

**CURRICULUM VITAE DR. S. KOKKALAS**  
**STRUCTURAL GEOLOGY-NEOTECTONICS/MICROTECTONICS**



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**Personal details:**

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**Education / Training**

**1990-1995**

B.Sc in Geology at the University of Patras.  
Diploma Thesis: «Structural analysis and evolution of the northern part of the Kymi-Aliveri Neogene basin», supervised by Prof. T. Doutsos.

**1992**

3 month scholarship (ERASMUS program) of the State Scholarship Institution (I.K.Y) in the Freie Universitate Berlin (Germany):

**1995-2000**

Ph.D. in Structural Geology (Neotectonics-Microtectonics), Department of Geology-University of Patras. Dissertation title: *“Geodynamic evolution of the SE-part of the Hellenic Arc”*.  
Awarded State Scholarship, Subject: “Tectonics and Stratigraphy” (full tuition 1995-1999).

**Appointments**

**2017-2018**

*Associate Professor* in Structural Geology at Khalifa University, Department of Earth Sciences, Abu Dhabi, UAE.

**2014-2017**

*Associate Professor* in Structural Geology at the Petroleum Institute, Department of Petroleum Geoscience, Abu Dhabi, UAE.

**2013-2014**

*Associate Professor* in Neotectonics-Microtectonics at the Univ. of Patras, Department of Geology, Greece

**2008-2013**

*Assistant Professor* in Neotectonics-Microtectonics at the Univ. of Patras,

Department of Geology, Greece

2006 Sept-2007 Feb

**Visiting researcher** at the *Geological and Environmental Dept.-Stanford University*, California-USA in the Rock Fracture Group Laboratory (sabbatical leave).

2003-2008

**Lecturer** in Neotectonics-Microtectonics at the Univ. of Patras, Department of Geology, Greece

## Teaching

**Taught courses Univ. of Patras(2003-2013 and Spring semester 2018):**

(*Undergraduate courses*) i) Geodynamics (Plate tectonics),  
ii) Geological Mapping, iii) Interpretation and Analysis of Geological maps, iv)  
Geology of Earthquakes.

(*Postgraduate -MSc-courses*) i) Brittle deformation of the upper crust

**Taught courses Petroleum Institute (2014-17)& Khalifa University (2017-2018):**

Strategies for Team based Engineering Problem Solving II STEPS251 (Spring semester 2014), Senior Project, Special Topics courses  
Structural Geology PGEG 321 (Fall semester 2014-2018)  
Geological Mapping PGEG 230(Spring semester 2014-2017)  
Petroleum Systems project PGEG 491 (Fall semester 2015-2018)

**Taught courses for Schlumberger** (Field Structural Geology-Geomech.-BlueEdge2

## *Students supervision*

Diploma thesis of undergraduate students: 25 (16 completed)

MSc students: 23 students (as part of the 3-member examination committee and 4 as supervisor-3 Petrol. Inst. MSc students as supervisor and 5 as Adv. Committee)

PhD students: 13 PhD-students (1 as supervisor, 3 as part of the 3-member supervising committee, 10 as part of the 7-member examination committee.

## *Field trips*

**2003-2013:** Leading two field trips annually (total 11 days each academic year) training students in Geological mapping techniques (HP-metamorphic rocks in Cyclades islands in Greece) and Geotectonics of Greece (average of 70 students each academic year). **2014-2016:** In PI two field trips every year for 4 days in areas of eastern and northern Emirates (Jebel Hafeet, Jebel Faya, Hatta), for the courses Geological Maps and Structural Geology. One (1) day field trip for the Geomechanics course for SLB (Deep Blue3 Geomechanics fixed-step training program of SLB Middle East training center) and 6-days for the Structural Geology BlueEdge 2 Schlumberger training program, MLC

## *Teaching material*

1) *Co-author of the Book: Geology and Earthquakes* (by I. Koukouvelas, **S. Kokkalas**, V. Zygouri), Disigma Publ. Patras 2011 (in Greek)

2) *Author: Geodynamics* (by **S. Kokkalas**) University of Patras Publications, 2012 (in Greek).

## Research projects

1998

Research assistant in research program of **Enterprise Oil Exploration Ltd.**  
"Relations of faults and folds in the Cretaceous Limestones of the Ionian zone". Scientific coordinator: Prof. T. Doutsos

