

CURRICULUM VITAE

Costas Papadimitriou

Current Position: Professor & Director of System Dynamics Laboratory, Department of Mechanical Engineering, School of Engineering, University of Thessaly, Pedion Areos, 383 34 Volos, Greece. Tel: +30 24210 74006, Fax: +30 34210 74012, E-mail: costasp@uth.gr, Website: <http://www.mie.uth.gr/labs/sdl/>

EDUCATION

1990 **Ph.D.** in Applied Mechanics, California Institute of Technology, Pasadena, USA
 1985 **M.Sc.** in Applied Mechanics, California Institute of Technology, Pasadena, USA
 1984 **Diploma** in Mechanical Engineering, University of Patras, Greece

PROFESSIONAL EXPERIENCE

Professor	Dept. of Mechanical I Engineering <i>University of Thessaly, Greece</i>	May 2005 – Present
Visiting Scientist (Sabbatical Leave)	Computational Science and Engineering Laboratory, <i>ETH – Zurich</i>	Febr. 2011 – Sept. 2011
Visiting Professor (Sabbatical Leave)	Dept. of Civil Engineering, <i>K.U.Leuven, Belgium</i>	Sept. 2010 – Jan. 2011
Associate Professor	Dept. of Mechanical and Industrial Engineering <i>University of Thessaly, Greece</i>	Jan. 2000 – May 2005
Visiting Professor	Centre of Excellence for Advanced Materials and Structures, <i>Institute of Fundamental Technological Research, Polish Academy of Sciences, Warsaw</i>	Jan. 2003 – Febr. 2003 (1 month)
Instructor	Dept. of Mechanical and Industrial Engineering <i>University of Thessaly, Greece</i>	March 1999 – Dec. 1999
Senior Research Engineer	Division of Engineering & Applied Science <i>California Institute of Technology, USA</i>	Oct. 1998 – Feb. 1999
	Greek Military Service (Compulsory) <i>Kalamata, Greece</i>	June 1998 – Sept. 1998
Instructor in Civil Engineering	Division of Engineering & Applied Science <i>California Institute of Technology, USA</i>	Aug. 1996 – May 1998
Researcher	Jet Propulsion Laboratory (JPL) <i>California Institute of Technology, USA</i>	Aug. 1996 – May 1998
Visiting Scholar	Department of Civil and Structural Engineering <i>The Hong Kong University of Science and Technology (HKUST), Hong Kong</i>	Oct. 1995 – July 1996
Visiting Assistant Professor	Division of Engineering & Applied Science <i>California Institute of Technology, USA</i>	June 1994 – Sept. 1995
Assistant Professor	Department of Civil Engineering <i>Texas A&M University, USA</i> (on leave to Caltech and HKUST, June 1994-Dec. 1995)	Jan. 1991 – Dec. 1995
Research Associate	Division of Engineering & Applied Science <i>California Institute of Technology, USA</i>	Oct. 1990 – Dec. 1990
Teaching/Research Assistant	Division of Engineering & Applied Science <i>California Institute of Technology, USA</i>	Oct. 1984 – Sept. 1990

ADMINISTRATIVE POSITIONS

- Director of System Dynamics Laboratory, Department of Mechanical Engineering, School of Engineering, University of Thessaly, Greece (2001 – present)
- Member of the Internal Department Evaluation Committee (2007 – July 2010)
- Chairman, Department of Mechanical and Industrial Engineering, School of Engineering, University of Thessaly, Greece (Sept. 2003 – August 2005)
- Vice-Chairman, Department of Mechanical and Industrial Engineering, School of Engineering, University of Thessaly, Greece (Sept. 2001 – August 2003)
- Director of the Graduate Studies, Department of Mechanical and Industrial Engineering, School of Engineering, University of Thessaly, Greece (Sept. 2001 – 2005)
- Co-ordinator of the Division of Mechanics, Materials and Manufacturing Processes, Department of Mechanical and Industrial Engineering, School of Engineering, University of Thessaly, Greece (Sept. 2000 – 2003, 2007- 2008, 2011-2012)
- Member of the Committee for the Financial Growth of the University of Thessaly (2005 – 2008)
- Member of the Research Committee of the University of Thessaly (2002 – 2005)
- Chairman of the Committee for the Re-structuring of the University of Thessaly Administration Services (2004-2005)
- Member of the Committee for Academic and Student Affairs, Department of Mechanical and Industrial Engineering, (1999 – 2003)

