

Curriculum Vitae et Studiorum

LAST NAME: **BALTZOPOULOS**

FIRST NAME: **GEORGIOS**

DATE AND PLACE OF BIRTH: THESSALONIKI (GREECE) 12/02/1979

ASSISTANT PROFESSOR of structural engineering at the Department of Structures for Engineering and Architecture of the University of Naples Federico II.

(Ricercatore di tecnica delle costruzioni presso il Dipartimento di Strutture per l'Ingegneria e l'Architettura, Università degli Studi di Napoli Federico II)

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Education and professional qualifications

Doctoral degree (Ph.D.) in Seismic Risk	Institution: Università degli studi Napoli Federico II Date: 21/05/2015 (XXVII cycle) Title of doctoral dissertation: Structural performance evaluation in near-source conditions. Tutor: prof. Iunio Iervolino
Master of Science (M.Sc.) in “Seismic Design of Structures”	Institution: Aristotle University of Thessaloniki (AUTH - Thessaloniki, Greece) Date: 05/12/2011 Graduated summa cum laude with a grade point average of 9.68/10.0 Title of master thesis: Effect of near-source directivity on inelastic spectral amplification. Supervisory panel: prof. I. Iervolino (UniNa), prof. K. Pitilakis (AUTH), prof. A.Kappos (AUTH).
Registered designer of public infrastructure with the secretariat of public works of the Ministry of Infrastructure, Networks and Transportation (Greece)	Institution: Ministry of Infrastructure, Networks and Transportation (Athens, Greece) Date: 31/03/2016 Level per design category: <ul style="list-style-type: none">• Third level (at least 12 years of documented experience) in category 8 (structural design)• First level (at least 4 years of experience) in category 10 (transportation design)
Degree in Civil Engineering (five-year curriculum)	Institution: Aristotle University of Thessaloniki (AUTH - Thessaloniki, Greece) Date: 27/03/2002 Title of final thesis: Parametric study of prestressed- and reinforced-concrete slab overpass bridges. Specialization: Structural engineering.

Research activities

- Host Institution: University of Toronto, Department of Civil Engineering

Dates: from 15/08/2017 to 15/10/2017

Research topic: Research activities on the subject of “Hybrid experimentation on principle failure modes of the soil-pipeline system”, within the framework of the project EXperimental Computational Hybrid Assessment of Natural Gas pipelines Exposed to Seismic Risk (EXCHANGE-RISK), in collaboration with prof. Oh-Sung Kwon.

- Host Institution: University of Toronto

Dates: from 10/04/2017 to 11/04/2017

Research topic: Attendance of workshop on “UoT’s hybrid multi-platform simulation method”, organized by profs. Constantin Christopoulos and Oh-Sung Kwon.

- Host Institution: Vienna Consulting Engineers (VCE, Vienna, Austria).

Dates: from 23/07/2016 to 23/08/2016

Research topic: Research activities on the subject of “Multi-damage seismic risk assessment of soil-NG pipeline networks”, within the framework of the project EXperimental Computational Hybrid Assessment of Natural Gas pipelines Exposed to Seismic Risk (EXCHANGE-RISK).

- Host Institution: Istituto per le Tecnologie della Costruzione (ITC-CNR), URT-NA c/o DiSt

Dates: from 15/01/2016 to 28/12/2017

Research topics: research activity (under full-time contract as level III CNR Researcher) in the following sectors:

- a. Seismic vulnerability analysis for buildings within the framework of line TT2 “Rischio Implicito NTC” of the project ReLUIS 2014-2018.
- b. Strategy and techniques for the reduction of seismic vulnerability, with particular emphasis on non-structural elements, within the framework of the project “Metodologie e tecnologie integrate e sostenibili per l'adattamento e la sicurezza di sistemi urbani-(METROPOLIS)” and within the activities of the CNR Working Group “Linee Guida CNR qualificazione sismica componenti non-strutturali”.
- c. Seismic response in near-source conditions, within the framework of line RS2 “Simulazioni di Terremoti ed Effetti Near-Source” of the project ReLUIS 2014-2018.
- d. Development of a methodology for simplified estimation of seismic fragility for buildings based on static non-linear analysis, within the framework of the research agreements between AXA MATRIX – DiSt Federico II and Dist Federico II – ITC-CNR.

