

PERSONAL INFORMATION Theodoros Aspiotis

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- www.seismology.gr

Date of birth: 14 / 08 / 1987

CURRENT POSITION

PhD. Student in Seismology at KAUST (CES Team).

WORK EXPERIENCE

- 2014 Student internship at the National Observatory of Athens. Duration: 06/2014 ~ 08/2014.
- 2015 National and Kapodistrian University of Athens. Seismic signal analysis. Seismological Laboratory. Duration: From 01/2015 to 12/2017.
- 2016 Creation of a team of excellence at the National Observatory of Athens, Geodynamic Institute, for the research and seismic monitoring of Kefalonia and the wider Ionian Islands, from Kefalonia to Pylos with the aim of improving the anti-seismic Protection. Project duration: From 05/2016 to 06/2016.
- 2016 National Observatory of Athens. " Development of innovative techniques for recording precursor of earthquake events in the Peloponnese area RADONS " Android Application. Project duration: From 11/2016 to 12/2016.

Geophysical survey of Seismic Cross hole tomography for METRO SA.

- 2016 Field work in an effort to extend the underground train network from Athens to Piraeus port. Project duration: From 06/2016 to 09/2016. <u>https://www.ametro.gr/?lang=en</u>
- 2016 Feasibility study for the eastern Mediterranean natural gas pipeline EAST-MED. 1~5/2016
- 2016 Landtech Geophysics Ltd. Project Duration: From 04/2016 to 12/2016. here
- 2017 Seismic Hazard Study for gas distribution company EDATHESS <u>https://www.edathess.gr/en/</u>. Project duration: From 05/2017 to 06/2017.
- GEORISK Development of Infrastructure and Services through Excellence Actions to Reduce the Impact of Geodynamic Risks. Project duration: From 02/2018 to 09/2018.
- HELPOS-Greek Lithosphere Observation System. National Observatory of Athens Project duration: From 07/2018 to 02/2020.
- 2019 Study of seismicity and seismic hazard in the western Corinth gulf for Oil Company of Greece. Project Duration: From 07/2019 to 01/2020. <u>https://www.helpe.gr/en/</u>
- 2020 ARIS Early Warning System. National and Kapodistrian University of Athens. Collaboration with Motor Oil Comp. Project duration: From 01/2020 to 08/2020.



EDUCATION AND TRAINING

 2016 National and Kapodistrian University of Athens Bachelor of Science. Geology and Geoenvironment. Major in Seismology and Geophysics.
 Degree: 7.8 / 10 Third place among graduates.

> National and Kapodistrian University of Athens Postgraduate studies MSc. Seismology

Degree: 9,8 / 10 «Excellent» First place among graduates.

PERSONAL SKILLS

2020

- o Seminars of CUDA technology for GPU multi core processing (C, Python) and Deep Learning via Matlab.
- o Excellent programming knowledge in Matlab, Java (Android Developer), PHP, HTML, XML, CSS and SQL.
- Basic knowledge of Python, Julia, C++ and LaTeX.
- Excellent Knowledge of Seiscomp3, NonLinLoc, Hypo Inverse, PQL, Sac, GIS, Surfer and Bernese.
- o Excellent knowledge of Windows and Linux O.S. Server with linux O.S. Raspberry ARM architecture.
- Development of online applications using Google Maps Api (Java PHP HTML SQL).

Digital skills	SELF-ASSESSMENT						
	Information processing	Communication	Content creation	Safety	Problem solving		
	PROFICIENT USER	MODERATE USER	PROFICIENT USER	PROFICIENT USER	PROFICIENT USER		

- Proficient user of office suite (word processor, spread sheet, presentation software) ECDL CORE
- Proficient user of photo editing software

- Software development (Matlab, Java and Server side via PHP - SQL).

Other skills

Cycling with my folding 26" bicycle at the seaside road of Athens. Playing guitar.

- Backyard Astrophotography Sun observing Image analysis (Newtonian telescope with f5.0).
- Server Administrator of seismology.gr, seismology.eu and admin of Complexity summer school 2020 Chania Crete. <u>http://complexity2020.deansos.uoa.gr/</u>

Driving licence B



Publications Presentations Conferences Seminars

Dynamical evolution of the seismic coda wave increments during the 2011-2012 Santorini's caldera unrest. A Non-Extensive Statistical Physics approach.

Theodoros Aspiotis(1), Ioannis Koutalonis(1,2), Georgios Michas(1,2), and Filippos Valianatos(1,2) (1)School of Sciences, Faculty of Geology and Geoenvironment, Department of Geophysics—Geothermics, National and Kapodistrian University of Athens, University Campus, Panepistmiopolis, GR 15784 Athens, Greece (2)UNESCO Chair on Solid Earth Physics and Geohazards Risk Reduction, Hellenic Mediterranean University, Crete, GR 73133

Chania, Greece EGU2020-8190 EGU General Assembly 2020

Automatic S-wave picking based on time-frequency analysis for passive seismic applications

V. Karastathis, T. Aspiotis, G-Akis Tselentis, National Observatory of Athens, Nick Russill, LandtechS.A.

A Non-Extensive Statistical Physics approach to volcanic seismic coda waves increments during periods of volcanic unrest. Theodoros Aspiotis(1), Ioannis Koutalonis(1,2), Filippos Vallianatos(1,2)

 School of Sciences, Faculty of Geology and Geoenvironment, Department of Geophysics—Geothermics, National and Kapodistrian University of Athens, University Campus, Panepistmiopolis, GR 15784 Athens, Greece
 UNESCO Chair on Solid Earth Physics and Geohazards Risk Reduction, Hellenic Mediterranean University, Crete, GR 73133 Chania, Greece
 Cities on Volcanoes 11-COV11, 2020

A pilot study of the Earthquake Precursors in the Southwest Peloponnes, Greece

Adam Porter Velez1, Kanaris Tsinganos2, Vassilios K Karastathis2, Menas Kafatos3, Dimitar Ouzounov3, Gerassimos A Papadopoulos4, Akis Tselentis5, Evangelos Mouzakiotis4, Fevronia Gika6, Thodoris Aspiotis2, Spyros Liakopoulos4, Georgios Eleftheriou7 and Nikos Voulgaris8, (1)Chapman University, Orange, CA, United States, (2)National Observatory of Athens, Athens, Greece, (3)Chapman University, CEESMO, Orange, CA, United States, (4)National Observatory of Athens, Institute of Geodynamics, Athens, Greece, (5)national observatory athens, athens, Greece, (6)Patras Seismological Laboratory, Patras, Greece, (7)National Technical University of Athens (NTUA), Marousi Athens,Greece, (8)NKUA,athens,Greece AGU2016 Paper191454

An integrated observational site for monitoring pre-earthquake processes in Peloponnese, Greece. Preliminary results. K. Tsinganos 1, V.K. Karastathis 1, M. Kafatos 2, D. Ouzounov 2, G. A. Tselentis 1, G.A. Papadopoulos 1, N. Voulgaris 3, G.

Eleftheriou 1 , E. Mouzakiotis 1 , S. Liakopoulos 1 , T. Aspiotis 1 , F. Gika 1 , V. Psiloglou 1 National Observatory of Athens 2 CEESMO, Chapman University 3 University of Athens EGU2017-17097

New Radon observations in Peloponnese, Greece as part of integrated monitoring system to study pre-earthquake processes

Vassilios K Karastathis (1), Kanaris Tsinganos (1,3), Menas Kafatos (2), Georgios Elefteriou (1), Dimitar Ouzounov (2), Theodoros Aspiotis (1), Gerassimos Tselentis (1,3)

(1) National Observatory of Athens, Institute of Geodynamics, Athens, Greece (2) CEESMO, Chapman University, Orange CA, USA (3) National and Kapodistrian University of Athens, Athens, Greece

EGU2017-19086

Advanced Passive Seismic Tomography techniques on reservoir and complex anticline structures delineation in West Papua Nick Russill and Rob McDonald, LandTech-Geophysics, UK

G-Akis Tselentis, Section of Geophysics and Geothermy, University of Athens, Greece Vassilis Karastathis, Sotiris Sboras, Teo Aspiotis and Evangelos Mouzakiotis, Institute of Geodynamics, Greece Muhammad Wafid, Arie Kusniadi, Edy Slameto and Marjiono, PSG, Indonesia Antoni Lee and Muhammad Sani Phoenix Geosystems, Indonesia

