCED ORDER METHODS FOR PARAMETRIZED PDES WITH RANDOM INPUTS
Wednesday, 14:30-16:30, Minos East

Kheirollah Sepahvand

U 18371 ON EXPERIMENTALLY UNCERTAINTY QUANTIFICATION IN STRUCTURAL AND VIBROACOUSTIC PROBLEMS: GENERAL FRAMEWORK
Monday, 17:00-19:00, Room 8

Enrico Spacone

C 18631 ENGINEERING DEMAND PARAMETERS FOR THE DEFINITION OF COLLAPSE IN CODE CONFORMING RC BUILDINGS
Tuesday, 16:30-18:30, Room 11

Ioannis Stefanou

C 19577 ROCKING RESPONSE AND OVERTURNING OF MUSEUM ARTEFACTS DUE TO BLAST LOADING
Monday, 17:00-19:00, Room 2

Emiliano Torre

U 18636 **KEYNOTE:** REPRESENTATION OF COMPLEX DEPENDENCIES WITH COPULAS IN UQLAB
Tuesday, 14:00-16:00, Room 7

Petr Tovstik

C 18867 LINEAR TWO-DIMENSIONAL MODELS OF ANISOTROPIC PLATES IN THE HIGH APPROXIMATIONS
Wednesday, 9:00-11:00, Europa-Danae-Leda

Yiannis Tsompanakis

C 19534 DYNAMIC SOIL-STRUCTURE INTERACTION EFFECTS ON LIQUID STORAGE TANKS
Monday, 17:00-19:00, Minos North-South

Dimitrios Vamvatsikos

C 19861 REHABILITATION OF EXISTING BUILDINGS WITH INNOVATIVE ANTI-SEISMIC SYSTEMS
Monday, 17:00-19:00, Room 7

Laurent van den Bos

U 18551 SAMPLING-BASED QUADRATURE RULES FOR FORWARD AND INVERSE PROBLEMS
Wednesday, 9:00-11:00, Room 3

Ioannis Vayas

C 19716 VALORISATION OF KNOWLEDGE FOR EUROPEAN PREQUALIFIED STEEL JOINTS: THE EQUALJOINTS-PLUS PROJECT
Monday, 14:30-16:30, Room 7

Stefania Viti

C 19002 RESIMUS: A RESEARCH PROJECT ON THE SEISMIC VULNERABILITY OF MUSEUMS' COLLECTIONS
Tuesday, 14:00-16:00, Room 12

Wolfgang A. Wall

U 18892 UNCERTAINTY QUANTIFICATION FOR COMPLEX PROBLEMS IN BIOMEDICAL ENGINEERING
Tuesday, 16:30-18:30, Minos East

Minisymposia

MS 1: EQUALJOINTS-PLUS

MS Organizer: Ioannis Vayas

MS 1 - I: Monday, 14:30-16:30, Room 7

MS 1 - II: Monday, 17:00-19:00, Room 7

MS 2: RECENT ADVANCES AND CHALLENGES IN GEOTECHNICAL EARTHQUAKE ENGINEERING

MS Organizers: Castorina Silva Vieira, Yiannis Tsompanakis

MS 2: Monday, 17:00-19:00, Minos North-South

MS 3: EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS

MS Organizer: George Manos

MS 3 - I: Tuesday, 8:30-10:30, Room 1

MS 3 - II: Tuesday, 14:00-16:00, Room 1

MS 3 - III: Tuesday, 16:30-18:30, Room 1

MS 3 - IV: Wednesday 9:00-11:00, Room 1

MS 3 - V: Wednesday 14:30-16:30, Room 1

MS 6: SEISMIC SAFETY ASSESSMENT OF STRUCTURES

MS Organizers: Pedro Delgado, António Arêde, Raimundo Delgado

MS 6 - I: Monday, 11:30-13:30, Room 12

MS 6 - II: Monday, 14:30-16:30, Room 12

MS 7: RECENT ADVANCES IN THE DEVELOPMENT OF APPROXIMATE MATHEMATICAL TECHNIQUES FOR SOLVING COMPLEX SIMULATION-BASED PROBLEMS INVOLVING UNCERTAINTY

MS Organizers: Hector Jensen, Michael Beer, Jianbin Chen, Francisco Alejandro Diaz de la O, Marcos Valdebenito

MS 7: Tuesday, 8:30-10:30, Room 7

MS 8: RIGID BLOCK MODELING APPROACHES FOR STATIC AND DYNAMIC ANALYSIS OF MASONRY STRUCTURES IN SEISMIC AREAS

MS Organizers: Claudia Casapulla, Linda Giresini, Francesca Taddei, Ehsan Noroozinejad

MS 8 - I: Wednesday, 9:00-11:00, Minos North- South

MS 8 - II: Wednesday, 14:30-16:30, Minos North- South

MS 8 - III: Wednesday, 17:00-19:00, Minos North- South

MS 9: NON-LINEAR DYNAMICS, WAVE PROPAGATION AND CONTACT-IMPACT PROBLEMS

MS Organizers: Jiri Naprstek, Anton Tkachuk, Jose Gonzalez, Radek Kolman, K.C. Park

MS 9 - I: Tuesday, 14:00-16:00, Room 10

MS 9 - II: Tuesday, 16:30-18:30, Room 10

MS 10: PROGRESS AND CHALLENGES IN RAIL TRACK DYNAMICS

MS Organizers: Lukas Moschen, Günther Achs, Christoph Adam, Anastasios Sextos

MS 10 - I: Monday, 11:30-13:30, Room 21

MS 10 - II: Monday, 14:30-16:30, Room 21

MS 11: POST-EARTHQUAKE ASSESSMENT FOR BUILDINGS AND INFRASTRUCTURES AND REPARABILITY DECISIONS

MS Organizers: Maria Polese, Marco Di Ludovico

MS 11 - I: Monday, 11:30-13:30, Room 2

MS 11 - II: Monday, 14:30-16:30, Room 2

MS 12: REPAIR AND RETROFIT OF STRUCTURES

MS Organizers: Ciro Del Vecchio, Marco Di Ludovico, Alper Ilki

MS 12 - I: Monday, 11:30-13:30, Aphrodite-Artemis-Athena

MS 12 - II: Monday, 14:30-16:30, Aphrodite-Artemis-Athena

MS 13: RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS

MS Organizers: Nicola Cavalagli, Francesco Clementi, Antonio Formisano, Gabriele Milani, Vagelis Plevris

MS 13 - I: Tuesday, 8:30-10:30, Aphrodite-Artemis-Athena

MS 13 - II: Tuesday, 14:00-16:00, Aphrodite-Artemis-Athena

MS 13 - III: Tuesday, 16:30-18:30, Aphrodite-Artemis-Athena

MS 13 - IV: Wednesday 9:00-11:00, Aphrodite-Artemis-Athena

MS 13 - V: Wednesday 14:30-16:30, Aphrodite-Artemis-Athena

MS 13 - VI: Wednesday 17:00-19:00, Aphrodite-Artemis-Athena

MS 15: ADVANCES IN NUMERICAL METHODS FOR LINEAR AND NON-LINEAR DYNAMICS AND WAVE PROPAGATION

MS Organizer: Alexander Idesman

MS 15 - I: Monday, 11:30-13:30, Minos North-South

MS 15 - II: Monday, 14:30-16:30, Minos North-South

MS 17: SEISMIC RISK ASSESSMENT OF BUILDING PORTFOLIOS

MS Organizers: Paolo Ricci, Carlo Del Gaudio, Gerardo Mario Verderame

MS 17 - I: Wednesday, 9:00-11:00, Hera

MS 17 - II: Wednesday, 14:30-16:30, Hera

MS 18: POTENTIAL OF VIBRATIONS MONITORING FOR IMPROVING THE RELIABILITY OF BUILDINGS SEISMIC ASSESSMENT

MS Organizers: Serena Cattari, Daniele Spina

MS 18 - I: Monday, 17:00-19:00, Room 4

MS 18 - II: Tuesday, 8:30-10:30, Room 4

MS 19: DYNAMIC SOIL-STRUCTURE INTERACTION: RECENT ADVANCES AND CHALLENGES

MS Organizers: Emmanouil Rovithis, Raffaele Di Laora, Maria Iovino

MS 19 - I: Tuesday, 14:00-16:00, Room 5

MS 19 - II: Tuesday, 16:30-18:30, Room 5

MS 20: HIGH-PERFORMANCE COMPUTING FOR STRUCTURAL MECHANICS AND EARTHQUAKE / TSUNAMI ENGINEERING

MS Organizers: Shinobu Yoshimura, Naoto Mitsume

MS 20: Tuesday, 8:30-10:30, Room 11

MS 23: ADVANCES IN BASE ISOLATION TECHNIQUES

MS Organizers: Gian Paolo Cimellaro, Marco Domaneschi, Andrei M. Reinhorn

MS 23: Monday, 14:30-16:30, Room 12

MS 24: INFLUENCE OF INFILL MASONRY WALLS IN THE RESPONSE AND SAFETY OF BUILDINGS

MS Organizers: Humberto Varum, Hugo Rodrigues, Enrico Spacone

MS 24 - I: Wednesday, 14:30-16:30, Room 12

MS 24 - II: Wednesday, 17:00-19:00, Room 12

MS 25: SPECIAL DESIGN AND ANALYSIS OF STRUCTURES

MS Organizers: Georgios S. Papavasileiou, Nikos G. Pnevmatikos

MS 25: Monday, 17:00-19:00, Europa-Danae-Leda

MS 26: RECENT ADVANCES ON ENERGY-BASED SEISMIC DESIGN

MS Organizers: Fabrizio Mollaioli, Amadeo Benavent-Climent

MS 26 - I: Monday, 11:30-13:30, Europa-Danae-Leda

MS 26 - II: Monday, 14:30-16:30, Europa-Danae-Leda

MS 27: ADVANCES IN MODEL REDUCTION TECHNIQUES IN COMPUTATIONAL STRUCTURAL DYNAMICS

MS Organizers: Jin-Gyun Kim, K.C. Park, Roger Ohayon

MS 27: Wednesday, 09:00-11:00, Room 12

MS 28: NEW ADVANCES IN COMPUTATIONAL MODELLING AND EXPERIMENTAL TESTING OF INFILLED FRAMES

MS Organizers: Fabio Di Trapani, Liborio Cavaleri, Guido Magenes, Paolo Morandi

MS 28 - I: Tuesday, 8:30-10:30, Europa-Danae-Leda

MS 28 - II: Tuesday, 14:00-16:00, Europa-Danae-Leda

MS 28 - III: Tuesday, 16:30-18:30, Europa-Danae-Leda

MS 29: AFTERSHOCK RISK ASSESSMENT: STATE OF THE ART AND FUTURE CHALLENGES

MS Organizers: Fatemeh Jalayer, Hossein Ebrahimian

MS 29 - I: Tuesday, 14:00-16:00, Room 4

MS 29 - II: Tuesday, 16:30-18:30, Room 4

MS 30: STRUCTURAL PERFORMANCE OF NEW AND EXISTING REINFORCED CONCRETE BUILDINGS IN SEISMIC AREAS: NUMERICAL AND EXPERIMENTAL APPROACHES FOR MODELLING

MS Organizers: Silvia Caprili, Walter Salvatore

MS 30 - I: Tuesday, 14:00-16:00, Room 11

MS 30 - II: Tuesday, 16:30-18:30, Room 11

MS 31: MUSEUMS' COLLECTIONS AND SEISMIC PREVENTION: RESEARCH DEVELOPMENTS AND CASE-STUDIES

MS Organizers: Stefania Viti, Gian Paolo Cimellaro

MS 31 - I: Tuesday, 14:00-16:00, Room 12

MS 31 - II: Tuesday, 16:30-18:30, Room 11

MS 33: SEISMIC RESILIENCE OF MUSEUM CONTENTS

MS Organizers: Michalis Fragiadakis, Luigi Di Sarno

MS 33: Monday, 17:00-19:00, Room 2

MS 35: DAMAGE MODELLING, DETECTION AND IDENTIFICATION IN COMPOSITE STRUCTURES

MS Organizers: Dimitris Chronopoulos, Savvas Triantafyllou, Juan Chiachío Ruano, Manuel Chiachío Ruano

MS 35: Monday, 17:00-19:00, Aphrodite-Artemis-Athena

MS 36: SEISMIC ASSESSMENT OF EXISTING STRUCTURES BEFORE AND AFTER STRENGTHENING

MS Organizers: Stefanos Dritsos, Andreas Kappos

MS 36 - I: Tuesday, 8:30-10:30, Minos North-South

MS 36 - II: Tuesday, 14:00-16:00, Minos North-South

MS 36 - III: Tuesday, 16:30-18:30, Minos North-South

MS 38: RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES

MS Organizers: Laura Ragni, Enrico Tubaldi, Fabrizio Scozzese, Hamid Ahmadi

MS 38 - I: Tuesday, 16:30-18:30, Room 8

MS 38 - II: Wednesday, 9:00-11:00, Room 8

MS 38 - III: Wednesday, 14:30-16:30, Room 8

MS 38 - IV: Wednesday, 17:00-19:00, Room 8

MS 39: PERIODICITY EFFECTS IN VIBRO-ACOUSTICS

MS Organizer: Sergey Sorokin

MS 39 - I: Monday, 14:30-16:30, Room 10

MS 39 - II: Monday, 17:00-19:00, Room 10

MS 40: DYNAMICS OF BUILDINGS AND BRIDGES AND CONTROL STRATEGIES WITHIN STRUCTURAL ENGINEERING

MS Organizers: Rui Carneiro Barros, Manuel Braz-Cesar

MS 40: Tuesday, 08:30-10:30, Room 12

MS 41: THIN-WALLED STRUCTURES, STRENGTH, VIBRATION AND STABILITY

MS Organizers: Petr Evgen'evich Tovstik, Andrei L. Smirnov

MS 41 - I: Wednesday, 9:00-11:00, Europa-Danae-Leda

MS 41 - II: Wednesday, 14:30-16:30, Europa-Danae-Leda

MS 42: NOVEL METHODS FOR SEISMIC DESIGN AND INTERVENTION OF CONVENTIONAL AND INTEGRAL BRIDGES

MS Organizers: Camillo Nuti, George Mylonakis, Flavia De Luca, Stergios Mitoulis, Davide Lavorato, Gabriele Fiorentino

MS 42 - I: Wednesday, 9:00-11:00, Room 10

MS 42 - II: Wednesday, 14:30-16:30, Room 10

MS 44: DYNAMIC BEHAVIOUR OF JOINTS AND JOINTED STRUCTURES: MODELLING AND EXPERIMENTS

MS Organizers: Alice Cicirello, Alessandro Cabboi

MS 44: Monday, 14:30-16:30, Room11

MS 45: ADVANCES ON EXPERIMENTAL AND COMPUTATIONAL SEISMIC ASSESSMENT AND RETROFIT OF MASONRY STRUCTURES

MS Organizers: Constantine Spyrakos, Marco Corradi, Charilaos Maniatakis

MS 45: Monday, 17:00-19:00, Room11

Regular Sessions

RS 2: ALGORITHMS FOR STRUCTURAL HEALTH MONITORING

RS 2 - I: Tuesday, 8:30-10:30, Room 8
RS 2 - II: Tuesday, 14:00-16:00, Room 8

RS 3: CONSTITUTIVE MODELLING UNDER EARTHQUAKE LOADING

RS 3: Wednesday, 17:00-19:00, Room 4

RS 4: DYNAMICS OF CONCRETE STRUCTURES

RS 4 - I: Monday, 11:30-13:30, Room 3
RS 4 - II: Monday, 14:30-16:30, Room 3
RS 4 - III: Monday, 17:00-19:00, Room 3

RS 5: DYNAMICS OF COUPLED PROBLEMS

RS 5: Wednesday, 17:00-19:00, Hera

RS 7: DYNAMICS OF STEEL STRUCTURES

RS 7 - I: Monday, 14:30-16:30, Room 21
RS 7 - II: Monday, 17:00-19:00, Room 21

RS 8: GEOTECHNICAL EARTHQUAKE ENGINEERING

RS 8 - I: Wednesday, 9:00-11:00, Room 4
RS 8 - II: Wednesday, 14:30-16:30, Room 4

RS 9: IMPACT DYNAMICS

RS 9: Wednesday, 17:00-19:00, Room 1

RS 10: INVERSE PROBLEMS IN STRUCTURAL DYNAMICS

RS 10: Wednesday, 17:00-19:00, Europa-Danae-Leda

RS 12: NONLINEAR DYNAMICS

RS 12 - I: Wednesday, 14:30-16:30, Room 21
RS 12 - II: Wednesday, 17:00-19:00, Room 21

RS 13: NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS

RS 13 - I: Monday, 11:30-13:30, Hera
RS 13 - II: Monday, 14:30-16:30, Hera
RS 13 - III: Monday, 17:00-19:00, Hera
RS 13 - IV: Tuesday 8:30-10:30, Hera
RS 13 - V: Tuesday 14:00-16:00, Hera
RS 13 - VI: Tuesday 16:30-18:30, Hera

RS 14: OPTIMUM DESIGN AND CONTROL IN STRUCTURAL DYNAMICS AND EARTHQUAKE ENGINEERING

RS 14: Wednesday, 17:00-19:00, Room 10

RS 16: PERFORMANCE-BASED EARTHQUAKE ENGINEERING

RS 16 - I: Tuesday, 8:30-10:30, Room 21
RS 16 - II: Tuesday, 14:00-16:00, Room 21
RS 16 - III: Tuesday, 16:30-18:30, Room 21
RS 16 - IV: Wednesday, 9:00-11:00, Room 21

RS 18: REPAIR AND RETROFIT OF STRUCTURES

RS 18: Wednesday, 14:30-16:30, Room 5

RS 19: SEISMIC ISOLATION

RS 19 - I: Monday, 17:00-19:00, Room 5

RS 19 - II: Tuesday, 8:30-10:30, Room 5

RS 20: SEISMIC RISK AND RELIABILITY ANALYSIS

RS 20 - I: Tuesday, 8:30-10:30, Room 9

RS 20 - II: Tuesday, 14:00-16:00, Room 9

RS 20 - III: Tuesday, 16:30-18:30, Room 9

RS 22: SOIL DYNAMICS

RS 22: Wednesday, 17:00-19:00, Room 11

RS 23: SOIL-STRUCTURE INTERACTION

RS 23 - I: Wednesday, 9:00-11:00, Room 7

RS 23 - II: Wednesday, 14:30-16:30, Room 7

RS 23 - III: Wednesday, 17:00-19:00, Room 7

RS 26: STEEL STRUCTURES

RS 26 - I: Monday, 11:30-13:30, Room 9

RS 26 - II: Monday, 14:30-16:30, Room 9

RS 26 - III: Monday, 17:00-19:00, Room 9

RS 27: STOCHASTIC DYNAMICS

RS 27: Tuesday, 16:30-18:30, Room 12

RS 29: WAVE PROPAGATION

RS 29: Tuesday, 8:30-10:30, Room 10

Minisymposia

MS 1: COMPUTATIONAL MULTISCALE MODELLING UNDER UNCERTAINTY

MS Organizers: Paul Steinmann, Dmytro Pivovarov

MS 1: Wednesday, 9:00-11:00, Room 11

MS 2: BAYESIAN ANALYSIS OF NUMERICAL MODELS

MS Organizers: Iason Papaioannou, Daniel Straub, Costas Papadimitriou

MS 2 - I: Monday, 11:30-13:30, Room 4

MS 2 - II: Monday, 14:30-16:30, Room 4

MS 3: UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS

MS Organizers: Vasilis Dertimanis, Eleni Chatzi, Costas Papadimitriou

MS 3 - I: Monday, 11:30-13:30, Room 1

MS 3 - II: Monday, 14:30-16:30, Room 1

MS 3 - III: Monday, 17:00-19:00, Room 1

MS 4: INVERSE METHODS FOR UNCERTAINTY QUANTIFICATION IN LARGE-SCALE APPLICATIONS

MS Organizers: Matthias Faes, David Moens, Michael Hanss, Michael Beer, Matteo Broggi

MS 4 - I: Monday, 11:30-13:30, Room 10

MS 4 - II: Monday, 14:30-16:30, Room 10

MS 5: SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS

MS Organizers: Michael Shields, Bruno Sudret, Alex Taflanidis, Dimitrios Giovanis

MS 5 - I: Tuesday, 8:30-10:30, Room 2

MS 5 - II: Tuesday, 14:00-16:00, Room 2

MS 5 - III: Tuesday, 16:30-18:30, Room 2

MS 5 - IV: Wednesday, 9:00-11:00, Room 2

MS 6: MINISYMPOSIUM IN HONOR OF PROF. HERMANN MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

MS 6 - I: Monday, 11:30-13:30, Minos East

MS 6 - II: Monday, 14:30-16:30, Minos East

MS 6 - III: Monday, 17:00-19:00, Minos East

MS 6 - IV: Tuesday, 8:30-10:30, Minos East

MS 6 - V: Tuesday, 14:00-16:00, Minos East

MS 6 - VI: Tuesday, 16:30-18:30, Minos East

MS 6 - VII: Wednesday, 9:00-11:00, Minos East

MS 6 - VIII: Wednesday, 14:30-16:30, Minos East

MS 6 - IX: Wednesday, 17:00-19:00, Minos East

MS 7: SURROGATE MODELS: BENCHMARK PROBLEMS AND SOLUTIONS

MS Organizers: Jean-Marc Bourinet, Sankaran Mahadevan, Nicola Pedroni, Bruno Sudret

MS 7 - I: Wednesday, 14:30-16:30, Room 2

MS 7 - II: Wednesday, 17:00-19:00, Room 2

MS 8: CURRENT TOPICS IN UNCERTAINTY CHARACTERIZATION, OPTIMIZATION AND DESIGN

MS Organizers: I.C. Tsantili, Dionissis Hristopoulos
MS 8: Monday, 17:00-19:00, Room 12

MS 9: UNCERTAINTY PROPAGATION AND QUANTIFICATION WITH COMPUTATIONALLY EXPENSIVE MODELS

MS Organizers: Laurent van den Bos, Yous van Halder, Benjamin Sanderse
MS 9 - I: Wednesday, 9:00-11:00, Room 3
MS 9 - II: Wednesday, 14:30-16:30, Room 3
MS 9 - III: Wednesday, 17:00-19:00, Room 3

MS 10: SOFTWARE FOR UNCERTAINTY QUANTIFICATION

MS Organizers: Stefano Marelli, Edoardo Patelli, Dirk Pflüger
MS 10 - I: Tuesday, 14:00-16:00, Room 7
MS 10 - II: Tuesday, 16:30-18:30, Room 7

MS 11: POLYMORPHIC UNCERTAIN DATA FOR NUMERICAL ANALYSIS AND DESIGN OF STRUCTURES

MS Organizers: Michael Kaliske, Wolfgang Graf, Sigrid Leyendecker, Stefanie Reese, Wolfgang Wall
MS 11 - I: Tuesday, 8:30-10:30, Room 3
MS 11 - II: Tuesday, 14:00-16:00, Room 3
MS 11 - III: Tuesday, 16:30-18:30, Room 3

MS 12: UNCERTAINTY QUANTIFICATION USING EXPERIMENTAL DATA

MS Organizers: Kheirollah Sepahvand, Alice Cicirelo
MS 12: Monday, 17:00-19:00, Room 8

MS 13: MULTISCALE ANALYSIS AND DESIGN OF RANDOM HETEROGENEOUS MEDIA

MS Organizers: George Stefanou, Dimitrios Savvas, Vissarion Papadopoulos
MS 13 - I: Wednesday, 9:00-11:00, Room 9
MS 13 - II: Wednesday, 14:30-16:30, Room 9

MS 14: ADVANCES IN ENGINEERING SOFTWARE FOR UNCERTAINTY QUANTIFICATION

MS Organizers: George Stavroulakis, Vissarion Papadopoulos, Manolis Papadrakakis
MS 14: Tuesday, 16:30-18:30, Room 7

MS 15: MACHINE LEARNING APPROACHES TO UNCERTAINTY QUANTIFICATION

MS Organizer: Paris Perdikaris
MS 15 - I: Monday, 11:30-13:30, Room 8
MS 15 - II: Monday, 14:30-16:30, Room 8

MS 16: FAILURE PREVENTION USING PHYSICAL-BASED MODELS AND DATA-BASED MODELS

MS Organizers: Alice Cicirello, Edoardo Patelli
MS 16: Wednesday, 9:00-11:00, Room 5

Regular Sessions

RS 4: LARGE-SCALE STOCHASTIC FINITE ELEMENT APPLICATIONS

RS 4: Wednesday, 17:00-19:00, Room 9

RS 15: STOCHASTIC FRACTURE AND DAMAGE

RS 15: Wednesday, 17:00-19:00, Room 9

RS 16: SYSTEM RELIABILITY ANALYSIS, DESIGN AND RISK ASSESSMENT

RS 16: Tuesday, 16:30-18:30, Room 12

RS 17: UNCERTAINTY QUANTIFICATION

RS 17 - I: Monday, 11:30-13:30, Room 5

RS 17 - II: Monday, 14:30-16:30, Room 5

RS 19: VALIDATION OF STOCHASTIC MODELING TECHNIQUES

RS 19: Tuesday, 16:30-18:30, Room 10

RS 20: NUMERICAL SIMULATION METHODS FOR STOCHASTIC PROBLEMS

RS 20: Wednesday, 14:30-16:30, Room 11

RS 21: MONTE CARLO SIMULATION

RS 21: Monday, 11:30-13:30, Room 11

Conference Venue

The Conference Venue is the **Creta Maris Beach Resort** in **Crete, Greece**. The Creta Maris Conference Centre, situated a hundred meters away from the Creta Maris Beach Resort, consists of 6.000 m², 68 conference halls and can accommodate up to 5.500 delegates.

Crete Island

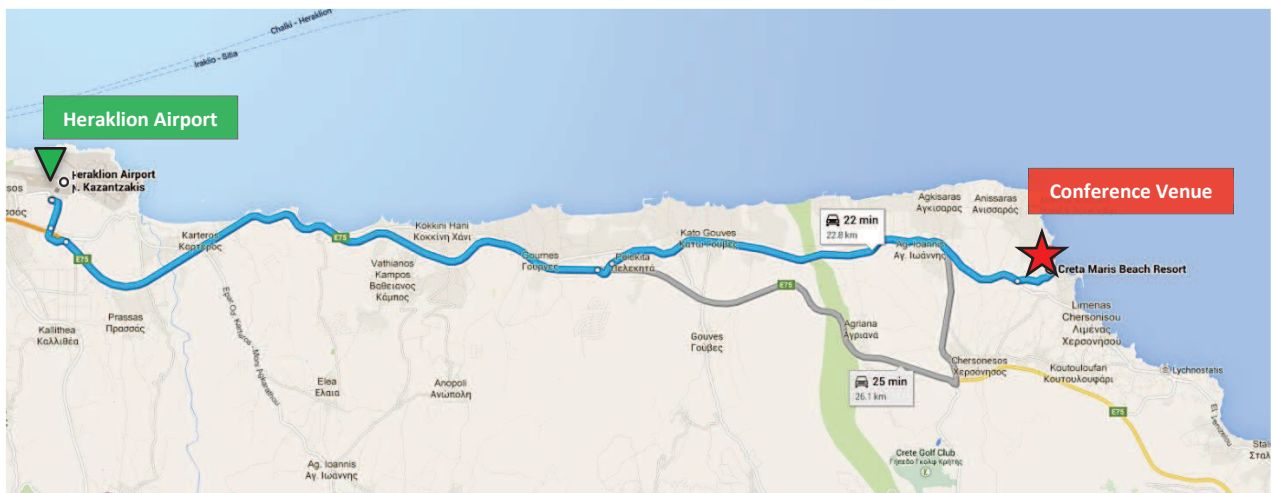


Transportation

Transfer from and to the Airport: “Nikos Kazantzakis” Heraklion International Airport is located 24 km west side of the Creta Maris Beach Resort. “Nikos Kazantzakis” Airport is linked directly with “Eleftherios Venizelos” International Airport of Athens with many flights per day (40 minutes). “Nikos Kazantzakis” Airport is also connected with regular and charter flights to 50 big cities of Europe and overseas.

Kazantzakis Airport tel. no: (+30) 2810 337 205

The route from the airport to the Conference venue by taxi takes approximately 20 minutes, while the average cost of the route is 30 €.



Getting around Crete

Heraklion to Hersonissos (26 km):

By Public Bus

Local Bus service is available from the airport or the harbour (approximately 50 minutes, cost approx. 5 Euros).

Intercity Busses (KTEL) Tel. no: (+30) 2810 246 530

By Taxi

Taxi service is available from the airport or the harbour (approximately 25 minutes, cost approx. 30 Euros).

Important telephone numbers

Emergency Number: 112

Fire Brigade: 199

Police: 100

Ambulance: 166

District Hospital Service Limenas Hersonissos: +30 2897021262

Pharmacies: 14944

Conference Information

Registration and Check in

All attendees are required to check in at the Registration Desks.

Identification Badge

Participants are required to wear badges at all times while in the Conference area.

Secretariat Timetable

Sunday June 23,	17:00 to 19:00
Monday June 24,	8:00 to 17:30
Tuesday June 25,	8:30 to 17:30
Wednesday June 26,	9:00 to 17:30

Papers Presentation – Time and Equipment

Most technical sessions will last 2 hours. Typical formats consist of six presentations of 20 minutes each or four presentations including a keynote lecture (KL) of 30 minutes duration. The allocated time for each presentation includes Q & A.

The Conference will not provide computers for presentation. All presentations will be made with the presenter's laptop computer using LCD projector. You are kindly requested to test your laptop with the projector in your session room during the break preceding your presentation.

No overhead projectors will be provided; therefore no presentations using transparencies will be possible. We strongly encourage you to have a backup of your presentation in a USB storage device in the event of your laptop has a technical problem or is incompatible with the LCD projector.

Make sure that you have the necessary cords /converters/adapters so that your laptop will work with Greek power outlets CEE 7/4, also called "Schuko" socket and the LCD projector.

Internet Access

Wireless Internet access will be available in the premises of the Conference venue.

Lunch Options

The Conference Organizers propose the following lunch options:

At the restaurant Estia (Terra Building , Lobby Level) buffet service (special price for Conference participants 27 € per person).

At the snack bar which will operate during lunch breaks of the Scientific Programme at the Veranda of the Level 1 of the Conference Centre.

Social Events

Welcome Reception:

Sunday **June 23**, (19:30 to 20:30), Antigoni Amphitheater

Conference Dinner:

Tuesday **June 25** (20:30 to 23:30), Zeus

Accompanying Persons' Programme:

The Accompanying Persons' Programme includes the Welcome Reception and the Conference Dinner

Excursions:

Reservations for the below excursions are made directly to the designated tour agency **Mika Travel** via email congress@mikatravel.eu.

ELOUNDA – SPINALONGA AND KOLOKYTHA BBQ

Duration: 9:00-17:30

*The tour will take place on **Monday June 24***

Cost per person: 60 € (minimum participation: 20 persons)

(Includes: private coach, official English speaking guide & escort, boat fees, BBQ on the island of Kolokytha and unlimited local wine)

Pick up /Drop off place: Creta Maris hotel

We depart in the morning heading East, towards the town Elounda. It was once a small seaside fishing village located in the Cretan prefecture of Lassithi, lying around the coast from the large town of Aghios Nikolaos. The settlement of Elounda dates back to ancient times, the Minoan/Roman city of Olous lay only metres from the current site of the town. The archaeological site of Olous is submerged near Elounda's salt flats and can still be seen today. Texts found at the site described a pact between the city of Olous and the Minoan capital of Knossos and also the island of Rhodes. The city of Olous features in a Greek Myth concerning the mountain city of Oxa, this is known as the "Myth of Mount Oxa". After our stay in Elounda, we take a boat to visit Spinalonga, the small island at the entrance of Elounda bay. The fortress of Spinalonga, which was built by the Venetians, is one of the strongest on the whole island of Crete. Spinalonga is also well known as the place of the last leper colony. We finish our day with a visit to Kolokytha, a splendid area for swimming, near the ruins of the historical Church of Agios Fokas, where we have a BBQ lunch.



KNOSSOS PALACE – ARCHAEOLOGICAL MUSEUM OF HERAKLION - HERAKLION CITY TOUR

Duration: 8:30-14:00

*The tour will take place on **Tuesday June 25***

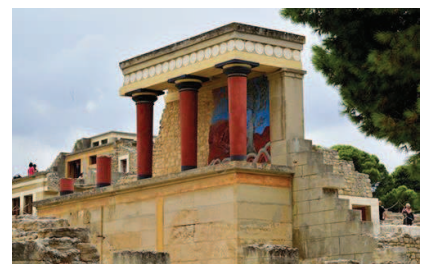
Cost per person: 40 €, plus entrance fees: 16€ (minimum participation: 20 persons)

(Includes private coach, official English speaking guide)

Pick up /Drop off place: Creta Maris hotel

A flash-back to Crete's ancient history – an era of legendary kings and fascinating myths.

We take a guided tour around the complex labyrinth of Knossos Palace, the capital of the Minoan civilization dated back in 2000 B.C., and experience the Minoan grandeur. Continue to Heraklion for the visit of the Archaeological Museum, second only to Athens in



importance throughout Greece. Here someone can find treasures from Knossos, Phaestos, Zakros and other sites in Crete, a most remarkable collection from Neolithic to Roman times.

ONE DAY CRUISE TO SANTORINI

Duration: 8:30-19:30

*Departures **every day***

Cost per person: 150 €

(Includes boat tickets, transfer Port– Fira – Port official English speaking guide and half day tour to Fira and Oia - Perissa)

Pick up /Drop off place: Creta Maris hotel

The world famous Santorini is the most southern Cycladic island in the Aegean Sea. Magnificent setting, bright and sunny weather, delicious local cuisine and wine. The wildness of the landscape, the breathtaking view, the multicolored beaches formed by the volcano's lava and the deep blue Aegean Sea combine a picture of wild, proud and imposing beauty.

We visit the town of Fira with its whitewashed houses clinging along the edge of 400 meter-high vertical cliffs. Enjoy the unique vistas offered by the stark colors of the red cliffs, the deep blue Aegean, the black molten lava rocks. You have a choice of visiting the fantastic archaeological excavations of Akrotiri, or taking a boat trip around the impressive still-smoldering volcano.