- Host Institution: Department of Structures for Engineering and Architecture (DiSt), Università degli studi Napoli Federico II

Dates: from 01/07/2015 to 31/12/2015

Research topic: Post-doctoral research under contract on the estimate of structural seismic fragility via non-linear dynamic analysis, within the framework of line TT2 “Rischio Implicito NTC” of the project ReLUIS 2014-2018.

- Host Institution: AMRA s.c.a.r.l.

Dates: from 01/03/2012 to 30/04/2012

Research topic: Contractual collaboration on WP6 “Validation Studies” – Task 6.5 Application and validation study to a gas pipeline network, within the framework of the research project FP7 “Systematic Seismic Vulnerability and Risk Analysis for Buildings, Lifeline Networks and Infrastructure Safety Gain” – SYNER-G.

- Host Institution: AMRA s.c.a.r.l.

Dates: from 01/03/2015 to 30/04/2015

Research topics: Contractual collaboration on WP3 “Near Source Hazard Variability”, within the framework of the research project “Harmonized approach to stress tests for critical infrastructures against natural hazards” - STREST.

- Host Institution: National Technical University of Athens (NTUA - Athens, Greece)

Dates: from 03/10/2014 to 07/01/2015

Research topic: Pulse-like seismic response of oscillators with multi-linear inelastic behavior, under the supervision of Dr. Dimitrios Vamvatsikos.

Professional and structural design experience

Structural design engineer and quality assurance manager.

Name and address of employer: ARMONIA ETE, consultant engineers (based in: Thessaloniki, Greece).

Dates: from 01/11/2006 to 31/11/2011

Main activities and responsibilities: Partner, structural design for transportation and hydraulic infrastructure, responsible for quality assurance procedures.

Principal design projects completed at ARMONIA ETE:

1. Design of the Chavrias earth dam at Chalkidiki (2008-2012). Personal contribution 20%. Main subject: *design of pump station and support buildings.*

Structural and geotechnical design engineer.

Name and address of employer: METE SYSM AE, (based in: Thessaloniki, Greece).

Dates: from 01/09/2005 to 31/10/2006

Main activities and responsibilities: Analysis and design of bridge, building and earth-retaining structures.

Principal design projects completed at METE SYSM AE:

1. Structural design of the T12 viaduct on the Polykastro-Eidomeni section of the Thessaloniki-Eidomeni railway. (2005-2006). Personal contribution 20%. Main subject: *seismically isolated, prestressed concrete railway viaduct.*
2. Retrofit of the Vryulon Street bridge on the Athens – Lamia National Motorway. (2006). Personal contribution 60%. Main subject: *substitution of the superstructure using prefabricated, prestressed concrete elements.*

Structural and geotechnical design engineer.

Name and address of employer: I.MAVRAKIS AE, (based in: Thessaloniki, Greece).

Dates: from 01/11/2002 to 31/08/2005

Main activities and responsibilities: Analysis and design of bridge, building and earth-retaining structures.

Principal design projects completed at I.MAVRAKIS AE:

1. Widening of Langadas Street, from Pavlos Melas Barracks to Ring Road intersection (2000-3003). Personal contribution 30%. Main subject: *earth retaining structures and cut-and-cover.*
2. Interchange K5 of Thessaloniki’s Ring Road: executive design of earth retaining structures (2002-

- 2003). Personal contribution 30%. Main subject: *earth retaining structures*.
3. Completion works for the Petritsi Interchange – Promachona Border Customs highway sector. (2002-2004). Personal contribution 40%. Main subject: *prestressed concrete highway bridges*.
 4. Motorway Serres – Neochori – Paralimni – Pethelino – Achino – Ibra – Strimonas Bridge. (2002-2005). Personal contribution 40%. Main subject: *prefabricated girder bridges*.
 5. Executive design of the Southern Ring Road of Edessa (2002-2004). Personal contribution 30%. Main subject: *prestressed concrete viaducts*.
 6. Section 59.2 – Axis Profitis-Thessaloniki Airopport – Bridge T1.8. (2002-2004). Personal contribution 20%. Main subject: *four-span, prestressed concrete, highway bridge*.
 7. Design of the building complex for the Department of fishing and pisciculture technology of Thessaloniki TEI. (2004-2005). Personal contribution 40%. Main subject: *structural design of reinforced concrete buildings*.

