

ALEXANDROS SAVVAIDIS, MSc, PhD

Research Scientist, Manager of Texas Seismological Network and PI in Seismology CISR

CONTACT INFORMATION

Bureau of Economic Geology
Jackson School of Geosciences
University of Texas at Austin
University Station, Box X
Austin, TX 78712-8924

Tel: (+1) 737 202 8750
Fax: (+1) 512 471 0140
E-mail: alexandros.savvaidis@gmail.com
www: <http://www.beg.utexas.edu/texnet-cisr>

OVERVIEW

Manager of the Texas Seismological Network (TexNet) and Seismology Research Team Lead for Center for Integrated Seismicity Research (CISR). Extensive 25 years experience in Seismology and Applied Geophysics both through my research position as a Senior Researcher and collaboration with Industrial partners in multidisciplinary European and US funded projects. In addition, I managed the largest Seismographic Network in Greece, numbering 100 real time seismometers and 150 offline installations. My research activity and technical expertise is focused on, induced seismicity, engineering seismology, Earth observation and disaster risk reduction, exploration, engineering, and environmental geophysics. My research on Seismology includes the study of causal factors of induced seismicity (Oil and Gas operations, water production, geothermal, mining etc.), source characteristics, the wave path and site characterization in case of an earthquake event, the real time acquisition of ground motion data, Shakemaps implementation and data fusion for disaster risk mitigation. Additionally in Applied Geophysics my attention is directed towards acquiring, processing, and modeling geophysical data using passive and active seismic and electromagnetic techniques in urban and free field areas to reveal 1D, 2D and 3D earth models and to improve the knowledge in exploration, mining and three dimensional basin structure using geophysical methods. Also, I am an expert of surface wave data acquisition, processing and inversion for crustal modeling. For this I have applied different inversion algorithms through the Texas Advanced Computing Center (TACC) in passive and active data in order to minimize the computational time.

- Study of seismic signals and their automatic processing.
- Study of earthquake clusters (trends, relocation, improving earthquake location etc.) and its causal factors.
- Induced seismicity characterization due to hydraulic stimulation and salt water disposal using probabilistic and semi-empirical (physics based) methods.
- Development and implementation of innovative techniques in the application of Microtremor Array Measurements for calculating the shear wave velocity with depth in both one and three dimensions.
item Structural and geotectonic characteristics of Earth's crust by using different geophysical methods: Seismic, Magnetotelluric, Direct Current, Time Domain Electromagnetic, Potential Field and Earthquake Tomography.
- Application of geophysical techniques (Microtremor array, seismic, gravity, magnetics, resistivity, GPR, electromagnetics, etc.) for revealing shallow structure for geological, environmental, mining, geotechnical and archaeometric applications.
- Studies on the radiation and attenuation pattern of seismic waves, using macroseismic and instrumental data.
- Study and simulation of the propagation of seismic waves, as well as their influence of the local site conditions in the strong ground motion using instrumental (earthquakes and ambient noise) and simulation data.

EDUCATION

**Aristotle University of Thessaloniki - AUTh.,
Department of Geology and Geophysics, Thessaloniki, Greece**

PhD Geophysics, July 1998

Savvaidis A., "*Geophysical investigation of the North-West part of the Chalkidiki Peninsula.*" PhD Thesis, pp.196, 1998

Advisor: Prof. Gregory Tsokas (AUTh), Prof. M. Fytikas (AUTh) and Prof. P. Lagios (University of Athens)

MSc., Geophysics, November 1997

Savvaidis A., "*Noise Analysis on the Magnetotelluric Data of the area of Epanomi.*" Master of Science Diploma Thesis, pp.117, 1997

Advisor: Prof. G. Tsokas (AUTh.), Prof. L. Pedersen (University of Uppsala), and Dr. C. Papazachos (AUTh)