Preliminary report on the Lesvos 12 June 2017 Mw=6.3 earthquake

Papadimitriou P., Tselentis G.A., Voulgaris N., Kouskouna V., Lagios E., Kassaras I., Kaviris G., Pavlou K., Sakkas V., Karakonstantis A., Kapetanidis V., Sakkas G., Kazantzidou D., Aspiotis T., Fountoulakis I., Millas C., Spingos I., Lekkas E., Antoniou V., Mavroulis S., Skourtsos E., Andreadakis E. National and Kapodistrian University of Athens_

The 12th June 2017 Mw=6.3 Lesvos earthquake from detailed seismological observations

Panayotis Papadimitriou, Ioannis Kassaras, George Kaviris, Gerasimos-Akis Tselentis, Nicholas Voulgaris, Efthimios Lekkas, Gerasimos Chouliaras, Christos Evangelidis, Kyriaki Pavlou, Vasileios Kapetanidis, Andreas Karakonstantis, Danai Kazantzidou-Firtinidou, Ioannis Fountoulakis, Christos Millas, Ioannis Spingos, Theodoros Aspiotis, Aliki Moumoulidou, Emmanouel Skourtsos, Varvara Antoniou, Emmanouel Andreadakis, Spyridon Mavroulis, Maria Kleanthi

Two years of continuous radon observations for a pre-earthquake processes monitoring in Peloponnese, Greece.

Vassilios Karastathis (1), Kanaris Tsinganos (1,2), Menas Kafatos (3), Akis Tselentis (1,2), George Eleftheriou (1), Dimitar Ouzounov (3), Evangelos Mouzakiotis (1), and Theodoros Aspiotis (1) (1) National Observatory of Athens, Institute of Geodynamics, Athens, Greece, (2) National and Kapodistrian University of Athens, Athens, Greece, (3) CEESMO, Chapman University, Orange CA, USA

An Integrated Monitoring System of Pre-earthquake Processes in Peloponnese, Greece

Vassilios K Karastathis, Kanaris Tsinganos, Menas Kafatos, Georgios Eleftheriou, Dimitar Ouzounov, Evangelos Mouzakiotis, Gerassimos A Papadopoulos, Nikos Voulgaris, Gian Maria Bocchini, Spyros Liakopoulos, Thodoris Aspiotis, Fevronia Gika, Akis Tselentis, A Moshou, B Psiloglou





PhD-related skills •Seiscomp3 Server Administrator for Seismic signal Analysis through the Scolv Plugin on a Local Seismograph Array Network in the Southwest of the Greek Arch. (2016 - 2019) Supervisor Professor G. A. Tselentis.

•Matlab software developing "baMap" (2015) <u>here</u> and <u>here</u> Development of statistical analysis software for seismic catalogues in collaboration with NOA and NKUA. Supervisor Prof. I. Baskoutas.

-Server side. SQL - PHP seismic database. (2015) <u>here</u> EarthQuake database in collaboration with seismic analysis data of the Geophysics and Geothermics department. Supervisor Prof. G. A. Tselentis.

•Server side. SQL – PHP seismic database (2016) <u>here</u> Seismic & Geophysical database on the server of the Geodynamic Institute of National Observatory of Athens in order to improve the anti-seismic shielding of KEFALLONIA island. Supervisor Professor G. A. Tselentis.

•Matlab software developing "Quake Analysis" (2016) (<u>here</u>) (<u>here</u>) National and Kapodistrian University of Athens. BSc. Thesis. Supervisor Professor of Seismology P. Papadimitriou.

•Java - PHP - SQL Quadon Android App . (2017) (<u>here</u>) Quadon software development in JAVA - PHP - SQL environments, as part of the project " Development of innovative techniques to capture precursor earthquakes in the southwestern Peloponnese - RADONS " Supervisor Professor G. A. Tselentis.

•Matlab & Python software 'SeisComPlex' (2020) <u>here</u> and <u>here</u> National and Kapodistrian University of Athens. Msc Thesis. Supervisor: Professor F. Vallianatos

- 1) Filtering and Deconvolution of mseed and/or sac.
- 2) Signal Analysis Micro Event Detection by implementing STFT (Gabor transform), SNR, STA/LTA and Hilbert transformation.
- 3) Cut events from 24h waveforms with absolute time set by the user.
- 4) Non-Linear regression of coda waves, seismic noise and multi time windows increments, in order to retrieve Tsallis Entropy via the implementation of NoN-Extensive Statistical Mechanics theory.
- 5) Automatic procedure for analysing signal in order to estimate the q and q_s entropic indices.
- 6) Saving results in a Database scheme compatible with GIS, Matlab and Ms. Office (Binary and ascii format).
- Administrator of <u>seismology.gr</u>, seismology.eu and <u>http://complexity2020.deansos.uoa.gr/</u>
- Google Play Developer since 2019
 (<u>https://play.google.com/store/apps/developer?id=Ted+Aspiotis</u>)



ANNEXES

EGU3076, 2020

EGU2020-8190, updated on 26 Mar 2020 https://doi.org/10.5194/egusphere-egu2020-8190 EGU General Assembly 2020 © Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.



Dynamical evolution of the seismic coda wave increments during the 2011-2012 Santorini's caldera unrest. A Non-Extensive Statistical Physics approach.

Theodoros Aspiotis¹, Ioannis Koutalonis^{1,2}, Georgios Michas^{1,2}, and **Filippos Valianatos**^{1,2} ¹School of Sdences, Faculty of Geology and Geoenvironment, Department of Geophysics—Geothermics, National and Kapodistrian University of Athens, University Campus, Panepistmiopolis, GR 15784 Athens, Greece ²UNESCO Chair on Solid Earth Physics and Geohazards Risk Reduction, Hellenic Mediterranean University, Crete, GR 73133 Chania, Greece

Santorini's caldera being unrest during 2011-2012, led several studies to raise the important question of whether seismicity is associated with an impending and potential volcanic eruption or it solely relieves the accumulated tectonic energy. In the present work we study seismic coda waves generated by local earthquake events prior, during and after the seismic crisis that occurred within the caldera area. Coda waves are interpreted as scattered seismic waves generated by heterogeneities within the Earth, i.e. by faults, fractures, velocity and/or density boundaries and anomalies, etc. In particular, we utilize the three components of the seismograms recorded by three seismological stations on the island of Santorini and estimate the duration of the coda waves by implementing a three step procedure that includes the signal-to-noise ratio, the STA/LTA method and the short time Fourier transform. The final estimation was verified or reestimated manually due to the existent ambient seismic noise. Due to the nature and the path complexity of the coda waves and towards achieving a unified framework for the study of the immerse geostructural seismotectonic complexity of the Santorini volcanic complex, we use Non-Extensive Statistical Physics (NESP) to study the probability distribution functions (pdfs) of the increments of seismic coda waves. NESP forms a generalization of the Boltzmann-Gibbs statistical mechanics, that has been extensively used for the analysis of semi-chaotic systems that exhibit long-range interactions, memory effects and multi-fractality. The analysis and results demonstrate that the seismic coda waves increments deviate from the Gaussian shape and their respective pdfs could adequately be described and processed by the q-Gaussian distribution. Furthermore and in order to investigate the dynamical structure of the volcanic-tectonic activity, we estimate the q-indices derived from the pdfs of the coda wave time series increments during the period 2009 - 2014 and present their variations as a function of time and as a function of the local magnitude (ML) of the events prior, during and after the caldera unrest.

Acknowledgments. We acknowledge support by the project "HELPOS – Hellenic System for Lithosphere Monitoring" (MIS 5002697) which is implemented under the Action "Reinforcement of



Automatic S-wave picking based on time-frequency analysis for passive seismic applications.

