

Ioannis Anastasopoulos Assistant Professor School of Civil Engineering

# CURRICULUM VITAE

## **IOANNIS ANASTASOPOULOS**

Assistant Professor, School of Civil Engineering Associate Director, Laboratory of Soil Mechanics National Technical University of Athens, Greece <u>www.ssi.civil.ntua.gr</u>

## ACADEMIC BACKGROUND

2005	PhD in Civil Engineering, National Technical University of Athens, Greece
	Supervisor: Professor George Gazetas
2001	MS in Civil Engineering, Purdue University, West Lafayette, IN
1999	Diploma in Civil Engineering, National Technical University of Athens, Greece

## ACADEMIC EXPERIENCE

2011–present	Assistant Professor (elected on November 2011)
	School of Civil Engineering, National Technical University of Athens, Greece
2008–present	Associate Director
	Laboratory of Soil Mechanics (LSM), Division for Numerical and Experimental Simulation of Soil–Structure Systems, National Technical University of Athens
2008–2011	Adjunct Lecturer School of Civil Engineering, National Technical University of Athens, Greece
2006–2008	Honorary Postdoctoral Research Fellow University of Dundee, Division of Civil Engineering, Scotland, UK.
2005–2008	<i>Lab Manager and Postdoctoral Researcher</i> Laboratory of Soil Mechanics, Division for Numerical and Experimental Simulation of Soil–Structure Systems, National Technical University of Athens
2001–2005	<b>Research Associate &amp; Teaching Assistant</b> School of Civil Engineering, National Technical University of Athens
1999–2000	Graduate Research Assistant Purdue University, Division of Civil Engineering, West Lafayette, IN, USA

## **PROFESSIONAL EXPERIENCE**

2006–present	Partner
	SGM Engineering, Seismic and Geotechnical Mechanics Consulting Engineers
	( <u>www.sgm-engineering.com</u> )
2006–present	Consultant
	Consulting services: geotechnical and earthquake engineering
2001-2005	Associate
	Gazetas Associates, Seismic and Geotechnical Mechanics Consulting Engineers

## **PROFESSIONAL LICENSE**

2001–present *P.E. (Greece)*, Technical Chamber of Greece, Registration No. 87380 (the license is valid all over the European Union, recognized by all 27 member states)

## **PUBLICATIONS**

#### **Refereed Journal Publications**

#### **Under Review**

- J55. Drosos V., Anastasopoulos I. (2013), "Experimental Investigation of the Seismic Response of Classical Temple Columns", *Bulletin of Earthquake Engineering (submitted)*.
- J54. Loli M., Anastasopoulos I., Gazetas G. (2013), "Nonlinear Analysis of Earthquake Fault Rupture Interaction with Historic Masonry Buildings", *Earthquake Spectra (submitted)*.
- J53. Adamidis O., Gazetas G., **Anastasopoulos I.** (2013), "Equivalent–linear stiffness and damping in rocking of circular and strip foundations", *Bulletin of Earthquake Engineering* (*submitted*).
- J52. Anastasopoulos I. (2013), "Forensic analysis of 5-storey building damaged during nearby construction", *Geotechnical Engineering*, ICE (*submitted*).
- J51. Anastasopoulos I., Kontoroupi Th. (2013), "SDOF System Rocking on Inelastic Soil: Development of Simplified Nonlinear Analysis Method", *Soil Dynamics and Earthquake Engineering (submitted)*.

#### Tentatively Accepted

- J50. Fadaee M., Anastasopoulos I., Gazetas G., Jafari M.K., Kamalian M. (2013), "Soil Bentonite Wall Protects Foundation from Thrust Faulting : Analyses and Experiment", *Earthquake Engineering and Engineering Vibration (revision submitted)*.
- J49. Anastasopoulos I., Gelagoti F., Spyridaki A., Sideri Tz., Gazetas G. (2013), "Seismic Rocking Isolation of Asymmetric Frame on Spread Footings", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE (*revision submitted*).

#### <u>Published</u> (or in press)

- J48. **Anastasopoulos I.**, Kourkoulis R., Gazetas G., Tsatsis A. (2013), "Interaction of piled foundation with a rupturing normal fault", *Géotechnique (in press)*.
- J47. Gazetas G., **Anastasopoulos I.**, Adamidis O., Kontoroupi Th. (2013), "Nonlinear Rocking Stiffness of Foundations", *Soil Dynamics and Earthquake Engineering*, (available online, DOI: 10.1016/j.soildyn.2012.12.011).
- J46. Giannakou A., Gerolymos N., Gazetas G., Tazoh T., **Anastasopoulos I.** (2013), "<u>Closure</u> to Seismic Behavior of Batter Piles: Elastic Response", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 139(1): 185–187.
- J45. **Anastasopoulos I.**, Loli M., Georgarakos T., Drosos V. (2013), "Shaking Table Testing of Rocking–isolated Bridge Pier", *Journal of Earthquake Engineering*, 17(1): 1–32 (J45).
- J44. **Anastasopoulos I.**, Kourkoulis R., Gelagoti F., Papadopoulos E. (2012), "Metaplastic Rocking Response of SDOF Systems on Shallow Improved Sand: an Experimental Study", *Soil Dynamics and Earthquake Engineering*, 40: 15–33 (J44).
- J43. Kourkoulis R., Anastasopoulos I., Gelagoti F., Kokkali P. (2012), "Dimensional Analysis of SDOF Systems Rocking on Inelastic Soil", *Journal of Earthquake Engineering*, 16(7): 995–1022 (J43).
- J42. Gelagoti F., Kourkoulis R., **Anastasopoulos I.**, Gazetas G. (2012), "Nonlinear Dimensional Analysis of Trapezoidal Valleys Subjected to Vertically Propagating SV Waves", *Bulletin of the Seismological Society of America*, 102(3): 999–1017 (J42).

- J41. Kourkoulis R., Gelagoti F., Anastasopoulos I. (2012), "Rocking Isolation of Frames on Isolated Footings: Design Insights and Limitations", *Journal of Earthquake Engineering*, 16 (3): 374–400 (J41).
- J40. Drosos V., Georgarakos T., Loli M., Anastasopoulos I., Zarzouras O., and Gazetas G. (2012), "Soil–Foundation–Structure Interaction with Mobilization of Bearing Capacity : An Experimental Study on Sand", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 138(11): 1–18 (J40).
- J39. Gelagoti F., Kourkoulis R., Anastasopoulos I., Gazetas G. (2012), "Rocking Isolation of Low Rise Frame Structures Founded on Separate Footings", *Earthquake Engineering and Structural Dynamics*, 41: 1177–1197 (J39).
- J38. Kourkoulis R., Gelagoti F., **Anastasopoulos I.**, Gazetas G. (2012), "Hybrid Method for Analysis and Design of Slope Stabilizing Piles", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 138(1): 1–14 (J38).
- J37. Loli M., Bransby M.F., Anastasopoulos I., Gazetas G. (2012), "Interaction of Caisson Foundations with a Seismically Rupturing Normal Fault: Centrifuge Testing versus Numerical Simulation", *Géotechnique*, 62(1): 29–43 (J37).
- J36. Gelagoti F., Kourkoulis R., Anastasopoulos I., Gazetas G. (2012), "Rocking-isolated frame structures: Margins of safety against toppling collapse and simplified design approach", *Soil Dynamics and Earthquake Engineering*, 32(1): 87–102 (J36).
- J35. Anastasopoulos I., Gelagoti F., Kourkoulis R., Gazetas G. (2011), "Simplified Constitutive model for Simulation of Cyclic Response of Shallow Foundations: Validation against Laboratory Tests", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 137(12): 1154–1168 (J35).
- J34. Kouroussis G., Gazetas G., **Anastasopoulos I.**, Verlinden O., Conti C. (2011), "Discrete modelling of vertical track–soil coupling for vehicle–track dynamics", *Soil Dynamics and Earthquake Engineering*, 31(12):1711–1723 (J34).
- J33. Garini E., Gazetas G., and **Anastasopoulos I.** (2011), "Asymmetric 'Newmark' sliding caused by motions containing severe 'directivity' and 'fling' pulses", *Géotechnique*, 61(9): 733–756 (J33).
- J32. Loli M., Anastasopoulos I., Bransby M.F., Waqas A., Gazetas G. (2011), "Caisson Foundations subjected to Reverse Fault Rupture : Centrifuge Testing and Numerical Analysis", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 137(10): 914–925 (J32).
- J31. Kourkoulis R., Gelagoti F., Anastasopoulos I., Gazetas G. (2011), "Slope stabilizing piles and pile-groups: Parametric study and design insights", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 137(7): 663–677 (J31).
- J30. Anastasopoulos I., Georgarakos T., Georgiannou V., Drosos V., Kourkoulis R. (2010), "Seismic Performance of Bar-Mat Reinforced-Soil Retaining Wall: Shaking Table Testing versus Numerical Analysis with Modified Kinematic Hardening Constitutive Model", *Soil Dynamics & Earthquake Engineering*, 30(10): 1089–1105.
- J29. Kourkoulis R., Anastasopoulos I., Gelagoti F., Gazetas G. (2010), "Interaction of Foundation–Structure Systems with Seismically–Precarious Slopes : Numerical Analysis with Strain Softening Constitutive Model", Soil Dynamics & Earthquake Engineering, 30(12): 1430-1445 (J29).

- J28. Anastasopoulos I., Gazetas G., Loli M., Apostolou M, Gerolymos N. (2010), "Soil Failure can be used for Earthquake Protection of Structures", *Bulletin of Earthquake Engineering*, 8(2): 309-326 (J28).
- J27. Gelagoti F., Kourkoulis R., **Anastasopoulos I.**, Gazetas G. (2010), "Seismic wave propagation in a very soft alluvial valley: Sensitivity to ground-motion details and soil nonlinearity, and generation of a parasitic vertical component", *Bulletin of the Seismological Society of America*, 100(6): 3035–3054 (J27).
- J26. Anastasopoulos I., Antonakos G., Gazetas G. (2010), "Slab Foundation subjected to Thrust Faulting: Parametric Analysis and Simplified Design Method", *Soil Dynamics & Earthquake Engineering*, 30(10): 912–924 (J26).
- J25. Gazetas G., Garini E., Anastasopoulos I., Gerorgarakos T. (2010), "Effects of Near–Fault Ground Shaking on Sliding Systems", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 135(12): 1906–1921 (J25).
- J24. Anastasopoulos I., Gazetas G. (2010), "Analysis of cut-and-cover tunnels against large tectonic deformation", *Bulletin of Earthquake Engineering*, 8(2): 283-307 (J24).
- J23. Giannakou A., Gerolymos N., Gazetas G., Tazoh T., Anastasopoulos I. (2010), "Seismic Behaviour of Batter Piles: Elastic Response", *Journal of Geotechnical Engineering*, ASCE, 136(9): 1187-1199 (J23).
- J22. Anastasopoulos I., Alfi S., Gazetas G., Bruni S., and Van Leuven A. (2009), "Numerical and experimental assessment of advanced concepts to reduce noise and vibration on urban railway turnouts", *Journal of Transportation Engineering*, ASCE, 135(5): 279–287 (J22).
- J21. Bruni S., Anastasopoulos I., Alfi S., Van Leuven A., Apostolou M., and Gazetas G. (2009), "Train-induced Vibrations on Urban Metro and Tram Turnouts", *Journal of Transportation Engineering*, ASCE, 135(7): 397–405 (J21).
- J20. Anastasopoulos I. (2009), "<u>Closure</u> to Fault Rupture Propagation through Sand: Finite-Element Analysis and Validation through Centrifuge Experiments", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 133(8): 943–958.
- J19. Bruni S., Anastasopoulos I., Alfi S., Van Leuven A., Gazetas G. (2008) "Effects of train impacts on urban turnouts: modelling and validation through measurements", *Journal of Sound and Vibration*, 324(3–5): 666–689 (J19).
- J18. **Anastasopoulos I.,** Gazetas G., Bransby M.F., Davies M.C.R., and El Nahas A. (2009), "Normal Fault Rupture Interaction with Strip Foundations", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 135(3): 359-370 (J18).
- J17. Anastasopoulos I., Gazetas G., Drosos V., Georgarakos T., and Kourkoulis R. (2008), "Design of bridges against large tectonic deformation", *Earthquake Engineering and Engineering Vibration*, 7(4): 345–368 (J17).
- J16. Gazetas G., Pecker A., Faccioli E., Paolucci R., and **Anastasopoulos I.** (2008), "Preliminary Design Recommendations for Dip-slip Fault–Foundation Interaction", *Bulletin of Earthquake Engineering*, 6(4): 677–687.
- J15. Anastasopoulos, I., Callerio, A., Bransby, M.F., Davies, M.C.R., El. Nahas, A., Faccioli, E., Gazetas, G., Masella, A., Paolucci, R., Pecker, A., Rossignol, E. (2008), "Numerical Analyses of Fault–Foundation Interaction", *Bulletin of Earthquake Engineering*, 6(4): 645–675 (J15).