DAY 1 – MONDAY, JUNE 24

PLENARY LECTURES

Monday, June 24
9:00-11:00

Zeus

Chair: Javier Oliver

C 19853 INTENTIONAL IMPLEMENTATION OF STRONG NONLINEARITY IN STRUCTURAL DYNAMICS
Alexander F. Vakakis

U 18610 A PROBABILISTIC LEARNING AS A NEW TOOL IN MACHINE LEARNING AND DATA SCIENCE WITH APPLICATIONS IN COMPUTATIONAL MECHANICS
Christian Soize

C 20694 A COMPUTATIONALLY TRACTABLE FRAMEWORK FOR NONLINEAR, DYNAMIC, MULTISCALE MODELING OF MEMBRANE FABRIC BASED ON MODEL REDUCTION AND MACHINE LEARNING
Charbel Farhat, Philip Avery, Johanna Ehlers

11:00-11:30

Coffee Break

TECHNICAL SESSIONS

Monday, June 24
11:30-13:30

Aphrodite-Artemis-Athena

COMPdyn MS 12 - I: REPAIR AND RETROFIT OF STRUCTURES

MS Organizers: Ciro Del Vecchio, Marco Di Ludovico, Alper Ilki

Chair: Alper Ilki

C 19285 SENSITIVITY OF THE CYCLIC RESPONSE OF SUBSTANDARD BEAM-COLUMN JOINTS TO MATERIAL PROPERTIES

Özgür Yurdakul, Ciro Del Vecchio, Marco Di Ludovico, Ladislav Routil, Özgür Avsar

C 19465 NONLINEAR ANALYSES AND FRP STRENGTHENING OF MULTI-STOREY INFILLED RC BUILDING

Ciro Del Vecchio, Marco Di Ludovico, Gerardo Mario Verderame, Andrea Prota

C 18613 FINITE ELEMENT MODELLING OF RC WALL/SLAB CONNECTIONS REINFORCED BY USING CARBON FIBER REINFORCED POLYMERS

Magdalini Titirla, Antoine Chalot, Laurent Michel, Emmanuel Ferrier

C 18647 MODELING OF FRP-CONFINEMENT OF LARGE-SCALE RECTANGULAR RC COLUMNS

Konstantinos G. Megalooikonomou, Georgios S. Papavasileiou

C 18773 IMPROVING SEISMIC RESILIENCE OF EXISTING BUILDINGS IN KYRGYZ REPUBLIC

Rossella Siano, Alaeddine Fatnassi, Marcello Cademartori

C 19118 DESIGN SPECTRA FOR THE PRELIMINARY DESIGN OF ELASTIC SEISMIC RETROFIT SOLUTION FROM THE OUTSIDE

Simone Labò, Chiara Passoni, Alessandra Marini, Andrea Belleri, Paolo Riva

C 19128 DUCTILITY CAPACITY ASSESSMENT OF MASONRY MEMBERS STRENGTHENED WITH COMPOSITES

Giancarlo Ramaglia, Francesco Fabbrocino, Gian Piero Lignola, Andrea Prota

Monday, June 24

11:30-13:30

Europa-Danae-Leda

COMPdyn MS 26 - I: RECENT ADVANCES ON ENERGY-BASED SEISMIC DESIGN

MS Organizers: Fabrizio Mollaioli, Amadeo Benavent-Climent

Chair: Amadeo Benavent-Climent

C 18618 KEYNOTE: ON THE IMPORTANCE OF ENERGY-BASED PARAMETERS

Fabrizio Mollaioli, Jesus Donaire-Avila, Andrea Lucchini, Amadeo Benavent-Climent

C 18377 ELASTIC AND INELASTIC NEAR FAULT INPUT ENERGY SPECTRA

Haluk Sucuoğlu, Firat Soner Alici

C 18486 ULTIMATE ENERGY DISSIPATION CAPACITY AND COLLAPSE BEHAVIOR OF MULTI-STORY STEEL FRAME WITH SHS COLUMN UNDER BIAXIAL EXCITATION

Satoshi Yamada, Takanori Ishida

C 18563 A VARIATIONAL APPROACH FOR ENERGY-BASED ANALYSIS OF NEAR-FAULT PULSE-LIKE SEISMIC RECORDS

Giuseppe Quaranta, Fabrizio Mollaioli

DAY 1 – MONDAY, JUNE 24

- C 18606** COMPARISON OF ENERGY-BASED RESPONSES OF STRUCTURAL SYSTEMS TO REAL AND SIMULATED GROUND MOTION RECORDS
*Volkan Ozsarac, Shaghayegh Karimzadeh, Aysegul Askan, **Murat Altug Erberik***

Monday, June 24
11:30-13:30

Minos East

UNCECOMP MS 6 - I: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Bojana Rosic

- U 18452** **KEYNOTE:** REDUCED-ORDER MODEL OF NONLINEAR VIBRATION OF STRUCTURE COUPLED WITH COMPRESSIBLE LIQUID IN PRESENCE OF SLOSHING AND CAPILLARITY
Roger Ohayon, Christian Soize

- U 18405** UNCERTAINTY QUANTIFICATION IN LARGE SCALE COMPUTATIONAL MODELS
Habib Najm

- U 18624** BAYESIAN IDENTIFICATION IN ROM FOR COMPUTATIONAL FLUID DYNAMICS
Giovanni Stabile, Bojana Rosic, Hermann G. Matthies, Gianluigi Rozza

- U 18898** HIGHER ORDER APPROXIMATIONS IN ROBUST DESIGN OF EXPERIMENT FOR ESTIMATION OF THERMOPHYSICAL PARAMETERS
Anna Kucerova, Jan Sykora, Daniela Jaruskova

- U 18377** SEMI-SUPERVISED REGRESSION USING CLUSTER ENSEMBLE AND LOW-RANK CO-ASSOCIATION MATRIX DECOMPOSITION UNDER UNCERTAINTIES
Vladimir Berikov, Alexander Litvinenko

Monday, June 24
11:30-13:30

Minos North-South

COMPdyn MS 15 - I: ADVANCES IN NUMERICAL METHODS FOR LINEAR AND NON-LINEAR DYNAMICS AND WAVE PROPAGATION

MS Organizer: Alexander Idesman

Chair: Alexander Idesman

- C 18485** **KEYNOTE:** A NEW NUMERICAL APPROACH TO THE SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS WITH OPTIMAL ACCURACY ON IRREGULAR DOMAINS AND CARTESIAN MESHES
Alexander Idesman

- C 18382** ON THE SOLITARY WAVE DYNAMICS OF TENSEGRITY LATTICES WITH STIFFENING RESPONSE: A NUMERICAL STUDY
*Andrea Micheletti, Giuseppe Ruscica, Ada Amendola, Ida Mascolo, **Fernando Fraternali***

- C 18512** MACROVELOCITY RECONSTRUCTION BY FULL WAVE FORM INVERSION WITH MODIFIED COST FUNCTION ON THE BASE OF PROPAGATOR/REFLECTOR DECOMPOSITION.
Vladimir Cheverda, Kirill Gadyshin

- C 18708** COUPLING SPECTRAL ELEMENT CODE WITH FINITE ELEMENT CODE FOR SEISMIC ANALYSIS OF CONCRETE GRAVITY DAMS
Michael Brun, Loic Zuchowski, Florent De Martin, Nicolas Richart, Guillaume Anciaux, Jean-François Molinari

DAY 1 – MONDAY, JUNE 24

- C 18419** HARNESSING TENSEGRITY TO DESIGN TUNABLE METAMATERIALS FOR BROADBAND LOW-FREQUENCY WAVE ATTENUATION
*Anastasiia O. Krushynska, **Ada Amendola**, Raffaele Miranda, Chiara Daraio, Fernando Fraternali*

Monday, June 24
11:30-13:30

Hera

COMPdyn RS 13 - I: NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS

Chair: Hans Irschik

- C 18723** A TIME-INTEGRATION TECHNIQUE BASED ON THE GENERAL RELATIONS OF BALANCE OF MOMENTUM FOR NON-LINEAR STRUCTURES: APPLICATION TO AN EARTHQUAKE EXCITED PENDULUM-TYPE STRUCTURE
*Evgenii Oborin, **Hans Irschik***
- C 18427** FLUTTER INSTABILITY CALCULATION FOR SUSPENDED BRIDGES USING GEOMETRICALLY NONLINEAR ANALYSES
*Chiara Taddeo, **Marco Di Giovanni***
- C 18507** MODELING DYNAMIC LOADING RATE EFFECTS IN CONCRETE SPECIMENS AND CRACK BRANCHING AT A WEAK INTERFACE IN A PMMA PLATE USING PERIDYNAMICS
***Pablo Castillo**, Pablo C. Usyaopin, Vitor Leitão, Ferdinando Auricchio*
- C 18688** WAVE FINITE ELEMENT METHOD FOR COMPUTING THE DYNAMIC RESPONSE OF RAILWAY TRANSITION ZONES SUBJECTED TO MOVING LOADS
***Benjamin Claudet**, Tien Hoang, Denis Duhamel, Gilles Foret, Jean-Luc Pochet, Francis Sabatier*
- C 18695** COMPUTATION OF AXISYMMETRIC VIBRATION TRANSMISSION USING A WELL-CONDITIONED SYSTEM FOR ELASTIC LAYERS OVER A HALF-SPACE
***Andrew Peplow**, Lars Andersen, Peter Persson*

Monday, June 24
11:30-13:30

Room 1

UNCECOMP MS 3 - I: UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS

MS Organizers: Vasilis Dertimanis, Eleni Chatzi, Costas Papadimitriou

Chair: Eleni Chatzi

- U 18828** **KEYNOTE:** DYNAMICS OF CRACKED BEAMS WITH UNCERTAIN-BUT-BOUNDED DEPTHS: FINITE ELEMENT MODEL VERSUS CONTINUOUS MODELS WITH SINGULARITIES
***Giuseppe Muscolino**, Roberta Santoro*
- U 18449** SIMULATION-BASED ANOMALY DETECTION AND DAMAGE LOCALISATION: AN APPLICATION TO STRUCTURAL HEALTH MONITORING
***Caterina Bigoni**, Jan S Hesthaven*
- U 18455** UNCERTAINTY QUANTIFICATION OF NONLINEAR STOCHASTIC DYNAMIC PROBLEM USING A KRIGING-NARX SURROGATE MODEL
***Biswarup Bhattacharyya**, Eric Jacquelin, Denis Brizard*
- U 18759** RESPONSE SENSITIVITY OF STRUCTURAL SYSTEMS SUBJECTED TO FULLY NON-STATIONARY RANDOM PROCESSES
*Tiziana Alderucci, **Federica Genovese**, Giuseppe Muscolino*

DAY 1 – MONDAY, JUNE 24

Monday, June 24
11:30-13:30

Room 2

COMPdyn MS 11 - I: POST-EARTHQUAKE ASSESSMENT FOR BUILDINGS AND INFRASTRUCTURES AND REPARABILITY DECISIONS

MS Organizers: Maria Polese, Marco Di Ludovico

Chair: Maria Polese

- C 19936** 2016-17 CENTRAL ITALY: MACROSCALE ASSESSMENT OF MASONRY CHURCHES VULNERABILITY
Piera Salzano, Elvis Cescatti, Claudia Casapulla, Francesca Ceroni, Francesca da Porto, Andrea Prota
- C 18637** EVALUATION METHOD OF RESIDUAL SEISMIC CAPACITY BASED ON CONTRIBUTION FACTOR OF STRUCTURAL COMPONENTS AND INVESTIGATION OF APPLICABILITY TO RC FRAMES WITH BEAM YIELDING MECHANISM
Kota Miura, Masaki Maeda
- C 19228** AN OVERVIEW OF POST EARTHQUAKE DAMAGE AND RESIDUAL CAPACITY EVALUATION FOR REINFORCED CONCRETE BUILDINGS IN JAPAN
Masaki Maeda, Hamood Al-Washali, Kazuto Matsukawa,
- C 19251** RISK ASSESSMENT OF CAMERINO MUNICIPALITY: A CASE STUDY OF VALLICELLE DISTRICT
Claudia Canuti, Andrea Dall'Asta, Graziano Leoni, Michele Morici,
- C 19202** VALIDATION OF AN ANALYTICAL DISPLACEMENT-BASED PUSHOVER FOR MULTI-SPAN CONTINUOUS DECK BRIDGES
Andrea Nettis, Roberto Gentile, Giuseppina Uva, Domenico Raffaele
- C 19979** REPAIR COSTS DUE TO INFILLS FOR RC BUILDINGS AFTER 2009 L'AQUILA EARTHQUAKE
Carlo Del Gaudio, Maria Teresa De Risi, Gerardo Mario Verderame

Monday, June 24
11:30-13:30

Room 3

COMPdyn RS 4 - I: DYNAMICS OF CONCRETE STRUCTURES

Chair: Bing Li

- C 20695** KEYNOTE: SHEAR STRENGTH PREDICTION OF SHEAR-CRITICAL REINFORCED CONCRETE COLUMNS - PROBABILISTIC CALIBRATION
Bing Li
- C 18545** IMPACT OF EARLY AGE DAMAGE ON THE SEISMIC RESPONSE OF REINFORCED CONCRETE STRUCTURES
Chaimaa Jaafari, Fabien Delhomme, David Bertrand, Jean-François Geogin, Stéphane Grange
- C 18717** FATIGUE LIFE OF PC STEELS OF A PRESTRESSED CONCRETE RAILWAY GIRDER TAKING INTO CONSIDERATION ITS DYNAMIC RESPONSE
Keiichi Goto, Shintaro Minoura, Tsutomu Watanabe, Fumiaki Uehan
- C 18865** NONLINEAR DYNAMIC RESPONSE AND PROGRESSIVE COLLAPSE OF RC FRAMED BUILDINGS UNDER MULTIPLE COLUMN-LOSS SCENARIOS
Martina Scalvenzi, Fulvio Parisi
- C 18885** USING STANDARD PDA TESTING TO ESTIMATE THE LATERAL CAPACITY OF CONCRETE PILES IN MEDIUM LOOSE TO DENSE SAND
Andrew Gouda, Mina Mikaeel, Marianne William, Marina Shenoda

DAY 1 – MONDAY, JUNE 24

Monday, June 24
11:30-13:30

Room 4

UNCECOMP MS 2 - I: BAYESIAN ANALYSIS OF NUMERICAL MODELS

MS Organizers: Iason Papaioannou, Daniel Straub, Costas Papadimitriou

Chair: Daniel Straub

U 18789 KEYNOTE: SAMPLING AND SENSITIVITY-BASED TECHNIQUES FOR BAYESIAN OPTIMAL SENSOR PLACEMENT WITH RESPECT TO RESPONSE PREDICTIONS

Costas Argyris, Giovanni Samaey, Costas Papadimitriou, Geert Lombaert

U 18566 MODEL CHOICE IN BAYESIAN INFERENCE OF RANDOM FIELDS WITH SUBSET SIMULATION

Felipe Uribe, Iason Papaioannou, Jonas Latz, Wolfgang Betz, Daniel Straub

U 18367 MULTILEVEL VARIATIONAL INFERENCE FOR BAYESIAN INVERSION

Panagiotis Tsilifis, Fabio Nobile

U 18398 TAKING INTO ACCOUNT INPUT UNCERTAINTIES IN THE CALIBRATION OF EXPENSIVE COMPUTER CODE

Guillaume Perrin, Cédric Durantin

U 18561 APPLYING BAYESIAN INVERSION WITH MARKOV CHAIN MONTE CARLO TO PEDESTRIAN DYNAMICS

Marion Gödel, Rainer Fischer, Gerta Köster

Monday, June 24
11:30-13:30

Room 5

UNCECOMP RS 17 - I: UNCERTAINTY QUANTIFICATION

Chair: Vissarion Papadopoulos

U 18408 PRINCIPLES FOR UNCERTAINTY ASSESSMENT IN KERNEL SMOOTHING ESTIMATIONS

David Vališ, Kamila Hasilová

U 18415 ALMOST EXACT DISTRIBUTION OF ESTIMATES OF PARAMETERS IN A THERMOPHYSICAL PROBLEM

Daniela Jarušková

U 18497 UNCERTAINTY QUANTIFICATION ON AERODYNAMIC CHARACTERISTICS OF FLOW AROUND SQUARE AND CORNER-ROUNDED CYLINDER WITH GLANCING ANGLE

Tsubasa Hamada, Tetsuro Tamura

U 18564 QUANTIFYING THE UNCERTAINTIES INTRODUCED BY DIMENSION REDUCTION IN FLUID DYNAMICS

Valentin Resseguier, Etienne Memin, Reda Bouaida, Bertrand Chapron

U 18601 UNCERTAINTY QUANTIFICATION ON A FLOW COMPRESSOR: ASSESSMENT OF VARIOUS SURROGATE MODELS AND DIMENSION REDUCTION

Grégory Dergham, Xavier Merle

DAY 1 – MONDAY, JUNE 24

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Room 8

UNCECOMP MS 15 - I: MACHINE LEARNING APPROACHES TO UNCERTAINTY QUANTIFICATION

MS Organizer: Paris Perdikaris

Chair: Paris Perdikaris

U 18482 KEYNOTE: DATA-DRIVEN MODEL DISCOVERY IN THE PHYSICAL, ENGINEERING AND BIOLOGICAL SCIENCES

J. Nathan Kutz

U 18694 COMBINING MACHINE LEARNING AND SURROGATE MODELLING FOR DATA-DRIVEN UNCERTAINTY PROPAGATION IN HIGH-DIMENSION

Christos Lataniotis, Stefano Marelli, Bruno Sudret

U 18337 A NEW SCALABLE ALGORITHM FOR COMPUTATIONAL OPTIMAL CONTROL UNDER UNCERTAINTY

Daniele Venturi

U 18436 KERNEL FLOWS: FROM LEARNING KERNELS FROM DATA INTO THE ABYSS

Houman Owhadi, Gene Ryan Yoo

U 18553 THE HIERARCHICAL BAYESIAN FRAMEWORK APPLIED TO MOLECULAR DYNAMICS

Georgios Arampatzis, Petros Koumoutsakos

U 18560 A DOMAIN DECOMPOSITION SCHEME FOR DATA-DRIVEN LOW-RANK APPROXIMATION OF TRANSIENT STOCHASTIC DYNAMICAL SYSTEMS

Michael Donello, Hessam Babaei

Monday, June 24
11:30-13:30

Room 9

COMPdyn RS 26 - I: STEEL STRUCTURES

Chair: Fabrizio Scozzese

C 18889 SEISMIC ANALYSES OF SINGLE-STOREY STEEL BUILDINGS FOR EVALUATING CLADDING DAMAGE
Fabrizio Scozzese, Alessandro Zona, Gaetano Della Corte

C 18437 ANALYSIS OF RECTANGULAR CONCRETE-FILLED DOUBLE SKIN TUBULAR SHORT COLUMN WITH EXTERNAL STAINLESS STEEL TUBES

Omnia Kharoob, Nashwa Yossef

C 19290 COMPARISON OF DIFFERENT DESIGN REQUIREMENTS ON P-DELTA EFFECTS FOR STEEL MOMENT RESISTING FRAMES

Roberto Tartaglia, Mario D'Aniello, G. Di Lorenzo, Attilio De Martino, Raffaele Landolfo

C 19303 NUMERICAL INVESTIGATION OF THE SEISMIC PERFORMANCE OF AN EXISTING STEEL FRAMED BUILDING

Luigi Di Sarno, Anastasios Sextos

C 21300 DOMAIN DECOMPOSITION METHODS FOR CRACK GROWTH PROBLEMS USING XFEM

Serafeim Bakalakis, Manolis Georgioudakis, Manolis Papadrakakis

DAY 1 – MONDAY, JUNE 24

Monday, June 24
11:30-13:30

Room 10

UNCECOMP MS 4 - I: INVERSE METHODS FOR UNCERTAINTY QUANTIFICATION IN LARGE-SCALE APPLICATIONS

MS Organizers: Matthias Faes, David Moens, Michael Hanss, Michael Beer, Matteo Broggi

Chair: Matthias Faes

U 18468 **KEYNOTE:** IMPRECISE RANDOM FIELD ANALYSIS FOR TRANSIENT DYNAMICS
Matthias Faes, David Moens

U 18623 ESTIMATING UNCERTAIN REGIONS ON SMALL MULTIDIMENSIONAL DATASETS USING GENERALIZED PDF SHAPES AND POLYNOMIAL CHAOS EXPANSION
Maurice Imholz, Dirk Vandepitte, David Moens

U 18428 COMPUTING FUZZY SOLUTION SPACES FOR EFFICIENT DESIGN VARIABLES SELECTION UNDER EPISTEMIC UNCERTAINTIES
Marco Daub, Fabian Duddeck

U 18486 EFFICIENT PROPAGATION OF NON-PARAMETERIZED IMPRECISE PROBABILITY MODELS
Matteo Broggi, Pengfei Wei, Sifeng Bi, Michael Beer

U 18536 IDENTIFICATION OF VISCO-PLASTIC MATERIAL MODEL PARAMETERS USING INTERVAL FIELDS
Conradus Van Mierlo, Matthias Faes, David Moens

Monday, June 24
11:30-13:30

Room 11

UNCECOMP RS 21: MONTE CARLO SIMULATION

Chair: Kostas G. Papakonstantinou

U 18838 A DIRECT HAMILTONIAN MCMC APPROACH FOR RELIABILITY ESTIMATION
Hamed Nikbakht, Kostas G. Papakonstantinou

U 18649 A GAUSSIAN PROCESS-BASED MCMC ALGORITHM FOR QUANTIFYING MODEL UNCERTAINTY AFFECTING NON LINEAR THERMAL-HYDRAULIC SIMULATIONS
Guillaume Damblin

U 18693 A MULTILEVEL APPROACH FOR ACCELERATING MONTE-CARLO BASED UNCERTAINTY QUANTIFICATION FOR FEM COMPUTATIONS IN THE FREQUENCY DOMAIN
Tobias Ring, Sabine C. Langer

U 18790 COMPUTING UPPER PROBABILITIES OF FAILURE USING MONTE CARLO SIMULATION, REWEIGHTING TECHNIQUES AND FIX POINT ITERATION.
Thomas Fetz

U 18809 SUBSET SIMULATION: AN INEFFICIENT MONTE CARLO STYLE COPY OF ASYMPTOTIC SORM
Karl Breitung

U 18833 FAST LHS DESIGN OF EXPERIMENTS AND ITS MULTICRITERIA COMPARISON
Matěj Lepš, Eva Myšáková

DAY 1 – MONDAY, JUNE 24

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11:30-13:30

Room 12

COMPdyn MS 6 - I: SEISMIC SAFETY ASSESSMENT OF STRUCTURES

MS Organizers: Pedro Delgado, António Arêde, Raimundo Delgado

Chair: Pedro Delgado

C 19764 KEYNOTE: SEISMIC ANALYSIS OF A MEXICAN VIADUCT WITH NONLINEAR MODELLING OF SOIL-STRUCTURE INTERACTION

*Cláudia Coelho, António Arêde, **Pedro Delgado**, José Barbosa*

C 19689 PARAMETERS AFFECTING THE BEHAVIOUR FACTOR AND THE SEISMIC SAFETY OF EC8-DESIGNED REINFORCED CONCRETE BUILDINGS

***Paolo Ricci**, Mariano Di Domenico, Gerardo Mario Verderame*

C 20040 RINTC-E: TOWARDS SEISMIC RISK ASSESSMENT OF EXISTING RESIDENTIAL REINFORCED CONCRETE BUILDINGS IN ITALY

***Paolo Ricci**, Vincenzo Manfredi, Fabrizio Noto, Marco Terrenzi, Maria Teresa De Risi, Mariano Di Domenico, Guido Camata, Paolo Franchin, Angelo Masi, Fabrizio Mollaioli, Enrico Spacone, Gerardo Mario Verderame*

C 19957 INTEGRATING BIM WITH ON SITE INVESTIGATION FOR SEISMIC VULNERABILITY ASSESSMENT

***Marco Domaneschi**, Valentina Villa, Gian Paolo Cimellaro, Carlo Caldera, Ali Zamani Noori, Sebastiano Marasco, Farhad Ansari*

C 19246 ON THE ASSESSMENT OF THE SHEAR STRENGTH OF EXISTING HOLLOW CIRCULAR REINFORCED CONCRETE MEMBERS

***Paolino Cassese**, Antonio Bonati, Maria Teresa De Risi, Gerardo Mario Verderame, Edoardo Cosenza*

Monday, June 24
11:30-13:30

Room 21

COMPdyn MS 10 - I: PROGRESS AND CHALLENGES IN RAIL TRACK DYNAMICS

MS Organizers: Lukas Moschen, Günther Achs, Christoph Adam, Anastasios Sextos

Chair: Anastasios Sextos

C 20167 KEYNOTE: A REDUCED ORDER APPROACH FOR THE SIMULATION OF VEHICLE INDUCED GROUND-BORNE VIBRATION

Nikolaos Lesgidis**, Anastasios Sextos, **Lukas Moschen

C 19004 LOAD DISTRIBUTION WITHIN RAILWAY BALLAST: A DEM STUDY CONSIDERING REALISTIC PARTICLE SHAPES

***Vasileios Angelidakis**, Stefano Utili, Vasilis Sarhosis*

C 19243 ESTIMATING EXCEEDANCE PROBABILITIES OF RAILWAY BRIDGE VIBRATIONS IN THE PRESENCE OF RANDOM RAIL IRREGULARITIES

***Patrick Salcher**, Christoph Adam*

C 19594 INVESTIGATING THE BEHAVIOR OF RAILROAD BALLAST IN A BOX TEST UNDER SINUSOIDAL & SIMULATED TRAIN LOADING

*Yahia Alabbasi, **Mohammed Hussein***

C 19626 INVESTIGATING THE DYNAMICS OF A SPECIAL TYPE OF A FLOATING-SLAB TRACKS

*Sateh Alabbasi, **Mohammed Hussein**, Osama Abdeljaber, Onur Avci*

DAY 1 – MONDAY, JUNE 24

13:30-14:30

Lunch Break

DAY 1 – MONDAY, JUNE 24

TECHNICAL SESSIONS

Monday, June 24
14:30-16:30

Aphrodite-Artemis-Athena

COMPdyn MS 12 - II: REPAIR AND RETROFIT OF STRUCTURES

MS Organizers: Ciro Del Vecchio, Marco Di Ludovico, Alper Ilki

Chair: Marco Di Ludovico

C 21142 CYCLIC BEHAVIOR OF FULL-SCALE RC COLUMNS EXTERNALLY JACKETED WITH FRP SHEETS AFTER FIRE EXPOSURE

*Ugur Demir, Goktug Unal, Ergun Binbir, **Alper Ilki***

C 18860 SHEAR CAPACITY MODELS FOR RC COLUMNS WITH FRCC JACKETING

***Marta Del Zoppo**, Marco Di Ludovico, Andrea Prota*

C 19504 TENSILE BEHAVIOUR OF MULTI-PLY STEEL- REINFORCED GROUT (SRG) COMPOSITES

***Sultan Alotaibi**, Georgia Thermou, Iman Hajirasouliha, Maurizio Guadagnini*

C 19675 OPTIMAL RETROFIT SELECTION FOR SEISMICALLY-DEFICIENT RC BUILDINGS BASED ON SIMPLIFIED PERFORMANCE ASSESSMENT

***Roberto Gentile**, Carmine Galasso*

C 19726 EFFICACY OF PBO-FRCM STRENGTHENING OF RC COLUMNS IN MRFS

***Alessia Monaco**, Piero Colajanni*

C 19441 INTEGRATED SEISMIC AND ENERGY UPGRADING OF THE EXISTING BUILDINGS

Dionysios Bournas

Monday, June 24
14:30-16:30

Europa-Danae-Leda

COMPdyn MS 26 - II: RECENT ADVANCES ON ENERGY-BASED SEISMIC DESIGN

MS Organizers: Fabrizio Mollaioli, Amadeo Benavent-Climent

Chair: Fabrizio Mollaioli

C 19108 ENERGY DISSIPATION CAPACITY OF RC COLUMNS SUBJECTED TO UNIDIRECTIONAL AND BIDIRECTIONAL SEISMIC LOADING

*David Galé-Lamuella, Jesus Donaire-Avila, David Escolano-Margarit, Guillermo González-Sanz, **Amadeo Benavent-Climent***

C 18846 CONSIDERATION OF POUNDING AND SSI IN ENERGY-BASED SEISMIC DESIGN OF BUILDINGS

*Alireza Kharazian, Francisco López-Almansa, **Amadeo Benavent-Climent***

C 19083 INFLUENCE OF HYSTERESIS MODEL PARAMETERS ON SEISMIC PERFORMANCE OF STRUCTURES BASED ON ENERGY INDICATORS

***Roberta Apostolska**, A. Siljanovski, Golubka Necevaska-Cvetanovska*

C 19379 ENERGY-BASED SEISMIC DESIGN: NEEDS OF ENERGY DAMAGE INDEX VALUES FOR SERVICEABILITY AND ULTIMATE LIMIT STATES FOR GRAVITY DESIGN BUILDINGS?

***Caterina Negulescu**, Kushan K. Wijesundara*

DAY 1 – MONDAY, JUNE 24

- C 19807** WAVELET DURATION : A STRUCTURE-DEPENDENT DURATION METRIC
Eleni Smyrou, Ihsan Engin Bal
- C 18978** A STUDY ON ELASTIC INPUT ENERGY SPECTRA FOR ACTUAL EARTHQUAKE GROUND MOTIONS AT STIFF SOIL SITES
Onur Merter

Monday, June 24
14:30-16:30

Minos East

UNCECOMP MS 6 - II: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Giovanni Stabile

- U 18349** **KEYNOTE:** BAYESIAN MULTI-SCALE ANALYSIS OF MECHANICAL STRUCTURES
Bojana Rosic, Muhammad Sarfaraz, Sharana Shivanand, Hermann Matthies
- U 19306** STOCHASTIC NON-LINEAR MULTISCALE FE2 MODELING OF GRAPHENE REINFORCED NANOCOMPOSITE STRUCTURES IN HPC ENVIRONMENTS
Vissarion Papadopoulos, Gerasimos Sotiropoulos, George Stavroulakis
- U 18803** BAYESIAN UPSCALING WITH APPLICATION TO FAILURE ANALYSIS OF ADHESIVE BONDS IN ROTOR BLADES
Robert Gruhlke, Martin Eigel, Dietmar Hömberg, Martin Drieschner, Yuri Petryna
- U 18639** SCALE SWITCHING COMPUTATIONS FOR HETEROGENEOUS INELASTIC MATERIALS
Thilo Moshagen, Mijo Nikolić, Emir Karavelić, Adnan Ibrahimbegović, Hermann Matthies
- U 18644** BAYESIAN INVERSION OF SYMMETRIC POSITIVE DEFINITE MATRICES OF REDUCED-ORDER MODELS WITH APPLICATION TO UPDATING NONPARAMETRIC PROBABILISTIC MODELS IN STRUCTURAL DYNAMICS
Maarten Arnst, Christian Soize

Monday, June 24
14:30-16:30

Minos North-South

COMPdyn MS 15 - II: ADVANCES IN NUMERICAL METHODS FOR LINEAR AND NON-LINEAR DYNAMICS AND WAVE PROPAGATION

MS Organizer: Alexander Idesman

Chair: Alexander Idesman

- C 18824** FRAGMENTATION USING COHESIVE NONCONFORMING FINITE ELEMENTS
Frédéric Marazzato, Alexandre Ern, Ludovic Aubry, Laurent Monasse, Karam Sab
- C 18872** FINITE ELEMENT METHODS FOR BIFURCATION ANALYSIS OF GEOMETRICALLY NONLINEAR STRUCTURES
Iqbal Alshalal, Zaichun Feng
- C 19032** NON-SMOOTH MECHANICS MODELLING OF ROCK-TREE AND ROCK-Forest INTERACTIONS
Guang Lu, Andrin Caviezol, Marc Christen, Adrian Ringenbach, Guillaume Meyrat, Perry Bartelt
- C 19063** PERFECTLY MATCHED LAYERS FOR THE SIMULATION OF ELASTIC WAVES IN ANISOTROPIC MEDIA
Jun Won Kang, Boyoung Kim

DAY 1 – MONDAY, JUNE 24

- C 19518** A SPACE-TIME DISCONTINUOUS GALERKIN METHOD FOR THE ELASTIC WAVE EQUATION
Francesco Migliorini, Ilario Mazzieri, Paola Antonietti

Monday, June 24
14:30-16:30

Hera

COMPdyn RS 13 - II: NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS

Chair: Isaac Elishakoff

- C 20067** KEYNOTE: RECENT DEVELOPMENTS IN CARBON NANOTUBES AND NANOSENSORS
Isaac Elishakoff

- C 18782** DYNAMIC ANALYSIS OF A REINFORCED CONCRETE SHEAR WALL BUILDING USING A NOVEL FINITE ELEMENT
Theodore Chang, Chin-Long Lee, Athol Carr, Rajesh Dhakal

- C 18819** A DUAL FORMULATION OF CYCLIC SYMMETRY: APPLICATION IN FREE VIBRATION ANALYSIS
Guilherme Jenovencio, Daniel J. Rixen

- C 18973** NUMERICAL AND EXPERIMENTAL INVESTIGATION OF COLLAPSE MODES IN STACKED STRUCTURES
Nina Čeh, Gordan Jelenić, Jean-Francois Camenen

- C 18665** PROGRESSIVE FAILURE ANALYSIS OF HELICOPTER ROTOR BLADE UNDER AEROELASTIC LOADING
Kamran Ahmad, Yasir Baig

Monday, June 24
14:30-16:30

Room 1

UNCECOMP MS 3 - II: UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS

MS Organizers: Vasilis Dertimanis, Eleni Chatzi, Costas Papadimitriou

Chair: Costas Papadimitriou

- U 18818** RESPONSE PREDICTION OF SYSTEMS FEATURING OPERATIONAL AND ENVIRONMENTAL VARIABILITY
Konstantinos Tatsis, Vasilis Dertimanis, Eleni Chatzi

- U 18662** VIBRATION BASED STRUCTURAL HEALTH MONITORING OF COMPOSITE CARBON FIBER STRUCTURAL SYSTEMS
Ilias Zacharakis, Alexandros Arailopoulos, Olga Markogiannaki, Dimitrios Giagopoulos

- U 18726** STOCHASTIC RESPONSE QUANTIFICATION OF FIXED-BASE AND BASE-ISOLATED RIGID-PLASTIC BLOCKS
Stavros Kasinos, Fai Ma

- U 18752** BAYESIAN UPDATING IN STRUCTURAL DYNAMICS WITH RATIONAL SURROGATE MODELS
Felix Schneider, Iason Papaioannou, Max Ehre, Daniel Straub, Christoph Winter, Gerhard Müller

- U 18568** STATISTICAL INVERSE PROBLEM FOR RANDOM GEOMETRY IN EXTERNAL VIBROACOUSTIC COMPUTATIONAL MODELS
Rémi Capillon, Christophe Desceliers

DAY 1 – MONDAY, JUNE 24

Monday, June 24
14:30-16:30

Room 2

COMPdyn MS 11 - II: POST-EARTHQUAKE ASSESSMENT FOR BUILDINGS AND INFRASTRUCTURES AND REPARABILITY DECISIONS

MS Organizers: Maria Polese, Marco Di Ludovico

Chair: Maria Polese

C 19602 KEYNOTE: REPAIRABILITY DECISIONS BASED ON SIMPLIFIED ASSESSMENT PROCEDURES
Maria Polese, Marco Di Ludovico, Marco Gaetani d'Aragona, Andrea Prota

C 19723 NONLINEAR DYNAMIC ANALYSIS PROCEDURE WITH LIMITED NUMBER OF ANALYSES AND SCALING
Andrea Miano, Fatemeh Jalayer, Hossein Ebrahimian, Andrea Prota

C 19842 STANDARDIZED PROCEDURES FOR THE POST-EARTHQUAKE STRUCTURES SAFETY CHECK ON THE BASE OF COLLAPSE MECHANISMS ANALYSES
Giulio Zuccaro, Daniela De Gregorio, Francesca Linda Perelli, Filomena Papa

C 20027 VIBRATION-BASED CONTINUOUS MONITORING FOR POST-EARTHQUAKE DAMAGE DIAGNOSIS OF PRECAST REINFORCED CONCRETE BUILDINGS
Laura Ierimonti, Ilaria Venanzi, Filippo Ubertini, Annibale Luigi Materazzi

C 18628 POST-EARTHQUAKE REHABILITATION OF HEALTHCARE BUILDINGS: THE CASE STUDY OF THE MIRANDOLA HOSPITAL
Giuseppe Ventura, Giuseppe Santarsiero, Angelo Masi, Vincenzo Manfredi, Andrea Digrisolo

Monday, June 24
14:30-16:30

Room 3

COMPdyn RS 4 - II: DYNAMICS OF CONCRETE STRUCTURES

Chair: Mariano Angelo Zanini

C 19855 SEISMIC RELIABILITY OF RC BUILDINGS MADE WITH EAF CONCRETES
Mariano Angelo Zanini, Flora Faleschini, Klajdi Toska

C 19666 DEVELOPMENT OF SEISMIC RESPONSE ANALYSIS METHOD USING HIGH-FIDELITY MODEL FOR LARGE-SCALE REINFORCED CONCRETE STRUCTURES CONSIDERING SOIL-STRUCTURE INTERACTION
Hiroki Motoyama, Muneo Hori

C 19287 ANALYSIS OF THE EXPERIMENTAL BEHAVIOR OF A BASED ISOLATED BUILDING DURING A RELEASE TEST
Nicla Lamarucciola, Felice Carlo Ponzo, Rocco Ditommaso, Domenico Nigro, Giuseppe Oliveto, Chiara Iacovino, Antonello Mossucca

C 19937 SEISMIC PERFORMANCE ASSESSMENT OF CODE-CONFORMING PRECAST REINFORCED CONCRETE FRAMES WITH CHINESE CODE
Zhun Wang, Gang Wu, Decheng Feng, Xuyang Cao