The most critical step for a successful passive seismic data analysis is the arrival time picking of the P- and S-wave phases. In fact at this stage, any other relative information from the raw data is absolutely removed from the next steps. It is clear that the final result is significantly based on the accuracy of the arrival picking, particularly when we deal with microseismic data for structural and lithological investigation employing passive seismic tomography methodologies. In many areas of PST applications, the seismicity rate can be particularly high, and in case of a dense local network installation of e.g. 80 stations or more in a few square kilometers area, the number of the expected wave phases can rise to hundreds of thousands. Such a number of events can make the method costly if there are no systems for automatic event selection and picking of pand s-wave arrivals. The automatic picks can be afterward revised and corrected by the seismologists. It is a common sense, however, that the automatic techniques are particularly sensitive to the presence of noise. Nevertheless, their important advantage is the absolutely unbiased way of identifying the arrival times using specific objective criteria. In recent years, several auto-picking methodologies have been proposed based on kurtosis, scewness, eigenvalue, AIC, cross-correlation and other tools. However, most of them face significant problems in detecting the S-waves arrivals in very noisy waveforms. The development of the autopicking algorithms has been encouraged by the need for real-time processing and automatic event location. For the P-wave arrival time picking the most of the automatic techniques mentioned are extensively used with satisfactory results. The onset of a seismic event i.e. the Pwave arrival time can be clearly noticed if the seismometer was idle before and the noise level was low. However, its not the same for the case of the shear waves, since these always follow the P-waves. Even more if there are modeconverted PS waves just ahead. The only probably effective approach for the discrimination of the S-wave is the consideration and examination of the frequency content. This inspection can be achieved by applying timefrequency analysis. The time-frequency analysis is usually performed by different transformations and techniques such as Short Time Fourier Transform (STFT), Gabor Transform, Wigner-Ville distribution (WVD), Continuous Wavelet Transform (CWT), S-transform etc. Our aim in this investigation was to distinguish the various phases of the body waves in microseismicity data through the implementation of these spectral analysis tools and attempt an automatic detection of the P- and S-waves arrivals by developing an auto-picking system. Actually, the time frequency analysis is exactly what the seismologist unconsciously performs during the S-wave picking and it is fully compatible with the human behavior and criteria. Even in highly noisy data an experienced seismologist is able to distinguish the arrival of the Swaves because he actually tries to recognize a change in the frequency and the energy content of the waveform. Nevertheless, the most extensively used practice behind the creation of autopicking tools for the discrimination of the P and S-wave onset detection has been mainly based on different characteristics of the waveforms. Usually the discrimination is based on the simultaneous assessment of the horizontal and the vertical polarization as this is expressed by the ratio of the P-waves and S-waves amplitudes records in horizontal and vertical components of the waveform data. Additionally, the accuracy of the pick selection of the onset is mainly based on the abrupt increase of the amplitude values. This is detected with STA/LTA techniques, Kurtosis etc.

SEG Technical Program Expanded Abstracts 2016

A pilot study of the Earthquake Precursors in the Southwest Peloponnes, Greece

A seismic array of the most contemporary technology has been recently installed in the area of Southwest Peloponnese, Greece, an area well known for its high seismic activity. The tectonic regime of the Hellenic arc was the reason for many lethal earthquakes with considerable damage to the broader area of East Mediterranean sea. The seismic array is based on nine 32-bit stations with broadband borehole seismometers. The seismogenic region, monitored by the array, is offshore. At this place the earthquake location suffers by poor azimuthal coverage and the stations of the national seismic network are very distant to this area. Therefore, the existing network cannot effectively monitor the microseismicity. The new array achieved a detailed monitoring of the small events dropping considerably the magnitude of completeness. The detectability of the microearthquakes has been drastically improved permitting so the statistical assessment of earthquake sequences in the area. In parallel the monitored synce yence yence yence records for atmospheric corrections are also continuously recorded. According to the Lithosphere-Atmosphere-Ionosphere Coupling (LAIC) model atmospheric thermal anomalies observed before strong events can be attributed to increased radon concentration. This is also supported by the statistical analysis of AVHRR/NOAA-18 satellite thermal infrared (TIR) daily records. A combined study of precursor's signals is expected to provide a reliable assessment of their ability on short-term forecasting.

American Geophysical Union, Fall Meeting 2016, abstract #NH51C-1976



An integrated observational site for monitoring pre-earthquake processes in Peloponnese, Greece. Preliminary results.

We are presenting the first results of developing a new integrated observational site in Greece to study pre-earthquake processes in Peloponnese, lead by the National Observatory of Athens. We have developed a prototype of multiparameter network approach using an integrated system aimed at monitoring and thorough studies of pre-earthquake processes at the high seismicity area of the Western Hellenic Arc (SW Peloponnese, Greece). The initial prototype of the new observational systems consists of: (1) continuous real-time monitoring of Radon accumulation in the ground through a network of radon sensors, consisting of three gamma radiation detectors [Nal(TI) scintillators], (2) nine-station seismic array installed to detect and locate events of low magnitude (less than 1.0 R) in the offshore area of the Hellenic arc, (3) real-time weather monitoring systems (air temperature, relative humidity, precipitation, pressure) and (4) satellite thermal radiation from AVHRR/NOAA-18 polar orbit sensing. The first few moths of operations revealed a number of pre-seismic radon variation anomalies before several earthquakes (M>3.6). The radon increases systematically before the larger events. For example a radon anomaly was predominant before the event of Sep 28, M 5.0 (36.73°N, 21.87°E), 18 km ESE of Methoni. The seismic array assists in the evaluation of current seismicity and may yield identification of foreshock activity. Thermal anomalies in satellite images are also examined as an additional tool for evaluation and verification of the Radon increase. According to the Lithosphere-Atmosphere-Ionosphere Coupling (LAIC) concept, atmospheric thermal anomalies observed before large seismic events are associated with the increase of Radon concentration on the ground. Details about the integrating ground and space observations, overall performance of the observational sites, future plans in advancing the cooperation in observations will be discussed.

19th EGU General Assembly, EGU2017, proceedings from the conference held 23-28 April, 2017 in Vienna, Austria., p.17097

New Radon observations in Peloponnese, Greece as part of integrated monitoring system to study pre-earthquake processes

We developed a radon measurement network at the region of SW Peloponnese, Greece as part of an innovative integrated study of pre-earthquakes phenomena at the high seismicity area of the Western Hellenic Arc. The network consists of three gamma ray sensors for continuous real-time monitoring of radon accumulation in the ground installed at Methoni, Kyparissia and Zakynthos. All gamma ray sensors have been placed in the ground at a depth of 1 m. Local meteorological parameters for atmospheric corrections are also continuously monitored. Radon measurements are performed indirectly by means of gamma ray spectrometry of its radioactive progenies 214Pb and 214Bi (emitted at 351 keV and 609 keV, respectively). The first results reveal a number of precursor radon variation anomalies before several earthquakes (M>3.6) where the radon increases systematically before the larger events. Details of the radon measurements, statistics and overall analysis of observations will be discussed. We analyzed the radon time-series by statistical methodologies in order to indentify the anomalies patterns and characteristics. The influence of the background micrseismicity in the radon data was also studied. Details of the Radon measurements and integrated ground-space system, statistics and overall analysis of observations will be discussed.

19th EGU General Assembly, EGU2017, proceedings from the conference held 23-28 April, 2017 in Vienna, Austria., p.19086

Advanced passive seismic tomography techniques on reservoir and complex anticline structures delineation in West Papua

A complex anticlinic structure able to justify forming of potential reservoirs, in the Akimeugah Basin, East Indonesia, was delineated by using the passive seismic tomography (PST) method modified by implementing enhanced hypocentral location technique and having incorporated the contemporary seismic array technology. More specifically, an entirely innovative application of the principals of the seismic arrays' monitoring has been introduced in the processing sequence of the PST data, in order to further optimize the determination of the focal parameters of the small magnitude events, particularly those located with poor azimuthal coverage. The main concept has been originated by the fact that a small event can be usually recorded clearly (accurate Pand S-wave onsets) only by few neighboring stations. In the standard PST applications only these few adjacent stations are taken into account. In our modified version the other, remote peripheral stations, constitute small arrays and by using beamforming techniques, we can extract usable data that contribute to the hypocentral solutions. Particularly, for the microseismic events being located with large azimuthal gap, the array techniques improve the solutions, thus contributing to the reliability of the calculated velocity model. The study area of the Akimeugah Basin, lies at the southern side of the Central Range, western Irian Jaya (Bird's Neck), on a salient of the Australian continental lithosphere, near to the SW-NE-trending convergence of the Caroline/Pacific and Australian lithospheric plates. The oblique convergence has formed ramp anticline structures with flatramp thrusting, within an EW treading shear zone. The study area was flat and covered by recent deposits preventing the direct observation of the underlying structures. In the study area, 85-station network was installed with digitizers of 32-bit A/D events. We selected the stations' locations (Figure 1) mainly based on the access we had in the study area that was fully covered by vast jungle vegetat



was no any road inside the area, the stations were accessed only by the rivers and the sea.

