



Professor Vissarion Papadopoulos

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Department of Civil Engineering
National Technical University of Athens (NTUA), Greece

Education:

1986 – 1991 National Technical University of Athens (NTUA), Dept. of Civil Engineering

1992 – 1993 Master of Science (MSc) and Diploma of Imperial College in “Earthquake Engineering and Structural Dynamics”, Imperial College of Science, Technology and Medicine, Dept. of Civil Engineering, London, UK

1992 - 1998: PhD thesis, NTUA: “Limit reliability analysis of 3D framed structures using the Stochastic Finite Element Method”

2000 - 2006 : Post doctoral research at NTUA with Prof. Manolis Papadrakakis and in collaboration with Prof.

George Deodatis of Columbia University of New York in the area of computational stochastic mechanics. The collaboration with Prof. George Deodatis started with my visit in Columbia University as a visiting scholar on December 2002, where I remained for a period of approximately 3 months, and continues until today. During this period I was also hired at the University of Thessaly, Dept. of Civil engineering as temporal Assistant professor and performed lectures on Structural Analysis and Finite Elements.

Current position:

Lecturer, Department of Civil Engineering, National Technical University of Athens, Greece.

Peer-Reviewed Journal Publications:

- 1 M. Papadrakakis, V. Papadopoulos, A computationally efficient method for the limit analysis of space frames, *Journal Computaional. Mechanics*, 16(2), 132-141, 1995.
- 2 M. Papadrakakis, V. Papadopoulos, N. Lagaros, Structural reliability Analysis of elastoplastic structures using neural networks and Monte Carlo simulation, *Computer Methods in Applied Mechanics and Engineering*, 136, 145-163,1996.
- 3 M. Papadrakakis, V. Papadopoulos, Robust and efficient solution techniques for the stochastic finite element analysis of space frames, *Computer Methods in Applied Mechanics and Engineering*, 134, pp. 325-340, 1996.
- 4 V. Papadopoulos, M. Papadrakakis, Stochastic finite element - based reliability analysis of space frames, *Probabilistic Engineering Mechanics*, 13 (1), 53 _ 65, 1998.
- 5 V. Papadopoulos, M. Papadrakakis, Finite element Analysis of cylindrical panels with random initial imperfections, *Jornal of Engineering Mechanics*, 130, (8), pp. 867-876, 2004.
- 6 V. Papadopoulos, M. Papadrakakis, The effect of material and thickness imperfections on the buckling load of shells with random initial imperfections, *Computer Methods in Applied Mechanics and Engineering*, 194, (12-16), pp. 1405-1426, 2005.
- 7 V. Papadopoulos, G. Deodatis and M. Papadrakakis, Flexibility-based upper bounds on the response variability of simple beams, *Computer Methods in Applied Mechanics and Engineering*, 194, (12-16), 8, pp. 1385-1404, 2005.
- 8 V. Papadopoulos, G. Deodatis, Response variability of stochastic frame structures using evolutionary field theory, *Computer Methods in Applied Mechanics and Engineering*, 195 (9-12), pp. 1050-1074, 2006.
- 9 V. Papadopoulos, M. Papadrakakis and G. Deodatis, Analysis of mean response and response variability of stochastic finite element systems, *Computer Methods in Applied Mechanics and Engineering*, 195 (41-43), pp. 5454-5471, 2006.
- 10 N. Lagaros and V. Papadopoulos, "Optimum design of shell structures with random geometric, material and thickness imperfections", *International Journal of Solids and Structures*, 43 (22-23), pp. 6948-6964, 2006.
- 11 V. Papadopoulos and P. Inghesiss, The effect of imperfect boundary conditions on the buckling analysis of cylindrical shells with random geometric material and thickness imperfections, *International Journal of Solids and Structures*, 44 (18-19), pp. 6299-6317, 2007.
- 12 M. Papadrakakis, V. Papadopoulos, N. Lagaros, J. Oliver, A. E. Huespe, and P. Sánchez, Vulnerability Analysis of Large Concrete Dams using the Continuum Strong Discontinuity Approach and Neural Networks, *Structural Safety*, 30 (3), pp. 217-235, 2008.
- 13 I.F. Moschonas, A.J. Kappos, P. Panetsos, V. Papadopoulos, T. Makarios, P. Thanopoulos, Seismic fragility curves for Greek bridges: methodology and case studies, *Bulletin of Earthquake Engineering*, 7(2), 439-468, 2009.
- 14 Papadopoulos, V., Charmpis, D.C., Papadrakakis, M., A computationally efficient method for the