C 19548 NUMERICAL PERFORMANCE OF A NEW ALGORITHM FOR PERFORMING MODAL ANALYSIS OF FULL-SCALE REINFORCED CONCRETE STRUCTURES THAT ARE DISCRETIZED WITH THE HYMOD APPROACH
Dewald Z. Gravett, Christos Mourlas, George Markou, Manolis Papadrakakis

C 20160 SEISMIC SHEAR AND MOMENT DEMANDS IN REINFORCED CONCRETE WALL BUILDINGS
Alejandro Morales, Paola Ceresa, Matías Hube

DAY 1 – MONDAY, JUNE 24

Monday, June 24
14:30-16:30

Room 4

UNCECOMP MS 2 - II: BAYESIAN ANALYSIS OF NUMERICAL MODELS

MS Organizers: Iason Papaioannou, Daniel Straub, Costas Papadimitriou

Chair: Iason Papaioannou

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- U 18713** ESTIMATION OF HYDRAULIC CONDUCTIVITY FIELDS WITH NON-REDUNDANT INFORMATION FROM MEASUREMENT DATA WITH SAMPLING METHODS
Barbara Carrera, Chin Man Mok, Iason Papaioannou
- U 18628** BAYESIAN PARAMETER INFERENCE FOR PICA DEVOLATILIZATION PYROLYSIS AT HIGH HEATING RATES
Joffrey Coheur, Thierry Magin, Philippe Chatelain, Maarten Arnst
- U 18667** AN ADAPTIVE ALGORITHM BASED ON SPECTRAL LIKELIHOOD EXPANSION FOR EFFICIENT BAYESIAN CALIBRATION
Paul-Remo Wagner, Christos Lataniotis, Stefano Marelli, Bruno Sudret
- U 18745** MODEL MISSPECIFICATION AND ROBUST BAYESIAN INFERENCE IN SEISMIC INVERSION
Andrea Scarinci, Michael Fehler, Youssef Marzouk

Monday, June 24
14:30-16:30

Room 5

UNCECOMP RS 17 - II: UNCERTAINTY QUANTIFICATION

Chair: George Stefanou

-
- U 18893** MACHINE LEARNING BASED STRUCTURAL STOCHASTIC RESPONSE AND RELIABILITY ANALYSIS
Qihan Wang, Qingya Li, Di Wu, Wei Gao
- U 18831** POLYNOMIAL CHAOS-BASED, ADJOINT-ENABLED UNCERTAINTY QUANTIFICATION AND ROBUST DESIGN FOR AERODYNAMIC PROBLEMS
Evangelos Papoutsis-Kiachagias, Varvara Asouti, Kyriakos Giannakoglou
- U 18817** UNCERTAINTY PROPAGATION IN MULTIBODY SYSTEM DYNAMICS USING A LIE GROUP PERTURBATION APPROACH
Juliano Todesco, Maarten Arnst, Olivier Brüs
- U 18881** MODULAR BAYESIAN APPLIED FOR STRUCTURAL MODEL CALIBRATION AND MODEL BIAS CORRECTION
Isabela C. Lima, Jörg Unger
- U 18830** RECENT DEVELOPMENTS IN MULTIFIDELITY SAMPLING APPROACHES FOR UNCERTAINTY QUANTIFICATION
Michael Eldred, Gianluca Geraci, Alex Gorodetsky, John Jakeman

DAY 1 – MONDAY, JUNE 24

Monday, June 24
14:30-16:30

Room 7

COMPdyn MS 1 - I: EQUALJOINTS-PLUS

MS Organizer: Ioannis Vayas

Chair: Ioannis Vayas

C 19716 KEYNOTE: VALORISATION OF KNOWLEDGE FOR EUROPEAN PREQUALIFIED STEEL JOINTS: THE EQUALJOINTS-PLUS PROJECT

Raffaele Landolfo, Mario D' Aniello, Ioannis Vayas

C 19601 BEHAVIOUR OF STEEL MOMENT RESISTING FRAMES UNDER NEAR FAULT EARTHQUAKES: THE "FUTURE" PROJECT

Mario D'Aniello, Luigi Di Sarno, Luigi Fiorino, Roberto Tartaglia, Silvia Costanzo, Raffaele Landolfo, Alain Le Maout, Giuseppe Rastello

C 19724 PRE-NORMATIVE DESIGN RECOMMENDATIONS FOR SEISMICALLY QUALIFIED STEEL JOINTS

Pavlos Thanopoulos, Dan Dubina, Aurel Stratan

C 19719 EQUALJOINTS TOOLS

Sara Oliveira, Carlos Rebelo, Luis Simões da Silva, Ricardo Costa, Pavlos Thanopoulos

C 19721 SEISMIC ANALYSES OF DUAL CONCENTRICALLY BRACED FRAMES ACCOUNTING FOR THE PRESENCE OF HAUNCHED CONNECTIONS

Elide Nastri, Panagiotis Tsarpalis

Monday, June 24
14:30-16:30

Room 8

UNCECOMP MS 15 - II: MACHINE LEARNING APPROACHES TO UNCERTAINTY QUANTIFICATION

MS Organizer: Paris Perdikaris

Chair: Paris Perdikaris

U 18467 ADVERSARIAL UNCERTAINTY QUANTIFICATION IN PHYSICS-INFORMED NEURAL NETWORKS

Yibo Yang, Paris Perdikaris

U 18563 DATA-DRIVEN REDUCED-ORDER MODELS IN COMPUTATIONAL MECHANICS

Mengwu Guo, Mariella Kast, Jan Hesthaven

U 18687 NEURAL NETWORK PREDICTION OF CORTICAL BONE DAMAGE USING A STOCHASTIC COMPUTATIONAL MECHANICAL MODEL

Florent Pled, Christophe Desceliers, Amir H. Gandomi, Christian Soize

U 18806 RELIABILITY-BASED DESIGN OPTIMISATION OF A DUCTED PROPELLER THROUGH MULTI-FIDELITY LEARNING

Péter Zénó Korondi, Lucia Parussini, Mariapia Marchi, Carlo Poloni

U 18891 SMOOTHED BOOTSTRAP APPROACH TO THE DETERMINATION OF ROC FOR THE OPTIMUM OF RMS PROBLEM

Aneta Gądek-Moszczak, Norbert Radek, Jacek Pietraszek, Renata Dwornicka

U 19307 AN EFFICIENT MARKOV CHAIN ALGORITHM FOR SUBSET SIMULATION WITH DIFFUSION MAPS

Odyseas Kokkinos, Vissarion Papadopoulos

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Monday, June 24
14:30-16:30

Room 9

COMPdyn RS 26 - II: STEEL STRUCTURES

Chair: Dimitrios Vamvatsikos

- C 19704** PERFORMANCE-BASED DESIGN OF FRICTION PENDULUM BEARINGS FOR A STEEL TOP STORY SPANNING TWO RC TOWERS
Athanasia Kazantzi, Dimitrios Vamvatsikos
- C 19837** ASSESSMENT OF EXISTING STEEL FRAMES WITH INFILLS UNDER MULTIPLE EARTHQUAKES
Luigi Di Sarno, Jing-Ren Wu, Mario D'Aniello, Silvia Costanzo, Raffaele Landolfo, Oh-Sung Kwon, Fabio Freddi
- C 20843** LATERAL STRUCTURAL BEHAVIOUR OF STEEL NETWORK ARCH BRIDGES
Cyrille Denis Tetougueni, Paolo Zampieri, Carlo Pellegrino
- C 19687** SIMPLIFIED MODELS FOR THE NONLINEAR ANALYSIS OF ARSW STRUCTURES UNDER SEISMIC LOADING
Dimitrios Tsarpalis, Dimitrios Vamvatsikos, Ioannis Vayas
- C 19690** EXPERIMENTAL TESTS ON STEEL PLATES WITH CFRP STRENGTHENING
Konstantinos Vlachakis, Sofia Vlachaki-Karagiannopoulou, Ioannis Vayas
- C 19629** WIND PERFORMANCE ASSESMENT OF TELECOMMUNICATION TOWERS: A CASE STUDY IN GREECE
Dimitrios V. Bilionis, Dimitrios Vamvatsikos

Monday, June 24
14:30-16:30

Room 10

UNCECOMP MS 4 - II: INVERSE METHODS FOR UNCERTAINTY QUANTIFICATION IN LARGE-SCALE APPLICATIONS

MS Organizers: Matthias Faes, David Moens, Michael Hanss, Michael Beer, Matteo Broggi

Chair: Matthias Faes

- U 18848** A MACHINE LEARNING APPROACH FOR THE INVERSE QUANTIFICATION OF SET-THEORETICAL UNCERTAINTY
Lars Bogaerts, Matthias Faes, David Moens
- U 18439** ON PROBABILITY-POSSIBILITY CONSISTENCY IN HIGH-DIMENSIONAL PROPAGATION PROBLEMS
Dominik Hose, Markus Mäck, Michael Hanss
- U 18389** TOWARDS A GENERAL THEORY FOR DATA-BASED POSSIBILISTIC PARAMETER INFERENCE
Dominik Hose, Michael Hanss
- U 18815** ROBUST TARGETED INVERSE DESIGN OF AERO-STRUCTURES UNDER UNCERTAINTY
Abhishek Kundu, Simon Coggon, José Dorado, Sanjiv Sharma

COMPdyn MS 39 - I: PERIODICITY EFFECTS IN VIBRO-ACOUSTICS

MS Organizer: Sergey Sorokin

Chair: Sergey Sorokin

- C 21354** MODELLING OF PERIODICITY-INDUCED PRESSURE PULSATION SUPPRESSION IN PIPES EXPOSED TO INTERNAL HEAVY FLUID LOADING
Sergey Sorokin, Radoslav Darula

DAY 1 – MONDAY, JUNE 24

- C 18943** MITIGATION OF GROUND VIBRATIONS BY CIRCULAR ARRAYS OF RIGID BLOCKS
Lars V. Andersen, Andrew T. Peplow, Peter Persson

Monday, June 24
14:30-16:30

Room 11

COMPdyn MS 44: DYNAMIC BEHAVIOUR OF JOINTS AND JOINTED STRUCTURES: MODELLING AND EXPERIMENTS

MS Organizers: Alice Cicirello, Alessandro Cabboi

Chair: Alice Cicirello, Alessandro Cabboi

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- C 19653** **KEYNOTE:** FE MODELLING AND VALIDATION OF A SLIP JOINT FOR WIND TURBINES IN AN OFFSHORE ENVIRONMENT
Alessandro Cabboi, Hayo Hendrikse, Andrei Metrikine
- C 19715** VIRTUAL SENSING TECHNIQUES FOR THE ESTIMATION OF JOINTS CONCEPT MODELS PARAMETERS
Simone Gallas, Jan Croes, Stijn Jonckheere, Jelle Bosmans, Wim Desmet
- C 19848** DESIGN OF FRICTION DAMPER FOR DYNAMIC RESPONSE METRICS INVESTIGATION
Luca Marino, Alice Cicirello, David A. Hills
- C 20725** ENERGY FLUX ANALYSIS FOR DAMPING IDENTIFICATION IN THE SLIP-JOINT OF AN OFFSHORE WIND TURBINE
Sergio Sanchez Gomez, Alessandro Cabboi

Monday, June 24
14:30-16:30

Room 12

COMPdyn MS 6 - II: SEISMIC SAFETY ASSESSMENT OF STRUCTURES

MS Organizers: Pedro Delgado, António Arêde, Raimundo Delgado

Chair: Pedro Delgado

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- C 19645** THE DIGITAL SURVEY AND STRUCTURAL BEHAVIOUR OF CHURCH OF ST. ASTVAZAZIN IN ARENI, ARMENIA
Cecilia Luschi, Francesca Trovatelli, Tommaso Rotunno, Marco Tanganelli
- C 18933** ON THE EFFICIENT RISK ASSESSMENT OF BRIDGE STRUCTURES
Gerard O'Reilly, Ricardo Monteiro

COMPdyn MS 23: ADVANCES IN BASE ISOLATION TECHNIQUES

MS Organizers: Gian Paolo Cimellaro, Marco Domaneschi, Andrei M. Reinhorn

Chair: Gian Paolo Cimellaro

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- C 19827** 3D BASE ISOLATION OF BUILDINGS
Marco Domaneschi, Gian Paolo Cimellaro
- C 19945** SOME ASPECTS ON 3D BASE ISOLATION OF HEAVY AND LIGHTWEIGHT STRUCTURES WITH TMD
Marco Domaneschi, Luca Martinelli, Gian Paolo Cimellaro
- C 18384** ON THE COMPUTATIONAL DESIGN OF INNOVATIVE SEISMIC ISOLATION DEVICES BASED ON LATTICE MATERIALS
Fernando Fraternali, Ada Amendola, Mariella De Piano, Giuseppe Rocchetta, Gianmario Benzoni

DAY 1 – MONDAY, JUNE 24

- C 19788** FULL SCALE TESTS OF THE BASE-ISOLATION SYSTEM FOR AN EMERGENCY HOSPITAL
*M.F. Ferrotto, **Liborio Cavaleri**, Fabio Di Trapani, Paolo Castaldo*
- C 19951** FIRE EMERGENCY EVACUATION IN A SCHOOL BUILDING THROUGH VR
*Gian Paolo Cimellaro, **Marco Domaneschi**, Melissa De Iulii, Valentina Villa, Carlo Caldera, Alessandro Cardoni*

Monday, June 24
14:30-16:30

Room 21

COMPdyn MS 10 - II: PROGRESS AND CHALLENGES IN RAIL TRACK DYNAMICS

MS Organizers: Lukas Moschen, Günther Achs, Christoph Adam, Anastasios Sextos

Chair: Christoph Adam

-
- C 18572** DYNAMIC ANALYSIS OF A COUPLED TRAIN-BRIDGE SYSTEM WITH THE LOCALIZED LAGRANGE MULTIPLIERS APPROACH

***Charikleia D. Stoura**, Qing Zeng, Elias G. Dimitrakopoulos*

- C 19813** EFFECT OF TRENCH BARRIER ON FREE FIELD MOTION DUE TO THE TRAIN AND HIGH-SPEED TRAIN PASSAGES

***Ezgi Tekergul**, Abdullah Can Zulfikar, Erkan Celebi, Osman Kirtel, Fatih Goktepe*

- C 19729** A NOVEL APPROACH FOR THE ANALYSIS OF A COUPLED TRAIN-RAILWAY BRIDGE SYSTEM: BASIC PRINCIPLES AND METHODOLOGY

***Elias Paraskevopoulos**, Sotiria Stefanidou, Sotirios Natsiavas*

- C 21325** A RATIONAL METHOD TO DECOUPLE THE TRAIN-BRIDGE INTERACTION PROBLEM

***Charikleia Stoura**, Elias Dimitrakopoulos*

COMPdyn RS 7 - I: DYNAMICS OF STEEL STRUCTURES

Chair: Christoph Adam

-
- C 19509** SIMPLIFIED MODEL FOR ASYMMETRIC UPLIFTING ANALYSIS OF BASE PLATES IN CYLINDRICAL TANKS

***Jose Colombo**, Jose Almazan*

- C 21183** OPTIMUM STRUCTURAL VIBRATION CONTROL AGAINST SEISMIC LOADING USING BRACES AND TMDS

***George Papazafeiropoulos**, Manolis Georgioudakis, Manolis Papadrakakis*

16:30-17:00

Coffee Break

TECHNICAL SESSIONS

Monday, June 24 17:00-19:00 Aphrodite-Artemis-Athena

COMPdyn MS 35: DAMAGE MODELLING, DETECTION AND IDENTIFICATION IN COMPOSITE STRUCTURES

MS Organizers: Dimitris Chronopoulos, Savvas Triantafyllou, Juan Chiachío Ruano, Manuel Chiachío Ruano

Chair: Manuel Chiachío Ruano

- C 19192** A FUZZY-BASED DAMAGE INDICATOR FOR COMPOSITE PANELS USING GUIDED WAVES
Manuel Chiachio-Ruano, Sergio Cantero-Chinchilla, Juan Chiachio-Ruano, Dimitrios Chronopoulos, Arthur Jones
- C 18810** UNCERTAINTY QUANTIFICATION IN ULTRASONIC GUIDED-WAVES BASED DAMAGE LOCALIZATION
Sergio Cantero-Chinchilla, Juan Chiachío, Manuel Chiachío, Dimitrios Chronopoulos, Arthur Jones, Yasser Essa, Federico Martín de la Escalera
- C 18895** STRUCTURAL DAMAGE PREDICTIONS OF A COMPOSITE SANDWICH PANEL BASED ON GAUSSIAN PROCESSES
Zeyu Liu, Mohamed Ichchou, Mohsen Ardabilian, Abdelmalek Zine
- C 18979** INTRA-LAMINAR DAMAGE MODELLING IN FABRIC COMPOSITE LAMINATES USING PHASE-FIELD METHOD
Udit Pillai, Savvas Triantafyllou, Ian Ashcroft, Yasser Essa, Federico Martin de la Escalera
- C 19020** IMPACT DAMAGE IDENTIFICATION IN A COMPOSITE STRUCTURE BY SURROGATE MODELLING AND MARKOV-CHAIN MONTE-CARLO METHOD
Demetrio Cristiani, Claudio Sbarufatti, Marco Giglio
- C 19732** DAMAGE DETECTION IN COMPOSITE CARBON FIBER TUBES BASED ON EXPERIMENTAL MEASUREMENTS AND FINITE ELEMENT MODEL UPDATING TECHNIQUES
Ilias Zacharakis, Alexandros Arailopoulos, Olga Markogiannaki, Dimitrios Giagopoulos

Monday, June 24 17:00-19:00 Europa-Danae-Leda

COMPdyn MS 25: SPECIAL DESIGN AND ANALYSIS OF STRUCTURES

MS Organizers: Georgios S. Papavasileiou, Nikos G. Pnevmatikos

Chair: Georgios S. Papavasileiou, Nikos G. Pnevmatikos

- C 18826** THE SEISMIC PERFORMANCE OF STEEL BUILDINGS RETROFITTED WITH STEEL CABLES AGAINST PROGRESSIVE COLLAPSE
Georgios S. Papavasileiou, Nikos G. Pnevmatikos
- C 18916** DAMAGE DETECTION OF MIXED CONCRETE/STEEL FRAME SUBJECTED TO EARTHQUAKE EXCITATION
Nikos Pnevmatikos, Bartlomiej Blachowski, Georgios Papavasileiou
- C 18375** COMPUTATIONAL PREDICTION OF THE STABILITY OF TENSEGRITY STRUCTURES
Zbigiew Bieniek, Ida Mascolo, Ada Amendola, Andrea Micheletti, Raimondo Luciano, Fernando Fraternali
- C 18385** COMPUTATIONAL MODELLING OF THE DYNAMICS OF ACTIVE SUNSCREENS WITH TENSEGRITY ARCHITECTURES
Enrico Babilio, Raffaele Miranda, Gerardo Carpentieri, Fernando Fraternali

DAY 1 – MONDAY, JUNE 24

- C 20087** TALL BUILDINGS WITH OUTRIGGER SYSTEMS CONSIDERING SOIL FLEXIBILITY EFFECTS: OPTIMUM OUTRIGGER LOCATION AND FREE VIBRATION ANALYSIS
Taddeo Kamau, Anil Wijeyewickrema
- C 19633** SENSOR PLACEMENT SELECTION FOR SHM OF BUILDINGS
Vassilios Moussas, Nikos Pnevmatikos

Monday, June 24
17:00-19:00

Minos East

UNCECOMP MS 6 - III: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Alexander Litvinenko

- U 18671** POLYMORPHIC UNCERTAINTY QUANTIFICATION WITH HIERARCHICAL TENSORS
Lars Grasedyck, Dieter Moser
- U 18650** APPROXIMATE INTERPOLATION OF HIGH DIMENSIONAL, SCATTERED DATA IN TREE TENSOR FORMATS
Sebastian Kraemer, Lars Grasedyck
- U 18651** KRIGING IN TENSOR TRAIN DATA FORMAT
Sergey Dolgov, Alexander Litvinenko, Dishu Liu
- U 18762** PRINCIPAL COMPONENT ANALYSIS AND OPTIMAL WEIGHTED LEAST-SQUARES METHOD FOR LEARNING TREE TENSOR NETWORKS
Cécile Haberstich, Anthony Nouy, Guillaume Perrin
- U 18412** PARALLEL TENSOR ARITHMETIC IN THE HIERARCHICAL TUCKER FORMAT
Christian Löbber, Lars Grasedyck
- U 18739** LEARNING WITH TREE TENSOR NETWORKS
Erwan Grelier, Anthony Nouy, Mathilde Chevreuil

Monday, June 24
17:00-19:00

Minos North-South

COMPdyn MS 2: RECENT ADVANCES AND CHALLENGES IN GEOTECHNICAL EARTHQUAKE ENGINEERING

MS Organizers: Castorina Silva Vieira, Yiannis Tsompanakis

Chair: Yiannis Tsompanakis

- C 19534** **KEYNOTE:** DYNAMIC SOIL-STRUCTURE INTERACTION EFFECTS ON LIQUID STORAGE TANKS
Alexandros Tsipianitis, Yiannis Tsompanakis
- C 19549** PROBABILISTIC ANALYSIS OF SOIL LIQUEFACTION BASED ON CPT AND SPT RESULTS
Graziella Sebaaly, Muhsin Elie Rahhal
- C 19616** GEOTECHNICAL ASPECTS AFFECTING THE SELECTION OF INPUT MOTION FOR SEISMIC SITE RESPONSE ANALYSIS
Federica Genovese, Domenico Aliberti, Giovanni Biondi, Ernesto Cascone

DAY 1 – MONDAY, JUNE 24

- C 19209** NONLINEAR COUPLED HYDRO-MECHANICAL DYNAMIC FINITE ELEMENT ANALYSIS OF THE SEISMIC RESPONSE OF EARTH DAMS
Emily Lo, Loizos Pelecanos
- C 18834** VALIDATION OF SIMPLIFIED METHODS FOR MODELLING OF SOIL WITH COMPARISON TO EXPERIMENTALLY TESTED SCALED MODEL
Adriana Cerovečki, Ivan Kraus, Simon Petrovčič

Monday, June 24
17:00-19:00

Hera

COMPdyn RS 13 - III: NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS

Chair: Christos Karakostas

- C 19512** IMPLEMENTATION ASPECTS OF A SHELL FINITE ELEMENT IN STRUCTURAL ANALYSIS AND DESIGN CODE FOR DYNAMIC PROBLEMS
Christos Karakostas, Konstantinos Morfidis, Fotios Karaoulanis, Emmanuil Babukas
- C 18862** BIBLIOGRAPHIC REVIEW OF ITALIAN REGULATIONS FROM 1900 TO THE PRESENT FOR THE SIMULATED DESIGN OF ITALIAN RAILWAY BRIDGES
Antonella Di Meo, Barbara Borzi, Davide Bellotti, Francesco Bruno
- C 18849** APPLICATION OF THE WAVE FINITE ELEMENTS FOR CALCULATING DYNAMIC RESPONSES OF 2D STRUCTURES OF ARBITRARY SHAPES SUBJECTED TO EXTERNAL LOADS
Tien Hoang, Denis Duhamel, Gilles Foret
- C 18776** EFFICIENT PROPORTIONAL DAMPING MODEL FOR SIMULATING SEISMIC RESPONSE OF LARGE-SCALE STRUCTURES
Chin-Long Lee
- C 18882** FRAGILITY CURVES FOR LARGE-SCALE ASSESSMENT OF RC RAILWAY BRIDGES
Davide Bellotti, Antonino Famà, Antonella Di Meo, Barbara Borzi
- C 19112** A SIMPLE A POSTERIORI ESTIMATE ON GENERAL POLYTOPAL MESHES WITH APPLICATIONS TO COMPLEX POROUS MEDIA FLOWS
Martin Vohralik, Soleiman Yousef

Monday, June 24
17:00-19:00

Room 1

UNCECOMP MS 3 - III: UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS

MS Organizers: Vasilis Dertimanis, Eleni Chatzi, Costas Papadimitriou

Chair: Vasilis Dertimanis

- U 18901** INFORMATION ENTROPY APPROACH TO OPTIMAL SENSOR PLACEMENT FOR RECONSTRUCTING STRUCTURAL VIBRATIONS
Tulay Ercan, Omid Sedehi, Costas Papadimitriou, Lambros Katafygiotis
- U 18902** DATA FEATURES-BASED LIKELIHOOD-INFORMED BAYESIAN FINITE ELEMENT MODEL UPDATING
Xinyu Jia, Costas Papadimitriou
- U 18832** PROBABILISTIC IDENTIFICATION OF HYSTERETIC SYSTEMS USING REDUCED SIGMA POINT FILTERS
Mariyam Amir, Kostas G. Papakonstantinou, Gordon P. Warn

DAY 1 – MONDAY, JUNE 24

- U 18856** TRACKING THE MODAL PARAMETERS OF THE BAIXO SABOR CONCRETE ARCH DAM WITH UNCERTAINTY QUANTIFICATION
Sérgio Pereira, Edwin Reynders, Filipe Magalhães, Álvaro Cunha, Jorge Gomes

Monday, June 24
17:00-19:00

Room 2

COMPDYN MS 33: SEISMIC RESILIENCE OF MUSEUM CONTENTS

MS Organizers: Michalis Fragiadakis, Luigi Di Sarno

Chair: Michalis Fragiadakis, Luigi Di Sarno

- C 19577** **KEYNOTE:** ROCKING RESPONSE AND OVERTURNING OF MUSEUM ARTEFACTS DUE TO BLAST LOADING

Filippo Masi, Ioannis Stefanou, Paolo Vannucci, Victor Maffi-Berthier

- C 20990** SEISMIC RESPONSE OF STATUES AND BUSTS

M. Fragiadakis, L. DiSarno, A. Saetta, M.G. Castellano, I. Psycharis, T.C. Hutchinson, I.E. Bal, E. Smyrou, I. Politopoulos, T. Chaudat, L. Berto, I. Rocca, S. Diamantopoulos

- C 19759** NUMERICAL INVESTIGATION OF ALTERNATIVE SUPPORT SYSTEMS OF THE GAIOS OFFELIOS FEROS STATUE

Maria - Eleni Dasiou, Ioannis N. Psycharis, Evangelos Avgenakis

- C 20224** DYNAMIC RESPONSE OF MUSEUM ARTEFACTS STANDING ON A PEDESTAL

Spyridon Diamantopoulos, Michalis Fragiadakis, Anastasios Sextos

- C 19486** SEISMIC PROTECTION OF STATUES. A CASE STUDY

Mariateresa Guadagnuolo, Marianna Aurilio, Antonino Iannuzzo, Antonio Gesualdo

- C 19829** FRAGILITY ASSESSMENT OF BASE ISOLATED FREE STANDING MUSEUM ARTIFACTS

Ioannis E. Kavvadias, Lazaros Vasiliadis, Anaxagoras Elenas, Konstantinos Koutsoupakis

Monday, June 24
17:00-19:00

Room 3

COMPDYN RS 4 - III: DYNAMICS OF CONCRETE STRUCTURES

Chair: Andreas Kappos

- C 19035** DUCTILITY OF STEEL-FIBRE-REINFORCED RECYCLED LIGHTWEIGHT CONCRETE

Hasanain Al-Naimi, Ali Abbas

- C 19941** STUDYING THE SEISMIC BEHAVIOR OF OUTSIDE STRENGTHENING WITH PRECAST BOLT-CONNECTED STEEL-PLATE REINFORCED CONCRETE (PBSPC) FRAME-BRACE

Xu-Yang Cao, Gang Wu, De-Cheng Feng, Zhun Wang

- C 20003** SHAKING TABLE TESTS ON POST-INSTALLED TRADITIONAL AND DISSIPATIVE FASTENERS IN UNCRACKED AND CRACKED CONCRETE

Jonathan Ciurlanti, Simona Bianchi, Stefano Pampanin

- C 20085** MODIFICATION OF FORCE BASED FIBER BEAM COLUMN ELEMENT FORMULATION TO CATER HIGHLY LOCALIZED NONLINEAR BEHAVIOR

Sameera Hippola, Chatura Rajapakse, Kushan Wijesundara, Ranjith Dissanayake

DAY 1 – MONDAY, JUNE 24

- C 19727** 3D DETAILED MODELING OF REINFORCED CONCRETE FRAMES CONSIDERING ACCUMULATED DAMAGE DURING STATIC CYCLIC AND DYNAMIC ANALYSIS – NEW VALIDATION CASE STUDIES
Christos Mourlas, George Markou, Manolis Papadrakakis

Monday, June 24
17:00-19:00

Room 4

COMPDYN MS 18 - I: POTENTIAL OF VIBRATIONS MONITORING FOR IMPROVING THE RELIABILITY OF BUILDINGS SEISMIC ASSESSMENT

MS Organizers: Serena Cattari, Daniele Spina

Chair: Serena Cattari

- C 20004** **KEYNOTE:** DISCUSSION ON DATA RECORDED BY THE ITALIAN STRUCTURAL SEISMIC MONITORING NETWORK ON THREE MASONRY STRUCTURES HIT BY THE 2016-2017 CENTRAL ITALY EARTHQUAKE
Serena Cattari, Stefania Degli Abbatì, Daria Ottonelli, Corrado Marano, Guido Camata, Enrico Spacone, Francesca da Porto, Claudio Modena, Filippo Lorenzoni, Guido Magenes, Andrea Penna, Francesco Graziotti, Rosario Ceravolo, Gaetano Miraglia, Erica Lentic

- C 19395** ON THE SOIL-STRUCTURE INTERACTION IN THE SEISMIC RESPONSE OF A MONITORED MASONRY SCHOOL BUILDING STRUCK BY THE 2016-2017 CENTRAL ITALY EARTHQUAKE
Filomena de Silva, Annachiara Piro, Andrea Brunelli, Serena Cattari, Fulvio Parisi, Stefania Sica, Francesco Silvestri

- C 18724** ANALYSIS OF THE FORCED DYNAMICS OF A MASONRY FACADE BY MEANS OF INPUT-OUTPUT TECHNIQUES AND A LINEAR REGRESSION MODEL
Angelo Aloisio, Luca Di Battista, Rocco Alaggio, Massimo Fragiaco

- C 19766** ASSESSMENT OF THE DYNAMIC RESPONSE OF MONITORED MASONRY BUILDINGS AFTER THE CENTRAL ITALY EARTHQUAKE SWARM IN 2016
Filippo Lorenzoni, L. Lazzarini, Alberto Calabria, N. de Conto, Francesca da Porto

- C 19993** ACCOUNTING FOR SOIL-STRUCTURE INTERACTION IN THE CALIBRATION OF MONITORED BUILDINGS
Rosario Ceravolo, Giulia De Lucia, Emiliano Matta, Gaetano Miraglia, L. Parodi

Monday, June 24
17:00-19:00

Room 5

COMPDYN RS 19 - I: SEISMIC ISOLATION

Chair: Antonello Salvatori

- C 18696** LONG-TERM SEISMIC RESPONSE OF BUILDINGS WITH ISOLATION DEVICES AFFECTED BY DETERIORATION EFFECTS
Fabio Mazza

- C 19056** A PSEUDOELASTIC FLOOR ISOLATION SYSTEM FOR HOSPITAL SEISMIC RETROFITTING
Lorenzo Casagrande, Antonio Bonati, Antonio Occhiuzzi, Ferdinando Auricchio

- C 19019** CONTROL OF MULTI STOREY BUILDING STRUCTURES WITH A NEW PASSIVE VIBRATION CONTROL SYSTEM COMBINING BASE ISOLATION WITH KDAMPER
Konstantinos Kapasakalis, Ioannis Antoniadis, Evangelos Sapountzakis

- C 19221** SEISMIC MONITORING OF BUILDING WITH BASE ISOLATION
Antonello Salvatori, Antonio Di Cicco, Paolo Clemente

DAY 1 – MONDAY, JUNE 24

- C 19232** EXPERIMENTAL INVESTIGATION OF THE BEHAVIOR OF VARIABLE FRICTION BASE ISOLATION SYSTEMS
*Tianye Yang, Ugurcan Ozcamur, Paolo Calvi, Richard Wiebe, **Eleonora Bruschi**, Virginio Quaglini, Haluk Sucuoglu, Igor Lanese, Alberto Pavese*
- C 19317** SEISMIC PROTECTION OF HIGH-VOLTAGE EQUIPMENT BY FRICTION DAMPERS: NUMERICAL MODELLING CORRELATED WITH FULL-SCALE COMPONENT TESTS
***Shakhzod Takhirov**, Leon Kempner, Michael Riley, Eric Fujisaki, Brian Low*
- C 18802** TUNED VIBRATION ABSORBERS FOR CONTROL OF TALL BUILDINGS UNDER WIND AND EARTHQUAKE LOADS
***Said Elias Rahimi**, Rajesh Rupakhety, Simon Olafsson*

Monday, June 24
17:00-19:00

Room 7

COMPdyn MS 1 - II: EQUALJOINTS-PLUS

MS Organizer: Ioannis Vayas

Chair: Ioannis Vayas

- C 19861** **KEYNOTE:** REHABILITATION OF EXISTING BUILDINGS WITH INNOVATIVE ANTI-SEISMIC SYSTEMS
*Panagiotis Tsarpalis, Pavlos Thanopoulos, **Dimitrios Vamvatsikos**, Ioannis Vayas*
- C 19325** ROBUSTNESS OF SEISMICALLY PRE-QUALIFIED EXTENDED STIFFENED BEAM-TO-COLUMN JOINTS
***Roberto Tartaglia**, Mario D'Aniello, M. Zimbru, Attilio De Martino, Raffaele Landolfo*
- C 19989** DESIGN AND ANALYSIS OF DUAL EBFS EQUIPPED WITH PREQUALIFIED CONNECTIONS
*Alessia Catapano, Elide Nastri, **Simona Streppone***

Monday, June 24
17:00-19:00

Room 8

UNCECOMP MS 12: UNCERTAINTY QUANTIFICATION IN STRUCTURAL DYNAMICS USING EXPERIMENTAL DATA

MS Organizers: Kheirollah Sepahvand, Alice Cicirelo

Chair: Kheirollah Sepahvand

- U 18371** **KEYNOTE:** ON EXPERIMENTALLY UNCERTAINTY QUANTIFICATION IN STRUCTURAL AND VIBROACOUSTIC PROBLEMS: GENERAL FRAMEWORK
Kheirollah Sepahvand
- U 18387** STOCHASTIC NON-PARAMETRIC IDENTIFICATION IN COMPOSITE STRUCTURES USING EXPERIMENTAL MODAL DATA
***S. Chandra**, K. Sepahvand, C. Geweth, F. Saati, S. Marburg*
- U 18465** GAUSSIAN PROCESSES FOR REGRESSION AND CLASSIFICATION TASKS USING NON-GAUSSIAN LIKELIHOODS
*Diego Echeverria Rios, **Peter Green***
- U 18531** ASSESSING MODEL FORM UNCERTAINTY FOR A SUSPENSION STRUT USING GAUSSIAN PROCESSES
***Robert Feldmann**, Roland Platz*

DAY 1 – MONDAY, JUNE 24

- U 18637** INFLUENCE OF DIFFERENT TYPES OF SUPPORT ON EXPERIMENTALLY DETERMINED DAMPING VALUES
Christian A. Geweth, Patrick Langer, Ferina Saati, Kheirollah Sepahvand, Steffen Marburg
- U 19192** A RELIABLE DESIGN STRATEGY OF KRIGING EMULATOR FOR STRUCTURAL VARIABILITY IDENTIFICATION USING MODAL ANALYSIS IN A BAYESIAN FRAMEWORK
Qiong-Li Wang, Peng Liang, F. A. DiazDelaO, J.E. Mottershead