SEG Technical Program Expanded Abstracts 2017

Preliminary report on the Lesvos 12 June 2017 Mw=6.3 earthquake

The Aegean Region is one of the most active seismically parts of the AlpineHimalayan Mountain Belt. The Aegean microplate is bounded by the western extension of the North Anatolian Fault to the north and the Hellenic Trench to the south (McKenzie, 1978; Mercier et al., 1989). NE Aegean is a well-known zone of active crustal extension, located south of the right-lateral North Anatolian Fault Zone (NAFZ), and above the Hellenic Trough where the oceanic lithosphere of Tethys is subducted under the Aegean continental one (e.g., Ketin, 1948; McKenzie, 1972, 1978; Dewey and Şengör, 1979; Le Pichon and Angelier, 1979, 1981; Sengör et al., 1985). GPS measurements and earthquake slip vectors revealed that the relative plate motions along the NAFZ (25 mm/yr W) and across the Hellenic Trench (40-50 mm/yr SW) cause diffuse extensive deformation in the back-arc region (Dewey and Sengör, 1979; Barka and Reilinger, 1997). The anomalously low elevated extension that prevails in the Aegean allows Anatolia to move with increasing velocity to the WSW, leading to the westward opening of Izmir Bay, which is bounded by parallel EW striking normal faults (Mascle and Martin, 1990). Several studies carried out by Hecht (1972, 1974a,b), Pe-Piper (1978), Katsikatsos et al. (1982, 1986), and Pe-Piper and Piper (1993) described the geology and provided the geological maps of Lesvos Island (Figure 1). The geology can be summarized as a basement composed of Alpine and pre-Alpine metamorphic rocks which were then covered by post-Alpine formations such as Miocene volcanic rocks and Neogene marine and lacustrine deposits (e.g. Migiros, 1992; Soulakellis et al., 2006). More specifically, Lesvos Island consists of an autochthonous and allochthonous unit as well as post-Alpine formations. The autochthonous unit consists of a series of upper Paleozoic formations over upper Triassic. It also consists of metaclastics, with lenses and interbedding of crystalline limestones and dolomites. The allochthonous units are separated mainly in two tectonic nappes: a) lower Triassic volcano-sedimentary formations and b) lower ophiolithic rocks. The tectonic evolution of Lesvos Island is affected by the general neotectonic evolution of the Aegean, which started in the Oligocene (15 Myr). Tectonic analysis of faults and microruptures of Lesvos Island (Hecht, 1974; Katsikatsos et al., 1982) revealed three main fault systems with the strike N40°-60°W, N30°-60°E and E-W, respectively. The NE oriented fault system prevails at the NE part of the island, while fault zones of NW and E-W direction are parallel to the orientation of the coast. The respective E-W trending faults appear to be the oldest structures in the area.

emsc-csem

The 12th June 2017 Mw = 6.3 Lesvos earthquake from detailed seismological observations

A major earthquake (Mwö=ö6.3) occurred on the 12th of June 2017 (12:28 GMT) offshore, south of the SE coast of Lesvos Island, at a depth of 13ökm, in an area characterized by normal faulting with an important strike-slip component in certain cases. Over 900 events of the sequence between 12 and 30 June 2017 were manually analyzed and located, employing an optimized local velocity model. Double-difference relocation revealed seven spatially separated groups of events, forming two linear branches, roughly aligned N130°E, compatible with the strike of known mapped faults along the southern coast of Lesvos Island. Spatiotemporal analysis indicated gradual migration of seismicity towards NW and SE from the margins of the main rupture, while a strong secondary sequence at a separate fault patch SE of the mainshock, oriented NW-SE, was triggered by the largest aftershock (Mwö=ö5.2) that occurred on 17 June. The focal mechanisms of the mainshock ($\phi \ddot{\phi} = \ddot{a} 122^\circ$, $\delta \ddot{\phi} = \ddot{a} 40^\circ$ and $\delta \ddot{a} = -83^\circ$) and of the major aftershocks were determined using regional moment tensor inversion. In most cases normal faulting, Stress inversion revealed a complex stress field south of Lesvos, related by to normal, in an approximate E-W direction, and trike-slip faulting. All aftershocks outside the main rupture, where gradual seismicity migration was observed, are located within the positive lobes of static stress transfer determined by applying the Coulomb criterion for the mainshock. Stress loading on optimal faults under a strike-slip regime explains the occurrence of the largest aftershock and the seismicity that was triggered at the eastern patch of the rupture zone.

Journal of Geodynamics Volume 115, April 2018, Pages 23-42

Two years of continuous radon observations for a preearthquake processes monitoring in Peloponnese, Greece.

We discuss an integrated radon monitoring system for pre-earthquake signals in Peloponnese, Greece. Recent achievements in radon recording technology have significantly improved the prospects of implementing sensors using this noble gas to monitor ground areas in the soil for earthquake forecasting. Due to the fact that the theoretical background of the radon signals, despite the considerable efforts that have been made, is not yet fully understood and correlated with seismicity, reporting of continuous observations and the statistical results of the method are needed to study and assess the overall precursor phenomena. In Greece, we have developed and extensively tested a multi-parameter network aimed at studying the preearthquake processes and operating as part of an integrated monitoring system in the high seismicity area of the Western Hellenic Arc and the Peloponnese. The prototype consists of the following components: 1. A real-time monitoring system measuring Radon level in the soil, based on five gamma radiation detection probes [Nal(TI) scintillators] and one alpha-particle



probe. 2. A nine-station seismic array to thoroughly monitor the local microseismicity. 3. Real-time weather monitoring systems for air temperature, relative humidity, precipitation and pressure. 4. Thermal radiation emission from AVHRR/NOAA-18 polar orbit satellite observations. To this date, after our two years of systematic monitoring in the high seismicity area of the Western Hellenic Arc and the Peloponnese, with dozens of events in the range of our radon detectors, we have derived several useful conclusions about the applicability of the method. In particular, it should be noted that during the recording period there were cases of prominent variations of the radon before strong seismic events, such as in the earthquake of Dec 31, 2017 (Mw4.7) in the Corinthian Gulf. Also, the systematic monitoring of the area by a seismic array, installed in SW Peloponnese, revealed a considerable contribution of the local microseismicity to the variations. Moreover, the tidal influence has been identified and fully analyzed. We noticed also that the time duration of the radon anomaly can be a key indicator that should always be taken into consideration. Finally, we report that radon anomalies are correlated with the release of heat flux in the atmosphere. The recorded thermal radiation anomalies (observed by the remote sensing - infrared radiometers installed on satellites) is a result of an ionization process inside the atmospheric boundary layer (ABL) and gives further credence to the ground observations.

Geophysical Research Abstracts Vol. 20, EGU2018-13406, 2018

A Non-Extensive Statistical Physics approach to volcanic seismic coda waves increments during periods of volcanic unrest.

Volcances have always been one of the most interesting geological phenomena due to their unique geophysical and geochemical properties, along with their destructive potential. Stepping on the latter, the main interest that has been in the front over the past decades is the volcanic seismic hazard assessment through studying the dynamical evolution of volcances. The multifarious Volcanic behavior (both prior and meta eruption) can be approached as a function of the tectonic regime, the seismicity, geodesy and many other components that compose a system with extreme complexity.

In this work we attempt implement the theory of Non-Extensive Statistical Physics (NESP) in order to study the underlying complexity shifts of the volcanic regime. NESP theory is based on Tsallis entropy, which is a generalization of Boltzmann Gibbs entropy and works well in systems exhibiting Longrange interactions, memory effects and multifractality (Vallianatos et al., 2016). The immensely complex environment of a volcano is thus ideal for NESP implementation. Our Methodology consists of isolating the coda-part of earthquakes occurring before, during and after a volcanic unrest and study its dynamic behavior through computing its amplitude increments and plotting their Probability Density Function (PDF).