- J14. Faccioli, E., **Anastasopoulos, I.,** Callerio, A., and Gazetas, G. (2008), "Case histories of fault–foundation interaction", *Bulletin of Earthquake Engineering*, 6(4): 557–583 (J14).
- J13. Gerolymos, N., Giannakou, A., Anastasopoulos, I., and Gazetas, G. (2008), "Evidence of beneficial role of inclined piles: Observations and Summary of Numerical Analyses", *Bulletin of Earthquake Engineering*, 6(4): 705–722 (J13).
- J12. Anastasopoulos I., Gerolymos N., Gazetas G., and Bransby M. F. (2008), "Simplified approach for design of raft foundations against fault rupture. Part I : Free-field", *Earthquake Engineering and Engineering Vibration*, 7: 147–163 (J12).
- J11. **Anastasopoulos I.**, Gerolymos N., Gazetas G., and Bransby M. F. (2008), "Simplified approach for design of raft foundations against fault rupture. Part II : Soil–Structure Interaction", *Earthquake Engineering and Engineering Vibration*, 7: 165–179 (J11).
- J10. Anastasopoulos, I., Gerolymos, N., Drossos, V., Kourkoulis, R., Georgarakos, P., and Gazetas, G. (2008) "Behaviour of Deep Immersed Tunnel under Combined Normal Fault Rupture Deformation and Subsequent Seismic Shaking", *Bulletin of Earthquake Engineering*, 6(2): 213–239 (J10).
- J9. Anastasopoulos I., Gerolymos N., Drosos V., Kourkoulis R., Georgarakos P., Gazetas G. (2007) "Nonlinear Response of Deep Immersed Tunnel to Strong Seismic Shaking", *Journal of Geotechnical and Geoenv. Engineering*, ASCE, 133(9): 1067–1090 (J9).
- J8. Anastasopoulos I., & Gazetas G. (2007), "Foundation-Structure Systems over a Rupturing Normal Fault: Part I. Observations after the Kocaeli 1999 Earthquake", Bulletin of Earthquake Engineering, 5(3): 253–275 (J8).
- J7. Anastasopoulos I., & Gazetas G. (2007), "Behaviour of Structure–Foundation Systems over a Rupturing Normal Fault: Part II. Analysis of the Kocaeli Case Histories", *Bulletin of Earthquake Engineering*, 5(3): 277–301 (J7).
- J6. Anastasopoulos I., & Gazetas G. (2007), "Analysis of Failure of Scissors Crossover Guardrail Support Base-Plates and the Role of Foundation–Structure Interaction", *Engineering Failure Analysis*, 14(5): 765–782 (<u>J6</u>).
- J5. Anastasopoulos I., Gazetas G., Bransby M.F., Davies M.C.R., El Nahas A. (2007), "Fault Rupture Propagation through Sand : Finite Element Analysis and Validation through Centrifuge Experiments", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 133(8): 943–958 (J5).
- J4. Gerolymos N., **Anastasopoulos I.**, Gazetas G. (2007) "Opening ceremony shaft for the Athens 2004 Olympic Games", *Geotechnical Engineering*, ICE, 160(2): 61–71.
- J3. Gazetas G., Gerolymos N., Anastasopoulos I. (2005), "Response of Three Athens Metro Underground Structures in the 1999 Parnitha Earthquake", Soil Dynamics & Earthquake Engineering, 25(7-10): 617–633 (J3).
- J2. Gazetas G., Psarropoulos P.N., **Anastasopoulos I.**, and Gerolymos N. (2004), "Seismic Behaviour of Flexible Retaining Systems Subjected to Short Duration Moderately Strong Excitation", *Soil Dynamics & Earthquake Engineering*, 24(7): 537–550 (J2).
- J1. Peeta S., Anastassopoulos I. (2002), "Automatic Real-time Detection of Erroneous Detector Data using Fourier Transforms for On-Line Traffic Control Architectures", *Transportation Research Record*, 1811: 1–11.

## **Chapters in Books, Special Publications**

- B5. Anastasopoulos I. (2010), "Beyond conventional capacity design: towards a new design philosophy", In: *Soil–Foundation–Structure Interaction*, Orense R.O., Chow N., and Pender M.J. (editors), CRC Press, Taylor & Francis Group : New York, pp. 213–220.
- B4. Tazoh T., Sato M., Jang J., Taji Y., Gazetas G., Anastasopoulos I. (2010), "Kinematic response of batter pile foundation: centrifuge tests", In: *Soil–Foundation–Structure Interaction*, Orense R.O., Chow N., and Pender M.J. (editors), CRC Press, Taylor & Francis Group : New York, pp. 41–48.
- B3. Gazetas G., Anastasopoulos I., Apostolou M. (2007), "Shallow and Deep Foundations under Fault Rupture or Strong Seismic Shaking", *Earthquake Geotechnical Engineering*, Pitilakis K., Editor, Springer: Berlin, pp. 185–210.
- B2. Gazetas G., Anastasopoulos I., Gerolymos N., Mylonakis G., & Syngros C. (2005), "The Collapse of the Hanshin Expressway (Fukae) Bridge, Kobe 1995 : Soil–Foundation–Structure Interaction, Reconstruction, Seismic Isolation", In : Entwicklungen in der Bodenmechanik, Bodendynamik und Geotechnik, Festschrift zum 60. Geburstag von Univ.-Professor Dr.-Ing.habil. Stavros A. Savidis, Frabk Rackwitz, Springer : Berlin, pp. 93–120.
- B1. Mylonakis G., Gazetas G., Gerolymos N., and Anastasopoulos I. (2000), "Detrimental Role of Soil-Structure Interaction and the Collapse of the 18-Pier Fukae Bridge in Kobe", In: *Recent Advances in Applied Mechanics*, T. Katsikadelis, D.E. Beskos and E.E. Gdoutos, Editors, NTUA : Athens, pp.145–159.

## **Conference Proceedings**

- C97. Anastasopoulos I., Drosos V., Antonaki N., Rontogianni A. (2012), "The Role of Soil– Foundation–Structure Interaction on the Seismic Performance of an Existing 3-storey Building: Shaking Table Testing", 15<sup>th</sup> Int. Conf. on Earthquake Engineering, Lisbon, Portugal, September 24-28, 2012, Paper 4865.
- C96. Manoledaki A.A., Drosos V., **Anastasopoulos I.**, Vintzileou E., Gazetas G. (2012), "Experimental assessment of the seismic response of three-leaf stone masonry walls, with due consideration to soil–structure interaction", *15<sup>th</sup> Int. Conf. on Earthquake Engineering*, Lisbon, Portugal, September 24-28, 2012, Paper 4309.
- C95. Loli M., Anastasopoulos I., Gazetas G., Cattari S., Degli Abbati S., Lagomarsino S. (2012), "Response of Historic Masonry Structures to Tectonic Ground Displacements", *Proc. 15<sup>th</sup> Int. Conf. on Earthquake Engineering*, Lisbon, Portugal, September 24-28, 2012, Paper 3935.
- C94. **Anastasopoulos I.** (2012), "Effectiveness of shallow soil improvement on the performance of rocking-isolated bridge piers : monotonic and cyclic pushover testing", 2<sup>nd</sup> International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28–30, 2012.
- C93. Drosos V., Georgarakos T., Loli M., Anastasopoulos I., Gazetas G. (2012), "Nonlinear soil-foundation interaction: an experimental study on sand", 2<sup>nd</sup> International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28–30, 2012.
- C92. Anastasopoulos I., Loli M., Gelagoti F., Kourkoulis R., Gazetas G. (2012), "Nonlinear soil–foundation interaction: numerical analysis", 2<sup>nd</sup> International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28–30, 2012.

- C91. Tsatsis A., Kourkoulis R., **Anastasopoulos I.**, Gazetas G. (2011), "Bridge Pier founded on Pile-group: Ductile Design Against Faulting", *Proc. International Conference: Innovations on Bridges and Soil–Bridge Interaction, IBSBI 2011*, Athens, Greece, October 13-15, 2011.
- C90. Anastasopoulos I., Kourkoulis R., Papadopoulos E. (2011), "1-g Experimental Investigation of the Metaplastic Rocking Response of 1-dof Oscillators on Shallow Footings", Proc. 4<sup>th</sup> Japan–Greece Workshop on Seismic Design of Foundations, Innovations in Seismic Design, and Protection of Cultural Heritage, Kobe, 6–7 October.
- C89. Anastasopoulos I., Loli M., Drosos V., Gazetas G. (2011), "Cyclic Pushover and Shake Table Testing of Bridge Pier with Foundation Uplifting and Soil Yielding", Proc. 4<sup>th</sup> Japan–Greece Workshop on Seismic Design of Foundations, Innovations in Seismic Design, and Protection of Cultural Heritage, Kobe, Japan, 6–7 October.
- C88. Loli M., Anastasopoulos I. (2011), "Normal and Reverse Fault Rupture Interaction with Caisson Foundations : Centrifuge Modeling and Numerical Simulation", Proc. 4<sup>th</sup> Japan-Greece Workshop on Seismic Design of Foundations, Innovations in Seismic Design, and Protection of Cultural Heritage, Kobe, Japan, 6–7 October.
- C87. Anastasopoulos I., Loli M., Gelagoti F., Kourkoulis R., Gazetas G. (2011), "Nonlinear Soil–Foundation Interaction: Numerical Analysis", Proc. 4<sup>th</sup> Japan–Greece Workshop on Seismic Design of Foundations, Innovations in Seismic Design, and Protection of Cultural Heritage, Kobe, Japan, 6–7 October.
- C86. Loli M., Anastasopoulos I., Bransby M.F., Gazetas G. (2011), "Normal αnd Reverse Fault Rupture Interaction with Caisson Foundations: Centrifuge Modelling and Numerical Simulation", 5<sup>th</sup> International Conference on Earthquake Geotechnical Engineering, Santiago, Chile, 10-13 January.
- C85. Kourkoulis R., Gelagoti F., **Anastasopoulos I.**, Gazetas G. (2011), "Stabilization of seismically unstable slopes using Piles: Parametric Analysis", 5<sup>th</sup> International Conference on Earthquake Geotechnical Engineering, Santiago, Chile, 10-13 January.
- C84. Gelagoti F., Kourkoulis R., Anastasopoulos I., Gazetas G. (2011), "Effect of Soil Nonlinearity on the Seismic response of a very soft Alluvial Valley", 5<sup>th</sup> International Conference on Earthquake Geotechnical Engineering, Santiago, Chile, 10-13 January.
- C83. Kouroussis G., Gazetas G., Anastasopoulos I., Conti C., Verlinden O. (2011), "Lumped mass model of vertical dynamic coupling of a railway track on elastic homogeneous or layered halfspace", *Proc. EURODYN 2011 : 8<sup>th</sup> International Conference on Structural Dynamics*, 4-6 July, Leuven, Belgium.
- C82. Anastasopoulos I., Drosos V., Georgarakos T., Gazetas G. (2010), "Experimental Validation of Bridge Pier Seismic Design Employing Soil Ductility", Proc. 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, 29/9–1/10, Vol. 1, pp. 299–303 (in Greek).
- C81. Drosos V., Gelagoti F., Kourkoulis R., Anastasopoulos I., Gazetas G. (2010), "New Thessaloniki Commercial Port: Non-linear seismic Analysis of the Quay Wall", Proc. 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, 29/9– 1/10, Vol. 1, pp. 313–319 (in Greek).
- C80. Gelagoti F., Kourkoulis R., Anastasopoulos I., Gazetas G. (2010), "Non-Linear Inelastic Behavior of Foundations: Application on the Seismic Protection of Frame Structures", Proc. 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, 29/9– 1/10, Vol. 1, pp. 483–490 (in Greek).

- C79. Gelagoti F., Kourkoulis R., Anastasopoulos I., Gazetas G. (2010), "Seismic Soil-Foundation-Frame Interaction under Valley-affected Ground Motion", Proc. 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, 29/9–1/10, Vol. 1, pp. 491-498 (in Greek).
- C78. **Anastasopoulos I.** (2010), "Seismic Design of Bridges against Seismic Faulting", *Proc.* 6<sup>th</sup> *Hellenic Conference on Geotechnical and Geoenvironmental Engineering*, Volos, 29/9–1/10, Vol. 1, pp. 501–508 (*in Greek*).
- C77. Kourkoulis R., Gelagoti F., Anastasopoulos I., Gazetas G. (2010), "Pile Effectiveness for Slope Stabilization: 3D Numerical Investigation", Proc. 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, 29/9–1/10, Vol. 2, pp. 107–114 (in Greek).
- C76. Anastasopoulos I., Bouziou D. (2010), "3-D Seismic Response of Bridge Pier on Pilegroup: Towards a New Design Philosophy", *Proc.* 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, 29/9–1/10, Vol. 3, pp. 275-282 (*in Greek*).
- C75. Loli M., Anastasopoulos I., Bransby M.F., Gazetas G. (2010), "Caisson foundation subjected to normal faulting: Experimental and analytical study", *Proc.* 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, 29/9–1/10, Vol. 3, pp. 283–290 (in Greek).
- C74. **Anastasopoulos I.**, Georgarakos T., Drosos V., Gazetas G. (2010), "Experimental Soil– Foundation–Bridge Pier Interaction: Towards a Reversal of Capacity design", *Proc. 5<sup>th</sup> Int. Conf. on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics and Symposium in Honor of Professor I.M. Idriss,* San Diego, CA, May 24-29.
- C73. Anastasopoulos I., Georgarakos T., Kourkoulis R., Gazetas G. (2010), "Design of bridges against seismic faulting: methodology and applications", *Proc.* 5<sup>th</sup> Int. Conf. on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics and Symposium in Honor of Professor I.M. Idriss, San Diego, CA, May 24-29.
- C72. Anastasopoulos I., Kourkoulis R., Drosos V., Georgarakos T., Gazetas G. (2009), "Methodology for Design Analysis of Bridges against an Emerging Fault Rupture", Proc. 3<sup>rd</sup> Greece–Japan Workshop : Seismic Design, Observation, Retrofit of Foundations, Santorini 22–23 September, pp. 375–392.
- C71. **Anastasopoulos I.** (2009), "Simplified Method for the Design of Raft Foundations against a Direct Hit by Thrust Faulting" *Proc.* 3<sup>rd</sup> Greece–Japan Workshop : Seismic Design, Observation, Retrofit of Foundations, Santorini 22–23 September, pp. 419–437.
- C70. Stavropoulou E., Anastasopoulos I., Gazetas G. (2009), "Preliminary SFSI Studies for the Messina Bridge Foundations", *Proc.* 3<sup>rd</sup> Greece–Japan Workshop : Seismic Design, Observation, Retrofit of Foundations, Santorini 22–23 September, pp. 438–448.
- C69. Anastasopoulos I., Loli M., Gerolymos N., Apostolou M., Gazetas G. (2009), "Towards a Reversal of Seismic Capacity Design. Part A : Analysis of Bridge Pier–Foundation System", *Proc. 3<sup>rd</sup> Greece–Japan Workshop : Seismic Design, Observation, Retrofit of Foundations*, Santorini 22–23 September, pp. 393–406.
- C68. Anastasopoulos I., Georgarakos T., Drosos V., Giannakos S., Gazetas G. (2009), "Towards a Reversal of Seismic Capacity Design : Part B. Shaking", *Proc.* 3<sup>rd</sup> Greece–Japan Workshop : Seismic Design, Observation, Retrofit of Foundations, Santorini 22–23 September, pp. 407–418.