RESEARCH INTERESTS

- Dynamics and Vibrations of Structural & Mechanical Systems
- Probabilistic Structural Dynamics, Structural Reliability, Computational Dynamics / Mechanics
- Model Validation & Verification, Bayesian Inference for Uncertainty Quantification and Propagation
- System Identification, Inverse Problems in Mechanics, Structural Health Monitoring, Fault Diagnosis, Optimal Sensor Location Methods
- Design Optimization under Stochastic Load and Structural Uncertainty, Reliability-Based Design Optimization, Robust Design Optimization, Reliability-Based Structural Control
- Multi-Objective Optimization, Genetic Algorithms and Evolutionary Strategies for Design Optimization
- Applications to Earthquake, Civil, Automobile and Aerospace Engineering

HONORS AND AWARDS

National Science Foundation - Research Initiation Award (1993 - 1997)

Harold Helwig Fellowship in Structural Engineering (1989)

Research/Teaching Assistantship, Caltech (1984 – 1990)

Greek National Scholarship Fellow (1980 - 1984)

PROFESSIONAL SERVICE

Associate Editor of Scientific Journals:

- ASCE Journal of Engineering Mechanics (2009 -)
- International Journal of Reliability and Safety (2005 -)

Editorial Board Member of Scientific Journals:

- Journal of Structural Control and Health Monitoring (Sept. 2008 -)

Participation in International Faculty Selection Committees:

- Member of assessment committee for faculty selection in “Stochastic Static and Dynamic Structural Mechanics” of Civil Engineering Department of Katholik University of Leuven

Participation in International PhD Defense Committees:

- Sensor Placement Methods and Evaluation Criteria in Structural Health Monitoring, PhD defence of Dongsheng Li, University of Siegel, 2011.
- Stochastic Model Validation of Structural Systems, PhD defence of Dr. Barbara Goller, Innsbruck University, 2011.

Reviewer for:

- AIAA Journal
- Advances in Structural Engineering
- ASCE Journal of Structural Engineering
- ASME Journal of Dynamic Systems Measurement and Control
- Archive of Applied Mechanics
- Computer Methods in Applied Mechanics & Engineering
- Computer-Aided Civil and Infrastructure Engineering
- Earthquake Engineering and Structural Dynamics
- IEEE Control Systems Magazine
- International Journal for Uncertainty Quantification
- Int. Journal of Non-Linear Mechanics
- International Journal of Structural Engineering and Mechanics
- Journal of Applied Mechanics
- Journal of Computing and Information Science in Engineering
- Journal of Structural Control and Health Monitoring
- Journal of Smart Materials and Structures
- Probabilistic Engineering Mechanics
- Soil Dynamics and Earthquake Engineering
- The Open Construction and Building Technology Journal
- McGraw Hill
- Wiley
- Advanced Engineering Informatics
- ASCE Journal of Engineering Mechanics
- ASME Journal of Vibration and Acoustics
- ASME Journal of Mechanical Design
- Computers and Structures
- Computational Mechanics
- Engineering Structures
- Experimental Mechanics
- International Journal of Mechanical Sciences
- International Journal of Reliability and Safety
- Int. Journal of Solids and Structures
- Journal of Sound and Vibrations
- Journal of Vibration and Control
- Journal of Vibration and Acoustics
- Mechanical Systems and Signal Processing
- Smart Structures and Systems
- Structural Engineering and Mechanics
- Structural Safety
- Prentice Hall

Reviewer of funded research proposals for the following organizations:

- Flanders Research Foundation (FWO), Belgium (2010, 2011)
- Research Council, Katholieke Universiteit Leuven, Belgium
- Greek General Secretariat of Research and Development
- Greek Ministry of Education (ΥΠΕΠΘ),
- Greek National Scholarships Foundation (IKY) – Program ESA/Greek Trainees
- Research Committee, University of Patras, «Κ. Καραθεοδωρή 2003» Program
- “National Technical University of Athens (Basic Research Program) (“Λεύκιππος”, “Κωνσταντίνος Καραθεοδωρή”, “ΠΕΒΕ 2007”, “ΠΕΒΕ 2008”, “ΠΕΒΕ 2009”)

