

Maria A Nikolinakou

Professional Summary

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Business address: The University of Texas at Austin
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Professional Preparation

Academic Background

Sc.D. Geotechnical Engineering, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, June 2008

M.S. Geotechnical Engineering, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, June 2001

Diploma Civil Engineering, National Technical University of Athens, July 1999

Professional Appointments

Research Scientist, Bureau of Economic Geology, The University of Texas at Austin (September 2017-Present)

Geomechanical modeling of salt systems; coupled geomechanical modeling of complex geologic systems; pore-pressure and stress prediction coupling velocities with geomechanical modeling; pore-pressure and stress prediction using the full stress tensor; numerical modeling in salt tectonics, poromechanical basin modeling

Present Position: Research Associate, Bureau of Economic Geology, The University of Texas at Austin (August 2010 - Present). Geomechanical constitutive modeling of sediments adjacent to salt bodies; plasticity and pore-pressure prediction; numerical modeling in salt tectonics, poromechanical basin modeling.

Postdoctoral Associate, Bureau of Economic Geology, The University of Texas at Austin (August 2009 - August 2010). Geomechanical constitutive modeling of salt bodies and host sediments.

Postdoctoral Associate, Shell International Exploration and Production, MIT (August 2008 - August 2009). Reservoir geomechanics.

Theses

Application of the geostatistical program NOMAD-KRIBS to geoenvironmental problems

Dissertations

A constitutive model for the compression behavior of old alluvium

Continuing Education Courses Taken

Engineering Leadership for Early Career Professionals: Massachusetts Institute of Technology, Cambridge, Massachusetts, June 8-12, 2015

Leadership Skills for Engineering and Science Faculty: Massachusetts Institute of Technology, Cambridge, Massachusetts, July 7-8, 2014

ELFEN software month-long short course: Swansea, UK, 2012

Areas of Expertise

Areas of Expertise

Borehole stability
Constitutive modeling of Earth materials
Geomechanic modeling in salt tectonics
Numerical modeling
Pore pressure prediction
Poromechanical basin modeling
Reservoir engineering

Awards

Awards and Honorary Societies

Bureau of Economic Geology Tinker Family Publication Award, 2015
Named one of Future Leaders of the American Rock Mechanics and Geomechanics Association, 2012
Best Technical Paper, 3rd International Conference on Problematic Soils, Adelaide, Australia, April, 2010
George & Marie Vergottis MIT Fellowship, 2005 - 2006
Edmund K. Turner CEE Research Fellowship, 2002
Foundation of Hellenic Government Fellowships (I.K.Y.): Best of the class student in Civil Engineering, 1994 - 1999
Technical Chamber of Greece: Best 1% of all Students in Greek Technical Universities: Academic Years 94/95, 96/97, 97/98, 98/99, 1994 - 1999
MIT Presidential Fellowship, 1999
National Technical University of Athens: Best student in Civil Engineering, graduating class of 1999 Kritikos Prize: Best Performance in Mathematics, during the first year of studies, 1999
National Technical University of Athens: Papakuriakopoulos Prize: Best Performance in Mathematics Thomaidis Prize: Best student in the Department of Civil Engineering, NTUA, 1999
ERASMUS Fellowship, 1997
Technical Chamber of Greece: Best student in the Department of Civil Engineering, NTUA, 1995 - 1996
ERASMUS Fellowship, 1996

Service

University Committees

Organizer, Annual BEG Seminar Series, Bureau of Economic Geology, Austin, Texas, May 2013-May 2014
Member of the Graduate Admissions & Support Committee, Jackson School of Geosciences, August 2021-Present
GSC Member, Member of the Graduate Studies Committee, Jackson School of Geosciences, August 2019-Present

External Committees Participation

Board member, American Rock Mechanics Association (ARMA), June 2015-Present

Co-chair, 49th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 28-July 1, 2015

Reviewer, 49th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 28-July 1, 2015

Session organizer, 49th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 28-July 1, 2015

Student trivia organizer, 49th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 28-July 1, 2015

Career corner and student trivia co-organizer, 47th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 23-26, 2013

Co-chair, 47th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 23-26, 2013

Reviewer, 47th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 23-26, 2013

Session organizer, 47th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 23-26, 2013

Member, Organizing Committee, 47th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, June, 2013

Member, Organizing Committee, 47th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, 2013