- C67. Kourkoulis R., Gelagoti F., Anastasopoulos I., Gazetas G. (2009), "Piles for Stabilising Seismically Precarious Slopes. Part A : Development and Validation", *Proc. 3<sup>rd</sup> Greece–Japan Workshop : Seismic Design, Observation, Retrofit of Foundations*, Santorini 22–23 September, pp. 506–519.
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- C34. Gazetas G., Anastasopoulos I. (2007), "Overturning of Buildings in Adapazari during the 1999 Kocaeli Earthquake", *Proc.* 6<sup>th</sup> Turkish National Conference on Earthquake Engineering, Istanbul Technical University, 16–20 October.
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- C21. Gerolymos N., Anastasopoulos I., Gazetas G., Tsimonos Th. (2006), "OAKA : Retaining Structure Design of the Opening Ceremony Shaft", *Proc.* 5<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Xanthi, 31/5 2/6, Vol. 2, pp. 517–524 (*in Greek*).
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- C19. Anastasopoulos I., Apostolou M., Gazetas G., Tsimonos Th. (2006), "Kamena Vourla Cut & Cover Tunnels: Analysis of the Consequences of a Possible Fault Rupture", Proc. 5<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Xanthi, 31/5 – 2/6, Vol. 3, pp. 423–428 (in Greek).
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- C15. Anastasopoulos I. & Gazetas G. (2005), "Design Against Fault Rupture: Methodology and Applications in Greece", *Proceedings of the 1<sup>st</sup> Greece Japan Workshop: Seismic Design, Observation and Retrofit of Foundations*, Athens, October 11–12, 2005, pp. 345–366.
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- C12. Gazetas G., Apostolou M., Anastasopoulos I. (2004), "Seismic Bearing Capacity and Uplifting Foundations: Adapazari 1999", *Proceedings of the 5<sup>th</sup> International Conference on Case Histories in Geotechnical Engineering*, New York, April 13–17, 2004.
- C11. Anastasopoulos I., Gazetas G., Psarropoulos P. (2004), "On the Seismic Response of Flexible Retaining Structures", *Proceedings of the 11<sup>th</sup> International Symposium on Soil Dynamics and Earthquake Engineering*, University of California, Berkeley, 7-9 January, 2004, Vol. 1, pp. 96–103.
- C10. Gazetas G., Gerolymos N., and **Anastasopoulos I.** (2004), "The Behaviour of Three Athens Metro Underground Structures in the Parnitha (Athens) Earthquake", *Proceedings of the* 11<sup>th</sup> International Symposium on Soil Dynamics and Earthquake Engineering, University of California, Berkeley, 7–9 January, 2004, Vol. 1, pp. 390–397.
- C9. Gazetas G., Anastasopoulos I., Garini E. (2003), "The Lefkada (14-8-03) Earthquake: Failures in Harbour Quaywalls", *Proc.* 3<sup>rd</sup> National Conference of Ports and Harbours, Athens 24–27 November, pp. 83–110 (in Greek).
- C8. Gazetas G., Apostolou M. and Anastasopoulos I. (2003), "Seismic Uplifting of Foundations on Soft Soil, with Examples from Adapazari (Izmit 1999, Earthquake), BGA International Conference on Foundations – Innovations, Observations, Design & Practice in the University of Dundee, Scotland, September 2–5, pp. 37–50.
- C7. Apostolou M., Gazetas G., Makris N., Anastasopoulos I. (2003), "Rocking of Foundations under Strong Seismic Excitation". *Proceedings of Fib International Symposium on Concrete Structures in Seismic Regions*, Athens, 6–8 May.
- C6. Fardis N., Georgarakos P., Gazetas G., Anastasopoulos I. (2003), "Sliding Isolation of Structures : Effect of Horizontal and Vertical Acceleration" *Proceedings of Fib International Symposium on Concrete Structures in Seismic Regions*, Athens, 6–8 May.
- C5. Gazetas G., Gerolymos N., Anastasopoulos I., Novack M., Benissi M. (2003), "The

Behaviour of Three Athens Metro Underground Structures in the Parnitha (Athens) Earthquake", *Proceedings of Fib International Symposium on Concrete Structures in Seismic Regions*, Athens, 6–8 May.

- C4. Anastasopoulos I., Gazetas G., Psarropoulos Pr. (2003), "Flexible Retaining Walls: Why they do not often Fail in Strong Seismic Shaking", *Proceedings of Fib International Symposium on Concrete Structures in Seismic Regions*, Athens, 6–8 May.
- C3. Syngros C., Anastasopoulos I., Mylonakis G., Gazetas G. (2003), "The Collapse of Fukae (Hanshin Expressway) Bridge, Kobe 1995 : Contribution of Soil–Structure Interaction, Reconstruction and Isolation", *Proceedings of the Fib International Symposium on Concrete Structures in Seismic Regions*, Athens, 6–8 May.
- C2. Apostolou M., **Anastasopoulos I.**, Gazetas G. (2002), "Analysis of Sliding and Overturning of Monuments in the Parnitha Earthquake for Estimating the Ground Acceleration", *Proc.* 2<sup>nd</sup> National Conference on Earthquake Engineering and Engineering Seismology, Thessaloniki, 28–30 November (in Greek).
- C1. Anastasopoulos I., Gerolymos N., Gazetas G. (2001), "Possible Causes of the Collapse of an Approach Span of the Nishinomiya-ko Bridge: Kobe 1995", *Proc.* 4<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Athens, Vol. 2, pp. 83–90 (in Greek).

#### **Other Scholarly Publications**

- O9. Anastasopoulos I. (2011), "Analysis and Evaluation of Damage to a 5-storey Building: Differential Settlement due to Erection of Neighboring Building or Construction Defects ?", *Journal of the Hellenic Society of Civil Engineers*, No. 397 (*in Greek*).
- O8. Gazetas G., Anastasopoulos I., Georgarakos T., Drosos V. (2010), "NTUA Laboratory of Soil Mechanics : New Division for Experimental Simulation of Soil – Structure Systems", Journal of the Hellenic Society of Civil Engineers No. 384 (*in Greek*).
- O7. Anastasopoulos I., Gazetas G. (2009), "Design of Bridges against Tectonic Deformation", *Proc. Workshop of the Hellenic Society of Bridges*, Patras, 12 October (*in Greek*).
- O6. Gazetas G., Anastasopoulos I., Drosos V. Georgarakos T., Kourkoulis R. (2007), "Seismic Perfromance of Reinforced-earth Retaining Walls in the New NTUA Shaking Table", *Proc., Workshop: Geotechnical Applications of Geosynthetic Materials*, Athens, 11 Januray (*in Greek*).
- O5. Anastasopoulos I. (2006), "New Shaking Table at the Soil Mechanics Laboratory of the Scholl of Civil Engineering of NTUA", *Journal of the Hellenic Society Hellenic Society of Soil Mechanics & Foundation Engineering*, Vol. 6, pp. 20–23 (*in Greek*).
- O4. Gazetas G., Anastasopoulos I. (2004), "Design of Foundation and Temporary Retaining Structure of the International Broadcasting Center", *NTUA Publication: "The National Technical University of Athens and the Olympic Games of Athens 2004" (in Greek).*
- O3. Gazetas G., Gerolymos N., Anastasopoulos I. (2004), "Temporary Retaining Structure of the Opening Ceremony Shaft", *NTUA Publication: "The National Technical University of Athens and the Olympic Games of Athens 2004" (in Greek).*
- O2. Anastasopoulos I. (1999), "Kobe : Unique Experience for the Students of NTUA", *Journal* of the Technical Chamber of Greece, Vol. 2058, July 5 (in Greek).
- O1. Anastasopoulos I. (1999), "Field Trip to Kobe Unique Experience for the Students of NTUA", *Journal TECHNIKA*, June, pp. 26–32 (*in Greek*).

#### **Dissertations and Theses**

- III. Anastasopoulos, I. (2005), "Fault Rupture–Soil–Foundation–Structure Interaction", *Ph.D. Dissertation*, School of Civil Engineering, National Technical University, Athens.
- II. Anastassopoulos, I. (2000), Fault Tolerance and Incident Detection Using Fourier Transforms, M.Sc. Thesis, School of Civil Engineering, Purdue University, West Lafayette, IN., USA.
- I. Anastassopoulos, I. (1999), "Analysis of Failure of 2 Bridges in the Kobe–1995 Earthquake and the Role of Soil", *Diploma Thesis*, School of Civil Engineering, National Technical University, Athens.

## HONORS, AWARDS, AND RECOGNITION

2013	<u>SP Lecturer</u> , Conference to Commemorate the Legacy of Ralph B. Peck, 7 <sup>th</sup> Int. Conference on Case Histories in Geotechnical Engineering and Symposium in Honor of Clyde Baker, Wheeling, IL (Chicago, IL area), April 29–May 4, 2013.
2012	<u>Shamsher Prakash Research Award</u> , for International Contributions to Geotechnical Earthquake Engineering, <i>Shamsher Prakash Foundation</i> .
2012	Young Researcher Award in Earthquake Geotechnical Engineering, TC203, Int. Society for Soil Mechanics and Geotechnical Engineering (inaugural recipient).
2012	Keynote Speaker, Second International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28–30, 2012.
2012	Invited Speaker, EERI Friedman Family Visiting Professionals Program, Cornell University, February 23, 2012.
2012	Journal publication J44 among the Top 10 Most Downloaded Soil Dynamics and Earthquake Engineering Articles
2012-present	Editorial Board Member, Proceedings of the ICE–Geotechnical Engineering
2011	<u>Session Chairman</u> , 4 <sup>th</sup> Japan–Greece Workshop on Seismic Design of Foundations, Kobe, Japan, October 6–7, 2011.
2010	<u>Co-General Reporter</u> , 5 <sup>th</sup> International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics and Symposium in Honor of Professor I. M. Idriss, San Diego, CA, May 24–29, 2010.
2009–2012	Invited Lecturer at Universities in the US and New Zealand (see Invited Talks)
2009	<u>Invited Speaker</u> , International Soil–Foundation–Structure Interaction (SFSI) Workshop, Auckland, New Zealand, November 26–27, 2009.
2009	<u>Session Chairman</u> , International Soil–Foundation–Structure Interaction (SFSI) Workshop, Auckland, New Zealand, November 26–27, 2009.
2008	Distinguished Scientist Award, Ministries of Defence and Education of Greece. This award recognizes outstanding achievement in research and academics.
2008	<u>Coordinator</u> , Special Session on Seismic Faulting, $3^{rd}$ Nat. Conf. on Earthquake Engineering and Engineering Seismology, Athens, November 5–7, 2008.
2007	<u>Committee Member</u> , <i>Study Group for the Protection of the Cultural Heritage</i> , <i>Monument–Soil Interaction</i> , Greek Earthquake Planning & Protection Organization.
2005	<u>National Delegate</u> for Greece, 3 <sup>rd</sup> International Young Geotechnical Engineer Conference (3iYGEC), Osaka, Japan, September 12-15, 2005.
2001	Best Diploma Thesis Award and Cash Prize, Technical Chamber of Greece (TEE).

## **REFEREE WORK FOR JOURNALS**

- Advances in Structural Engineering
- Archive of Applied Mechanics
- Bulletin of Earthquake Engineering
- Computers and Geotechnics
- Engineering Structures
- Geotechnical and Geological Engineering
- Géotechnique
- Journal of Applied Mechanics
- Journal of Earthquake Engineering
- Journal of Engineering Science and Technology Review
- Journal of Geotechnical and Geoenvironmental Engineering, ASCE
- Meccanica
- Natural Hazards
- Proceedings of the ICE–Construction Materials
- Soil Dynamics & Earthquake Engineering
- Structural Engineering and Mechanics

## **PROFESSIONAL MEMBERSHIPS**

- International Society of Soil Mechanics and Geotecnhical Engineering (ISSMGE)
- Earthquake Engineering Research Institute (EERI)
- International Association for Bridge and Structural Engineering (IABSE)
- International Society for Rock Mechanics (ISRM)
- Association of Civil Engineers of Greece (ΣΠΜΕ)
- Hellenic Society of Earthquake Engineering (ETAM)
- Hellenic Society of Soil Mechanics & Foundation Engineering (EEEE/M)
- Hellenic Institute of Transportations Engineers (ΣΕΣ)

## **INVITED LECTURES and SEMINARS**

- 1. <u>Special Presentation Lecture:</u> Structural damage of a 5-storey building: differential settlement due to construction of an adjacent building or because of construction defects ?, *Conference to Commemorate the Legacy of Ralph B. Peck, 7<sup>th</sup> Int. Conf. on Case Histories in Geotechnical Engineering and Symposium in Honor of Clyde Baker, Wheeling, IL, April 29–May 4, 2013.*
- 2. <u>Keynote Lecture</u>: Rocking Isolation as an Alternative Seismic Design Method: Application to the Retrofit of Existing Structures, 2<sup>nd</sup> International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28–30, 2012.
- 3. <u>Invited Seminar</u>: Rocking Isolation as an Alternative Seismic Design Method: Application to New and Existing Structures, *University of Illinois at Urbana Champaign*, February 28, 2012.
- 4. <u>Invited Lecture</u>: Design of Infrastructures against Seismic Faulting, Friedman Family Visiting Professionals Program, EERI, *Cornell University*, February 23, 2012.
- 5. <u>Invited Lecture</u>: Design of Bridges against Faulting-induced Deformation, *Takenaka Research & Development Institute*, Tokyo, Japan, April 12, 2010.
- 6. <u>Invited Seminar</u>: Design of Structures against Tectonic Dislocation: Analysis, Experiments, and Simplified Design Methods, *University of California, Berkeley*, February 10, 2010.