BSc., Geology, October 1992

PROJECTS

Texas Seismological Network (TexNet) and Center of Integrated Seismicity Research (CISR) (January 2016 - Present). The budget allocation for this project is \$4.7M per biennium. In this project I am the Manager of the Texas Seismological Network <http://beg.utexas.edu/texnet-cisr> and PI in Seismology for TexNet Research and Center of Integrated Seismicity Research (CISR). The State of Texas tasked the Bureau of Economic Geology (BEG) to locate and determine the origins of earthquakes in Texas, and where they may have been caused by human activity. Through the TexNet earthquake monitoring program we install seismic stations across Texas to gather real time earthquake data. I have designed and developed TexNet starting from January 2016. Up to June 2020, the TexNet seismic stations in the State of Texas numbered 160 real time systems. CISR is sponsored from the Industry, and our partnership include most of the Oil & Gas operators in Texas <http://www.beg.utexas.edu/texnet-cisr/cisr/sponsorship>. The fundamental purpose of my ongoing research is to identify the causes of induced seismicity in Texas, in order to mitigate the associated hazard and risk for the community and provide data to the State regulator to monitor the safety of industrial Oil and Gas activities (hydraulic fracturing and salt water disposal for unconventional production).

State of induced seismicity in CCS (Carbon Capture and Storage) projects (February 2020 - Present). The aim of this project is to propose a set of best practices for managing seismic risk during the site-selection phase of a CCS project and the operational phase of the injection. Since the number of CO₂ storage projects with relevant data is small, we present the best-practices on data collection for seismicity, seismicity management and mitigation measures related to large volume saltwater injection and geothermal energy production. By analyzing the available data, we propose a guideline applicable to site selection of CCS projects and seismicity monitoring to mitigate any possible hazard due to induced seismicity.

Permanent Greek Geohazard Supersite (May 2016 - April 2018). Co-ordinator of the Greek Geohazard Supersite at the GEO GSNL Initiative in Geneva, Switzerland (Group of Earth Observation - Geohazard Supersite and Natural Laboratories). The main objectives of this project are: (a) to collect and provide in an open data policy all the in situ information for the Supersite area of study and (b) manage the research of the Supersite group following data fusion of in situ and satellite imagery information: <http://www.earthobservations.org/gsnl.php>.

A Scientific Network for Earthquake, Landslide and Flood Hazard Prevention-SciNetNatHazPrev, funded by the European Union (EU) - Black Sea Cross Border Cooperation (2013-2015). The budget allocation is 100k€ for IESEE out of 700k€ total project budget. In this project I am working on the natural hazard assessment in both regional (transnational) and local scale due to earthquakes and landslides and its impact on the environment and risk mitigation for the local community.

Estimation of seismic vulnerability of building stock of the town of Serres, (2013-2015). The project is implemented through EU Funding (85k€). In this project until now I have worked on facilitating the seismic hazard assessment from rock, as it is original calculated to the soil surface through earth models of the town of Serres, Greece. Further to that the seismic hazard model will be incorporated with the vulnerability of the structural environment for the final risk assessment.

INnovative multi-sensor network for DEformation and Seismic Monitoring of Urban Subsidence-prone Areas - INDES-MUSA, funded by EU Funds through the Greek-China co-operation program (2013-2015). The budget allocation is 131k€ for IESEE out of 473k€ total project budget. Through this project I have participated in the design and implementation of a multi-sensor (accelerometers, GPS, tide-gauge, LiDAR and water level) network. This network is established in four different types of land use: (a) Urban, (b) Industrial, (c) Special (Oil Tanks) and (d) Free Field. Accelerometer data are acquired in both ground level (urban free field) and structural (top and center of the building) environment. After an earthquake event I provide for each station, further to acceleration, also displacements from both the accelerometer network and also the GNSS collocated permanent network. I am also working on the soil transfer functions for each area using geophysical data, ambient noise and earthquake recordings. Finally, I am involved in the design and development of a Web GIS platform for data demonstration.

Processing of Surface Wave Data and Tutoring in Surface Wave Data Analysis and Inversion funded by University of Uppsala (2,5k€) Uppsala, Sweden (2015). In this project I coordinated the processing of different active and passive Surface wave data acquired in Sweden. Additionally, I delivered a one week workshop at Uppsala University on Introducing Surface Wave Data Analysis and Inversion Techniques.

Geotechnical Characterisation of selected sites in Crete Island by Using Geophysical and Geotechnical Methods funded by EU Funds (2012-2015). As a principal investigator for this project, out of the total project budget of 600k€ I negotiated a total contribution of 125k€ to be directed towards the IESEE. Through this project I have acquired, processed and modeled the geophysical data for site characterization, evaluated the theoretical and experimental site effects in the ground motion stations in the Island of Crete and compared the normalized elastic spectra with seismic codes. Both shallow (normal and thrust faults) and deep subduction zone earthquake recordings were used. I am currently working on an empirical relation between geophysical and geotechnical data for engineering purposes. Finally, I co-ordinate the design and development of a GeoDatabase with ground motion recordings, geo (geological, geophysical and geotechnical data) and building information.