Invited Keynote Lecturer, Third Geoquus International Conference, Potsdam, Germany, August 21-23,, 2012

Reviewer, 46th U.S. Rock Mechanics/Geomechanics Symposium, Chicago, June 24-28,, 2012

Co-Chair, Session at ARMA 2012 Symposium, American Rock Mechanics Association, 2012

Member, First Class, ARMA Future Leaders, 2012

Member, Poster-Judging Committee at ARMA 2012 Symposium, American Rock Mechanics Association, 2012

Reviewer, Geo-Congress 2012, Oakland, California, March 25-19, , 2012

Reviewer, 45th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, June 26-29, , 2011

Reviewer, 44th U.S. Rock Mechanics/Geomechanics Symposium, Salt Lake City, June 27-30, , 2010

Outreach Activities

President of MIT Club of Austin and San Antonio; coordinate STEM activities for high school students and younger: October 2014-Present.

Proposal Review Panels Participation

ACS Petroleum Research Fund (Advancing and Deformation of Salt Sheets: A Systematic Numerical Study; invited evaluation of research proposal), 2015

International Journal for Numerical and Analytical Methods in Geomechanics (Article), 2012

Journal of Geotechnical and Geoenvironmental Engineering (ASCE) (Article), 2012

Journal of Rock Mechanics and Mining Sciences (Article), 2012

Journal of Rock Mechanics and Rock Engineering (Article), 2012

Teaching and Advising

University Courses Taught

Berlin deep excavations and on old alluvium constitutive modeling: research presentation at Civil & Environmental Engineering Department, MIT, Boston, Massachusetts, 2006.

Flying buttresses: invited research presentation to graduate class, Architecture, MIT, Boston, Massachusetts, 2006.

Student Committee Supervision

Chair, Examining Committee, Stacie Skwarcan, 2022

Supervisor, Graciela Campos Lopez, 2022

Co-Director, Jean-Joseph d'Hoogvorst, PhD, University of Barcelona, 2021

Committee member, David Wiggs, MSc, 2021

Chair, Examining Committee, Ana María Restrepo Acevedo, 2020

Co-supervisor, Landon Lockhart, PhD candidate, 2020

Co-Supervisor, Landon Lockhart, MSc, 2018

Committee member, Baiyuan Gao, PhD, 2018

Committee member, Andrea Nolring, PhD, 2017

Committee member, Derek Sawyer, PhD, 2010

Student Committee Participation

Member, Ph.D. Dissertation Committee, Andrea Nolting, The University of Texas at Austin, 2015

Member, Ph.D. Dissertation Committee, Baiyuan Gao, The University of Texas at Austin, 2014

Member, Ph.D. Dissertation Committee, D. Sawyer, Failure Mechanics, Transport Behavior, and Morphology of Submarine Landslides, The University of Texas at Austin, 2010

Presentations

Invited Presentations

The Role of Salt Tectonics in the Energy Transition: An Overview and Future Challenges: presented to Salt as Store, Seal, Trap, and Repository Session, presented at Energy Geoscience Conference, Aberdeen, UK, May 16-18, 2023.

Renaissance of North Sea Salt Tectonics: Permian and Triassic Salt Tectonics of the Central North Sea: presented to Norwegian Petroleum Directorate FORCE group (consortium of Norwegian oil companies), presented at Salt Tectonics Webinar, online webinar, December 9, 2020.

Modeling of shales in salt-hydrocarbon systems: presented at 13th International Congress on Rock Mechanics, Montreal, Canada, May 10-13, 2015.

Geomechanical modeling around a rising salt diapir: presented to Earth and Planetary Sciences Department, MIT, Cambridge, MA, May 13, 2014.

Impact of salt diapir evolution on stress and pressure: presented at SPE/AAPG/SEG Pore Pressure Workshop, March 11-12, 2014.

Impact of salt diapir evolution on stress and pressure: presented at SPE/AAPG/SEG Pore Pressure Workshop, San Antonio, Texas, March 10-12, 2014.

Geomechanical modeling of stresses and pore pressures in mudstones adjacent to salt bodies:

presented to 3rd International Geoquus Workshop, Potsdam, Germany, August 21-23, 2012.

Geomechanical modeling of stresses and pore pressures in mudstones adjacent to salt bodies: presented to invited keynote address presented at 3rd International Geoquus Workshop, Potsdam, Germany, August 21-23, 2012.

