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**Born:** 11 November 1968 in Athens, Greece

### **Education:**

- a) B.Sc. in Physics, Aristotle University of Thessaloniki, Greece (1990)
- b) Ph.D. in Geophysics, Aristotle University of Thessaloniki, Greece (1994)
- c) B.Sc. in Geology, Aristotle University of Thessaloniki, Greece (1994, realized in parallel with the PhD studies)

### **Career:**

- Special Graduate Fellow, *Geophysical Laboratory, Aristotle University of Thessaloniki, Greece* (1991-1994),
- Senior Visiting Research Fellow, *Dept. of Geological & Geophysical Sciences, Princeton University, USA* (1994-1995)
- Researcher D' (1995-August 1998) and Researcher C' (September 1998-December 1999), *Institute of Engineering Seismology & Earthquake Engineering (ITSAK), Greece*
- Assistant Professor (December 1999-October 2005), Associate Professor (October 2005-August 2010) and Professor (August 2010-now), *Geophysical Laboratory, Aristotle University of Thessaloniki, Greece*
- Meierjurgan Fellow in the *Dept. of Earth Sciences, Univ. Oregon* (February-June 2017)
- Director of the *Geophysical Laboratory, Aristotle University of Thessaloniki* (2017-now)
- Head of *School of Geology, Aristotle University of Thessaloniki* (2019-now)

### **Research activities**

- a) Crustal and upper mantle structure (mainly tomographic) studies.
- b) Wave propagation modeling and simulation of strong-motion using instrumental and macroseismic data.
- c) Site-effect studies using earthquake and noise data, including geophysical structure modelling using noise data.
- d) Development and application of Applied Geophysics techniques (seismic, electromagnetic, gravity, etc.) for the study of the near surface formations.
- e) Active crustal deformation studies.
- f) Seismotectonics and seismic hazard of the broader area of Greece and studies of seismic sequences.
- g) Time dependent seismicity and seismic hazard on the basis of seismicity and probabilistic models.
- h) Study of seismic waveform characteristics and their automatic processing
- i) Study of volcanic seismotectonics and related volcanic phenomena

### **Field and instrumentation experience**

Responsible for the organization and participation in several field experiments concerning seismotectonic studies, studies of earthquake sequences, exploration geophysics (seismic, gravity, magnetic, electric) field experiments for geological, geotechnical and archaeological exploration. The most important field experiments concern the participation in the large-scale networks of SIMBAAD and EGELADOS (**Exploring the GEodynamics of subducted Lithosphere using an Amphibian Deployment Of Seismographs**, <http://www.geophysik.ruhr-uni-bochum.de/research/egelados/index.html>, 2006-2008), which is the largest network of land and ocean bottom stations ever installed in the Aegean, as a member of the coordinating committee and responsible for the operation and maintenance of a large part of the network, as well as the data processing. Results from this network have already led to several journal publications and 2 PhD thesis were realized under my supervision using the EGELADOS dataset. Also member of the PROTEUS

experiment (<http://santorini.uoregon.edu/blog/>), recently realized in the broader Santorini complex area in cooperation with U.Oregon, Imperial College and U. Athens.

Responsible for the operation of the Strong-Motion Network of the Institute of Engineering Seismology & Earthquake Engineering-ITSAK (1995-1999). Participation in the operation of the Seismological Network of the Geophysical Laboratory of the Aristotle University of Thessaloniki (1990-now), with extensive experience in several aspects of the daily operation and network development.

### **Teaching and supervising experience**

Teaching of Applied Mathematics, Computer programming, Geostatistics, General Physics, Seismology, Applied Geophysics and Physics of the Earth's Interior at university level for geology graduate (since 2005) and undergraduate (since 1991) students. Also visiting teacher for the graduate course program of the Univ. Potsdam (Inversion Theory). Author of 9 graduate and undergraduate educational notes, lecturer for several training seminars for graduate geologists and engineers and field work training of geologists in the use of several applied geophysical techniques (seismic, electromagnetic, etc.)

Member of the PhD advisory committee for 28 geologists and engineers for the Schools of Geology in Thessaloniki and Patras and the School of Electrical and Computer Engineers of Thessaloniki, supervising 12 PhD Theses (9 completed), member of several PhD examination committees. Member of the M.Sc. advisory and examination committees for 30 geologists for the School of Geology in Thessaloniki, supervising 11 M.Sc. theses (10 completed).