- buckling analysis of shells with stochastic imperfections, *Computational Mechanics*, 43 (5), pp. 687-700, 2009.
- 15 V. Papadopoulos, G. Stefanou and M. Papadrakakis, Buckling analysis of imperfect shells with stochastic non-Gaussian material and thickness properties, *International Journal of Solids and Structures*, 46(14-15), 2800-2808, 2009.
- 16 V. Papadopoulos, N. Lagaros, Vulnerability-based robust design optimization of imperfect shell structures, *Structural Safety*, 31(6), 475-482, 2009
- 17 D. Schillinger, V. Papadopoulos, Accurate Estimation of Evolutionary Power Spectra for Strongly Narrow-Band Random Fields, *Computer Methods in Applied Mechanics and Engineering*, Volume 199, Issues 17-20, 1 March 2010, Pages 947-960
- 18 D. Schillinger, V. Papadopoulos, M. Papadrakakis, M. Bishoff, Buckling Analysis of Imperfect I-Section Beam-Columns with Stochastic Shell Finite Elements, *Computational Mechanics Vol 46*(3), pp 495-510, 2010.
- 19 V. Papadopoulos, G. Stefanou and M. Papadrakakis, Buckling load variability of cylindrical shells with stochastic imperfections, *Int. Journal for Reliability and safety* (to appear)
- 20 V. Papadopoulos, N. Lagaros, Performance-Based Optimum Design of Structures with Vulnerability Objectives, *Journal of Earthquake Engineering* (to appear)

Publications in international conference proceedings: (28 conference papers listed)

Books:

Computational Methods in Stochastic Dynamics, M. Papadrakakis, G. Stefanou and V. Papadopoulos (eds) in *Computational Methods in Applied Sciences*, series of ECCOMAS (to be published)

Book Chapters:

M. Papadrakakis, V. Papadopoulos and N. Lagaros, Structural reliability analysis of elastic-plastic structures using Neural Networks and Monte Carlo simulation, in M. Papadrakakis and G. Bueda (Eds.), *Advanced Finite Element Solution Procedures*, CIMNE Publications, Barcelona (1996), pp 348-374.

Dominik Schillinger and Vissarion Papadopoulos, The Method of Separation: A Novel Approach for Accurate Estimation of Evolutionary Power Spectra, in *Computational Methods in Stochastic Dynamics*, M. Papadrakakis, G. Stefanou and V. Papadopoulos (eds) in *Computational Methods in Applied Sciences*, series of ECCOMAS (to be published)

Teaching Activities:

Special issues of structural engineering 9th semester, Dept. Of Mechanical Engineering, University of Thessaly, Volos, Greece, 2000-2001, 2002, 2002-2003, 2003-2004

Finite Elements I 7th semester, Dept. Of Civil Engineering, University of Thessaly, Volos, Greece, 2000-2001, 2001-2002, 2002-2003, 2003-2004

Finite Elements II 8th semester, Dept. Of Civil Engineering, University of Thessaly, Volos, Greece, 2000-2001, 2001-2002, 2002-2003, 2003-2004

Finite Elements 7th semester, Dept. Of Civil Engineering, University of Thessaly, Volos, Greece, 2004-2005, 2005-2006.

Structural Analysis I and II 5th and 6th semester, Dept. Of Civil Engineering, National Technical University of Athens, Greece, 2006-2010

Research Projects:

- 1) "Vulnerability of buried pipelines under seismic loadings, European Union, environment, 1993.
- 2) "Prediction and measurement of residual stresses", Joint Resesarch Center, EU, Petten, The Netherlands, 1993.
- 3) "NW-IALAD, Integrity assessment of Large Concrete Dams", EU Research Network 2002-2004.
- 4) "AsProGe", Earthquake protection of Egnatia highway bridges, Greek Ministry of Education, General Secretariat of Research and Technology, 2003-2006
- 5) "PITHAHGORAS" - Numerical solutions for coupled soil-structure interaction problems with large-scale finite element models, Greek Ministry of Education, General Secretariat of Research and Technology, 2004-2007.
- 6) "PEBE", Development of spectral stochastic finite elements with Galerkin based methods, National Technical University of Athens, Basic research Support Program, 2009-2013.
- 7) "MRECT", Multiscale Reinforcement of semi-crystalline thermoplastic sheets and honeycombs, Collaborative Project, EC, FP7 framework.

Professional Activities:

Consultancy and design of Bridges and Buildings privately and in collaboration with the following companies:

D. Bairaktaris & Co, 1991 - 1996.

DENCO Consultant Engineers L.t.d 1997 - 1998.

O.T.M L.t.d., 1997 - 2000.

My professional activities involve the analysis and design of a large number of Reinforced Concrete Buldings as well as a large number of Reinforced concrete and prestressed Highway Bridges in Greece.