The Role of Salt Tectonics in the Energy Transition: An Overview and Future Challenges: presented to Multi-scale Laboratories Seminars, presented at Online, March 14, 2023-Present.

Geomechanical modeling of stresses adjacent to salt bodies: presented to SEG Advanced Modeling (SEAM) Pressure Prediction project meeting, Houston, TX, January 21, 2015-Present.

Modeling stress evolution around a rising salt dome: presented to Houston Geomechanics Series, Houston, TX, February 12, 2014-Present.

Presentations

Deformation and stresses in layered evaporite systems: presented to Applied Geodynamics Laboratory Consortium Members, presented at Applied Geodynamics Laboratory Consortium Annual Meeting 2022, Austin, Tex., November 10-11, 2022.

Potential Controls on the Origin, Nature, and Distribution of Shear Zones in Salt Stocks: Salt Tectonic Insights with a Solution Mining Perspective: presented to Solution Mining Research Institute, presented at Solution Mining Research Institute Spring Technical Conference 2022, Rapid City, S. Dak., May 4, 2022.

Renaissance of North Sea Salt Tectonics: Late Permian and Triassic Salt Tectonics of the Central North Sea: presented to AAPG Europe, presented at Stratigraphic and Reservoir Challenges with Triassic Plays in the North Sea - Workshop, Online conference, January 26, 2021.

3D Geometries of Natural and Physically Modelled Salt Walls: Salt Stocks, Salt Sheets, and Perched Minibasins: presented to AGL Consortium, presented at AGL Annual Consortium Meeting, Online, November 11-13, 2020.

Mechanical models of mobile shales: presented to Applied Geodynamics Laboratory Consortium Members, presented at Applied Geodynamics Laboratory Consortium Annual Meeting 2020, Austin, Tex., November 11-13, 2020.

Renaissance of North Sea Salt Tectonics: Permian and Triassic Salt Tectonics of the Central North Sea: presented to AGL Consortium, presented at AGL Annual Consortium Meeting, Online, November 11-13, 2020.

Stress changes associated with the evolution of a salt diapir into a salt sheet: presented to 49th US Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 28-July 1, 2015.

Modeling of shales in salt-hydrocarbon systems (Junior Keynote): presented to 13th International Congress on Rock Mechanics, Montreal, Canada, May 10-13, 2015.

Geomechanical modeling near salt systems: presented to Geosystems Department, Georgia Institute of Technology, Atlanta, GA, April 3, 2015.

Geomechanical modeling of diaper-to-salt-sheet transition with concurrent sedimentation: presented to British Petroleum, Houston, TX, March 24, 2015.

Pore-pressure prediction based on seismic velocities coupled with geomechanical modeling: presented to British Petroleum, Houston, TX, March 24, 2015.

Stress, strain, and potential failure in upturned flaps around salt domes: presented to British Petroleum, Houston, TX, March 24, 2015.

Salt dome to salt sheet transitions: presented to Statoil, Austin, TX, February 2, 2015.

Salt welds: presented to Statoil, Austin, TX, February 2, 2015.

Upturned flaps near salt domes: presented to Statoil, Austin, TX, February 2, 2015.

Seminar on evolutionary salt modeling: presented to Anadarko Petroleum Corporation, Woodlands, TX, January 27, 2015.

Geomechanical modeling of stresses adjacent to salt bodies: presented to SEG Advanced Modeling (SEAM) Pressure Prediction project meeting, Houston, TX, January 21, 2015.

Modeling stress evolution around a rising salt diapir: presented to GeoMod2014, Potsdam Germany, August 31-September 5, 2014.

Comparison of evolutionary and static modeling of stresses around a salt dome: the importance of modeling the past: presented to 48th US Rock Mechanics/Geomechanics Symposium, Minneapolis, MN, June 1-4, 2014.

Modeling stress evolution around a rising salt dome: presented to Houston Geomechanics Discussion Group, Houston, TX, February 12, 2014.

Modeling stress evolution around a rising salt dome: presented to Hess Corporation, February 2014.

Modeling stress evolution around a rising salt dome: presented to Cobalt International Energy, presented at Lunch & Learn, January 2014.

Pore pressure and stress around dipping structures: presented to 5th Biot Conference on Poromechanics, Vienna, Austria, July 10-12, 2013.