### **General academic-administrative activity**

Member of several Greek and international seismological-geophysical-geological unions (AGU, EGU, SSA, etc.). Member of the electoral body for several geophysical and geoscientist academic positions in Greek Universities and research Institutes. Participation in several coordinating committees responsible for reforming and project submission of the Geology Dept. (3 projects for the reformation of the undergraduate course program), responsible for development of the computing infrastructure of the Geology Dept. (computer lab, etc.), member of Aristotle University committees. Member (former president and vice-president) of the Aristotle Univ. Thessaloniki IT committee.

Coordinator of the day-to-day operation of the Seismological Network of the Aristotle University of Thessaloniki, member of its advisory committee, responsible for the data acquisition and dissemination, participation in the daily/weekly earthquake analysis shifts. Briefing of civil agencies (governmental and local-regional authorities) and the wider public (through the mass media) in Greece regarding important seismic activity (major earthquakes, aftershock sequences) in the broader Aegean area. Lecturer in public schools, professional organizations, municipalities, etc. on various topics, including general Geophysics, Seismology in Greece and Seismic policy.

### **Significant Research Achievements**

Author of ~150 papers in journals, books and conference proceedings, ~2300 references without self-citations (h-factor=26 from Scopus without self-citations). Participant in more than 40 conferences (chairman at several sessions of ESC, IUGG, etc.) with more than 80 presentations, including invited talks. Invited speaker for lectures at several other European geophysical and seismological departments.

Author of one book on Physics of the Earth's Interior (in Greek, used as standard textbook for this topic in Greece in all Geological Dept.), 2 macroseismic atlas and 2 maps of seismic-active faults and more than 50 technical reports. Author of the national report for Greece for the *IASPEI International Handbook of Earthquake and Engineering Seismology* (Eds. W. H. K. Lee, H. Kanamori, P. C. Jennings and C. Kisslinger). Reviewer for E.U. and ESF, and several journals. Also reviewer for a large number of special volumes and books (TransMed Atlas, Developments in Volcanology, Active Volcanoes of the World, etc.), member of the organizing committee of national and international conferences (IASPEI 1997, Greek Geophysical Union 1993, Greek Geological Society 2004, Carpathian-Balkan Geological Society 2010, etc.) and organizer of the workshop "EGELADOS-Exploring the GEodynamics of subducting Lithosphere using an Amphibian Deployment Of Seismodynamics" (Thessaloniki, 2007).

Best reviewer award by the American Geophysical Union (AGU) for the *Journal of Geophysical Research (Solid Earth)* in 2001. Associate Editor of the journals *Pure and Applied Geophysics (PAGEOPH)*, *Geophysical Journal of the Balkan Geophysical Society* and *Turkish Journal of Earth Sciences*. Award for best paper from young geoscientist by the Greek Geological Society for 1996-1997

Former member of the Scientific board of the WEGENER subcommission of IUGG, former member of the board of the Institute of Engineering Seismology & Earthquake Engineering (ITSAK) and former member of the board of Greek Earthquake Planning and Protection Organization (OASP). Gen. Secretary of the Institute of Study and Monitoring of the Santorini Volcano (ISMOSAV) and its scientific committee. Member of the coordinating board of the Hellenic Unified Seismological Network (HUSN). Former member of the board of the Greek Geological Survey (IGME).