- 7. <u>Invited Seminar</u>: Advanced Concepts to Reduce Noise and Vibration on Urban Railway Turnouts: Numerical Analysis taking account of Soil–Structure Interaction and Validation through Track Measurements, *Purdue University*, February 9, 2010.
- 8. <u>Invited Seminar</u>: Seismic soil-structure interaction with full mobilization of soil failure mechanisms and uplifting at the soil-foundation interface, *State University of New York at Buffalo*, February 3, 2010.
- 9. <u>Invited Seminar</u>: Mobilizing soil failure mechanisms for seismic protection of structures: analysis and shaking table tests, Invited Seminar, *Columbia University*, February 2, 2010.
- 10. <u>Invited Seminar</u>: Seismic soil-structure interaction with mobilization of soil failure mechanisms and uplifting at the soil-foundation interface, *Rensselaer Polytechnic Inst.*, February 1, 2010.
- 11. <u>Invited Seminar</u>: Interaction of a rupturing (normal or thrust) fault with shallow, pile, and caisson foundations, *Cornell University*, January 27, 2010.
- 12. <u>Invited Seminar</u>: Seismic soil-structure interaction with full mobilization of soil failure mechanisms and uplifting: numerical analysis and validation of constitutive models through UC Davis and TRISEE data, *University of California, Davis*, December 10, 2009.
- 13. <u>Invited Speaker</u>: Beyond conventional capacity design: towards a new design philosophy, *International Workshop on Soil-Foundation-Structure Interaction (SFSI 09)*, November 26–27 2009, Auckland, New Zealand.
- 14. <u>Invited Speaker</u>: Kinematic Response of Batter Pile Foundation: Centrifuge Tests, *International Workshop on Soil-Foundation-Structure Interaction (SFSI 09)*, November 26–27, 2009, Auckland, New Zealand.
- 15. <u>Invited Seminar</u>: Numerical analysis and methodology for design of bridges against tectonic deformation, *University of Auckland, New Zealand,* November 24, 2009.
- 16. <u>Invited Seminar</u>: Towards a reversal of seismic Capacity Design for bridges : Numerical analysis and Shaking table tests, *University of Auckland, New Zealand*, November 24, 2009.
- 17. <u>Invited Seminar</u>: Foundation-structure systems subjected to Fault Rupture: Calibration / validation of constitutive models through laboratory experiments (centrifuge and 1-g model tests) and analysis of buildings, *University of Auckland, New Zealand*, November 24, 2009.
- 18. <u>Invited Lecture</u>: Design of Bridges against Faulting, *Hellenic Society for Bridge Engineering*, Patras, October 12, 2009.
- 19. <u>Invited Lecture</u>: Design against Seismic Faulting", 3<sup>rd</sup> National Conference of Earthquake Engineering and Engineering Seismology, Athens, November 5-7, 2008.
- 20. <u>Invited Lecture</u>: Fault Rupture–Soil–Foundation–Structure Interaction, *OTM Consulting Engineers*, Athens, December 1, 2006.

## PRESENTATIONS IN CONFERENCES AND WORKSHOPS

- 1. The Role of Soil–Foundation–Structure Interaction on the Seismic Performance of an Existing 3-storey Building: Shaking Table Testing, 15<sup>th</sup> International Conference on Earthquake Engineering, Lisbon, Portugal, September 24-28, 2012.
- Effects of permanent displacements due to near fault earthquakes Shaking table tests of classical columns, Special Session on "Earthquake protection of cultural heritage", 15<sup>th</sup> International Conference on Earthquake Engineering, Lisbon, Portugal, September 24-28, 2012.
- 3. Nonlinear soil-foundation interaction: numerical analysis, 2<sup>nd</sup> International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28–30, 2012.

- 4. Effectiveness of shallow soil improvement on the performance of rocking-isolated bridge piers: monotonic and cyclic pushover testing, 2<sup>nd</sup> International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28–30, 2012.
- 5. Nonlinear soil-foundation interaction: an experimental study on sand, 2<sup>nd</sup> International Conference on Performance-Based Design in Earthquake Geotechnical Engineering, Taormina, Italy, May 28–30, 2012.
- 6. Bridge pier founded on pile-group: ductile design against faulting, *International Conference: Innovations on Bridges and Soil–Bridge Interaction, IBSBI 2011,* Athens, Greece, October 13-15, 2011.
- 7. Normal and Reverse Fault Rupture Interaction with Caisson Foundations : Centrifuge Modeling and Numerical Simulation, 4<sup>th</sup> Japan–Greece Workshop on Seismic Design of Foundations, Innovations in Seismic Design, and Protection of Cultural Heritage, Kobe, Japan, October 6–7, 2011.
- 8. 1-g Experimental Investigation of the Metaplastic Rocking Response of 1-dof Oscillators on Shallow Footings, 4<sup>th</sup> Japan–Greece Workshop on Seismic Design of Foundations, Innovations in Seismic Design, and Protection of Cultural Heritage, Kobe, Japan, October 6–7, 2011.
- 9. Cyclic Pushover and Shake Table Testing of Bridge Pier with Foundation Uplifting and Soil Yielding, 4<sup>th</sup> Japan–Greece Workshop on Seismic Design of Foundations, Innovations in Seismic Design, and Protection of Cultural Heritage, Kobe, Japan, October 6–7, 2011.
- 10. Seismic Design of Bridges against Faulting, 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, Greece, September 29–October 1, 2010.
- 11. 3D Seismic Performance of Bridge Pier founded on a Pilegroup: Towards a New Design Philosophy, 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, Greece, September 29–October 1, 2010.
- Experimental Study of Bridge Pier with under-designed Foundation, 6<sup>th</sup> Hellenic Conference on Geotechnical and Geoenvironmental Engineering, Volos, Greece, September 29–October 1, 2010.
- 13. New Division for Experimental Simulation of the Seismic Response of Soil–Structure Systems, Laboratory of Soil Mechanics, NTUA, 3<sup>rd</sup> National Conference on Earthquake Engineering & Engineering Seismology, Athens, Greece, November 5–7, 2008.
- 14. Rion–Antirrion Immersed Tunnel: Design for Combined Faulting Deformation and Subsequent Seismic Shaking, 3<sup>rd</sup> National Conference on Earthquake Engineering & Engineering Seismology, Athens, Greece, November 5–7, 2008.
- 15. The Major Rail Bridge of Domokos: Design against Seismic Faulting, 3<sup>rd</sup> National Conference on Earthquake Engineering & Engineering Seismology, Athens, Greece, November 5–7, 2008.
- 16. Behaviour of Deep Immersed Tunnel under Major Fault Rupture Deformation", 4<sup>th</sup> *International Conference on Earthquake Geotechnical Engineering*, Thessaloniki, Greece, June 25–28, 2007.
- 17. Interaction of Shallow and Deep Foundations with a Rupturing Normal Fault, 2<sup>nd</sup> Japan– Greece Workshop on Seismic Design, Observation, and Retrofit of Foundations, Tokyo, Japan, April 3–4, 2007.
- 18. Research Project for the Undersea Rion–Antirrion Rail Link: Alternative Construction Solutions, *Workshop for the 9<sup>th</sup> Semester Field Trip to Kobe & Tokyo*, Technical Chamber of Greece, Athens, March 24, 2007.
- 19. Seismic Performance of Bar-mat Retaining Walls at the New Shaking Table of NTUA, *Workshop : Geotechnical Applications of Geosynthetics*, Athens, Greece, January 11, 2007,
- 20. Analysis of Failure of 2 Bridges, the Nikawa Landslide, Kansai International Airport, and the Tokyo Western Art Museum, *Workshop for the 9<sup>th</sup> semester Field Trip to Kobe & Osaka*, National Technical University, NTUA, Athens, Greece, June 13, 2006.

- 21. Review of the selected design for each test site in terms of performance and iterative selection: Sensitivity Analysis, *TURNOUTS General Meeting*, Mechellen, Belgium, June 9, 2006,
- 22. Dynamic Analysis and Seismic Design of Immersed Tunnel: A Parametric Study, 5<sup>th</sup> Hellenic Conference on Geotechnical & Geoenvironmental Engineering, Xanthi, Greece. May 31–June 2, 2006.
- 23. Kamena Vourla Cut & Cover Tunnels: Analysis of the Consequences of a Possible Fault Rupture, 5<sup>th</sup> Hellenic Conference on Geotechnical & Geoenvironmental Engineering, Xanthi, Greece, May 31–June 2, 2006.
- 24. Design of Rodinion Bridge against Possible Tectonic Dislocation, 5<sup>th</sup> Hellenic Conference on Geotechnical & Geoenvironmental Engineering, Xanthi, Greece. May 31–June 2, 2006.
- 25. Design of O.E.K. Housing Complex against Displacement of the Atalanti Fault: Soil– Foundation–Structure Interaction", 5<sup>th</sup> Hellenic Conference on Geotechnical & Geoenvironmental Engineering, Xanthi, Greece. May 31–June 2, 2006.
- 26. Failures and Successful Performance of Buildings Subjected to Fault Induced Displacement: Case Histories from the Kocaeli 1999 Earthquake, 5<sup>th</sup> Hellenic Conference on Geotechnical & Geoenvironmental Engineering, Xanthi, Greece. May 31–June 2, 2006.
- 27. Stratoni Tailings Dams: Analysis of Fault Rupture Propagation, 5<sup>th</sup> Hellenic Conference on Geotechnical & Geoenvironmental Engineering, Xanthi, Greece. May 31–June 2, 2006.
- 28. Fault Rupture–Soil–Foundation–Structure Interaction: Analysis, *Symposium on Foundation Behaviour during Strong Earthquakes*, Santorini, Greece, May 26–27, 2006.
- 29. Review of the selected design for each test site in terms of performance and iterative selection: 3D Finite Element Modelling of New Concept Turnouts, *TURNOUTS General Meeting*, Mondorf, Luxemburg, November 18, 2005.
- 30. Design against Fault Rupture: Methodology and Applications in Greece, 1<sup>st</sup> Greece–Japan Workshop: Seismic Design, Observation and Retrofit of Foundations, Athens, Greece, October 11–12, 2005.
- 31. Behaviour of Foundations over Surface Fault Rupture: Analysis of Case Histories from the Izmit (1999) Earthquake, 3<sup>rd</sup> International Young Geotechnical Engineer Conference, Osaka, Japan, September 12–15, 2005.
- 32. Behaviour of Foundations over Surface Fault Rupture: Analysis of Case Histories from the Izmit (1999) Earthquake", 16<sup>th</sup> International Conference on Soil Mechanics & Earthquake Engineering, Osaka, Japan, September 12–1, 2005.
- 33. Modelling of turnout systems using 3D non linear model: Sensitivity Analysis, *TURNOUTS General Meeting*, Bilbao, Spain, May 27, 2005.
- 34. Foundations of the Olympic Complex of Athens: Olympic Stadium and Velodrome Arched Roofs, Wall of Nations, Entrance Gates, Altar, and Footbridges, *Workshop: The Olympic Games "Athens 2004" and the National Technical University of Athens*, Athens, Greece, December 9, 2004,
- 35. Soil–Structure–Interaction in Adapazari: Observations & Analysis, *NTUA–TUB Workshop*, Athens, Greece, December 6, 2004.
- 36. Modelling of turnout systems using 3D non linear model: Analysis of the RATP and STIB Turnouts", *TURNOUTS General Meeting*, Bari, Italy, November 5, 2004.
- 37. Analysis of Failure of 2 Bridges, the Nikawa Landslide, Kansai International Airport, Tokyo Aqua-Line, and the Tokyo Western Art Museum, *Workshop for the 9<sup>th</sup> semester Field Trip to Kobe & Tokyo*, Athens, Greece, May 25, 2004.
- Fault Rupture–Soil–Structure Interaction / Numerical and Analytical Modelling: Analysis of the Denizevler Case Histories (Turkey 1999), *QUAKER General Meeting*, Dundee, Scotland, UK, April 29–30, 2004.

- 39. Fault Rupture–Soil–Structure Interaction / Numerical and Analytical Modelling: Finite Element Analysis Methodology, *QUAKER General Meeting*, Athens, Greece, December 14–15, 2003.
- 40. Fault Rupture–Soil–Structure Interaction / Field Assessment: Real Case Histories and Preliminary Finite Element Analysis, *QUAKER Gen. Meet.*, Nantes, France, July 14–15, 2003.
- 41. Investigation on the Causes of Failure of Turnout Baseplate Assemblies, *TUB–NTUA Workshop*, Berlin, Germany, May 26, 2003.
- 42. Flexible Retaining Walls: Why they do not often Fail in Strong Seismic Shaking, *Fib International Symp. on Conc. Struct. in Seismic Regions*, Athens, Greece, May 6–8, 2003.
- 43. Analysis of Failure of 2 Bridges, and the Nikawa Landslide, *Workshop for the 9<sup>th</sup> semester Field Trip to Kobe & Tokyo*, Athens, Greece, April 10, 2003.
- 44. Possible Collapse Reasons of an Access Span of the Nishinomiya-ko Bridge: Kobe 1995, 4<sup>th</sup> Hellenic Conf. on Geotechnical & Geoenv. Eng., Athens, Greece, May 30–June 1, 2001.

