

## **CURRICULUM VITAE**

(last update- 2024)



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## 1. Resume

Borned in Athens. I moved to Thessaloniki in 1993 when I was accepted in the School of Physics of Aristotle University of Thessaloniki (AUTH). I got my Degree in Physics in 2001 and was accepted in the Post Graduate Studies Program of School of Geology of AUTH after written examinations in the same year.

In 2004 I finished my studies and got my MSc Degree in Applied Geophysics and Seismology. In September of the same year I was accepted as a Phd student in Seismology. I supported my Thesis and got my PhD Degree in 2012.

Since the beginning of my postgraduate studies I have participated in several scientific programs of AUTH and other organizations.

I work as a staff seismologist of AUTH Seismological Network since 2006.

## 2. Research activity

### 2.1. Research interest

- Earthquake location and magnitude calculation from data analysis
- Focal mechanism calculation
- Stress inversion
- Time dependent seismicity
- Compilation of earthquake catalogues, calculation of seismic magnitude conversion equations
- Earthquake sequences
- Earthquake prediction
- Setting of temporary seismological networks, data collection and processing
- Use of Geophysical methods to study surficial layers of crust

### 2.2. Publications

I have published alone, or with collaboration with others, the following:

#### 2.2.1. Thesis

**2.2.1.1.** M.Sc. Thesis, **Ioanna Karagianni**, "*Intraplate earthquakes: The case of the strong (Mw=7.6) earthquake of India in 26 of January, 2001*", approved by the Geology School of AUTH, pages 116, 2004.

**2.2.1.2.** PhD Thesis, **Ioanna Karagianni**, "*Active Tectonics and Space-Time dependent Seismicity in the region of Central Asia*", approved by the Geology School of AUTH, pages 208, 2012.

#### 2.2.2. Conference Presentations

**2.2.2.1.** **Karagianni, I.**, Papazachos, C., Scordilis, E., Karakaisis, G. and A. Kiratzi. Accelerating seismic crustal deformation before recent strong earthquakes in the broader Himalayas area: Indications for the precursory behaviour of Interplate and intraplate mainshocks. Presented in "ESC subcommision on earthquake prediction, 1<sup>0</sup> workshop on earthquake prediction", Athens, Greece, 6-7 November 2003.

**2.2.2.2.** Paul, A., Hatzfeld, D., Karabulut, H., Hatzidimitriou, P., Childs, D., Nikolova, S., Pequegnat, C., Hubans, F., Schmid, A., Aktar, M., Mutlu, A., Afağan, T., Ozakin, Y., Samut, D., Papazachos, C., **Karagianni, I.**, Kementztzidou, D., Karagianni, E., Roumeloti, Z., Vamvakaris, D., Scordilis, E., and H. Lyon-Caen. The SIMBAAD Experiment in W-Turkey and Greece: A Dense Seismic Network to Study the Crustal and Mantle Structures. Presented in “The A.G.U. Fall meeting”, San Francisco - USA, December 2008.

**2.2.2.3.** Paul, A., Hatzfeld, D., Karabulut, H., Hatzidimitriou, P., Childs, D., Nikolova, S., Pequegnat, C., Hubans, F., Schmid, A., Aktar, M., Mutlu, A., Afağan, T., Ozakin, Y., Samut, D., Papazachos, C., **Karagianni, I.**, Kementztzidou, D., Karagianni, E., Roumeloti, Z., Vamvakaris, D., Scordilis, E., and H. Lyon-Caen. The SIMBAAD Experiment in W-Turkey and Greece: A Dense Seismic Network to Study the Crustal and Mantle Structures. Presented in “The 35th General Assembly of the IASPEI”, Cape Town – South Africa, January 2009.

**2.2.2.4.** Paul, A., Mansour, W., Hatzfeld, D., Karabulut, H., Childs, D., Pequegnat, C., Hatzidimitriou, P., Afağan, T., Aktar, M., Bourova-Flin, K., Dimitrova, L., Hubans, F., Kementztzidou, D., Karagianni, E., **Karagianni, I.**, Komec-Mutlu, A., Ozakin, Y., Papazachos, C., Scordilis, M., Roussel, S., Salaun, G., Samut, D. and Vamvakaris, D.. Mantle flow in the Aegea-Anatolia region imaged by SKS splitting measurements. Geophysical Research Abstracts, EGU General Assembly, vol. 12, EGU2010-8807-1, 2010.

**2.2.2.5.** Hubans, F., Paul, A., Campillo, M., Karabulut, H., Hatzidimitriou, P., Afağan, T., Aktar, M., Bourova-Flin, K., Childs, D., Dimitrova, L., Hatzfeld, D., Karagianni, E., **Karagianni, I.**, Kementztzidou, D., Komec-Mutlu, A., Ozakin, Y., Papazachos, C., Pequegnat, C., Roussel, S., Salaun, G., Scordilis, M. and Vamvakaris, D.. Crustal tomography of the Aegean- Anatolian domain using noise cross-correlations. Geophysical Research Abstracts, EGU General Assembly, vol. 12, EGU2010-9362-3, 2010.