Software production for research purposes

REXELite [<http://esm.mi.ingv.it/DYNA-stage/>]: REXELite is the online version of a freeware software that allows the selection of natural accelerogram suites, compatible with the design acceleration spectra of either the Italian code NTC'08 or Eurocode 8. The selected accelerograms may also reflect specific source characteristics in terms of magnitude, epicentral distance and seismic intensity measures. (Personal contribution towards development: 10%).

SPO2FRAG [<http://wpage.unina.it/iuniervo/>] Software for simplified calculation of seismic fragility curves for buildings, based on static non-linear (pushover) analysis. (Personal contribution towards development: 60%). *SPO2FRAG was developed within the Dipartimento delle Strutture per l'Ingegneria e l'Architettura (DiSt) of the Università di Napoli Federico II, under contract with the company AXA-MATRIX Risk Consultants (www.axa-matrixrc.com/), coordinated by prof. Iunio Iervolino and via the research agreements between DiSt-NTUA (National Technical University of Athens, coordinator prof. Dimitrios Vamvatsikos) and DiSt-ITC-CNR (Istituto per le Tecnologie della Costruzione, coordinator dr. Georgios Baltzopoulos).*

R2R-EU [http://www.reluis.it/index.php?option=com_content&view=article&id=542&Itemid=197&lang=it] – software for the quantification of estimation uncertainty in calculating the seismic fragility of structures (Personal contribution towards development 40%).

Computer Software Skills

	Excellent	Advanced	Good	Basic
Sofistik	X			
OpenSees	X			
SAP2000	X			
Matlab	X			
C / C++			X	
Fortran				X
Autocad	X			
MS Office	X			

Linguistic Skills

Maternal language: Greek

Other languages:

	Comprehension		Speech		Writing
	Listening	Reading	Interaction	Speaking	
<i>English</i>	C2	C2	C2	C2	C2
<i>French</i>	C2	C2	C2	C2	C2
<i>Italian</i>	C1	C1	C1	C1	C1
<i>German</i>	B1	B1	A2	A2	A2
Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user Common European Framework of Reference for Languages					

Scientific Publications

Scientific Publications in International Refereed Journals

Iervolino I., Baltzopoulos G., Chioccarelli E., Suzuki A. (2017) Seismic actions on structures in the near-source region of the 2016 central Italy sequence. *Bulletin of Earthquake Engineering*.

Baltzopoulos G, Baraschino R, Iervolino I, Vamvatsikos D (2017) SPO2FRAG: Software for seismic fragility assessment based on static pushover. *Bulletin of Earthquake Engineering*, 15:4399-4425. doi: 10.1007/s10518-017-0145-3

Baltzopoulos G, Vamvatsikos D, Iervolino I (2016) Analytical modelling of near-source pulse-like seismic demand for multi-linear backbone oscillators. *Earthquake Engineering and Structural Dynamics*, 45(11): 1797–1815. doi: 10.1002/eqe.2729

Baltzopoulos G., Chioccarelli E., Iervolino I. (2015). The Displacement Coefficient Method in Near-Source Conditions, *Earthquake Engineering and Structural Dynamics*, 44(7), pp. 1015-1033. doi: 10.1002/eqe.2497.

Iervolino I., Chioccarelli E., Baltzopoulos G. (2012). Inelastic Displacement Ratio of Near-Source Pulse-Like Ground Motions, *Earthquake Engineering and Structural Dynamics*, 41(15), pp 2351-2357. doi: 10.1002/eqe.2167.