Geomechanical modeling of the Mad Dog salt, Gulf of Mexico: presented to 47th US Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 23-26, 2013.

Modeling stress evolution around a rising salt dome: presented to Anadarko Petroleum Corporation, presented at Lunch & Learn, May 2013.

Modeling stress evolution around a rising salt dome: presented to Schlumberger Far East, presented at a webinar, May 2013.

Modeling Stress Evolution Around a Rising Salt Dome: presented to Schlumberger, Lunch & Learn, May 2013.

Geomechanical modeling in energy exploration: presented to Department of Civil and Environmental Engineering, Rensselaer Polytechnic Institute, April 2013.

Salt-sheet advance over poro-elastic sediments: topography, contact friction, overpressure: presented to American Geophysical Union Fall Meeting, San Francisco, CA, December 3-7, 2012.

Soil model for rock properties prediction in exploration settings: presented at the 46th U.S. Rock Mechanics/Geomechanics Symposium, Chicago, Illinois, June 24-28, 2012.

Stress changes at the crest of dipping structures: presented at the 46th U.S. Rock Mechanics/Geomechanics Symposium, Chicago, Illinois, June 24-28, 2012.

How does salt affect stresses and pore pressures? From simple geometries to salt-sheet advance: presented at Cardiff University, Wales, UK, March 29, 2012.

Geomechanical modeling in energy exploration: presented to the Civil, Architectural, and Environmental Engineering Department, The University of Texas at Austin, Austin, Texas, March 6, 2012.

Stresses and pore pressures at the crest of dipping structures: presented at Geopressure 2011, Galveston, Texas, October 2-5 2011.

Modeling advancing salt sheets--with analogies to ice sheets--over poroelastic sediments: presented at the Institute of Geophysics, The University of Texas at Austin, Austin, Texas, September 2 2011.

Geomechanical modeling of stresses and pore pressures in mudstones adjacent to salt bodies: presented at the 45th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, California, June 26-29 2011.

Geomechanical modeling of stresses adjacent to salt bodies: poro-elasto-plasticity and coupled overpressures: presented at American Association of Petroleum Geologists Convention, Houston, Texas, April 2011.

Stresses and overpressures near salt bodies predicted by coupled geomechanical analyses: poster presented at the American Geophysical Union Fall Meeting, San Francisco, California, December 13-17, 2010.

Geomechanical modeling of stresses and pore pressures adjacent to salt bodies: poro-elasto-plasticity and coupled overpressures: presented at ExxonMobil Upstream Research Company, Austin, Texas, October 2010.

A constitutive model for the compression behavior of the old alluvium in Puerto Rico: presented at 3rd International Conference on Problematic Soils, Adelaide, Australia, April 2010.

Geology, geotechnical engineering, and the energy industry: presented at University of Illinois, Urbana-Champaign, Illinois, November 2009.

Geomechanical models for reservoir sands: presented to Schlumberger, Doll Research, Boston, Massachusetts, June 2009.

Introducing/adapting ABAQUS© to numerical modeling workflow: presented at semiannual research review meeting, Shell International Exploration and Production, Houston, Texas, June 2009.

Modeling of reservoir depletion: constitutive model selection, test data discussion, input calibration, 2D and 3D models: presented at semiannual research review meeting, Shell International Exploration and Production, Houston, Texas, June 2009.

Selection and calibration of geomechanical models for reservoir sands: presented at Jackson School of Geosciences, Austin, Texas, May 2009.

Principles of MIT-S1 soil model and methodology for parameter calibration: presented at Lunch and Learn, Shell International Exploration and Production geophysics group, Houston, Texas, October 2008.

Selection of input parameters for studied reservoir sand; discussion of observed shale behavior: presented at semiannual research review meeting, Shell International Exploration and Production, Houston, Texas, October 2008.

Early gothic flying buttresses: presented at International Congress on Construction History, Cambridge University, U.K., 2006.

MIT-France Research Workshop on Historic Structures: presented at Ecole d'Architecture Paris La Villette, France, Paris, France, 2006.

The Role of Salt Tectonics in the Energy Transition: An Overview and Future Challenges: presented to GeoH2 Consortium Members, presented at GeoH2 Annual Consortium Meeting, Austin, Texas, October 18, 2022-Present.