Monday, June 24
17:00-19:00

Room 9

COMPdyn RS 26 - III: STEEL STRUCTURES

Chair: Anastasios Sextos

- C 19771** EFFECT OF ARCHITECTURAL NON-STRUCTURAL COMPONENTS ON LATERAL BEHAVIOUR OF CFS STRUCTURES: SHAKE-TABLE TESTS AND NUMERICAL MODELLING
Alessia Campiche, Sarmad Shakeel
- C 19822** EXPERIMENTAL AND NUMERICAL SIMULATIONS ON RBS CONNECTIONS INCORPORATING LARGE SECTIONS
Teodora Bogdan, Dan Bompa, Ahmed Elghazouli, Edurne Nunez, Matthew Eatherton, Roberto Leon
- C 19152** STRIP MODEL FOR STEEL PLATE SHEAR WALLS WITH BEAM-CONNECTED WEB PLATES
Yigit Ozelik, Patricia Clayton
- C 20049** EXPERIMENT AND SIMULATION OF NONLINEAR DYNAMICS BEHAVIOR OF CONTAINER STACKS ON CONTAINER SHIP
Katsuyuki Suzuki, Vinicius Aguiar de Souza, Levent Kirkayak
- C 20812** NUMERICAL EVALUATION OF THE BEHAVIOUR FACTOR OF LIGHTWEIGHT STEEL LATERAL FORCE RESISTING SYSTEMS ACCORDING TO FEMA P695
Sarmad Shakeel, Luigi Fiorino, Raffaele Landolfo
- C 19289** SEISMIC DESIGN CRITERIA TO IMPROVE THE PERFORMANCE OF X-CBFS
Silvia Costanzo, Mario D'Aniello, G. Di Lorenzo, Attilio De Martino, Raffaele Landolfo

Monday, June 24
17:00-19:00

Room 10

COMPdyn MS 39 - II: PERIODICITY EFFECTS IN VIBRO-ACOUSTICS

MS Organizer: Sergey Sorokin

Chair: Sergey Sorokin

- C 20025** KEYNOTE: DYNAMICAL HOMOGENIZATION OF A SYSTEM WITH NONCONVEX ENERGY
Charlotte Blake, Andrej Cherkaev
- C 19401** FLOQUET THEORY ANALYSIS OF A WEAKLY NON-LINEAR PERIODIC STRUCTURE
Alexander Hvatov, Sergey Sorokin
- C 19051** NUMERICAL PREDICTION AND EXPERIMENTAL VALIDATION OF THE SOUND TRANSMISSION LOSS OF LOCALLY RESONANT METAMATERIAL PANELS
Lucas Van Belle, Noé Geraldo Rocha de Melo Filho, Claus Claeys, Elke Deckers, Wim Desmet

DAY 1 – MONDAY, JUNE 24

- C 20026** WAVES IN COMPOSITE MATERIALS: NON-LOCALITY, DISPERSION, AND DISSIPATION
Elena Cherkaev
- C 19000** WAVE PROPAGATION IN POLAR PERIODIC STRUCTURES USING FLOQUET THEORY AND FINITE ELEMENT ANALYSIS
Elisabetta Manconi, Sergey Sorokin, Rinaldo Garziera
- C 19795** A HOMOGENIZATION TECHNIQUE APPLIED TO PERIODIC BUILDINGS
Carolina Franco Ariza, Céline Chesnais, Jean-François Semblat, Cédric Desprez, Cédric Giry

Monday, June 24
17:00-19:00

Room 11

COMPdyn MS 45: ADVANCES ON EXPERIMENTAL AND COMPUTATIONAL SEISMIC ASSESSMENT AND RETROFIT OF MASONRY STRUCTURES

MS Organizers: Constantine Spyrakos, Marco Corradi, Charilaos Maniatakis

Chair: Constantine Spyrakos, Marco Corradi

- C 19569** IN-PLANE BEHAVIOR OF CRACKED MASONRY WALLS REPAIRED WITH TITANIUM RODS
Marco Corradi, Antonio Borri, Marco Costanzi, Simone Monotti
- C 20751** INVESTIGATION OF INTERVENTION METHODS TO A TRADITIONAL MASONRY BUILDING VIA FINITE ELEMENT ANALYSIS
Maria Stavroulaki, Eliza Gereoudaki
- C 21288** ASSESSMENT OF GEOTECHNICAL AND SEISMIC RISK FOR CULTURAL HERITAGE SITES – THE STABLE PROJECT
Constantine Spyrakos, Charalampos Saroglou, Charilaos Maniatakis
- C 18559** MODEL UPDATING OF A MASONRY HISTORICAL CHURCH BASED ON OPERATIONAL MODAL ANALYSIS: THE CASE STUDY OF SAN FILIPPO NERI IN MACERATA
Carlo Baggio, Valerio Sabbatini, Silvia Santini
- C 21285** SEISMIC RESPONSE OF A PROTOTYPE UNREINFORCED MASONRY BUILDING ASSESSED BY ALTERNATIVE METHODS OF ANALYSIS
Charilaos Maniatakis, Constantine Spyrakos, Georgios Fytalis
- C 19933** VERTICAL COMPONENT OF THE SEISMIC ACTION: AMPLIFIED VULNERABILITY OF EXISTING MASONRY BUILDINGS
Massimo Mariani, Francesco Pugi, Alessio Francioso
- C 19990** APPLIED ELEMENT MODELLING AND PUSHOVER ANALYSIS OF UNREINFORCED MASONRY BUILDINGS WITH FLEXIBLE ROOF DIAPHRAGM
Rohit Kumar Adhikari, Dina D'Ayala

DAY 1 – MONDAY, JUNE 24

Monday, June 24
17:00-19:00

Room 12

UNCECOMP MS 8: CURRENT TOPICS IN UNCERTAINTY CHARACTERIZATION, OPTIMIZATION AND DESIGN

MS Organizers: I.C. Tsantili, Dionissios Hristopoulos

Chair: I.C. Tsantili

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- U 18588** **KEYNOTE:** DATA-DRIVEN COARSE-GRAINED DYNAMICS OF MOLECULAR SYSTEMS
Evangelia Kalligiannaki, Georgia Baxevani, Anthony Chazirakis, Markos Katsoulakis, Vagelis Harmandaris
- U 18711** FLEXIBLE RANDOM FIELD MODELS FOR THE ANALYSIS OF SPACE-TIME DATA AND THE DESIGN OF RANDOM META-MATERIALS.
Ivi C. Tsantili
- U 18543** SPARSE APPROXIMATION OF DATA-DRIVEN POLYNOMIAL CHAOS EXPANSIONS AND THEIR APPLICATIONS IN UQ
Ling Guo
- U 18670** FORMULATION AND SOLUTION OF GENERALIZED FOKKER-PLANCK-KOLMOGOROV EQUATIONS CORRESPONDING TO THE RANDOM DUFFING OSCILLATOR EXCITED BY COLOURED NOISE
Konstantinos Mamis, Gerassimos Athanassoulis, Zacharias Kapelonis

Monday, June 24
17:00-19:00

Room 21

COMPdyn RS 7 - II: DYNAMICS OF STEEL STRUCTURES

Chair: A. Viskovic

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- C 18931** PARAMETRICAL DESIGN TRENDS FOR A HYPERBOLIC PARABOLOID SHAPED OVER A SQUARE PLAN: VERTICAL DISPLACEMENTS AND NATURAL PERIODS
Gian Felice Giaccu, A. Viskovic
- C 19619** FLOOR VIBRATION BEHAVIOR OF CAR PARK STRUCTURES – ASSESSMENT OF DIFFERENT STEEL CONCRETE SOLUTIONS
Riccardo Zanon
- C 19982** PROBABILISTIC THEORY OF PLASTIC MECHANISM CONTROL: DESIGN AND SEISMIC ASSESSMENT
Alessandro Pisapia, Elide Nistri
- C 19985** DESIGN AND SEISMIC ASSESSMENT OF MRFS AND DUAL CBFS EQUIPPED WITH FRICTION DAMPERS
Rosario Montuori, Vincenzo Piluso, Simona Streppone
- C 18958** SEISMIC PERFORMANCE IMPROVEMENT OF STORAGE RACKS USING VISCOELASTIC DAMPERS
GwangHee Heo, ChungGil Kim, YongSuk Kim, ChaeRin Park, ByeongChan Ko

TECHNICAL SESSIONS

Tuesday, June 25 8:30-10:30		Aphrodite-Artemis-Athena
<p>COMPdyn MS 13 - I: RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS</p> <p><i>MS Organizers:</i> Nicola Cavalagli, Francesco Clementi, Antonio Formisano, Gabriele Milani, Vagelis Plevris <i>Chair:</i> Francesco Clementi</p>		
C 19117	SURROGATE MODELS FOR EARTHQUAKE-INDUCED DAMAGE DETECTION AND LOCALIZATION IN HISTORIC STRUCTURES USING LONG-TERM DYNAMIC MONITORING DATA: APPLICATION TO A MASONRY DOME	<i>Nicola Cavalagli, Chiara Pepi, Massimiliano Gioffrè, Vittorio Gusella, Filippo Ubertini</i>
C 18464	EXPERIMENTATION AND NUMERICAL MODELLING OF RECYCLED RUBBER PADS UNDER AGEING FOR SEISMIC ISOLATION OF A HISTORICAL MASONRY CHURCH	<i>Ahmad Basshofi Habieb, Gabriele Milani, Marco Valente, Virginio Quaglini</i>
C 18602	SEISMIC VULNERABILITY OF MASONRY WALLS THROUGH AN INNOVATIVE VOXEL LIMIT ANALYSIS HOMOGENIZATION APPROACH	<i>Simone Tiberti, Gabriele Milani</i>
C 18681	METHODOLOGIES AND RELATED SOFTWARE APPLICATIONS, USED AT ASSESSMENT OF THE OLD MASONRY BUILDINGS, LOCATED IN AREAS WITH HIGH SEISMIC RISK	<i>Rodica Popescu, Gheorghe Popescu</i>
C 18689	NONLINEAR FE MODEL UPDATING FOR MASONRY CONSTRUCTIONS VIA LINEAR PERTURBATION AND MODAL ANALYSIS	<i>Maria Girardi, Cristina Padovani, Daniele Pellegrini, Leonardo Robol</i>

Tuesday, June 25 8:30-10:30		Europa-Danae-Leda
<p>COMPdyn MS 28 - I: NEW ADVANCES IN COMPUTATIONAL MODELLING AND EXPERIMENTAL TESTING OF INFILLED FRAMES</p> <p><i>MS Organizers:</i> Fabio Di Trapani, Liborio Cavaleri, Guido Magenes, Paolo Morandi <i>Chair:</i> Paolo Morandi, Guido Magenes</p>		
C 19377	OUT-OF-PLANE CAPACITY OF INFILLS AFTER IN-PLANE LOADING: A PREDICTION ANALYTICAL MODEL	<i>Maria Zizzo, Liborio Cavaleri, Fabio Di Trapani</i>
C 19097	ESTIMATION OF BASIC DYNAMIC CHARACTERISTICS OF PLIABLE MASONRY INFILLS WITH HORIZONTAL SLIDING JOINTS FROM IN-PLANE TEST RESULTS	<i>Riccardo R. Milanese, Yuri Totoev, Paolo Morandi, Andrea Rossi, Guido Magenes</i>
C 18488	DISTRIBUTION OF SHEAR RESISTANCE AMONG COMPONENTS OF R. C. FRAMES WITH MASONRY INFILL WALLS CONTAINING CONFINED DOOR AND WINDOW OPENINGS	<i>Davorin Penava, Filip Anić, Vasilis Sarhosis, Lars Abrahamczyk</i>
C 18552	A DISCRETE MACRO-ELEMENT FOR SIMULATING THE NONLINEAR IN-PLANE BEHAVIOUR OF RC INFILLED FRAMES	<i>Bartolomeo Pantò, Pier Paolo Rossi</i>

DAY 2 – TUESDAY, JUNE 25

C 18574 COMPARISON OF EXPERIMENTAL AND ANALYTICALLY PREDICTED OUT-OF-PLANE BEHAVIOR OF FRAMED-MASONRY WALLS CONTAINING OPENINGS

Filip Anić, Davorin Penava, Dalibor Burilo, Lars Abrahamczyk, Vasilis Sarhosis

Tuesday, June 25

Minos East

8:30-10:30

UNCECOMP MS 6 - IV: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Anna Kucerova

U 18364 KEYNOTE: COUPLED MECHANICS-PROBABILITY MULTISCALE APPROACH FOR SIZE EFFECT INTERPRETATION

Adnan Ibrahimbegovic

U 18557 CONCRETE GRAVITY DAMS FE MODELS PARAMETERS UPDATING USING AMBIENT VIBRATIONS

Giacomo Sevieri, Anna De Falco

U 18618 STOCHASTIC MULTI-LEVEL ANALYSIS OF BONE TISSUE

Sharana Kumar Shivanand, Bojana Rosic, Hermann Matthies

U 18658 BAYESIAN IDENTIFICATION FOR BOND-SLIP CHARACTERISATION IN A REINFORCED CONCRETE MODEL WITH LOCALISED FAILURE

Simona Dobrilla, Noémi Friedman, Hermann G. Matthies, Adnan Ibrahimbegovic

U 18526 PARAMETER IDENTIFICATION AND CRACK PROPAGATION IN A STRUCTURAL ELEMENT

Andjelka Stanic, Noemi Friedman, Adnan Ibrahimbegovic, Hermann G. Matthies

U 18653 BAYESIAN UPDATING OF CABLE STAYED FOOTBRIDGE MODEL PARAMETERS USING DYNAMIC MEASUREMENTS

Chiara Pepi, Massimiliano Gioffré, Mircea D. Grigoriu, Hermann G. Matthies

Tuesday, June 25

Minos North-South

8:30-10:30

COMPdyn MS 36 - I: SEISMIC ASSESSMENT OF EXISTING STRUCTURES BEFORE AND AFTER STRENGTHENING

MS Organizers: Stefanos Dritsos, Andreas Kappos

Chair: Andreas Kappos

C 18996 CYCLIC NONLINEAR MODELING OF SEVERELY DAMAGED AND RETROFITTED REINFORCED CONCRETE STRUCTURES

George Markou, Christos Mourlas, Reyes Garcia, Kypros Pilakoutas, Manolis Papadrakakis

C 19520 RESILIENT SYSTEM MODELLING OF ANCHORAGE CONNECTION FOR SEISMIC STRENGTHENING APPLICATIONS

Nikolaos Mellios, Panagiotis Spyridis, Theodoros Rousakis

C 19342 A COMPARATIVE STUDY ON TARGET DISPLACEMENT EVALUATION IN BUILDINGS WITH SOFTENING RESPONSE

Ilias Gkimousis, Ioannis Psycharis, Spyros Livieratos

DAY 2 – TUESDAY, JUNE 25

C 19462 ASSESSMENT, REDESIGN AND STRUCTURAL INTERVENTIONS FOR CONCRETE AND MASONRY BUILDINGS; SIMILARITIES AND DIFFERENTIATIONS BETWEEN THE RECENT EUROPEAN CODES (EC8-1:2004 & EC8-3:2005) AND THE NEW GREEK ONES (GCSI:RC/2017 & PM/2019)
Miltiadis Chronopoulos, Petros Chronopoulos

C 19654 NONLINEAR NUMERICAL PARAMETRIC STUDY OF DOWELS FOR THE SEISMIC STRENGTHENING OF RC FRAMES WITH RC INFILL WALLS
Elpida Georgiou, Christis Chrysostomou, Nicholas Kyriakides

Tuesday, June 25
8:30-10:30

Hera

COMPdyn RS 13 - IV: NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS

Chair: Kostantinos Papakonstantinou

C 19709 NONLINEAR PROGRAMMING APPROACH TO A SHEAR-DEFORMABLE HYBRID BEAM ELEMENT FOR LARGE DISPLACEMENT INELASTIC ANALYSIS
Charilaos M. Lyritsakis, Charalampos P. Andriotis, Kostantinos G. Papakonstantinou

C 19748 IMPACT OF 3D SEISMIC INPUT MOTION DEFINITION FROM PHYSICS-BASED SIMULATIONS FOR SOIL-STRUCTURE INTERACTION STUDIES
Michail Korres, Filippo Gatti, Vinicius Alves Fernandes, Fernando Lopez-Caballero, Irmela Zentner, François Voltaire

C 19757 A MACROELEMENT FORMULATION FOR THE RESPONSE OF INELASTIC ROCKING BODIES UNDER CYCLIC LOADING
Evangelos Avgenakis, Ioannis N. Psycharis

C 19815 A PSEUDO THREE-DIMENSIONAL MULTI-SLICE NUMERICAL MODEL TO SIMULATE WIND-INDUCED VIBRATION OF THIN-WALLED ROOF SYSTEMS
Samir Chawdhury, Guido Morgenthal

C 19891 NONLINEAR DYNAMIC RESPONSES OF HIGHWAY BRIDGES EXPOSED TO PARTICULAR SEISMIC EVENTS CONSIDERING VEHICLE-BRIDGE INTERACTIONS
Sudanna Borjigin, Chul-Woo Kim, Kai-Chun Chang, Kunitomo Sugiura

Tuesday, June 25
8:30-10:30

Room 1

COMPdyn MS 3 - I: EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS

MS Organizer: George Manos

Chair: George Manos, Chris Pantelides

C 19707 **KEYNOTE:** THE DYNAMIC AND SEISMIC RESPONSE OF A WIND TURBINE. PERFORMANCE OF THE CONNECTION BETWEEN THE STEEL TOWER WITH THE CONCRETE FOUNDATION
George Manos, Alexandra Nalmpantidou, A. Sakka, G. Manolis

C 18595 SEISMIC RETROFIT OF REINFORCED CONCRETE BRIDGE PIER WALLS
Bhaskar Kunwar, Vanessa Mcentee, Chris Pantelides, Tarek Alkhrdaji

C 18604 A FINITE ELEMENT MODEL UPDATING APPROACH FOR SHEAR-WALL SLAB CONNECTIONS SUBJECTED TO DYNAMICAL LOADS
Hugo Oliveira, Fabrice Gatuingt, François Louf

DAY 2 – TUESDAY, JUNE 25

- C 18656** INNOVATIVE CONNECTIONS BETWEEN HYBRID FLOOR PANELS AND TIMBER COLUMNS ABLE TO REDUCE THE DEFLECTION OF THE PANEL'S BIG SPAN
Magdalini Titirla, Laurent Michel, Emmanuel Ferrier
- C 18771** AUTOMATED WIRELESS STRUCTURAL HEALTH MONITORING AND CONTROL USING TUNED LIQUID COLUMN DAMPERS
Kosmas Dragos, George Manolis, Kay Smarsly
- C 20032** APPLICATIONS OF SMART BRICKS FOR STRAIN FIELD RECONSTRUCTION IN MASONRY WALLS: NUMERICAL ANALYSIS AND SHAKING TABLE TESTS
*Antonella D'Alessandro, **Andrea Meoni**, Nicola Cavalagli, Massimiliano Gioffrè, Filippo Ubertini*

Tuesday, June 25
8:30-10:30

Room 2

UNCECOMP MS 5 - I: SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS

MS Organizers: Michael Shields, Bruno Sudret, Alex Taflanidis, Dimitrios Giovanis

Chair: Michael Shields

U 18572 USE OF GENERALIZED LAMBDA DISTRIBUTIONS TO EMULATE STOCHASTIC SIMULATORS

Xujia Zhu, Bruno Sudret

U 18474 MODEL ORDER REDUCTION FOR LARGE-SCALE STRUCTURES WITH LOCAL NONLINEARITIES

Zhenying Zhang, Mengwu Guo, Jan Hesthaven

U 18478 GAUSSIAN PROCESS ESTIMATION OF SENSITIVITY INDICES FOR GIVEN DATA WITH DEPENDENT INPUTS AND UNKNOWN JOINT DISTRIBUTION

William Becker

U 18583 COMPUTATIONAL CHALLENGES IN SAMPLING AND REPRESENTATION OF UNCERTAIN KINETIC SYSTEMS IN LARGE DIMENSIONS

*Saja Almohammadi, Loïc Giraldi, Olivier Le Maître, **Omar Knio***

U 18594 FATIGUE ANALYSIS OF DISCRETIZED STRUCTURES WITH INTERVAL UNCERTAINTIES UNDER STATIONARY RANDOM EXCITATION VIA SURROGATE MODEL

Filippo Giunta, Giuseppe Muscolino, Alba Sofi

Tuesday, June 25
8:30-10:30

Room 3

UNCECOMP MS 11 - I: POLYMORPHIC UNCERTAIN DATA FOR NUMERICAL ANALYSIS AND DESIGN OF STRUCTURES

MS Organizers: Michael Kaliske, Wolfgang Graf, Sigrid Leyendecker, Stefanie Reese, Wolfgang Wall

Chair: Wolfgang Wall

U 18463 DESIGN OPTIMIZATION OF A GLULAM BEAM WITH POLYMORPHIC UNCERTAIN PARAMETERS

*F. Niklas Schietzold, **Wolfgang Graf**, Michael Kaliske*

U 18399 NUMERICAL DESIGN OF CYLINDRICAL SHELLS WITH A POLYMORPHIC UNCERTAINTY MODEL

Marc Fina, Patrick Weber, Werner Wagner

DAY 2 – TUESDAY, JUNE 25

- U 18424** AN EFFICIENT POSSIBILITY OF UNCERTAINTY QUANTIFICATION WITH THE ADAPTIVE PROPER ORTHOGONAL DECOMPOSITION (APOD)
Steffen Kastian, Stefanie Reese
- U 18438** RELIABILITY ANALYSIS FOR A POLYMORPHIC UNCERTAINTY MODEL OF HETEROGENEOUS MATERIALS USING A DOMAIN DECOMPOSITION APPROACH
Albrecht Schmidt, Carsten Könke, Tom Lahmer
- U 18456** POLYMORPHIC UNCERTAINTY IN TIME-DOMAIN DYNAMIC ANALYSIS OF BUILDINGS UNDER EARTHQUAKE EXCITATION USING METAMODELS
Patrick Weber, Marc Fina, Werner Wagner

Tuesday, June 25
8:30-10:30

Room 4

COMPdyn MS 18 - II: POTENTIAL OF VIBRATIONS MONITORING FOR IMPROVING THE RELIABILITY OF BUILDINGS SEISMIC ASSESSMENT

MS Organizers: Serena Cattari, Daniele Spina

Chair: Serena Cattari

- C 19124** MONITORING OF A STRENGTHENED BARREL VAULT
Alice Di Primio, Noemi Fiorini, Daniele Spina, Claudio Valente, Marcello Vasta
- C 19382** STRUCTURAL ASSESSMENT OF SANTA MARIA MADDALENA CHURCH IN ISCHIA ISLAND (ITALY) BY EXPERIMENTAL MODAL ANALYSIS UNDER OPERATIONAL CONDITIONS
Claudia Casapulla, Francesca Ceroni, Carlo Rainieri, L.U. Argiento, P. Arcamone, Giovanni Fabbrocino
- C 19171** NUMERICAL SIMULATION OF THE NONLINEAR EARTHQUAKE RESPONSE OF A MONITORED URM SCHOOL BUILDING
Francesco Graziotti, Paolo Toninelli, Marco Solenghi, Gabriele Guerrini, Andrea Penna
- C 18837** REMOTE AMBIENT VIBRATION MEASUREMENTS WITH REAL-APERTURE RADAR TO ESTIMATE BUILDINGS DYNAMIC PROPERTIES
Rodrigo E. Alva, José R. González-Drigo, Guido Luzi, Oriol Caselles, Luís G. Pujades, Yeudy F. Vargas-Alzate, Luis A. Pinzón
- C 18799** INTEGRATING MODAL ANALYSIS AND SEISMIC INTERFEROMETRY FOR STRUCTURAL DYNAMIC RESPONSE: THE CASE STUDY GIOTTO'S BELL TOWER IN FLORENCE (ITALY)
Giorgio Lacanna, Renato Lancellotta, Maurizio Ripepe

Tuesday, June 25
8:30-10:30

Room 5

COMPdyn RS 19 - II: SEISMIC ISOLATION

Chair: Vasileios Ntertimanis

- C 19947** ON THE USE OF META-FOUNDATIONS FOR SEISMIC ISOLATION: A PRACTICAL APPLICATION FOR CONVENTIONAL BUILDINGS
Panagiotis Martakis, Vasileios Ntertimanis, Eleni Chatzi
- C 19506** ACCURATE AND EFFICIENT MODELING OF THE HYSTERETIC BEHAVIOR OF SLIDING BEARINGS
Nicolò Vaiana, Salvatore Sessa, Massimo Paradiso, Luciano Rosati

DAY 2 – TUESDAY, JUNE 25

- C 19733** ANALYTICAL VS NUMERICAL DETERMINATION OF THE AXIAL AND LATERAL STIFFNESS OF FIBER REINFORCED ISOLATORS
Daniele Losanno, Ingrid E. Madera Sierra, Andrea Calabrese, Johannio Marulanda, Peter Thomson
- C 19797** EXPERIMENTAL BEHAVIOR OF FULL-SCALE UNBOUNDED POLYESTER-FIBER REINFORCED RUBBER ISOLATORS FOR RESIDENTIAL BUILDINGS
Ingrid E. Madera Sierra, Daniele Losanno, Johannio Marulanda, Peter Thomson
- C 19954** NUMERICAL OPTIMIZATION OF SEISMIC PERFORMANCE OF TALL AND SLENDER SYSTEM PROTECTED BY SEISMIC PROTECTION DEVICE
Shakhzod Takhirov, Hiroko Kuse, Keiko Yoshida, Seiichi Murase, Eric Fujisaki
- C 20109** LAYERED BUILT-UP DAMPING ELEMENTS FOR VIBRATION CONTROL
Charles Lord, Jem Rongong

Tuesday, June 25
8:30-10:30

Room 7

COMPdyn MS 7: RECENT ADVANCES IN THE DEVELOPMENT OF APPROXIMATE MATHEMATICAL TECHNIQUES FOR SOLVING COMPLEX SIMULATION-BASED PROBLEMS INVOLVING UNCERTAINTY

MS Organizers: Hector Jensen, Michael Beer, Jianbin Chen, Francisco Alejandro Diaz de la O, Marcos Valdebenito

Chair: Hector Jensen

- C 18608** **KEYNOTE:** AN EFFICIENT PARAMETRIC SUBSTRUCTURE COUPLING TECHNIQUE FOR RELIABILITY ANALYSIS OF DYNAMICAL SYSTEMS
Hector Jensen, Franco Mayorga

- C 19045** RELAXED STATIONARY POWER SPECTRUM MODEL USING IMPRECISE PROBABILITIES
Marco Behrendt, Liam Comerford, Michael Beer

- C 18573** STOCHASTIC PARAMETER ESTIMATION AND DAMAGE DETECTION WITH FOURIER INTEGRAL OPERATORS
Michael Oberguggenberger, Martin Schwarz

- C 18693** A MULTI SCALE APPROACH FOR THE GROUND MOTION MODELLING IN URBAN AREAS
Alessandro Tombari, Pierfrancesco Cacciola

- C 18954** MULTILEVEL MARKOV CHAIN MONTE CARLO FOR SEISMIC INVERSION
Juan Pablo Madrigal Cianci, Panagiotis Tsilifis, Fabio Nobile, Anamika Pandey, Raúl F. Tempone

Tuesday, June 25
8:30-10:30

Room 8

COMPdyn RS 2 - I: ALGORITHMS FOR STRUCTURAL HEALTH MONITORING

Chair: Álvaro Cunha

- C 18500** BRIDGE DAMAGE DETECTION USING A MACHINE LEARNING APPROACH
Abdollah Malekjafarian, Fatemeh Golpayegani

- C 19291** DENOISING CORRUPTED STRUCTURAL VIBRATION RESPONSE: CRITICAL COMPARISON AND ASSESSMENT OF RELATED METHODS
Gabriele Ravizza, Rosalba Ferrari, Egidio Rizzi, Vasilis Dertimanis, Eleni N. Chatzi

DAY 2 – TUESDAY, JUNE 25

- C 18957** DEVELOPMENT AND VERIFICATION OF REAL-TIME DAMAGE ASSESSMENT BASED ON STATISTICAL PATTERN RECOGNITION TECHNOLOGY FOR STRUCTURE MAINTENANCE
*GwangHee Heo, ChungGil Kim, ChinOk Lee, **ByeongChan Ko**, ChaeRin Park*
- C 19033** MODAL IDENTIFICATION FROM MOTION MAGNIFICATION OF ANCIENT MONUMENTS SUPPORTED BY BLIND SOURCE SEPARATION ALGORITHMS
Vincenzo Fioriti, Ivan Roselli, Gerardo De Canio
- C 19071** IDENTIFICATION THROUGH SEISMOMETRIC MEASUREMENTS OF TRANSIENTS PROPAGATING INSIDE THE ASINELLI AND GARISENDA TOWERS (BOLOGNA, ITALY), IMPLICATION ON STRUCTURAL MODELING AND STATE OF HEALTH MONITORING
Simonetta Baraccani, Riccardo M. Azzara, Giada Gasparini, Andrea Morelli, Michele Palermo, Tomaso Trombetti, Lucia Zaccarelli

Tuesday, June 25
8:30-10:30

Room 9

COMPDYN RS 20 - I: SEISMIC RISK AND RELIABILITY ANALYSIS

Chair: Michalis Fragiadakis

- C 18577** SEISMIC RISK ASSESSMENT OF MULTI-SPAN BRIDGES USING NONLINEAR STATIC PROCEDURES
Camilo Perdomo, Ricardo Monteiro, Haluk Sucuoğlu

- C 18869** SEISMIC VULNERABILITY ASSESSMENT OF NON-ENGINEERED MASONRY BUILDINGS IN MALAWI
Viviana Novelli, Ignasio Ngoma, Panos Kloukinas, Innocent Kafodya, Raffaele De Risi, John Macdonald, Katsuichiro Goda

- C 18915** IDENTIFYING UNCERTAINTY CONTRIBUTIONS TO THE SEISMIC FRAGILITY ASSESSMENT OF A NUCLEAR REACTOR STEAM LINE
Pierre Gehl, Marine Marcilhac-Fradin, Jeremy Rohmer, Yves Guigueno, Nadia Rahni, Julien Clément

- C 20862** THE ROLE OF UNCERTAINTY OF MODEL PARAMETERS IN PSHA
Lorenzo Hofer, Mariano Angelo Zanini

- C 18994** SEISMIC VULNERABILITY OF THE RESIDENTIAL BUILDINGS OF FLORENCE
Vieri Cardinali, Stefania Viti, Marco Tanganelli

Tuesday, June 25
8:30-10:30

Room 10

COMPDYN RS 29: WAVE PROPAGATION

Chair: Sergey Sorokin

- C 19200** **KEYNOTE:** AN EFFICIENT TRANSMISSION OPERATOR FOR COMPUTING WAVE PROPAGATION BY DOMAIN DECOMPOSITION
Denis Duhamel

- C 19576** SOUND AND VIBRATION REDUCTION USING VISCOELASTIC MATERIALS AND SHUNTED PIEZOELECTRIC PATCHES: NUMERICAL REDUCED ORDER MODEL
Walid Larbi, Jean-François Deü, Roger Ohayon

- C 19656** A MID-FREQUENCY METHOD TO MODEL COUPLED VIBRO-ACOUSTIC RESPONSE OF A RAILWAY TRACK
Andrea Barbarulo, Raphael Cettour-Janet, Guillaume Puel, Pierre-Etienne Gautier

DAY 2 – TUESDAY, JUNE 25

- C 19717** MODELING TRAIN-INDUCED GROUND-BORNE VIBRATIONS USING FEM IN A MOVING FRAME OF REFERENCE
Jens Malmborg, Kent Persson, Peter Persson
- C 19963** ELASTIC WAVES IN INHOMOGENEOUS MESHES AVOIDING NUMERICAL ARTIFACTS
Philipp Müller, Jörg Unger
- C 19988** ON THE EXPERIMENTAL VALIDATION OF THE NUMERICAL CALCULATION OF THE DISPERSION RELATIONS OF COMPLEX WOVEN COMPOSITES
Victor Thierry, Olivier Mesnil, Dimitrios Chronopoulos

Tuesday, June 25
8:30-10:30

Room 11

COMPdyn MS 20: HIGH-PERFORMANCE COMPUTING FOR STRUCTURAL MECHANICS AND EARTHQUAKE / TSUNAMI ENGINEERING

MS Organizers: Shinobu Yoshimura, Naoto Mitsume

Chair: Shinobu Yoshimura

- C 18990** **KEYNOTE:** PARALLEL TSUNAMI ANALYSIS BASED ON MPS METHOD WITH ERP WALL BOUNDARY MODEL
Naoto Mitsume, Tomonori Yamada, Shinobu Yoshimura
- C 18535** 3D LARGE-SCALE LIQUEFACTION ANALYSIS BY A FAST AND MASSIVELY-PARALLEL SOLVER
Ryota Kusakabe, Tsuyoshi Ichimura, Kohei Fujita, Muneo Hori, Lalith Wijerathne
- C 18910** A DISTRIBUTED COMPUTING PLATFORM FOR CONVENTIONAL HYBRID SIMULATION
Kung-Juin Wang, Ming-Chieh Chuang, Chao-Hsien Li, Keh-Chyuan Tsai
- C 19040** NUMERICAL STUDY OF ACTIVE CONTROL BY PIEZOELECTRIC MATERIALS FOR FLUID-STRUCTURE INTERACTION PROBLEMS
Shigeki Kanako, Glwon Hong, Naoto Mitsume, Tomonori Yamada, Shinobu Yoshimura
- C 20046** PERFORMANCE ASSESSMENT OF DYNAMIC SUB-STRUCTURING METHODS: NUMERICAL STUDY
Tanmoy Chatterjee, Hamed H. Khodaparast, Michael I. Friswell
- C 21335** HIGH PERFORMANCE COMPUTING METHODS FOR (IMPLICIT DYNAMICS) ON HYBRID CUDA/TENSOR CORES
George Stavroulakis, Manolis Papadrakakis

Tuesday, June 25
8:30-10:30

Room 12

COMPdyn MS 40: DYNAMICS OF BUILDINGS AND BRIDGES AND CONTROL STRATEGIES WITHIN STRUCTURAL ENGINEERING

MS Organizers: Rui Carneiro Barros, Manuel Braz-Cesar

Chair: Rui Carneiro Barros

- C 19523** **KEYNOTE:** DEVELOPMENT OF A BRAIN EMOTIONAL LEARNING BASED CONTROLLER FOR APPLICATION TO VIBRATION CONTROL OF A BUILDING STRUCTURE UNDER SEISMIC EXCITATION
Manuel Braz-César, José Gonçalves, João Coelho, Rui Barros
- C 21067** NON-LINEAR HYSTERETIC BEHAVIOR OF AN SDOF FRAME CONTROLLED BY A TUNED MASS DAMPER
Pedro Folhento, Manuel Braz-César, António Paula, Rui Barros

DAY 2 – TUESDAY, JUNE 25

- C 19559** CONTROL PROBLEM IN PASSIVE TRACER ADVECTION BY POINT VORTEX FLOW: A CASE STUDY
Carlos Balsa, Sílvia Gama, Manuel Braz-César
- C 20955** DYNAMIC RESPONSE OF MASONRY ARCH BRIDGES USING "IN-SITU" EXPEDITE MEASUREMENTS
Anelise Dick, Manuel Braz-César, Roque João
- C 19528** ONE DIMENSIONAL CONSOLIDATION AND DIRECT SHEAR TESTS: EXPERIMENTAL SETUP BASED ON A LABVIEW APPROACH
José Gonçalves, José Batista, Miguel Paula, Manuel Braz-César
- C 19072** ASSESSMENT OF THE RISK OF COLLAPSE OF A LATTICE STEEL TOWER THROUGH MULTIPLE STRIPE ANALYSIS IN PORTUGAL
Fabio Paiva, Rui Carneiro Barros, Luís Guerreiro