Iervolino I, Baltzopoulos G, Chioccarelli E (2016) Preliminary engineering analysis of the August 24th 2016, ML 6.0 central Italy earthquake records. *Annals of Geophysics*, 59, Fast Track 5, 2016. doi: 10.4401/ag-7182

Luzi L, Pacor F, Puglia R, Lanzano G, Felicetta C, D'Amico M, Michelini A, Faenza L, Lauciani V, Iervolino I, Baltzopoulos G, Chioccarelli E (2017) The Central Italy seismic sequence between August and December 2016: analysis of strong-motion observations. *Seismological Research Letters*, 88(5): 1219-1231.

Scientific Publications in International Conference Proceeding

Iervolino I., Baltzopoulos G., Vamvatsikos D., Baraschino R. (2016). SPO2FRAG v1.0: software for PUSHOVER-BASED derivation of seismic fragility curves. *Proc. of VII European Congress on Computational Methods in Applied Sciences and Engineering, ECCOMAS, Crete Island, Greece, 5–10 June.*

Baltzopoulos G., Vamvatsikos D., Iervolino I. (2015). Near-source pulse-like seismic demand for multi-linear backbone oscillators. *Proceedings of COMPDYN 2015, 5th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, M. Papadrakakis, V. Papadopoulos, V. Plevris (eds.) Crete Island, Greece, 25–27 May.*

Baltzopoulos G., Chioccarelli E., Iervolino I. (2013) Accounting for near-source effects in the displacement coefficient method for seismic structural assessment. *Proceedings of. COMPDYN 2013, 4th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, M. Papadrakakis, V. Papadopoulos, V. Plevris (eds.), Kos Island, Greece, 12–14 June.*

Participation in international conferences

- Risk, Hazard and Uncertainty Workshop, organized by the National Technical University of Athens (NTUA), Hydra, Greece, 22-25 June 2016.
- COMPDYN 2017, 6th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Rhodes, Greece, 15–17 June.
- 35^o General Assembly of the European Seismological Commission, Trieste, Italy, 4-10 September 2016

- ECCOMAS, VII European Congress on Computational Methods in Applied Sciences and Engineering, Crete, Greece, 5–10 June 2016..
- COMPDYN 2015, 5th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete, Greece, 25–27 May.
- COMPDYN 2013, 4th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Kos, Greece, 12–14 June.

Coordinator of research groups

- Principal investigator of the ITC-CNR research group within the activities stemming from the research agreement between DiSt Federico II – CNR “Attività di validazione di strumenti per la stima analitica della fragilità sismica degli edifici e di sviluppo di casi studio” (validation of computational tools for the analytical estimation of seismic fragility for buildings and development of case-studies).

Participation in international research projects

- SYNER-G – Systemic Seismic Vulnerability and Risk Analysis for Buildings, Lifeline Networks and Infrastructures’ Safety Gain. Seventh Framework Programme, Contract Number: 244061, [<http://www.vce.at/SYNER-G/index.htm>]
- STREST – Harmonized approach to stress tests for critical infrastructures against natural hazards, Seventh Framework Programme, Contract Number: 603389 [<http://www.strest-eu.org/opencms/opencms/>]
- EXCHANGE-RISK - EXperimental Computational Hybrid Assessment of Natural Gas pipelines Exposed to Seismic Risk. Finanziato dalla commissione europea nell’ambito di H2020 Framework Programme [<http://www.exchange-risk.eu/>].

Participation in national research projects

- REte dei Laboratori Universitari di Ingegneria Sismica (ReLUIS), 2010-2013, funded by the Dipartimento di Protezione civile nazionale and the Presidenza del Consiglio dei Ministri [<http://www.reluis.it/reluis2/>].
- REte dei Laboratori Universitari di Ingegneria Sismica (ReLUIS), 2014-2018, funded by the Dipartimento di Protezione civile nazionale and the Presidenza del Consiglio dei Ministri [<http://www.reluis.it/>]
- STRIT – Strumenti e Tecnologie per la gestione del Rischio delle Infrastrutture di Trasporto [<http://www.stress-scarl.com/it/innovazione/i-progetti/strit.html>].
- METROPOLIS - Metodologie e tecnologie integrate e sostenibili per l'adattamento e la sicurezza di sistemi urbani (PON03PE_00093_4/F1). [<http://www.progetto-metropolis.it/>].