### **Selected 10-yr related Papers**

1. Skarlatoudis, A.A. and Papazachos, C.B., Preliminary study of the strong ground motions of the Tohoku, Japan Earthquake of March 11, 2011: Assessing the influence of anelastic attenuation and rupture directivity, *Seism. Res. Lett.*, 83, 1, 119-129, 2011.
2. Newman, A. S. Stiros, L. Feng, P. Psimoulis, F. Moschas, V. Saltogianni, Y. Jiang, C. Papazachos, D. Panagiotopoulos, E. Karagianni, D. Vamvakaris, Recent geodetic unrest at Santorini Caldera, Greece, *Geophysical Research Letters*, 39, 6, DOI: 10.1029/2012GL051286, 2012.
3. Salaün, G., H.A. Pedersen, A. Paul, V. Farra, H. Karabulut, D. Hatzfeld, C. Papazachos, D.M. Childs, Catherine Pequegnat, and the SIMBAAD Team, High-resolution surface wave tomography beneath the Aegean-Anatolia region: Constraints on upper-mantle structure, *Geophys. J. Int.*, 190, 406-420, doi: 10.1111/j.1365-246X.2012.05483.x, 2012.
4. Mountrakis, D., Kiliyas, A., Pavlaki, A., Fassoulas, C., Thomaidou, E., Papazachos, C., Papaioannou, C., Roumelioti, Z., Benetatos, C. and Vamvakaris, D., Neotectonic study of Western Crete and implications for seismic hazard assessment. In: (Ed.) Emmanuel Skourtsos, and Gordon S. Lister, *The Geology of Greece*, Journal of the Virtual Explorer, Electronic Edition, ISSN 1441-8142, 42, paper 2, doi:10.3809/jvirtex.2011.00285, 2012.
5. Skarlatoudis, A.A., C.B. Papazachos, B.N. Margaritis, C. Ventouzi, I. Kalogeras, and the EGELADOS Group, Ground-Motion Prediction Equations of Intermediate-Depth Earthquakes in the Hellenic Arc, Southern Aegean Subduction Area, *Bull. Seism. Soc. Am.*, 103, 3, 1952-1968, 2013.
6. Hannemann, K., C. Papazachos, M. Ohrnberger, A. Savvaidis, M. Anthymidis, A. Lontsi, 3D shallow structure from high-frequency ambient noise tomography: New results for the Mygdonia basin-Euroseistest area, Northern Greece, *J. Geoph. Res.*, DOI: 10.1002/2013JB010914, 2014.
7. Karagianni, I., Papazachos, C. B., Scordilis, E. M., & Karakaisis, G. F., Reviewing the active stress field in Central Asia by using a modified stress tensor approach. *Journal of Seismology*, 19(2), 541-565, 2015.
8. Vamvakaris, D.A., C.B. Papazachos, Ch.A. Papaioannou, E.M. Scordilis, and G.F. Karakaisis, A detailed seismic zonation model for shallow earthquakes in the broader Aegean area, *Nat. Hazards Earth Syst. Sci.*, 16, 55-84, doi:10.5194/nhess-16-55-2016, 2016.
9. Papazachos, G., Papazachos, C., Skarlatoudis, A., Kkallas, H., & Lekkas, E. Modelling macroseismic observations for historical earthquakes: The cases of the M= 7.0, 1954 Sofades and M= 6.8, 1957 Velestino events (central Greece). *Journal of Seismology*, 20(1), 151-165, 2016.
10. Tsampas, A.D., Scordilis, E.M., Papazachos, C.B. and Karakaisis, G.F.. Global-Magnitude Scaling Relations for Intermediate-Depth and Deep-Focus Earthquakes. *Bulletin of the Seismological Society of America*, 106(2), 418-434, 2016.
11. Papadopoulos, I., Papazachos, C., Savvaidis, A., Theodoulidis, N., and Vallianatos, F.. Seismic microzonation of the broader Chania basin area (Southern Greece) from the joint evaluation of ambient noise and earthquake recordings, *Bull. Earthquake Eng.*, doi:10.1007/s10518-016-0019-0, 15(3), 861-888, 2017.
12. Kkallas, C., Papazachos, C.B., Margaritis, B.N., Boore, D., Ventouzi, C. and Skarlatoudis, A.. Stochastic Strong Ground Motion Simulation of the Southern Aegean Sea Benioff Zone Intermediate-Depth Earthquakes. *Bulletin of the Seismological Society of America*, 108(2), pp.946-965, 2018
13. Kkallas, C., Papazachos, C.B., Boore, D., Ventouzi, C. and Margaritis, B.N. Historical intermediate-depth earthquakes in the southern Aegean Sea Benioff zone: modeling their anomalous macroseismic patterns with stochastic ground-motion simulations. *Bulletin of Earthquake Engineering*, 16(11), pp.5121-5150, 2018.
14. Ventouzi, C., Papazachos, C., Hatzidimitriou, P., Papaioannou, C. and EGELADOS Working Group. Anelastic P-and S-upper mantle attenuation tomography of the southern Aegean Sea subduction area (Hellenic Arc) using intermediate-depth earthquake data. *Geophysical Journal International*, 215(1), pp.635-658, 2018.
15. Hooft, E.E.E., Heath, B.A., Toomey, D.R., Paulatto, M., Papazachos, C.B., Nomikou, P., Morgan, J.V. and Warner, M.R., 2019. Corrigendum to "Seismic imaging of Santorini: Subsurface constraints on caldera collapse and present-day magma recharge", *Earth Planet. Sci. Lett.*, 514, 48-61, 2019.

