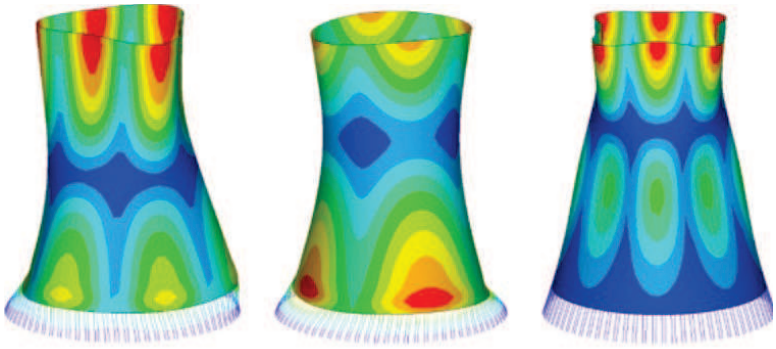
European Community on Computational Methods in Applied Sciences

ECCOMAS

24-26 June, Crete, Greece



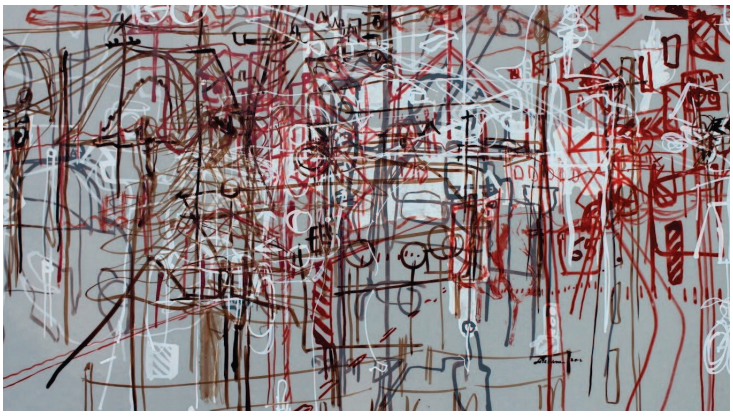
COMPDYN 2019

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**							
11:30-13:30	**TECHNICAL SESSIONS**							
	COMPDYN MS 12 I REPAIR AND RETROFIT OF STRUCTURES	**COMPDYN 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"	**COMPDYN MS 15 I** ADVANCES IN NUMERICAL METHODS FOR LINEAR AND NON-LINEAR DYNAMICS AND WAVE PROPAGATION	**COMPDYN RS 13 I** NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	**UNCECOMP MS 3 I** UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS	**COMPDYN MS 11 I** POST-EARTHQUAKE ASSESSMENT FOR BUILDINGS AND INFRASTRUCTURES AND REPARABILITY DECISIONS	**COMPDYN RS 4 I** DYNAMICS OF CONCRETE STRUCTURES
13:30-14:30	**Lunch Break**							
14:30-16:30	**TECHNICAL SESSIONS**							
	COMPDYN MS 12 II REPAIR AND RETROFIT OF STRUCTURES	**COMPDYN 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"	**COMPDYN MS 15 II** ADVANCES IN NUMERICAL METHODS FOR LINEAR AND NON-LINEAR DYNAMICS AND WAVE PROPAGATION	**COMPDYN RS 13 II** NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	**UNCECOMP MS 3 II** UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS	**COMPDYN MS 11 II** POST-EARTHQUAKE ASSESSMENT FOR BUILDINGS AND INFRASTRUCTURES AND REPARABILITY DECISIONS	**COMPDYN RS 4 II** DYNAMICS OF CONCRETE STRUCTURES
16:30-17:00	**Coffee Break**							
17:00-19:00	**TECHNICAL SESSIONS**							
	COMPDYN MS 35 DAMAGE MODELLING, DETECTION AND IDENTIFICATION IN COMPOSITE STRUCTURES	**COMPDYN 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"	**COMPDYN MS 2** RECENT ADVANCES AND CHALLENGES IN GEOTECHNICAL EARTHQUAKE ENGINEERING	**COMPDYN RS 13 III** NUMERICAL SIMULATION METHODS FOR DYNAMIC PROBLEMS	**UNCECOMP MS 3 III** UNCERTAINTY QUANTIFICATION IN VIBRATION BASED MONITORING AND STRUCTURAL DYNAMICS SIMULATIONS	**COMPDYN MS 33** SEISMIC RESILIENCE OF MUSEUM CONTENTS	**COMPDYN 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 INLARGE-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 INLARGE-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**
8:30-10:30	**TECHNICAL SESSIONS**							
	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**							
16:30-18:30	**TECHNICAL SESSIONS**							
	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	**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