Tuesday, June 25
8:30-10:30

Room 21

COMPDYN RS 16 - I: PERFORMANCE-BASED EARTHQUAKE ENGINEERING

Chair: Dimitri Beskos

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- C 19423** **KEYNOTE:** A PERFORMANCE-BASED HYBRID FORCE-DISPLACEMENT SEISMIC DESIGN METHOD FOR STEEL, REINFORCED CONCRETE AND COMPOSITE FRAMES.
Dimitri Beskos
- C 18871** A COMPARATIVE ANALYSIS BETWEEN THE SPANISH AND PORTUGUESE SEISMIC CODES. APPLICATION TO A BORDER RC PRIMARY SCHOOL
María-Victoria Requena-García-Cruz, Antonio Morales-Esteban, María-Luisa Segovia-Verjel, Emilio Romero-Sánchez, Jaime de Miguel-Rodríguez, João M.C. Estêvão
- C 18881** CONSTANT-DUCTILITY RESIDUAL DISPLACEMENT RATIOS
Mabel Orlacchio, Georgios Baltzopoulos, Iunio Iervolino
- C 19516** USING DIRECT ECONOMIC LOSSES AND COLLAPSE RISK FOR SEISMIC DESIGN OF RC BUILDINGS
Davit Shahnazaryan, Gerard O'Reilly, Ricardo Monteiro
- C 19210** RELATIONSHIP BETWEEN RESPONSE MODIFICATION AND DISPLACEMENT AMPLIFICATION FACTOR FOR DIFFERENT SEISMIC LEVELS AND SITE CLASSES
Bulent Erkmén

10:30-11:00

Coffee Break

DAY 2 – TUESDAY, JUNE 25

SEMI-PLENARY LECTURES

Tuesday, June 25 Minos East
11:00-13:00

Chair: Michael N. Fardis

C 20717 SEISMIC RESPONSE OF UNIT 1 OF FUKUSHIMA-DAIICHI NUCLEAR POWER PLANTS DURING THE 2011 OFF THE PACIFIC COAST OF TOHOKU EARTHQUAKE OF 9.0MW
Shinobu Yoshimura, Tomoshi Miyamura, Tomonori Yamada

C 20951 LARGE-SCALE SIMULATIONS OF VIRTUAL CITIES
Gian Paolo Cimellaro

C 20749 NOVEL SEISMIC RISK ANALYSIS METHODOLOGY: TIME DOMAIN, INTRUSIVE, STOCHASTIC ELASTIC PLASTIC FINITE ELEMENT METHOD
Hexiang Wang, Fangbo Wang, Han Yang, Boris Jeremic

Tuesday, June 25 Minos North-South
11:00-13:00

Chair: Álvaro Cunha

C 20103 MONITORING AND ASSESSMENT OF INFRASTRUCTURE: SENSEMAKING FROM DATA
Eleni Chatzi

C 21295 MONITORING AND NUMERICAL PREDICTION OF RAILWAY INDUCED VIBRATION IN BUILDINGS
Geert Degrande

C 20099 RELIABILITY ASSESSMENT OF HIGHSPEED TRAIN-BRIDGE INTERACTION
Christoph Adam, Benjamin Hirzinger, Patrick Salcher

Tuesday, June 25 Aphrodite-Artemis-Athena
11:00-13:00

Chair: George Karniadakis

U 18983 PARAMETRIC REDUCED ORDER MODELS, BAYESIAN INVERSION, LOW-RANK APPROXIMATIONS AND DEEP NETWORKS
Hermann Matthies

U 19194 SAMPLING STOCHASTIC PHENOMENA: FROM ADVANCED MONTE CARLO METHODS TO MANIFOLD INTERPOLATION-BASED SURROGATES
Michael D. Shields

U 19257 SURROGATE MODELLING MEETS MACHINE LEARNING
Bruno Sudret

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
11:00-13:00

Europa-Danae-Leda

Chair: Christian Soize

U 19207 THE RFE2 TECHNIQUE: TOWARDS THE DEFEAT OF THE “TYRANNY OF SCALES” IN MULTISCALE MODELING OF MATERIALS

Javier Oliver, Marcelo Raschi, Oriol Lloberas-Valls, Alfredo E. Huespe

U 19240 HIERARCHICAL BAYESIAN MODELLING FRAMEWORK FOR DATA-DRIVEN UNCERTAINTY QUANTIFICATION IN ENGINEERING SIMULATIONS

Costas Papadimitriou, Omid Sedehi, Lambros Katafygiotis

U 19190 ALEATORY OR EPISTEMIC - WHY IT MATTERS

Daniel Straub, Iason Papaioannou, Max Ehre

13:00-14:00

Lunch Break

TECHNICAL SESSIONS

Tuesday, June 25 14:00-16:00	Aphrodite-Artemis-Athena
<p>COMPDYN MS 13 - II: RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS</p> <p><i>MS Organizers:</i> Nicola Cavalagli, Francesco Clementi, Antonio Formisano, Gabriele Milani, Vagelis Plevis <i>Chair:</i> Nicola Cavalagli</p>	
C 19092	<p>THE NON-SMOOTH STORY OF DIFFERENT MASONRY TOWERS DAMAGED BY THE CENTRAL ITALY SEISMIC SEQUENCE OF 2016 <i>Francesco Clementi, Angela Ferrante, Ersilia Giordano, Stefano Lenci</i></p>
C 19094	<p>DAMAGE SURVEY AND ADVANCED SEISMIC ANALYSES OF DIFFERENT MASONRY CHURCHES AFTER THE CENTRAL ITALY EARTHQUAKE OF 2016 <i>Francesco Clementi, Ersilia Giordano, Angela Ferrante, Stefano Lenci</i></p>
C 18840	<p>A NUMERICAL-GEOMETRICAL METHODOLOGY TO REPRESENT OUT-OF-PLANE MECHANISMS OF UNREINFORCED MASONRY STRUCTURES BY USING PUSHOVER ANALYSIS <i>Renato Sante Olivito, Saverio Porzio, Marco Francesco Funari, Carmelo Scuro, Francesco Demarco</i></p>
C 18844	<p>EARTHQUAKE-INDUCED DAMAGE LOCALIZATION THROUGH NON-LINEAR DYNAMIC ANALYSIS <i>Alban Kita, Nicola Cavalagli, Maria Giovanna Masciotta, Paulo B. Lourenço, Filippo Ubertini</i></p>
C 19430	<p>3D EXTENSION OF AN EQUIVALENT FRAME MODEL FOR THE CHARACTERIZATION OF THE FLEXURAL BEHAVIOR OF DUTCH MASONRY STRUCTURES <i>N. Damolin, W.L. Nobel, F. Messali, J.G. Rots, M. Salvalaggio, M.R. Valluzzi</i></p>
C 19513	<p>EVALUATION OF THE EFFECT OF COMPATIBLE INTERVENTIONS APPLIED TO HORIZONTAL COMPONENTS OF URM BUILDINGS WITH EFM AND FEM MODELS. THE CASE OF PALAZZO CARRARO IN NOALE (ITALY) <i>M. Salvalaggio, L. Sbrogiò, M. Pavanetto, M.R. Valluzzi</i></p>

Tuesday, June 25 14:00-16:00	Europa-Danae-Leda
<p>COMPDYN MS 28 - II: NEW ADVANCES IN COMPUTATIONAL MODELLING AND EXPERIMENTAL TESTING OF INFILLED FRAMES</p> <p><i>MS Organizers:</i> Fabio Di Trapani, Liborio Cavaleri, Guido Magenes, Paolo Morandi <i>Chair:</i> Fabio Di Trapani, Liborio Cavaleri</p>	
C 19010	<p>KEYNOTE: INFILL WITH SLIDING PANELS WITH A FULL-HEIGHT OPENING <i>Marco Preti, Valentino Bolis, Anthony Paderno</i></p>
C 19259	<p>PBEE ASSESSMENT OF RC FRAMES WITH TRADITIONAL AND SLIDING-JOINT INFILLS <i>V. Bolis, F. Basone, Fabio Di Trapani, M. Preti</i></p>
C 18838	<p>MACRO-MODELLING OF COMBINED IN-PLANE AND OUT-OF-PLANE SEISMIC RESPONSE OF THIN STRENGTHENED MASONRY INFILLS <i>Marco Donà, Massimiliano Minotto, Enrico Bernardi, Elisa Saler, Nicolò Verlatto, Francesca da Porto</i></p>
C 18853	<p>FEM SIMULATION OF THE IN-PLANE SEISMIC EXPERIMENTAL RESPONSE OF R.C. FRAMES WITH UNREINFORCED AND BED-JOINT REINFORCED AAC MASONRY INFILLS <i>Riccardo R Milanese, Guido Andreotti, Paolo Morandi, Andrea Penna</i></p>

DAY 2 – TUESDAY, JUNE 25

C 19079 NUMERICAL MODELLING OF INFILLED RC FRAMES: THE DETECTION OF COLUMN FAILURE DUE TO LOCAL SHEAR INTERACTION

Maria Teresa De Risi, Carlo Del Gaudio, Paolo Ricci, Gerardo Mario Verderame

Tuesday, June 25

Minos East

14:00-16:00

UNCECOMP MS 6 - V: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Bojana Rosic

U 18892 **KEYNOTE:** UNCERTAINTY QUANTIFICATION FOR COMPLEX PROBLEMS IN BIOMEDICAL ENGINEERING

Wolfgang A. Wall, Jonas Nitzler, Martin Pfaller, Jonas Biehler

U 18493 COMPENSATING MODEL UNCERTAINTIES AND EFFECTS OF REDUCED ORDER MODELS IN EEG SOURCE IMAGING BY USING BAYESIAN STATISTICS

Alexandra Koulouri, Ville Rimpilainen, Jari Kaipio, Carsten Wolters, Felix Lucka, Mike Brookes

U 18837 AN EFFICIENT LOCAL KRIGING SURROGATE FOR HIGH-DIMENSIONAL DATA USING NONLINEAR PROJECTIONS

Dimitris Giovanis, Michael Shields

U 18795 BAND GAPS OCCURRENCE DUE TO MATERIAL MICROSTRUCTURE IN THE PRESENCE OF UNCERTAINTY

Panagiotis Koutsianitis, Georgios Tairidis, Georgios Stavroulakis

U 18479 UNCERTAINTY QUANTIFICATION FOR OPTICAL METASURFACES

Niklas Georg, Dimitrios Loukrezis, Ulrich Römer, Sebastian Schöps

U 18592 SURROGATE MODELING FOR VIBRO-ACOUSTICAL SYSTEMS WITH RANDOM INPUT DATA

Ulrich Römer, Christopher Blech, Shreyas Guruprasad, Sabine Langer

Tuesday, June 25

Minos North-South

14:00-16:00

COMPdyn MS 36 - II: SEISMIC ASSESSMENT OF EXISTING STRUCTURES BEFORE AND AFTER STRENGTHENING

MS Organizers: Stefanos Dritsos, Andreas Kappos

Chair: Stefanos Dritsos

C 21296 **KEYNOTE:** SEISMIC ASSESSMENT OF EXISTING STRUCTURES TO THE NEW EUROCODE 8-3

Andreas Kappos

C 19597 ESTIMATING THE LEVEL OF SHEAR WALL CONTRIBUTION IN THE SEISMIC CAPACITY OF EXISTING RC BUILDINGS

Konstantinos Morfidis, Christos Karakostas, Stephanos Dritsos

C 18519 SEISMIC ASSESSMENT AND STRENGTHENING OF URM AND MIXED MASONRY-RC BUILDINGS IN LISBON, PORTUGAL

Rita Bento

DAY 2 – TUESDAY, JUNE 25

C 18525 SEISMIC ASSESSMENT AND STRENGTHENING OF WALL-FRAME RC BUILDING THROUGH A CASE STUDY IN LISBON
Claudia Caruso, Rita Bento

C 19665 NUMERICAL MODELING OF MASONRY-INFILLED RC FRAME STRENGTHENED WITH TRM
Christiana Filippou, Christis Chrysostomou, Nicholas Kyriakides

Tuesday, June 25
14:00-16:00

Hera

COMPdyn RS 13 - V: NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS

Chair: Daigoro Isobe

C 19392 NUMERICAL STUDIES ON SEISMIC MOTION BEHAVIORS OF NON-STRUCTURAL COMPONENTS IN BUILDINGS
Daigoro Isobe, Koichi Kobayashi, Kazuki Sato, Kotoku Maeda, Hiroyuki Omura

C 19224 MODEL ORDER REDUCTION FOR MOBILE DEVICES
Raúl Rodríguez Sánchez, Quirin Aumann, Gerhard Müller

C 19324 A SIMPLE PROCEDURE FOR EMBEDDING SEISMIC LOADS IN FOUNDATION SUPERELEMENTS FOR COMBINED WIND, WAVE AND SEISMIC ANALYSIS OF OFFSHORE WIND TURBINE STRUCTURES
Martin Bjerre Nielsen, Emrah Sahin

C 19652 POD-BASED NEW REDUCTION PROCESS CONSIDERING THE INTERFACE FOR DUAL FORMULATION OF DYNAMIC SUBSTRUCTURING
Sunyoung Im, Euiyoung Kim, Jonggeon Lee, Maenghyo Cho

C 19695 BLIND-TEST NUMERICAL SIMULATION OF SHAKE-TABLE TESTS ON THREE-LEAF MASONRY WALLS: AN APPLICATION OF LIA BLOCK_3D
Raffaele Gagliardo, Lucrezia Cascini, Francesco Portioli, Raffaele Landolfo

Tuesday, June 25
14:00-16:00

Room 1

COMPdyn MS 3 - II: EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS

MS Organizer: George Manos

Chair: George Manos

C 19262 DYNAMIC AND SEISMIC BEHAVIOUR OF STONE MASONRY ARCH BRIDGES IN GREECE UTILISING IN-SITU MEASUREMENTS AND NUMERICAL PREDICTIONS
George Manos, Nick Simos, Nickoleta Lambri-Gaitana

C 19263 THE DYNAMIC RESPONSE OF A VERTICAL DRY STONE MASONRY WALL MOCK-UP. MEASUREMENTS AND NUMERICAL PREDICTIONS
George Manos, Lambros Kotoulas, Lazaros Melidis, O. Felekidou

C 19284 PERFORMANCE COMPARISON BETWEEN UNREINFORCED AND CONFINED MASONRY BUILDINGS SUBJECTED TO SHAKING TABLE TESTS
Chiara Pepi, Nicola Cavalagli, Matteo Ciano, Massimiliano Gioffrè, Vittorio Gusella

DAY 2 – TUESDAY, JUNE 25

- C 19308** STRUCTURAL BEHAVIOUR OF STAINLESS STEEL AND ALUMINIUM SQUARE AND RECTANGULAR HOLLOW SECTIONS UNDER CYCLIC BENDING
*Marina Bock, Orhan Yapici, **Marios Theofanous**, Samir Dirar, Konstantinos Katakalos, Georgios Manos*
- C 19257** PARTIALLY GROUTED REINFORCED MASONRY PIERS UNDER SEISMIC-TYPE IN-PLANE LOADS. EXPERIMENTAL MEASUREMENTS AND NON-LINEAR NUMERICAL SIMULATIONS
***George Manos**, Lambros Kotoulas, Lazaros Melidis, Kostas Katakalos*
- C 19258** IN-PLANE SEISMIC RESPONSE OF A GLAZED CURTAIN WALL: FULL-SCALE LABORATORY TEST AND NON-LINEAR MODELLING
Carolina Aiello

Tuesday, June 25

Room 2

14:00-16:00

UNCECOMP MS 5 - II: SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS

MS Organizers: Michael Shields, Bruno Sudret, Alex Taflanidis, Dimitrios Giovanis

Chair: Bruno Sudret

- U 18599** LITERATURE SURVEY AND BENCHMARKING OF SPARSE POLYNOMIAL CHAOS EXPANSIONS
***Nora Lüthen**, Bruno Sudret*
- U 18603** UNCERTAINTY QUANTIFICATION IN REDUCED-ORDER MODEL FOR VIBRATIONS OF GEOMETRICALLY NONLINEAR STRUCTURES COUPLED WITH ACOUSTIC FLUIDS IN PRESENCE OF SLOSHING AND CAPILLARITY
***Quentin Akkaoui**, Evangeline Capiez-Lernout, Christian Soize, Roger Ohayon*
- U 18612** ACTIVE SUBSPACES WITH B-SPLINE SURROGATES ON SPARSE GRIDS
***Michael Rehme**, Dirk Pflüger*
- U 18619** ESTIMATION OF CONFIDENCE REGIONS FOR RANDOM EXCURSION SETS WITH APPLICATION TO LARGE-SCALE ICE-SHEET SIMULATIONS
***Kevin Bulthuis**, Maarten Arnst, Frank Pattyn*
- U 18652** STATISTICAL ANALYSIS OF INDOOR HUMAN EXPOSURE BASED ON RESAMPLED POLYNOMIAL CHAOS EXPANSION
***Zicheng Liu**, Dominique Lesselier, Bruno Sudret, Joe Wiart*

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
14:00-16:00

Room 3

UNCECOMP MS 11 - II: POLYMORPHIC UNCERTAIN DATA FOR NUMERICAL ANALYSIS AND DESIGN OF STRUCTURES

MS Organizers: Michael Kaliske, Wolfgang Graf, Sigrid Leyendecker, Stefanie Reese, Wolfgang Wall

Chair: Wolfgang Graf

- U 18401** SURROGATE MODEL BASED STRUCTURAL ANALYSIS OF REINFORCED CONCRETE STRUCTURES WITH POLYMORPHIC UNCERTAINTIES
Ferenc Leichsenring, Wolfgang Graf, Michael Kaliske
- U 18519** A POLYMORPHIC UNCERTAINTY MODEL FOR NUMERICAL HOMOGENIZATION OF TRANSVERSELY FIBER REINFORCED PLASTICS
Ismail Caylak, Eduard Penner, Rolf Mahnken
- U 18546** QUANTIFICATION OF THE SHARPEST BOUNDS ON THE PROBABILITY OF FAILURE OF SHEET METAL FORMING PROCESSES UNDER UNCERTAIN INPUTS
Niklas Miska, Daniel Balzani
- U 18589** REDUCTION TECHNIQUES FOR ACOUSTIC SYSTEMS UNDER POLYMORPHIC UNCERTAINTY
Thomas Kohlsche, Stephan Lippert, Otto von Estorff
- U 18615** REGULARIZED LEAST SQUARES METHODS FOR THE CONSTRUCTION OF A HIERARCHICAL TUCKER TENSOR
Dieter Moser, Max Ehre
- U 18632** EFFICIENT COMPUTATION OF CONTINUUM DAMAGE MECHANICS FOR STRUCTURAL ANALYSIS WITH UNCERTAIN PARAMETERS
Rodolfo M. N. Fleury, Mona M. Dannert, Amelie Fau, Udo Nackenhorst

Tuesday, June 25
14:00-16:00

Room 4

COMPdyn MS 29 - I: AFTERSHOCK RISK ASSESSMENT: STATE OF THE ART AND FUTURE CHALLENGES

MS Organizers: Fatemeh Jalayer, Hossein Ebrahimian

Chair: Hossein Ebrahimian

- C 19740** **KEYNOTE:** LONG-TERM SEISMIC RISK ASSESSMENT CONSIDERING THE TRIGGERED AFTERSHOCKS
Fatemeh Jalayer, Hossein Ebrahimian
- C 18855** AFTERSHOCK GROUND MOTION RECORD SELECTION: A NOVEL MAINSHOCK-CONSISTENT APPROACH
Athanasios N. Papadopoulos, Mohsen Kohrangi, Paolo Bazzurro
- C 19080** NORCIA AND AMATRICE: A COMPARISON OF THE TWO HISTORIC CENTRES' PERFORMANCE UNDER THE CENTRAL ITALY EARTHQUAKE SEQUENCE
Valentina Putrino, Dina D'Ayala
- C 19183** SEISMIC FRAGILITY OF RC STRUCTURES UNDER MAINSHOCK-AFTERSHOCK SEQUENCES RECORDED ON SOFT SOIL CONDITIONS
Duofa Ji, Evangelos Katsanos
- C 18634** EFFECTS OF MATERIAL AND GEOMETRIC UNCERTAINTIES ON SEISMIC RESPONSE OF RC CURVE BRIDGES UNDER MULTIPLE EARTHQUAKES
Ehsan Omranian, Gholamreza Abdollahzadeh, Adel E Abdelnaby

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
14:00-16:00

Room 5

COMPdyn MS 19 - I: DYNAMIC SOIL-STRUCTURE INTERACTION: RECENT ADVANCES AND CHALLENGES

MS Organizers: Emmanouil Rovithis, Raffaele Di Laora, Maria Iovino

Chair: Maria Iovino

- C 19962** A NUMERICAL STUDY ON THE FILTERING ACTION OF PILES IN THE SOFT CLAY OF MALIAKOS GULF, CENTRAL GREECE
Emmanouil Rovithis, Raffaele Di Laora, Maria Iovino, Luca de Sanctis
- C 19132** COMPARATIVE ASSESSMENT OF DYNAMIC SOIL-STRUCTURE INTERACTION MODELS FOR FRAGILITY CHARACTERISATION
Francesco Cavalieri, António A. Correia, Helen Crowley, Rui Pinho
- C 19429** ESTIMATION OF DAMPING IN NUMERICAL MODELS FOR BUILDINGS ROCKING ON SAND IN CENTRIFUGE TESTING
Iason Pelekis, Gopal Madabhushi, Matthew DeJong
- C 19598** PILE-HEAD KINEMATIC BENDING OF FIXED-HEAD LONG PILES IN HOMOGENEOUS AND LAYERED SOILS CONSIDERING PILE AND SOIL MATERIAL NONLINEARITIES IN CASE OF MODERATE TO STRONG EARTHQUAKE MOTIONS
Stefano Stacul, Anna Franceschi, Nunziante Squeglia
- C 19191** ON THE APPLICABILITY OF VELETOS' WAVE PARAMETER ($1/\Sigma$)
Xenia Karatzia, George Mylonakis

Tuesday, June 25
14:00-16:00

Room 7

UNCECOMP MS 10 - I: SOFTWARE FOR UNCERTAINTY QUANTIFICATION

MS Organizers: Stefano Marelli, Edoardo Patelli, Dirk Pflüger

Chair: Stefano Marelli, Edoardo Patelli

- U 18636** KEYNOTE: REPRESENTATION OF COMPLEX DEPENDENCIES WITH COPULAS IN UQLAB
Emiliano Torre, Stefano Marelli, Bruno Sudret
- U 18616** SURROGATES AND DENSITIES FOR UQ WITH THE SPARSE GRID CODE SG++
Dirk Pflüger, Michael Rehme, Julian Valentin
- U 18386** OPENTURNS AND ITS GRAPHICAL INTERFACE
Michaël Baudin, Thibault Delage, Anne Dutfoy, Anthony Geay, Ovidiu Mircescu, Aurélie Ladier, Julien Schueller, Thierry Yalamas
- U 18500** A STANDARD FOR ALGORITHMS OF NUMERICAL EXPERIMENTS: PROPOSAL, IMPLEMENTATION AND FEEDBACK
Yann Richet
- U 18692** ENSEMBLE PROPAGATION FOR EFFICIENT UNCERTAINTY QUANTIFICATION: APPLICATION TO THE THERMOMECHANICAL MODELING OF A FIRST MIRROR FOR THE ITER CORE CXRS DIAGNOSTICS
Kim Liegeois, Romain Boman, Eric Phipps, Philippe Mertens, Yuri Krasikov, Maarten Arnst

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
14:00-16:00

Room 8

COMPdyn RS 2 - II: ALGORITHMS FOR STRUCTURAL HEALTH MONITORING

Chair: Geert Degrande

- C 19433** DRIVE-BY DAMAGE MONITORING OF TRANSPORT INFRASTRUCTURE USING DIRECT CALCULATION OF THE APPARENT PROFILE
Jennifer Keenahan, Eugene J. OBrien, Yifei Ren
- C 19614** REAL TIME DAMAGE DETECTION THROUGH SINGLE LOW-COST SMART SENSOR
Said Quqa, Luca Landi, Pier Paolo Diotallevi
- C 19642** SEISMIC ASSESSMENT OF NON-STRUCTURAL COMPONENTS USING FLOOR DESIGN SPECTRA DIRECTLY DEVELOPED FROM UNIFORM HAZARD SPECTRA
Amin Asgarian, Ghyslaine McClure
- C 19678** APPLICATIONS OF CAMERA MEASUREMENTS AND IMAGE PROCESSING TECHNIQUES IN THE EVALUATION OF TRAFFIC LOAD EFFECTS ON THE FORTH ROAD BRIDGE
Eugene J. OBrien, Abdollah Malekjafarian, Alexandra Micu, Ross McKinstray, Ewan Angus, Myra Lydon
- C 20045** BRIDGE-PIER SAFETY EVALUATION METHOD USING NONDESTRUCTIVE IMPACT TESTS
Mintaek Yoo, Myungjae Lee, Kihyun Kim, Jungjun Park, Il-Wha Lee

Tuesday, June 25
14:00-16:00

Room 9

COMPdyn RS 20 - II: SEISMIC RISK AND RELIABILITY ANALYSIS

Chair: Konstantinos Morfidis

- C 19299** USE OF ARTIFICIAL NEURAL NETWORKS IN THE R/C BUILDINGS' SEISMIC VULNERABILITY ASSESSMENT: THE PRACTICAL POINT OF VIEW
Konstantinos Morfidis, Konstantinos Kostinakis
- C 19140** AN EFFICIENT NON-PARAMETRIC METHODOLOGY FOR COMPUTING SEISMIC FRAGILITY CURVES
Domenico Altieri, Edoardo Patelli
- C 19093** UNCERTAINTY OF PROPERTIES AND FAILURE LOAD IN COMPOSITE MATERIALS
Piotr Kędziora
- C 19555** EXPERIMENTAL AND NUMERICAL ANALYSIS OF THE SEISMIC RESISTANCE OF TECHNOLOGY
Juraj Králik
- C 19470** SEISMIC RISK MAP FOR THE ITALIAN RESIDENTIAL BUILDING STOCK
Mariano Angelo Zanini, Lorenzo Hofer, Flora Faleschini, Klajdi Toska, C. Pellegrino
- C 18747** SEISMIC FRAGILITY ASSESSMENT OF LNG PIPE RACK ACCOUNTING FOR SOIL-STRUCTURE-INTERACTION
Luigi Di Sarno, George Karagiannakis

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
14:00-16:00

Room 10

COMPdyn MS 9 - I: NON-LINEAR DYNAMICS, WAVE PROPAGATION AND CONTACT-IMPACT PROBLEMS

MS Organizers: Jiri Naprstek, Anton Tkachuk, Jose Gonzalez, Radek Kolman, K.C. Park

Chair: Anton Tkachuk, K.C. Park

C 19967 KEYNOTE: A LARGE STEP EXPLICIT INTEGRATION METHOD FOR STRUCTURAL DYNAMICS ANALYSIS

K. C. Park, JA Gonzalez

C 19630 RESPONSE OF MONUMENTAL BUILDINGS TO INTERNAL EXPLOSIONS

Filippo Masi, Ioannis Stefanou, Paolo Vannucci, Victor Maffi-Berthier

C 19383 A LOCAL TIME STEPPING FOR ELASTIC WAVE PROPAGATION IN HETEROGENEOUS MATERIALS

Radek Kolman, Sang Soon Cho, K.-C. Park, Arkadi Berezovski, Jose González, Vitezslav Adámek

C 19115 PARTITIONED FORMULATION OF CONTACT-IMPACT PROBLEMS WITH STABILIZED CONTACT CONSTRAINTS AND RECIPROCAL MASS MATRICES

José A. González, Radek Kolman, Jan Kopačka, K.C. Park

C 18956 TIME STEP ESTIMATES FOR RECIPROCAL MASS MATRICES USING OSTROWSKI'S BOUNDS

Anton Tkachuk, Radek Kolman, José A. González, Manfred Bischoff, Ján Kopačka

Tuesday, June 25
14:00-16:00

Room 11

COMPdyn MS 30 - I: STRUCTURAL PERFORMANCE OF NEW AND EXISTING REINFORCED CONCRETE BUILDINGS IN SEISMIC AREAS: NUMERICAL AND EXPERIMENTAL APPROACHES FOR MODELLING

MS Organizers: Silvia Caprili, Walter Salvatore

Chair: Silvia Caprili

C 19781 KEYNOTE: MECHANICAL PERFORMANCE OF ENHANCED STEEL REINFORCING BARS IN UNCORRODED AND CORRODED CONDITIONS

Silvia Caprili, Walter Salvatore, Renzo Valentini, Gianbruno Luvarà, Cristiano Ascanio

C 19784 REINFORCED CONCRETE STRUCTURES WITH ENHANCED DUAL-PHASE STEEL REINFORCING BARS

Silvia Caprili, Francesca Mattei, Walter Salvatore, Rosario Gigliotti

C 19082 ASSESSMENT OF THE STRENGTH AND DEFORMATION CAPACITY OF CONCRETE SHEAR WALLS REINFORCED WITH STEEL PROFILES.

Hervé Degée, Dan Dragan

C 19537 ANALYTICAL MODEL FOR CONCRETE CONFINED BY STEEL STIRRUPS AND/OR FRP JACKETS IN RECTANGULAR SECTIONS

Franco Braga, Michele D'Amato, Rosario Gigliotti, M. Laterza

C 19804 INFLUENCE OF NONLINEAR MODELING ON CAPACITY ASSESSMENT OF RC FRAMED STRUCTURES

Edoardo M. Marino, Francesca Barbagallo, Michele Angiolilli, Beatrice Belletti, Guido Camata, Chiara Dellapina, Mariano Di Domenico, Gabriele Fiorentino, Amedeo Gregori, Davide Lavorato, Carmine Lima, Enzo Martinelli, Alessandro Rasulo, Paolo Ricci, Sergi

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
14:00-16:00

Room 12

COMPdyn MS 31 - I: MUSEUMS' COLLECTIONS AND SEISMIC PREVENTION: RESEARCH DEVELOPMENTS AND CASE-STUDIES

MS Organizers: Stefania Viti, Gian Paolo Cimellaro

Chair: Gian Paolo Cimellaro

C 19002 KEYNOTE: RESIMUS: A RESEARCH PROJECT ON THE SEISMIC VULNERABILITY OF MUSEUMS' COLLECTIONS

Stefania Viti, Marco Tanganelli

C 19720 DYNAMIC ANALYSIS OF ARTIFACTS: EXPERIMENTAL TESTS FOR THE VALIDATION OF NUMERICAL MODELS

Marco Tanganelli, Gian Paolo Cimellaro, S. Marasco, A. Cardoni, A. Zamani Noori, M. Coli, Stefania Viti

C 18970 STRUCTURAL ANALYSIS OF THE WALLS SUPPORTING THE RESURRECTION OF CHRIST BY PIERO DELLA FRANCESCA MURAL PAINTING AT SANSEPOLCRO, ITALY

Massimo Coli, Michelangelo Micheloni

C 19613 RESPONSE SPECTRA OF RIGID BLOCKS WITH UNCERTAIN BEHAVIOR

Giuseppe Cocuzza Avellino, Ivo Calì, Francesco Cannizzaro, Salvatore Caddemi, Nicola Impollonia

C 19167 IF SAFETY IS NOT ENOUGH. A MULTIDISCIPLINARY RESEARCH ON SEISMIC PREVENTION OF MUSEUM COLLECTIONS: THE MUSEOGRAPHICAL ANALYSIS

Giada Cerri, Francesco Collotti

Tuesday, June 25
14:00-16:00

Room 21

COMPdyn RS 16 - II: PERFORMANCE-BASED EARTHQUAKE ENGINEERING

Chair: Michalis Fragiadakis

C 19098 SEISMIC RELIABILITY-BASED DESIGN OF SOFTENING STRUCTURES EQUIPPED WITH DOUBLE SLIDING DEVICES

Paolo Castaldo, Gaetano Alfano

C 19105 OPTIMAL SLIDING FRICTION COEFFICIENT FOR ISOLATED BRIDGES IN DIFFERENT SOIL CONDITIONS

Paolo Castaldo, Marianela Ripani, Rosa Lo Priore

C 19998 A SLAMA-BASED ANALYTICAL PROCEDURE FOR THE COST/PERFORMANCE-BASED EVALUATION OF BUILDINGS

Simona Bianchi, Jonathan Ciurlanti, Stefano Pampanin

C 19201 ON THE IMPORTANCE OF BRACE CONNECTION MODELLING FOR SEISMIC PERFORMANCE ASSESSMENT OF STEEL CBFS

António Silva, José Miguel Castro, Ricardo Monteiro

C 19575 SELECTION OF EARTHQUAKE RECORDS FOR EFFICIENT DAMAGE ASSESSMENT

Kristina Strukar, Mario Jeleč, Tanja Kalman Šipoš

16:00-16:30

Coffee Break

TECHNICAL SESSIONS

Tuesday, June 25 16:30-18:30		Aphrodite-Artemis-Athena
<p>COMPdyn MS 13 - III: RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS</p> <p><i>MS Organizers:</i> Nicola Cavalagli, Francesco Clementi, Antonio Formisano, Gabriele Milani, Vagelis Plevis <i>Chair:</i> Antonio Formisano</p>		
C 18761	NON-LINEAR DYNAMIC BEHAVIOUR OF A MASONRY ARCH SUBJECTED TO HINGE CONTROL	<i>Gabriel Stockdale, Vasilis Sarhosis, Gabriele Milani</i>
C 18836	MECHANICAL BEHAVIOR OF ANCIENT MORTAR SPECIMENS FROM POMPEII SITE	<i>Francesca Autiero, Giuseppina De Martino, Marco Di Ludovico, Andrea Prota</i>
C 18984	ANALYSIS OF THE DYNAMIC RESPONSE OF MASONRY STRUCTURES THROUGH A DEGRADING HYSTERESIS MODEL	<i>Domenico Liberatore, Daniela Addessi, Marialuigia Sangirardi</i>
C 19076	CYCLIC BLOCK-BASED MODELLING OF TERRACED MASONRY HOUSES	<i>Antonio Maria D'Altri, Francesco Messali, Jan Rots, Giovanni Castellazzi, Stefano de Miranda</i>
C 19129	TOWARDS A 3D MICRO-STRUCTURE GENERATOR FOR STONE MASONRY WALLS FOR DETAILED NUMERICAL SIMULATIONS	<i>Mahmoud Shaqfa, Katrin Beyer</i>
C 19161	MACROSCALE MODEL CALIBRATION FOR SEISMIC ASSESSMENT OF BRICK/BLOCK MASONRY STRUCTURES	<i>Corrado Chisari, Lorenzo Macorini, Bassam Izzuddin</i>

Tuesday, June 25 16:30-18:30		Europa-Danae-Leda
<p>COMPdyn MS 28 - III: NEW ADVANCES IN COMPUTATIONAL MODELLING AND EXPERIMENTAL TESTING OF INFILLED FRAMES</p> <p><i>MS Organizers:</i> Fabio Di Trapani, Liborio Cavaleri, Guido Magenes, Paolo Morandi <i>Chair:</i> Fabio Di Trapani, Paolo Morandi</p>		
C 19075	ASSESSMENT OF ROBUSTNESS OF REINFORCED CONCRETE FRAME STRUCTURES WITH MASONRY INFILL WALLS	<i>Fabio Di Trapani, Luca Giordano, Giuseppe Mancini, Marzia Malavisi</i>
C 18444	THE OUT OF PLANE SEISMIC DEMAND OF INFILL WALLS IN THE NONLINEAR FIELD	<i>Alessandra De Angelis, Maria Rosaria Pecce</i>
C 19745	SIMPLIFIED MODEL CALIBRATION FOR DYNAMIC RESPONSE ASSESSMENT OF INFILLED RC BUILDINGS	<i>Marco Gaetani d'Aragona, Maria Polese, Andrea Prota</i>
C 19780	PRELIMINARY EXPERIMENTAL ASSESSMENT OF STRENGTHENED MASONRY INFILLS UNDER OUT-OF-PLANE ACTIONS	<i>Gerardo M. Verderame, Alberto Balsamo, Paolo Ricci, Mariano Di Domenico, Gennaro Maddaloni</i>
C 20183	PRIOR IN-PLANE DAMAGE ON THE OUT-OF-PLANE RESPONSE OF MASONRY INFILLS	<i>Farhad Akhouni, Graca Vasconcelos, Paulo Lourenço</i>

DAY 2 – TUESDAY, JUNE 25

- C 18845** EXPERIMENTAL AND NUMERICAL ANALYSIS OF RC FRAMES WITH DECOUPLED MASONRY INFILLS
Marko Marinković, Christoph Butenweg

Tuesday, June 25
16:30-18:30

Minos East

UNCECOMP MS 6 - VI: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Alexander Litvinenko