**2.2.2.6.** Salaun, G., Paul, A., Pedersen, H., Karabulut, H., Hatzidimitriou, P., Farra, V., Afağan, T., Aktar, M., Bourova-Flin, K., Childs, D., Dimitrova, L., Hatzfeld, D., Hubans, F., Karagianni, E., **Karagianni, I.**, Kementztzidou, D., Komec-Mutlu, A., Ozakin, Y., Papazachos, C., Pequegnat, C., Roussel, S., Samut, D., Scordilis, M., and Vamvakaris D.. A low-velocity mantle beneath SW Anatolia imaged from surface waves: hint of a wide slab tear? Geophysical Research Abstracts, EGU General Assembly, vol. 12, EGU2010-9360-1, 2010.

### **2.2.3. Published Papers**

**2.2.3.1.** Gwenaëlle Salaun, Helle A. Pedersen, Anne Paul, V´eronique Farra, Hayrullah Karabulut, Denis Hatzfeld, Costas Papazachos, Dean M. Childs, Catherine Pequegnat, T. Afağan, M. Aktar, E. Bourova-Flin, D. Cambaz, P. Hatzidimitriou, F. Hubans de, D. Kementztzidou, E. Karagianni, **I. Karagianni**, A. Komec Mutlu, L. Dimitrova, Y. Ozakin, S. Roussel, M. Scordilis, D. Vamvakaris. High-resolution surface wave tomography beneath the Aegean-Anatolia region: constraints on upper-mantle structure, *Geophysical Journal International*, Vol 190, Issue 1, p. 406-420, doi: 10.1111, 2012.

**2.2.3.2. I. Karagianni**, C. B. Papazachos, E. M. Scordilis & G. F. Karakaisis. Reviewing the active stress field in Central Asia by using a modified stress tensor approach. *J. of Seismology*, vol.19, 541-565, 2015, doi: 10.1007/s10950-015-9481-4.

**2.2.3.3** Vasileios Karakostas, Constantinos Papazachos, Eleftheria Papadimitriou, Michael Foumelis, Anastasia Kiratzi, Christos Pikridas, Anastasios Kostoglou, Charalambos Kkallas, Nikolaos Chatzis, Stylianos Bitharis, Alexandros Chatzipetros, Aristidis Fotiou, Chrisanthi Ventouzi, Eleni Karagianni, Pavlos Bonatis, Christos Kourouklas, Parthena Paradisopoulou, Emmanouil Scordilis, Domenikos Vamvakaris, Ioannis Grendas, Despoina Kementzetzidou, Areti Panou, George Karakaisis, **Ioanna Karagianni**, Panagiotis Hatzidimitriou, Odysseas Galanis. THE MARCH 2021 TYRNAVOS, CENTRAL GREECE, DOUBLET (MW6.3 and MW6.0): AFTERSHOCK RELOCATION, FAULTING DETAILS, COSEISMIC SLIP and DEFORMATION, *BGS*, vol.58, 131-178, 2021, doi: <http://dx.doi.org/10.12681/bgsg.27237>

#### **2.2.3.4**

Eleftheria Papadimitiou , Vasileios Karakostas , Constantinos Papazachos, Michael Foumelis, Anastasia Kiratzi, Christos Pikridas, Pavlos Bonatis , Anastasios Kostoglou, Christos Kourouklas , Emmanuel Scordilis, Stylianos Bitharis , Parthena Paradisopoulou, Areti Panou, Odysseas Galanis , Eleni Karagianni, Domenikos Vamvakaris, Ioanna Karagianni, Charalambos Kkallas, Nikolaos Chatzis, Alexandros Chatzipetros, Aristidis Fotiou , Chrisanthi Ventouzi, Ioannis Grendas , Despoina Kementzetzidou, George Karakaisis and Panagiotis Hatzidimitriou. The seismogenic structure of March 2021 Tyrnavos (central Greece) doublet (  $M_w$  6.3 and  $M_w$  6.0), constrained by aftershock locations and geodetic data, *GJI*, vol 235, 644-689, 2023, doi: <https://doi.org/10.1093/gji/ggad253>

#### **2.2.4 Posters**

**2.2.4.1** Paradisopoulou, P., Karagianni, E., Galanis, O., Karagianni, I., Panou, A., Vamvakaris, D., Kementzetzidou, D., Karakostas, V., Papadimitriou, E.E. Cascading occurrence of moderate magnitude seismicity in the active fault system of Thiva (central Greece). *EGU 2023*

**2.2.4.2** P. Paradisopoulou & I. Karagianni, 2023. Earthquake Detection and Rapid Notification in Kefalonia island (Greece): A Machine Learning Approach

#### **2.3. Workshops/Seminars**

**2.3.1.** “ESC subcommission on earthquake prediction, 1<sup>st</sup> workshop on earthquake prediction”, Athens, Greece, 6-7 November 2003.

**2.3.2.** “10<sup>0</sup> International Congress of the Geological Society of Greece”, Thessaloniki, Greece, 15-17 April, 2004.