Activities of a Professional Nature

Professional Societies

American Geophysical Union

American Rock Mechanics Association

American Society of Civil Engineers

Geotechnical Engineering, Texas Section

Technical Chamber of Greece

Activities of a Professional Nature

Treasurer & Executive Committee member, American Rock Mechanics Association (June 2017-July 2021)

Board member, American Rock Mechanics Association (June 2015-July 2021)

Chair, 55th Rock Mechanics and Geomechanics Symposium, Houston TX (June 2021)

Publications

Peer Reviewed Journal Articles

Nikolinakou, M. A., Flemings, P. B., Gao, B., and Saffer, D. M., 2023, The evolution of pore pressure, stress, and physical properties during sediment accretion at subduction zones: *Journal of Geophysical Research: Solid Earth*, v. 128, no. 6, article no. e2022JB025504, 38 p., <http://doi.org/10.1029/2022JB025504>.

Nikolinakou, M. A., Whittle, A. J., Germaine, J. T., and Zhang, G., 2022, Consolidation properties and structural alteration of Old Alluvium: *Acta Geotechnica*, v. 17, no. 5, p. 1569-1584, <http://doi.org/10.1007/s11440-021-01330-6>.

Heidari, M., Nikolinakou, M. A., Hudec, M. R., and Flemings, P. B., 2021, Impacts of vertical salt welding on pore pressure, stresses, and deformation near the weld: *Marine and Petroleum Geology*, v. 133, no. 105259, 18 p., <http://doi.org/10.1016/j.marpetgeo.2021.105259>.

Nikolinakou, M. A., and Whittle, A. J., 2021, Constitutive model of structural alteration and swelling behavior for Old Alluvium: *Engineering Geology*, v. 293, no. 106307, 16 p., <http://doi.org/10.1016/j.enggeo.2021.106307>.

Heidari, M., Nikolinakou, M. A., and Flemings, P. B., 2020, Modified Cam-Clay Model for large stress ranges and its predictions for geological and drilling processes: *Journal of Geophysical Research Solid Earth*, v. 125, no. e2020JB019500, 21 p., <http://doi.org/10.1029/2020JB019500>.

Hooghvorst, J. J., Harrold, T. W. D., Nikolinakou, M. A., Fernandez, O., and Marcuello, A., 2020, Comparison of stresses in 3D v. 2D geomechanical modelling of salt structures in the Tarfaya Basin, West African coast: *Petroleum Geoscience*, v. 26, no. 1, p. 36-49, <http://doi.org/10.1144/petgeo2018-095>.

Portnov, A., Cook, A. E., Heidari, M., Sawyer, D. E., Santra, M., and Nikolinakou, M., 2020, Salt-driven evolution of a gas hydrate reservoir in Green Canyon, Gulf of Mexico: *AAPG Bulletin*, v. 104, no. 9, p. 1903-1919, <http://doi.org/10.1306/10151818125>.

Heidari, M., Nikolinakou, M. A., Hudec, M. R., and Flemings, P. B., 2019, Influence of a reservoir bed on diapirism and drilling hazards near a salt diapir: a geomechanical approach: *Petroleum Geoscience*, v. 25, p. 282-297, <http://doi.org/10.1144/petgeo2018-113>.

Nikolinakou, M. A., Heidari, M., Hudec, M. R., and Flemings, P. B., 2019, Stress and deformation in plastic mudrocks overturning in front of advancing salt sheets; implications for system kinematics and drilling: *Rock Mechanics and Rock Engineering*, v. 52, no. 12, p. 5181-5194, <http://doi.org/10.1007/s00603-019-01852-2>.

Coleman, A. J., Jackson, C. A.-L., Duffy, O. B., and Nikolinakou, M. A., 2018, How, where, and when do radial faults grow near salt diapirs?: *Geology*, v. 46, no. 7, p. 655-658, <http://doi.org/10.1130/G40338.1>.

Gao, B., Flemings, P. B., Nikolinakou, M. A., Saffer, D. M., and Moghadam, M. H., 2018, Mechanics of fold-and-thrust belts based on geomechanical modeling: *Journal of Geophysical Research: Solid Earth*, v. 123, no. 5, p. 4454-4474, <http://doi.org/10.1029/2018JB015434>.

Heidari, M., Nikolinakou, M. A., and Flemings, P. B., 2018, Coupling geomechanical modeling with seismic pressure prediction: *Geophysics*, v. 83, no. 5, p. B253-B267,

<http://doi.org/10.1190/geo2017-0359.1>.