- U 18533** MODEL INFERENCE FOR ORDINARY DIFFERENTIAL EQUATIONS BY PARAMETRIC POLYNOMIAL KERNEL REGRESSION
David Green, Filip Rindler
- U 18761** ADAPTIVE LOW-RANK APPROXIMATION IN BAYESIAN INVERSE PROBLEMS
Martin Eigel, Manuel Marschall, Reinhold Schneider
- U 18554** ANALYSIS OF THE ENSEMBLE KALMAN INVERSION
Claudia Schillings, Simon Weissmann
- U 18679** ITERATIVE METHODS FOR IMPROVING ERROR COVARIANCE MODELLING IN VARIATIONAL ASSIMILATION
Jean-Philippe Argaud, Sibò Cheng, Bertrand Iooss, Didier Lucor, Angélique Ponçot
- U 18710** A STATISTICAL LEARNING APPROACH FOR HIGH-DIMENSIONAL PDES
Martin Eigel, Reinhold Schneider, Philipp Trunschke, Sebastian Wolf
- U 18380** UNCERTAINTY QUANTIFICATION IN A TWO-DIMENSIONAL RIVER HYDRAULIC MODEL
Siham El Garroussi, Matthias De Lozzo, Sophie Ricci, Didier Lucor, Nicole Goutal, Cédric Goeury, Sébastien Boyaval

Tuesday, June 25
16:30-18:30

Minos North-South

COMPDYN MS 36 - III: SEISMIC ASSESSMENT OF EXISTING STRUCTURES BEFORE AND AFTER STRENGTHENING

MS Organizers: Stefanos Dritsos, Andreas Kappos

Chair: Stefanos Dritsos

- C 19681** SEISMIC ASSESSMENT OF EXISTING URM BUILDINGS IN CODES: COMPARISON BETWEEN DIFFERENT LINEAR AND NONLINEAR STATIC PROCEDURES
Sergio Lagomarsino, Salvatore Marino, Serena Cattari
- C 19887** CALIBRATION OF THE HELLENIC SECOND-LEVEL SEISMIC CAPACITY PROCEDURE
Stylios Pardalopoulos, Vasilios Lekidis
- C 19126** COMPUTATIONAL ISSUES OF HINGED WALLS USED AS RETROFITTING OF EXISTING RC FRAMES
Elena Casprini, Andrea Belleri, Chiara Passoni, Simone Labò, Alessandra Marini
- C 19460** ENGINEERING PRACTICE FOR SEISMIC REHABILITATION AND STRENGTHENING OF EXISTING BUILDINGS IN BULGARIA
Marina Traykova

DAY 2 – TUESDAY, JUNE 25

C 19421 RETROFITTING MASONRY INFILL WALLS WITH INORGANIC MATRIX COMPOSITES TO PREVENT OUT-OF-PLANE COLLAPSE: EXPERIMENTAL INVESTIGATION
*Lampros Koutas, **Dionysios Bournas***

C 19361 AN APPROXIMATE METHOD TO ASSESS THE SEISMIC CAPACITY OF EXISTING RC BUILDINGS
*Michaela V. Vasileiadi, **Stefanos E. Dritsos***

Tuesday, June 25
16:30-18:30

Hera

COMPdyn RS 13 - VI: NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS

Chair: Stavros Kasinos

C 19469 ANCILLARY COMPUTATIONAL TOOLS FOR THE DYNAMIC ANALYSIS OF STRUCTURAL SYSTEMS
***Stavros Kasinos**, Alessandro Palmeri, Mariateresa Lombardo*

C 19560 WAVE APPROACH FOR NONLINEAR SIMULATIONS OF PYROTECHNIC SHOCKS INCLUDING MEDIUM FREQUENCIES
***Philippe De Brabander**, Ladevèze Pierre, Allix Olivier, Hubert Pascal, Thevenet Pascal*

C 19910 VIBRATION RESPONSE OF RANDOMLY PARAMETERED MISTUNED BLADED DISC USING STOCHASTIC REDUCED ORDER MODEL
***Rahul Kumar**, Sayan Gupta, Shaikh Faruque Ali*

C 19573 MULTIVARIATE PADÉ APPROXIMANTS FOR FINITE ELEMENT SOLUTIONS WITH COMPLEX PARAMETRIC DEPENDENCE
***Romain Rumpler**, Raúl Rodríguez Sánchez, Peter Göransson*

C 19585 THE STUDY ON INSTABILITY OF DIFFERENT KERNELS IN SOLID DYNAMIC PROBLEMS BY SMOOTHED PARTICLE HYDRODYNAMICS
***Meng Shuangshuang**, Hassan Frissane, Lorenzo Taddei, Nadhir Lebaal, Sébastien Roth*

C 19159 DYNAMIC ANALYSIS OF PIEZOELECTRIC HARVESTERS ACTUATED BY MAGNETIC INTERACTION
***Raffaele Ardito**, Matteo Mutarelli*

Tuesday, June 25
16:30-18:30

Room 1

COMPdyn MS 3 - III: EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS

MS Organizer: George Manos

Chair: George Manos

C 19158 EFFECTS OF MODELLING ASSUMPTION ON THE EVALUATION OF THE LOCAL SEISMIC RESPONSE FOR RC PRECAST INDUSTRIAL BUILDINGS
***Michele Egidio Bressanelli**, Andrea Belleri, Paolo Riva, Gennaro Magliulo, Davide Bellotti, Bruno Dal Lago*

C 19163 EXPERIMENTAL AND NUMERICAL INVESTIGATION OF STEEL SECTIONS OF STORAGE SYSTEMS TESTED TO FAILURE
*George Manos, **Alexandra Nalmpantidou**, V. Kourtides*

DAY 2 – TUESDAY, JUNE 25

- C 19164** NUMERICAL AND EXPERIMENTAL INVESTIGATION OF THE BEHAVIOUR OF R/C BEAM-TO-COLUMN JOINTS SUBJECTED TO SEISMIC TYPE LOADING
Lazaros Melidis, George Manos, Kostas Katakalos, George Koidis
- C 19168** NUMERICAL AND EXPERIMENTAL INVESTIGATION OF THE BEHAVIOUR OF A ONE-BAY R/C SINGLE-STORY FRAME SUBJECTED TO SEISMIC TYPE LOADING
Serafiem Mpousgos, George Manos, Kostas Katakalos, Lazaros Melidis
- C 19344** UNREINFORCED STONE MASONRY CHURCHES IN GREECE UNDER GRAVITATIONAL AND EARTHQUAKE ACTIONS
Lambros Kotoulas, George Manos
- C 19346** UNREINFORCED MASONRY MATERIALS UNDER AXIAL COMPRESSION OR FOUR-POINT FLEXURE. LABORATORY MEASUREMENTS AND NUMERICAL SIMULATIONS
Lambros Kotoulas, George Manos, Lazaros Melidis, Kostas Katakalos, George Manolis

Tuesday, June 25
16:30-18:30

Room 2

UNCECOMP MS 5 - III: SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS

MS Organizers: Michael Shields, Bruno Sudret, Alex Taflanidis, Dimitrios Giovanis

Chair: Michael Shields

- U 18771** RELIABILITY ANALYSIS IN THE PRESENCE OF MULTI-UNCERTAINTY WITH SURROGATE MODELS
Max Ehre, Iason Papaioannou, Daniel Straub
- U 18792** UNCERTAINTY QUANTIFICATION IN FLUID-STRUCTURE INTERACTION EXPLOITING AUTOMATICALLY GENERATED CHEAP APPROXIMATORS
Jonas Nitzler, Jonas Biehler, Phaedon-Stelios Koutsourelakis, Wolfgang A. Wall
- U 18688** EFFICIENT SURROGATE MODELING USING GRADIENT INFORMATION
Anindya Bhaduri, Lori Graham-Brady, Michael Shields, Jasmine Gardner, Cameron Abrams, David Brandyberry, Philippe Geubelle
- U 18696** ROBUST DESIGN USING ADAPTIVE MULTI-FIDELITY EMULATION
Matthew Ellison, Francisco Alejandro Diaz De la O
- U 18834** DEVELOPMENT OF SEISMIC FRAGILITY SURFACES FOR LIQUEFACTION-INDUCED SETTLEMENTS OF A LEVEE USING SURROGATE MODELS
Fernando Lopez-Caballero
- U 18843** CALIBRATION OF A SURROGATE DISPERSION MODEL APPLIED TO THE FUKUSHIMA NUCLEAR DISASTER
Ngoc Bao Tran Le, Vivien Mallet, Irène Korsakissok, Anne Mathieu, Raphaël Périllat

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
16:30-18:30

Room 3

UNCECOMP MS 11 - III: POLYMORPHIC UNCERTAIN DATA FOR NUMERICAL ANALYSIS AND DESIGN OF STRUCTURES

MS Organizers: Michael Kaliske, Wolfgang Graf, Sigrid Leyendecker, Stefanie Reese, Wolfgang Wall

Chair: Wolfgang Graf

- U 18735** OPTIMIZATION OF REINFORCED CONCRETE STRUCTURES UNDER CONSIDERATION OF SCALE BRIDGING UNCERTAINTIES
Philipp Edler, Steffen Freitag, Katharina Kremer, Michael Hofmann, Günther Meschke
- U 18645** UNCERTAINTY ANALYSIS OF A CAR CRASH SCENARIO USING A POSSIBILISTIC MULTI-FIDELITY SCHEME
Markus Mäck, Michael Hanss
- U 18648** COMPUTATIONAL SOIL AND EARTH STRUCTURE FE ANALYSES UNDER CONSIDERATION OF DATA UNCERTAINTIES VIA DETERMINISTIC AND PROBABILISTIC SENSITIVITY ANALYSES
Carla Henning, Tim Ricken
- U 18716** A DATA DRIVEN APPROACH TO THE ANALYSIS OF VIBRATIONS AND DAMPING
Tim-Fabian Korzeniowski, Kerstin Weinberg
- U 18719** MODELLING THE POLYMORPHIC UNCERTAINTY OF FRICTION AND ITS INFLUENCE ON THE STABILITY OF A SIMPLE NVH-MODEL
Stephan Brumme, Tarin Srisupattarawanit, Michael Müller, Georg-Peter Ostermeyer
- U 18880** COMBINATION OF MODEL REDUCTION AND ADAPTIVE SUBSET SIMULATION FOR STRUCTURAL RELIABILITY PROBLEMS
Jörg F. Unger, Annika Robens-Radermacher

Tuesday, June 25
16:30-18:30

Room 4

COMPdyn MS 29 - II: AFTERSHOCK RISK ASSESSMENT: STATE OF THE ART AND FUTURE CHALLENGES

MS Organizers: Fatemeh Jalayer, Hossein Ebrahimian

Chair: Fatemeh Jalayer

- C 19881** RETROSPECTIVE OPERATIONAL AFTERSHOCK FORECASTING FOR 2016 AMATRICE-NORCIA SEISMIC SEQUENCE IN CENTRAL ITALY
Hossein Ebrahimian, Fatemeh Jalayer
- C 19241** PERFORMANCE ASSESSMENT OF BRIDGES UNDER A SEQUENCE OF SEISMIC EXCITATIONS
Jawad Fayaz, Yijun Xiang, Farzin Zareian
- C 19550** STATE-DEPENDENT VULNERABILITY OF CASE-STUDY REINFORCED CONCRETE FRAMES
Karim Aljawhari, Fabio Freddi, Carmine Galasso
- C 19705** FORECASTING TIME-VARIABLE EARTHQUAKE RISK FOR REINFORCED CONCRETE BUILDINGS DURING AFTERSHOCK SEQUENCES BASED ON OPERATIONAL EARTHQUAKE FORECASTING AND RESONANCE PERIOD ELONGATION
Konstantinos Trevelopoulos, Philippe Guéguen, Agnès Helmstetter, Fabrice Cotton
- C 19898** EMPIRICAL FRAGILITY CURVES BASED ON RANDOM GROUND SHAKING FIELDS: EMPLOYING COPERNICUS-EMS DAMAGE GRADING MAPS FOR 2016 AMATRICE SEQUENCE
Andrea Miano, Fatemeh Jalayer, Giovanni Forte, Antonio Santo

DAY 2 – TUESDAY, JUNE 25

- C 18911** APPLICABILITY OF OPTIMAL BASE ISOLATION SYSTEM IN SEISMIC VULNERABILITY MITIGATION OF STRUCTURES UNDER MAINSHOCK-AFTERSHOCK SEQUENCES
Ali Khansefid, Ali Maghsoudi-Barmi, Ali Bakhshi

Tuesday, June 25

Room 5

16:30-18:30

COMPdyn MS 19 - II: DYNAMIC SOIL-STRUCTURE INTERACTION: RECENT ADVANCES AND CHALLENGES

MS Organizers: Emmanouil Rovithis, Raffaele Di Laora, Maria Iovino

Chair: Emmanouil Rovithis

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- C 19674** PILE-INDUCED FILTERING EFFECT: EVIDENCE FROM SOME CENTRIFUGE TESTS

Maria Iovino, Raffaele Di Laora, Luca de Sanctis

- C 19755** A SIMPLIFIED PROCEDURE FOR THE EVALUATION OF THE SEISMIC PERFORMANCE OF BRIDGE PIERS ON CAISSON FOUNDATIONS

Domenico Gaudio, Sebastiano Rampello

- C 19799** COMPARISON BETWEEN MODELS FOR THE EVALUATION OF THE SEISMIC RESPONSE OF OFFSHORE WIND TURBINES ON DEEP FOUNDATIONS

Guillermo M. Álamo, Jacob D.R. Bordón, Luis A. Padrón, Juan J. Aznárez, Orlando Maeso

- C 19836** NUMERICAL EVALUATION OF THE MODAL CHARACTERISTICS OF A BRIDGE ABUTMENT

Davide Noè Gorini, Luigi Callisto, Andrew John Whittle

Tuesday, June 25

Room 7

16:30-18:30

UNCECOMP MS 10 - II: SOFTWARE FOR UNCERTAINTY QUANTIFICATION

MS Organizers: Stefano Marelli, Edoardo Patelli, Dirk Pflüger

Chair: Dirk Pflüger

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- U 18709** MACHINE-LEARNING TOOL FOR HUMAN FACTORS EVALUATION – APPLICATION TO LION AIR BOEING 737-8 MAX ACCIDENT

Caroline Morais, K. Yung, Edoardo Patelli

- U 18839** UQPY - UNCERTAINTY QUANTIFICATION WITH PYTHON

Michael Shields, Dimitris Giovanis

- U 18702** COMPUTING WITH UNCERTAINTY: INTRODUCING PUFFIN THE AUTOMATIC UNCERTAINTY COMPILER

Nick Gray, Marco De Angelis, Scott Ferson

- U 18823** RECOMMENDER TECHNIQUES FOR SOFTWARE WITH RESULT VERIFICATION

Ekaterina Auer, Wolfram Luther

DAY 2 – TUESDAY, JUNE 25

UNCECOMP MS 14: ADVANCES IN ENGINEERING SOFTWARE FOR DYNAMIC PROBLEMS AND UNCERTAINTY QUANTIFICATION

MS Organizers: George Stavroulakis, Vissarion Papadopoulos, Manolis Papadrakakis

Chair: Vissarion Papadopoulos

U 18807 APPLYING SENSITIVITY ANALYSIS ON THE LOW-FREQUENCY BIOT THEORY USING AN EFASST METHOD

A. Mesgouez, G. Lefeuve-Mesgouez, S. Buis

U 19308 MSOLVE – AN OPEN SOURCE COMPUTATIONAL MECHANICS SOLUTION PLATFORM

George Stavroulakis, Dimitrios Tsapetis, Serafeim Bakalagos, Gerasimos Sotiropoulos, Odysseas Kokkinos, Vasilis Merevis, George Soimouris, Maria Tavlaki, Dimitris Giovanis, Vissarion Papadopoulos, Manolis Papadrakakis

U 18441 A STOCHASTIC APPROACH FOR POROUS CONSOLIDATION OF CLAYS

Ambrosios-Antonios Savvides, Manolis Papadrakakis

Tuesday, June 25

Room 8

16:30-18:30

COMPdyn MS 38 - I: RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES

MS Organizers: Laura Ragni, Enrico Tubaldi, Fabrizio Scozzese, Hamid Ahmadi

Chair: Laura Ragni

C 19049 **KEYNOTE:** CONSEQUENCES OF MECHANICAL PROPERTIES VARIABILITY OF SEISMIC ISOLATION SYSTEMS ON THE STRUCTURAL RESPONSE OF BUILDINGS

Alberto Pavese, Marco Furinghetti

C 18683 RESPONSE VARIABILITY OF STRUCTURES WITH HYBRID BASE ISOLATION SYSTEMS

Athanasios A. Markou, George Stefanou, George D. Manolis

C 19149 TESTING REQUIREMENTS OF HYSTERETIC ENERGY DISSIPATING DEVICES ACCORDING TO ITALIAN SEISMIC CODE

Felice Carlo Ponzo, Antonio Di Cesare, Nicla Lamarucciola, Domenico Nigro

C 18740 SEISMIC RETROFIT OF THE STUDENT HALL OF RESIDENCE OF MESSINA THROUGH BUCKLING RESTRAINED BRACES

Dario De Domenico, Nicola Impollonia, Nicola Pianta, Giuseppe Ricciardi

C 18622 OPTIMIZATION OF NONLINEAR FLUID VISCOUS DAMPERS FOR BUILDING STRUCTURES: ENERGY-BASED DESIGN APPROACH UNDER STOCHASTIC SEISMIC EXCITATION

Dario De Domenico, Giuseppe Ricciardi, Izuru Takewaki, Paolo Longo, Natale Maugeri

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
16:30-18:30

Room 9

COMPdyn RS 20 - III: SEISMIC RISK AND RELIABILITY ANALYSIS

Chair: George Markou

- C 19061** AN ASSESSMENT OF THE STRUCTURAL BEHAVIOUR OF THE GARISENDA TOWER IN BOLOGNA THROUGH FINITE ELEMENT MODELLING AND STRUCTURAL HEALTH MONITORING
Simonetta Baraccani, Alessandro Piccolo, Giada Gasparini, Michele Palermo, Tomaso Trombetti
- C 19644** ASSESSMENT OF PROBABILITY VARIABLES OF RELIABILITY ANALYSIS FOR SEISMIC DESIGN OF UNDERGROUND STRUCTURES
Young-bin Park, Do Kim, Seung-beom Ock, Yo-Seph Byun, Seong-Won Lee
- C 19849** ON THE EQUAL DISPLACEMENT APPROXIMATION FOR MID-RISE REINFORCED CONCRETE BUILDINGS
Yeudy F. Vargas-Alzate, Luis G. Pujades, Jose R. González-Drigo, Rodrigo E. Alva, Luis A. Pinzón
- C 19971** RINTC-E: SEISMIC RISK OF PRE-CODE SINGLE-STORY NON-RESIDENTIAL STEEL BUILDINGS IN ITALY
Gaetano Cantisani, Gaetano Della Corte
- C 19854** THE USE OF SEISMIC RISK MAPS IN THE DEVELOPMENT OF SEISMIC RISK REDUCTION PROGRAMS
Mariano Angelo Zanini, Lorenzo Hofer, Carlo Pellegrino

Tuesday, June 25
16:30-18:30

Room 10

COMPdyn MS 9 - II: NON-LINEAR DYNAMICS, WAVE PROPAGATION AND CONTACT-IMPACT PROBLEMS

MS Organizers: Jiri Naprstek, Anton Tkachuk, Jose Gonzalez, Radek Kolman, K.C. Park

Chair: Anton Tkachuk, Radek Kolman

- C 20101** AN EXPLICIT FINITE ELEMENT SELF-CONTACT FORMULATION WITH FRICTION STABILIZED BY THE BIPENALTY METHOD
Ján Kopačka, Dušan Gabriel, Radek Kolman
- C 19865** STOCHASTIC AND DETERMINISTIC INTERACTION AMONG EIGEN-MODES OF A STRUCTURE EXPOSED TO RANDOM EXCITATION
Stanislav Hračov, Jiří Náprstek
- C 21320** PARALLELIZATION OF DYNAMIC MULTI BODY FINITE ELEMENT PROBLEMS INCLUDING FRICTIONLESS CONTACT INTERACTION
Vasilis Merevis, Vissarion Papadopoulos
- C 19533** EXPLICIT MULTISTEP TIME INTEGRATION AND ITS STABILITY ANALYSIS FOR DISCONTINUOUS STRESS WAVE PROPAGATION IN HETEROGENEOUS SOLIDS
S. S. Cho, R. Kolman, J. A. Gonzalez, K. C. Park

UNCECOMP RS 19: VALIDATION OF STOCHASTIC MODELING TECHNIQUES

Chair: Anton Tkachuk, Radek Kolman

- U 18394** EVALUATION OF MODEL BIAS FOR SIMULATIONS OF COMPLEX SYSTEM BASED ON FULL-SYSTEM EXPERIMENT DATA
Hua Chen, Guozhao Liu, Haibing Zhou, Shudao Zhang

DAY 2 – TUESDAY, JUNE 25

U 18732 MODEL VALIDATION USING BAYESIAN OPTIMAL EXPERIMENTAL DESIGN IN URBAN MECHANISED TUNNELLING

Raoul Hölter, Maximilian Schoen, Arash Lavasan, Elham Mahmoudi

U 18906 HIGH DIMENSIONAL PARAMETER CALIBRATION FOR THE MODEL OF DETONATION FLUID DYNAMICS

Ruili Wang, Xiao Liang, Xingzhi Hu

Tuesday, June 25

Room 11

16:30-18:30

COMPdyn MS 30 - II: STRUCTURAL PERFORMANCE OF NEW AND EXISTING REINFORCED CONCRETE BUILDINGS IN SEISMIC AREAS: NUMERICAL AND EXPERIMENTAL APPROACHES FOR MODELLING

MS Organizers: Silvia Caprili, Walter Salvatore

Chair: Walter Salvatore

C 18631 KEYNOTE: ENGINEERING DEMAND PARAMETERS FOR THE DEFINITION OF COLLAPSE IN CODE CONFORMING RC BUILDINGS

Marco Terrenzi, Enrico Spacone, Guido Camata

C 19811 NONLINEAR ANALYSIS OF EXISTING RC SUB ASSEMBLAGES AND BUILDINGS WITH SMOOTH BARS BASED ON IMPROVED BOND-SLIP MODEL

Francesca Mattei, Silvia Caprili, Rosario Gigliotti, Walter Salvatore, Michele D'Amato, Lorenzo Audisio

C 20034 RINTC-E PROJECT: TOWARDS THE SEISMIC RISK OF LOW AND PRE-CODE SINGLE-STORY RC PRECAST BUILDINGS IN ITALY

Gennaro Magliulo, Davide Bellotti, Chiara Di Salvatore, Francesco Cavalieri

COMPdyn MS 31 - II: MUSEUMS' COLLECTIONS AND SEISMIC PREVENTION: RESEARCH DEVELOPMENTS AND CASE-STUDIES

MS Organizers: Stefania Viti, Gian Paolo Cimellaro

Chair: Stefania Viti

C 19141 DYNAMIC IDENTIFICATION OF THE SANSEPOLCRO (ITALY) MUSEUM AND THE WALL SUPPORTING THE RESURRECTION OF CHRIST BY PIERO DELLA FRANCESCA

Giorgio Lacanna, Maurizio Ripepe, Pauline Deguy, Letizia Orti, Massimo Della Schiava

C 19725 AN INTEGRATED COMPUTATIONAL APPROACH FOR HERITAGE MONUMENTAL MUSEUMS

Vladimir Cerisano Kovacevic, Alessandro Conti, Claudio Borri, Grazia Tucci, Cecilie Hollberg, Carlotta Matta, Lidia Fiorini, Michele Betti, Barbara Pintucchi

DAY 2 – TUESDAY, JUNE 25

Tuesday, June 25
16:30-18:30

Room 12

UNCECOMP RS 16: SYSTEM RELIABILITY ANALYSIS, DESIGN AND RISK ASSESSMENT

Chair: Simon Schnabl

U 18877 BUCKLING BEHAVIOR OF STOCHASTICALLY IMPERFECT CONCRETE-FILLED STEEL TUBES WITH CIRCUMFERENTIAL GAPS

Simon Schnabl, Igor Planinc

U 18515 TOWARDS RELIABILITY ANALYSIS BY ADAPTIVE SAMPLING WITH MULTIPLE FIDELITY LEVELS BY THE USE OF REDUCED BASIS METHODS

Morgane Menz, Christian Gogu, Sylvain Dubreuil, Nathalie Bartoli, Jérôme Morio

U 18940 EVALUATING SYSTEM RELIABILITY OF CABLE-STAYED BRIDGES CONSIDERING CABLE CORROSION

Naiwei Lu, Yang Liu

U 18801 STOCHASTIC RESPONSE OF VARIABLE STIFFNESS COMPOSITE PLATES WITH GEOMETRIC DISCONTINUITY BASED ON SECOND ORDER RELIABILITY METHOD - FREE VIBRATION AND MECHANICAL BUCKLING

Tittu Varghese Mathew, Prajith P., Sundararajan Natarajan

COMPDYN RS 27: STOCHASTIC DYNAMICS

Chair: Simon Schnabl

C 20116 ESTIMATION OF EVOLUTIONARY POWER SPECTRA OF SEISMIC ACCELEROGRAMS

George Stefanou, Sokratis Tsiliopoulos

C 19214 NUMERICAL STUDIES ON THE DYNAMIC BEHAVIOR OF A SUPERLONG CURVED PONTOON BRIDGE UNDER WIND AND WAVE ACTIONS

Aksel Fenerci, Yuwang Xu, Ole Øiseth

C 18908 TRANSIENT RESPONSE MOMENT ANALYSIS OF A LINEAR SYSTEM SUBJECTED TO NON-GAUSSIAN RANDOM EXCITATION BY THE EQUIVALENT NON-GAUSSIAN EXCITATION METHOD

Takahiro Tsuchida, Kohei Kanno

Tuesday, June 25
16:30-18:30

Room 21

COMPDYN RS 16 - III: PERFORMANCE-BASED EARTHQUAKE ENGINEERING

Chair: Vincenzo Fioriti

C 19146 DAMAGE DETECTION OF MASONRY STRUCTURES UNDER SHAKING TABLE TESTS THROUGH RELATIVE DISPLACEMENTS BY 3D OPTICAL MARKERS

Ivan Roselli, Vincenzo Fioriti, Gerardo De Canio, Michela Rossi, Chiara Calderini, Sergio Lagomarsino

C 19366 A PERFORMANCE-BASED HYBRID FORCE-DISPLACEMENT SEISMIC DESIGN METHOD FOR REINFORCED CONCRETE STRUCTURES

Chao Pian, Edmond V. Muho, Jiang Qian, Dimitri E. Beskos

C 19217 IMPROVING THE ACCURACY OF THE SAC/FEMA APPROACH

Amirhossein Orumiyehei, Timothy J. Sullivan

DAY 2 – TUESDAY, JUNE 25

- C 19419** A COST-EFFECTIVE RETROFITTING TECHNIQUE FOR URM BUILDINGS BASED ON STEEL ENCIRCLEMENTS IN OPENINGS: A CASE STUDY
María-Luisa Segovia-Verjel, E. Justo-Moscardó, Antonio Morales-Esteban, María-Victoria Requena-García-Cruz, Emilio Romero-Sánchez, Jaime de-Miguel-Rodríguez, João M.C. Estêvão
- C 19157** MULTI-PERFORMANCE DESIGN OF DISSIPATIVE BRACING SYSTEMS THROUGH INTERVENTION COST OPTIMIZATION
Raffaele Laguardia, Rosario Gigliotti, Franco Braga
- C 19939** DAMAGE INVESTIGATION OF ADOBE WALLS USING NUMERICAL SIMULATIONS
Hala Damerji, Santosh Yadav, Yannick Sieffert, Florent Vieux-Champagne, Yann Malecot

TECHNICAL SESSIONS

Wednesday, June 26
9:00-11:00

Aphrodite-Artemis-Athena

COMPdyn MS 13 - IV: RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS

MS Organizers: Nicola Cavalagli, Francesco Clementi, Antonio Formisano, Gabriele Milani, Vagelis Plevis
Chair: Gabriele Milani

- C 19301** SEISMIC BEHAVIOUR OF ISOLATE AND AGGREGATE MASONRY TOWERS: THE CASE STUDY OF THE SCIRI TOWER IN PERUGIA
Generoso Vaiano, Ilaria Venanzi, Antonio Formisano, Filippo Ubertini
- C 19536** 2017 ISCHIA EARTHQUAKE: MACROSCALE TYPOLOGICAL AND DAMAGE ASSESSMENT OF MASONRY CHURCHES
Claudia Casapulla, Francesca Ceroni, Antonio Formisano, Piera Salzano, Andrea Prota
- C 19298** SEISMIC ASSESSMENT OF MASONRY AGGREGATES: A NURBS-BASED LIMIT ANALYSIS COMPUTATIONAL TOOL
Nicola Grillanda, Andrea Chiozzi, Gabriele Milani, Antonio Tralli
- C 19592** AN ORTHOTROPIC MACROMECHANICAL MODEL WITH DAMAGE FOR THE ANALYSIS OF MASONRY STRUCTURES
Cristina Gatta, Daniela Addressi
- C 19205** ON THE APPLICATION OF QUASI-STATIC NONLINEAR EXPLICIT FE FORMULATION TO THE EVALUATION OF THE LATERAL CAPACITY OF MASONRY STRUCTURES
Renato Perucchio, Selman Tezcan, Jiacheng Sun
- C 19222** THE EFFECT OF THE SPANDREL MODELLING ON THE IN-PLANE LATERAL BEHAVIOUR OF UNREINFORCED MASONRY BUILDINGS
Igor Tomić, Katrin Beyer

Wednesday, June 26
9:00-11:00

Europa-Danae-Leda

COMPdyn MS 41 - I: THIN-WALLED STRUCTURES, STRENGTH, VIBRATION AND STABILITY

MS Organizers: Petr Evgen'evich Tovstik, Andrei L. Smirnov
Chair: Andrei L. Smirnov

- C 18867** **KEYNOTE:** LINEAR TWO-DIMENSIONAL MODELS OF ANISOTROPIC PLATES IN THE HIGH APPROXIMATIONS
Petr Tovstik, Denis Ivanov, Natalia Naumova, Tatiana P. Tovstik, Anna Zelinskaya
- C 18713** FREE VIBRATIONS OF ANNULAR CIRCULAR AND ELLIPTIC PLATES
Andrei L. Smirnov
- C 18699** BUCKLING OF AN ANNULAR NANOPATE UNDER TENSILE POINT LOADING
Anatolii Bochkarev, Anton Solovev
- C 18649** NONLINEAR BENDING OF ROUND THIN SD PLATES
Galina Pavilaynen

DAY 3 – WEDNESDAY, JUNE 26

- C 18714** UNSYMMETRICAL BUCKLING OF ORTHOTROPIC ANNULAR PLATES AND SPHERICAL CAPS UNDER INTERNAL PRESSURE
Svetlana M. Bauer, Eva B. Voronkova

Wednesday, June 26
9:00-11:00

Minos East

UNCECOMP MS 6 - VII: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Giovanni Stabile

- U 18897** **KEYNOTE:** WEIGHTED REDUCED ORDER METHODS FOR PARAMETRIZED PDES WITH RANDOM INPUTS
Gianluigi Rozza

- U 18682** REDUCED ORDER MODELING FOR CFD PROBLEMS
Kelbij Star, Francesco Belloni, Joris Degroote

- U 18825** MODEL REDUCTION AND STATISTICAL LEARNING FOR AEROSPACE SYSTEM DIAGNOSTICS AND PROGNOSTICS UNDER UNCERTAINTY
Laura Mainini

- U 18668** PROBABILISTIC FRAMEWORK FOR CALIBRATING MODEL COEFFICIENTS OF TURBULENCE MODELS
Noemi Friedman

- U 18697** NEW APPROACHES TO LEARN LOW-RANK MODELS OF DYNAMICAL SYSTEMS FROM STREAMING DATA
Alex Gorodetsky, Lionel Mathelin

Wednesday, June 26
9:00-11:00

Minos North-South

COMPdyn MS 8 - I: RIGID BLOCK MODELING APPROACHES FOR STATIC AND DYNAMIC ANALYSIS OF MASONRY STRUCTURES IN SEISMIC AREAS

MS Organizers: Claudia Casapulla, Linda Giresini, Francesca Taddei, Ehsan Noroozinejad

Chair: Claudia Casapulla

- C 19547** A HEURISTIC METHOD FOR MODELLING THE SLIDING RESISTANCE OF MASONRY ASSEMBLAGES OF INTERLOCKING BLOCKS
Claudia Casapulla, Elham Mousavian

- C 19305** PORTA SAN GIORGIO IN FLORENCE. RIGID BLOCK MODEL ANALYSIS FOR THE CRACK PATTERN INTERPRETATION
Stefano Galassi, Giacomo Tempesta

- C 19313** A PARAMETRIC STUDY OF MASONRY DOMES EQUILIBRIUM VIA A REVISITATION OF THE DURAND-CLAYE METHOD
Daniela Aita, Riccardo Barsotti, Stefano Bennati

- C 19404** A NEW 3D-ADAPTIVE DISCRETE INTERFACE FOR MODELING THE TORSION BEHAVIOR OF MASONRY CONTACT JOINTS
Claudia Casapulla, Bartolomeo Pantò, Ivo Calì

DAY 3 – WEDNESDAY, JUNE 26

- C 19405** OUT-OF-PLANE SEISMIC RESPONSE OF MASONRY FAÇADES USING DISCRETE MACRO-ELEMENT AND RIGID BLOCK MODELS
Linda Giresini, Bartolomeo Pantò, Salvatore Caddemi, Ivo Caliò

Wednesday, June 26

Hera

9:00-11:00

COMPdyn MS 17 - I: SEISMIC RISK ASSESSMENT OF BUILDING PORTFOLIOS

MS Organizers: Paolo Ricci, Carlo Del Gaudio, Gerardo Mario Verderame

Chair: Paolo Ricci

- C 18852** **KEYNOTE:** ITALIAN PLATFORM FOR SEISMIC RISK AND DAMAGE SCENARIO EVALUATION
Marta Faravelli, Diego Polli, Davide Quaroni, Mauro Onida, Marco Pagano, Antonella Di Meo, Barbara Borzi
- C 20075** A PROCEDURE FOR SEISMIC RISK ASSESSMENT OF ITALIAN RC BUILDINGS
Carlo Del Gaudio, Marco Di Ludovico, Guido Magenes, Andrea Penna, Maria Polese, Andrea Prota, Paolo Ricci, Annalisa Rosti, Maria Rota, Gerardo Mario Verderame
- C 19088** MANAGING EMERGENCY INTO HISTORIC CENTRES IN ITALY: SEISMIC VULNERABILITY EVALUATION AT URBAN SCALE
Francesca Giuliani, Anna De Falco, Giacomo Sevieri, Valerio Cutini
- C 19131** A PROCEDURE FOR SEISMIC RISK ASSESSMENT OF ITALIAN MASONRY BUILDINGS
Annalisa Rosti, Maria Rota, Guido Magenes, Andrea Penna
- C 19153** A MECHANICAL APPROACH FOR ESTIMATING REGIONAL FRAGILITY CURVES OF EXISTING RC BUILDINGS STOCK IN PUGLIA
Giuseppina Uva, Pierluigi Ciampoli, Valeria Leggieri, Andrea Nettis, Sergio Ruggieri
- C 19415** SEISMIC FRAGILITY CURVES FOR RC BUILDINGS AT TERRITORIAL SCALE
Fabio Romano, Maria Zucconi, Barbara Ferracuti

Wednesday, June 26

Room 1

9:00-11:00

COMPdyn MS 3 - IV: EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS

MS Organizer: George Manos

Chair: George Manos, Konstantinos Katakalos

- C 19364** EXPERIMENTAL AND NUMERICAL STUDIES ON METAMATERIALS FOR SEISMIC WAVES AND GROUNDBORNE VIBRATIONS
Andrea Colombi, Rachele Zaccherini, Giulia Aguzzi, Eleni Chatzi, Antonio Palermo, Philippe Gueguen, Philippe Roux
- C 19511** SHEAR PLASTIC OSCILLATIONS OF A WIND TURBINE TOWER
Michela Monaco, Anna Tafuro, Bruno Calderoni, Mariateresa Guadagnuolo
- C 19352** STRUCTURAL ASSESSMENT OF THE OTTOMAN BATH (HAMMAM) AT APOLLONIA (PAZAROUDA)
Ioannis Arnaoutis, Konstantinos Katakalos, George Manos