The analysis using NESP demonstrates that the seismic coda-wave increments deviate from the Gaussian distribution and exhibit heavy-tails that are well described by the q-Gaussian distribution, with a q-parameter that changes along with the volcanic unrest phase (prior, during and meta). Hence, the dynamical behavior of the volcanic-tectonic activity is interpreted as a function of the q index variations upon the 3 components of the seismograms.

Additional research will give us a clearer understanding of individual geodynamic and tectonic regimes in order to build a unified theory for volcanic hazard and dynamical evolution of volcanoes, using the Non-Extensive Statistical approach.

Cities on Volcanoes 11-COV11



ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ TRADUCTION OFFICIELLE OFFICIAL TRANSLATION

No. 16852

HELLENIC REPUBLIC NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS SCHOOL OF SCIENCE FACULTY OF GEOLOGY AND GEOENVIRONMENT POSTGRADUATE PROGRAM OF STUDIES

CERTIFICATE

Ref. No.: 26

The accuracy of the following data is certified:PERSONAL DATASurname**ASPIOTIS**Name**THEODOROS**Father's nameKonstantinosMother's nameStamatiaFromAmarousio, AtticaDate of birth14/08/1987

REGISTRATION DATAAcademic year2016-2017Registration date11/11/2016Way of registrationBy choiceRec. no.21632

 The duration of studies in this Department is four semesters.

 The above student has selected the major of SEISMOLOGY

 He graduated on the 23/07/2020 having achieved a final (degree) grade of "EXCELLENT 9,78"

 His Academic Transcript is given.

 The present is issued to be used by Foreign Authorities.

 NOTE:

 Successful examination
 A Grade greater than or equal to 6

 Unsuccessful examination
 A Grade of less than 6

 Good
 GPA greater or equal to 6.0

GoodGPA greater or equal to 6.0Very GoodGPA greater or equal to 7.5ExcellentGPA greater or equal to 9.0

Athens, 11/08/2020 Sealed and signed by order of the Rector, the Director of Education and Research, Anna Kypriadou.

Attested by the Hellenic Ministry of Foreign Affairs in Athens on the 21/08/2020. Officially sealed and signed.



MSc. Academic records



ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ TRADUCTION OFFICIELLE OFFICIAL TRANSLATION

No. 16852

Surname	ASPIOTIS
Name	THEODOROS
Record No.	21632

ACADEMIC TRANSCRIPT

No.	Course	O/C	CR	Exam	Grade
Y001	Geoinformatics and Geographical				
	Information Systems	С	10	Feb 2017	9
Y501	Theoretical & Applied Seismology	C	10	Feb 2017	10
Y502	Special Subjects on Geophysics	С	10	Feb 2017	10
Y002	Field Work and Geological				
	Mapping	С	10	June 2017	10
Y503	Data Acquisition & Seismological				
	Data Analysis	С	10	June 2017	7
Y504	Engineering & Environmental				
	Seismology	С	10	June 2017	10
E003	Environmental &				
	Engineering Geophysics	C	10	Feb 2018	10
E501	Seismotectonics	C	10	Feb 2018	10
E504	Space Technologies, Applications				
	in Geophysics	С	10	Feb 2018	10
0001	Thesis	0	30	June 2020	10

Athens, 11/08/2020

Sealed and signed by order of the Rector, the Director of Education and Research, Anna Kypriadou.

Attested by the Ministry of Foreign Affairs in Athens on the 21/08/2020. Officially sealed and signed.

Pages 2/2 Certified translation of the original Greek document attached herewith. Athens, 25/08/2020 Fay Kyriakopoulou/ Translator ρ



BSc. Degree (1 of 2)

TRADUCTION OFFICIELLE OFFICIAL TRANSLATION ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ No.: 02198 -3/8 Ref. No.: 2414 NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS Year 179th THEODOROS K. ASPIOTIS. born in Athens, Attica (Greece), Studied Geology and Geoenvironment at the University of Athens, having passed the precise examinations, obtained the grade «VERY GOOD» and was admitted to the degree ("ptychion") in Geology and Geoenvironment on the twenty sixth day of the month of October of the year two thousand fifteen. Issued on 11th January 2016. The Rector The Chairman Meletios-Athanasios K. Dimopoulos Nikolaos Voulgaris The General Education Director,

Aikaterini Asimakopoulou

True copy of the original kept in our files. Athens, 26 March 2020 BY ORDER OF THE RECTOR, THE HEAD OF THE DIRECTORATE FOR EDUCATION AND RESEARCH, ANNA KYPRIADOU (signature, seal of the University)

True photocopy of the original shown to me. Athens, 06 April 2020 The Head of the Directorate for Education and Research, Anna Kypriadou (signature, seal of the University)



BSc. Degree (2 of 2)

EΠΣΗΜΗ ΜΕΤΑΦΡΑΣΗ TRADUCTION OFFICIELLE OFFICIAL TRANSLATION Hellenic Republic – Ministry of Foreign Affairs Seen for the authentication of the signature of Ms. Anna Kypriadou and not of the text. Athens, 16' April 2020 For the Minister, The Director and p.p. Nikolaos Piperidis, Secretary (seal, signature) Accurate translation of the attached document in Greek. Athens, 28/04/2020 The Translator

Aliki Assimacopoulos words: 202



BSc. Rank (1 of 2)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE OFFICIAL TRANSLATION

No.: 02198 -2/8

HELLENIC REPUBLIC

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS

Established in 1837

SCHOOL OF SCIENCES

DEPARTMENT/FACULTY OF GEOLOGY AND GEOENVIRONMENT

Address: Panepistimioupoli (University Campus), Ilisia PC 15701Information:Athens, 30 March 2020Tel.: +30 7274422, 7274682Electronic Ref. no.: 1988

GRADUATE'S CERTIFICATE

The student with the following particulars:

Surname: ASPIOTIS	Name: THEODOROS
Father's name: Konstantinos	Mother's name: Stamatia
Place of birth: Athens, Attica	Date of birth: 14 August 1987
Males' Register: -	Males' Register no.: -
Municipal Rolls: Aghios Dimitr	ios Municipal Rolls No.: 16634/4
Registration no.: 111420060000	06
Date of initial registration: 25 S	September 2006
Mode of admission: National U	niversity Admission Exams
was initially registered in the	first semester of studies of our Department
during the academic year 2006-	2007.
The student has chosen to spec	ialise (major) in: TECHNICAL GEOLOGY –
GEOPHYSICS.	
attended his official graduation and was awarded the degree ("pt	la seconda de la compañía de la comp



BSc. Rank (2 of 2)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE

OFFICIAL TRANSLATION

Remarks: IT IS HEREBY CERTIFIED THAT DURING HIS OFFICIAL GRADUATION CEREMONY (ON 11 JANUARY 2016) HE WAS RANKED THIRD (3RD) AMONG THE THIRTY SIX (36) GRADUATES WHO TOOK THE OATH OF GRADUATE.

Note:

170

The student status is acquired upon registration and is forfeited upon the award of the degree, graduation, penalty or when the student is crossed out from the records. The academic year is divided into two semesters, begins on 1st September of each year and ends on 31st August of the following year.

BY ORDER OF THE RECTOR, THE HEAD OF THE DIRECTORATE FOR EDUCATION AND RESEARCH, ANNA KYPRIADOU

(signature, seal of the University)

True photocopy of the original shown to me. Athens, 06 April 2020 The Head of the Directorate for Education and Research, Anna Kypriadou (signature, seal of the University)

Hellenic Republic - Ministry of Foreign Affairs

Seen for the authentication of the signature of Ms. Anna Kypriadou and not of the text. Athens, 16 April 2020 For the Minister, The Director and p.p. Nikolaos Piperidis, Secretary (seal, signature)

Accurate translation of the attached document in Greek. Athens, 28/04/2020 The Translator Aliki Assimacopoulos



BSc. Academic records (1 of 5)

EΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ TRADUCTION OFFICIELLE OFFICIAL TRANSLATION

No.: 02198 -1/8

HELLENIC REPUBLIC

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS

Established in 1837

SCHOOL OF SCIENCES

DEPARTMENT/FACULTY OF GEOLOGY AND GEOENVIRONMENT

Address: Panepistimioupoli (University Campus), Ilisia PC 15701Information:Athens, 26 March 2020Tel.: +30 7274422, 7274682Electronic Ref. no.: 1985

GRADUATE'S ACADEMIC RECORD TRANSCRIPT

The student with the following particulars:

Surname: ASPIOTIS	Name: THEODOROS					
Father's name: Konstantinos	Mother's name: Stamatia					
Place of birth: Athens, Attica	Date of birth: 14 August 1987					
Males' Register: -	Males' Register no.: -					

Municipal Rolls: Aghios Dimitrios Municipal Rolls No.: 16634/4 Registration no.: 1114200600006

Date of initial registration: 25 September 2006

Mode of admission: National University Admission Exams

was initially registered in the first semester of studies of our Department during the academic year 2006-2007.

