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(IOMAC 2013)

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TUESDAY, 14 - 2013

Auditorium
Tuesday, 14
08:30-09:00

Opening Session of IOMAC 2013

Chairs: Álvaro Cunha, Luís Ramos, Rune Brincker,
Paulo Lourenço

Session 1
Auditorium
Tuesday, 14
09:00-10:30

Identification techniques

Chairs: Filipe Magalhães, Sven Gade

Paper 1
ID: #151

**FROM TRADITIONAL EXPERIMENTAL MODAL ANALYSIS 1
(EMA) TO OPERATIONAL MODAL ANALYSIS (OMA),
AN OVERVIEW**

Lingmi Zhang

Paper 2
ID: #241

**SOLUTIONS TO DEAL WITH HARMONICS AND NOISE FOR 15
HELICOPTER IN-FLIGHT DATA DYNAMIC IDENTIFICATION**

Bart Peeters, Simone Manzato
and Herman Van der Auweraer

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ID: #132

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NON-STATIONARY DYNAMICS: A COMPARISON OF
VARIOUS METHODS**

Luis D. Avendaño-Valencia and Spilios D. Fassois

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PARAMETERS OF AN OFFSHORE WIND TURBINE USING 31
STATE-OF-THE-ART OPERATIONAL MODAL ANALYSIS
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Christof Devriendt, Filipe Magalhães, Wout Weijtjens, Gert
De Sitter, Álvaro Cunha and Patrick Guillaume

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ID: #170

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P. Olsen, A. Skaftø, J.B. Hansen, M.K. Hovgaard, R. Brincker
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ID: #108

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Esben Orlovitz and Anders Brandt

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Paper 3 ID: #119	TOOL FOR AUTOMATIC OMA OF WIND TURBINES 233 Kevin Arcas, Francesc X. Magrans, Carlo E. Carcangiu
Paper 4 ID: #129	NUMERICAL CONDITIONING AND STABILITY OF PRCE AND ERA METHODS 242 Wen-Long Yang, Sau-Lon James Hu and Hua-Jun Li
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Paper 2 ID: #155	DEVELOPMENT OF TECHNIQUES FOR ENHANCED 378 OPERATIONAL MODAL ANALYSIS OF WIND TURBINE Simone Manzato, Jonathan R. White, Bruce LeBlanc and Bart Peeters
Paper 3 ID: #162	A NEW APPROACH TO OPERATIONAL MODAL 387 ANALYSIS BASED ON MULTIVARIABLE TRANSMISSIBILITY FUNCTIONS Wout Weijtjens, Gert de Sitter, Christof Devriendt and Patrick Guillaume
Paper 4 ID: #178	ESTIMATING THE PARAMETERS OF MATERIALS 397 OF A SANDWICH BEAM USING DIFERENT METHODS OF OPTIMIZATION Luiz C. Winikes, Nilson Barbieri and Renato Barbieri
Paper 5 ID: #222	OPERATIONAL MODAL ANALYSIS WITH NON 406 STATIONNARY INPUTS Thibault Gouache, Joseph Morlier, Guilhem Michon and Baptiste Coulange
Paper 6 ID: #198	DYNAMIC CHARACTERIZATION OF THE FUNCHAL'S 414 CATHEDRAL BELL TOWER Carla M. Jardim, Luís A. Mendes and Amílcar M. L. Gonçalves

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Paper 1 ID: #142	COMPARISON OF MEASURED AND PREDICTED RESPONSE OF A STRUCTURE SUBJECT TO RHYTHMIC ACTIVITIES 422 J. Fernández, L. Hermanns, A. Fraile and E. Alarcón
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Auditorium

Tuesday, 14
16:00-17:00

Lecture of Honor

Chairs: Álvaro Cunha, Rune Brincker

**AMBIENT VIBRATION TESTING: DISCUSSION OF
PRACTICAL ASPECTS BASED ON CASE STUDIES**

Reto Cantieni

Tuesday, 14
18:00-23:00

Social Program

Visit to the Ducal Palace: 18:00 - 19:00

Conference Banquet at

Pousada Santa Marinha da Costa: 19:30 - 23:00

At 17:30 a Shuttle from the University of Minho will take attendances for the Conference Social Program.

