

Curriculum Vitae Skeleton

Name: Dr. Sarris Ernestos

Address: **Office:** 46, Makedonitissis street, Engomi, Nicosia.
Home: 6, Salonica street, Ayios Pavlos, Nicosia.
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E-mail: sarris.e@unic.ac.cy ; esarris@hotmail.com ; ernestos.sarris@gmail.com

Personal: **Birthday:** 8/10/1978
Marital status: Married with 1 Child
(optional)

Education: **Undergraduate work:** B.Sc Mineral Resources
Engineering, 2004
(Degree, Date received)

Graduate work: Ph.D. Civil Engineering – Petroleum
Geomechanics, 2011.
M.Sc. Environmental
Geotechnology, 2005.

(Degree, Date received)

Postgraduate work: 1) Computational
Nanomechanics
2) Computational hydraulics
3) Computational mechanics
with applications in petroleum
related rock mechanics

(post-doc)

Positions Held: Assistant Professor (9/2015-present)

(reverse chronological order)

Areas of Concentration/ Research Interests:

Petroleum Geomechanics: Petroleum rock mechanics which includes problems in hydraulic fracturing, sanding prediction and control, wellbore stability, multiphase flows with applications in the CO₂ geological storage and enhanced oil recovery EOR.

Applied Mechanics: Poromechanics with applications; transport phenomena in porous media, fracture mechanics, plasticity theory, nano-indentation, analytical methods utilizing the Muskhelishvili-Kolossov complex potential theory, aquifer recharge in hydrology.

Computational Methods: Finite elements, finite volumes, singular integral equations.

Professional Associations

Organization/field	Title
A) Society of petroleum engineers (SPE)	Member (ID: 3579797)
B) American rock mechanics association (ARMA)	Member (ID: 3020359)
C) Scientific and Technical Chamber of Cyprus (TCC)	Member (ID: A099707)

Funding (grants, contracts, research awards)

(source, date, project amount)

A) Grands

- 1) Research Promotion Foundation, Title: The Risk of Formation Fracturing in CO2 Geological Storage, 05/2012-03/2015, 125000 EURO.
- 2) Research Promotion Foundation, Title: Numerical Simulation of the Hydraulic Fracturing Technique for Applications in Soils Remediation, 05/2006-05/2009, 78500 EURO.

B) Contracts

- 1) Nireas International Water Research Centre, Title: Modelling wellbore recharge, 10/2011-05/2012, 21600 EURO.
- 2) Cyprus University of Technology (CUT), Title: Modelling Nanomechanics, 05/2011-10/2011, 13500 EURO.
- 3) University of Cyprus (UCY), Title: Scaling of plastic zones in hydraulic fracturing, 09/2010-12/2011. 15000 EURO.

C) Awards

None

Awards/Distinctions: None

(for teaching, research, service)

Languages:

- A) Greek (Native)
- B) English
- C) French

(Fluent Proficient Competent)

Research & Publications

Doctoral Dissertation

Title: “*Modelling of fluid driven fractures in cohesive poroelastoplastic formations*”

Abstract:

The fluid driven problem arises in hydraulic fracturing, a technique widely used in the petroleum industry to enhance the recovery of hydrocarbons in low permeability underground reservoirs. In practice, attention is focused on the prediction of the propagation pressure at wellbore which is normally measured during the treatment and is usually the only parameter available to evaluate the success of the operation. The main objective of this research is to investigate the discrepancy between classical hydraulic fracturing simulators, which often underestimate the measured down-hole pressures, and field observations by utilizing advanced theories of fluid mechanics, fracture mechanics and poroelastoplasticity.