Member of Technical and Scientific Committees:

- Executive Vice President of the European Association for Structural Dynamics (EASD) (2011-2017)
- Member of the Dynamics Committee of Engineering Mechanics Division of ASCE (2000 -)
- Member of the Probabilistic Methods Committee of Engineering Mechanics Division of ASCE (2000-)
- Member of Committee On Uncertainty and Probabilistics (COUP) of ASME (2004 -)
- Member of Structural Health Monitoring Task Group Committee of Engineering Mechanics Division of ASCE (2000 -)
- Chair of the Subcommittee: “Updating and Identification with Experiments and Inverse Problems” of the Technical Committee of European Association of Structural Dynamics – EASD (2009 -)
- Member of the Technical Committee of European Association of Structural Dynamics – EASD. Member of the Subcommittee: Theoretical, Computational and Experimental Research. Member of the Subcommittee: Updating

and Identification with Experiments and Inverse Problems. Member of the Subcommittee: Applications in Engineering Practice (2009 -)

- ❑ Member of the Stochastic Methods in Structural Engineering Committee (Subcommittee: System Identification and Structural Control) of International Association for Structural Safety and Reliability (IASSAR) (2004 -)
- ❑ Member of the Scientific Committee of the 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (PMC), Notre Dame, USA, June 2012.
- ❑ Member of the International Advisory Board of Symposium G “Emboding Intelligence in Structures and Integrated Systems-II” of the 4th International Conference on “Smart Materials, Structures and Systems”, Montecatini Terme, Italy, June 10-15, 2012.
- ❑ Member of the Scientific Committee of the EUROODYN 2011 Conference, Leuven, Belgium, July 2011.
- ❑ Member of the Editorial Board of CSC2011 (The Second International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering), Chania, Crete, Greece, September 2011.
- ❑ Member of the Scientific Committee of the 3rd International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2011), Corfu, Greece, May 2011.
- ❑ Member of the Scientific Committee of the 5th European Workshop on Structural Health Monitoring, Sorrento, Naples, Italy, July-August 2010.
- ❑ Member of the Scientific Committee of the 2nd International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2009), Rhodes, Greece, June 2009.
- ❑ Member of the Scientific Committee of the 3rd Hellenic Conference of Earthquake Engineering and Seismology, November 2008, Athens.
- ❑ Member of the Scientific Committee of the 4th European Workshop on Structural Health Monitoring, Cracow, Poland, July 2008.
- ❑ Member of the International Advisory Board of Symposium C “Emboding Intelligence in Structures and Integrated Systems” of the 3rd International Conference on “Smart Materials, Structures and Systems”, Acireale, Sicily, Italy, June 8-13, 2008.
- ❑ Member of the National Advisory Board of the 1st International Conference on Computational Dynamics and Earthquake Engineering (COMPDYN 2007), Rethymnon, Kreta, Greece, June 2007.
- ❑ Member of the Scientific Committee of the 3rd European Workshop on Structural Health Monitoring, Granada, Spain, July 2006.
- ❑ Member of the Panel Discussion Committee on “Civil Engineering Applications and Issues” for the 3rd European Workshop on Structural Health Monitoring, Granada, Spain, July 2006.
- ❑ Member of the Scientific Committee of the 5th International Conference on Computational Stochastic Mechanics, Rhodes, Greece, June 2006.
- ❑ Member of the International Technical Committee of the International Conference on Structural Safety and Reliability (ICOSSAR’05), Rome, June 2005
- ❑ Member of the Scientific Committee of the 4th International Conference on Computational Stochastic Mechanics, Corfu, June 2002.
- ❑ Member of the Scientific Committee of First National Conference of Recent Advances in Mechanical Engineering (ASME), Patra, Sept. 2001.

