

11-13 November 2014

DEutschland & GRIEchenland Lab: Hybrid and Virtual Experimentation
for Infrastructure Lifecycle Maintenance and Natural Hazard Resilience



*"Dynamic Analysis, Testing and
Design of Infrastructure to
Environmental Loads"*

Thessaloniki, Greece
Tuesday 11 – Thursday 13 November, 2014
Aristotle University of Thessaloniki
KE.D.E.A Conference Hall I

Workshop Programme



ΑΡΙΣΤΟΤΕΛΕΙΟ
ΠΑΝΕΠΙΣΤΗΜΙΟ
ΘΕΣΣΑΛΟΝΙΚΗΣ

Bauhaus-
Universität
Weimar



11-13 November 2014

Tuesday 11 November

9:00-9:30 **Workshop Registration**

9:30-9:45 **Welcome Address**

Professor Konstantinos-Vasileios Katsambalos

Dean of the Polytechnic School

Professor Christos Anagnostopoulos

Head of Civil Engineering Department

Helen Bahtsavanopoulou-Kotsaki

Head of International Relations Department

Alexander Roggenkamp

DAAD Representative

9:45-10:00 **Introductory Remarks**

Associate Professor Anastasios Sextos

Division of Structural Engineering, Aristotle University of Thessaloniki

Professor George Manolis

Institute of Statics and Dynamics, Aristotle University of Thessaloniki

Dr. Volkmar Zabel

Institute of Structural Mechanics, Bauhaus-Universität Weimar

Session 1: Structural Health Monitoring of Bridges

10:00 - 10:20 Structural Health Monitoring Applications for Bridge Maintenance

Dr. Panetsos, P. (Head of Bridge Maintenance and Structural Health Monitoring Egnatia Odos S.A.)

10:20 - 10:40 Different approaches to the seismic analysis of bridges

Professor Isaković, T. (University of Ljubljana)

10:40 – 11:00 Monitoring of railway bridges to support life cycle assessment. Cases studies

Dr. Zabel, V. (Bauhaus-Universität Weimar)

11:00 – 11:20 Use of Polynomial Chaos Expansion methods for the modeling of uncertain dynamical systems

Assistant Professor Chatzi, E. (ETH Zürich)

11-13 November 2014

11:20 – 11:40 *Influence of soil compliance on the efficiency of structural Health Monitoring*

Associate Professor Sextos, A. (Aristotle University of Thessaloniki)

11:40 – 12:00 *Modal identification and model updating of Metsovo bridge*

Professor Papadimitriou, C.

Ph.D. Candidate Argyris, K.

(University of Thessaly)

12:00 – 13:00 *Coffee Break – Light Lunch*

Session 2: Seismic excitation, monitoring and response of buildings

13:00 - 13:20 *Soft-Computing in Earthquake Engineering*

Assistant Professor Lagaros, N. (National Technical University of Athens)

13:20 - 13:40 *Instrumentation and SHM of Civil Engineering Structures in Greece :The EPPO-ITSAK experience*

Dr. Karakostas, C. (Research Director, Earthquake Planning and Protection Organization EPPO-ITSAK)

13:40 - 14:00 *Free field measurements and accelerometric arrays in Greece*

Dr. Margaritis, V. , Dr. Theodoulidis N. (Research Directors, Earthquake Planning and Protection Organization EPPO-ITSAK)

14:00 - 14:20 *Embedded models in wireless sensor networks for structural health monitoring*

Ph.D Candidate Dragos, K. (Bauhaus University Weimar)

14:20 - 15:00 **Discussion**

Wednesday 12 November

9:00 - 17:00 *Technical visit (Egnatia Odos bridges)*

-9.00 Departure by bus from Thessaloniki.

(During the trip, technical guidance and description of the most important technical works of the itinerary.)

-11.30 Arrival in Metsovo, Epirus.

(Visit the internal gallery of the superstructure of the Metsovo ravine bridge. Technical presentation regarding the design, the construction and the structural health monitoring of the bridge.)

11-13 November 2014

- 12.30 Lunch –Anilio village
- 14.00 Departure from Metsovo
- 16.30 Arrival in Thessaloniki.

Thursday 13 November

Session 3: Soil-structure-interaction – Numerical methods

10:00 - 10:20 *Effects of local site conditions on the inelastic dynamic analysis of r/c bridges*

Dipl –Ing Fontara, N. (Universität zu Kiel)

10:20 – 10:40 *Influence of unsaturated soil conditions on cyclic and dynamic structural response*

Professor Wuttke, F. (Christian-Albrechts-University of Kiel)

10:40 – 11:00 *Energy methods assessing structural dynamic response in building*

Professor Manolis, G. (Aristotle University of Thessaloniki)

11:00 - 11:20 *Numerical & Experimental identification of soil – foundation - bridge system dynamic characteristics*

Ph.D. Candidate Faraonis, P. (Aristotle University of Thessaloniki)

11:20 - 11:40 *Assessment of Seismic Sidesway Collapse*

Professor Adam, C. (University of Innsbruck)

11:40 – 12:00 *Numerical Analysis and Modeling of 2D Soil-Structure Interaction Problems by Hybrid BEM-FEM Technique*

Associate Professor Dr. Eng. Parvanova, S. (University of Architecture, Sofia)

12:00 – 12:20 *Time reversal procedures in elastodynamics with application to structures*

Dr. Panagiotopoulos, C. (Institute of Applied and Computational Mathematics, F.O.R.T.H Crete)

12:20 – 13:00 *Coffee Break – Light Lunch*

Session 4: Hybrid & Experimental Mechanics

13:00 – 13:20 *Experimental methods and activities in support of earthquake engineering*

11-13 November 2014

Professor Bousias, S. (University of Patras)

13:20 – 13:40 *Seismic Performance Assessment and Retrofitting of RC Structures*

Assistant Professor Di Sarno, L. (University of Sannio)

13:40 – 14:00 *Recent Developments on Seismic Simulation Methods at University of Toronto*

Assistant Professor Kwon, O. (University of Toronto)

14:00 – 14:20 *In-situ dynamic tests on mock-up structures at the European Test Site at Volvi - Greece*

Professor Manos, G. (Director Laboratory of Strength of Materials and Structures, Aristotle University of Thessaloniki)

14:20 – 14:40 *An intercontinental hybrid simulation experiment for the purposes of seismic assessment of a three-span R/C bridge*

Associate Professor Sextos, A. , Dr. Taskari, O. (Aristotle University of Thessaloniki)

14:40 – 15:00 **Discussion**

11-13 November 2014

Contact

*Anastasios Sextos, Associate Professor
Structural Engineering Division
Department of Civil Engineering
Aristotle University of Thessaloniki, Greece
Tel: +30 2310 995697;
Fax: +30 2310 995769
e-Mail: asextos@civil.auth.gr*

*George D. Manolis, Professor
Laboratory of Statics and Dynamics
Department of Civil Engineering
Aristotle University of Thessaloniki, Greece
Tel: +30 2310 99 5663;
Fax: +30 2310 99 5769
e-Mail: gdm@civil.auth.gr*

**Aristotle University
Research Dissemination Center (KE.D.E.A)
Conference Hall I
Tritis Septemvriou Str.
Thessaloniki
GR-54636**

For information:

<http://de-griecolab.weebly.com/>

For any queries contact:

**Kleoniki Kyrkopoulou – Organization support team Thessaloniki
(2310.99 57 80) kyrkop@gmail.com**