Based on the analysis of the physical problem a model that governs the fluid driven fracture was build and solved numerically with the finite element code Abaqus. The equations that describe the fluid driven fracture are coupled and highly non-linear. The deformation of the porous continuum is obtained by the derivation of the equilibrium equation for the porous media incorporating the effective stress principle. Fluid flow in the porous domain is governed by a continuity equation and the Darcy law. Fluid flow inside the fracture is modeled with lubrication theory and a diffusion equation for the fluid infiltration from the fracture into the surrounding medium. The inelastic behavior of the porous continuum is described by Mohr-Coulomb yield criterion with an associative flow rule.

The first part of this research is concerned with fracture analysis based on cohesive zone approach. We examined the influence of bilinear and exponential forms constitutive laws on the fracture process zone in impermeable and permeable fluid driven fractures. It is demonstrated that the crack profiles and the propagation pressures are larger in the case of elastic-softening cohesive model compared to the results of the rigid-softening cohesive model for both elastic and poroelastic cohesive solids. It is found that the results are affected by the slope of the loading branch of the cohesive model and they are nearly unaffected from the exact form of the softening branch. Furthermore, the size of the process zone, the fracture geometry and the propagation pressure increase with increasing confining stresses.

In the second part we studied the hydraulic fracturing in a cohesive poroelastic formation. We found that higher pressures are needed to extend a fracture in a poroelastic medium than in an elastic and the created profiles of poroelastic fracture are wider. We found that grain compressibility plays a minor role and does not result to any significant difference on the fluid pressures and fracture dimensions. Wider fracture profiles are obtained with higher injection rates. The fluid pressures and the fracture apertures are larger in the case of a high permeability formation.

In the last part we studied the hydraulic fracturing in a cohesive poroelastoplastic formation. We propose a scaling of the size of the plastic zones with the most important parameters and examined the validity of the scaling law through a series of computations. We found that size of the process zone which includes plastic zone increase with a) the elastic-softening cohesive fracturing model b) with the stress deviator c) with the injection rate and d) formation pressure. In cases of low injection rates and low formation pressure the fluid filtration creates back stresses which tend to reduce the fracture width in the bulk of the fracture. Summarizing the results obtained in this research, a mathematical model is proposed based on the physical processes that are dominant in a fluid driven fracture propagating in a cohesive poroelastoplastic rock formation for explaining the elevated net pressures observed in field treatments.

Books Edited, Written or Translated

1) Papanastasiou P., Roussis P., Loukidis D., Katsikadelis J. and **E. Sarris** (Editors) Proceedings of the 9th HSTAM-International Congress on Mechanics, Limassol, Cyprus, July 12-14, (2010).

Chapters in Books

1) Papanastasiou P. and **Sarris. E.** “Cohesive Zone Models” in Porous Rock Failure Mechanics: with application to hydraulic fracturing, drilling and structural engineering”. Eds. Sojaei A., and J Shao. Elsevier (2017).

2) **Sarris, E.**, Agioutantis, Z., Kaklis, K. and Kourkoulis, “Numerical simulation of the cracked Brazilian disk under diametrical compression”, *Bifurcations, Instabilities, Degradation in Geomechanics*, Springer-Verlag, (2007).

3) Markides Ch., **Sarris E.**, Pazis D.N., Agioutantis Z., Kourkoulis S. K., “Marble discs under distributed loading: theoretical, numerical and experimental analysis”, *Fracture of Nano and Engineering Materials and Structures*, Springer-Verlag, (2006).

Monographs

1) **Ph.D. Thesis:** “Modelling of fluid driven fractures in cohesive poroelastoplastic formations”

2) **M.Sc. Thesis:** “Numerical and theoretical investigation of the stress and strain fields in Brazilian discs with cracks and notches”

3) **B.Sc. Thesis:** “Blasting waves modelling in mining operations with finite elements”

Journal Articles – in print or submitted for publication

1) **Sarris E.**, Gravanis E., Papanastasiou P. “On the Pressure Analysis for Cap Integrity for Carbon Dioxide Sequestration in Saline Aquifers” *International Journal of Geomechanics*. (Under Review).