**2.3.3.** “Meeting for Earthquakes and Protection – Research results”, Thessaloniki, Greece, January 18,2007.

**2.3.4.** “Workshop on the Point and Kinematic source inversion using the Kiwi tools” Hamburg, Germany, 19-20 November, 2009.

**2.3.5.** “Training Course on Seismic Risk Assessment in Specific Areas with Monumental Structures”, Athens, Greece, 6-10 December 2010.

**2.3.6.** “Basin and Petroleum Systems Modelling”, Thessaloniki, Greece, March 26, 2013.

**2.3.7.** “colMOOC – Programming in Python for non-programmers”, 5 week seminar, March-April 2020.

## **2.4. Participation in research projects**

**2.4.1.** Site effect studies using ambient excitations - SESAME (by I.T.S.A.K.)  
Organization: I.T.Σ.A.K. (2002)

**2.4.2.** Completed system for seismic risk observation and management at the Hellenic arc. Application in cities of Chania and Iraklion. (2007)

**2.4.3.** SIMBAAD (Seismic Imaging of the Mandle in the Aegean-Anatolian Domain)  
Organization: AUTH (2009)

**2.4.4.** Participation of the Geophysical Laboratory of AUTH to the operation of the Hellenic Unified Seismologic Network.  
Organization: AUTH

**2.4.5.** Seismicity and Seismotectonic study of the Anargyroi - Fanos area.  
Organization: AUTH

**2.4.6.** Installation and operation of a permanent seismological station at the Kastoria Prefecture.  
Organization: AUTH

**2.4.7.** Establishment and operation of a permanent digital seismologic station at Kavala prefecture.  
Organization: AUTH

**2.4.8.** Upgrade of the seismologic network of the Geophysical Laboratory, AUTH.  
Organization: AUTH

**2.4.9.** HELPOS- Hellenic Plate Observing System.  
Organization: AUTH (2017)

## **2.5. Other research activities**

**2.5.1. Monitoring the seismic activity of the broader region of Greece**

Since 2001, as a member of the scientific staff of AUTH Seismological Network, I participate in the seismic activity monitoring of Greece and its surroundings. Acting in this capacity, when I am on watch, I am responsible for the seismic data analysis, calculation of seismic parameters for the occurring events, as well as the formal announcements on behalf of AUTH network in case of strong earthquakes.

### **2.5.2 Focal mechanism solutions**

I am responsible for the calculation of focal mechanism solutions in case of strong earthquakes. This procedure requires the use of specialized scientific packages (TDMT, Dreger and Helmberger 1993/ISOLA, Sokos and Zahradnick 2007). The results are published in the webpage of AUTH Seismological Network as well as in EMSC.

### **2.5.3. Monthly earthquake reports**

I also participate in the inspection and correction of daily data analysis and the compilation of the Monthly earthquake reports published by AUTH Seismological Network.

## **3. Teaching activity**

### **3.1. 2002-present: Teaching assistant to undergraduate courses.**

- Physics of the Lithosphere, 3<sup>rd</sup> semester, School of Geology, AUTH (2002-2003/ 2003-2004/ 2015-2016/ 2017-2018/ 2018-2019/ 2019-2020/ 2020-2021)
- Introduction to Geophysics, 4<sup>th</sup> semester, School of Geology, AUTH (2002-2003/ 2003-2004/ 2004-2005/ 2005-2006/ 2007-2007/ 2008-2009/ 2009-2010/ 2012-2013/ 2013-2014/ 2016-2017/ 2017-2018/ 2019-2020/ 2020-2021)
- Introduction to Seismology, 2<sup>nd</sup> semester, School of Geology, AUTH (2004-2005/ 2005-2006/ 2006-2007/ 2007-2008/ 2008-2009/ 2009-2010)
- Seismic Methods of Geophysical Prospection, 4<sup>th</sup> semester, School of Geology, AUTH (2012-2013/ 2013-2014/ 2014-2015/ 2016-2017/ 2017-2018/ 2018-2019/ 2019-2020/ 2020-2021)

### **3.2. 2021-present: Teaching to postgraduate courses.**

- Geostatistics (Matlab), 1<sup>st</sup> semester, School of Geology-DPSP in “Applied and Enviromental Geology”, AUTH (2021-2022/ 2022-2023/ 2023-2024)

### **3.3. Field trip with students practicing in Geophysical methods.**

### **3.4. Supervision of bachelor’s thesis for undergraduate students.**

### **3.5. Supervision of Master’s thesis for postgraduate students.**

## **4. Visits/Training abroad**

### **4.1. (2023) ERASMUS +, visited organization: EMSC, Paris, France.**

## **5. Other qualifications**

For several years I was in charge of continues recording data storage of the Seismological Network of Thessaloniki.

I give educational lectures to students of all ages regarding AUTH Seismological Network, seismicity in Greece, Seismology science, protection measurements in case of strong earthquakes.

I can work with several specified scientific packages concerning seismic data processing and interpretation, and have basic programing skills in FORTRAN, UNIX, LINUX, MATLAB, PYTHON.

### **5.1. Foreign Languages**

English (Proficiency of Michigan, First Certificate of Cambridge)