## FUNDED RESEARCH ACTIVITIES

2012-present	<b>RARE: Development of Earthquake Rapid Response System for</b> <b>Metropolitan Motorways</b> Coordinator: Professor G. Gazetas
	Funding: FP7–Environment (EC), Budget: € 790,000 (NTUA: € 280,000) <u>Role:</u> Deputy PI, Proposal Preparation (with R. Kourkoulis and F. Gelagoti)
2012-present	AIOLOS: Resolution of Complex Problems in the Analysis of "Next
	Generation" Wind Turbine Towers
	Coordinator: Professor E. Sapountzakis
	Funding: Greek Secretariat of Research and Technology, Budget: € 600,000 <u>Role:</u> Researcher, Proposal Preparation (with G. Gazetas for LSM)
2012-present	UPGRADE: Novel Methodology for the Assessment of the Seismic
	Vulnerability and Rehabiliation of Harbor Structures
	Coordinator: Professor G. Gazetas
	Funding: Greek Secretariat of Research and Technology, Budget: € 600,000
• • • • •	Role: Deputy PI, Proposal Preparation (with R. Kourkoulis and F. Gelagoti)
2011-present	<b>GIPIPE:</b> Safety of Buried Steel Pipelines under Ground-Induced Deformations
	Coordinator: Professor S. Karamanos, University of Thessaly
	Funding: EC, Research Fund for Coal and Steel,
	Budget: $\notin 1,092,000$ (NTUA: $\notin 281,000$ )
	Role: Deputy PI, Proposal Preparation (with G. Gazetas for NTUA)
2010-present	PERPETUATE: Performance-based Approach to Earthquake Protection
Ĩ	of Cultural Heritage in European and Mediterranean Countries
	Coordinator: Professor S. Lagomarsino, University of Genoa, Italy
	Funding: FP7–Environment (EC), Budget: € 2,237,000 (NTUA: € 114,000)
	Role: Deputy PI, Proposal Preparation (with G. Gazetas for NTUA)
	Relevant publications: C93, C94
2010-2012	Seismic Response of Shallow Foundations and their Effect on the Design
	of RC Shear Walls for the Retrofit of Existing Buildings
	Principal Investigator: Professor G. Gazetas
	Funding: Earthquake Planning and Protection Organization, Budget: € 30,000
	<u>Role:</u> Deputy PI, Proposal Preparation <u>Relevant publications:</u> J46, C95
	Kelevalle publications. 140, C73

2009–present	DARE: Soil Foundation Structure Systems Beyond Conventional Seismic Failure Thresholds – Application to New or Existing Structures and Monuments
	Principal Investigator: Professor G. Gazetas
	Funding: ERC FP7–IDEAS (EC), Budget: € 2,400,000
	<u>Role:</u> Deputy PI, Proposal Preparation (with R. Kourkoulis and F. Gelagoti) <u>Relevant publications: J26, J27, J28, J29, J31, J32, J33, J34, J35, J36, J37, J38, J39, J41, J42, J43, J44, J45</u> , B4, C67–C70, C73, C77–C78, C80, C82–C88
2009-present	SERIES: Seismic Engineering Research Infrastructures for European
	Synergies Coordinator: Professor M. Fardis, University of Patras Funding: FP7–Infrastructure (EC), Budget: € 8,700,000 (NTUA: 360,000) <u>Role:</u> Deputy PI, Proposal Preparation (with G. Gazetas for NTUA-LSM)
2005-2006	Railway Bridges on Active Seismic Faults: Development of New Analysis
	Methodology–Investigation and Analysis of Mitigation Measures
	Principal Investigator: Professor G. Gazetas
	Funding: Greek Railway Organization, Budget: € 247,000
	Role: Deputy PI, Proposal Preparation
2005 2009	<u>Relevant publications: J17</u> , C44, C50, C61–C63, C71, C72, C76
2005-2008	AKMON: Experimental Simulation of Seismic Shaking and Fault Rupture Propagation, for the Study of their Effects on models of Geotechnical /
	Structural / Transportation Infrastructure Systems
	Principal Investigator: Professor G. Gazetas
	Funding: Greek Secretariat for Research & Technology, Budget: € 247,000
	Role: Deputy PI, Proposal Preparation
	Relevant publications: C46, C48, C49, C53
2005–2008	Seismic Hazard Assessment and Design of O.E.K. Buildings to withstand
	Tectonic Dislocation of the Atalanti Fault
	Principal Investigator: Professor G. Gazetas Funding: Greek Secretariat for Research & Technology, Budget: € 120,000
	<u>Role:</u> Deputy PI, Proposal Preparation
	Relevant publications: C15, C47
2002-2006	QUAKER: Fault-Rupture and Strong Shaking Effects on the Safety of
	Composite Foundations and Pipeline Systems: Quantification and
	Reduction of Seismic Risk through the Application of Advanced
	Geotechnical Engineering Techniques
	Coordinator: Professor M.C.R. Davies, University of Dundee, UK Funding: European Community, Budget: € 926,000 (NTUA: € 171,000)
	Role: Researcher, Proposal Preparation (with G. Gazetas for NTUA)
	<u>Relevant publications: J5, J7, J8, J11, J12, J13, J14, J15</u> , J16, J18, J20, J24,
	B3, C14, C38, C40, C54, C56–C58
2003-2006	TURNOUTS: New concepts for turnouts in urban rail transit
	infrastructure
	Coordinator: Patrick Vanhonacker, D2S Int., Leuven, Belgium
	Funding: European Community, Budget: $\notin 2,618,000$ (NTUA: $\notin 175,000$ ) Bola: Bassarahar, Branasal Branasation (with C. Cazatas for NTUA)
	<u>Role:</u> Researcher, Proposal Preparation (with G. Gazetas for NTUA) <u>Relevant publications: J19, J21, J22, C39, C51, C52</u>

2003–2004	The Lefkada 14-8-2003 Earthquake: Analysis of Harbor Quay-wallFailures and LandslidesCoordinator: Professor G. GazetasFunding: Greek Organization for Earthquake Protection, Budget: € 71,000Role: ResearcherRelevant publications: C9, C17, C27
2003–2006	LESLOSS: Risk Mitigation for Earthquakes and Landslides Coordinator: Professor M. Calvi, University of Pavia, Italy Funding: European Community, Budget: € 4,577,000 (NTUA: € 115,000) <u>Role:</u> Researcher <u>Relevant publications:</u> C31, C32, C33
2003–2006	ASPROGE: Aseismic Design of Bridges, Systems Analysis Coordinator: Professor A. Kappos, Aristotle University of Thessaloniki. Funding: General Secr. for Research & Development, Budget: € 1.298.000 (NTUA: € 96,000) <u>Role:</u> Researcher <u>Relevant publications:</u> C3, C6
2003–2006	X-SOILS: Foundation Design in Seismically Problematic Soils: Seimic Hazard Assessment, Aseismic Design, Improvement Coordinator: Professor G. Bouckovalas Funding: General Secr. for Research & Development, Budget: € 1,150,000 (NTUA: € 295,000) <u>Role:</u> Researcher <u>Relevant publications:</u> C12, C13, C28
2000–2001	Numerical and Experimental Assessment of Seismic Accelerations on the Epicentral Region of the 1999 Athens Earthquake PI: Professor G. Gazetas Funding: Greek Organization for Earthquake Protection, Budget: 173,000 € <u>Role:</u> Researcher <u>Relevant publications: J2, J3</u> , C8, C10, C11

## **DEVELOPMENT OF EXPERIMENTAL FACILITIES**

2008	Certification of the New Laboratory with EN–ISO 9001:2000 (TÜV) for Simulation of seismic response of structures and soil–structure systems
	<ul> <li>Development of Quality Assurance, Equipment, and Personnel Files</li> </ul>
	<ul> <li>Development of Operation and Maintenance Manuals</li> </ul>
	<ul> <li>Certification by TÜV and Issuing of 3-year Certificate</li> </ul>
2007	Promotion of the Capabilities of the New Laboratory (with F. Gelagoti)
	<ul> <li>Development of internet site</li> </ul>
	<ul> <li>Development of Laboratory Leaflet and Brochure</li> </ul>
2006–2007	Design and Construction of New Laboratory Equipment (with V. Drosos and T. Georgarakos)
	<ol> <li>Fault Rupture Box         Electronically–controlled split–box, having internal dimensions 2.6 x 1.1 x 0.9 m (length x height x width), capable of simulating normal and reverse fault rupture propagation through soil and its interaction with foundation–structure systems. It consists of a stable and a movable part, moving upwards or     </li> </ol>

downwards to simulate normal or reverse faulting, respectively.

## 2) Sand Raining System

Electronically–controlled system, allowing consistent sand raining to achieve controllable and repeatable density. The density is controlled through the velocity and height of raining, and the aperture of the soil container.

## 3) Strong Box

Rigid box, of internal dimensions  $1.6 \ge 0.9 \ge 0.75$  m (length x height x width), to test soil specimens on the shaking table.

#### 4) Laminar Box

Flexible box, of internal dimensions  $1.6 \times 1.1 \times 0.9 \text{ m}$  (length x height x width), allowing realistic simulation of the dynamic response of soil specimens.

5) **Pushover Apparatus and Reaction Wall** Electronically-controlled apparatus, capable of conducting monotonic and slow-cyclic vertical and horizontal pushover tests (1.5 ton capacity).

2006 Commissioning of the Shaking Table (with V. Drosos and T. Georgarakos)

- Supervision of Installation, and training: operation and maintenance
- Shaking table calibration: artificial and real seismic records
- Commissioning of sensors (accelerometers, displacement transducers, pressure transducers, etc) and data acquisition systems.
- 2005 Preparation of Lab Space (with V. Drosos and T. Georgarakos)
  - Design of the New Installation (rooms, offices, facilities, power supply, etc.)
  - Design of the Foundation of the Shaking Table, installed at the basement of the Geotechnical Engineering Building (which was under operation), and should be vibration-free.
  - Excavation between the foundations of the Geotechnical Engineering Building
  - Construction of the Foundation of the Shaking Table and Laboratory Facilities.

2004 Preparation and Submission of Proposal: Research Program AKMON.

## As Assistant Professor/Adjunct Lecturer, National Technical University of Athens:

- Soil Dynamics (9<sup>th</sup> Semester) : 2008–present
- Soil–Structure Interaction (8<sup>th</sup> Semester) : 2008–present
- Bridge Engineering (8<sup>th</sup> Semester) : 2008–2010

As Teaching Assistant, National Technical University of Athens:

- Soil Dynamics (9<sup>th</sup> Semester) : 2001–2007
- Soil–Structure Interaction (8<sup>th</sup> Semester) : 2005–2007
- Computational Geotechnics (8<sup>th</sup> Semester) : 2005–2006
- Bridge Engineering, (8<sup>th</sup> Semester) : 2005–2006

Co-Author of Lecture Notes for 4 Courses, National Technical University of Athens:

• Soil Dynamics (9<sup>th</sup> Semester)

**TEACHING EXPERIENCE** 

- Soil–Structure Interaction (8<sup>th</sup> Semester)
- Computational Geotechnics (8<sup>th</sup> Semester)
- Bridge Engineering (8<sup>th</sup> Semester)

As Postdoctoral Research Fellow, University of Dundee, UK:

- Seminars and Lectures : 2007–2009
- Co-supervision of 1 Master Thesis (Marianna Loli, see below)

## GRADUATE AND UNDERGRADUATE STUDENT MENTORSHIP

## Supervison or Co-Supervision of Doctoral Dissertations

- Amalia Giannakou (2007), Seismic Behaviour of Inclined Piles, NTUA, Committee Chair: Prof. G. Gazetas. <u>Relevant publications</u>: <u>J13</u>, <u>J23</u>, J46
- 2. Rallis Kourkoulis (2009), *Interplay of Mat Foundations and Piles with a Failing Slope*, NTUA, Committee Chair: Prof. G. Gazetas. <u>*Relevant publications*</u>: <u>J27</u>, <u>J29</u>, <u>J31</u>, <u>J34</u>
- 3. Fani Gelagoti (2010), *Metaplastic Response and collapse of Frame-Foundation Systems and the Concept of Rocking Isolation*, NTUA, Committee Chair: Prof. G. Gazetas. <u>Relevant publications</u>: <u>J38</u>, <u>J39</u>, <u>J42</u>
- 4. Evangelia Garini (2011), Sliding Systems under Near–Fault Ground Shaking: Development and Demonstration of Inelastic Analogue, NTUA, Committee Chair: Prof. G. Gazetas. <u>Relevant publications</u>: <u>J25</u>, <u>J35</u>
- Marianna Loli (to be completed in 2013), Seismic Design of Bridges: Reversal of Conventional Capacity Design, NTUA, Committee Chair: Prof. G. Gazetas. <u>Relevant publications</u>: <u>J37</u>, <u>J43</u>
- 6. Meysam Fadaee (to be completed in 2013), Novel concepts and methods for seismic faulting hazard mitigation, *collaboration with* the International institute of Earthquake Engineering and Seismology, Tehran, Iran, Committee Chair: Prof. M.K Jafari. <u>*Relevant publications*</u>: J50
- 7. Aggelos Tsatsis (started in 2012), Buried Steel Pipelines subjected to Ground-Induced Deformation, NTUA, Committee Chair: Prof. G. Gazetas.