Comparative evaluation of Surface Geophysical Methods for the Specification of the Dynamic Properties of Soil at Sites of Earthquake recordings and Utilization for the Ground Motion Prediction Equations, funded by EU Funds (85k€) (2012-2015). As a principal investigator for this project I was responsible for the acquisition, processing and modeling of geophysical data at strong motion sites. Moreover, I have calculated the theoretical and experimental soil transfer function utilizing both dedicated geophysical models and ground motion earthquake data.

EuroseisTest Verification and Validation Project Phase 2 (2012-2015) implemented through funding (68k€) by the CEA (French Alternative Energies and Atomic Energy Commission). In this project using the GoCad Software and based on all available geological, geophysical and geotechnical data for the Mygdonian basin (Northern Greece) I have incorporated a synthesis of a 3D geo-model. An updated model is re-constructed along with its uncertainties. This basin geo-model is to be used in 3D ground motion simulation.

INspired GEOfdata CLOUD Services INGEOCLOUDS, (2012-2014) supported through EU funding. As a principal investigator for this project, out of the total project budget of 1.5M€ I negotiated a total contribution of 135k€ to be directed towards the IESEE. In this work I have incorporated the framework, for running the service of Shakemaps for the broader Aegean Region (Greece) using the real time ground motion data (100 accelerometer stations) of the IESEE. Through this framework local information on Ground Motion Prediction Equations (for different type of faults, and soil conditions), and proxies of site characterization (based on geology, slope and terrain) are integrated. I have participated as a Senior Researcher in a group of interdisciplinary researchers for developing local proxies for site characterization.

Network of European Research Infrastructures for Earthquake Risk Assessment and Mitigation NERA, (2011-2014) funded by the EU. Out of the total project budget of 12M€ a total contribution of 106k€ was directed towards the IESEE. In this project I have applied different engineering geophysical methods (active and passive seismic wave data) for the calculation of the earth model in the test area of study in Koutavos Basin, Cephalonia, Greece .

Geophysical and Geotectonic properties of the Upper Crust using the Magnetotelluric Sounding Method in the area of Delvino, Albania (2013). As the principal coordinator of this project I negotiated a budget of 30k€ for the total duration of the project which was funded by the SEISMOTECH Company. In this project I have coordinated the acquisition and processing of more than 300 sounding data acquired in order to reveal the three-dimensional resistivity structure of the area. Additionally, I have proposed a strike analysis model that reveals the regional and local tectonic features along with 2D geophysical modeling of the area. Furthermore, the implementation of the proposed model provided valuable information on the crustal structure.

Efficient high-frequency surface wave tomography for seismological site characterization funded by National Funds (5k€) under the Greek-German Co-operation DAAD-IKYDA (2011). For this project I was the coordinator in addition to participating as a lead scientist. In this project we established a novel measurement strategy and modeling for efficient structural imaging of shallow and medium depth sedimentary environments using noise correlation tomography. This strategy is one of the few developed and applied for shallow depths producing a 3D earth model through the use of ambient noise data.

International Transfer of Seismological Advanced Knowledge and Geophysical Research (ITSAK-GR), supported by EU funds of total budget 1M€, (2006-2010). I have coordinated this project funded by a Marie Curie Actions European Funding Initiative. On a technical level, in this project I had the opportunity to focus on all aspects of seismic-hazard assessment such as spatiotemporal seismicity patterns and earthquake interactions, geotectonic properties of the Earth's crust. In addition, I studied in detail earthquake source properties, seismic-wave propagation and attenuation as well as local site effects on strong-ground motion, deterministic and stochastic assessment of strong-ground motion, earthquake scenarios and shake maps. This research project had eight co-operating partners, from which six are located in Europe and two in the United States of America . During the same project I have co-operated with a group of fourteen incoming researchers and I have visited three of

the co-operating partners for a total period of 12 months.

Cost Effective Geophysical Technology for Petroleum Exploration in non-seismic areas (2001) implemented by European Union funds. Out of the total project budget of 464k€ I negotiated a total contribution of 211k€ to be directed towards the AUTH. Through this project as a principal investigator I have participated in testing of advanced processing techniques of magnetotelluric data in areas of high industrial noise. In addition, I applied improved subsurface imaging on near-vertical structures with a strong degree of three-dimensionality. Finally, I have contributed the final geo-model of the area of study incorporating different geophysical data.