Conference Minisymposia/Session Organizer

1. Co-organizer of Session on “Vibration-based Structural Health Monitoring and Damage Identification” for the 5th *European Conference on Structural Control (EACS 2012)*, Genoa, Italy, 18-20 June 2012
2. Co-organizer of Mini-Symposium on “Vibration-based Health Monitoring, Damage Identification and Parameter Estimation for Civil Engineering Structures” for the 3rd *International Symposium on Life-Cycle Civil Engineering (IALCCE 2012)*, Vienna, Austria, October, 2012
3. Co-organizer of Mini-Symposium on “Identification Methods in Structural Dynamics” for the 3rd *International Conference on Computational Dynamics and Earthquake Engineering (COMPDYN2011)*, Corfu, Greece, June, 2011
4. Co-organizer of Session on “Soft computing methods for analysis, optimization and Bayesian updating of systems under uncertainty” for the *CSC2011 (The Second International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering)*, Chania, kreta, Greece, September 2011

5. Co-organizer of Mini-Symposium on “Structural Identification and Structural Health Monitoring” for the *EURODYN 2011* of the European Association of Structural Dynamics, July 6-8, Leuven, Belgium, 2011
6. Co-organizer of Mini-Symposium on “Structural Identification and Damage Detection” for the *ASCE Engineering Mechanics Institute (EMI2010)*, Conference, Los Angeles, August 8-11, 2010
7. Co-organizer of Session on “Vibration-based structural identification and damage detection” for the *5th European Workshop on Structural Health Monitoring (EWSHM2010)*, Sorrento-Naples, Italy, June 29 – July 2, 2010
8. Co-organizer of Mini-Symposium on “Model and Parameter Identification in Structural Mechanics” for the *IV European Conference on Computational Mechanics: Solids, Structures and Coupled Problems in Engineering (ECCM 2010)*, Paris, France, May 16-21, 2010
9. Co-organizer of Session on “Probabilistic Parameter and State Estimation” for the *ICOSSAR’09 Conference*, Osaka, Japan, September 13-17, 2009
10. Co-organizer of Mini-Symposium on “Identification Methods in Structural Dynamics” for the *2nd International Conference on Computational Dynamics and Earthquake Engineering (COMPDYN2009)*, Rhodes, Greece, June, 2009
11. Co-organizer of Symposium on “Nonlinear Dynamics, Optimization and Reliability of Mechanical Systems” for the *21th Biennial ASME Conference on Mechanical Vibration and Noise*, Las Vegas, September, 2007
12. Co-organizer of Mini-Symposium on “Identification Methods in Structural Dynamics” for the *1st International Conference on Computational Dynamics and Earthquake Engineering (COMPDYN2007)*, Rethymnon, Kreta, June, 2007
13. Co-organizer of Session on “Bayesian Parameter and State Estimation” for the *ICOSSAR’05 Conference*, Rome, Italy, June 19-22, 2005
14. Co-organizer of Symposium on “Nonlinear Dynamics, Optimization and Reliability of Mechanical Systems” for the *20th Biennial ASME Conference on Mechanical Vibration and Noise*, Long Beach, California, September, 2005
15. Co-organizer of Symposium on “Dynamics and Identification of Piecewise Linear and Nonlinear Systems” for the *19th Biennial ASME Conference on Mechanical Vibration and Noise*, Chicago, Illinois, September 2-6, 2003
16. Co-organizer of Symposium on “Vibration, Identification and Control of Dynamical Systems” for the *5th EUROMECH Solid Mechanics Conference*, Thessaloniki, Greece, August 17-22, 2003
17. Co-organizer of Mini-Symposium on “System Identification, Order Reduction and Fault Detection” for the *18th Biennial ASME Conference on Mechanical Vibration and Noise*, Pittsburgh, Pennsylvania, September 9-13, 2001