Eight (8) semesters of studies are required for the award of the Degree ("ptychion").

The student has chosen to specialise (major) in: TECHNICAL GEOLOGY – GEOPHYSICS.

The aforementioned was admitted to the graduates on 26 October 2015, attended his official graduation (oath-taking) ceremony on 11 January 2016 and was awarded the degree (*"ptychion"*) of the Department/Faculty of Geology and Geoenvironment with the grade 7,77 (SEVEN AND SEVENTY SEVEN HUNDREDTHS), "VERY GOOD" (Ref. no.: 2414).



BSc. Academic records (2 of 5)

Note:

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE OFFICIAL TRANSLATION

The detail of his grades is mentioned in the following pages and the grading scale is mentioned in the notes.

This certificate is issued for any lawful purpose it may serve.

The student status is acquired upon registration and is forfeited upon the award of the degree, graduation, penalty or when the student is crossed out from the records. The academic year is divided into two semesters, begins on 1st September of each year and ends on 31st August of the following year.

(* In the last column the indications Y (Yes) or N (No) show if the grade is included or not in the calculation of the degree grade.)

	<u>1st semester</u>					
Code	Courses	Group	Credits /ECTS	Exam. Period	Grade	*
14Y0101	Chemistry	0.C	5/6	Ses (F) 2013-14	6 (six)	Y
14Y0102	Physics	0.C	5/6	Ses (S) 2014-15	6 (six)	Y
14Y0103	Mathematics and Statistics for Geologists (Geomathematics - Geostatistics)	0.C	6/5	Ses (Se) 2012-13	5 (five)	Y
14Y0104	Mineralogy – Crystallography	0.C	5/7	Ses (F) 2013-14	9 (nine)	Y
14Y0105	Physical Geography	0.C	6/6	Ses (Se) 2012-13	9 (nine)	Y
	2 nd semester					T
Code	Courses	Group	Credits /ECTS	Exam. Period	Grade	*
14Y0106	Information Technology (Informatics) & Geographical Information Systems	0.C	6/5	Ses (S) 2012-13	9 (nine)	Y
14Y0107	Systematic Mineralogy	0.C	7/7	Ses (Se) 2012-13	10 (ten)	Y
14Y0108	Macropaleontology	0.C	8/7	Ses (S) 2012-13	9 (nine)	Y



BSc. Academic records (3 of 5)

14Y0109	Climatology – Global Changes	0.C	4/4	Ses (F) 2011-12	9 (nine)	
14 90110	Introduction to Geology	0.C	6/6	Ses (S) 2012-13	8 (eight)	Ī
)	3 rd semester					t
Code	Courses	Group	Credits /ECTS	Exam. Period	Grade	Ì
14Y0111	Micropalaeontology	0.C	5/4	Ses (F) 2014-15	6 (six)	t
14Y0112	Petrology of Igneous Rocks	0.C	5/5	Ses (Se) 2012-13	7 (seven)	
14Y0113	Tectonics	0.C	8/7	Ses (S) 2013-14	9 (nine)	1
14Y0114	Seismology	0.C	6/7	Ses (F) 2012-13	9 (nine)	1
14Y0115	Oceanography – Marine Geology	0.C	5/3	Ses (Se) 2012-13	7 (seven)	
14Y0116	Petrology of Sedimentary Rocks	0.C	4/4	Ses (Se) 2012-13	7 (seven)	
	4 th semester					1
Code	Courses	Group	Credits /ECTS	Exam. Period	Grade	
14Y0117	Petrology of Metamorphic Rocks	0.C	4/6	Ses (S) 2014-15	5 (five)	
14Y0118	Geophysics	0.C	6/6	Ses (Se) 2012-13	7 (seven)	1
14Y0119	Geochemistry	0.C	5/6	Ses (F) 2013-14	7 (seven)	1
14Y0120	Stratigraphy	0.C	8/6	Ses (F) 2013-14	6 (six)	1
14Y0121	Hydrogeology	0.C	6/6	Ses (S) 2012-13	8 (eight)	1
	5 th semester					1
<u>Code</u>	Courses	Group	Credits /ECTS	Exam. Period	Grade	
14Y0122	Introduction to Ore Deposits Geology	0.C	5/4	Ses (Se) 2012-13	9 (nine)	
14Y0123	Engineering Geology	0.C	6/4	Ses (S) 2012-13	8 (eight)	İ
14Y0124	Geomorphology	0.C	6/3	Ses (F) 2014-15	8 (eight)	t
14Y0125	Geology of Greece	0.C	7/6	Ses (S) 2014-15	7 (seven)	t



BSc. Academic records (4 of 5)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE

OFFICIAL TRANSLATION

14Y0126	Introduction to Environmental Geology	0.C	6/3	Ses (S) 2012-13	8 (eight)	Y
14Y0127	Sedimentology	0.C	6/3	Ses (Se) 2012-13	5 (five)	Y
14B0105	Macroseismology	KB.EPK	4/4	Ses (S) 2013-14	9 (nine)	Y
14B0106	Volcanology	KB.EPK	4/4	Ses (S) 2013-14	9 (nine)	Y
14K0105	Advanced Chapters of Seismology	KB.EPK	4/4	Ses (S) 2013-14	9 (nine)	Y
	6 th semester					
<u>Code</u>	Courses	Group	Credits /ECTS	Exam. Period	Grade	*
14B0101	Applied Geophysics	KB.KYK	5/6	Ses (Se) 2014-15	6 (six)	Y
14B0102	Soil Mechanics – Rock Mechanics	KB.KYK	5/6	Ses (F) 2014-15	7 (seven)	Y
14K0101	Geological and Geoenvironmental Mapping – Field Course	КВ.КҮК	5/8	Ses (S) 2008-09	6 (six)	Y
14B0110	Geological and Environmental Applications of GPS & Earth Observation Systems	KB.EPK	4/4	Ses (Se) 2013-14	7 (seven)	Y
	7 th semester					
Code	Courses	Group	Credits /ECTS	Exam. Period	Grade	*
14A0115	Earthquake Prediction	KA.EPK	4/5	Ses (S) 2013-14	9 (nine)	Y
14B0103	Geology for Technical (Engineering) Works	KB.KYK	5/5	Ses (Se) 2012-13	8 (eight)	Y
14B0104	Natural Disasters	KB.KYK	5/5	Ses (F) 2013-14	10 (ten)	Y
14B0113	Engineering Seismology – Microzonation	KB.EPK	4/4	Ses (Se) 2013-14	10 (ten)	Y



BSc. Academic records (5 of 5)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE

OFFICIAL TRANSLATION

-	he)	8 th semester					
13	Code	Courses	Group	Credits /ECTS	Exam. Period	Grade	*
- all	14K0103	Degree Thesis/Dissertation	KB.KYK	10/15	Ses (Se) 2014-15	10 (ten)	Y
	14K0108	Engineering and Environmental Geophysics	KB.EPK	4/4	Ses (S) 2013-14	9 (nine)	Y

Note:

Successful examination: Grade higher than or equal to 5 (five)

Unsuccessful examination (fail): Grade lower than 5 (five)

Good: Average grade higher than or equal to 5.0 and lower than 6.50

Very Good: Average grade higher than or equal to 6.50 and lower than 8.50

Excellent: Average grade higher than or equal to 8.50

Ses(F) = fall session / Ses(S) = spring session /

Ses(Se) = September session / 0.C = compulsory course

BY ORDER OF THE RECTOR, THE HEAD OF THE DIRECTORATE FOR

EDUCATION AND RESEARCH, ANNA KYPRIADOU

(signature, seal of the University)

True photocopy of the original shown to me. Athens, 06 April 2020 The Head of the Directorate for Education and Research, Anna Kypriadou (signature, seal of the University)

Hellenic Republic - Ministry of Foreign Affairs

Seen for the authentication of the signature of Ms. Anna Kypriadou and not of the text. Athens, 16 April 2020 For the Minister, The Director and p.p. Nikolaos Piperidis, Secretary (seal, signature)

Accurate translation of the attached document in Greek.