DAY 3 – WEDNESDAY, JUNE 26

- C 19353** EXPERIMENTAL MEASUREMENTS AND NUMERICAL VALIDATION OF COMPOSITE TECHNIQUES FOR THE SHEAR UPGRADE OF RC T-BEAMS
Konstantinos Katakalos, George Manos
- C 19354** NUMERICAL SIMULATION OF THE POSTERIOR MALLEOLUS FRACTURE WITH THE FINITE ELEMENT METHOD
Rafailia Ampla, Aggelos Vasiliadis, Konstantinos Katakalos
- C 19355** FINITE ELEMENT SIMULATION OF A NOVEL ELASTOPLASTIC HINGE FOR EARTHQUAKE RESISTANT CONSTRUCTIONS
Konstantinos Katakalos, Panagiota Kagioglou

Wednesday, June 26
9:00-11:00

Room 2

UNCECOMP MS 5 - IV: SURROGATE AND REDUCED-ORDER MODELING FOR STOCHASTIC SIMULATION OF PHYSICAL SYSTEMS

MS Organizers: Michael Shields, Bruno Sudret, Alex Taflanidis, Dimitrios Giovanis

Chair: Dimitrios Giovanis

- U 18889** RECENT DEVELOPMENTS IN SURROGATE MODELING FOR STORM RISK ASSESSMENT
Aikaterini P. Kyrioti, Jize Zhang, Alexandros A. Taflanidis
- U 18890** REDUCED ORDER MODELLING OF HYSTERETIC STRUCTURAL RESPONSE IN SEISMIC LOSS ESTIMATION
Dimitrios Patsialis, Alexandros A. Taflanidis
- U 19310** A DIFFUSION MAPS-BASED SURROGATE MODEL FOR UNCERTAINTY QUANTIFICATION
Ioannis Kalogeris, Vissarion Papadopoulos
- U 18846** A METAMODELING FRAMEWORK FOR EFFICIENT UNCERTAINTY PROPAGATION THROUGH NONLINEAR STRUCTURAL SYSTEMS
Bowei Li, Seymour M.J. Spence
- U 18885** EFFICIENT SURROGATE MODEL CONSTRUCTION FOR LARGE DATA SETS USING BAYESIAN LEARNING
Daigo Maruyama, Stefan Görtz, Simon Coggon
- U 18488** STRUCTURAL RELIABILITY ASSESSMENT WITH MULTI-FIDELITY STOCHASTIC SIMULATION
Carsten Proppe

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
9:00-11:00

Room 3

UNCECOMP MS 9 - I: UNCERTAINTY PROPAGATION AND QUANTIFICATION WITH COMPUTATIONALLY EXPENSIVE MODELS

MS Organizers: Laurent van den Bos, Yous van Halder, Benjamin Sanderse

Chair: Benjamin Sanderse

U 18551 KEYNOTE: SAMPLING-BASED QUADRATURE RULES FOR FORWARD AND INVERSE PROBLEMS
Laurent van den Bos, Benjamin Sanderse

U 18410 PARAMETER IDENTIFICATION AND UNCERTAINTY QUANTIFICATION FOR THE PREDICTIVE SIMULATION OF ABDOMINAL AORTIC ANEURYSM GROWTH
Lukas Bruder, Timothy M. Wildey, Jaroslav Pelisek, Hans-Henning Eckstein, Michael W. Gee

U 18495 A GOAL-ORIENTED RBM-ACCELERATED GENERALIZED POLYNOMIAL CHAOS ALGORITHM
Jiahua Jiang, Yanlai Chen, Akil Narayan

U 18816 UNCERTAINTY QUANTIFICATION OF AN AIR QUALITY SIMULATION CHAIN AT URBAN SCALE
Janelle K. Hammond, Vivien Mallet, Ruiwei Chen

U 18547 CONVERGENCE ANALYSIS OF A MULTI-LEVEL KRIGING METHODS: APPLICATIONS TO UQ IN CFD
Yu Zhang, Richard Dwight, Zhong-Hua Han

Wednesday, June 26
9:00-11:00

Room 4

COMPdyn RS 8 - I: GEOTECHNICAL EARTHQUAKE ENGINEERING

Chair: Luigi Di Sarno

C 19304 THE SEISMIC RESPONSE OF NATURAL GAS PIPELINES BURIED IN DISCONTINUOUS PERMAFROST UNDER VERTICALLY PROPAGATING SHEAR WAVES: PARAMETRIC ANALYSIS
Daniel A. Pohoryles, Luigi Di Sarno, Oh-Sung Kwon, Marianna Ercolino, Anastasios Sextos

C 18458 VERIFICATION OF NUMERICAL LIQUEFACTION MODEL USING DYNAMIC CENTRIFUGE TEST
Jinsun Lee, Seongnam Kim, Jeonggon Ha, Moongyo Lee, Dongsoo Kim

C 19439 NON-LINEAR DYNAMIC SEISMIC SLIDING MOVEMENT OF DRY SLOPES
Loukas Katsenlis, Constantine Stamatopoulos, Vassilis Panoskaltsis

C 18739 PREDICTION OF GROUND VIBRATION DUE TO RAILWAY TRAFFIC IN MRTS UNDERGROUND CUT AND COVER TUNNELS
Arnab Sur, Bappaditya Manna, Shiva Shankar Choudhary

C 18743 DYNAMIC ANALYSIS OF SINGLE BATTER PILE USING DIFFERENT SOIL MODELS
Rohit Ralli, Bappaditya Manna, Manoj Datta

C 18805 STATISTICAL CHARACTERIZATION OF SEISMIC RECORDS
John Mastrokalos, Costas Smaragdakis, Michael Taroudakis

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
9:00-11:00

Room 5

UNCECOMP MS 16: FAILURE PREVENTION USING PHYSICAL-BASED MODELS AND DATA-BASED MODELS

MS Organizers: Alice Cicirello, Edoardo Patelli

Chair: Alice Cicirello, Edoardo Patelli

U 18502 UNCERTAINTY QUANTIFICATION OF OPTIMAL THRESHOLD FAILURE PROBABILITY FOR PREDICTIVE MAINTENANCE USING CONFIDENCE STRUCTURES
Adolphus Lye, Alice Cicirello, Edoardo Patelli

U 18744 FAILURE DETECTION OF LOW-COST WEARABLE DEVICES USING RECORDED DATA AND REPORTS
Andreea-Maria Oncescu, Alice Cicirello

U 18747 AN APPROACH FOR DETECTING FAILURES IN REAL TIME MONITORING SYSTEMS FOR AUTOMOTIVE APPLICATIONS
Philemon Yong Xian Kwok, Alice Cicirello

U 18884 IMPROVED FLOW PREDICTION IN INTRACRANIAL ANEURYSMS USING DATA ASSIMILATION
Franziska Schulz, Christoph Roloff, Daniel Stucht, Dominique Thévenin, Oliver Speck, Gábor Janiga

Wednesday, June 26
9:00-11:00

Room 7

COMPdyn RS 23 - I: SOIL-STRUCTURE INTERACTION

Chair: Hector Jensen, Nawawi Chouw

C 18590 NUMERICAL ANALYSIS OF STRUCTURE-SOIL-STRUCTURE INTERACTION FOR TWO DIFFERENT BUILDINGS DURING EARTHQUAKES
Felipe Vicencio, Nicholas Alexander

C 18732 NONLINEAR RESPONSE ANALYSIS OF SOIL-FOUNDATION-STRUCTURE INTERACTION SYSTEM OF MIDDLE-RISE RC BUILDING FOR ULTIMATE SEISMIC CONDITION
Naohiro Nakamura, Takuya Suzuki

C 18814 THREE-DIMENSIONAL SOIL-STRUCTURE-INTERACTION APPLYING THE COUPLED INTEGRAL TRANSFORM METHOD (ITM) – FINITE ELEMENT METHOD (FEM) APPROACH FOR SURFACE FOUNDATIONS
Julian Freisinger, Gerhard Müller

C 19554 ANALYSIS OF THE EFFECT OF LAYERED SUBSOIL ON THE SEISMIC EXCITATION OF NUCLEAR FUEL STORAGE STRUCTURES
Juraj Králik, Juraj Králik, jr.

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
9:00-11:00

Room 8

COMPdyn MS 38 - II: RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES

MS Organizers: Laura Ragni, Enrico Tubaldi, Fabrizio Scozzese, Hamid Ahmadi

Chair: Laura Ragni

C 19120 ANALYSIS OF THE INFLUENCE OF VISCOUS DAMPERS PROPERTIES VARIABILITY VIA RELIABILITY-BASED OPTIMIZATION METHOD

Fabrizio Scozzese, Andrea Dall'Asta, Enrico Tubaldi

C 19270 THE SEISMIC RETROFIT BY EXTERNAL DISSIPATIVE SYSTEMS: A CASE STUDY

Laura Gioiella, Enrico Tubaldi, Laura Ragni, Fabrizio Gara, Andrea Dall'Asta

C 18530 FORMULATION OF A NOVEL OPENSEES ELEMENT FOR FPS BEARINGS WITH ENHANCED FRICTION MODEL

Virginio Quaglini, Emanuele Gandelli, Paolo Dubini, Sara Cattaneo

C 19047 STATIC CONDENSATION PROCEDURE OF FINITE ELEMENT MODELS FOR FAST NON-LINEAR TIME HISTORY ANALYSES OF BASE-ISOLATED STRUCTURES

Marco Furinghetti, Alberto Pavese, Elisa Rizzo Parisi

C 19266 CASE-STUDY OF A COST-BASED SEISMIC DESIGN FOR A R.C. FRAME WITH ADDITIONAL DISSIPATIVE BRACE SYSTEMS

Iolanda Nuzzo

Wednesday, June 26
9:00-11:00

Room 9

UNCECOMP MS 13 - I: MULTISCALE ANALYSIS AND DESIGN OF RANDOM HETEROGENEOUS MEDIA

MS Organizers: George Stefanou, Dimitrios Savvas, Vissarion Papadopoulos

Chair: George Stefanou

U 18899 EFFECTIVE PROPERTIES OF RANDOM GRAPHENE SHEET REINFORCED COMPOSITES

Dimitrios Savvas, George Stefanou, Manolis Papadrakakis

U 18388 NANOCOMPOSITES: SYNTHETIC GENERATION AND MULTISCALE STOCHASTIC FAILURE ANALYSIS

Seyed Hamid Reza Sanei

U 18584 ON PARAMETER ESTIMATION FOR PROBABILISTIC DISTRIBUTION OF THE MAXIMUM MICROSCOPIC STRESSES IN UNIDIRECTIONAL FIBER REINFORCED COMPOSITES AGAINST A RANDOM FIBER LOCATION VARIATION WITH THE SUCCESSIVE LOCAL SENSITIVITY ANALYSIS-BASED APPROACH

Sei-ichiro Sakata, Takuro Sakamoto

U 18585 MULTISCALE STOCHASTIC STRESS ANALYSIS OF PARTICLE REINFORCE COMPOSITES WITH A SUCCESSIVE LOCAL SENSITIVITY ANALYSIS CONSIDERING RANDOMNESS IN MULTI-PARTICLES LOCATION

Yuki Arai, Sei-ichiro Sakata

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
9:00-11:00

Room 10

COMPdyn MS 42 - I: NOVEL METHODS FOR SEISMIC DESIGN AND INTERVENTION OF CONVENTIONAL AND INTEGRAL BRIDGES

MS Organizers: Camillo Nuti, George Mylonakis, Flavia De Luca, Stergios Mitoulis, Davide Lavorato, Gabriele Fiorentino

Chair: Camillo Nuti, George Mylonakis, Stergios Mitoulis

C 19339 **KEYNOTE:** TOWARDS A SIMPLIFIED AND RIGOROUS PERFORMANCE-BASED SEISMIC DESIGN OF ORDINARY STANDARD BRIDGES IN CALIFORNIA

Angshuman Deb, Alex Zha, Zachary Caamano-Withall, Joel Conte, Jose Restrepo

C 19109 A NONLINEAR MATERIAL MODEL OF CORRODED REBARS FOR SEISMIC RESPONSE OF BRIDGES

Davide Lavorato, Angelo Pelle, Gabriele Fiorentino, Camillo Nuti, Alessandro Rasulo

C 19103 SHAKING TABLE TESTS ON AN INTEGRAL ABUTMENT BRIDGE MODEL: PRELIMINARY RESULTS

Gabriele Fiorentino, Cihan Cengiz, Flavia De Luca, Georgia De Benedetti, Francesco Lolli, Matt Dietz, Luiza Dihoru, Davide Lavorato, Dimitris Karamitros, Bruno Briseghella, Tatjana Isakovic, Christos Vrettos, Antonio Topa Gomes, Anastasios Sextos, George

C 19464 HYBRID BEM-FEM ASSESSMENT ON THE DYNAMIC BEHAVIOUR OF INTEGRAL BRIDGE

Hendrawan D. B. Aji, Min B. Basnet, Frank Wuttke

C 19612 THE EFFECT OF JOINT GAP SIZE ON THE SEISMIC PERFORMANCE OF RAILWAY BRIDGES

Sotiria Stefanidou, Anastasia Gektsi, Andreas Kappos

Wednesday, June 26
9:00-11:00

Room 11

UNCECOMP MS 1: COMPUTATIONAL MULTISCALE MODELLING UNDER UNCERTAINTY

MS Organizers: Paul Steinmann, Dmytro Pivovarov

Chair: Dmytro Pivovarov

U 18498 ON SPECTRAL FUZZY-STOCHASTIC FEM FOR PROBLEMS INVOLVING POLYMORPHIC GEOMETRICAL UNCERTAINTIES

Dmytro Pivovarov, Kai Willner, Paul Steinmann

U 18602 A PARTITIONED SOLUTION METHOD WITH LAGRANGE MULTIPLIERS FOR ACCELERATING AND REGULARIZING UNCERTAINTY PROPAGATIONS

Hee-sun Choi, Jin-Gyun Kim, Alireza Doostan, K.C. Park

U 18621 EXPERIMENTAL IDENTIFICATION OF MESOSCOPIC ELASTICITY TENSOR FIELD FOR HETEROGENEOUS MATERIALS WITH COMPLEX MICROSTRUCTURE USING MULTISCALE EXPERIMENTAL IMAGING MEASUREMENTS

Tianyu Zhang, Christophe Desceliers, Florent Pled

U 18788 AGGREGATE CLUSTERING AND CASTING DIRECTION EFFECTS IN LATTICE DISCRETE PARTICLE MODEL SIMULATIONS

Jan Podroužek, Marco Marcon, Jan Vorel, Roman Wan-Wendner

U 19305 APPLICATION OF DOMAIN DECOMPOSITION SOLUTION SCHEMES IN ISOGEOMETRIC KIRCHHOFF-LOVE SHELLS WITH STOCHASTICALLY DISTRIBUTED GRAPHENE INCLUSIONS

Dimitrios Tsapetis, Gerasimos Sotiropoulos, George Stavroulakis, Vissarion Papadopoulos, Manolis Papadrakakis

DAY 3 – WEDNESDAY, JUNE 26

- U 18537** MULTILEVEL MODEL REDUCTION FOR UNCERTAINTY QUANTIFICATION IN COMPUTATIONAL VIBRO-ACOUSTICAL DYNAMICS
Justin Reyes, Christian Soize, Laurent Gagliardini, Christophe Desceliers

Wednesday, June 26
9:00-11:00

Room 12

COMPDYN MS 27: ADVANCES IN MODEL REDUCTION TECHNIQUES IN COMPUTATIONAL STRUCTURAL DYNAMICS

MS Organizers: Jin-Gyun Kim, K.C. Park, Roger Ohayon

Chair: K.C. Park, Roger Ohayon

- C 18832** **KEYNOTE:** ACCURATE COMPUTATION OF FREQUENCY RESPONSE FUNCTIONS OF DUAL CRAIG-BAMPTON REDUCED SYSTEMS
Fabian M. Gruber, Dominik M. Stahl, Daniel J. Rixen

- C 18901** A STUDY OF PROJECTION BASED MODEL REDUCTION FOR THERMOMECHANICAL VIBRATION
Changuk Ahn, Hiroki Yamashita, Hiroyuki Sugiyama, Jin-Gyun Kim

- C 18985** COMPUTATIONAL ANALYSIS OF A DETUNED-MISTUNED BLADED-DISK WITH GEOMETRICAL NONLINEARITIES
Anthony Picou, Evangéline Capiez-Lernout, Christian Soize, Moustapha Mbaye

- C 19178** A NOVEL DERIVATION FOR MODAL DERIVATIVES BASED ON VOLTERRA SERIES REPRESENTATION AND ITS USE IN NONLINEAR MODEL ORDER REDUCTION
Maria Cruz Varona, Raphael Gebhart, P. Biffinger, Boris Lohmann, Daniel J. Rixen

- C 19746** REDUCED ORDER MODELING FOR THE DYNAMIC ANALYSIS OF STRUCTURES WITH NONLINEAR INTERFACES
Linus Andersson, Peter Persson, Per Erik Austrell, Kent Persson

Wednesday, June 26
9:00-11:00

Room 21

COMPDYN RS 16 - IV: PERFORMANCE-BASED EARTHQUAKE ENGINEERING

Chair: Christoph Adam

- C 19916** SHAKE TABLE TESTING FOR SEISMIC PERFORMANCE EVALUATION OF NON-STRUCTURAL ELEMENTS
Daniele Perrone, Emanuele Brunesi, Simone Peloso

- C 19981** THE INFLUENCE OF THE STEEL GRADE ON THE PROBABILISTIC THEORY OF PLASTIC MECHANISM CONTROL FOR STEEL MOMENT RESISTING FRAMES
Alessandro Pisapia, Vincenzo Piluso

- C 20064** ASSESSMENT OF THE RESISTANCE MODEL UNCERTAINTIES IN PLANE STRESS NLFEA OF CYCLICALLY LOADED REINFORCED CONCRETE SYSTEMS
Diego Gino, Paolo Castaldo, Alessandro Dorato, Giuseppe Mancini

- C 20016** A METHOD FOR PERFORMANCE-BASED SEISMIC DESIGN OF REINFORCED CONCRETE FRAME BUILDINGS
Soha Elkassas, Mohamed AbdelMooty, Ezzat Fahmy, Ezzeldin Ahmed

DAY 3 – WEDNESDAY, JUNE 26

C 20038 RINTC-E PROJECT: TOWARDS THE ASSESSMENT OF THE SEISMIC RISK OF EXISTING STRUCTURES IN ITALY

Junio Iervolino, Andrea Spillatura, Paolo Bazzurro

11:00-11:30

Coffee Break

DAY 3 – WEDNESDAY, JUNE 26

PLENARY LECTURES

Wednesday, June 26
11:30-13:30

Minos

Chair: Boris Jeremic

C 19928 RECONSTRUCTING A VERY DIFFERENT CHRISTCHURCH: HOW THE 2011 EARTHQUAKES HAVE DRIVEN DECISIONS ON SELECTION OF STRUCTURAL SYSTEMS

Michel Bruneau, Gregory MacRae

C 20156 CONTINUOUS DYNAMIC MONITORING PROGRAMS OF LARGE CIVIL INFRASTRUCTURES

Álvaro Cunha, Elsa Caetano, Carlos Moutinho, Filipe Magalhães

C 21029 PRACTICAL, RULES-BASED SEISMIC ASSESSMENT OF CONCRETE BUILDINGS THROUGH NONLINEAR RESPONSE-HISTORY ANALYSIS

Michael N. Fardis

Wednesday, June 26
11:30-13:30

Europa-Danae-Leda

Chair: Hermann Matthies

U 18928 RECENT DEVELOPMENTS IN APPLIED MECHANICS WITH UNCERTAINTIES

Isaac Elishakoff

U 19231 PROBABILISTIC LEARNING AND ADAPTATION WITH POLYNOMIAL CHAOS

Roger Ghanem

U 19303 UNCERTAINTY QUANTIFICATION FOR PHYSICS INFORMED NEURAL NETWORKS

George Karniadakis

13:30-14:30

Lunch Break

TECHNICAL SESSIONS

Wednesday, June 26 Aphrodite-Artemis-Athena
14:30-16:30

COMPdyn MS 13 - V: RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS

MS Organizers: Nicola Cavalagli, Francesco Clementi, Antonio Formisano, Gabriele Milani, Vagelis Plevris

Chair: Vagelis Plevris

C 19195 KEYNOTE: SIMPLIFIED SEISMIC ANALYSIS OF ANCIENT CHURCHES AT A TERRITORIAL SCALE

Michele D'Amato, Antonio Formisano, Rosario Gigliotti, Raffaele Laguardia

C 19119 ANALYSIS OF DAMAGE DUE TO ARTILLERY STRIKES ON TWO TYPES OF FORTRESS TYPICAL OF THE MIDDLE AGES AND OF THE RENAISSANCE PERIODS

Siro Casolo, Gabriele Milani, Vito Tateo

C 19162 A PROBABILISTIC FRAMEWORK USING A DISCRETE FE-BASED HOMOGENIZED MODEL FOR THE IN- AND OUT-OF-PLANE ANALYSIS OF MASONRY STRUCTURES

Luís Carlos Silva, Gabriele Milani, Paulo B. Lourenço

C 19198 EVALUATION OF THE SEISMIC RESPONSE OF A HISTORICAL EARTHEN STRUCTURE BASED ON A DISCRETE MACRO-ELEMENT MODELLING APPROACH

César Chácará, Bartolomeo Pantò, Rafael Aguilar

C 19968 NUMERICAL MODELS FOR SIMULATING THE DYNAMIC BEHAVIOUR OF FREESTANDING ANCIENT COLUMNS

Daniele Baraldi, Gabriele Milani, Vasilis Sarhosis

C 18947 MODELING FOR COMPUTATION OF THE STRENGTHENED URM WALLS, AT HISTORIC BUILDINGS, IN SEISMIC AREAS

Gheorghe Popescu, Rodica Popescu

Wednesday, June 26 Europa-Danae-Leda
14:30-16:30

COMPdyn MS 41 - II: THIN-WALLED STRUCTURES, STRENGTH, VIBRATION AND STABILITY

MS Organizers: Petr Evgen'evich Tovstik, Andrei L. Smirnov

Chair: Andrei L. Smirnov

C 18880 ON AN ATTRACTION BASIN OF THE GENERALIZED KAPITSAS PROBLEM

Tatiana M. Tovstik, Alexander Belyaev, Dmitriy Kulizhnikov, Nikita Morozov, Petr Tovstik, Tatiana P. Tovstik

C 18945 POST-BUCKLING DEFORMATION AND FRACTURE OF A STRETCHED PLATE WITH A CRACK

Nikita F. Morozov, Boris N. Semenov, Petr E. Tovstik

C 18804 CHANGES IN THE STRESS-STRAIN STATE OF THE CORNEASCLERAL SHELL UNDER APPLANATION BY A VACUUM RING

Dmitry Franus

C 18876 BUCKLING OF THIN CYLINDRICAL SHELL STIFFENED BY RINGS WITH T-SHAPED CROSS-SECTION

Sergei Filippov

DAY 3 – WEDNESDAY, JUNE 26

- C 19248** NON LINEAR DYNAMIC ANALYSIS OF THIN-WALLED STRUCTURES ADOPTING A MIXED BEAM FINITE ELEMENT MODEL WITH OUT-OF-PLANE CROSS-SECTION WARPING
Paolo Di Re, Daniela Addessi, Achille Paolone
- C 19309** BENDING OF MULTILAYERED PLATES AND CYLINDRICAL SHELLS
Anna Zelinskaia

Wednesday, June 26
14:30-16:30

Minos East

UNCECOMP MS 6 - VIII: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Alexander Litvinenko

- U 18691** KEYNOTE: ON THE CONSTRUCTION OF PGD APPROXIMATIONS WITH RESPECT TO QUANTITIES OF INTEREST
Serge Prudhomme, Kenan Kergrene, Marc Laforest, Ludovic Chamoin
- U 18728** HIERARCHICAL TENSOR REPRESENTATION AND VARIATIONAL MONTE CARLO IN UNCERTAINTY QUANTIFICATION
Reinhold Schneider, Martin Eigel, Philipp Trunschke, Sebastian Wolf
- U 18503** EXPLOITING MODEL STRUCTURE FOR FORWARD PROPAGATION OF UNCERTAINTY IN EARTH SYSTEM MODELS
Cosmin Safta, Alex Gorodetsky, Khachik Sargsyan, John Jakeman, Daniel Ricciuto
- U 18755** PARTIAL LEAST SQUARES-BASED POLYNOMIAL CHAOS REPRESENTATION FOR EFFICIENT UQ IN HIGH DIMENSIONS
Iason Papaioannou, Max Ehre, Daniel Straub
- U 18811** PHYSICAL BASED DATA DRIVEN MODELS AND POLYMORPHIC UNCERTAINTY IDENTIFICATION OF DYNAMIC FRICTION FOR NVH PROBLEMS
G.P. Ostermeyer, T. Srisupattarawanit, S. Brumme, M. Mueller
- U 18517** PARAMETER IDENTIFICATION FOR A VISCOPLASTIC MODEL WITH DAMAGE AND EFFECT OF CONDITIONS ON RESULTS USING BAYESIAN APPROACHES
Ehsan Adeli, Bojana Rosic, Hermann G. Matthies

Wednesday, June 26
14:30-16:30

Minos North-South

COMPdyn MS 8 - II: RIGID BLOCK MODELING APPROACHES FOR STATIC AND DYNAMIC ANALYSIS OF MASONRY STRUCTURES IN SEISMIC AREAS

MS Organizers: Claudia Casapulla, Linda Giresini, Francesca Taddei, Ehsan Noroozinejad

Chair: Francesca Taddei

- C 19345** KEYNOTE: STOCHASTIC ASSESSMENT OF ROCKING MASONRY FAÇADES UNDER REAL SEISMIC RECORDS
Linda Giresini, Francesca Taddei, Claudia Casapulla, Gerhard Müller
- C 19268** THE CORNER FAILURE IN A MASONRY BUILDING DAMAGED BY THE 2016-2017 CENTRAL ITALY EARTHQUAKE SEQUENCE
Luca Umberto Argiento, Alessandra Maione, Linda Giresini

DAY 3 – WEDNESDAY, JUNE 26

- C 19741** APPLICATION OF LIABLOCK_3D TO THE ANALYSIS OF FAILURE MODES IN MASONRY STRUCTURES SUBJECTED TO SEISMIC ACTION
Raffaele Gagliardo, Giusy Terracciano, Lucrezia Cascini, Francesco Portioli, Raffaele Landolfo
- C 19893** A NEW SEISMIC ISOLATION DEVICE BASED ON TRIBOLOGICAL SMOOTH ROCKING (TROCKSISD)
Maurizio Froli, Linda Giresini, Francesco Laccone
- C 20844** COLLAPSE MECHANISMS OF MASONRY BUTTRESSED WITH SETTLED SUPPORT
Paolo Zampieri, Carlo Pellegrino

Wednesday, June 26

Hera

14:30-16:30

COMPdyn MS 17 - II: SEISMIC RISK ASSESSMENT OF BUILDING PORTFOLIOS

MS Organizers: Paolo Ricci, Carlo Del Gaudio, Gerardo Mario Verderame

Chair: Carlo Del Gaudio

- C 19166** SEISMIC RISK OF BUSINESSES WITH ECONOMIC RESILIENCE AND COST-EFFECTIVENESS OF SEISMIC RETROFIT
Marco Donà, Massimiliano Minotto, Pietro Carpanese, Francesca da Porto
- C 19172** DERIVATION OF MECHANICAL FRAGILITY CURVES FOR MACRO-TYPELOGIES OF ITALIAN MASONRY BUILDINGS
Marco Donà, Pietro Carpanese, Veronica Follador, Francesca da Porto
- C 19230** LARGE-SCALE SIMPLIFIED SEISMIC RISK MAPPING OF RESIDENTIAL BUILDINGS THROUGH RAPID VISUAL SCREENING
Shaheryar Ahmed, Daniele Perrone
- C 19782** REGIONAL-SCALE SEISMIC FRAGILITY ASSESSMENT BASED ON GAUSSIAN PROCESS REGRESSION
Roberto Gentile, Carmine Galasso
- C 19864** EMPIRICAL VULNERABILITY CURVES FOR ITALIAN MASONRY BUILDINGS
Francesca Linda Perelli, Daniela De Gregorio, Francesco Cacace, Giulio Zuccaro
- C 19883** ASSESSING EARTHQUAKE RISK GLOBALLY
Vitor Silva

Wednesday, June 26

Room 1

14:30-16:30

COMPdyn MS 3 - V: EXPERIMENTAL MEASUREMENTS AND NUMERICAL SIMULATION ON PROBLEMS IN THE FIELD OF EARTHQUAKE ENGINEERING AND STRUCTURAL DYNAMICS

MS Organizer: George Manos

Chair: George Manos, Konstantinos Katakalos

- C 19160** EXPERIMENTAL AND NUMERICAL STUDY OF THE PLASTIC CYCLIC BEHAVIOUR OF A STEEL BEAM-TO-COLUMN CONNECTION
Alexandra Nalmpantidou, George Manos
- C 19914** UNCERTAINTY QUANTIFICATION OF LOW COST MEASUREMENT DEVICES FOR STRUCTURAL HEALTH MONITORING APPLICATIONS
Alejandro Duarte, Albert Ortiz

DAY 3 – WEDNESDAY, JUNE 26

- C 19930** STRUCTURAL EVALUATION AND PROPOSAL OF STRENGTHENING SCHEME FOR A PRESTRESSED CONCRETE PIPE UTILIZING EXPERIMENTAL AND NUMERICAL TECHNIQUES
Konstantinos Katakalos, Panagiota Kagioglou, George C. Manos
- C 20082** SET UP OF A MINI-SCALE PROTOTYPE FOR HYBRID SIMULATION
Ziliang Zhang, Anastasios Sextos, Oh-sung Kwon, George Baltzopoulos
- C 20738** PASSIVE BASE ISOLATION SYSTEM FOR AN ASYMMETRIC BUILDING
Karim Numayr, Rami Haddad, Qusai Ailabouni, Madhar Haddad

Wednesday, June 26
14:30-16:30

Room 2

UNCECOMP MS 7 - I: SURROGATE MODELS: BENCHMARK PROBLEMS AND SOLUTIONS

MS Organizers: Jean-Marc Bourinet, Sankaran Mahadevan, Nicola Pedroni, Bruno Sudret

Chair: Bruno Sudret, Nicola Pedroni

- U 18845** PROPOSAL OF BENCHMARK PROBLEMS FOR SURROGATE-BASED RELIABILITY ANALYSIS
Jean-Marc Bourinet
- U 18344** MULTI-FIDELITY GRADIENT-ENHANCED SPARSE POLYNOMIAL CHAOS AND LOCALLY OPTIMIZED KRIGING SURROGATE MODELS
Markus Rumpfkeil, Philip Beran
- U 18375** COMPARISON OF DATA-DRIVEN UNCERTAINTY QUANTIFICATION METHODS FOR A CARBON DIOXIDE STORAGE BENCHMARK SCENARIO
Sergey Oladyshkin, Markus Köppel, Fabian Franzelin, Ija Kröker, Gabriele Santin, Dominik Wittwar, Andrea Barth, Bernard Haasdonk, Wolfgang Nowak, Dirk Pflüger, Christian Rohde
- U 18391** ROBUST OPTIMIZATION OF COSTLY SIMULATION USING NONPARAMETRIC APPROXIMATION
Cédric Durantin, Guillaume Perrin
- U 18430** ON THE USE OF ENSEMBLES OF METAMODELS FOR ESTIMATION OF THE FAILURE PROBABILITY
Chahrazed Amrane, Cécile Mattrand, Pierre Beaurepaire, Jean-Marc Bourinet, Nicolas Gayton
- U 18596** A NEW RELIABILITY-SENSITIVITY MEASURE
Florian Schmid, Stefano Marelli, Bruno Sudret

Wednesday, June 26
14:30-16:30

Room 3

UNCECOMP MS 9 - II: UNCERTAINTY PROPAGATION AND QUANTIFICATION WITH COMPUTATIONALLY EXPENSIVE MODELS

MS Organizers: Laurent van den Bos, Yous van Halder, Benjamin Sanderse

Chair: Laurent van den Bos

- U 18409** MACHINE LEARNING FOR CLOSURE MODELS IN MULTIPHASE FLOW APPLICATIONS
Jurriaan Buist, Benjamin Sanderse, Yous van Halder, Barry Koren, GertJan van Heijst
- U 18630** MULTILEVEL MONTE CARLO METHOD WITH INFORMATION-REUSE APPROACH FOR UNCERTAINTY QUANTIFICATION OF FLUID-STRUCTURE INTERACTION PROBLEMS
Anoop Kodakkal, Aditya Ghantasala, Jordi Cotela, Roland Wüchner, Kai-Uwe Bletzinger
- U 18586** MULTI-FIDELITY UNCERTAINTY QUANTIFICATION OF THE FLOW AROUND A RECTANGULAR 5:1 CYLINDER
Mayu Sakuma, Nicholas Pepper, Anoop Kodakkal, Roland Wüchner, Kai-Uwe Bletzinger, Francesco Montomoli
- U 18769** REDUCED MODEL-ERROR SOURCE TERMS FOR FLUID FLOW
Wouter Edeling, Daan Crommelin
- U 18797** EXPLORATION OF MULTIFIDELITY APPROACHES FOR UNCERTAINTY QUANTIFICATION IN NETWORK APPLICATIONS
Gianluca Geraci, Laura Swiler, Jonathan Crussell, Bert Debusschere

Wednesday, June 26
14:30-16:30

Room 4

COMPdyn RS 8 - II: GEOTECHNICAL EARTHQUAKE ENGINEERING

Chair: Bappaditya Manna

- C 20062** SEISMIC SLIDING DISPLACEMENT OF SLOPES IN TERMS OF SOIL PROFILE TYPE
Loukas Katsenis, C. Stamatopoulos, V.P. Panoskaltzis
- C 19581** PREDICTING THE GROUND MOVEMENT ABOVE A TUNNEL IN CHITTAGONG COASTAL AREA OF BANGLADESH UNDER SEISMIC LOADING
Mehedi Ansary, MF Haque
- C 18736** PSEUDO-STATIC RESPONSE OF PILED RAFTS FOR DIFFERENT PILE HEAD CONNECTIONS
Prasun Halder, Bappaditya Manna
- C 18787** DETERMINATION OF THE EFFECT OF VARIOUS MATERIAL PRESENT BELOW PILE TIP: NON-DESTRUCTIVE TESTING AND NUMERICAL STUDY
Anil Yadav, Kavita Tandon, Bappaditya Manna, G. V. Ramana, A. Ganguli
- C 19029** AN ENSEMBLE KALMAN FILTER APPROACH FOR ESTIMATING SITE SPECIFIC EARTHQUAKE RESPONSE
Wael Slika, Farah Jaafar
- C 19663** NUMERICAL ANALYSIS OF BOTH LOCAL GEOLOGY AND SOURCE MODELING EFFECTS ON GROUND MOTION PREDICTION
Sara Touhami, Fernando Lopez-Caballero

