

CURRICULUM VITAE

Fani Gelagoti

Civil Engineer, PhD

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1. STUDIES

- 2010 : **PhD in Geotechnical Engineering**, National Technical University of Athens, Greece
Title : “*Metaplastic Response and Collapse of Frame–Foundation Systems, and the Concept of Rocking Isolation*”, Supervisor: Prof. G. Gazetas
- 2005 - 2006 : **Master of Science** in Material and Computational Mechanics, Carnegie Mellon University, USA, Diploma Thesis: “*Broadband Simulation of Earthquake Ground Motions*”, Supervisor: Prof. J. Bielak
- 1999-2004 : **Diploma of Civil Engineering**, National Technical University of Athens, Greece
GPA: **9.00 (Excellent)**, Diploma Thesis : “*Wave scattering phenomena in two characteristic valleys, and Soil–Structure Interaction Analysis*” Supervisor: Prof. G. Gazetas

2. PUBLICATIONS RECORD

- 14 papers in International Refereed Journals
- 22 papers in national and international peer reviewed conference Proceedings

3. AWARDS, PRIZES, HONORS

- **Post Doctoral Research Grant**, Greek Secretariat for Research and Technology, (2012-2014)
- **Graduate Fellowship**, Faculty of Geotechnics, Civil Eng. Dept, NTUA, (2007, 2008, 2009)
- **Special grant** and support programme for Scholar’s Association Members, Alexander S. Onassis Public Benefit Foundation, (2006, 2007, 2008)
- **Research Assistanship and Prestigious Stipend** for graduate Studies, Civil and Environmental Department, Carnegie Mellon University, (2005-2006)
- **3 Awards for academic excellence**, Tech. Chamber of Greece (in 2001, 2003, 2004)
- **3 State Scholarships Foundation Prizes** (in 2001, 2003, 2004)
- “**Ch. Papakyriakopoulou Prize**” — Excellent Performance in Mathematics (2000)
- “**I. Chatsopoulou Prize**”— Highest Score in advanced Geometry Course,(2000)
- “**N. Kritikou Prize**” (2000)

4. CONSULTING ACTIVITY

Geotechnical Earthquake Engineering Consultant since 2005 specializing in

- *Design of Foundations, Retaining Structures, and Slope Stability*
- *Expert Studies on the earthquake design of Buildings and Port Facilities*
- *Seismic Hazard and Risk Assessment*

Selected Technical Projects

- 2013 : Foundation design of Asomatos Wastewater Treatment Plant in Lesvos, Greece :
geotechnical investigation, design of pilewall retaining structure

- 2012 : Seismic Loss Assessment of Attiki Odos Highway: *collapse capacity of existing infrastructure, estimation of geosystems fragility, cost estimate*
- 2011 : Seismic Rehabilitation of the Queensboro bridge Piers (N.Y, USA) : *Evaluation of the elastic and non-linear impedances of the foundation.*
- 2010 : Evaluation of the Seismic response of new quaywalls of Thessaloniki Harbor: *Seismic Hazard Assessment and 2-d dynamic time-history analyses*
- 2009 : Geotechnical and Seismic design of the New Commercial-Container Port of Pireaus
- 2009 : Evaluation of the seismic performance of Mitigation Measures on a failed Slope in Pissouri, Cyprus : *Ground motion study and 3-d dynamic non-linear F.E. analyses*
- 2008 : Geotechnical Assessment and Foundation Design of Costa Navarino Resort : *Geotechnical Design of 45 buildings and 3 bridges*
- 2007 : Seismic Loss Assessment of the Corinth-Tripoli-Kalamata-Sparti Highway

5. RESEARCH ACTIVITY

As Coordinator (P.I.) :

- 2012 : **VALL-NERABLE:** “Seismic Vulnerability of Structures funded on Valleys”, *General Secretariat for Research and Technology*

As Key Investigator :

- 2012- today : **FORENSEIS** : “*Investigating Seismic Case Histories and Failures of Geotechnical Systems*”, Funding: General Secr. for Research & Development, Coordin.: Prof. G. Gazetas
- 2012- today : **RARE** : “*Development of Earthquake Rapid Response System for Metropolitan Motorways*”, Funding: General Secr. for Research & Development, Coordin.: Prof. G. Gazetas
- 2011- today : **NERA** : “*Network of European Research Infrastructures for Earthquake Risk Assessment and Mitigation*”, European Union, Directorate I, Coordinator: A. Keller, ETH, Zürich
- 2010- 2012 : **“Seismic behavior of typical buildings on Pilotis taking account of Soil”**, **OASP**, Principal Investigator: Prof. G. Gazetas, NTUA
- 2009- today : **DARE** : “*Soil Foundation Structure Systems Beyond Conventional Seismic Failure Thresholds : Application to New or Existing Structures and Monuments*”, Funding : ERC FP7, Principal Investigator: Prof. G. Gazetas, NTUA

As junior Investigator :