- 2002** Research assistant in OASP (Organisation of Earthquake planning and protection) research Neotectonics program: “*Palaeoseismological Research in the Volvi, Oropos-Avlonas-Kaparelli Active Faults*”. Scientific coordinator: Prof. S. Pavlides
- 2003** Geological surveillance in research drilling in Trizonia Island (3F project with IFP-France). Scientific coordinator: Prof. F. Cornet
- 2003** KDD2 Training course (within Aegis project) in INSA Lyon France for databases and SQL language from 16-19 July.
- 2005** Short field course “New techniques in Neotectonics and Paleoseismology” in the Sierra Nevada, USA. XVI INGUA Congress Field trip Reno-Nevada (instructors: J.P. McCalpin and J. Caskey)
- Research assistant in ITET (General Secretariat of Research and Technology-Ministry of Development-Greece) research program: “Relation study of seismic hazard in the eastern Corinth area with the deep structure and fault linkage”. Scientific coordinator: Prof. G. Papadopoulos (National Observatory of Athens-Geodynamic Institute-).
- 2015** Petroleum Institute: RIFP Project 15312: “Fracture characterization and fold-fracture relationships from the combination of LiDAR high resolution topographic data and outcrop analogue data: the Jebel Hafit anticline (UAE) as a case example.” PI Research Initiation Funding Program. Principal Investigator: Dr. Sotirios Kokkalas
- 2015** Petroleum Institute: RIFP Project 15309: “Scaling effect of fracture distribution on heterogeneity and anisotropy in carbonate rocks” PI Research Initiation Funding Program. Principal Investigator: Dr. Sandra Vega
- 2015-2018** Petroleum Institute: Oil Subcommittee (PI) “Magnetic Nanoparticles (MNPs) for Reservoir Characterization” Principal Investigator: Dr. Saeed Al Hassan (PI), Demokritos Research Center (Greece), UoI (Greece), KBSI (S. Korea), Vanderbilt (USA)
- 2016** Organize 1-day field trip in Dibba area (UAE) for the 2nd EAGE Bootcamp with the participation of 21 international students.

## **Research Interests**

- Fault geometry, fault interaction and linkage
- Fracture and stress analysis from fracture/fault data
- Fractured reservoirs
- Orogenic evolution of fold-and-thrust belts
- Strike-slip tectonics
- Strain analysis and quartz c-axes in ductile shear zones
- Relation of magmatism-volcanism with faulting
- Active faulting, seismotectonics
- Paleoseismology, Earthquake geology

## **Professional Affiliations-Conferences Committees-Invited talks**

- Full member of the Geological Society of Greece *and* Geological Society of America (GSA). *Campus representative for GSA.*
- Member of EGU, EAGE, AAPG.
- *Invited Speaker* in Texas A&M University (April 2008) in Harrington Symposium for the Geology of the Aegean Sea.
- *Invited Speaker* in the Municipality of Atalanti Cultural Center's Symposium "The Arkitsa Fault-A Geopark of global geoheritage and its importance for the seismic risk of Lokris area, Central Greece (Greece-Nov 2013).
- *Invited Speaker* in the "3rd Hellenic Forum for Science, Technology & Innovation: Nanotechnology Applications in the Oil and Gas Industry (Demokritos Research Center, Athens, 29/06-03/07, 2015)
- Organizing Committee member and Chair of session 5-Role of Geomechanics in tight reservoirs and unconventional (J. Verdon and S. Kokkalas) in EAGE/SPE Workshop on Integrated Geomechanics in E & P (23-26 Oct 2016) Abu Dhabi, UAE.
- Proposal evaluation committee member for the KNOC/KIGAM R&D workshop (Korean National Oil Company).
- *Invited speaker* in KAUST Research Conference: Recovery of Difficult Hydrocarbons. Session 4-Hydro-mechanical coupling in fractured & tight reservoirs. Ali Al-Naimi Petroleum Engineering Research Center (Feb 2018)

## **Publications overview, author evaluation and Awards**

- Published articles in International Scientific Journals: **44 (30 in SCI journals)**
- Abstracts in International conferences and workshops: **60**
- **Total number of citations: 751 (h-index=18)** (self-citations excluded): 657 (*h-index=16*) (source: Scopus-Elsevier B.V. & ISI-Thomson Scientific-accessed 13-01-2019)
- **Google Scholar Citations: Citations 1099, h-index=21, i-10 index=29** (accessed 13-01-2019)
- **Reviewer in SCI journals:** *Geological Society of America, (Sp. Publ.), Geological Society of London, (Sp. Publ.), Tectonophysics, Tectonics, Geosphere, Lithos, Zeitschrift der Deutschen Gesellschaft für Geowissenschaften, Journal of Geodynamics, Geomorphology, Earth Science Informatics, Quaternary International, Journal of Asian Earth Sciences and Bulletin of Geological Society of Greece (non SCI-journal).*
- **Technical Committee for the EAGE/SPE Workshop** on Integrated Geomechanics in E&P (Manage & Improve Asset Performance using Geomechanics) 23-26 October 2016, Abu Dhabi, UAE.)
  - **Scientific Committee** for the 1st International Geo-mechanics Forum (IGF): Application to Hydrocarbon Reservoirs (19-21 April 2016, Abu Dhabi, UAE)
  - Committee Member and session 6 chair (Future of Geomechanics: Strengthening impact and Education (with G. Burrige and J. Verdon)) in the EAGE/SPE Workshop The Future of Geomechanics in Brown Fields and Unconventionals (2-3 May 2018) Abu Dhabi.
  - *Imtinan Best Teacher Award* for PG-department (Oct 2017) (by student's votes)
  - Nomination for the Dean of the College of Engineering Teaching Award by the PG-students for the academic year 2016-2017