JOURNAL
PUBLICATIONS

For a full publication list visit: <https://scholar.google.com/citations?user=Fk2u3lcAAAAJ&hl=en>

Publications on peer reviewed journals are listed below:

1. **Savvaidis, A.** Lomax, A. and Breton C. *Induced seismicity in the Delaware Basin, west Texas is caused by hydraulic fracturing and wastewater disposal*, Bull. Seismol. Soc. Am., <https://doi.org/10.1785/0120200087>.
2. Merzlikin, D., **Savvaidis, A.**, Whittaker, S., Bestmann, I. *Data processing of a local seismological network for West Texas seismicity characterization*, Seismol. Res. Lett., <https://doi.org/10.1785/0220190358>.
3. Kavoura, F., **Savvaidis, A.**, and Rathje, E. *Determination of Local Magnitude for Earthquakes Recorded from the Texas Seismological Network (TexNet)*, Seismol. Res. Lett., <https://doi.org/10.1785/0220190366>.
4. Grigoratos, I., Rathje, E., Bazzuro, P., and **Savvaidis, A.** *Earthquakes induced by wastewater injection, part I: model development and hindcasting*, Bull. Seismol. Soc. Am., <https://doi.org/10.1785/0120200078>.
5. Grigoratos, I., Rathje, E., Bazzuro, P., and **Savvaidis, A.** *Earthquakes induced by wastewater injection, part II: statistical evaluation of causal factors and seismicity rate forecasting*, Bull. Seismol. Soc. Am., <https://doi.org/10.1785/0120200079>.
6. Grigoratos, I., Rathje, E., Bazzuro, P., and **Savvaidis, A.** *Time-dependent seismic hazard and risk due to wastewater injection in Oklahoma*, submitted to Earthquake Spectra.
7. Huang, D.-G., Li, P., Kavoura, F., and **Savvaidis, A.** *Characteristics of the seismotectonic structures in the Snyder area, northwest Texas, United States*, submitted to Seismological Research Letters.
8. Peng, L., Huang, D.-G., and **Savvaidis, A.** *Seismic Features of the Permian Basin Region from Receiver Function Analysis*, submitted to Tectonophysics.
9. Wathelet, M., Chatelain, J-L, Cornou, C., Di Giulio, G., Guillier, B., Ohrnberger, M., and **Savvaidis, A.** *geopsy: A Comprehensive User-Friendly Tool Chain for Ambient Vibration Processing*, Seismological Research Letters ; 91 (3): 1878–1889. doi: <https://doi.org/10.1785/0220190360>, 2020.
10. Frohlich, C., Hayward, C., Rosenblit, J., Aiken, C., Hennings, P., **Savvaidis, A.**, Lemons, C., Horne, E., Walter, J., and H. R. DeShon, 2019. *Onset and cause of increased seismic activity near Pecos, West Texas, USA from observations at the Lajitas TXAR Seismic Array*. Journal of Geophysical Research: Solid Earth, 124. <https://doi.org/10.1029/2019JB017737>, 2020.