- 16.Papazachos, C.B., Deep structure and active tectonics of the South Aegean volcanic arc. *Elements*, 15(3), pp.153-158, 2019.
- 17.Heath, B.A., Hooft, E.E.E., Toomey, D.R., Papazachos, C.B., Nomikou, P., Paulatto, M., Morgan, J.V. and Warner, M.R.. Tectonism and Its Relation to Magmatism Around Santorini Volcano From Upper Crustal P Wave Velocity. *Journal of Geophysical Research: Solid Earth*, 124(10), pp.10610-10629, 2019.
- 18.Marinos, V., Stoumpos, G., Papouli, D., Papazachos, C., Selection of TBM and geotechnical assessment of a microtunnel in a difficult geological environment: a case of a natural gas pipeline beneath an active landslide (Albania), *Bulletin of Engineering Geology and the Environment*, 78, 3, 1795-1813, 2019.
- 19.Marinos, V., Stoumpos, G., Papazachos, C., Landslide hazard and risk assessment for a natural gas pipeline project: The case of the Trans Adriatic Pipeline, Albania Section, *Geosciences*, 9, 2, 61, 2019.
- 20.Papazachos, C. B, Deep structure and active tectonics of the South Aegean volcanic arc, *Elements: An International Magazine of Mineralogy, Geochemistry, and Petrology*, 15, 3, 153-158, 2019.
- 21.McVey, BG, Hooft, EEE, Heath, BA, Toomey, DR, Paulatto, M, Morgan, JV, Nomikou, P, Papazachos, CB, Magma accumulation beneath Santorini volcano, Greece, from P-wave tomography, *Geology*, 48, 3, 231-235, 2020
- 22.Kkallas, Ch, Papazachos, CB, Scordilis, EM, Margaris, BN, Active stress field of the Southern Aegean Sea subduction area from fault-plane solutions on the basis of different stress inversion approaches, *Journal of Geodynamics*, 143, 101813, 2021
- 23.Papathanassiou, G, Papazachos, C, Valkaniotis, S, Stimaratzis, Th, Xanthopoulou, K, Kkallas, Ch, Developing a Liquefaction-Related Protocol for the FEED Design Phase of a Pipeline RoW Corridor, *Geotechnical and Geological Engineering*, 38, 5979-5997, 2020.
- 24.Evangelidis, C. P, Triantafyllis, N., Samios, M., Boukouras, K., Kontakos, K., Ktenidou, O.J., Fountoulakis, I., Kalogeras, I., Melis, N.S, Galanis, O., Seismic Waveform Data from Greece and Cyprus: Integration, Archival, and Open Access, *Seismological Society of America*, 92, 3, 1672-1684, 2021.
- 25.Foumelis, M., Papazachos, C., Papadimitriou, E., Karakostas, V., Ampatzidis, D., Moschopoulos, G., Kostoglou, A., Ilieva, M., Minos-Minopoulos, D., Mouratidis, A., On rapid multidisciplinary response aspects for Samos 2020 M7. 0 earthquake, *Acta Geophysica*, <https://doi.org/10.1007/s11600-021-00578-6>, 2021.
- 26.Slejko, D, Rebez, A, Santulin, M, Garcia-Pelaez, J, Sandron, D, Tamaro, A, Civile, D, Volpi, V, Caputo, R, Ceramicola, S, Seismic hazard for the Trans Adriatic Pipeline (TAP). Part 1: probabilistic seismic hazard analysis along the pipeline, *Bulletin of Earthquake Engineering*, 19(7), 1-40, <https://doi.org/10.1007/s10518-021-01111-2>, 2021.
- 27.Moratto, L., Vuan, A., Sarao, A., Slejko, D., Papazachos, C., Caputo, R., Civile, D., Volpi, V., Ceramicola, S., Chatzipetros, A., Daja, S., Fabris, P., Garcia-Pelaez, J., Geletti, R., Karvelis, P., Pavlides, S., Rapti, D., Rebez, A., Rossi, G., Sandron, D., Santulin, M., Sboras, S., Tamaro, A., Zecchin, M., Zgur, F., Zuliani, D., Seismic hazard for the Trans Adriatic Pipeline (TAP). Part 2: broadband scenarios at the Fier Compressor Station (Albania), *Bulletin of Earthquake Engineering*, 19(7), 1573-1456, <https://doi.org/10.1007/s10518-021-01122-z>, 2021