## Supervison or Co-Supervision of Diploma & Master Theses

- 1. George Antonakos (2008), *Foundation Subjected to Localized Deformation due to Thrust Faulting*, Diploma Thesis, NTUA. <u>*Relevant publications*</u>: <u>J26</u>
- 2. Dimitra Polytarchou (2008), Seismic Response of Reinforced Soil Retaining Walls: Shaking Table Tests, Diploma Thesis, NTUA.
- 3. Marianna Loli (2008), Bridge Pier–Foundation: Beyond the Seismic Capacity Design, Diploma Thesis, NTUA. <u>Relevant publications</u>: <u>J28</u>
- 4. Hara Prassa (2008), *Seismic Response of Geofoam–isolated Retaining Walls*, Diploma Thesis, NTUA.
- 5. Panagiotis Galanis (2008), *The Winkler Spring Modulus for Foundation Slabs on Homogeneous and Inhomogeneous Soil*, Diploma Thesis, NTUA.
- 6. Margarita Palaiologou (2009), *Fault Rupture Soil Foundation Interaction: Experiment and Analysis*, Diploma Thesis, NTUA.
- 7. Eleni Stavropoulou (2009), *Dynamic Response of Pier Foundations of the Messina Bridge*", Diploma Thesis, National Technical University of Athens, Greece.
- 8. Ioannis Panos (2009), *Experimental Measurement of Shear Modulus in Laboratory Specimens*, MSc. Thesis, National Technical University of Athens, Greece.
- 9. Irene Veliou (2009), *Numerical Simulation of Rail Stiffness taking account of Soil-Structure Interaction*, Diploma Thesis, National Technical University of Athens, Greece.
- Marianna Loli (2009), Interaction of Caisson Foundations with Dip-Slip Fault Rupture: Application to the Design of Bridges, MS Thesis, University of Dundee UK, in collaboration with Dr. Fraser Bransby. <u>Relevant publications</u>: <u>J33</u>, <u>J36</u>
- 11. Dimitra Bouziou (2010), Seismic Performance of Pile Groups: Towards a New Design Philosophy, Diploma Thesis, NTUA.
- 12. Anastasia Nasopoulou (2010), Seismic Response of Retaining Walls: Investigation of Alternative Seismic Isolation Methods, Diploma Thesis, NTUA.

- 13. Panagiota Kokkali (2010), *Metaplastic Rocking Response of 1-Dof Systems: Dimensional Analysis*, Diploma Thesis, NTUA. <u>*Relevant publications*</u>: <u>J43</u>
- 14. Aggelos Tsatsis (2010), *Pilegroup subjected to Fault Rupture: Ductility Demand*, Diploma Thesis, NTUA. <u>Relevant publications</u>: J48
- 15. Orestis Zarzouras (2011), Interaction of Caisson Foundations with Dip-Slip Fault Rupture, MSc.Thesis, NTUA.
- 16. Andreas-Gerasimos Gavras (2011), *Metaplastic Analysis of Rocking 1-Dof Systems on Two Layered Soil*, Diploma Thesis, NTUA.
- 17. Angeliki Rontogianni (2011), Seismic Rehabilitation of an Existing 3-Storey Building: Conventional Design and Rocking Isolation System, Diploma Thesis, NTUA.
- 18. Christina Argyrou (2011), *The Effect of Nonlinearities in the Rotational Stiffness of Shallow Foundations*, Diploma Thesis, NTUA.
- 19. Efthymios Papadopoulos (2011), *Metaplastic Rocking Response of SDOF System: Experimental Study*, Diploma Thesis, NTUA. <u>*Relevant publications*</u>: <u>J44</u>
- 20. Vasiliki Founta (2011), Rocking of Frame on 2-Layered Inelastic Soil, Diploma Thesis, NTUA.
- 21. Evgenia Sideri & Athina Spyridaki (2011), *Inelastic Rocking of Asymetric Frame*, Diploma Thesis, NTUA. <u>*Relevant publications*</u>: J49
- 22. Orestis Adamidis (2011), *Static and Dynamic Rotation of Cylinder on Rigid, Elastic and Inelastic Soil*, Diploma Thesis, NTUA. <u>*Relevant publications*</u>: J47, J53
- 23. Nikos Dritsos (2012), Inelastic Response of Embedded Foundations, Diploma Thesis, NTUA.
- 24. Nonika Antonaki (2012), *Experimental Study of Rocking Isolation: Application to the Retrofit of an Existing Building*, MSc.Thesis, NTUA.
- 25. Thaleia Kontoroupi (2012), 1-DOF System Rocking on Inelastic Soil: Development of Simplified Non-Linear Methodology", MSc. Thesis, NTUA. <u>Relevant publications</u>: J47, J51
- 26. Olga-Lida Christou (2012), *Finite element analysis of Monopile Foundation for Offshore Wind Turbines*, Diploma Thesis, NTUA.
- 27. Markella-Kateriua Spari (2012), *Metaplastic rocking response of SDOF oscillator under bidirectional seismic excitation*, Diploma Thesis, NTUA.
- 28. Ypatia Limniati (2012), Comparative Assessment of the Seismic Performance of Novel Foundation Concepts, Diploma Thesis, NTUA.
- 29. Michalis Vasileiadis (2012), Buried Steel Pipelines subjected to Normal Faulting, Diploma Thesis, NTUA.
- 30. Kiana Hashemi (2012), Interaction of a 3-storey Building with a Normal Fault Rupture: Numerical and Experimental Simulation, Diploma Thesis, NTUA.
- 31. Maria Antoniou & Maria Ploumaki (to be completed in 2013), *Comparative Assessment of Seismic Retrofit Schemes: INSTEAD vs. Rocking Isolation*, Diploma Thesis, NTUA.

## Co-supervision of Diploma & Master Theses (as Research Associate, NTUA)

- 1. Argyroula–Niki Plelli–Tsaltaki (2001), Analysis of the Failure of the Bearings of the Düzce– Bolu Viaduct in the Turkey (12-11-1999) Earthquake, Diploma Thesis, NTUA, Supervisor: Prof. G. Gazetas.
- 2. Vasileios Drosos (2001), Numerical Simulation of the Dynamic Response of Gravity Retaining Walls, Diploma Thesis, NTUA, Supervisor: Prof. G. Gazetas.
- 3. Andreas Stavridis (2002), *Elastic Seismic Analysis of Flexible Retaining Structures With and Without Horizontal Support*, Diploma Thesis, NTUA, Supervisor: Prof. G. Gazetas.
- 4. Nikos Fardis, Takis Georgarakos (2002), *Dynamic Sliding of Simple Structures on Horizontal and Spherical Sliding Surface*, Diploma Thesis, NTUA, Supervisor: Prof. G. Gazetas.

- 5. Rallis Kourkoulis (2002), *Geotechnical Static and Dynamic Analysis of Pier M3 of the Rion-Antirrion Bridge*, NTUA, Supervisor: Prof. G. Gazetas.
- 6. Argyroula–Niki Plelli–Tsaltaki, *Displacements of Seismically Isolated Bridge Piers*, M.Sc. Thesis, NTUA, Supervisor: Prof. G. Gazetas.
- 7. Maria Kanga (2002), Influence of the Topography and Soil Amplification Effects in the location of the Industrial Building of Ricomex that collapsed during the Athens (7/9/99) Earthquake, MSc. Thesis, NTUA, Supervisor: As. Prof. I. Protonotarios.
- 8. Athanasios Papageorgiou (2002), Approximate Methodology for Estimation of Permanent Quay-Wall Displacements under Strong Seismic Shaking: Application to the Port of Kobe, Diploma Thesis, NTUA, Supervisor : Prof. G. Gazetas.
- 9. Amalia Giannakou (2003), Seismic Response of Tunnels and the Failure of the Bolu Tunnel in the Turkey (12-11-1999) Earthquake, Diploma Thesis, NTUA, Supervisor : Prof. A. Sofianos.
- 10. Dimitra Sakelaraki (2003), Seismic Isolation of a Rigid Body, a 2-DOF Oscillator, and 2-D Frames combined with Sliders and Springs, Diploma Thesis, NTUA, Supervisor : Professor G. Gazetas.
- 11. Evangelia Garini (2003), *Asymmetric Sliding and Overturning due to Near-Fault Motions*, Diploma Thesis, NTUA, Supervisor : Professor G. Gazetas.
- 12. Sofia Anagnostara (2003), *Tunnel Failures during Construction in Soil*, NTUA, Supervisor : Professor G. Gazetas.
- 13. Fani Gelagoti (2004), *Wave Propagation in Two Characteristic Soil Valleys and Soil-Structure Interaction*, NTUA, Supervisor : Professor G. Gazetas.
- 14. Kostas Agrafiotis (2004), Seismic Response of a Typical Bridge of Attiki Odos With and Without Seismic Isolation, NTUA, Supervisor : Professor G. Gazetas.
- 15. Michael Vasileiou (2004), *Surface Fault Outcrop and Interaction with a Simple Structure*, NTUA, Supervisor : Professor G. Gazetas.
- 16. Margarita Karakitsou (2004), *Seismic Response of Reinforced-Earth Retaining Walls*, NTUA, Supervisor : Professor G. Gazetas.
- 17. Spyros Giannakos (2005), *Numerical Analysis of Deep Retaining Structures in Soft Soil*, NTUA, Supervisor : Professor A. Sofianos.
- 18. Xenofon Floros (2006), Analytical and Computational Investigation of Soil-Foundation-Bridge Interaction, M.Sc. Thesis, NTUA, Supervisor : Prof. G. Gazetas.
- 19. Alexandros Kalos (2006), *Fault Rupture–Soil–Foundation–Structure Interaction: Comparison of Analysis Methods*, Diploma Thesis, NTUA, Supervisor: Prof. G. Gazetas.
- 20. Ioannis Panos (2007), Analytical Simulation of the Experimental Response of Sand to Bender Element Excitation, Diploma Thesis, NTUA, Supervisor: Ass. Professor V. Georgiannou.

## ORGANIZATION OF STUDENT FIELD TRIPS & IN-SITU LECTURES

Organization (with G. Gazetas) of Student Field Trips to Kobe and Tokyo (Japan), Turkey, and Taiwan, as part of the Soil Dynamics Course (9<sup>th</sup> Semester, NTUA):

- 2011: Kobe, October 2–9
- 2010: Kobe, April 4–13
- 2009: Kobe, April 20–29
- 2008: Kobe, April 20–26
- 2008: Taiwan, April 26 May 3
- 2007: Tokyo and Kobe, April 4–13
- 2006: Kobe and Tokyo, June 16–24

- 2004: Kobe and Tokyo, May 31–June 6
- 2003: Kobe and Tokyo, April 15–23
- 2002: Kobe and Tokyo, March 25–May 5
- 2001: Kobe and Tokyo, April 16–23
- 2001: Turkey, January 11–14
- 2001: Kobe and Tokyo, March 14–22

In-situ lectures at earthquake damaged sites, and civil engineering projects:

- 1) In Japan (Kobe and Tokyo):
  - ✓ Noijima Fault Memorial (built on top of the 1995 fault scarp)
  - ✓ Meriken Park Earthquake Memorial (Kobe port, liquefaction and lateral spreading)
  - ✓ Hanshin Expressway (Kobe 1995 damaged bridges, SSI, liquefaction and lateral spreading)
  - ✓ Kansai International Airport (artificial island, settlement problems)
  - ✓ Akashi-Kaykio Ohashi (World's largest suspension bridge, 1990 m central span)
  - ✓ Port Island Immersed Tunnel (pioneering project, seismic design, construction problems)
  - ✓ Minato Ohashi (seismically-rehabilitated truss bridge, seismic isolation)
  - ✓ Daikai Metro Station (collapsed during the Kobe 1995 earthquake)
  - ✓ Port Island Ohashi (steel bridge that survived liquefaction-induced lateral spreading)
  - ✓ Nikawa Landslide (rehabilitated landslide area, methods of slope stabilization)
  - ✓ E-Defense, Miki City (Word's largest shaking table, full-scale seismic testing
  - ✓ Aqua Line, Trans Tokyo-Bay Highway (monumental civil engineering project)
  - ✓ National Museum of Western Art (seismically-isolated Le Corbusier monument)

## 2) <u>In Taiwan:</u>

- ✓ 921 Earthquake Museum of Taiwan (built on top of the 1999 Chi-Chi fault scarp)
- ✓ Shihkang Dam (concrete dam, crossed and damaged by the Chi-Chi fault)
- ✓ Fung-Yang City, Chung-Cheng Park (buildings and bridges damaged by the Chi-Chi fault)
- ✓ Tsengwen Transbasin Diversion Tunnel Project (14 km tunnel, under construction in 2008)
- ✓ National Center for Research on Earthquake Engineering (NCREE)
- ✓ Taipei 101 (one of the World's tallest skyscrapers, design of mass-tuned dampers)
- ✓ Taiwan high-speed rail (pioneering railway project, foundation problems)

## 3) In Turkey:

- ✓ Adapazari (overturning of buildings during the 1999 earthquake, foundation failure)
- ✓ Bolu Viaduct (damaged seismically-isolated viaduct bridge, crossed by the 1999 fault)
- ✓ Bolu Tunnel (important tunnel which collapsed during the 1999 earthquake)
- ✓ Gölcük (undamaged and damaged buildings, crossed by the 1999 fault)

## ORGANIZATION OF CONFERENCES, WORKSHOPS, AND SEMINARS

2011	Member of the Organizing and Scientific Committee: 4 <sup>th</sup> Japan–Greece Workshop on Seismic Design of Foundations, Innovations in Seismic Design, and Protection of Cultural Heritage, Kobe, Japan, October 6–7, 2011.
2009	Member of the Organizing and Scientific Committee: 3 <sup>rd</sup> Greece–Japan Workshop: Seismic Design, Observation, and Retrofit of Foundations, Santorini, Greece, September 23–24, 2009.
2008	Member of the Organizing and Scientific Committee: 3 <sup>rd</sup> National Conference of Earthquake Engineering and Engineering Seismology, Athens, Greece, November 5–7, 2008.
2007	Member of the Organizing and Scientific Committee: 2 <sup>nd</sup> Japan–Greece Workshop on Seismic Design, Observation, and Retrofit of Foundations, Tokyo, Japan, April 3–4, 2007.
2005	Member of the Organizing and Scientific Committee: 1 <sup>st</sup> Greece–Japan Workshop: Seismic Design, Observation, and Retrofit of Foundations, Athens, Greece, October 11–12, 2005.
2005	Seminar: <i>New Bridge Engineering Codes &amp; State-of-the-art Computational Tools</i> , Hellenic Centre for Information and Education, Athens, Greece, November 11, 2005.

