Curriculum Vitae

Maria–Styliani Voutetaki, Civil Engineer, MSc, PhD

PERSONAL DATA

- Name : Maria–Styliani Voutetaki
- Nationality : Greek
- E-mail: mvoutetaki@yahoo.com
- Date of birth: August 6th, 1977

EDUCATION - STUDIES

- 1996 - 2002

Civil Engineering, (5 year-course degree), Department of Civil Engineering, School of Engineering, Democritus University of Thrace, Greece.

- 2002 - 2003

Master of Science (MSc) in Structural Engineering (one-year course) entitled: "*Advanced materials and technologies for the design of reinforced concrete structures*", Department of Civil Engineering, School of Engineering, Democritus University of Thrace, Greece.

- 2004 - 2009

PhD Thesis in Engineering entitled "*Damage detection and repair in structural specimens - components using smart materials*", under the supervision of Prof. K. Providakis, Applied Mechanics Laboratory, Department of Sciences, Technical University of Crete (T.U.C.), Greece.

ACADEMIC EXPERIENCE

- 2005 - 2006:

Participation in European Research Project of "Archimides II" entitled "Vibration control of intelligent structures using Piezoelectric smart systems" (European Research Project)

- 2004 -2010:

Laboratory teaching assistant and scientific associate in Applied Mechanics Laboratory, Department of Sciences, Technical University of Crete, Greece.

RESEARCH INTERESTS

- Structural Engineering, Structural Dynamics,
- Numerical Methods (Finite Elements)
- Applied Mechanics
- Smart Materials in Structures (sensors and actuators)
- Structural health monitoring and Non Destructive Testing (NDT) of Civil Infrastructures

Knowledge of: Fortran, Finite element software (pre-and-post processor) (MARC (MENTAT), SAP2000, DRAIN.2DX, Comsol Multiphysics (Femlab), MATLAB, AutoCAD, Word, Excel, PowerPoint.

PROFESSIONAL MEMEBERSHIPS

Member of Technical Chamber of Greece (TEE) as Civil Engineer (since 2002).

Designer and supervisor of construction works (since 2002).

PUBLICATIONS

International Journals:

1. C.P. Providakis, D.-P.N. Kontoni, M.E. Voutetaki, (2007), "Development of an electromechanical admittance approach for application in the vibration control of intelligent structures", *Smart Materials and Structures*, Vol. 16, No. 2, pp. 275-281.
2. C.P. Providakis, M.E. Voutetaki, (2007), "Electromechanical admittance – based damage identification using Box-Behnken design of experiments", *Structural Durability and Health Monitoring* , Vol. 3, No. 4, pp. 211-227.
3. C.P. Providakis, D.-P.N. Kontoni, M.E. Voutetaki, M.E. Stavroulaki, (2008), "Comparisons of smart damping treatments based on FEM modeling of electromechanical impedance", *Smart Structures and Systems*, Vol. 4, No. 1, pp. 35-46.

International Conferences:

1. C.P. Providakis, M.E. Voutetaki, D.-P.N. Kontoni, M.E. Stauroulaki, (2005), "A comparison of active constrained layer damping treatments using FEM modeling of electromechanical impedance", *"Advances in Computational & Experimental Engineering*

and Sciences - Proceedings of the 'International Conference on Computational & Experimental Engineering and Sciences' (ICCES'05)", 1-6 Dec. 2005, Chennai, India, pp. 2094-2099.