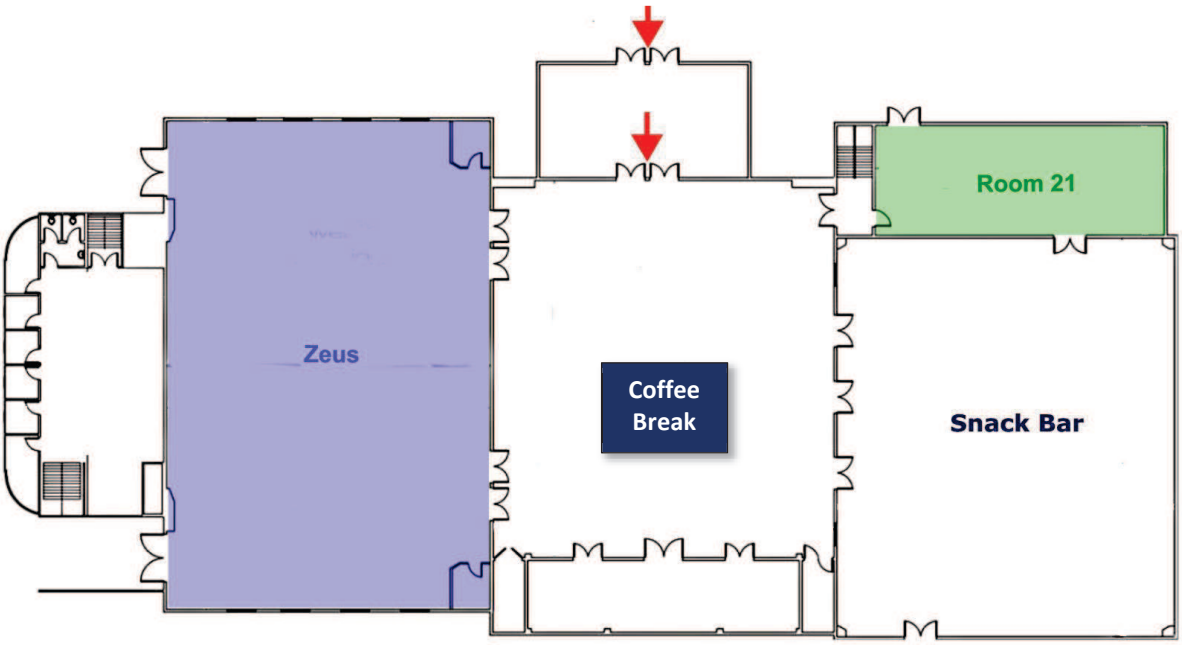
Level 1	Level 2
Zeus	Minos East
Room 21	Minos North-South
	Europa-Danae-Leda
	Aphrodite-Atremis-Athena

Terra Building

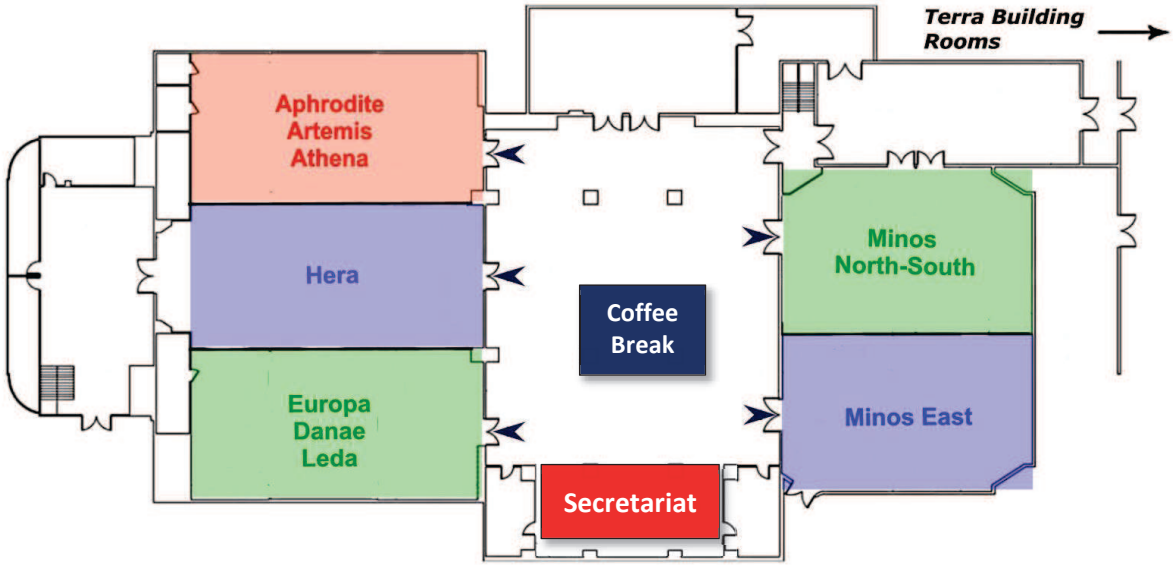
Pool Level	Level 0
Room 7	Room 1
Room 8	Room 2
Room 9	Room 3
Room 10	Room 4
Room 11	Room 5
Room 12	