- 2007 – 2008 **“Seismic Stability of Asterios Dam”**, Funding : Hellenic Ministry for the Environment, Physical Planning & Public Work, Coordin.: Prof. G. Gazetas
- 2003 – 2006 : **X-SOILS:** “*Foundation Design in Seismically Problematic Soils. Experimental Assessment of the seismic response of Reinforced-Earth Walls*”, Funding: General Secr. for Research & Development, Coordin.: Prof. G. Bouckovalas, Dr. C. Tsatsanifos
- 2005 – 2006 : **QUAKE** : “*Computer simulation of the ground motion of large basins during strong earthquakes: application to the Los Angeles basin*”, Funding: NSF, P.Is: Prof. J. Bielak and D. O’ Hallaron

6. PUBLICATION LIST

Publications in International Refereed Journals

- Gelagoti F.**, (2014), “Estimation of strong motion experienced in the vicinity of the Bolu viaduct during the 1999 Düzce earthquake: Development and Validation of a Hybrid Method”, *Bulletin of the Seismological Society of America*, Vol. 104(2).
- Kourkoulis R., P. Lekakakis, **F. Gelagoti**, A. Kaynia. (2014), “Suction caisson foundations for offshore wind turbines subjected to wave and earthquake loading: effect of soil–foundation interface”, *Géotechnique*, Vol 63, pp. 1-15.
- Anastasopoulos I., **Gelagoti F.**, Spyridaki, A. Sideri Tz., and Gazetas G.(2014).“Seismic Rocking Isolation of Asymmetric Frame on Spread Footings”, *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 140(1), pp. 133-151.
- Kourkoulis R., Anastasopoulos I., **Gelagoti F.**, Kokkali P. (2012). “Dimensional Analysis of SDOF Systems Rocking on Inelastic Soil”, *Journal of Earthquake Engineering*, Vol. 16(7), pp. 995-1022.
- Anastasopoulos I., Kourkoulis R., **Gelagoti F.**, Papadopoulos E. (2012). “Rocking Response of SDOF Systems on Shallow Improved Sand: an Experimental Study”, *Soil Dynamics and Earthquake Engineering*, Vol. 40, pp. 15-33.
- Gelagoti F.**, Kourkoulis R., Anastasopoulos I., Gazetas G. (2012), “Rocking Isolation of Frame Structures founded on Separate Footings ”, *Earthquake Engineering and Structural Dynamics*, Vol. 41 (7), pp. 1177–1197.
- 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*, Vol. 32(1), pp. 87–102.
- Gelagoti F.**, Kourkoulis R., Anastasopoulos I., Gazetas G. (2012), “Non-Linear Dimensional Analysis of trapezoidal Valleys”, *Bulletin of the Seismological Society of America (in print)*.
- Kourkoulis R., **Gelagoti F.**, Anastasopoulos I. (2012), “Rocking Isolation of Frames on Isolated Footings : Design Insights and Limitations”, *Journal of Earthquake Engineering*, Vol. 16 (3), pp. 374-400.
- 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, Vol. 138 (1), pp. 1-14.
- 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, Vol. 137, pp. 667.
- Gelagoti F.**, Kourkoulis R., Anastasopoulos I., Tazoh T., Gazetas G. (2010), “Seismic Wave Propagation in a very soft Alluvial Valley : Sensitivity to Ground Motion "details" and Soil Nonlinearity, Generation of Parasitic Vertical Component”, *Bulletin of the Seismological Society of America*, Vol. 100 (6), pp. 3035-3054.
- 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*, Vol. 30 (12), pp. 1430-1445.

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, Vol. 137(12), pp. 1154-1168.

Publications in Conference Proceedings

Gelagoti F., Abdoun T. and R. Kourkoulis (2012), “Seismic vulnerability of systems founded on isolated footings on top of alluvial basins”, *World Conference on Earthquake Engineering*, Lisbon, Portugal

Kourkoulis R., **Gelagoti F.** and A. Kaynia (2012), “Seismic Response of offshore wind turbine foundations”, *15th World Conference on Earthquake Engineering*, Lisbon, Portugal

K. Makra, **F. Gelagoti**, O-J K. and K. Pitilakis, “Basin effects in Seismic Design: Numerical tools efficiency in reproducing complex seismic wavefield”, *15th World Conference on Earthquake Engineering*, Lisbon, Portugal

Drosos V., Kourkoulis R., **Gelagoti F.**, Gerolymos N., Anastasopoulos I., Tazoh T. and G. Gazetas, “Seismic Behavior of batter piles: numerical simulation of centrifuge tests”, *15th World Conference on Earthquake Engineering*, Lisbon, Portugal

Gazetas G., Anastasopoulos I., Kourkoulis R., **Gelagoti F.**, Drosos V. and S. Nikolaou (2012), “Effect of non-linear response on elastic impedances of embedded foundations”, *15th World Conference on Earthquake Engineering*, Lisbon, Portugal

Gelagoti F. (2012). “Rocking Isolation of Frames on Shallow Footings : Design Limitations”, Proceedings of the First Bulletin of the Second International Conference on Performance – Based Design in Earthquake Geotechnical Engineering, 28-30 May, Taormina (Italy).