PARTICIPATION IN FUNDED RESEARCH PROJECTS

1. “Uncertainty Quantification, Identification and Propagation in Structural Response and Reliability Simulations using Measured Data.” (Principal Investigator). Sponsor: Greek Ministry of Education, (*Program Hrakleitos*), Budget: 45,000 Euro. Period: (2010 – 2013), Ph.D. Candidate: Dimitra-Christina Papadioti.
2. “Evaluation of repair of damaged buildings due to earthquakes using vibration measurements and software”, Principal Investigator. Sponsor: Institute of Mechanics, Materials and Geomechanics - IMMIG through Innovation Coupons provided by Greek General Secretariat of Research and Development, Budget: 8,600 Euro. Period: Sept. 10, 2009 – January 9, 2011.
3. “Development of system for on-line, real time, health monitoring of instrumented bridges from the management center of Egnatia Odos S.A.” Principal Investigator. Sponsor: Entexnos S.A., Budget: 10.710 Euro, Period: Aug 2009 – Oct. 2009.
4. Modal Identification and Model Updating of Egnatia Odos Bridges and Upgrading of GUI-based Modal Identification and Model Updating Software.” Sponsor: *Egnatia Odos AE*, Budget: 26.000 Euro, Period: Dec 2007 – Nov. 2008.
5. Advanced methods for structural health monitoring. (Principal Investigator). Sponsor: IKY under program IKYDA – Promotion of the Exchange and Scientific Collaboration between Greece and Germany, Budget: 10.000 Euro. Period: Jan. 2007 – Dec. 2008.
6. “Development of Bayesian Structural Health Monitoring Methodology and its Enhancement by Optimal Sensor Placement and by Optimal Model Class Selection.” Χρηματοδότηση: *Research Grants Council (Hong Kong)*, Budget (for Hong Kong participants): 441.400 Hong Kong Dollars, Period: 2006 – 2008 (Principal Investigator: Paul Lam, City University of Hong Kong).

7. "Dynamic Response and Design Optimization of Vehicle Structures." (Principal Investigator). Sponsor: Greek General Secretariat of Research and Development (PENED 2003), Budget UTH: 55,340 Euro. Total Budget (with AUTH and Sarakaki AEBE – AE) : 138,340 Euro. Period: July 2005 – June 2008.
8. "Development of a Structural Identification and Damage Detection Methodology." (Principal Investigator). Sponsor: Greek Ministry of Education, (*Program Hrakleitos*), Budget: 32,929 Euro. Period: (2003 – 2005), Ph.D. Candidate: Konstantinos Christodoulou.
9. *Earthquake Protection of Bridges - ΑΣΠροΓε* (Principal Investigator). Sponsor: Greek General Secretariat of Research and Development (EPAN2003). Budget (UTH): 96,000. Total Budget (Consortium with AUTH, ITSAK, Egnatia Odos A.E. and 10 more Universities and construction companies): 2,000,000 Euros. Period: 42 months (Oct. 2003 – March 2007).
10. *Development of a Monitoring System for Assessing Structural Integrity of Bridges under Earthquake Loads*. Sponsor: Greek Earthquake Planning and Protection Organization. Budget (UTH): 39,000. Total Budget (with ITSAK): 58,000 Euros. Period: 24 months (Febr. 2001 – Jan 2003).
11. *Development of Structural Health Monitoring and Diagnosis System for Important Bridges Owned by Egnatia Odos A.E.* Sponsor: Egnatia Odos S.A. Budget (UTH): 44,000 Euros. Total Budget (with ITSAK): 58,000 Euros. Period: 24 months (July 2001 – June 2003).
12. *Leakage Diagnosis and Prevention in Water Pipe Networks*. Sponsor: Greek General Secretariat of Research and Development (PABET 2001). Budget (UTH): 47,000 Euros. Total Budget (with EYDAP): 150,000. Period: 24 months (Sept. 2001 – Aug. 2003).
13. *Development of Identification and Health Monitoring System for Structures of Crucial Importance* (Principal Investigator). Sponsor: Greek General Secretariat of Research and Development (PENED 1999). Budget (UTH): 48,000 Euros. Total Budget (with UPatras & AUTH): 159,000. Period: 18 months (Jan. 2000 – Aug. 2001).