Conference Centre

Level 1

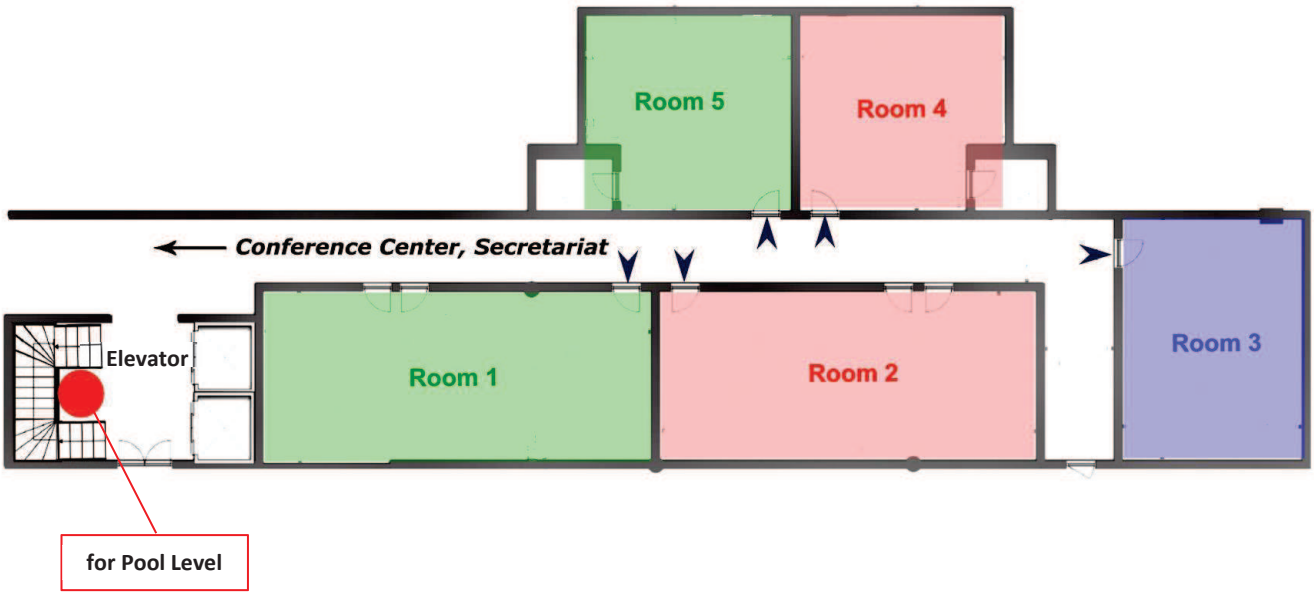


Level 0



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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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 HIGHSPEED TRAIN-BRIDGE INTERACTION
Tuesday, 11:00-13:00, Minos North-South

Gian Paolo Cimellaro
Politechnico 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
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Costas Papadimitriou
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U 19240 HIERARCHICAL BAYESIAN MODELLING FRAMEWORK FOR DATA-DRIVEN UNCERTAINTY QUANTIFICATION IN ENGINEERING SIMULATIONS
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Michael D. Shields
Johns Hopkins University, USA

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Daniel Straub
Technical University of Munich, Germany

U 19190 ALEATORY OR EPISTEMIC - WHY IT MATTERS
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Bruno Sudret
ETH Zürich, Switzerland

U 19257 SURROGATE MODELLING MEETS MACHINE LEARNING
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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
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Rui Barros

C 19523 DEVELOPMENT OF A BRAIN EMOTIONAL LEARNING BASED CONTROLLER FOR APPLICATION TO VIBRATION CONTROL OF A BUILDING STRUCTURE UNDER SEISMIC EXCITATION
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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
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Alessandro Cabboi

C 19653 FE MODELLING AND VALIDATION OF A SLIP JOINT FOR WIND TURBINES IN AN OFFSHORE ENVIRONMENT
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Silvia Caprili

C 19781 MECHANICAL PERFORMANCE OF ENHANCED STEEL REINFORCING BARS IN UNCORRODED AND CORRODED CONDITIONS
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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
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Andrej Cherkaev

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Joel Conte

C 19339 TOWARDS A SIMPLIFIED AND RIGOROUS PERFORMANCE-BASED SEISMIC DESIGN OF ORDINARY STANDARD BRIDGES IN CALIFORNIA
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Pedro Delgado

C 19764 SEISMIC ANALYSIS OF A MEXICAN VIADUCT WITH NONLINEAR MODELLING OF SOIL-STRUCTURE INTERACTION
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Denis Duhamel

C 19200 AN EFFICIENT TRANSMISSION OPERATOR FOR COMPUTING WAVE PROPAGATION BY DOMAIN DECOMPOSITION
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Isaac Elishakoff

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Matthias Faes

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André Furtado

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U 18364 COUPLED MECHANICS-PROBABILITY MULTISCALE APPROACH FOR SIZE EFFECT INTERPRETATION
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Alexander Idesman

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Andreas Kappos

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Oren Lavan

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Nikolaos Lesgidis, Lukas Moschen

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Bing Li

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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 INLARGE-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 m^2, 68 conference halls and can accommodate up to 5.500 delegates.