11. Lomax, A. and **Savvaidis, A.**, *Improving absolute earthquake location in west Texas using probabilistic, proxy ground-truth station corrections*. Journal of Geophysical Research: Solid Earth, 124. <https://doi.org/10.1029/2019JB017727>, 2019.
12. Huang, G.-C. D., **Savvaidis, A.**, and Walter, J. I. *Mapping the 3D Lithospheric Structure of the Greater Permian Basin in West Texas and Southeast New Mexico for Earthquake Monitoring*, Journal of Geophysical Research: Solid Earth, 124. <https://doi.org/10.1029/2019JB018351>, 2019.
13. **Savvaidis, A.**, Young, B., Huang, D.-G., and Lomax, A. *TexNet: A Statewide Seismological Network in Texas*, Seismological Research Letters, 90 (4): 1702-1715, <https://doi.org/10.1785/0220180350>, 2019
14. **Savvaidis, A.**, Makra, K., Klimis, N., Zargli, E., Kiratzi, A., Theodoulidis, N., *Comparison of Vs30 using measured, assigned and proxy values in three cities of Northern Greece*. Engineering Geology, v. 239, p. 63-78, <https://doi.org/10.1016/j.enggeo.2018.03.003>, 2018.
15. Perron, V., Hollender, F., Mariscal, A., Theodoulidis, N., Andreou, Ch., Bard, P.-Y., Cornou, C., Cottureau, R., Cushing, E.M., Frau, A., Hok, S., Konidiaris, A., Langlaude, P., Laurendeau, A., **Savvaidis, A.**, Svay, A. *Accelerometer, Velocimeter Dense-Array, and Rotation Sensor Datasets from the Sinaps Postseismic Survey (Cephalonia 2014-2015 Aftershock Sequence)*. Seismological Research Letters, 89 (2A): 678-687, <https://doi.org/10.1785/02201170125>, 2018.
16. Papadopoulos, I., Papazachos, C., **Savvaidis, A.**, Theodoulidis, N., Vallianatos, F., *Seismic Response of the Broader Chania Basin Area (Southern Greece) from the Joint Evaluation of Ambient Noise and Earthquake Recordings*, Bulletin of Earthquake Engineering, 15, 3, p. 861-888, 03/2017.
17. Yan, P., Juanatey, M. A. G., Kalscheuer, T., Juhlin, C., Hedin, P., **Savvaidis, A.**, Lorenz, H., and Kuck, J., *A magnetotelluric investigation of the Scandinavian Caledonides in western Jamtland, Sweden, using the COSC borehole logs as prior information* Geophysical Journal International, v. 208, p. 1465-1489, <http://doi.org/10.1093/gji/ggw457>, 2017.
18. Rovithis, Em., Kirtas, Em., Bliziotis, D., Maltezos, E., Pitilakis, D., Makra, K., **Savvaidis, A.**, Karakostas, Ch. Lekidis, V., *A LiDAR-aided urban-scale assessment of soil-structure interaction effects: The case of Kalochori residential area (N. Greece)*. Bulletin of Earthquake Engineering, <http://doi.org/10.1007/s10518-017-0155-1>, 2017.
19. Autio, U., Smirnov, M. Yu., **Savvaidis, A.**, Soupios, P., Bastani, M., *Combining electromagnetic measurements in the Mygdonian sedimentary basin, Greece*, Journal of Applied Geophysics, Elsevier, Volume: 135 Special Issue, p. 261-269, DEC 2016.
20. Theodoulidis, N., Karakostas, Ch., Lekidis, V., Makra, K., Margaris, B., Morfidis, K., Papaioannou, Ch., Rovithis, Em., Salonikios, T., **Savvaidis, A.**, *The Cephalonia, Greece, January 26 (M6.1) and February 3, 2014 (M6.0) earthquakes: near-fault ground motion and effects on soil and structures*, Bulletin of Earthquake Engineering, 14, 1, p. 1-38, 2016.
21. Cherevatovaa, M., Smirnov, M.Yu, Jones, A.G., Pedersen, L.B., Becken, M., Biolik, M., Cherevatova, M., Ebbing, J., Gradmann, S., Gurk, M., Hbert, J., Jones, A.,G., Junge, A., Kamm, J., Korja, T., Lahti, I., Lwer, A., Nittinger, C., Pedersen, L.B., and **Savvaidis, A.**, *Magnetotelluric array data analysis from north-west Fennoscandia*, Tectonophysics, 653, 6, 1-19, June 2015
22. Stewart, J., Klimis, N., **Savvaidis, A.**, Theodoulidis, N., Zargli, E., Athanasopoulos, G., Pelekis, P., Mylonakis, G. and Margaris, B., *Compilation of a Local VS Profile Database and its Application 5 for Inference of VS30 from Geologic and Terrain-Based Proxies*, BSSA, 104, 6, p.2827-2841, 2014