WEDNESDAY, 15 - 2013**Auditorium**

Wednesday, 15
09:00-10:00

Keynote Lecture

Chairs: Luís Ramos, Rune Brincker

Combined use of operational testing
and models throughout the product lifecycle
Bart Peeters

10:00-11:30

Coffee Break

Session 10**Auditorium**

Wednesday, 15
10:30-12:00

Experimental Testing

Chairs: Elsa Caetano, Daniel Oliveira

Paper 1
ID: #225

**MODAL IDENTIFICATION AND FE MODEL CORRELATION 475
OF A WIND TURBINE TOWER**

Gustavo Oliveira, Filipe Magalhães, Elsa Caetano
and Álvaro Cunha

Paper 2
ID: # 245

**DAMPING ESTIMATION OF A PROTOTYPE BUCKET 485
FOUNDATION FOR OFFSHORE WIND TURBINES
IDENTIFIED BY FULL SCALE TESTING**

Mads Damgaard, Lars Bo Ibsen, Lars V. Andersen,
Palle Andersen, Jacob K. F. Andersen

Paper 3
ID: #204

**SOIL-STRUCTURE INTERACTION EFFECTS IN THE 497
DYNAMIC BEHAVIOUR OF BRIDGES**

Miguel Fraino and Carlos Ventura

Paper 4
ID: #219

**DYNAMIC RESPONSE OF A MULTI-SPAN SKEWED BRIDGE 507
WITH SEAT TYPE ABUTMENTS TO MODERATE GROUND
MOTIONS**

Seku Catacoli and Carlos Ventura

Paper 5
ID: #128

**THE TANKS OF THE WATER SUPPLY NET IN PROVINCIA 516
DI UDINE-ITALY: DYNAMICAL TESTS, MODAL
IDENTIFICATION AND NUMERICAL MODELS**

A. Morassi, F. Benedettini, M. Dilena and R. Alaggio

Paper 6
ID: #238

**HIGH SPATIAL RESOLUTION OPERATIONAL MODAL 524
ANALYSIS OF A FOOTBALL STADIUM SUSPENSION ROOF**

Sandro Amador, Filipe Magalhães, Nuno Martins,
Elsa Caetano and Álvaro Cunha

Session 11 Room 1 Wednesday, 15 10:30-12:00	Identification Techniques Chairs: Sven Gade, Michael Döhler
Paper 1 ID: #188	FREQUENCY-DOMAIN SUBSPACE IDENTIFICATION 532 OF NONLINEAR MECHANICAL SYSTEMS Jean-Philippe Noël and Gaëtan Kerschen
Paper 2 ID: #121	APPLICATION OF TRANSMISSIBILITY MEASUREMENT 544 IN ESTIMATION OF MODAL PARAMETERS FOR A STRUCTURE SUBJECT TO A MOVING LOAD AmirHossein-Aghdasi, A. Berghuvud, M. M. Khatibi and M. R. Ashory
Paper 3 ID: #194	EVALUATION OF AERO-STRUCTURAL PARAMETERS 553 DURING THE FLIGHT DROP TEST OF THE ITALIAN UNMANNED SPACE VEHICLE Nicola Paletta, Marika Belardo, Luigi Di Palma and Modesto Pecora
Paper 4 ID: #110	A NEW FORMULATION FOR OPTIMUM MAGNITUDE 564 OF ADDITIVE MASS IN SCALING OF MODE SHAPES S. M. Marashi, M. R. Ashory and M. M. Khatibi
Session 12 Room 2 Wednesday, 15 10:30-12:00	Model Updating and Structural Modification Chairs: Eddy Dascotte, Jorge Branco
Paper 1 ID: #115	STRUCTURAL DYNAMIC UPDATING USING A GLOBAL 576 OPTIMIZATION METHODOLOGY Marco Dourado, José Meireles and Ana Maria A.C. Rocha
Paper 2 ID: #131	STUDY OF THE EXPERIMENTAL MODAL ANALYSIS 584 TECHNIQUES APPLIED TO STRUCTURAL DYNAMICS Jorge Salgado and José Meireles
Paper 3 ID: #216	DYNAMIC ANALYSIS OF THE STRUCTURE 592 OF A MACHINE TOOL FOR WOODWORKING José Gomes and José Meireles
Paper 4 ID: #235	EVALUATION OF DYNAMIC CHARACTERISTICS 600 OF A PEDESTRIAN BRIDGE OVER A 15-YEAR PERIOD USING OMA TECHNIQUES Ilaria Capraro, Carlos Ventura and Seku Catacoli