2) Photiou D., **Sarris E.**, and Constantinides G. “Erratum to “On the Conical Indentation Response of Elastic Auxetic Materials: Effects of Poisson’s Ratio, Contact Friction and Cone Angle [Int. L. Solids Struct. 81, (2016), 33-42]”, *International Journal of Solids and Structures*, doi.org/10.1016/j.ijsolstr.2016.09.032, (2017).

3) Papanastasiou P., Kyriakou, A., **Sarris E.** “Constraining The In-Situ Stresses in a Tectonically Active Offshore Basin in Eastern Mediterranean” *Journal of Petroleum Science and Engineering* (2016) <http://dx.doi.org/10.1016/j.petrol.2016.10.033>.

4) Photiou D., Prastiti N., **Sarris E.**, and Constantinides G. “On the Conical Indentation Response of Elastic Auxetic Materials: Effects of Poisson’s Ratio, Contact Friction and Cone Angle”, *International Journal of Solids and Structures*, vol.81(1), pp. 33-42, (2015).

5) Gravanis E., **Sarris E.**, and Papanastasiou P. “Hydro-Mechanical Erosion Models for Sand Prediction”, *International Journal for Numerical and Analytical Methods in Geomechanics*, (2015) DOI: 10.1002/nag.2383.

6) Atkinson C., **Sarris E.**, Gravanis E., and Papanastasiou P. “On Certain Integral Equations Arising in the Analysis of Wellbore Recharge in Anisotropic Formations”, *Applied Mathematical Modelling*, (2015) DOI: 10.1016/j.apm.2015.05.010.

- 7) **Sarris E.**, Papanastasiou P. “The Influence of Pumping Parameters in Fluid-driven Fractures in Weak Porous Formations” *International Journal for Numerical and Analytical Methods in Geomechanics*, (2014) DOI:10.1002/nag.2330.
- 8) **Sarris E.**, Gravanis E., Papanastasiou P. “Computational Investigation of the Flow Regimes and Interface Evolution in the Carbon Dioxide Sequestration Problem in saline Aquifers”, *Transport in Porous Media*, vol.103(3), pp. 341-359, (2014).
- 9) **Sarris E.**, Constantinides G. “Finite element modeling of nanoindentation on C-S-H: effect of pile-up and contact friction”, *Cement and Concrete Composites*, vol. 36, pp. 78-84, (2013).
- 10) **Sarris E.**, Papanastasiou P. “Numerical modeling of fluid-driven fractures in cohesive poroelastoplastic continuum”, *International Journal for Numerical and Analytical Methods In Geomechanics*, (2012), DOI: 10.1002/nag.2111
- 11) **Sarris E.**, Papanastasiou P. “The Influence of the Poroelastic Cohesive Process Zone in Hydraulic Fracturing”, *International Journal of Geomechanics*, ASCE–U.S (2011). DOI:10.1061/(ASCE) GM.1943-5622.0000121.
- 12) **Sarris E.**, Papanastasiou P. “The Influence of Cohesive Process Zone in Hydraulic Fracturing Modelling”, *International Journal of Fracture*, Springer, vol. 167, pp. 33-45, (2010).
- 13) **Sarris, E.**, Agioutantis Z. “Numerical simulation of the dynamic phase during rock blasting”, *Mineral Wealth*, (2004), vol. 133, pp. 9-18, 2004 (in Greek).