Before Joining the University of Thessaly

14. "Methodology for structural model updating and damage detection using vibration monitoring." Χρηματοδότηση: *The Hong Kong Research Grants Council*, Περίοδο: Οκτ. 1997 – Σεπτ. 2000.
15. Reliability methods for performance evaluation. Sponsor: *NSF - Pacific Earthquake Engineering Research Center*, Period: 1998 – March 1999.
16. A probability-based description of strong motion accelerograms for improved seismic risk studies (Principal Investigator). Sponsor: *National Science Foundation - Research Initiation Award*, Period: 1993 - 1997 (Grants BCS-9309149 and CMS-9796135).
17. Development of modal updating tools for precision space structures (part of the Space Interferometry Program). Sponsor: *NASA – Jet Propulsion Laboratory*. Period: Aug. 1996 – Jul. 1998.
18. New computer tools for optimal design decisions in the presence of risk. Sponsor: *California Universities for Research in Earthquake Engineering under the CUREe-Kajima Research Program*. Period: June 1994 – March 1996.
19. Technology for infrastructure wind loads and response monitoring systems. Sponsor: *The Hong Kong UPGC Research Infrastructure Program*. Period: Sept. 1995 – Aug. 1996.
20. A new damage detection methodology for civil structures using vibration monitoring. Sponsor: *The Hong Kong Research Grants Council*. Period: Sept. 1995 – Aug. 1996.
21. Response envelope control for structural dynamic systems. Sponsor: *The Hong Kong Research Grants Council*. Period: May 1996 – Jul 1996.
22. Decision support tools for earthquake recovery of businesses. Sponsor: *California Universities for Research in Earthquake Engineering under the CUREe-Kajima Research Program*. Period: Oct. 1997 – Sept 1999.
23. Response characteristics of uncertain structures subjected to earthquake loads (Principal Investigator). Sponsor: *Texas Engineering Experiment Station*, Period: Sept 1992 – Aug. 1993.

INVITED/KEYNOTE LECTURES

- ❑ Keynote Lecture: "Bayesian Uncertainty Quantification and Propagation in Structural Dynamics Simulations using Monitored Data." *6th International ASRANet Conference for Integrating Structural Analysis, Risk and Reliability*, London, Croydon (UK), 2-4 July, 2012.
- ❑ Invited Lecture: "Optimal Sensor Placement for Parameter Estimation in Dynamic System." Session G-1 - Advances in Smart Materials/Sensors/Actuators/MEMS/NEMS of Symposium G "Embodying Intelligence in

Structures and Integrated Systems” of the 4th International Conference on “Smart Materials, Structures and Systems”, Montecatini Terme, Italy, June 10-15, 2012.

- ❑ Keynote Lecture: "Finite Element Model Validation and Predictions using Dynamic Reduction Techniques." *ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN2011)*, M. Papadrakakis, M. Fragiadakis, V. Plevris (eds.), Corfu, Greece, 25-28 May, 2011.
- ❑ K.U. Leuven, OPTEC Seminars on Optimization in Engineering, "Finite Element Model Updating Using a Multi-Objective Optimization Framework", September 29, 2010.
- ❑ Keynote Lecture: "Structural Model Updating using Vibration Measurements." *ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN2009)*, M. Papadrakakis, D.C. Charmpis, N.D. Lagaros, Y. Tsompanakis (eds.), Rhodes, Greece, 22-24 June, 2009.
- ❑ Invited Lecture: "Optimization Algorithms for System Integration." Session C-2 Integration Technologies of Symposium C "Embodying Intelligence in Structures and Integrated Systems" of the 3rd International Conference on "Smart Materials, Structures and Systems", Acireale, Sicily, Italy, June 8-13, 2008.
- ❑ Keynote Lecture: "Multi-Objective Framework for Structural Modeling Consistent with Data." *ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN2007)*, M. Papadrakakis, D.C. Charmpis, N.D. Lagaros, Y. Tsompanakis (eds.), Rethymno, Crete, Greece, 13-16 June 2007.
- ❑ "Optimal Experimental Design for Structural Identification and Response Predictions," Department of Civil Engineering, Universidad Tecnica Federico Santa Maria, Valparaiso, Chile, August 2003.
- ❑ Institute of Fundamental Technological Research, Polish Academy of Sciences, Centre of Excellence for Advanced Materials and Structures, "Optimal Sensor and Actuator Methodology for Structural Identification," Warsaw, January 2003.
- ❑ Institute of Fundamental Technological Research, Polish Academy of Sciences, Department of Dynamics of Complex Systems, Warsaw, January 2003.
 - Three Lectures on
 - "Modal Model Identification in Structural Dynamics with Applications"
 - "Statistical Model Updating and Damage Detection Methodology"
 - "Methodology for Updating Robust Reliability using Measured Dynamic Data"
- ❑ "Applications of Genetic Algorithms in Structural Health Monitoring," Session on "Computational Methods in Stochastic Mechanics and Reliability Analysis II" of 5th World Congress on Computational Mechanics, Austria, 2002.
- ❑ "Health Monitoring of Pipe Networks Using a Probabilistic Framework," 8th International Conference on Structural Safety and Reliability (ICOSSAR'01), Newport Beach, California, 2001
- ❑ "Modal Identification and Model Updating in Structural Dynamics," Institute of Engineering Seismology and Earthquake Engineering (ITSAK), Thessaloniki, 2000
- ❑ "Optimal Sensor Location Methodology for Structural Model Updating," Department of Civil and Environmental Engineering, UCLA, 1999
- ❑ "Methodology for Optimal Sensor Locations for Model Parameter Identification in Structures," Division of Engineering and Applied Science, Caltech, 1998
- ❑ "Structural Model Updating Software Development in IMOS (Integrated Modelling of Optical Systems)," Jet Propulsion Laboratory (NASA), Pasadena, 1997
- ❑ "Stochastic Response Characteristics of Structures Subjected to Earthquake Excitation," Department of Civil Engineering, Texas A&M University, 1990