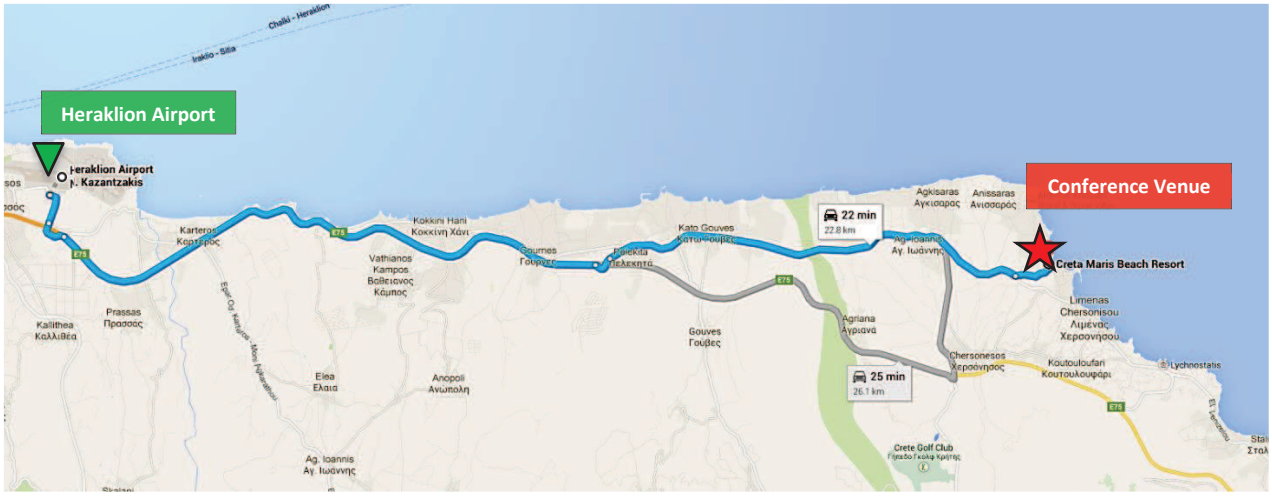
Crete Island

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 preceeding 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 – ARCHAELOGICAL 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.

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 **Aphrodite-Artemis-Athena**
11:30-13:30

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 REPUBBLIC
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 **Europa-Danae-Leda**
11:30-13:30

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*

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 **Minos East**
11:30-13:30

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 **Minos North-South**
11:30-13:30

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 Gadylshin***

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*

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 **Hera**
11:30-13:30

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 **Room 1**
11:30-13:30

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*

Monday, June 24 **Room 2**
11:30-13:30

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 **Room 3**
11:30-13:30

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 Georgin, 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*

Monday, June 24 **Room 4**
11:30-13:30

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 **Room 5**
11:30-13:30

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*

Monday, June 24 **Room 8**
11:30-13:30

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 Babaee***

Monday, June 24 **Room 9**
11:30-13:30

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 Bakalakos*, Manolis Georgioudakis, Manolis Papadrakakis*

Monday, June 24 **Room 10**
11:30-13:30

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 **Room 11**
11:30-13:30

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*

Monday, June 24 **Room 12**
11:30-13:30

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 **Room 21**
11:30-13:30

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*

13:30-14:30 **Lunch Break**

TECHNICAL SESSIONS

Monday, June 24 **Aphrodite-Artemis-Athena**
14:30-16:30

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 **Europa-Danae-Leda**
14:30-16:30

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-Lamuela, 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 Necevska-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*

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 **Minos East**
14:30-16:30

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 **Minos North-South**
14:30-16:30

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 Caviezel, 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*

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

Monday, June 24	**Hera**
14:30-16:30	

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	**Room 1**
14:30-16:30	

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 ENVIORNMENTAL 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***

Monday, June 24 **Room 2**
14:30-16:30

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-EARTHQUAKES 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 **Room 3**
14:30-16:30

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*

Monday, June 24 **Room 4**
14:30-16:30

UNCECOMP MS 2 - II: BAYESIAN ANALYSIS OF NUMERICAL MODELS
MS Organizers: Iason Papaioannou, Daniel Straub, Costas Papadimitriou
Chair: Iason Papaioannou

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 **Room 5**
14:30-16:30

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 Brüls*

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*

Monday, June 24 **Room 7**
14:30-16:30

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' Anielo, ***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 Maoult, Giuseppe Rastiello*

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 **Room 8**
14:30-16:30

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 19310 A DIFFUSION MAPS-BASED SURROGATE MODEL FOR UNCERTAINTY QUANTIFICATION
Ioannis Kalogeris*, Vissarion Papadopoulos*

Monday, June 24 **Room 9**
14:30-16:30

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 **Room 10**
14:30-16:30

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*

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

Monday, June 24 **Room 11**
14:30-16:30

COMPDYN MS 44: DYNAMIC BEHAVIOUR OF JOINTS AND JOINTED STRUCTURES: MODELLING AND EXPERIMENTS
MS Organizers: Alice Cicirello, Alessandro Cabboi
Chair: Alice Cicirello, Alessandro Cabboi