Athens, 28/04/2020

The Translator

Aliki Assimacopoulos

words: 1035



Work experience (1 of 9)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE

OFFICIAL TRANSLATION

No.: 02198 -5/8

HELLENIC REPUBLIC

MINISTRY OF DEVELOPMENT AND INVESTMENTS

General Secretariat for Research and Technology

Special Account for Research Grants of the

National Observatory of Athens

Mail Address: Lofos Nymfon, 11851 Athens

Information: Maria ManiatiAthens, 23 March 2020Tel.: +30 210 3490062Ref. No.: ELKE/04222

e-mail: m.maniati@noa.gr

CERTIFICATE

This is to certify that according to the records kept with our Service, Mr. **THEODOROS ASPIOTIS**, son of Konstantinos, geologist, has concluded with the Institute of Geodynamics, of the National Observatory of Athens, the following project lease agreements/contracts, in the framework of the implementation of research programmes.

1. "ARISTOTELIS: Excellence Research Programme for Environment, Space and Geodynamics/Seismology, of the General Secretariat for Research and Technology, Sub-project 6: Development of innovative techniques for recording precursor of earthquake events in the area of SW Peloponnese -RADONS", from **01** November 2016 until 30 November 2016 for implementation of the project "Development of a mobile application for immediate notifications (alerts) in RADONS", in exchange for a total payable amount of 1,800.00 Euros including all lawful charges, with Scientific Responsible Prof. Kanaris Tsigkanos, Chairman of the Board of Directors and Director of the National Conservatory of Athens.

 "GEORISK – Development of Infrastructure and Services through Excellence Actions to Reduce the Impact of Geodynamic Risks", from 01 February 2018 until 30 September 2018 for implementation of the project "Assessment of earthquake risk (Deliverable 1.3.2)", in exchange for a total payable amount of 6,786.56 Euros, with Scientific Responsible Prof.



Work experience (2 of 9)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE OFFICIAL TRANSLATION

Gerasimos Tselentis, Director of the Institute of Geodynamics of the National Observatory of Athens.

3. "HELPOS – Greek Lithosphere Observation System", from 01 July 2018 until 29 Feb. 2020 for implementation of the project "(1) Innovative Techniques and Methodologies of Geophysics and Geotechnical Engineering in the Urban Environment (Deliverable 2.5.2) (2) Technical Report "Upgrading the Operation of the Radon Measurement Network – Correlation with Seismic Measurements of the Seismograph Array Networks of Pylos (Deliverable 3.2.6)", in exchange for a total payable amount of 21,632.17 Euros, with Scientific Responsible Prof. Gerasimos Tselentis, Director of the Institute of Geodynamics of the National Observatory of Athens.

4. "Study of seismicity and Seismic hazard in the area of the Western Gulf of Patras", from 16 July 2019 until 16 January 2020 for implementation of the project "Processing of seismological data of the local network and plug-in software development in SeiscomP-3 environment for coupling the local network data with the local seismograph array networks", in exchange for a total payable amount of 4,266.92 Euros, with Scientific Responsible Prof. Emmanouil Pleionis, Director of the National Observatory of Athens.

This certificate is issued to the interested party following his request in order to be used at the National and Kapodistrian University of Athens.

The Head of the Division for Financial and Administrative Support of the Special Account for Research Grants of the National Observatory of Athens

and p.p.

Georgia Vlachaki

(signature, seal of the Ministry of Development and Investments - General Secretariat for Research and Technology - National Observatory of Athens)



Aliki Assimacopoulos

10 1 1

Theodoros Aspiotis

Work experience (3 of 9)

100

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ TRADUCTION OFFICIELLE

words: 547

OFFICIAL TRANSLATION

Hellenic Republic - Ministry of Foreign Affairs

Seen for the authentication of the signature of Ms. Georgia Vlachaki and not of the text. Athens, 27 April 2020 For the Minister, The Director and p.p. Nikolaos Piperidis, Secretary (seal, signature)

> Accurate translation of the attached document in Greek. Athens, 28/04/2020 The Translator



Work experience (4 of 9)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE

OFFICIAL TRANSLATION

No.: 02198 -8/8

Special Account for Research Grants of the

F.

National Observatory of Athens

Tax Identification Number: 090050779

6th (6th & 7th) Internal Revenue Office (Greek acronym DOY) of Athens (6th (6th & 7th), 5th)

Number: 1223

INVOICE FOR SERVICES RENDERED

Date: 12 October 2017

Amount: 1.000,00€

Date the Service was completed/effectuated: 20 June 2017

Beneficiary: ASPIOTIS THEODOROS

Occupation: private individual - non-tradesman

Address: 8, Lidorikiou street

Tax Identification Number: 154959322 Internal Revenue Office: Aghios Dimitrios

Cheque: 99013335 (12 October 2017 - 6065/2017)

Project: 4242 Scientific Responsible: Karastathis Vasileios

Reason: Participation in the project: "Seismic Hazard Study - EDATHESS Gas Distribution Company"

Withheld amounts: 200.00€ for Tax, 30.00€ for Stamp-duty, 6.00€ for OGA stamp-duty

Issued by G. Vlachaki: (signature)

Received by: (signature)

(seal of the Ministry of Development and Investments - General Secretariat

for Research and Technology - National Observatory of Athens)

Hellenic Republic - Ministry of Foreign Affairs

Seen for the authentication of the signature of Ms. Georgia Vlachaki and not of the text. Athens, 27 April 2020 For the Minister, The Director and p.p. Nikolaos Piperidis, Secretary (seal, signature)

Accurate translation of the attached document in Greek.

Athens, 28/04/2020

The Translator - Aliki Assimacopoulos words: 193



Work experience (5 of 9)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ TRADUCTION OFFICIELLE OFFICIAL TRANSLATION

No.: 02198 -7/8

Special Account for Research Grants of the National Observatory of Athens

Tax Identification Number: 090050779

6th (6th & 7th) Internal Revenue Office (Greek acronym DOY) of Athens (6th (6th & 7th), 5th)

Number: 1204

INVOICE FOR SERVICES RENDERED

Date: 03 October 2017

Amount: 600,00€

Date the Service was completed/effectuated: 10 June 2017

Beneficiary: ASPIOTIS THEODOROS

Occupation: private individual - non-tradesman

Address: 8, Lidorikiou street

Tax Identification Number: 154959322 Internal Revenue Office: Aghios Dimitrios Cheque: 99011944 (03 October 2017 – 4384/2017)

Project: 4242 Scientific Responsible: Karastathis Vasileios

Reason: Participation in the project: "Seismic Hazard Study - EDATHESS Gas Distribution Company"

Withheld amounts: 120.00€ for Tax, 18.00€ for Stamp-duty, 3.60€ for OGA stamp-duty

Issued by G. Vlachaki: (signature) Received by: (signature)

(seal of the Ministry of Development and Investments - General Secretariat

for Research and Technology - National Observatory of Athens)

Hellenic Republic - Ministry of Foreign Affairs

Seen for the authentication of the signature of Ms. Georgia Vlachaki and not of the text. Athens, 27 April 2020 For the Minister, The Director and p.p. Nikolaos Piperidis, Secretary (seal, signature)

Accurate translation of the attached document in Greek.