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
14:30-16:30

Room 5

COMPdyn RS 18: REPAIR AND RETROFIT OF STRUCTURES

Chair: Miltiadis Chronopoulos

- C 18697** DISPLACEMENT-BASED DESIGN OF DAMPED BRACES FOR EXISTING R.C. BUILDINGS WITH DEGRADING SEISMIC RESPONSE
Fabio Mazza
- C 20015** RINTC-E PROJECT: TOWARDS THE SEISMIC RISK OF RETROFITTED EXISTING ITALIAN URM BUILDINGS
Stefano Bracchi, Serena Cattari, Stefania Degli Abbatì, Sergio Lagomarsino, Guido Magenes, Martina Mandirola, Salvatore Marino, Andrea Penna, Maria Rota
- C 19489** COMPARISON OF BOND BEHAVIOR MODELS FOR LAP-SPLICES CONFINED BY TRANSVERSE REINFORCEMENT
Petros Chronopoulos, Miltiadis Chronopoulos
- C 18643** EXPERIMENTAL AND NUMERICAL EVALUATION OF CORING EFFECTS IN REINFORCED CONCRETE COLUMNS
Giuseppe Santarsiero, Angelo Masi, Andrea Digrisolo, Vincenzo Manfredi, Giuseppe Ventura, Domenico Nigro, Biagio Difina
- C 19634** STATISTICAL ANALYSIS ON MECHANICAL PROPERTIES OF FRP MATERIALS FOR STRUCTURAL STRENGTHENING
Piera Salzano, Antonio Bonati, Francesca Ceroni, Giovanni Crisci, A. Franco, Antonio Occhiuzzi
- C 19538** COMPUTATIONAL VALIDATION OF DISSIPATIVE DEVICE FOR THE SEISMIC UPGRADE OF HISTORIC BUILDINGS
Victor Melatti, Dina D'Ayala, Erica Modolo

Wednesday, June 26
14:30-16:30

Room 7

COMPdyn RS 23 - II: SOIL-STRUCTURE INTERACTION

Chair: Tam Larkin

- C 18928** IMPACT OF SEISMIC UPLIFT AND SOIL SUPPORT ON THE ACCELERATION DISTRIBUTION OF A LIQUID STORAGE TANK
Diego Hernandez-Hernandez, Tam Larkin, Nawawi Chow
- C 18514** CONSEQUENCE OF SPATIALLY VARYING GROUND MOTIONS FOR THE RESPONSE OF A BRIDGE STRUCTURE
Ziqi Yang, Chern Kun, Nawawi Chow
- C 18833** HOW BUILDING ADJACENCY AFFECTS OCCUPANT-PERCEIVABLE VIBRATIONS DUE TO URBAN SOURCES: A PARAMETRIC STUDY
Peter Persson, Loukas F. Kallivokas, Lars V. Andersen, Andrew T. Peplow
- C 18921** IMPEDANCE FUNCTIONS OF ADJACENT STRIP FOUNDATIONS WITH DIFFERENT DEPTHS OF EMBEDMENT
Vasiliki Terzi
- C 18925** DYNAMIC ELASTO-PLASTIC FINITE ELEMENT ANALYSIS OF A BUILDING WITH INSULATED PILE FOUNDATION
Hiroto Nakagawa

Wednesday, June 26
14:30-16:30

Room 8

COMPdyn MS 38 - III: RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES

MS Organizers: Laura Ragni, Enrico Tubaldi, Fabrizio Scozzese, Hamid Ahmadi

Chair: Laura Ragni

C 18772 **KEYNOTE:** OPTIMIZATION-BASED SEISMIC DESIGN OF NONLINEAR MOMENT RESISTING STEEL FRAMES WITH VISCOUS DAMPERS

Ohad Idels, Oren Lavan

C 19267 AN INNOVATIVE FRICTION BASE RESTRAINT TO REDUCE STRUCTURAL DEMAND TO WIND TURBINES
Moira di Paolo, Iolanda Nuzzo, Nicola Caterino, Christos Thomas Georgakis

C 18774 LIFE-CYCLE COST OPTIMIZATION OF TUNED MASS DAMPERS FOR TALL BUILDINGS SUBJECTED TO WINDS AND EARTHQUAKES

Shalom Kleingesinds, Oren Lavan, Ilaria Venanzi

C 18830 EFFECT OF THE DYB ON THE SEISMIC RESPONSE OF STEEL CONCENTRIC BRACINGS

Francesca Barbagallo, Melina Bosco, Andrea Floridia, Aurelio Ghersi, Edoardo M. Marino, Pier Paolo Rossi

C 19101 SEISMIC RELIABILITY-BASED DESIGN OF HARDENING STRUCTURES EQUIPPED WITH DOUBLE SLIDING DEVICES

Paolo Castaldo, Gaetano Alfano, Diego Gino, Costanza Anerdi, Giuseppe Carlo Marano

Wednesday, June 26
14:30-16:30

Room 9

UNCECOMP MS 13 - II: MULTISCALE ANALYSIS AND DESIGN OF RANDOM HETEROGENEOUS MEDIA

MS Organizers: George Stefanou, Dimitrios Savvas, Vissarion Papadopoulos

Chair: George Stefanou, Vissarion Papadopoulos

U 18683 STOCHASTIC HOMOGENIZATION OF HYPERELASTIC COMPOSITES WITH RANDOMLY ELLIPSOIDAL REINFORCEMENT

Damian Sokolowski, Marcin Kamiński

U 18857 STATISTICAL HOMOGENIZATION OF RANDOM POROUS MEDIA

Marco Pingaro, Emanuele Reccia, Patrizia Trovalusci, Maria Laura De Bellis

U 19309 ASSESSMENT OF THE EFFECTIVE THERMAL CONDUCTIVITY OF NANO-REINFORCED POLYMER COMPOSITES USING THE EMBEDDED FE METHOD

Serafeim Bakalagos, Ioannis Kalogeris, Vissarion Papadopoulos

U 19318 GEOMETRICALLY NONLINEAR ANALYSIS OF CARBON NANOTUBE REINFORCED COMPOSITES WITH STOCHASTIC INITIAL IMPERFECTIONS USING NEURAL NETWORK-BASED SURROGATE MODELING TECHNIQUE

Georgios Soimouris, Vissarion Papadopoulos, Odysseas Kokkinos, Manolis Papadrakakis

Wednesday, June 26
14:30-16:30

Room 10

COMPdyn MS 42 - II: NOVEL METHODS FOR SEISMIC DESIGN AND INTERVENTION OF CONVENTIONAL AND INTEGRAL BRIDGES

MS Organizers: Camillo Nuti, George Mylonakis, Flavia De Luca, Stergios Mitoulis, Davide Lavorato, Gabriele Fiorentino

Chair: Camillo Nuti, Davide Lavorato, Stergios Mitoulis

C 19334 BRIDGE-ABUTMENT-BACKFILL INTERACTION: BENEFICIAL OR DETRIMENTAL FOR INTEGRAL ABUTMENT BRIDGES?

Hassan Ibrahim, Arjun Baladas, Stergios Mitoulis

C 20719 MODELLING OF ROCKING FRAMES USING SIMPLIFIED FINITE ELEMENT MODELS

Spyridon Diamantopoulos, Michalis Fragiadakis

C 19640 THE SIGNIFICANCE OF INNOVATIONS ON THE STRUCTURAL SYSTEM WHEN SELECTING THE CONSTRUCTION METHOD OF EARTHQUAKE-RESISTANT BRIDGES

Nikolaos Tegos, Olga Markogiannaki

C 19765 INTEGRAL BRIDGE DESIGN FROM THE UK HIGHWAYS PERSPECTIVE

Andrea Totaro

C 19812 TOWARDS ACCELERATED CONSTRUCTION AND COST REDUCTION OF MONOLITHICAL BRIDGES FACING EARTHQUAKE HAZARD

Olga Markogiannaki, Nikolaos Tegos

Wednesday, June 26
14:30-16:30

Room 11

UNCECOMP RS 20: NUMERICAL SIMULATION METHODS FOR STOCHASTIC PROBLEMS

Chair: Christian Bucher

U 18781 KEYNOTE: META-MODELS FOR RANDOM SIGNAL ANALYSIS

Christian Bucher

U 18473 WELL-BALANCED STOCHASTIC GALERKIN SHALLOW FLOW MODEL WITH UNCERTAIN TOPOGRAPHY

James Shaw, Georges Kesserwani

U 18496 RELIABILITY-BASED DESIGN OPTIMIZATION BY USING ENSEMBLE OF METAMODELS

Niclas Strömberg

U 18699 BLACK-BOX PROPAGATION OF FAILURE PROBABILITIES UNDER EPISTEMIC UNCERTAINTY

Marco De Angelis, Scott Ferson, Edoardo Patelli, Vladik Kreinovich

U 18766 AN INTRUSIVE MULTI-ELEMENT POLYNOMIAL CHAOS METHOD BASED ON EDGE DETECTION TECHNIQUE FOR UNCERTAINTY QUANTIFICATION

Shigetaka Kawai, Akira Oyama

U 18773 UNCONSTRAINED L_Q MINIMIZATION PROBLEMS FOR SPARSE POLYNOMIAL CHAOS1

Yanjin Wang

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
14:30-16:30

Room 12

COMPdyn MS 24 - I: INFLUENCE OF INFILL MASONRY WALLS IN THE RESPONSE AND SAFETY OF BUILDINGS

MS Organizers: Humberto Varum, Hugo Rodrigues, Enrico Spacone

Chair: Ioannis N. Psycharis

- C 19426** **KEYNOTE:** EXPERIMENTAL ASSESSMENT OF STRENGTHENING STRATEGY TO IMPROVE THE MASONRY INFILLS OUT-OF-PLANE BEHAVIOUR THROUGH TEXTILE REINFORCED MORTAR
André Furtado, Hugo Rodrigues, José Melo, António Arêde, Humberto Varum
- C 19073** EXPERIMENTAL ASSESSMENT OF STRENGTHENING STRATEGIES AGAINST THE OUT-OF-PLANE COLLAPSE OF MASONRY INFILLS IN EXISTING RC STRUCTURES
María Teresa De Risi, André Furtado, Hugo Rodrigues, José Melo, Gerardo Mario Verderame, António Arêde, Humberto Varum, Gaetano Manfredi
- C 18803** EFFECT OF MASONRY MECHANICAL AND GEOMETRICAL PROPERTIES ON THE OUT-OF-PLANE RESPONSE OF URM INFILL WALLS
Hisham M. Al Hanoun, Lars Abrahamczyk, Davorin Penava, Jochen Schwarz
- C 19066** A MACRO-MODELLING APPROACH FOR THE IN-PLANE BEHAVIOUR OF MASONRY-INFILLED RC FRAMES STRENGTHENED WITH COMPOSITE MATERIALS
Daniel A. Pohoryles, Dionysios Bournas
- C 19106** INFLUENCE OF INFILL PANELS AND FLOOR SYSTEM IN THE FRAGILITY ANALYSIS OF EXISTING RC BUILDINGS: A CASE STUDY
Sergio Ruggieri, Francesco Porco, Andrea Fiore, Domenico Raffaele, Giuseppina Uva

Wednesday, June 26
14:30-16:30

Room 21

COMPdyn RS 12 - I: NONLINEAR DYNAMICS

Chair: Marco Di Giovanni

- C 18415** GEOMETRICALLY NONLINEAR ANALYSES OF TENSILE STRUCTURAL SYSTEMS: WIND-STRUCTURE INTERACTION
Marco Di Giovanni, Chiara Taddeo
- C 18679** COMPLEX MODAL DERIVATIVES FOR MODEL REDUCTION OF NONCLASSICALLY DAMPED, GEOMETRIC NONLINEAR STRUCTURES
Christian H. Meyer, Fabian M. Gruber, Daniel J. Rixen
- C 18841** MODELING NON-LINEARITY ON CABLE STAYED MASTS OF TENSILE FABRIC STRUCTURES
Fabio Rizzo, A. Viskovic
- C 19077** TIME-HISTORY AND PUSHOVER ANALYSES OF ASYMMETRIC STRUCTURES USING AN EFFICIENT NON-LINEAR REINFORCED CONCRETE MODEL ACCOUNTING FOR CRACKING
Lherminier Olivier, Huguet Miquel, Nedjar Boumediene, Erlicher Silvano, Argoul Pierre

16:30-17:00

Coffee Break

TECHNICAL SESSIONS

Wednesday, June 26
17:00-19:00

Aphrodite-Artemis-Athena

COMPDYN MS 13 - VI: RECENT NUMERICAL MODELLING TRENDS FOR THE PRESERVATION OF HISTORICAL MASONRIES IN SEISMIC AREAS

MS Organizers: Nicola Cavalagli, Francesco Clementi, Antonio Formisano, Gabriele Milani, Vagelis Plevris

Chair: Nicola Cavalagli

C 21053 LITERATURE REVIEW OF HISTORICAL MASONRY STRUCTURES WITH MACHINE LEARNING
Vagelis Plevris, German Solorzano, Nikolaos Bakas

C 19264 A STOCHASTIC APPROACH FOR THE COLLAPSE PROBABILITY OF HISTORIC MASONRY TOWERS
Luca Facchini, Michele Betti, Francesco Gasparini, Lorenzo Rettori

C 19565 ANALYSIS OF LOCAL MECHANISMS THROUGH FLOOR SPECTRA FOR THE PRESERVATION OF HISTORICAL MASONRIES. A CASE STUDY
Mariateresa Guadagnuolo, Marianna Aurilio, Anna Tafuro, Giuseppe Faella

C 19300 FINITE ELEMENT MODELING AND OPERATIONAL MODAL ANALYSIS OF A HISTORICAL MASONRY MOSQUE
Abide Aşikoğlu, Özgür Avşar, Paulo B. Lourenço, Luis C. Silva, Onur Kaplan, Giorgos Karanikoloudis

C 18926 ANALYSIS OF METAL CONNECTOR'S EFFECT ON SEISMIC RESISTANCE OF DRY STONE-MASONRY STRUCTURES
Željana Nikolić, Hrvoje Smoljanović, Nikolina Živaljić

C 19972 PARAMETRIC ASSESSMENT OF STRENGTHENING INTERVENTIONS ON A MONITORED MASONRY BUILDING AFTER THE 2016 CENTRAL ITALY EARTHQUAKE
Alberto Calabria, Filippo Lorenzoni, Francesca da Porto

Wednesday, June 26
17:00-19:00

Europa-Danae-Leda

COMPDYN RS 10: INVERSE PROBLEMS IN STRUCTURAL DYNAMICS

Chair: Geert Lombaert

C 19706 MODEL UPDATING OF A MULTI-SPAN QUASI-PERIODIC ROADWAY VIADUCT BASED ON FREE WAVE CHARACTERISTICS
Jie Zhang, Kristof Maes, Guido De Roeck, Geert Lombaert

C 19938 UNCERTAINTY MODELLING AND IDENTIFICATION IN STRUCTURAL JOINT CONTACT INTERFACES
Hassan Jalali, Javad Taghipour, Hadi Madinei, Hamed Haddad Khodaparast, Michael I. Friswell

C 19508 QUASI-STATIC CORRECTION OF MODALLY REDUCED ORDER MODELS FOR SYSTEM INVERSION IN STRUCTURAL DYNAMICS
Kristof Maes, Freddie Karlsson, Geert Lombaert

C 19662 VISCOELASTIC BEAM DYNAMICS: THEORETICAL ANALYSIS ON DAMPING MECHANISMS
Elena Pierro

C 20007 INVERSE IDENTIFICATION OF BUFFETING AND SELF-EXCITED WIND LOADS ON THE HARDANGER BRIDGE FROM ACCELERATION DATA
Øyvind Wiig Petersen, Ole Øiseth, Torodd Nord, E. Lourens

Wednesday, June 26
17:00-19:00

Minos East

UNCECOMP MS 6 - IX: MINISYMPOSIUM IN HONOR OF PROF. MATTHIES: "UNCERTAINTY COMPUTATIONS WITH REDUCED ORDER MODELS AND LOW-RANK REPRESENTATIONS"

MS Organizers: Anna Kucerova, Alexander Litvinenko, Giovanni Stabile, Bojana Rosic

Chair: Anna Kucerova

U 18767 NON-DETERMINISTIC INFERENCE USING RANDOM SET MODELS: THEORY, APPROXIMATION, AND SAMPLING METHOD

Truong-Vinh Hoang, Bojana Rosic, Hermann G. Matthies

U 18633 BAYESIAN INFERENCE APPROACH TO IDENTIFICATION OF ALEATORY UNCERTAINTIES IN HETEROGENEOUS MATERIAL PROPERTIES

Eliška Janouchová, Anna Kučerová

U 18654 BAYESIAN PARAMETER ESTIMATION FOR HIGHLY NONLINEAR PROBLEMS

Jaroslav Vondřejc, Hermann G. Matthies

U 18579 A BAYESIAN HIERARCHICAL MODEL FOR CLIMATIC LOADS UNDER CLIMATE CHANGE

Pietro Croce, Paolo Formichi, Filippo Landi

U 18718 ACCELERATION OF UNCERTAINTY UPDATING IN THERMAL TOMOGRAPHY

Jan Havelka, Jan Sykora

U 18712 KÜNZEL MODEL AND BOUNDARY INVERSE

Jan Havelka, Jan Sykora

Wednesday, June 26
17:00-19:00

Minos North-South

COMPdyn MS 8 - III: RIGID BLOCK MODELING APPROACHES FOR STATIC AND DYNAMIC ANALYSIS OF MASONRY STRUCTURES IN SEISMIC AREAS

MS Organizers: Claudia Casapulla, Linda Giresini, Francesca Taddei, Ehsan Noroozinejad

Chair: Linda Giresini

C 19424 FRAGILITY CURVES OF MASONRY CHURCHES FAÇADES

Silvia Colonna, Stefania Imperatore, Barbara Ferracuti

C 18709 SEISMIC ASSESSMENT OF MASONRY CROSS VAULTS THROUGH NUMERICAL NONLINEAR STATIC AND DYNAMIC ANALYSIS

Nicoletta Bianchini, Nuno Mendes, Paulo Lourenço, Chiara Calderini, Michela Rossi

C 18875 THE PURE SLIDING COLLAPSE MODE OF NON-SYMMETRIC MASONRY ARCHES: A CRITICAL REVIEW OF MONASTERIO'S CONTRIBUTION AND AN ALTERNATIVE FORMULATION

Danila Aita, Anna Sinopoli

C 19177 DYNAMIC RESPONSE OF ROCKING MASONRY CIRCULAR ARCHES

Mario Como, Simona Coccia, Fabio Di Carlo

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
17:00-19:00

Hera

COMPdyn RS 5: DYNAMICS OF COUPLED PROBLEMS

Chair: Francesca Dezi

- C 19793** THE ROLE OF SOIL-STRUCTURE INTERACTION IN THE INTERPRETATION OF DYNAMIC TESTS ON THE "CHIARAVALLE VIADUCT"
*Sandro Carbonari, **Francesca Dezi**, Fabrizio Gara*
- C 19485** A DECOUPLING TECHNIQUE FOR NON-CONSERVATIVE DISTRIBUTED PARAMETER SYSTEMS ATTACHED TO VISCOUS DAMPING SOURCES
John Bellos
- C 19125** A VEHICLE/TRACK CO-SIMULATION MODEL USING EASYDYN
Bryan Olivier, Olivier Verlinden, Georges Kouroussis
- C 19466** MODELLING DAM-WATER DYNAMIC INTERACTION. NUMERICAL OPTIONS AND EXPERIMENTAL VALIDATION
José Lemos, Jorge Gomes, Sérgio Pereira
- C 19798** EFFECTS OF UNCERTAINTIES OF SOIL AND PILE MECHANICAL PROPERTIES ON THE DYNAMIC STIFFNESS OF DEEP FOUNDATIONS IN HOMOGENOUS DEPOSITS
Lucia Minnucci, Francesca Dezi, Sandro Carbonari, Michele Morici, Fabrizio Gara, Graziano Leoni

Wednesday, June 26
17:00-19:00

Room 1

COMPdyn RS 9: IMPACT DYNAMICS

Chair: Panayiotis Polycarpou

- C 19292** EXPERIMENTAL INVESTIGATION AND NUMERICAL MODELING OF STRUCTURAL POUNDING BETWEEN TWO SDOF SYSTEMS
Panayiotis Polycarpou, Loizos Papaloizou, Hnat Lesiv, Michalis Theodoulides
- C 19095** EXPERIMENTAL AND NUMERICAL ASSESSMENT OF DYNAMICS OF HAILSTONE IMPACT ON COMPOSITE PLATES
Dimitris Siorikis, Christoforos Rekatsinas, Christos Nastos, Theodosia Theodosiou, Nikolaos Chrysochoidis, Andreas Christoforou, Ahmet Yigit, Dimitris Saravanos
- C 19440** DYNAMIC IMPACT OF DEBRIS AVALANCHES ON STRUCTURES
*Sabatino Cuomo, **Sabrina Moretti**, Stefano Petrosino, Stefano Aversa*
- C 19578** MASONRY VAULTS UNDER EXPLOSIVE LOADS
Filippo Masi, Ioannis Stefanou, Paolo Vannucci, Victor Maffi-Berthier
- C 19931** CONTACT OF VISCOELASTIC SIPED TYRE TREAD BLOCKS ON GRAVEL ROAD
Arne Leenders, Stephanie Kahms, Matthias Wangenheim
- C 19942** SIMULATION OF FRICTION BEHAVIOUR OF TYRE TREAD BLOCKS IN 3-D
Jonas Alexander Heidelberg, Matthias Wangenheim
- C 20047** DYNAMIC MAGNIFICATION FACTORS FOR SNOW AVALANCHE IMPACT (WITH PILE-UP) ON WALLS AND PYLONS
Perry Bartelt, Othmar Buser, Marc Christen, Andrin Caviezel

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
17:00-19:00

Room 2

UNCECOMP MS 7 - II: SURROGATE MODELS: BENCHMARK PROBLEMS AND SOLUTIONS

MS Organizers: Jean-Marc Bourinet, Sankaran Mahadevan, Nicola Pedroni, Bruno Sudret

Chair: Jean-Marc Bourinet, Nicola Pedroni

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- U 18451** ADAPTIVE INTERPOLATION AND REGRESSION METHODS FOR UNCERTAINTY QUANTIFICATION IN COMPUTATIONAL ELECTROMAGNETICS
Dimitrios Loukrezis, Ulrich Römer, Herbert De Gersem
- U 18665** A TWO-STAGE SURROGATE MODELING APPROACH FOR THE APPROXIMATION OF MODELS WITH NON-SMOOTH OUTPUTS
Maliki Moustapha, Bruno Sudret
- U 18550** SURROGATE MODELING OF STOCHASTIC SIMULATORS BASED ON KARHUNEN-LOÈVE EXPANSION - APPLICATION TO POPULATION RF EXPOSURE
Soumaya Azzi, Bruno Sudret, Joe Wiart
- U 18562** A SURROGATE-ASSISTED MULTI-FIDELITY MEASURE APPROXIMATION FRAMEWORK FOR EFFICIENT CONSTRAINED MULTIOBJECTIVE OPTIMIZATION UNDER UNCERTAINTY
Mickaël Rivier, Pietro Congedo
- U 18714** KRIGING METAMODELING WITH FUNCTIONAL INPUTS FOR COASTAL FLOODING RISK ASSESSMENT
José Betancourt, Thierry Klein, François Bachoc
- U 18786** SURROGATE MODELING CONSIDERING MEASURING DATA AND THEIR MEASUREMENT UNCERTAINTY
Thomas Oberleiter, Andreas Michael Müller, Tino Hausotte, Kai Willner

Wednesday, June 26
17:00-19:00

Room 3

UNCECOMP MS 9 - III: UNCERTAINTY PROPAGATION AND QUANTIFICATION WITH COMPUTATIONALLY EXPENSIVE MODELS

MS Organizers: Laurent van den Bos, Yous van Halder, Benjamin Sanderse

Chair: Laurent van den Bos

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- U 18511** NEURAL NETWORKS FOR MULTIFIDELITY UNCERTAINTY QUANTIFICATION
Yous van Halder, Benjamin Sanderse
- U 18822** MULTILEVEL SEQUENTIAL IMPORTANCE SAMPLING FOR RARE EVENT ESTIMATION
Jonas Latz, Iason Papaioannou, Elisabeth Ullmann, Fabian Wagner
- U 18883** MULTI-LEVEL MULTI-FIDELITY MONTE CARLO METHOD FOR THE PROPAGATION OF HIGH-DIMENSIONAL GEOMETRIC UNCERTAINTIES
Jun Nie, Richard Dwight
- U 18924** UNCERTAINTY QUANTIFICATION OF A MULTISCALE MODEL FOR IN-STENT RESTENOSIS
Anna Nikishova, Lourens Veen, Pavel Zun, Alfons Hoekstra

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
17:00-19:00

Room 4

COMPdyn RS 3: CONSTITUTIVE MODELLING UNDER EARTHQUAKE LOADING

Chair: George Papazafeiropoulos

- C 19091** EXPERIMENTAL CHARACTERISATION AND NUMERICAL MODELLING OF WALL-SLAB JUNCTIONS IN REINFORCED CONCRETE STRUCTURES
Estelle Hervé-Secourgeon, François Voltaire, Fabien Banci, Fabrice Gatuingt, Cécile Oliver-Leblond, Adrien Guilloux
- C 19194** A COMPUTATIONAL METHOD FOR PERFORMING NONLINEAR ADAPTIVE PUSHOVER ANALYSIS OF STRUCTURES THROUGH ABAQUS SIMULATION
Konstantinos Skalomenos, George Papazafeiropoulos
- C 18453** NUMERICAL SIMULATION OF COUPLED FLEXURE-SHEAR RESPONSE OF FRAME ELEMENTS INCLUDING REBAR BUCKLING
Yildir Akkaya, Serhan Guner, Frank J. Vecchio
- C 20707** INVESTIGATION ON EFFECT OF CYCLIC HARDENING BEHAVIOR CHANGE ON EQUIVALENT PLASTIC STRAIN OF NUCLEAR SAFETY CLASS I COMPONENTS UNDER SUBSEQUENT SEVERE SEISMIC LOADS AFTER A BEYOND-DESIGN BASIS EARTHQUAKE
Jong-Sung Kim, Jun-Young Kim
- C 18661** SEISMIC ANALYSIS OF AN EMERGENCY HOSPITAL IN SOUTH OF SWITZERLAND INCLUDING SOIL-PILE-STRUCTURE INTERACTION EFFECTS
Niloufar Ghazanfari, Mohsen Rostami, Setayesh Rostami, Rolf Liechti, Sassan Mohasseb

Wednesday, June 26
17:00-19:00

Room 7

COMPdyn RS 23 – III: SOIL-STRUCTURE INTERACTION

Chair: Geert Degrande

- C 19107** DYNAMIC RESPONSE OF REPETITIVE ELEVATED STRUCTURES
Pieter Reumers, Kirsty Kuo, Geert Lombaert, Geert Degrande
- C 19130** SOIL-STRUCTURE INTERACTION MODELING FOR THE DYNAMIC ANALYSIS OF CONCRETE GRAVITY DAMS
Anna De Falco, Matteo Mori, Giacomo Sevieri
- C 19136** SIMULATION OF SOIL-STRUCTURE-INTERACTION PROBLEMS USING AN INDIRECT TREFFTZ APPROACH TO SOLVE LAMÉ EQUATIONS
Hannes Englert, Gerhard Müller
- C 19696** REVIEW OF RECENT ADVANCES IN SEISMIC ANALYSIS OF REINFORCED CONCRETE BUILDINGS CONSIDERING SOIL-PILE-STRUCTURE INTERACTION
Naresh Subedi, Anil Wijeyewickrema, Susumu Kono

Wednesday, June 26
17:00-19:00

Room 8

COMPdyn MS 38 - IV: RELIABILITY ASSESSMENT AND DESIGN OF STRUCTURES EQUIPPED WITH ISOLATION AND DISSIPATION DEVICES

MS Organizers: Laura Ragni, Enrico Tubaldi, Fabrizio Scozzese, Hamid Ahmadi

Chair: Laura Ragni

C 19244 SEISMIC BEHAVIOUR OF A RC FRAME ISOLATED BY HDNR BEARINGS UNDER INCREASING SEISMIC INTENSITY LEVELS

Laura Ragni, Fabio Micozzi, Enrico Tubaldi, Andrea Dall'Asta

C 19921 RINTC-E PROJECT: THE SEISMIC RISK OF EXISTING ITALIAN RC BUILDINGS RETROFITTED WITH SEISMIC ISOLATION

Donatello Cardone, Nadia Conte, Andrea Dall'Asta, Antonio Di Cesare, Amedeo Flora, Nicla Lamarucciola, Fabio Micozzi, Felice Ponzio, Laura Ragni

C 19456 OPTIMAL DISSIPATIVE COUPLING DESIGN OF TWO OSCILLATORS BASED ON NONLINEAR STOCHASTIC RESPONSE

Francesco Potenza, Vincenzo Gattulli, Billie F. Spencer

C 19207 EXPERIMENTAL AND NUMERICAL INVESTIGATION OF BASE ISOLATED SDOF SYSTEM IMPACT AGAINST BUMPERS UNDER HARMONIC BASE EXCITATION

Giulia Stefani, Maurizio De Angelis, Ugo Andreaus

Wednesday, June 26
17:00-19:00

Room 9

UNCECOMP RS 4: LARGE-SCALE STOCHASTIC FINITE ELEMENT APPLICATIONS

Chair: Vissarion Papadopoulos

U 18426 UNCERTAINTY ASSESSMENT OF THE BLOOD DAMAGE IN A FDA BLOOD PUMP

Chen Song, Vincent Heuveline

U 18477 UNCERTAINTY QUANTIFICATION IN COMPUTATIONAL MODELS OF NACELLE ACOUSTIC LINERS FOR TURBOFAN ACOUSTIC NOISE PREDICTIONS

Vincent Dangla, Christian Soize, Morad Kassem, Aurélien Mosson, Benoît Van den Nieuwenhof

U 18608 UNCERTAINTY QUANTIFICATION IN FINITE ELEMENT ANALYSIS FOR THE DEVELOPMENT OF MIXED MATERIAL STRUCTURES

Fabio Santandrea, Johan Anderson, Joakim Albrektsson

UNCECOMP RS 15: STOCHASTIC FRACTURE AND DAMAGE

Chair: Vissarion Papadopoulos

U 18571 CALIBRATION OF FATIGUE LIFE MODELS BASED ON BAYESIAN METHODS

Antonios Kamariotis, Fabian Duddeck, Giulia Antinori, Frank Voese

U 18740 AN INNOVATIVE APPROACH BASED ON STOCHASTIC PROCESS FOR THE PREDICTION OF FATIGUE LIFE

W. Zhang, A. Fau, U. Nackenhorst, R. Desmorat

U 18854 A HEALTH MONITORING FRAMEWORK FOR OPTIMAL SERVICE LIFE PREDICTIONS OF STEEL STRUCTURES UNDER FATIGUE LOADING

Nour Wehbi, Wael Slika

DAY 3 – WEDNESDAY, JUNE 26

Wednesday, June 26
17:00-19:00

Room 10

COMPdyn RS 14: OPTIMUM DESIGN AND CONTROL IN STRUCTURAL DYNAMICS AND EARTHQUAKE ENGINEERING

Chair: Michalis Fragiadakis

C 18900 MULTIPLE-SUPPORT EXCITATION OF LONG-SPAN STRUCTURES: THEORETICAL AND EXPERIMENTAL INVESTIGATION OF DYNAMIC RESPONSE

Nina Čeh, Han Qin, Luyu Li, Gordan Jelenić

C 19627 NUMERICAL AND EXPERIMENTAL ASSESSMENT OF TUNED LIQUID DAMPERS EFFICIENCY FOR STRUCTURAL RESPONSE REDUCTION OF TALL BUILDINGS UNDER EARTHQUAKE EXCITATION

Alberto Stella, Steven Decelle, Mauro Dal Zovo, Roberto Scotta, Lorenzo De Stefani

C 19743 PENDULUM VIBRATION ABSORBERS WITH SPATIALLY-VARYING TANGENTIAL FRICTION: MODELLING AND DESIGN

Emiliano Matta

C 19964 EFFECT OF CHANGING THE COEFFICIENT OF RESTITUTION OF A SINGLE-SIDED VIBRO-IMPACT NONLINEAR ENERGY SINK IN A TWO-STORY STRUCTURE

Adnan S. Saeed, Mohammad A. AL-Shudeifat

C 20663 SHORT- VERSUS LONG-TERM READINESS AND DISSIPATIVE CAPABILITY OF MR DAMPERS FOR STRUCTURAL CONTROL

Mariacristina Spizzuoco, Iolanda Nuzzo

Wednesday, June 26
17:00-19:00

Room 11

COMPdyn RS 22: SOIL DYNAMICS

Chair: David P Connolly

C 18466 SOIL NON-LINEARITY ON HIGH SPEED RAILWAY LINES

Kaitai Dong, Pedro Alves Costa, Omar Laghrouche, Peter K Woodward, David P Connolly

C 19223 HYBRID FREQUENCY-TIME DOMAIN METHOD FOR THREE-DIMENSIONAL SEISMIC ANALYSES OF NONLINEAR SOILS

Francesca Taddei, Thi Hoa Nguyen, Gerhard Müller

C 19572 BASIN EDGE EFFECT AT TURKISH BASINS: THE CASE STUDY OF DINAR AND DUZCE BASINS

Hadi Khanbabazadeh, Recep Iyisan, Emre Hasal, Can Zulfikar

C 19623 TRANSIENT RESPONSE OF A TUNNEL EMBEDDED IN A HETEROGENEOUS ELASTIC FULL SPACE

Hamed Bouare, Arnaud Mesgouez, Gaëlle Lefeuvre-Mesgouez

Wednesday, June 26
17:00-19:00

Room 12

COMPDYN MS 24 - II: INFLUENCE OF INFILL MASONRY WALLS IN THE RESPONSE AND SAFETY OF BUILDINGS

MS Organizers: Humberto Varum, Hugo Rodrigues, Enrico Spacone

Chair: Ioannis N. Psycharis

C 19445 SEISMIC LOSS ANALYSIS OF A MODERN RC BUILDING ACCOUNTING FOR UNCERTAINTY OF INFILL STRUT MODELING PARAMETERS

Fabio Romano, Mohammad Alam, Marco Faggella, Maria Zucconi, Andre Barbosa, Barbara Ferracuti

C 19693 NONLINEAR DYNAMIC ASSESSMENT OF THE OUT-OF-PLANE RESPONSE AND BEHAVIOUR FACTOR OF UNREINFORCED MASONRY INFILLS IN REINFORCED CONCRETE BUILDINGS

Paolo Ricci, Mariano Di Domenico, Gerardo Mario Verderame

C 19702 SEISMIC PERFORMANCE OF PORTUGUESE MASONRY INFILL WALLS: FROM TRADITIONAL SYSTEMS TO NEW SOLUTIONS

Luís M. Silva, Graça Vasconcelos, Paulo B. Lourenço, Farhad Akhoundi

C 20371 SEISMIC ANALYSIS AND RETROFITTING WITH FRP OF AN OLD MASONRY CLOCK TOWER

Ahmad Omar, Nourhan Tartoussi

Wednesday, June 26
17:00-19:00

Room 21

COMPDYN RS 12 - II: NONLINEAR DYNAMICS

Chair: George Stefanou

C 20698 NONLINEAR ANALYSIS OF SQUEAL AND WHIRL MODE INSTABILITIES OF AIRCRAFT BRAKING SYSTEMS

Alexy Mercier, Louis Jezequel, Sébastien Besset, Abdelbasset Hamdi, Jean-Frédéric Diebold

C 19156 A SIMPLE MODEL FOR INVESTIGATING THE NON-LINEAR DYNAMIC BEHAVIOR OF ELASTIC SYSTEMS SUBJECTED TO STICK-SLIP MOTION

Stefano Bennati, Riccardo Barsotti, Giovanni Migliaccio

C 19211 FREQUENCY ANALYSIS OF NONLINEAR SHEAR WALL MODEL UNDER SEISMIC LOADING

Peter Rosko, Adrian Beko

C 19477 NON INCREMENTAL LATIN SOLVER FOR NONLINEAR STRUCTURES UNDER SEISMIC LOADING

Sebastian Rodriguez Iturra, David Néron, Pierre Étienne Charbonnel, Pierre Ladevèze, George Nahas

Supporting Organizations



European Community on Computational Methods in Applied Sciences (ECCOMAS)



International Association for Computational Mechanics (IACM)



National Technical University of Athens (NTUA)



European Association for Structural Dynamics (EASD)



European Association for Earthquake Engineering (EAEE)



Greek Association for Computational Mechanics (GRACM)



Hellenic Society of Earthquake Engineering (HSEE)



Hellenic Republic - Region of Crete



Municipality of Heraklion