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 **Room 12**
14:30-16:30

COMPDYN MS 6 - II: SEISMIC SAFETY ASSESSMENT OF STRUCTURES
MS Organizers: Pedro Delgado, António Arêde, Raimundo Delgado
Chair: Pedro Delgado

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

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*

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 Iuliis, Valentina Villa, Carlo Caldera, Alessandro Cardoni*

Monday, June 24 **Room 21**
14:30-16:30

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 **Aphrodite-Artemis-Athena**
17:00-19:00

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 **Europa-Danae-Leda**
17:00-19:00

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*

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 **Minos East**
17:00-19:00

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, ***Dishi Liu***

U 18762 PRINCIPAL COMPONENT ANALYSIS AND OPTIMAL WEIGHTED LEAST-SQUARES METHOD FOR LEARNING TREE TESNOR NETWORKS
***Cécile Haberstich**, Anthony Nouy, Guillaume Perrin*

U 18412 PARALLEL TENSOR ARITHMETIC IN THE HIERARCHICAL TUCKER FORMAT
***Christian Löbbert**, Lars Grasedyck*

U 18739 LEARNING WITH TREE TENSOR NETWORKS
***Erwan Grelier**, Anthony Nouy, Mathilde Chevreuil*

Monday, June 24 **Minos North-South**
17:00-19:00

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*

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 **Hera**
17:00-19:00

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 **Room 1**
17:00-19:00

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*

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 **Room 2**
17:00-19:00

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 **Room 3**
17:00-19:00

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*

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 **Room 4**
17:00-19:00

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 Abbati, 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 Fragiacomo*

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 **Room 5**
17:00-19:00

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*

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 **Room 7**
17:00-19:00

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 **Room 8**
17:00-19:00

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*

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 **Room 9**
17:00-19:00

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 Ozcelik**, 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 **Room 10**
17:00-19:00

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*

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 **Room 11**
17:00-19:00

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*

Monday, June 24 **Room 12**
17:00-19:00

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

MS Organizers: I.C. Tsantili, Dionissios Hristopoulos
Chair: I.C. Tsantili

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 **Room 21**
17:00-19:00

COMPDYN RS 7 - II: DYNAMICS OF STEEL STRUCTURES

Chair: A. Viskovic

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 Nastri*

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 **Aphrodite-Artemis-Athena**
8:30-10:30

COMPDYN MS 13 - I: 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: Francesco Clementi

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
***Nicola Cavalagli**, Chiara Pepi, Massimiliano Gioffrè, Vittorio Gusella, Filippo Ubertini*

C 18464 EXPERIMENTATION AND NUMERICAL MODELLING OF RECYCLED RUBBER PADS UNDER AGEING FOR SEISMIC ISOLATION OF A HISTORICAL MASONRY CHURCH
***Ahmad Basshofi Habieb**, Gabriele Milani, Marco Valente, Virginio Quaglini*

C 18602 SEISMIC VULNERABILITY OF MASONRY WALLS THROUGH AN INNOVATIVE VOXEL LIMIT ANALYSIS HOMOGENIZATION APPROACH
***Simone Tiberti**, Gabriele Milani*

C 18681 METHODOLOGIES AND RELATED SOFTWARE APPLICATIONS, USED AT ASSESSMENT OF THE OLD MASONRY BUILDINGS, LOCATED IN AREAS WITH HIGH SEISMIC RISK
***Rodica Popescu**, Gheorghe Popescu*

C 18689 NONLINEAR FE MODEL UPDATING FOR MASONRY CONSTRUCTIONS VIA LINEAR PERTURBATION AND MODAL ANALYSIS
*Maria Girardi, Cristina Padovani, **Daniele Pellegrini**, Leonardo Robol*

Tuesday, June 25 **Europa-Danae-Leda**
8:30-10:30

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

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

C 19377 OUT-OF-PLANE CAPACITY OF INFILLS AFTER IN-PLANE LOADING: A PREDICTION ANALYTICAL MODEL
*Maria Zizzo, **Liborio Cavaleri**, Fabio Di Trapani*

C 19097 ESTIMATION OF BASIC DYNAMIC CHARACTERISTICS OF PLIABLE MASONRY INFILLS WITH HORIZONTAL SLIDING JOINTS FROM IN-PLANE TEST RESULTS
*Riccardo R. Milanesi, Yuri Totoev, **Paolo Morandi**, Andrea Rossi, Guido Magenes*

C 18488 DISTRIBUTION OF SHEAR RESISTANCE AMONG COMPONENTS OF R. C. FRAMES WITH MASONRY INFILL WALLS CONTAINING CONFINED DOOR AND WINDOW OPENINGS
***Davorin Penava**, Filip Anić, Vasilis Sarhosis, Lars Abrahamczyk*