Athens, 28/04/2020

The Translator - Aliki Assimacopoulos 🛝 words: 193



Work experience (6 of 9)

ΕΠΙΣΗΜΗ ΜΕΤΑΦΡΑΣΗ

TRADUCTION OFFICIELLE OFFICIAL TRANSLATION

No.: 02198 -6/8

Special Account for Research Grants of the

National Observatory of Athens

Tax Identification Number: 090050779

6th (6th & 7th) Internal Revenue Office (Greek acronym DOY) of Athens (6th (6th & 7th), 5th)

Number: 909

INVOICE FOR SERVICES RENDERED

Date: 01 July 2016

Amount: 2.450,00€

Date the Service was completed/effectuated: 30 June 2016

Beneficiary: ASPIOTIS THEODOROS

Occupation:

Address: 8, Lidorikiou street

Tax Identification Number: 154959322 Internal Revenue Office: Aghios Dimitrios Cheque: 15561 (01 July 2016 – 3333/2016)

Project: 50567 Scientific Responsible: Tsigkanos Kanaris

Reason: Construction of algorithm for automatic signalling of seismic phases for data processing

Withheld amounts: 490.00€ for Tax, 73.50€ for Stamp-duty, 14.70€ for OGA stamp-duty

Issued by: (signature) Received by:

G. Vlachaki (signature, seal of the Ministry of Development and Investments

- General Secretariat for Research and Technology - National Observatory of Athens)

Hellenic Republic - Ministry of Foreign Affairs

Seen for the authentication of the signature of Ms. Georgia Vlachaki and not of the text. Athens, 27 April 2020 For the Minister, The Director and p.p. Nikolaos Piperidis, Secretary (seal, signature)

Accurate translation of the attached document in Greek.

The Translator - Aliki Assimacopoulos 🛛

Athens, 28/04/2020

words: 192



Work experience (7 of 9)

Е-ДП-06-Е6.V15

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ Εθνικόν και Καποδιστριακόν Πανεπιστήμιον Αθηνών

– ΙΔΡΥΘΕΝ ΤΟ 1837 —

ΕΙΔΙΚΟΣ ΛΟΓΑΡΙΑΣΜΟΣ ΚΟΝΔΥΛΙΩΝ ΕΡΕΥΝΑΣ

Μονάδα Οικονομικής και Διοικητικής Υποστήριξης

Δ/νση : Τ.Υ.Π.Α Ε.Α.Κ.Ε. Πληροφορίες : Α. Καρυώτη Τηλ. : 210 727 5993 Fax : 210 727 5010 Email : rc@elke.uoa.gr ЕКПА ГРАММАТЕЛА ЕПТРОПНЕ ПАНЕТЕЛЬКОТОЛИ Арів Прил 12835/2020 Порклуред 06/04/2020

Αδήνα,

ΒΕΒΑΙΩΣΗ

02/04/2020

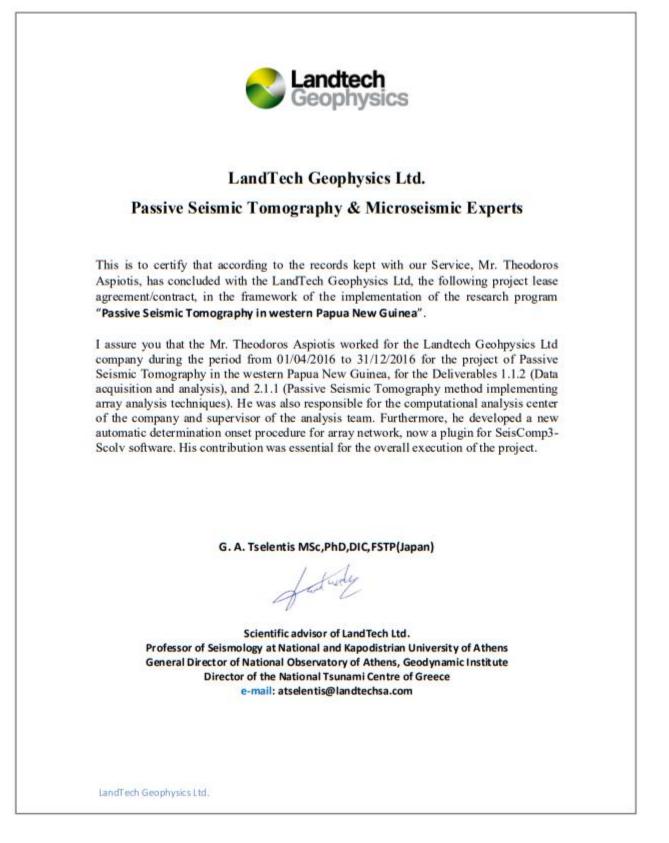
Όπως φαίνεται από τα διδλία και τα στοιχεία της Μονάδας Οικονομικής και Διοικητικής Υποστήριξης του Ε.Α.Κ.Ε. του Εδνικού και Καποδιστριακού Πανεπιστημίου Αδηνών, ο κ. Θεόδωρος Ασπιώτης (Α.Φ.Μ. 154959322), Γεωλόγος, απασχολήδηκε με σύμβαση μίσθωσης έργου, στο ερευνητικό πρόγραμμα του Πανεπιστημίου Αδηνών με τίτλο «Ολοκληρωμένο Σύστημα Εγκαιρης Προειδοποίησης & Διαχείρισης Σεισμικού Κινδύνου με εφαρμογή σε Βιομηχανικές Υποδομές», με αντικείμενο εργασίας «Εφαρμογή αλγορίθμων έγκαιρης προειδοποίησης, ανάπτυξη και εφαρμογή λογισμικών εκτίμησης του σεισμικού κινδύνου, ανάπτυξη χαμηλού κόστους σεισμολογικού σταθμού, υλοποίηση του δικτύου σεισμογράφων στον ανατολικό κορινθιακό κόλπο και την αξιολόγηση των αποτελεσμάτων των ανωτέρω», για το χρονικό διάστημα από 01/01/2020 έως 31/01/2020, με συνολική αμοιδή ύφους 818,46 € μικτά.

Η βεβαίωση αυτή χορηγείται- μετά από την με αρ. πρωτ/λου 023948/30-03-2020 αίτησή του - ως προϋπηρεσία - για κάδε νόμιμη χρήση.





Work experience (8 of 9)



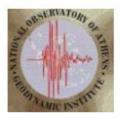


Work experience (9 of 9)

Geodynamic Institute



National Observatory of Athens Geodynamic Institute Lofos Nymfon Athens 11810 Dr. Ioannis Baskoutas Research Director Tel : +302103490174 e-mail: i.basko@noa.gr



Athens, 26/05/2020

To Admission Office: King Abdullah University of Science and Technology

CERTIFICATE

This certificate confirms that Mr. Theodoros Aspiotis, son of Konstantinos, postgraduate student of Seismology at the National and Kapodistrian University of Athens, has been a member of the Institute of Geodynamics at the National Observatory of Athens, for the implementation of the following research project

 FEASIBILITY STUDY FOR THE EASTERN MEDITERRANEAN NATURAL GAS PIPELINE –EAST-MED. During the period from 01 January 2016 until 30 May 2016

Yours sincerely,

Dr. Ioannis Baskoutas Research Director of Seismology National Observatory of Athens, Geodynamic Institute

NATIONAL OBSERVATORY OF ATHENS

IOANNIS BASKOUTAS



1

Programming Certifications.

MENTOR Hellas Scientific Engineering Software
ΠΙΣΤΟΠΟΙΗΤΙΚΟ ΠΑΡΑΚΟΛΟΥΘΗΣΗΣ
Το παρόν έγγραφο βεβαιώνει ότι ο Ασπιώτης Θεόδωρος
παρακολούθησε το εκπαιδευτικό σεμινάριο με θέμα:
«Deep Learning με το MATLAB»
που διοργανώθηκε από το Υπολογιστικό Κέντρο του
Εθνικού και Καποδιστριακού Πανεπιστημίου Αθηνών (ΕΚΠΑ)
και παρουσιάστηκε από την εταιρεία μας την Πέμπτη 19 Δεκεμβρίου 2019.
Για την MENTOR Hellas
2 Joze TO
Ζαχαρίας Γκέτσης
ΜΕΝΤΩΡ ΕΛΛΑΣ Ι.Κ.Ε Scientific Engineering Software ΛΕΩΦ. ΜΑΡΑΘΩΝΟΣ 53 - ΠΑΛΛΗΝΗ ΑΤΤΙΚΗΣ - Τ.Κ. 15351 - ΤΗΛ.: 210 6031121 - FAX: 210 6031024 email: info@mentorhellas.com website: www.mentorhellas.com