- 2005 Seminar: Bridge Engineering: Modern Design, Construction, and Management Methods, Hellenic Centre for Information and Education Athens, Greece, May 27-28, 2005.
- 2005 Seminar: *Design and Construction of Timber Structures*, Hellenic Centre for Information and Education, Athens, Greece, February 11–12, 2005.
- 2004 Seminar: *Preservation and Seismic Retrofitting of Cultural Heritage*, Hellenic Centre for Information and Education, Patras, Greece, May 7–8, 2004.
- 2003 Seminar: *Design of Seismic Isolation Systems*, Hellenic Centre for Information and Education, Athens, Greece, December 12–13, 2003.
- 2003 Seminar: *Preservation and Seismic Retrofitting of Cultural Heritage*, Athens, Greece, Hellenic Centre for Information and Education, November 14-15, 2003.

## **CONSULTING AVTIVITIES & TECHNICAL REPORTS**

#### 2012 **7-star Resort in Southern Greece** (Confidential)

<u>Project Description:</u> Stabilization of a 50 m deep landslide though speciallydesigned groups of staggered piles. 3D analysis of the unstable slope under static conditions, and subjected to strong seismic shaking.

## Technical Reports: (in Greek)

T70. Slope Stabilization through Pilegroups: Preliminary Design Bridge, Technical Report (with V. Drosos, R. Kourkoulis, and F. Gelagoti), 2012.

## 2012 **Domokos ΣΓ26 Rail Bridge, Re-evaluation (Greece)**

<u>Project Description</u>: Consulting services to <u>TERNA–AKTOR C.JV.</u> Special design of a 625 m rail bridge and its foundations against tectonic dislocation. Re-evaluation for oblique faulting (normal and strike-slip), and diagonal crossing of the bridge horizontal alignment.

Technical Reports: (in Greek)

T69. Design of Bridge  $\Sigma\Gamma 26$  against Oblique Faulting crossing the bridge diagonally, Technical Report to TERNA–AKTOR C.JV (with G. Gazetas, and V. Drosos), 2012.

#### 2011 Tembi Tunnels, PATHE Highway (Greece)

<u>Project Description:</u> Consulting services to <u>HOCHTEIF Constructions A.G.</u> Assessment of seismic performance of a 6 km tunnel with unreinforced concrete lining in Northern Greece.

Technical Reports:

T68. Assessment of the Seismic Performance of Tunnel T2, Technical Report to HOCHTEIF Constructions A.G (with G. Gazetas G., R. Kourkoulis, and F. Gelagoti), 2011.

## 2011 **Expert Witness, Moshato (Greece)** <u>Project Description:</u> Expert Witness for a 5-story building in very soft soil, experiencing damage due to differential settlements. Assessment of the effects of excavation and construction of a neighboring building, through numerical analysis of the two buildings and the supporting soil. <u>Technical Reports: (in Greek)</u>

T67. Expert Witness Report for the Building situated at 10, Ath. Diakou str. in Moshato (of Attica), and the effect of the Neighbouring Building owned by EUROMET, at 8, Ath. Diakou str., Technical Report to EUROMET, 2011.

2011 Queensboro Bridge, New York (USA)

<u>Project Description:</u> Consulting services to <u>Mueser Rutledge Consulting Engineers</u>. Evaluation of foundation performance for the seismic retrofit of the Queensboro Bridge in New York City.

Technical Reports:

T66. Nonlinear Analysis of Queensboro Bridge Foundations, Technical Report to Mueser Rutledge (with G. Gazetas G., R. Kourkoulis, and F. Gelagoti), 2011.

#### 2009–2011 Elefsina-Corinthos-Patras-Pyrgos-Tsakona Motorway (Greece)

<u>Project Description:</u> Consulting services to Apion Cleos CJV (<u>www.vinci-construction-projets.com</u>). Special design of 6 road bridges and 3 lane-cover tunnels against seismic faulting. Special analysis of nailed retaining structure.

- Technical Reports:
- T65. Retaining Structure G526 (RS34L): Nonlinear Dynamic Time-History Analysis of the Nailed Retaining Structure, Technical Report to Apion Kleos CJV (with G. Gazetas, V. Drosos, and M. Loli), 2011.
- T64. Special Study for the Design of *Derveniotis Bridge* and its Foundations against Faulting–induced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas and V. Drosos), 2010.
- T63. Special Study for the Design of *Ladopotamos Bridge* and its Foundations against Faulting-induced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas and V. Drosos), 2010.
- T62. Special Study for the Design of *Krios Bridge* and its Foundations against Faulting-induced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas and V. Drosos), 2010.
- T61. Special Study for the Design of the *C012 Lane Cover* against Faultinginduced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas and V. Drosos), 2009.
- T60. Special Study for the Design of *Foinikas Bridge* and its Foundations against Faulting–induced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas), 2009.
- T59. Special Study for the Design of *Kamares Bridge* and its Foundations against Faulting–induced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas and V. Drosos), 2009.
- T58. Special Study for the Design of *Kerynitis Bridge* and its Foundations against Faulting–induced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas and V. Drosos), 2009.
- T57. Special Study for the Design of the *Akrata Lane Cover* against Faultinginduced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas and V. Drosos), 2009.
- T56. Special Study for the Design of the *Xylokastro Lane Cover* against Faultinginduced Deformation, Technical Report to Apion Kleos CJV (with G. Gazetas and V. Drosos), 2009.

#### 2010 Swedish Ambassador Residence in Athens (Greece)

<u>Project Description:</u> Consulting services to the Swedish Embassy in Athens. Seismic hazard and vulnerability assessment of the Swedish Ambassador Residence in Athens. 3D nonlinear dynamic time history analysis of the 2-storey structure. <u>Technical Reports:</u>

T55. Seismic Vulnerability Assessment of the Swedish Ambassador Residence in Athens, Technical Report to the Swedish Embassy in Athens (with R.

	Kourkoulis, F. Gelagoti, V. Drosos, M. Loli, V. Palieraki, A. Zagotsis, K. Manoledaki, A. Papathanasiou, E. Vintzileou, and G. Gazetas), 2010.
2010	<ul> <li>Soufli Bridge (Greece)</li> <li><u>Project Description:</u> Consulting services to KANON S.A. Design of piled foundations of a 2-branch bridge in Northern Greece in liquefiable soil.</li> <li><u>Technical Reports: (in Greek)</u></li> <li>T54. Foundation design of pilegroups for the 2 branches of the Soufli Bridge, Technical Report to KANON S.A., 2010.</li> </ul>
2009–2010	<ul> <li>Pineios Bridge, Central Greece Toll Road–E65 (Greece)</li> <li>Project Description: Consulting services to Ferrovial Agroman S.A. Special design against seismic faulting of a 520 m road bridge in Central Greece.</li> <li>Technical Reports:</li> <li>T53. E65 Pineios River Bridge: Special Study for the Design of the Bridge and its Foundations against Faulting–induced Deformation, Technical Report to E65 Joint Venture (with G. Gazetas), 2010.</li> </ul>
2009	<ul> <li>New Port of Piraeus (Greece)</li> <li><u>Project Description:</u> Consulting services to <u>ADK S.A.</u> 2D nonlinear dynamic analysis of quay walls and wharfs of the New Port of Piraeus at Ikonkion.</li> <li><u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T52. Piraeus Port – Container Terminal at New Ikonion: Expected Seismic Response of Pier II, Technical Report to ADK S.A. (with G. Gazetas, R. Kourkoulis, V. Drosos, T. Georgarakos, and A. Giannakou), 2009.</li> </ul>
2008	<ul> <li>New Doha International Airport (NDIA), Qatar</li> <li><u>Project Description:</u> Consulting services to KANON S.A. 3D nonlinear analysis of piled foundations of the new Airport Hangar, and pile design against lateral loading; 3D analysis of pavement slabs to sustain concentrated loading by airplane jacks.</li> <li><u>Technical Reports:</u></li> <li>T51. Nonlinear Analysis of NDIA Hangar Pile Foundations, Technical Report to Kanon S.A., 2008</li> <li>T50. 3D Analysis of NDIA Pavement Slabs, Technical Report to Kanon S.A., 2008.</li> </ul>
2008	<ul> <li>Shopping Mall at Rentis, Athens (Greece)</li> <li><u>Project Description:</u> Consulting services to FOCAL Project Managers S.A. Design of piled foundations at the area of archeological findings.</li> <li><u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T49. Additional geotechnical study for the design of the foundation of the Rentis S.A. building at the area of archaeological findings, Technical Report to FOCAL Project Managers S.A., 2008.</li> </ul>
2007–2009	<ul> <li>7-star Resort in Southern Greece, No. 2 (Confidential)</li> <li>Project Description: Consulting services to AKTOR S.A. Special design against seismic faulting of 10 Villas, 3 Main Buildings, and 1 Bridge, all lying within a Hotel Resort in Southern Greece. Detailed geotechnical/foundation design of 45 buildings and 3 road bridges. Special design against liquefaction-induced lateral spreading of road embankments and bridge foundations.</li> <li><u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T48. Special Design of Bridge G3 against Faulting-induced Deformation, Technical Report to AKTOR S.A. (with G. Gazetas), 2009.</li> <li>T47. Special Design of Buildings A1, A2, A3, A5, A6, A8, A9, A10, A12, A13 (Wing A, Hotel 2), and of the Health Club Building against Faulting-induced Deformation, Technical Report to AKTOR S.A. (with G. Gazetas), 2009.</li> </ul>

- T46. Special Design of Conference Center Reservoir Building against Faultinginduced Deformation, Technical Report to AKTOR S.A. (with G. Gazetas), 2009.
- T45. Special Design of Conference Center Reservoir Building against Faultinginduced Deformation, Technical Report to AKTOR S.A. (with G. Gazetas), 2009.
- T44. Final Foundation Design of Building Structures and Bridges Γ1, Γ2, and Γ3 (conf.), Technical Report to AKTOR S.A. (with G. Gazetas, R. Kourkoulis, F. Gelagoti, and T. Georgarakos), 2008.
- T43. Final Geotechnical Design of Road Embankments (conf.), Technical Report to AKTOR S.A. (with G. Gazetas, R. Kourkoulis, and F. Gelagoti), 2008.
- T42. Special Design of Road Embankment 1 (conf.) against liquefaction and lateral spreading, Technical Report to AKTOR S.A. (with G. Gazetas, R. Kourkoulis, and F. Gelagoti), 2008.
- T41. Special Design of the Central Building of the North Hotel against Faultinginduced Deformation, Technical Report to AKTOR S.A. (with G. Gazetas), 2007.
- T40. Special Design of the Conference Center of the North Hotel against Faultinginduced Deformation, Technical Report to AKTOR S.A. (with G. Gazetas), 2007.

## 2007 Al Gurm Resort, Abu Dhabi (U.A.E.)

<u>Project Description:</u> Consulting services to <u>Al Gurm Development Group</u>. Geotechnical assessment, dynamic analysis, evaluation of liquefaction potential, and design of piles against liquefaction– induced lateral spreading. Technical Reports:

T39. Al Gurm Resort Development Project–Pile Design Against Lateral Spreading, Technical Report to Al Gurm Development Group (with V. Drosos V., T. Georgarakos, G. Gazetas, R. Kourkoulis, and G. Nuseibeh), 2007.

## 2007 **Dubai Tower, Doha (Qatar)**

<u>Project Description:</u> Consulting services to Middle East Foundations Group. Evaluation of in-situ and laboratory testing, assessment of concrete pile strength of the foundation of an 80-storey Skyscraper (<u>www.dubaitowers-doha.com</u>). <u>Technical Reports:</u>

T38. Dubai Tower–Doha, Qatar: Estimation of Concrete Strength of Tower Piles, Technical Report to Middle East Foundations Group S.A. (with F. Gelagoti, E. Vintzileou, G. Gazetas G., R. Kourkoulis, and G. Nuseibeh), 2007.

## 2006–2007 **7-Star Resort in Southern Greece, No. 1** (Confidential)

<u>Project Description:</u> Special design against seismic faulting of various buildings. Exploration of alternative foundation schemes, and design of foundation and superstructure to sustain tectonic deformation.

Technical Reports: (in Greek)

- T37. Pilot Study of Typical Building susbjected to Tectonic Dislocation, Technical Report (with G. Gazetas), 2007.
- T36. Special Study of the Central Hotel Building subjected to Tectonic Dislocation, Technical Report (with G. Gazetas), 2007.