Nikolinakou, M. A., Flemings, P. B., Moghadam, M. H., and Hudec, M. R., 2018, Stress and pore pressure in mudrocks bounding salt systems: *Rock Mechanics and Rock Engineering*, v. 51, no. 12, p. 3883-3894, <http://doi.org/10.1007/s00603-018-1540-z>.

Nikolinakou, M. A., Moghadam, M. H., Flemings, P. B., and Hudec, M. R., 2018, Geomechanical modeling of pore pressure in evolving salt systems: *Marine and Petroleum Geology*, v. 93, p. 272-286, <http://doi.org/10.1016/j.marpetgeo.2018.03.013>.

Nolting, A., Zahm, C., Kerans, C., and Nikolinakou, M. A., 2018, Effect of carbonate platform morphology on syndepositional deformation: insights from numerical modeling: *Journal of Structural Geology*, v. 115, p. 91-102, <http://doi.org/10.1016/j.jsg.2018.07.003>.

Luo, G., Hudec, M. R., Flemings, P. B., and Nikolinakou, M. A., 2017, Deformation, stress, and pore pressure in an evolving suprasalt basin: *Journal of Geophysical Research: Solid Earth*, v. 122, no. 7, p. 5663-5690, <http://doi.org/10.1002/2016JB013779>.

Moghadam, M. H., Nikolinakou, M. A., Flemings, P. B., and Hudec, M. R., 2017, A simplified stress analysis of rising salt domes: *Basin Research*, v. 29, no. 3, p. 363-376, <http://doi.org/10.1111/bre.12181>.

Nikolinakou, M. A., Heidari, M., Hudec, M. R., and Flemings, P. B., 2017, Initiation and growth of salt diapirs in tectonically stable settings: upbuilding and megaflaps: *AAPG Bulletin*, v. 101, no. 6, p. 887-905, <http://doi.org/10.1306/09021615245>.

Moghadam, M. H., Nikolinakou, M. A., Hudec, M. R., and Flemings, P. B., 2016, Geomechanical analysis of a welding salt layer and its effects on adjacent sediments: *Tectonophysics*, v. 683, p. 172-181, <http://doi.org/10.1016/j.tecto.2016.06.027>.

Nikolinakou, M. A., Flemings, P. B., and Hudec, M. R., 2016, Modeling of shales in salt-hydrocarbon systems: *Rock Mechanics Rock Engineering*, v. 49, p. 699-705, <http://doi.org/10.1007/s00603-015-0863-2>.

Luo, G., Flemings, P. B., Hudec, M. R., and Nikolinakou, M. A., 2015, The role of pore fluid overpressure in the substrates of advancing salt sheets, ice glaciers, and critical-state wedges: *Journal of Geophysical Research: Solid Earth*, v. 120, no. 1, p. 87-105, <http://doi.org/10.1002/2014JB011326>.

Nikolinakou, M. A., Flemings, P. B., and Hudec, M. R., 2014, Modeling stress evolution around a rising salt diapir: *Marine and Petroleum Geology*, v. 51, p. 230-238, <http://doi.org/10.1016/j.marpetgeo.2013.11.021>.

Nikolinakou, M. A., Hudec, M. R., and Flemings, P. B., 2014, Comparison of evolutionary and static modeling of stresses around a salt diapir: *Marine and Petroleum Geology*, v. 57, p. 537-545, <http://doi.org/10.1016/j.marpetgeo.2014.07.002>.

Sawyer, D. E., Flemings, P. B., and Nikolinakou, M. A., 2013, Continuous deep-seated slope failure recycles sediments and limits levee height in submarine channels: *Geology*, v. 42, no. 1, doi: 10.1130/G34870.1.

Luo, G., Nikolinakou, M. A., Flemings, P. B., and Hudec, M. R., 2012, Geomechanical modeling of stresses adjacent to salt bodies: Part 1--uncoupled models: *AAPG Bulletin*, v. 96, no. 1, p. 43-64.

Nikolinakou, M. A., Luo, G., Hudec, M. R., and Flemings, P. B., 2012, Geomechanical modeling of stresses adjacent to salt bodies: Part 2--poroelastoplasticity and coupled overpressures: *AAPG Bulletin*, v. 96, no. 1, p. 65-85.