C 18552 A DISCRETE MACRO-ELEMENT FOR SIMULATING THE NONLINEAR IN-PLANE BEHAVIOUR OF RC INFILLED FRAMES
*Bartolomeo Pantò, **Pier Paolo Rossi***

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*

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 **Hera**
8:30-10:30

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 Voldoire*

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 **Room 1**
8:30-10:30

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 O 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*

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 **Room 2**
8:30-10:30

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 **Room 3**
8:30-10:30

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*

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 **Room 4**
8:30-10:30

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 **Room 5**
8:30-10:30

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*

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 **Room 7**
8:30-10:30

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 **Room 8**
8:30-10:30

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*

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 **Room 9**
8:30-10:30

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 **Room 10**
8:30-10:30

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*

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 **Room 11**
8:30-10:30

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**, GIwon 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 **Room 12**
8:30-10:30

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***

C 19559 CONTROL PROBLEM IN PASSIVE TRACER ADVECTION BY POINT VORTEX FLOW: A CASE STUDY
Carlos Balsa, Sílvio 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 **Room 21**
8:30-10:30

COMPDYN RS 16 - I: PERFORMANCE-BASED EARTHQUAKE ENGINEERING
Chair: Dimitri Beskos

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 Erkmen

10:30-11:00
Coffee Break

SEMI-PLENARY LECTURES

Tuesday, June 25 **11:00-13:00**	**Minos East**
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 **11:00-13:00**	**Minos North-South**
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 **11:00-13:00**	**Aphrodite-Artemis-Athena**
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***

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 **Aphrodite-Artemis-Athena**
14:00-16:00

COMPDYN MS 13 - II: 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 19092 THE NON-SMOOTH STORY OF DIFFERENT MASONRY TOWERS DAMAGED BY THE CENTRAL ITALY SEISMIC SEQUENCE OF 2016
***Francesco Clementi**, Angela Ferrante, Ersilia Giordano, Stefano Lenci*

C 19094 DAMAGE SURVEY AND ADVANCED SEISMIC ANALYSES OF DIFFERENT MASONRY CHURCHES AFTER THE CENTRAL ITALY EARTHQUAKE OF 2016
***Francesco Clementi**, Ersilia Girodano, Angela Ferrante, Stefano Lenci*

C 18840 A NUMERICAL-GEOMETRICAL METHODOLOGY TO REPRESENT OUT-OF-PLANE MECHANISMS OF UNREINFORCED MASONRY STRUCTURES BY USING PUSHOVER ANALYSIS
*Renato Sante Olivito, **Saverio Porzio**, Marco Francesco Funari, Carmelo Scuro, Francesco Demarco*

C 18844 EARTHQUAKE-INDUCED DAMAGE LOCALIZATION THROUGH NON-LINEAR DYNAMIC ANALYSIS
***Alban Kita**, Nicola Cavalagli, Maria Giovanna Masciotta, Paulo B. Lourenço, Filippo Ubertini*

C 19430 3D EXTENSION OF AN EQUIVALENT FRAME MODEL FOR THE CHARACTERIZATION OF THE FLEXURAL BEHAVIOR OF DUTCH MASONRY STRUCTURES
*N. Damolin, W.L. Nobel, **F. Messali**, J.G. Rots, M. Salvalaggio, M.R. Valluzzi*

C 19513 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)
***M. Salvalaggio**, L. Sbrogiò, M. Pavanetto, M.R. Valluzzi*

Tuesday, June 25 **Europa-Danae-Leda**
14:00-16:00

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

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

C 19010 **KEYNOTE:** INFILL WITH SLIDING PANELS WITH A FULL-HEIGHT OPENING
***Marco Preti**, Valentino Bolis, Anthony Paderno*

C 19259 PBEE ASSESSMENT OF RC FRAMES WITH TRADITIONAL AND SLIDING-JOINT INFILLS
*V. Bolis, F. Basone, **Fabio Di Trapani**, M. Preti*

C 18838 MACRO-MODELLING OF COMBINED IN-PLANE AND OUT-OF-PLANE SEISMIC RESPONSE OF THIN STRENGTHENED MASONRY INFILLS
*Marco Donà, **Massimiliano Minotto**, Enrico Bernardi, Elisa Saler, Nicolò Verlato, Francesca da Porto*

C 18853 FEM SIMULATION OF THE IN-PLANE SEISMIC EXPERIMENTAL RESPONSE OF R.C. FRAMES WITH UNREINFORCED AND BED-JOINT REINFORCED AAC MASONRY INFILLS
***Riccardo R Milanesi**, Guido Andreotti, Paolo Morandi, Andrea Penna*

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

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 **Hera**
14:00-16:00

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 **Room 1**
14:00-16:00

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***

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-LINEARNUMERICAL 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*

Tuesday, June 25 **Room 3**
14:00-16:00

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 **Room 4**
14:00-16:00

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*

Tuesday, June 25 **Room 5**
14:00-16:00

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 VELETSOS' WAVE PARAMETER (1/Σ)
***Xenia Karatzia**, George Mylonakis*