Other Lectures

- ❑ More than 80 lectures in international conferences
- ❑ "Methods and Software for Health Monitoring of Bridges using Vibration Measurements," Workshop on Earthquake Protection of Bridges, Thessaloniki, Greece, 13 February 2009.
- ❑ "Identification of the Dynamic Characteristics of Structures based on Vibration Measurements," Workshop on Seismic Risk and Upgrading of Structures, Agrinio, 22-23 February, 2003.
- ❑ "Optimization, Leakage Detection, and Optimum Sensor Location in Water Pipe Networks: I. Theory," Training Workshop on Management and Modeling of Water Pipe Networks, Volos, 2002.

TEACHING EXPERIENCE

Undergraduate

University of Thessaly: Dynamics and Vibrations of Mechanical Systems, Dynamics, Statics, Finite Element Method, Computational Dynamics, Partial Differential Equations

Caltech: Statics and Dynamics.

Texas A&M University: Theory of Structures, Numerical Analysis, Engineering Mechanics of Materials, Static, Dynamics and Strength of Materials, Engineering Problem Solving & Computing.

Graduate

THRUST (Erasmus Mundus II Program on "Turbo-machinery Aeromechanics University Training"): Random Vibrations – Structural Reliability

University of Thessaly: Stochastic Analysis of Vibrations of Mechanical and Structural Systems, System Dynamics, Advanced Computational Dynamics, Mechanical Vibrations.

Caltech: Computational Mechanics.

Texas A&M University: Structural Dynamics.

Doctoral Thesis Supervising

1. Dimitra-Christina Papadioti, (2010 - present), "Uncertainty Quantification, Identification and Propagation in Response and Reliability Simulations of Structures Using Vibration Measurements," University of Thessaly.
2. Grigoris Karaiskos, (February 2011), "Experimental Verification of Active Vibration Control of Structures using Jet Pulses," University of Thessaly.
3. Kyriakos Perros (August 2010), "Reliability and Design Optimization of Nonlinear Dynamical Systems under Uncertainty," University of Thessaly.
4. Evangelos Ntotsios (December 2009), "Structural Identification of Complex Structures based on Vibration Measurements," University of Thessaly.
5. Konstantinos Christodoulou (March 2006), "Development of Damage Detection and Identification Methodology," University of Thessaly.
6. Ayhan Irfanoglu (1999), "Performance – Based Optimal Structural Design Under Uncertainty," California Institute of Technology (Co-advisor with Professor J.L. Beck)
7. David C. Polidori (1997), "A Probabilistic Treatment of Uncertainty in Nonlinear Dynamical Systems," California Institute of Technology (Co-Advisor with Professor J.L. Beck)

M.Sc. Thesis Supervising

Supervised the M.Sc. thesis of 14 students.