12:00-14:00 Lunch Break

Session 13 Auditorium Wednesday, 15 14:00-15:30	Experimental Testing Chairs: Antonio Morassi, José Meireles
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Paper 1 ID: #234	OMA AND SEISMIC ASSESSMENT OF A HISTORIC MASONRY TOWER 612 Antonella Saisi and Carmelo Gentile
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Paper 2 ID: #199	CASE STUDY ON UPDATING NUMERICAL MODELS OF MASONRY ARCH BRIDGES 623 Cristina Costa, António Arêde, Aníbal Costa, Elsa Caetano and Filipe Magalhães
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Paper 3 ID: #200	OPERATIONAL MODAL ANALYSIS OF SPORT ARENA STAND STRUCTURE 631 A.A. Zhivaev and G.G. Boldyrev
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Paper 4 ID: #184	EXPERIMENTAL MODAL IDENTIFICATION OF AN EXISTENT EARTHEN RESIDENTIAL BUILDING 637 Rafael Aguilar, Luís F. Ramos, Daniel Torrealva and C. Chácara
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Paper 1 ID: #146	OMA IN STUDY OF HYDROPOWER PLANT 647 Jacek Grosel, Wojciech Sawicki and Zbigniew Wójcicki
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Paper 2 ID: #125	REAL-TIME STRUCTURAL HEALTH MONITORING AND DAMAGE DETECTION 655 Yavuz Kaya and Erdal Safak
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Paper 3 ID: #189	RELATIONSHIP BETWEEN DAMAGE AND CHANGE IN DYNAMIC CHARACTERISTICS OF AN EXISTING BRIDGE 665 Takeshi Miyashita, Kazuya Tamada, Hidenori Iwasaiki and Masatsugu Nagai
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Paper 4 ID: #246	CHANGE DETECTION UNDER ENVIRONMENTAL VARIABILITY 674 Salma Mozaffari Kojidi, Dionisio Bernal and Michael Döhler
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Paper 2 ID: #112	CONTINUOUS STRESS MONITORING OF LARGE STRUCTURES 702 Eddy Dascotte, Jacques Strobbe and Ulf T. Tygesen
Paper 3 ID: #221	COMPARATIVE STUDY OF MODAL TESTING TECHNOLOGIES: APPLICATION TO OPERATIONAL AND FUNCTIONAL COMPONENTS IN BUILDINGS 712 Manuel Archila, Carlos Ventura and Yan Yang
Paper 4 ID: #229	MODAL ANALYSIS OF A PIEZO BASED AXISYMMETRIC ROTATIONAL VIBRATION ABSORBER 720 Guoying Zhao, William Jacobs, Bruno Depraetere, Neven Alujevic, Gregory Pinte and Paul Sas

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Paper 2 ID: #173	DYNAMIC STRAIN MONITORING OF A HIGHWAY 738 STEEL BRIDGE SUBJECT TO FATIGUE DAMAGE Filippo Casarin, Kleidi Islami, Claudio Modena, Giovanni Tecchio and Francesca da Porto
Paper 3 ID: #177	STRESS ESTIMATION IN A SCALE MODEL 748 OF A SYMETRIC TWO STORY BUILDING Manuel López Aenlle, Lutz Hermanns, Pelayo Fernández and Alberto Fraile
Paper 4 ID: #195	EVALUATION OF WING LOADS DURING THE FLIGHT 757 DROP TEST OF THE ITALIAN UNMANNED SPACE VEHICLE Nicola Paletta, Marika Belardo, Luigi Di Palma and Modesto Pecora
Paper 5 ID: #227	A STUDY ON THE EFFECT OF DIFFERENT WIND 769 AND WAVE PARAMETERS ON THE DYNAMICS OF AN OFFSHORE WIND TURBINE: A COMPARISON BETWEEN SIMULATIONS AND MEASUREMENTS Rasoul Shirzadeh, Christof Devriendt and Patrick Guillaume
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C. Grappasonni, M. Chierichetti, G. Coppotelli, M. Ruzzene

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Combined use of Operational Testing and Models Throughout the Product Lifecycle 849

Bart Peeters

Experimental Modal Analysis Under Ambient Excitation: What we can Learn from Experience 851

Reto Cantieni