Tuesday, June 25 **Room 7**
14:00-16:00

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*

Tuesday, June 25 **Room 8**
14:00-16:00

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 **Room 9**
14:00-16:00

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 VULNERABILTY 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*

Tuesday, June 25 **Room 10**
14:00-16:00

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, Vítezslav 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 **Room 11**
14:00-16:00

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*

Tuesday, June 25 **Room 12**
14:00-16:00

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 ANALYSYS 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 Caliò, **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 **Room 21**
14:00-16:00

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 **Aphrodite-Artemis-Athena**
16:30-18:30

COMPDYN MS 13 - III: 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: Antonio Formisano

C 18761 NON-LINEAR DYNAMIC BEHAVIOUR OF A MASONRY ARCH SUBJECTED TO HINGE CONTROL
Gabriel Stockdale, Vasilis Sarhosis, ***Gabriele Milani***

C 18836 MECHANICAL BEHAVIOR OF ANCIENT MORTAR SPECIMENS FROM POMPEII SITE
Francesca Autiero*, Giuseppina De Martino, Marco Di Ludovico, Andrea Prota*

C 18984 ANALYSIS OF THE DYNAMIC RESPONSE OF MASONRY STRUCTURES THROUGH A DEGRADING HYSTERESIS MODEL
Domenico Liberatore*, Daniela Addessi, Marialuigia Sangirardi*

C 19076 CYCLIC BLOCK-BASED MODELLING OF TERRACED MASONRY HOUSES
Antonio Maria D'Altri*, Francesco Messali, Jan Rots, Giovanni Castellazzi, Stefano de Miranda*

C 19129 TOWARDS A 3D MICRO-STRUCTURE GENERATOR FOR STONE MASONRY WALLS FOR DETAILED NUMERICAL SIMULATIONS
Mahmoud Shaqfa*, Katrin Beyer*

C 19161 MACROSCALE MODEL CALIBRATION FOR SEISMIC ASSESSMENT OF BRICK/BLOCK MASONRY STRUCTURES
Corrado Chisari*, Lorenzo Macorini, Bassam Izzuddin*

Tuesday, June 25 **Europa-Danae-Leda**
16:30-18:30

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

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

C 19075 ASSESSMENT OF ROBUSTNESS OF REINFORCED CONCRETE FRAME STRUCTURES WITH MASONRY INFILL WALLS
Fabio Di Trapani*, Luca Giordano, Giuseppe Mancini, Marzia Malavisi*

C 18444 THE OUT OF PLANE SEISMIC DEMAND OF INFILL WALLS IN THE NONLINEAR FIELD
Alessandra De Angelis*, Maria Rosaria Pecce*

C 19745 SIMPLIFIED MODEL CALIBRATION FOR DYNAMIC RESPONSE ASSESSMENT OF INFILLED RC BUILDINGS
Marco Gaetani d'Aragona*, Maria Polese, Andrea Prota*

C 19780 PRELIMINARY EXPERIMENTAL ASSESSMENT OF STRENGTHENED MASONRY INFILLS UNDER OUT-OF-PLANE ACTIONS
Gerardo M. Verderame, Alberto Balsamo, Paolo Ricci, ***Mariano Di Domenico****, Gennaro Maddaloni*

C 20183 PRIOR IN-PLANE DAMAGE ON THE OUT-OF-PLANE RESPONSE OF MASONRY INFILLS
Farhad Akhoundi*, Graca Vasconcelos, Paulo Lourenço*

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

Tuesday, June 25 **Minos East**
16:30-18:30

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, **Sibo 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 **Minos North-South**
16:30-18:30

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
***Stylianos 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

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 **Hera**
16:30-18:30

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 **Room 1**
16:30-18:30

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*

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 CHURCES 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 **Room 2**
16:30-18:30

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*

Tuesday, June 25 **Room 3**
16:30-18:30

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 **Room 4**
16:30-18:30

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 Trevlopoulos**, 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*

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

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

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*

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 EFAST METHOD
***A. Mesgouez**, G. Lefeuve-Mesgouez, S. Buis*

U 19308 MSOLVE – AN OPEN SOURCE COMPUTATIONAL MECHANICS SOLUTION PLATFORM
*George Stavroulakis, Dimitrios Tsapetis, Serafeim Bakalakos, Gerasimos Sotiropoulos, Odysseas Kokkinos, Vasilis Merevis, George Soimoiris, 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*

Tuesday, June 25 **Room 9**
16:30-18:30

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 **Room 10**
16:30-18:30

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*

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*

Tuesday, June 25 **Room 12**
16:30-18:30

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 **Room 21**
16:30-18:30

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*

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-Garcia-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 **Aphrodite-Artemis-Athena**
9:00-11:00

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 Plevris
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 Addessi*

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 **Europa-Danae-Leda**
9:00-11:00

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 NANOPLATE UNDER TENSILE POINT LOADING
Anatolii Bochkarev*, Anton Solovev*