23. Hannemann, K., Papazachos, C., Ohrnberger, M. **Savvaidis, A.**, Anthymidis, M., Lontsi, A., *3D shallow structure from high-frequency ambient noise tomography: New results for the Mygdonia basin-Euroseistest area*, Northern Greece, J. Geoph. Res. 10.1002/2013JB010914, 2014.
24. **Savvaidis, A.**, Margaritis, B., Theodoulidis, N., Lekidis, V., Karakostas, Ch., Loupasakis, C., Rozos, D., Soupios, P., Mangriotis, M.-D., Dikmen, U., Tsangaratos, P., Kokinou, E., Vafidis, A., Rondoyanni, Th., Kalogeras, I., Koutrakis, S., Sarris, A., Papadopoulos, N., *Geo-Characterization at selected accelerometric stations in Crete (Greece) and comparison of earthquake data recordings with EC8 elastic spectra*, C. Europ. J. of Geosciences, March 2014, Volume 6, Issue 1, pp 88-103 (DOI: 10.2478/s13533-012-0163-2). Erratum to: Geo-Characterization at selected accelerometric stations in Crete (Greece) and comparison of earthquake data recordings with EC8 elastic spectra, (DOI 10.1515/geo-2015-0010), 2014.
25. Margaritis, B., Kalogeras, I., Papaioannou, Ch., **Savvaidis, A.**, and Theodoulidis, N., *Evaluation of the national strong motion network in Greece: deployment, data processing and site characterization*, Bull. Earth. Engin, 12:237-254, 2014. DOI 10.1007/s10518-013-9580-y
26. Hobiger M., C. Cornou, M. Wathelet, G. Di Giulio, B. Knapmeyer-Endrun, F., Renalier, P.-Y. Bard, **A. Savvaidis**, S. Hailemichael, N. Le Bihan, M. Ohrnberger, N. Theodoulidis. *Ground structure imaging by inversions of Rayleigh wave ellipticity: sensitivity analysis and application to European strong-motion sites*, Geophysical Journal International, 192:1, 207-229, (2013) doi: 10.1093/gji/ggs005
27. Anthymidis M., Theodoulidis N., **Savvaidis A.**, Papazachos C. *Constraining site response and shallow geophysical structure by ambient noise measurements and 1D numerical simulations: The case of Grevena town (N. Greece)*, Bull. Earth. Engin, 10:1685-1716, 2012. DOI 10.1007/s10518-012-9378-3 (2012)
28. **Savvaidis, A.**, Smirnov, M., Tranos, M., Pedersen, L., and Chouliaras, G., *The seismically active Atalanti fault in Central Greece: a steeply dipping fault zone imaged from magnetotelluric data*, Tectonophysics, 554-557 (2012) 105113
29. Di Giulio, G., **Savvaidis, A.**, Ohrnberger, M., Wathelet, M., Cornou, C., Knapmeyer-Endrun, B., Renalier, F., Theodoulidis, N., and Bard., P.-Y., *Exploring the model space and ranking a best class of models in surface-wave dispersion inversion: Application at European strong-motion sites*, GEOPHYSICS, 77, 3, B147 - B166, 2012
30. Cadet, H., and **Savvaidis, A.**, *Comparative application of dispersion curve inversion strategies. Case study of noise arrays in the Euroseistest site*, Greece, Near Surface Geophysics, 9, 571-583, 2011, doi: 10.3997/1873-0604.2011043
31. Bastani M., **Savvaidis A.**, Pedersen L., and Kalscheuer T., *CSRMT measurements in the frequency range of 1-250 kHz to map a fault in the Volvi basin*, Greece, Journal of Applied Geophysics, 75, 180195, 2011
32. Renalier, F., Jongmans D., **Savvaidis A.**, Wathelet M., Endrun B., and Cornou C. *Influence of parameterization on inversion of surface wave dispersion curves and definition of an inversion strategy for sites with a strong Vs contrast*, GEOPHYSICS, 75, 6, B197 - B209, Nov-Dec 2010
33. Endrun, B., Ohrnberger M., and **Savvaidis A.**, *On the repeatability and consistency of three-component ambient vibration array measurements*, Bull Earthquake Eng, DOI 10.1007/s10518-009-9159-9 Volume 8, Number 3, 535-570, 2010
34. Margaritis, B., Athanasopoulos G., Mylonakis G., Papaioannou Ch., Klimis, N., Theodoulidis N., **Savvaidis A.**, Efthymiadou, N., and Stewart J., *The 8 June 2008 Mw6.5 Achaia-Elia, Greece Earthquake: Source Characteristics, Ground Motions, and Ground Failure*, Earthquake Spectra 26, 399-424, 2010