2. C.P. Providakis, M.E. Voutetaki, (2005), "Stability and integrity of thermal actuators using local and global density", *Proceedings of the "1st International Conference on Experiments/Process/System Modelling/Simulation/Optimization (1st IC-EpsMsO)"*, 6-9 July, 2005, Athens, Greece.
3. C.P. Providakis, M.E. Voutetaki, M.E. Stauroulaki, D.-P.N. Kontoni, (2005), "FEM modeling of electromechanical impedance for the analysis of smart damping treatments", *Proceedings of the "International Conference on Industrial Electronics, Technology & Automation 2005 (IETA 05) - International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering 2005 (CISSE 2005)*", 12-18 Dec. 2005, and also in hardcover Proceedings *"Advances in Computer, Information, and Systems Sciences, and Engineering – Proceedings of IETA 2005, TeNe 2005 and EIAE 2005"*, 2006, Springer, pp. 129-133.
4. C.P. Providakis, D.-P.N. Kontoni, M.E. Voutetaki, (2006), "An electromechanical admittance approach for vibration damping control using PZT actuators", *Proceedings of the "2nd International Conference 'From Scientific Computing to Computational Engineering' (2nd IC-SCCE)"*, 5-8 July 2006, Athens, Greece.
5. C.P. Providakis, D.-P.N. Kontoni, M.E. Voutetaki, (2006), "An electro-mechanical impedance approach for vibration control using multiple piezoelectric actuators and sensors", *Proceedings of the "Eighth International Conference on Computational Structures Technology (CST 2006)"*, 12-15 September 2006, Las Palmas de Gran Canaria, Spain, Paper Number: 280.
6. C.P. Providakis, M.E. Voutetaki, (2006), "Seismic damage detection using smart piezo-transducers and electromechanical impedance signatures", *Proceedings of the "First European Conference on Earthquake Engineering and Seismology 1st ECEES"*, 3-8 September 2006, Geneva, Switzerland, Paper Number: 307.
7. C.P. Providakis, M.E. Voutetaki, (2006), "Damage detection using electromechanical impedance signatures and statistical outliers", *Proceedings of the "2nd WSEAS Int. Conference on Applied and Theoretical Mechanics",* November 20-22, 2006, Venice, Italy, pp. 313-318.
8. C.P. Providakis, D.-P.N. Kontoni, M.E. Voutetaki, (2007), "Vibration control using smart piezoelectric materials and response surface metamodels", *Proceedings of the "Eleventh International Conference on Civil, Structural and Environmental Engineering Computing (CC2007)"*, 18-21 September 2007, Malta, Paper Number: 128.
9. C.P. Providakis, M.E. Voutetaki, (2007), "Damage prediction using response surface metamodels and electromechanical admittance signatures", *Poster in "4th International Conference on NDT of the Hellenic Society for NDT (HSNT)",* 11-14 October 2007, Chania, Crete, Greece.
10. C.P. Providakis, M.E. Voutetaki, (2008), "Electro-mechanical admittance-based damage identification using Box-Behnken design of experiments", *Proceedings of the "15th International Conference on Computational and Experimental Engineering and Science"*, 16-22 Mar 2008, Honolulu, Hawaii, USA.
11. C.P. Providakis and M.E. Voutetaki, (2008), "Electro-mechanical admittance-based damage detection using response surface and design of experiments", *Proceedings of the 7th European Conference on Structural Dynamics*, 7 – 9 July, EURODYN2008, Southampton, United Kingdom.
12. C.P. Providakis, M.E. Voutetaki, (2009), "PZT control of edge debonding in dynamically loaded concrete structures strengthened with composite materials", *Proceedings of the "2nd International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering",* 22-24 June 2009, Rhodes, Greece, Paper Number: 185.
13. C.P. Providakis, E.V. Liarakos, M.E. Voutetaki, (2010), "Damage detection in concrete components using PZT actuators/sensors and extreme value statistics", *Proceedings of the "9th International Congress on Mechanics",* 12-14 July 2010, Limassol, Cyprus.

CITATIONS

1. **Yang Y., Miao A.,** 2008, 'Effect of External Vibration on PZT Impedance Signature', Sensors, Vol. 8, 6846-6859.
   [C.P. Providakis, D.-P.N. Kontoni, M.E. Voutetaki, (2007), "Development of an electromechanical admittance approach for application in the vibration control of intelligent structures", *Smart Materials and Structures*, Vol. 16, No. 2, pp. 275-281]

2. **Lellep J., Roots L.,** 2010, 'Vibrations of cylindrical shells with circumferential cracks', WSEAS TRANSACTIONS on MATHEMATICS, 9, Vol. 9, 689-699.
   [C.P. Providakis, M.E. Voutetaki, (2006), "Damage detection using electromechanical impedance signatures and statistical outliers", *Proceedings of the "2nd WSEAS Int. Conference on Applied and Theoretical Mechanics",* November 20-22, 2006, Venice, Italy, pp. 313-318]

3. **Gillich G.-R., Praisach Z., Onchis D.,** 2010, 'About the effectiveness of damage detection methods based on vibration measurements', Proceedings of the "14th WSEAS International Conference on Computers", 23-25 July, 2010, Corfu, Greece.
   [C.P. Providakis, M.E. Voutetaki, (2006), "Damage detection using electromechanical impedance signatures and statistical outliers", *Proceedings of the "2nd WSEAS Int. Conference on Applied and Theoretical Mechanics",* November 20-22, 2006, Venice, Italy, pp. 313-318]