Nikolinakou, M. A., Whittle, A. J., Savidis, S., and Schran, U., 2011, Prediction and interpretation of the performance of a deep excavation in Berlin sand: *Journal of Geotechnical and Geoenvironmental Engineering*, November, p. 1047-1061.

Nikolinakou, M. A., Tallon, A. J., and Ochsendorf, J. A., 2005, Structure and form of early Gothic flying buttresses: *Revue Européenne de Génie Civil*, v. 9, no. 9-10, p. 1191-1217.

Patents

Flemings, P. B., Nikolinakou, M. A., and Heidari, M., Pore-pressure prediction based on velocities coupled with geomechanical modeling: Patent Number 11,022,709, received June 1, 2021.

Non Peer Reviewed Journal Articles

Nikolinakou, M. A., Heidari, M., Hudec, M. R., and Flemings, P. B., 2022, Sediment stress in an extensional basin with pre-existing fault and salt roller: 56th US Rock Mechanics/Geomechanics Symposium, no. ARMA 22-0547, 5 p., <http://doi.org/10.56952/ARMA-2022-0547>.

Nikolinakou, M. A., Goteti, R., and Heidari, M., 2019, Mechanics of salt systems: state of the field in numerical methods: *Petroleum Geoscience*, v. 25, no. 3, p. 249-250, <http://doi.org/10.1144/petgeo2019-086>.

Moghadam, M. H., Nikolinakou, M. A., Flemings, P. B., and Hudec, M. R., 2018, Enhancing Modified-Cam-Clay Model for large stress range: 52nd US Rock Mechanics/Geomechanics Symposium, v. 52, 6 p.

Nikolinakou, M. A., Moghadam, M. H., Hudec, M. R., and Flemings, P. B., 2018, Geomechanical modeling of stress and deformation associated with salt-sheet advance: 52nd US Rock Mechanics/Geomechanics Symposium, v. 52, 7 p.

Moghadam, M. H., Nikolinakou, M. A., Hudec, M. R., and Flemings, P. B., 2017, Geomechanical effects of a highly permeable sand layer in a salt basin: 51st US Rock Mechanics/Geomechanics Symposium, 9 p.

Nikolinakou, M. A., Moghadam, M. H., Flemings, P. B., and Hudec, M. R., 2017, Pore-pressure prediction beneath salt sheets: 51st US Rock Mechanics/Geomechanics Symposium, 8 p.

Heidari, M., Nikolinakou, M. A., Hudec, M. R., and Flemings, P. B., 2015, A simplified analysis of stresses in rising salt domes and adjacent sediments: 49th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, no. 159, 7 p.

Nikolinakou, M. A., Flemings, P. B., and Hudec, M. R., 2015, Modeling of shales in salt-hydrocarbon systems (Junior Keynote): Proceedings, 13th International Congress on Rock Mechanics, Montreal, Canada, ISB: 978-1-926872-25-4.

Nikolinakou, M. A., Heidari, M., Hudec, M. R., and Flemings, P. B., 2015, Stress changes associated with the evolution of a salt diapir into a salt sheet: 49th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, 23-26 June., v. 49, no. 108, 7 p.

Nikolinakou, M. A., Hudec, M. R., and Flemings, P. B., 2014, Comparison of evolutionary and static modeling of stresses around a salt dome: the importance of modeling the past: 48th U.S. Rock Mechanics/Geomechanics Symposium, v. 48, 7 p.

Nikolinakou, M. A., and Flemings, P. B., 2013, Pore pressure and stress around dipping structures: Proceedings, 5th Biot Conference on Poromechanics, p. 452-461, <http://doi.org/10.1061/9780784412992.054>.

Nikolinakou, M. A., Merrell, M., Luo, G., Flemings, P. B., and Hudec, M. R., 2013, Geomechanical modeling of the Mad Dog salt, Gulf of Mexico: 47th U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, 23-26 June.

Luo, G., Nikolinakou, M. A., Flemings, P. B., and Hudec, M. R., 2012, Near-salt stress and wellbore stability: A finite element study and its application, in Proceedings of the 46th U.S. Rock Mechanics/Geomechanics Symposium, Chicago, June 24-28, Paper 12-309, 9 p.

Nikolinakou, M. A., and Chan, A. W., 2012, Soil model for rock properties prediction in

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