Bulletins or Reports

None

Abstracts – in print or accepted

None

Conference Proceedings

- 1) **Sarris, E.**, Cheimonas, T., and Gravanis E., “The Influence of Pore Pressure on Formation Stability after Hydraulic Fracturing”. 5th International Conference on Computational Modeling of Fracture and Failure of Materials and Structures. Nantes, France, June 14-16, (2017).
- 2) Daria, K., and **Sarris, E.**, “CFD Analysis of the Interface Evolution from Carbon Dioxide Sequestration for EOR”. East Meets West Congress, Cracow, Poland, April 4-6, (2017).
- 3) Gravanis, E. **Sarris, E.**, and Papanastasiou, P., “A Hydro-Mechanical Erosion Analytical Model for Sand Prediction”. 50th US Rock Mechanics/Geomechanics Symposium (ARMA). Houston, TX, June 26- 29, (2016).
- 4) Photiou. D., **E. Sarris**, and G. Constantinides. “Indentation Resistance of Elastic and Elastic-plastic Auxetic Materials: A Finite Element Study” 13th International Conference on Nanosciences & Nanotechnologies (NN16). Thessaloniki, Greece, 5-8 July (2016).
- 5) Photiou D., N. Prastiti, **E. Sarris** and G. Constantinides, “Indentation Resistance Enhancement of Auxetic Materials: A Numerical Investigation”, XXXI Panhellenic Conference on Solid State Physics and Materials Science, Thessaloniki, Greece, 20-23 September (2015).

- 6) **Sarris, E.**, Gravanis, E. and Papanastasiou, P., “CO₂ Injection for Geological Storage”. 8th GRACM International Congress on Computational Mechanics, Volos Greece, July 12-15, (2015).
- 7) **Sarris, E.**, and Papanastasiou, P., “Numerical Investigation of a Hydraulic Fracture Driven in Weak Poroelastic Formation”. 48th US Rock Mechanics/Geomechanics Symposium (ARMA). Minneapolis, MN, June 1- 4, (2014).
- 8) **Sarris, E.**, and G. Constantinides, “Nanoindentation on Cohesive-Frictional Materials: A Computational Study ” XXIX Panhellenic Conference of Solid State Physics and Materials Science, National Technical University of Athens NTUA, September, 22-25, (2013).
- 9) **Sarris, E.**, and Papanastasiou, P., “The Influence of Pumping Parameters in Fluid-Driven Fractures.”. 3rd South-East European Conference on Computational Mechanics-an ECCOMAS and IACM Special Interest Conference SEECCM III, Kos Island, Greece, June 12–14, (2013).
- 10) **Sarris, E.**, Gravanis, E., and Papanastasiou, P., “The flow regimes of carbon dioxide injection in porous media.”. 10th HSTAM International Congress on Mechanics, Chania, Crete, Greece, May 25-27, (2013).
- 11) Kleovoulou, K., **Sarris, E.**, Kelires, P.C., Constantinides, G., and Hadjiconstantinou, N.G., “Multi-scale/multi-physics modelling of cantilever based gas sensors.”. 9th International Conference on Nanosciences & nanotechnologies – NN12, Thessaloniki, Greece, July 3-6, (2012).
- 12) **Sarris, E.** and Constantinides, G., “Finite Element Modeling of Indentation Testing on Cohesive-Frictional Films.”. 9th International Conference on Nanosciences & nanotechnologies – NN12, Thessaloniki, Greece, July 3-6, (2012).
- 13) **Sarris, E.** and Constantinides, G., “Computational modeling of indentation on cohesive-frictional materials.”. 4th International Conference on Nanotechnology in Construction-NICOM4, Agios Nikolaos, Crete, Greece, May 20-22, (2012).
- 14) **Sarris, E.** and Papanastasiou, P., “Plastic zone scaling of hydraulic fractures in cohesive poroelastoplastic continuum.”, 7th GRACM International Congress on Computational Mechanics, Athens, Greece, (2011).
- 15) **Sarris, E.** and Papanastasiou, P., “Modelling of Hydraulic Fracturing in Weak Poroelastoplastic Formation.”, 13th International Conference of the International Association for Computer Methods and Advances in Geomechanics, Melbourne, Australia, May 9-13, (2011).
- 16) **Sarris, E.** and Papanastasiou, P., “The influence of in-situ stress and pore pressure fields in hydraulic fracturing under poroelastoplastic conditions.”, 9th HSTAM-International Congress on Mechanics, Limassol, Cyprus, July 12-14, (2010).
- 17) **Sarris, E.** and Papanastasiou, P., “Computational Modelling of Non-Linear Processes in Hydraulic Fracturing”, 2nd SEECCM-South-East European Conference on Computational Mechanics, Island of Rhodes Greece, June 22-24, (2009).
- 18) **Sarris, E.** and Papanastasiou, P., “Investigation of the Cohesive Process Zone in Hydraulic Fracture Simulations”, 6th GRACM International Congress on Computational Mechanics, Sallonica Greece, (2008).
- 19) Papanastasiou, P. and **Sarris, E.**, “The Influence of the Cohesive Zone in Hydraulic Fracturing”, The Inaugural International Conference of the Engineering Mechanics Institute (EM 08), Minneapolis, Minnesota, May 19-21, (2008).