35. Bard P.Y., H. Cadet, B. Endrun, M. Hobiger, F. Renalier, N. Theodoulidis, M. Ohrnberger, D. Fh, F. Sabetta, P. Teves Costa, A.M. Duval, C. Cornou, B. Guillier, M. Wathelet, **A. Savvaidis**, A. Khler, J. Burjanek, V. Poggi, G. Gassner-Stamm, H.B. Havenith, S. Hailemichael, J. Almeida, I. Rodrigues, I. Veludo, C. Lacave, S. Thomassin, and M. Kristekova (2010). *From Non-invasive Site Characterization to Site Amplification: Recent Advances in the Use of Ambient Vibration Measurements*, Earthq. Engin. in Europe (eds: Ansal A. Garevski M.), Springer Sc. & Buss. Media, Vol 17, Ch. 5, 105-123, DOI 10.1007/978-481-9544-2-5
36. Drouet, S., Triantafyllidis, P., **Savvaidis, A.**, and Theodulidis, N., *Comparison of site effects estimation methods using the Lefkas (Greece) 2003 earthquake aftershocks*, Bulletin of the Seismological Society of America, Vol 98., No 5, pp 2349-2363, 2008
37. Theodulidis, N., Roumelioti, Z., Panou, A., **Savvaidis, A.**, Kiratzi, A., Grigoriadis, V., Dimitriou, P., and Xatzigogos, Th. *Retrospective Prediction of Macroseismic Intensities Using Strong Ground Motion Simulation: The Case of the 1978 Thessaloniki (Greece) Earthquake (M6.5)*, Bulletin of Earthquake Engineering, 4, 101-130, 2006
38. Panou, A.A., Theodulidis, N., Hatzidimitriou, M., **Savvaidis A.**, and Papazachos, C.B. *Reliability tests of horizontal-to-vertical spectral ratio based on ambient noise measurements in urban environment: The case of Thessaloniki city (Northern Greece)*, Pure and Applied Geophysics, 162, 891-912, 2005
39. Karakaisis, G.F., **Savvaidis, A.S.**, and Papazachos, C.B. *Time Variation of Parameters Related to the Accelerating Preshock Crustal Deformation in the Aegean Area*, Pure and Applied Geophysics, 160, 1479-1491, 2003
40. Pham, V.N., Boyer, D., Chouliaras, G., **Savvaidis, A.**, Stavrakakis, G., Le Mouel, J.L. *Sources of anomalous transient electric signals (ATESs) in the ULF band in the Lamia region (Central Greece): Electrochemical mechanisms for their generation*, Physics of the Earth and Planetary Interiors, 130, 209-233, 2002
41. **Savvaidis, A.**, Papazachos, C., Soupios, P., Galanis, O., Grammalidis, N., Saragiotis, Ch., Hadjileontiadis, L. and Panas, S. *Implementation of Additional Seismological Software for the Determination of Earthquakes Parameters Based on Matseis and an Automatic Phase Detector Algorithm*, Seismological Research Letters, Vol. 73, 1, 57-69, 2002.
42. Makris, J., **Savvaidis, A.** and Vallianatos, F. *MT-data analysis from a survey in the Mygdonia Basin (N. Greece)*, Annals of Geophysics, Vol. 45, N. 2, 303-311, 2002
43. Papazachos, B., **Savvaidis, A.**, Papazachos, C. and Karakaisis, G. *Precursory Seismic Crustal Deformation in the area of southern Albanides*, Journal of Seismology, 6, 237-245, 2002
44. Papazachos, B.C., **Savvaidis, A.S.**, Karakaisis, G.F., Papazachos, C.B. *Precursory accelerating seismic crustal deformation in the Northwestern Anatolia Fault Zone*, Tectonophysics, 347, 217-230, 2002
45. Papazachos, C., Karakaisis, G., **Savvaidis, A.**, and Papazachos, B. *Accelerating Seismic Crustal Deformation in the Southern Aegean Area*, Bulletin of the Seismological Society of America, Vol. 92, No. 2, 570-580, 2002
46. Karakaisis, G., Papazachos, C., **Savvaidis, A.** and Papazachos, B. *Accelerating seismic deformation in the North Aegean Trough*, Greece, Geophys. J. Int., 148, 193-200, 2002
47. **Savvaidis, A.**, Pedersen, L., Tsokas, G., and Dawes G. *Structure of the Mygdonia basin (N. Greece) inferred from MT and gravity data*. Tectonophysics, 317/1-2, 171-186, 2000
48. **Savvaidis, A.**, Tsokas, G., Papazachos, C., and Kondopoulou, D. *A Geophysical Study of the Ophiolite complex and the Sedimentary basins in the Northwest part of the Chalkidiki Peninsula (N. Greece)*, Surveys in Geophysics, 21, 567-595, 2000.

