



## Tapan Mukerji

Professor (Research) of Energy Science Engineering, of Earth and Planetary Sciences and of Geophysics

Energy Science & Engineering

 Curriculum Vitae available Online

### Bio

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#### BIO

Tapan Mukerji co-directs the Stanford Center for Earth Resources Forecasting (SCERF) research group.

The focus of Tapan's multi-disciplinary research, with students and colleagues, has been on integrating rock physics, wave propagation physics, spatial data science and machine learning, and their broad applications in remote sensing of subsurface systems and processes, stochastic geomodeling, uncertainty quantification and value of information in Earth sciences. He uses theoretical, computational, and statistical methods, to discover and understand fundamental relations between geophysical data and rock properties, to quantify uncertainty in subsurface models, and to address value of information for decision making under uncertainty. He has been an invited keynote speaker and lecturer for short courses on rock physics and geostatistics. He was awarded the Karcher Award in 2000 by the Society of Exploration Geophysicists. In 2014 Tapan (together with Gary Mavko, Jack Dvorkin and Dario Grana) was awarded the ENI award for pioneering innovations in theoretical and practical rock physics.

#### ACADEMIC APPOINTMENTS

- Professor (Research), Energy Science & Engineering
- Professor (Research), Earth & Planetary Sciences
- Professor (Research), Geophysics

#### ADMINISTRATIVE APPOINTMENTS

- Professor (Research), Energy Resources Engineering, Stanford University, (2019- present)
- Co-director, Stanford Center for Earth Resources Forecasting (SCERF), Stanford University, (2008- present)
- Co-director, Basin Processes and Subsurface Modeling (BPSM), Stanford University, (2010- present)
- Co-director, Stanford Rocks and Geomaterials Project (SRGP), Stanford, (2022- present)
- Co-director, Stanford Rock Physics and Borehole Geophysics Project (SRB), Stanford University, (2019-2022)
- Associate Professor (Research), Energy Resources Engineering, Stanford University, (2017-2018)
- Associate Professor (Research), Energy Resources Engineering and Geophysics, Stanford University, (2013-2017)
- Associate Professor (Research), Energy Resources Engineering, Stanford University, (2008-2012)
- Senior Research Scientist, Stanford University, (2006-2008)
- Research Associate, Stanford University, (1999-2006)

#### HONORS AND AWARDS

- Finalist, Publication Competition Award, Decision Analysis Society, Institute for Operations Research and Management Science (INFORMS) (2017)

- Karcher Award for Outstanding Young Geophysicist, Society of Exploration Geophysicists (2000)
- ENI Award 2014: New frontiers of Hydrocarbons - upstream, ENI - Italy (2014)
- Best paper, honorable mention, Society of Exploration Geophysicists (2020)
- Invited Golden Jubilee Lecture, Dept. of Applied Geology, Dibrugarh University, India (2019)
- Invited Lecture, College of Mechanics and Materials, Hohai University, China (2019)
- Invited speaker, Institute of Pure and Applied Mathematics (IPAM) (2017)
- Invited speaker, International Union of Pure and Applied Physics (IUPAP), Conference on Computational Physics (2015)
- Best paper, International Association of Mathematical Geosciences (2010)
- Best paper, Society of Petroleum Geophysicists (SPG) International Conference, Hyderabad, India (2004)
- Best paper, honorable mention, Society of Exploration Geophysicists (1998)
- Invited keynote speaker, Brazilian Geophysical Society (SBGF) (2017)
- Invited keynote speaker, SEG Earth Model Forum, Rendering Rock Properties for Qualitative and Quantitative Interpretation (2015)
- Invited speaker, 3rd Petroleum Geostatistics Conference, EAGE, Biarritz (2015)
- Invited keynote speaker, SPWLA Topical Conference, Taos, New Mexico, Seismic Petrophysics: Unlocking the Value of Integration (2013)
- Invited keynote speaker, Society of Petroleum Geophysicists (SPG) International Conference, Hyderabad, India (2012)
- Invited speaker, Joint SEG/SPE/AAPG Summer Research Workshop, New Advances in Integrated Reservoir Surveillance (2012)
- Invited Speaker, Recent Advances and Road Ahead, Society of Exploration Geophysicists Annual International Meeting (2011)
- Haider Fellowship, Stanford University (1997)
- Green Fellowship, Stanford University (1989-1990)
- CSIR Fellowship, Council of Scientific and Industrial Research, India (1989)
- University First (M.S.), Banaras Hindu University, India (1989)
- University First (B.S.), Banaras Hindu University, India (1986)