Gelagoti F. and Kourkoulis R. (2011), “A simplified Method to Assess the Toppling Potential of Ground Motions: Application in Rocking–Isolated Frame Structures”, *4th Japan-Greece Workshop on Seismic Design of Foundations and Innovations in Seismic Protection*, 2-9 September, Kobe, Japan.

Kourkoulis R., **Gelagoti F.**, Founta V. (2011), “Rocking of Inelastic Frame on Two-Layered Inelastic Soil”, *4th Japan-Greece Workshop on Seismic Design of Foundations and Innovations in Seismic Protection*, 2-9 September, Kobe, Japan.

Anastasopoulos I., Loli M., **Gelagoti F.**, Kourkoulis R., and Gazetas G. (2011), “Nonlinear Soil–Foundation Interaction: Numerical Analysis”, *4th Japan-Greece Workshop on Seismic Design of Foundations and Innovations in Seismic Protection*, 2-9 September, Kobe, Japan.

Gelagoti F., Kourkoulis R., Anastasopoulos I., Gazetas G. (2011), “Effect of Soil Non-linearity on the Seismic response of a very soft Alluvial Valley”, *5th International Conference on Earthquake Geotechnical Engineering*, Chile.

Kourkoulis R., **Gelagoti F.**, Anastasopoulos I., Gazetas G. (2011), “Stabilization of seismically unstable slopes using Piles: Parametric Analysis”, *5th International Conference on Earthquake Geotechnical Engineering*, Chile.

Kourkoulis R., **Gelagoti F.**, Anastasopoulos I., Gazetas G.(2010), “Piles Effectiveness for Slope Stabilization: 3D Numerical Investigation”, Proceedings of the 6th Greek Conference in Geotechnical and Geo-environmental Engineering, Volos, (in Greek)

Drosos V., **Gelagoti F.**, Kourkoulis R., Anastasopoulos I., Gazetas G. (2010), “New Thessaloniki Commercial Port: Non-linear seismic Analysis of the Quay Wall”, Proceedings of the 6th Greek Conference in Geotechnical and Geo-environmental Engineering , Volos, (in Greek)

Gelagoti F., Kourkoulis R., Anastasopoulos I., Gazetas G.(2010), “Non-Linear Inelastic Behavior of Foundations: Application on the Seismic Protection of Frame Structures”, Proceedings of

the 6th Greek Conference in Geotechnical and Geo-environmental Engineering, Volos, (in greek)

- Gelagoti F.**, Kourkoulis R., Anastasopoulos I., Gazetas G.(2010), “Seismic Soil-Foundation-Frame Interaction under Valley-affected Ground Motion”, Proceedings of the 6th Greek Conference in Geotechnical and Geo-environmental Engineering, Volos (in greek)
- Kourkoulis R., **Gelagoti F.**, Anastasopoulos I., Gazetas G. (2009), “An improved method for the design of Slope Stabilising PilesPart A: Development and Validation”, Proceedings of the 6th Greek Conference in Geotechnical and Geo-environmental Engineering, Volos (in greek)
- Kourkoulis R., **Gelagoti F.**, Anastasopoulos I., Gazetas G. (2009), “Piles for Stabilising Seismically Precarious Slopes. Part B: Parametric Analyses and Design Charts”, Proc. 3rd Greece–Japan Workshop : Seismic Design, Observation, Retrofit of Foundations, Santorini 22–23 September, pp. 520-533.
- Kourkoulis R., **Gelagoti F.**, Gazetas G. (2008), “Assessment of Various Faoundation Systems for Structures founded in the Vicinity of Landslides”, *3rd Greek Conference in Earthquake Engineering and Engineering Seismology*, Athens, 5–7 November, Paper No. 1987 (in Greek)
- F. Gelagoti**, Kourkoulis R., Gazetas G. (2008), “2-Dimentional Wave Phenomena in an alluvial Valley”, *3rd Greek Conference in Earthquake Engineering and Engineering Seismology*, Athens, 5–7 November, Paper No. 1942 (in Greek)
- F. Gelagoti**, G. Gazetas, Kourkoulis R.. (2007), “2–D wave effects: How important and predictable are they?”, *Proceedings of the 4th International Conference on Earthquake Geotechnical Engineering*, Thessaloniki, Greece, 25–28 June 2007
- Kourkoulis R., **Gelagoti F.**, Anastasopoulos I., Gazetas G. (2007), “Interaction of Earthquake-Triggered Landslide with Foundation-Structure Systems”, *Proceedings of the 2nd Japan-Greece Workshop on Seismic Design, Observation, and Retrofit of Foundations*, Tokyo, Japan, 3–4 April, pp. 51–63.