- 20) Sarris, E.** and Papanastasiou, P., “Numerical Simulation of the Fluid-driven Fracture Problem in Porous Medium”, EUROMECH Colloquium 489 Modelling Multiphase Materials, Sweden (2007).
- 21) Markides, Ch., Sarris, E.,** Pazis, D.N., Agioutantis, Z., Kourkoulis, S.K., “Marble discs under distributed loading: theoretical, numerical and experimental analysis”, 16th European Conference of Fracture (2005).
- 22) Psarropoulos, P.N.,** Tsompanakis, Y., Karabatsos, Y., Xiroudakis, G., **Sarris, E.,** “Stability of tailings dams – Part II: Dynamic loading”, International Workshop on Geoenvironment and Geotechnics, (2005).
- 23) Sarris, E.,** Xiroudakis G., Y. Tsompanakis, P.N. Psarropoulos, “Stability of tailings dams – Part I: Static loading”, International Workshop on Geoenvironment and Geotechnics, (2005).
- 24) Sarris, E.** and Agioutantis Z., “Numerical analysis of the dynamic phase of rock blasting under the influence of pre-existing discontinuities”, 5th GRACM International Congress on Computational Mechanics, Vol.1, pp. 445 - 452, Limassol Cyprus, (2005).
- 25) Kaklis, K.N.,** Agioutantis Z.G., **Sarris E.,** and Pateli A., “A theoretical and numerical study of discs with flat edges under diametral compression (flat Brazilian test)”, 5th GRACM International Congress on Computational Mechanics, Vol.1, pp. 437 - 444, Limassol Cyprus, (2005).
- 26) Sarris, E.,** Agioutantis, Z., Kaklis, K. and Kourkoulis, “Numerical simulation of the cracked Brazilian disk under diametral compression”, Proceedings of the 7th International Workshop on Bifurcation, Instabilities and Degradation in Geomechanics, edited by G.E. Exadaktylos and I. Vardoulakis, Chania, Crete, Greece, (2005).
- 27) Sarris, E.** and Agioutantis Z., “Numerical Investigation of Damping in Rock Blasting Operations”, Proceedings, International Conference for MSC Users, Patras, Greece, (2005).

Newspaper Articles

None

Conference Presentations

In the following I provide the numbers of the manuscripts from the previous list that I have presented my research work in peer reviewed International Conferences:

[1, 3, 4, 6, 7, 10, 11, 13, 14, 21, 22, 23, 24]

Poster Sessions

- 1) Kyriakou A., Papanastasiou, P. and **Sarris, E.,** “In-Situ Stress Estimation in Offshore Eastern Mediterranean with Finite Element Analysis”. 8th GRACM International Congress on Computational Mechanics, Volos Greece, July 12-15, (2015).
- 2) **Sarris, E.,** Gravanis, E., and Papanastasiou, P., “Computational Modeling of the Interface Evolution from Carbon Dioxide Sequestration for Enhanced Oil Recovery”. The International Petroleum Technology Conference (IPTC), Doha, Qatar, January 20-22, (2014).