## 2006–2007 Korinthos–Tripolis–Kalamata Motorway (Greece)

<u>Project Description:</u> Consulting services to <u>Moreas Motorway Joint Venture</u>. Assessment of seismic vulnerability of existing and new highway infrastructure. Macroscopic estimation of seismic risk, evaluation of seismic response of bridges,

	<ul> <li>bored, and cut-and-cover tunnels, in extreme earthquake scenarios. Assessment of repair/replacement cost.</li> <li><u>Technical Reports:</u></li> <li>T35. Korinthos–Tripolis–Kalamata–Sparti Motorway: Seismic Loss Assessment ("Worst Case" Upper–Bound Damage Estimate), Technical Report to Moreas Group (with G. Gazetas, F. Gelagoti, and V. Drosos) 2007.</li> </ul>
2006–2007	<ul> <li>Domokos ΣΓ26 Rail Bridge (Greece)</li> <li><u>Project Description:</u> Consulting services Malios Associates and <u>ERGOSE</u>. Seismic hazard assessment and determination of ground motions for the dynamic analysis of the bridge. Special design of a 625 m rail bridge and its foundations against tectonic dislocation.</li> <li><u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T34. Seismic Hazard Assessment and Proposed Seismic Design Solutions for Bridge ΣΓ26, Technical Report to Malios Associates, ERGOSE (with G. Gazetas), 2007.</li> </ul>
2006	<ul> <li>Volos Fish-Wharf (Greece)</li> <li><u>Project Description:</u> Consulting services Maraveas Associates. Dynamic time- history analysis and design of piled foundations in organic soil.</li> <li><u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T33. Volos Fish-Wharf Building: Design and Analysis of Piled-foundation against Kinematic Loading, Technical Report to Maraveas Associates (with G. Gazetas and N. Gerolymos), 2006.</li> </ul>
2005	<ul> <li>New Port of Igoumenitsa (Greece)</li> <li><u>Project Description:</u> Consulting services to <u>ADK S.A.</u> 2D nonlinear dynamic time- history analysis of quay walls and wharfs of the New Port of Igoumenitsa (in Northern Greece).</li> <li><u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T32. Port of Igoumenitsa: Nonlinear Dynamic Analysis, Technical Report to ADK S.A. (with G. Gazetas, R. Kourkoulis, V. Drosos, and T. Georgarakos), 2005.</li> </ul>
2005	<ul> <li>Rodinion Bridge, Rhodes (Greece)</li> <li><u>Project Description:</u> Consulting services <u>Dromos Consulting</u>. Special design of a 3-span bridge and its foundations against tectonic dislocation.</li> <li><u>Technical Reports:</u></li> <li>T31. Special Seismic–Geotechnical– Structural Study for the Design of the Rodinion Bridge against Tectonic Dislocation, Technical Report to Dromos Consulting (with G. Gazetas), 2005.</li> </ul>
2004–2005	<ul> <li>Paradeisia Viaduct Bridge, Korinthos–Kalamata Highway (Greece)</li> <li><u>Project Description:</u> Consulting services Odotechniki Ltd. Nonlinear dynamic time history analysis of a 425 m bridge in Southern Greece. Design of seismic isolation system. Dynamic analysis and design of piled-foundations for piers and abutments. <u>Technical Reports:</u></li> <li>T30. Paradeisia Viaduct Bridge (K.P. 13+891,00 to 14+311,00): Seismic Design and Analysis of the Bridge and its Foundations, Technical Report to Odotechniki Ltd. (with G. Gazetas and N. Gerolymos), 2005.</li> </ul>
2004–2005	Kamena Vourla Bypass (Greece) <u>Project Description:</u> Consulting services Kanon S.A. Special design of 5 cut-and- cover tunnels at the Kamena Vourla Bypass (Central Greece) against tectonic dislocation. Nonlinear dynamic time-history analysis and seismic design. <u>Technical Reports:</u> ( <i>in Greek</i> )

- T29. Simplified Parametric Analysis of the Effect of the Nonlinear Response of the Cut-and-Cover Structural System on the Seismotectonic Performance of Tunnel  $\Sigma$ 1: K.P. 11+830–12+125, Technical Report to Kanon S.A. (with G. Gazetas), 2005.
- T28. Simplified Parametric Analysis of the Effect of the Nonlinear Response of the Cut-and-Cover Structural System on the Seismotectonic Performance of Tunnel  $\Sigma$ 3: K.P. 13+660 to 13+880, Technical Report to Kanon S.A. (with G. Gazetas), 2005.
- T27. Simplified Parametric Analysis of the Effect of the Nonlinear Response of the Cut-and-Cover Structural System on the Seismotectonic Performance of Tunnel  $\Sigma$ 4: K.P. 14+940 to 15+040, Technical Report to Kanon S.A. (with G. Gazetas), 2005.
- T26. Seismic and Seismotectonic Analysis of Cut & Cover Tunnels at the Kamena Vourla Bypass, Technical Report to Kanon S.A. (with G. Gazetas and M. Apostolou), 2005.

## 2004–2005 Attiki Odos Motorway, Athens (Greece)

<u>Project Description:</u> Consulting services to Attiki Odos Joint Venture. Assessment of seismic vulnerability of motorway infrastructures (bridges, bored, and cut-and-cover tunnels). Assessment of the repair/replacement cost.

## Technical Reports:

T25. Attiki Odos Motorway: Seismic Loss Assessment ("Worst Case" Upper-Bound Damage Estimate), Technical Report to Attiki Odos (with G. Gazetas, R. Kourkoulis, F. Gelagoti, and V. Drosos) 2005.

## 2004 **Opening Ceremony Shaft, Olympic Stadium of Athens (Greece)**

<u>Project Description:</u> Consulting services to Kanon S.A. Analysis and final design of retaining pile support of a deep (25 m) shaft constructed at the centre of the Olympic Stadium for the Opening Ceremony of the 2004 Olympic Games. Technical Reports: *(in Greek)* 

T24. Temporary support of the Opening Ceremony Shaft of the Olympic Stadium of Athens, Technical Report to KANON S.A. (with G. Gazetas and N. Gerolymos), 2004.

#### 2003–2004 Rion–Antirrion Undersea Rail Tunnel, Seismic Design (Greece)

<u>Project Description:</u> Consulting services to the <u>Greek Railway Organization–OSE</u>. Seismic design of the selected solution for an undersea railway tunnel, crossing the 2 km long and 70 m deep Rion–Antirrion Straits.

Technical Reports: (in Greek)

- T23. Rion–Antirrion Undersea Rail Tunnel: Dynamic Analysis in the Longitudinal Direction, and Seismic Design. Comparative Assessment and Main Conclusions of the Study, Technical Report to OSE (with G. Gazetas, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2004.
- T22. Rion–Antirrion Undersea Rail Tunnel: Dynamic Analysis in the Longitudinal Direction, and Seismic Design. Geotechnical and Geological Assessment, Seismic Hazard, and Dynamic Soil Response, Technical Report to OSE (with G. Gazetas, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2004.
- T21. Rion–Antirrion Undersea Rail Tunnel: Dynamic Analysis in the Longitudinal Direction, and Seismic Design. Dynamic Analysis of the Immersed Tunnel, and Parametric Study, Technical Report to OSE (with G. Gazetas, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2004.

- T20. Rion–Antirrion Undersea Rail Tunnel: Dynamic Analysis in the Longitudinal Direction, and Seismic Design. 2D Analysis of Fault Rupture Propagation, Interaction with the Immersed Tunnel, and Design of Tunnel Joints, Technical Report to OSE (with G. Gazetas, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2004.
- T19. Rion–Antirrion Undersea Rail Tunnel: Dynamic Analysis in the Longitudinal Direction, and Seismic Design. Dynamic Analysis of the Shaft Connecting the Immersed with the Bored Tunnel, Technical Report to OSE (with G. Gazetas, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2004.

## 2002–2003 Rion–Antirrion Undersea Rail Tunnel, Pre-feasibility (Greece)

<u>Project Description:</u> Consulting services to the <u>Greek Railway Organization–OSE</u>. Pre-feasibility study and conceptual design for a proposed undersea railway tunnel, crossing the 2 km long and 70 m deep Rion–Antirrion Straits. Technical Reports: *(in Greek)* 

- T18. Rion–Antirrion Undersea Rail Tunnel: Evaluation of Alternative Alignments, Technical Report to OSE (with G. Gazetas, E. Stara, J. Ticof, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2003.
- T17. Rion–Antirrion Undersea Rail Tunnel: Comparative Assessment of Construction and Key Technical Issues, Technical Report to OSE (with G. Gazetas, E. Stara, J. Ticof, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2003.
- T16. Rion–Antirrion Undersea Rail Tunnel: Fundamental Design Issues, Seismic Hazard Assessment, and Dynamic Analysis, Technical Report to OSE (with G. Gazetas, E. Stara, J. Ticof, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2003.
- T15. Rion–Antirrion Undersea Rail Tunnel: Comparative Evaluation of Alternative Solutions and Initial Cost Assessment, Technical Report to OSE (with G. Gazetas, E. Stara, J. Ticof, N. Gerolymos, V. Drosos, R. Kourkoulis, and T. Georgarakos), 2003.

#### 2003 Maliakos-Kleidi Motorway (Greece)

<u>Project Description:</u> Consulting services to Obermeyer Hellas S.A. Geotechnical assessment and foundation design for the bidding of various motorway infrastructures.

#### Technical Reports:

- T14. Maliakos Kleidi Motorway. Platamonas–Skotina Bridge Foundations (K.P. 1+067 to 1+257), Technical Report to Obermeyer S.A. (with G. Gazetas and N. Gerolymos), 2003.
- T13. Maliakos Kleidi Motorway. Tempi–Rapsani: Geotechnical Report for Embankments (K.P. 0+000 to 1+400, 4+280 to 4+800, 11+000 to 13+150), Technical Report to Obermeyer S.A. (with G. Gazetas and E. Stara), 2003.

#### 2003 Diavolorema Bridge (Greece)

<u>Project Description</u>: Consulting services to <u>Egnatia Odos S.A.</u> Dynamic analysis and seismic design of piled foundations of a highway bridge.

Technical Reports: (in Greek)

T12. Diavolrema Bridge: Dynamic Analysis of Bridge Foundations, Technical Report to Egnatia Odos S.A. (with G. Gazetas and M. Apostolou), 2003.

## 2003 Doukissis Plakentias Metro Tunnel (Greece)

<u>Project Description:</u> Consulting services to AEGEK-AKTOR-SELI and J & P AVAX Joint Venture. Investigation of the causes of failure of a bored metro tunnel. 2D finite element analysis, evaluation of the most probable causes of collapse.

	<u>Technical Reports:</u> T11. Local failure of a tunnel section at D. Plakentias Avenue, Technical Report to AEGEK-AKTOR-SELI and J & P AVAX Joint Venture (with G. Gazetas, E. Stara, and J. Ticof), 2003.
2003	<ul> <li>Turnout Crossings of the Athens Metro (Greece)</li> <li><u>Project Description:</u> Consulting services to <u>SPIE S.A.</u> Performance assessment of the proposed solution for new turnout baseplates assemblies. The proposed solution was applied successfully.</li> <li><u>Technical Reports:</u></li> <li>T10. Turnout crossings of the Athens Metro: Performance evaluation of the New Base–Plate Assemblies proposed by SPIE, using 3D Finite Element Modeling, Technical Report to SPIE S.A. (with G. Gazetas), 2003.</li> </ul>
2002	Olympic Stadium of Athens (Greece)
2002	<ul> <li><u>Project Description:</u> Consulting services to KANON S.A. Foundation design for various structures that were constructed to renovate the Olympic Stadium of Athens for the 2004 Olympic Games of Athens, including two 300 m-in span arches covering the Stadium (designed by Santiago Calatrava).</li> <li><u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T9. Renovation of the Olympic Stadium of Athens: Foundation Design, Technical Report to KANON S.A. (with G. Gazetas, and Pr. Psarropoulos), 2002.</li> </ul>
2002	Turnout Crossings of the Athens Metro (Greece)
	<ul> <li><u>Project Description:</u> Consulting services to <u>Attiko Metro S.A.</u> Investigation of the causes of fatigue failure of turnout baseplate assemblies. 3D finite element analysis, and proposal of corrective measures.</li> <li><u>Technical Reports:</u></li> <li>T8. Turnout crossings of the Athens Metro: Investigation on the Causes of Failure of Base–Plate Assemblies through 3D Finite Element Modeling, Technical Report to Attiko Metro S.A. (with G. Gazetas), 2002.</li> </ul>
2002	Aghios Antonios Metro Station, Athens Metro (Greece)
	<ul> <li><u>Project Description:</u> Consulting services to <u>Attiko Metro S.A.</u> Analysis and design of a 20 m temporary retaining structure with a tie-back anchored pile-wall, in close proximity to an 11-storey building.</li> <li><u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T7. Aghios Antonios Metro Station: Design of Temporary Anchored Wall in support of excavation adjacent to 11–storey building, Technical Report to Attiko Metro S.A. (with G. Gazetas, E. Stara, and J. Ticof), 2002.</li> </ul>
2002	<ul> <li>TVX Tailings Dams, Chalkidiki (Greece)</li> <li><u>Project Description:</u> Consulting services to TVX Hellas S.A. Geotechnical assessment of the stability of four tailings dams against flooding, earthquake loading, and tectonic dislocation. Conceptual design of amelioration measures. <u>Technical Reports:</u> (<i>in Greek</i>)</li> <li>T6. Chevalier Tailings Dam: Analysis of dam deformation due to seismotectonic fault rupture, Technical Report to TVX Hellas S.A. (with G. Gazetas, E. Stara, and J. Ticof), 2002.</li> <li>T5. Chevalier Tailings Dam: Dynamic Analysis of the dam, taking account of</li> </ul>
	I Gazetas, E. Stara, and J. Ticof), 2002.
2002	Loutraki Marina (Greece)
	<u>Project Description:</u> Consulting services to <u>ADK S.A.</u> Equivalent linear dynamic time-history analysis of quay walls and breakwaters.

Technical Reports: (in Greek)

T4. Loutraki Marina: Dynamic Analysis of Quaywalls and Breakwaters, Technical Report to ADK S.A. (with G. Gazetas, E. Stara, and E. Protopappa), 2002.

#### 2001 **Olympic Hippodrome, Athens (Greece)** Project Description: Consulting services to Technodomiki S.A. Analysis and design of the foundations of the new Hippodrome, constructed for the Athens 2004 Olympic Games. 3D finite element analysis of grid foundations. Technical Reports: (in Greek) Olympic Hippodrome: Foundation T3. Design, Technical Report to Technodomiki S.A. (with G. Gazetas, E. Stara), 2002. 2001 Anthoupolis, Peristeri (Greece) Project Description: Consulting services to the Municipality of Peristerion, Athens (Greece). Microzonation study and proposal of seismic design spectra. Technical Reports: (in Greek) Anthoupolis, Peristerion Microzonation Study, Technical Report to the T2. Municipality of Peristerion (with G. Gazetas), 2001. **International Broadcasting Centre, Athens (Greece)** 2001 Project Description: Consulting services to KANON S.A. Foundation design of a large building, constructed for the Olympic Games of Athens (2004). 3D finite element analysis of grid foundations, and assessment of settlements. Technical Reports: (in Greek) Foundation design and 3D analysis of the IBC, Technical Report to KANON T1. S.A. (with G. Gazetas), 2001.