## **SELECTED PUBLICATIONS**

### **a) Articles in International Scientific Journals**

(\* articles published in journals of the Science Citation Index-SCI- and ISI index of scientific book contents)

- 1) \*JOUN, H., KOKKALAS, S., TOMBROS, S. 2018 Recycled oceanic crust as a source for tonalite intrusions in the mantle section of the Khor Fakkan block, Semail ophiolite (UAE). *Geoscience Frontiers*, in Press.

- 2) JONES, R.R., KOKKALAS, S., LONG, J.J., DANIELS, S.E., GILMENT, S.R., WILKINSON, M.W., OXLADE, D.M. 2018. Calibration of fracture models using multi-scale outcrop analogues-The importance of mechanical stratigraphy, In 3rd EAGE Workshop on Naturally Fractured Reservoirs, 2018-February.
- 3) \*BRUNO, P.P.G., DUROSS, C.B., KOKKALAS, S. 2017. High-resolution seismic profiling reveals faulting associated with the 1934 Ms 6.6 Hansel Valley earthquake (Utah, USA). *Bulletin of the Geological Society of America*, 129 (9-10), pp. 1227-1240.
- 4) \*WILKINSON, M.W., JONES, R.R., WOODS, C.E., GILMENT, S.R., MCCAFFREY, K.J.W., KOKKALAS, S., LONG, J.J. 2016. A comparison of terrestrial laser scanning and structure-from motion photogrammetry as methods for digital outcrop acquisition. *Geosphere*, 12 (6), pp. 1865-1880.
- 5) \*ZYGOURI, V., KOUKOUVELAS, I., KOKKALAS, S., XYPOLIAS, P., PAPADOPOULOS, G., 2015. The Nisi fault as a key structure for understanding the active deformation of the NW-Peloponnese, Greece. *Geomorphology*, 237, 142-156.
- 6) \*KOKKALAS, S., AYDIN, A., 2013. Is there a link between faulting and magmatism in south-central Aegean Sea? *Geological Magazine* 150 (2) 193-224.
- 7) \*KOKKALAS, S., KAMBERIS, E., XYPOLIAS, P., SOTIROPOULOS, S., KOUKOUVELAS, I., 2013. Coexistence of thin- and thick-skinned tectonics in Zakynthos area (Western Greece): insights from seismic sections and regional seismicity. *Tectonophysics*, vol. 597-598, 73-84.(in press-02/09/2012).
- 8) \*XYPOLIAS, P., ILIOPOULOS, I., CHATZARAS, V., KOKKALAS, S., 2012. Subduction- and exhumation-related structures in the Cycladic Blueschists: insights from the south Evia Island (Aegean region, Greece). *Tectonics*, 31 (2), art.no. TC2001.
- 9)\* CHATZARAS, V., XYPOLIAS, P., KOKKALAS, S., KOUKOUVELAS, I., 2011. Oligocene-Miocene thrusting in central Aegean: insights from the Cycladic island of Amorgos. *Geological Journal* 46, (6), 619-636, DOI: 10.1002/gj.1304.
- 10)\*G. PE-PIPER, D.J. PIPER, KOUKOUVELAS I., DOLANSKY L & KOKKALAS S. 2009. Post-orogenic shoshonitic rocks and their origin by melting underplated basalts: the Miocene of Limnos, Greece. *Geological Society of America Bulletin* v. 121, p.17-38.
- 11) \*JONES R.R., KOKKALAS S., MCCAFFREY, K.J.W.. 2009. Quantitative Analysis and Visualisation of non-planar fault surfaces using Terrestrial Laser Scanning ("LiDAR") - the Arkitsa Fault, central Greece as a case study. *Geosphere*, v.5, no.6, p.465-482, doi: 10.1130/GES00216.1
- 12) \*PARCHARIDIS, I., KOKKALAS, S., FOUNTOULIS, I., FOUHELIS, M., 2009. Detection and Monitoring of Active Faults in Urban Environments: Time Series Interferometry on the Cities of Patras and Pyrgos (Peloponnese, Greece). *Remote Sensing*, 1, 676-696; doi: 103390/rs1040676
- 13) \*XYPOLIAS P., KOKKALAS S. (2006). Heterogeneous ductile deformation along a mid-crustal extruding shear zone: an example from External Hellenides (Greece). *Geological Society of London, Special Publ.*, 268, 497-516.
- 14) \*DOUTSOS, T., KOKKALAS, S. 2001. Stress and deformation in the Aegean region. *Journal of Structural Geology* 23, 455-472.