3) **Sarris, E.** and Papanastasiou, P., “Modelling of Hydraulic Fracturing in a Weak Permeable Formation.”. (SPE-151706-PP), North Africa Technical Conference and Exhibition (NATC), Cairo, Egypt, February 20-22, (2012).

Round Table Discussions

None

Symposium Presentation

1) **Sarris, E.** and Papanastasiou, P., “Numerical Investigation of Plastic Zones in Hydraulic Fracturing in Weak Poroelastoplastic Formations.”, 14th Hydraulic Fracturing Summit, Cambridge, MA, USA, June 5-7, (2014).

2) **Sarris, E.** and Papanastasiou, P., “The Influence of Pore Pressure Field on a Propagating Fracture in a Weak Poroelastoplastic Formation.”, 10th Hydraulic Fracturing Summit, Limassol, Cyprus, July 15-18, (2010).

Discussant

None

Invited Speaker

None

Invited Talks, Seminars & Colloquia

1) **Sarris E.** “Advanced Numerical Methods in Rock Engineering”. Civil and Environmental Engineering Department seminars, invited speaker at Chalmers Technical University, Sweden 22nd of September (2016).

2) **Sarris, E.** “Geology of Carbonate Rocks”, in the: *Third Licensing Round: Game-Changing Possibilities*, University of Nicosia, 9th of June (2016).

3) **Sarris, E.,** Gravanis, E., and Papanastasiou, P., “The Risk of Formation Fracturing from CO₂ Sequestration in Geological Formations”, UCY seminar series, 18th of November (2015).

4) **Sarris, E.,** Gravanis, E., and Papanastasiou, P., “The Risk of Formation Fracturing from CO₂ Sequestration in Geological Formations”, Technical University of Crete, Department of Mineral Resources Engineering, Chania, Crete, (2015).

5) **Sarris, E.,** “Modelling of Fluid Driven Fractures in Cohesive Poroelastoplastic Formations”. SPE Chapter Presentation, University of Nicosia, Department Engineering, Oil and Gas Program, Nicosia, Cyprus, April 10, (2014).

6) **Sarris, E.,** “Hydrocarbon (Petroleum and Gas) System in Marine Environments”. Seminar Presentation, University of Nicosia, Department Engineering, Oil and Gas Program,, Nicosia, Cyprus, September 11, (2014).

7) **Sarris, E.,** “The Risk of Formation Fracturing from CO₂ Sequestration”. SPE Chapter Presentation, University of Nicosia, Department Engineering, Oil and Gas Program, Nicosia, Cyprus, December 5, (2014).

Other Scholarly Activities

Conference Organizing

- 9th HSTAM-International Congress on Mechanics, Limassol, Cyprus, July 12-14, (2010)

Editorial Boards

None

Reviewer

- International Journal for Numerical and Analytical Methods in Geomechanics
- Applied Mathematical Modelling
- Simulation Modelling Practice and Theory
- International Journal of Solids and Structures
- Petroleum Science
- Computers and Geotechnics
- Geomechanics for energy and the Environment
- Journal of Petroleum Science and Engineering
- European Journal of Environmental and Civil Engineering

Collaborations

- Professor Panos Papanastasiou, University of Cyprus (UCY). Collaboration field: *Petroleum Geomechanics*.
- Professor Euripides Papamichos, Aristotle University of Thessaloniki (AUTH). Collaboration field: *Petroleum Geomechanics*.
- Associate Professor, George Constantinides, Cyprus University of Technology (CUT). Collaboration field: *Nanomechanics*.
- Professor Vassileios Kelessides, Petroleum Institute at Abu Dhabi (PI). Collaboration field: *Drilling Hydraulics & Drilling Muds*.
- Professor Jean Sulem, Ecole des Ponts est Chaussées (Paris Tech). Collaboration field: *Constitutive Modelling in the CO₂ Sequestration Problem*.
- Professor Emeritus Colin Atkinson, Imperial College of London (Imperial UK). Collaboration field: *Singular Integral Equations Applied for Wellbore Recharge*.
- Dr. Andreas Bernstein, Sintef Petroleum Norway (SINTEF). Collaboration field: *Petroleum Related Rock Mechanics Experimentation for Wellbore Strengthening*.