49. Papazachos, B., Papaioannou, Ch., Papazachos, C., and **Savvaidis, A.** *Rupture zones in the Aegean Area. Tectonophysics*, 308, 205-221, 1999.
50. Lachet, C., Hatzfeld, D., Bard, P-Y, Theodoulidis, N., Papaioannou, Ch., and **Savvaidis, A.** *Site Effects and Microzonation in the City of Thessaloniki (Greece): Comparison of Different Approaches.* Bulletin of the Seismological Society of America. 86/6: 1692-1703, 1996.

HONORS AND AWARDS

- At the recently held Walter Awards ceremony, on 20th of December 2019, as the Principal Investigator of the TexNet Seismic Observatory (TexNet) together with the co - Principal Investigator of the Center for Integrated Seismicity Research (CISR), I jointly received the Jackson School Outstanding Research Award. The Jackson School Outstanding Research Award “recognizes accomplishments by an individual or a team of faculty or scientists” and is presented after an extensive nomination and review process.
- Awarded the position of Geohazard Supersite Co-ordinator for the Greek Supersite in GEO GSNL (Group of Earth Observation - Geohazard Supersite and Natural Laboratories).
- Awarded the position of National Contact Point for the PEOPLE Work Program Marie Curie Actions funding, of the European Commission. Brussels, Belgium, December 2006 until December 2013
- I have been invited from the University of Oulu, to participate in the field campaign (June 2010) as well as in the processing of data under the framework of the project: “Three-dimensional structure and properties of the Fennoscandian lithosphere from electromagnetic magnetotelluric measurements. Multivariate analysis and three-dimensional inversion of synchronous electromagnetic array data”.
- The paper Savvaidis et al. (2013) entitled: “Geo-Characterization according to recent advances of Eurocode (EC8)”, Presented in the first Conference of Remote Sensing and Geoinformation of the Environment, (RSCy2013, 8-10th of April 2013, Paphos, Cyprus. Proc. of SPIE Vol. 8795 879513-1) received the title of Best Paper Award.
- I have been invited from the Swedish Geological Institute (SGU) to organise and acquire Magnetotelluric Measurements (2014) and to calculate geoelectrical models (2015) of the mining deposits of Kiruna mines. This project is a collaboration of SGU and LKAB Mining Corporation.
- I have been invited to participate in the project INTERPACIFIC (Intercomparison of methods for site parameter and velocity profile characterization) as an expert scientist in processing and inversion of active and passive surface wave data.
- As from 2005 I participate in the beta testing group of the Geopsy Software.
<http://www.geopsy.org/contributions.html>
This is an open source software that the user can process Microtremor, MASW and reflection data in order to reveal the Earth’s structure.

COMPUTER SKILLS

- **Geophysical Software:** Geopsy (<http://www.geopsy.org>), WinGLink, Geotools, GOCAD, Phoenix Geophysics MT Processing Software, RES2DINV, IPI2WIN MT, FDSim (Fortran95/OpenMPI), GEOSOFT OASIS montaj
- **Programming:** FORTRAN, C, Python, Unix shell scripts
- **Applications:** ArcGIS, MATLAB, Microsoft Office - \LaTeX , database, spreadsheet, and presentation software
- **Operating Systems:** Unix/Linux, Windows, MacOS

PROJECT
MANAGEMENT

- **Texas Seismological Network - TexNet** (January 2016 - Present).
- **Permanent Greek Geohazard Supersite** (May 2015 - April 2018).
- **Processing of Surface Wave Data and Tutoring in Surface Wave Data Analysis and Inversion** (2015)
- **Geotechnical Characterisation of selected sites in Crete Island by Using Geophysical and Geotechnical Methods** (2012-2015).
- **Comparative evaluation of Surface Geophysical Methods for the Specification of the Dynamic Properties of Soil at Sites of Earthquake recordings and Utilization for the Ground Motion Prediction Equations**(2012-2015).
- **INspired GEOdata CLOUD Services INGEOCLOUDS** (2012-2014).
- **Geophysical and Geotectonic properties of the Upper Crust using the Magnetotelluric Sounding Method in the area of Delvino, Albania** (2013).
- **Efficient high-frequency surface wave tomography for seismological site characterization** (2011).
- **International Transfer of Seismological Advanced Knowledge and Geophysical Research (ITSAK-GR)** (2006-2010).