

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**

9:30-9:50 **Welcome Address**

Prof. Konstantinos-Vasileios Katsambalos

Dean of the Polytechnic School

Prof. Christos Anagnostopoulos

Head of Civil Engineering Department

Anita Englert-Zerbin

Deutsches Generalkonsulat in Thessaloniki

Helen Bahtsavanopoulou-Kotsaki

Head of International Relations Department

9:50-10:10 **Introductory Remarks**

Associate Prof. Anastasios Sextos

Division of Structural Engineering, Aristotle University of Thessaloniki

Prof. George Manolis

Institute of Statics and Dynamics, Aristotle University of Thessaloniki

Dr. Volkmar Zabel

Assoc. Prof., Institute of Structural Mechanics, Bauhaus-Universität Weimar

Session 1: Structural Health Monitoring of Bridges

Moderators: Prof. G. Manolis, Prof. I. Avramidis, Prof. Anagnostopoulos,

Dr. V. Zabel

10:10 - 10:30 *Structural health monitoring applications for bridge maintenance*

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

10:30 - 10:50 *Different approaches for seismic analysis of bridges*

Prof. Isaković, T. (University of Ljubljana)

10:50 – 11:10 *Monitoring of railway bridges to support life cycle assessment. Case studies*

Assoc. Prof., Zabel, V. (Bauhaus-Universität Weimar)

11:10 – 11:30 *Use of polynomial chaos expansion methods for the modeling of uncertain dynamical systems*

Assistant Prof. Chatzi, E. (ETH Zürich)

11:30 – 11:50 *Spatial variability of earthquake ground motion based on free-field and on-structure recordings*

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

11-13 November 2014

11:50 – 12:10 *Modal identification and model updating of Metsovo bridge*

Prof. Papadimitriou, C., Ph.D. Candidate Argyris, K.
(University of Thessaly)

12:10 – 13:00 *Coffee Break – Light Lunch*

Session 2: Seismic Excitation, Monitoring and Response of Buildings

Moderators: Prof. A. Athanatopoulou, Prof. Isakovic

13:00 - 13:20 *Soft-computing in earthquake engineering*

Assistant Prof. 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., Dr. V. Lekidis

(Research Directors, 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 to the Metsovo Bridge
(invited speakers only)

Thursday 13 November

Session 3: Soil-Structure-Interaction – Numerical Methods

Moderators: Prof. K. Pitilakis, Prof. I. Doudoumis, Prof. Ch. Bisbos

10:00 – 10:20 *Influence of unsaturated soil conditions on cyclic and dynamic structural response*

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

10:20 – 10:40 *Energy methods assessing structural dynamic response in building*

Prof. Manolis, G. (Aristotle University of Thessaloniki)

10:40 - 11:00 *Numerical and experimental identification of soil–foundation- bridge system dynamic characteristics*

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

11:00 - 11:20 *Assessment of seismic sidesway collapse*

Prof. Adam, C. (University of Innsbruck)

11:20 - 11:40 *Effects of local site conditions on the inelastic dynamic analysis of r/c bridges*

Ph.D Candidate Fontara, N. (Christian-Albrechts-University of Kiel)

11:40 – 12:00 *Numerical analysis and modeling of 2D soil-structure interaction problems by hybrid BEM-FEM technique*

Associate Prof. 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 and Experimental Testing of Structural Systems & Components

Moderators: Em. Prof. G. Penelis, Prof. G. Manos, Prof. S. Bousias

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

Prof. Bousias, S. (University of Patras)

13:20 – 13:40 *Seismic performance assessment and retrofitting of RC structures*

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

13:40 – 14:00 *Recent developments on seismic simulation methods at University of Toronto*

Associate Prof. Kwon, O. (University of Toronto)

11-13 November 2014

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

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

14:40 – 15:00 **Discussion**

Contact

Anastasios Sextos
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
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 (K.E.D.E.A)
Conference Hall I
Tritis Septemvriou Str.
Thessaloniki
GR-54636

For information:

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

For any queries contact:

Kleoniki Kyrkopoulou – Organization support team Thessaloniki (2310.99 57 80)

kyrkop@gmail.com