Consultancies

None

Experience

Administrative

A) Committees served

- | | |
|--|---------------------|
| 1) Mineral and Mining Engineering Committee of (TCC) | Member (ID:A099707) |
| 2) Evaluation Committee for Environmental Reports | Member (ID:A099707) |
| 3) Evaluation Committee for new TCC members | Member (ID:A099707) |

B) Projects managed

1) Research Promotion Foundation, Title: The Risk of Formation Fracturing in CO₂ Geological Storage, 05/2012-03/2015, 125000 EURO.

2) Research Promotion Foundation, Title: Numerical Simulation of the Hydraulic Fracturing Technique for Applications in Soils Remediation, 05/2006-05/2009, 78500 EURO.

Advisory

Doctoral Dissertations

Mr. Demetris Photiou

Title: “*Modeling the Nano-Indentation Technique for Auxetic Materials and Thin Films*”.

Status: Co-advising, Graduation Estimation: May 2018.

Master of Sciences

A) Mr. Benson Chizubem

Title: “*Finite Element Analysis of the Stress Field around Deep Wellbores for Fracture Onset Prediction*”.

Status: Advisor, Graduated: November 2016.

B) Mr. Theodoros Cheimonas

Title: “*Modeling Formation Stability after Hydraulic Fracturing in Weak Reservoirs*”.

Status: Advisor, Graduation Estimation: May 2018.

C) Mr. Aladeyelu abduhahi

Title: “*The Influence of Diffusion in Wellbore Strengthening: A Rock Mechanics Approach*”.

Status: Advisor, Graduation Estimation: February 2018.

D) Mr. Vincent Okoampah

Title: “*Poroelastic Stress Analysis for Wellbore Stability with the Finite Element Method*”.

Status: Advisor, Graduation Estimation: February 2018.

Bachelor of Sciences

A) Miss Marianna Stavrinides

Title: “*Experimental Investigation of Water Transport in Natural Stones*”.

Status: Advisor, Graduation Estimation: February 2018.

B) Mr. Phanourios Theodotou

Title: “*Numerical Analysis of the 3 point Bending test*”.

Status: Advisor, Graduation Estimation: May 2018.

Teaching

A) Courses Taught

Under graduate courses offered/prepared for the Oil and Gas Engineering Program

- Physical Geology (GEOL-110/ OGAS-211)
- Petroleum Geology (GEOL-210/ OGAS-212)
- Rock and Fluid Properties (Drilling muds laboratory) (OGEE-220)
- Well Construction and Completion Design (OGEE-350)
- Special topics in Oil and Gas Engineering (OGEE-490)

Under graduate courses offered/prepared for the Civil and Environmental Engineering Program

- Strength of Materials (MENG-270)
- Soil Mechanics (with Laboratory) (CEE-330)
- Engineering Geology (GEOL-121)
- Foundations and Retaining Structure Design (CEE-431)
- Geotechnical Engineering (CEE-430)

Under graduate courses offered/prepared for the Oil and Gas Management Program

- Fuels Science and Technology (OGAS-215)
- Petroleum Engineering Essentials (OGAS-425)

Post-graduate courses offered/prepared

- Petroleum Geology and Geomechanics (OGEE-510)
- Distant Learning (OGEE-510DL)

Director of Laboratories

- Drilling fluids and muds
- Rock and Soil Mechanics

B) Seminars Designed

None

Extra-Curricular Activities

Assistance/Advising to the SPE student chapter at University of Nicosia.