C 18649 NONLINEAR BENDING OF ROUND THIN SD PLATES
Galina Pavilaynen

C 18714 UNSYMMETRICAL BUCKLING OF ORTHOTROPIC ANNULAR PLATES AND SPHERICAL CAPS UNDER INTERNAL PRESSURE
***Svetlana M. Bauer**, Eva B. Voronkova*

Wednesday, June 26 **Minos East**
9:00-11:00

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 COEFFICIENS 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 **Minos North-South**
9:00-11:00

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
***Danila 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 Caliò*

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*

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 **Room 2**
9:00-11:00

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. Kyprioti**, Jize Zhang, Alexandros A. Taflanidis*

U 18890 REDUCED ORDER MODELLING OF HYSTERETIC STRUCTURAL RESPONSE IN SEISMIC LOSS ESTIMATION
***Dimitrios Patsialis**, Alexandros A. Taflanidis*

U 19307 AN EFFICIENT MARKOV CHAIN ALGORITHM FOR SUBSET SIMULATION WITH DIFFUSION MAPS
***Odysseas Kokkinos**, 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

Wednesday, June 26 **Room 3**
9:00-11:00

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 **Room 4**
9:00-11:00

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 Katsenis**, 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*

Wednesday, June 26 **Room 5**
9:00-11:00

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 Cicrello, 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 **Room 7**
9:00-11:00

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.*

Wednesday, June 26 **Room 8**
9:00-11:00

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 **Room 9**
9:00-11:00

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*

Wednesday, June 26 **Room 10**
9:00-11:00

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 **Room 11**
9:00-11:00

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 ISOGEOMEOMETRIC KIRCHHOFF-LOVE SHELLS WITH STOHASTICALLY DISTRIBUTED GRAPHENE INCLUSIONS
Dimitrios Tsapetis*, Gerasimos Sotiropoulos, George Stavroulakis, Vissarion Papadopoulos, Manolis Papadrakakis*

U 18537 MULTILEVEL MODEL REDUCTION FOR UNCERTAINTY QUANTIFICATION IN COMPUTATIONAL VIBRO-ACOUSTICAL DYNAMICS
***Justin Reyes**, Christian Soize, Laurent Gagliardini, Christophe Desceliers*

Wednesday, June 26 **Room 12**
9:00-11:00

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. Bilfinger, 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 **Room 21**
9:00-11:00

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*

C 20038 RINTC-E PROJECT: TOWARDS THE ASSESSMENT OF THE SEISMIC RISK OF EXISTING STRUCTURES IN ITALY
Iunio Iervolino*, Andrea Spillatura, Paolo Bazzurro*

11:00-11:30
Coffee Break

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 Chácara**, 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

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 **Minos East**
14:30-16:30

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 **Minos North-South**
14:30-16:30

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*

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-TYPOLOGIES 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***

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 **Room 2**
14:30-16:30

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 QUANTICATION 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 **Room 3**
14:30-16:30

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 **Room 4**
14:30-16:30

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. Panoskaltsis*

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*

Wednesday, June 26 **Room 5**
14:30-16:30

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 Abbati, 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 **Room 7**
14:30-16:30

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 Chouw*

C 18514 CONSEQUENCE OF SPATIALLY VARYING GROUND MOTIONS FOR THE RESPONSE OF A BRIDGE STRUCTURE
Ziqi Yang, Chern Kun, ***Nawawi Chouw***

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 **Room 8**
14:30-16:30

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 **Room 9**
14:30-16:30

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 Sokołowski*, 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 Bakalakos, ***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 Soimoiris*, Vissarion Papadopoulos, Odysseas Kokkinos, Manolis Papadrakakis*

Wednesday, June 26 **Room 10**
14:30-16:30

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 **Room 11**
14:30-16:30

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

Wednesday, June 26 **Room 12**
14:30-16:30

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
***Maria 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 **Room 21**
14:30-16:30

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 **Aphrodite-Artemis-Athena**
17:00-19:00

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 Aşıkoğlu**, 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 **Europa-Danae-Leda**
17:00-19:00

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 **Minos East**
17:00-19:00

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 **Minos North-South**
17:00-19:00

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***

Wednesday, June 26 **Hera**
17:00-19:00

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 **Room 1**
17:00-19:00

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, Theodosis 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 Heidelberger**, 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*

Wednesday, June 26 **Room 2**
17:00-19:00

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

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 **Room 3**
17:00-19:00

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

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*

Wednesday, June 26 **Room 4**
17:00-19:00

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 Voldoire, 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 **Room 7**
17:00-19:00

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 INDIRRECT 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 **Room 8**
17:00-19:00

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 Ponzo, 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 **Room 9**
17:00-19:00

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***

Wednesday, June 26 **Room 10**
17:00-19:00

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 **Room 11**
17:00-19:00

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 Ta*ddei, 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 Lefeuve-Mesgouez*

Wednesday, June 26 **Room 12**
17:00-19:00

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 **Room 21**
17:00-19:00

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

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