PROFESSIONAL AFFILIATIONS

Member of the European Association of Structural Dynamics (EASD)

Member of the American Society of Mechanical Engineers

Member of the American Society of Civil Engineers

Member of the Greek Society of Theoretical and Applied Mechanics

Member of EA.ET.YM – Hellenic Association of Computational Mechanics

Member of the Technical Chamber of Greece

PUBLICATIONS

Guest Editor of Special Journal Issues

1. Katafygiotis, L.S. and **Papadimitriou, C.** (Guest Editors) (2010), "Special Issue on Probabilistic Methods for Modeling, Simulation and Optimization of Engineering Systems under Uncertainty - in Honor of Jim Beck's 60th Birthday," *Journal of Structural Safety*, **32**(5), 273-356.
2. **Papadimitriou, C.** and Au, S.K. (Guest Editors) (2010), "Special Issue on Advances in Reliability Methods and Probabilistic System Identification Techniques," *International Journal of Reliability and Safety*, **4**(2/3), 119-299.

Book Chapters

1. **Papadimitriou, C.** and Katafygiotis, L.S. (2004). "Bayesian Modeling and Updating." In *Engineering Design Reliability Handbook*, E. Nikolaidis, D.M. Ghiocel and S. Singhal (Eds), CRC Press.

Submitted to Journals

1. Lourens, E., **Papadimitriou, C.**, Gillijns, S., Reynders, E., De Roeck, G., Lombaert, G.. "Joint input-response estimation for structural systems based on reduced-order models and vibration data from a limited number of sensors." *Mechanical Systems and Signal Processing*, submitted March 2011.
2. Michelis, P., **Papadimitriou, C.**, Karaiskos, G. K., Papadioti, D.-C. and Fuggini, C. Seismic and Vibration Tests for Assessing the Effectiveness of GFRP for Retrofitting Masonry Structures, Smart Structures and Systems, submitted October 2011.

Refereed Journal Publications

1. **Papadimitriou, C.** and Lombaert, G. (2011). "The Effect of Prediction Error Correlation on Optimal Sensor Placement in Structural Dynamics." *Mechanical Systems and Signal Processing*, accepted for publication, doi: 10.1016/j.ymsp.2011.05.019.
2. **Papadimitriou, C.**, Ntotsios, Giagopoulos, D. and Natsiavas, S. (2011). "Variability of Updated Finite Element Models and their Predictions Consistent with Vibration Measurements." *Structural Control and Health Monitoring*, DOI: 10.1002/stc.453.
3. **Papadimitriou, C.**, Fritzen, C.-P., Kraemer, P., Ntotsios, E. (2011). "Fatigue Predictions in Entire Body of Metallic Structures from a Limited Number of Vibration Measurements using Kalman Filtering." *Structural Control and Health Monitoring*, **18**, 554-573. DOI: 10.1002/stc.395.
4. Gaitanaros, S., Karaiskos, G., **Papadimitriou, C.**, Aravas, N. (2010). "A Bayesian Methodology for Crack Identification in Structures using Strain Measurements." *International Journal of Reliability and Safety*, **4**(2/3), 206-237.
5. Sobczyk, K., Perros, K., **Papadimitriou, C.** (2010). "Fatigue Reliability of Multi-Vibratory Degrading Systems under Random Loading." *Journal of Engineering Mechanics (ASCE)*, **136**(2), 179-188.
6. Ntotsios, E., Karakostas, Ch., Lekidis, V., Panetsos, P., Nikolaou, G., **Papadimitriou, C.** and Salonikos, T. (2009). "Structural Identification of Egnatia Odos Bridges based on Ambient and Earthquake Induced Vibrations." *Bulletin of Earthquake Engineering*, **7**(2), 485-501.
7. Ntotsios, E., **Papadimitriou, C.**, Panetsos, P., Karaiskos, G., Perros, K. and Perdikaris, P. C. (2009). "Bridge Health Monitoring System based on Vibration Measurements." *Bulletin of Earthquake Engineering*, **7**(2), 469-483.
8. Christodoulou, K., Ntotsios, E., **Papadimitriou, C.** and Panetsos, P. (2008). "Structural Model Updating and Prediction Variability using Pareto Optimal Models." *Computer Methods in Applied Mechanics and Engineering*, **198**, 138-149.
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