## **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Member, AGU, SEG, EAGE (1990 - present)
- Departmental admissions committee, Stanford University (2012 - present)
- Associate Editor, Geophysics, Society of Exploration Geophysicists (2001 - present)
- Associate Editor, Computers & Geosciences, International Association of Mathematical Geosciences (2011 - present)
- Dissertation reading committees; dissertation defense chair, Stanford University (2002 - present)
- Technical organizing committee, SBGF workshop on uncertainty quantification in reservoir characterization (2017 - 2017)
- Technical organizing committee, SPE Workshop on Integration of 4D Seismic and Production Data for Reservoir Management - Application to Norne (Norway) (2013 - 2013)
- Technical organizing committee, Joint SPE/AAPG/SEG Applied Technology Workshop on Quantitative Interpretation (2010 - 2010)
- Reviewer, Department of Energy, Office of Basic Energy Sciences (2013 - 2013)
- Lecturer, Mathematical Geophysics Summer School, Department of Mathematics, Stanford University (2001 - 2001)
- Departmental admissions committee, Stanford University (2010 - 2010)
- Invited lecturer, Houston Geophysical Society (2008 - 2008)
- Peer review committee, Department of Energy, Stanford University (2003 - 2003)
- Co-chair, technical committee, 11th Venezuelan Geophysical Conference (2002 - 2002)
- Reviewer, Professional journals (1990 - present)

## PROFESSIONAL EDUCATION

- Ph.D., Stanford University, U.S.A. , Geophysics (1995)
- M.Sc.(Tech), Banaras Hindu University, India , Geophysics (1989)
- B.Sc., Banaras Hindu University, India , Physics (1986)

## LINKS

- SCERF: <http://scerf.stanford.edu>
- SRB: <http://srb.stanford.edu>
- BPSM: <http://bpsm.stanford.edu>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

#### Research

The focus of my research, with students and colleagues, has been on integrating rock physics, wave propagation physics, data sciences and machine learning, and their broad applications in remote sensing of subsurface systems and processes and subsurface uncertainty quantification. Over the years, I have been involved in the research activities of different industrial consortia - Stanford Rock Physics and Borehole Geophysics (SRB), Stanford Center for Earth Resources Forecasting (SCERF), Basin Processes and Subsurface Modeling (BPSM), Stanford Rocks and Geomaterials Project (SRGP), Smart Fields Consortium (SFC) and Stanford Geologic Hydrogen (SGH). My research uses theoretical, computational, and statistical models, to discover and understand fundamental relations between geophysical data and reservoir properties, to quantify uncertainty in our models, and to address value of information for decision making under uncertainty. I am particularly interested in forging links between research disciplines in geosciences, engineering, and decision sciences. I believe such research links across traditional boundaries are critical for the future of energy resources research.

#### Teaching

My courses for advanced undergraduates and graduates introduce students to mathematical methods for modeling, data analysis, and simulation using modern high-level software. The students come not only from the School of Earth Sciences but also from engineering, and biology. I continue to co-teach graduate level courses on rock physics and practice of geostatistics and seismic data integration. With my co-authors, I have written The Rock Physics Handbook, Quantitative Seismic Interpretation, Seismic Reservoir Modeling, Quantitative Analysis of Geopressure, and Value of Information in the Earth Sciences. These books are valuable resources for students, and researchers, and have been used as course material for university and industry courses. I enjoy advising and mentoring graduate students in their research work. Of course, one of the special rewards of teaching students is that I often learn as much from them as they do from me!

#### Professional Activities

Co-director SCERF, SRGP, BPSM, SGH; associate editor, Computers and Geosciences (2011-2023), associate editor, Geophysics, (2001-2023); invited instructor, Mathematical Geophysics Summer School, Stanford, (2001); co-chair, technical committee, 11th Venezuelan Geophysical Congress, (2002); proposal review, Department of Energy and American Chemical Society; manuscript review for professional journals; member, AAAS, AGU, SEG, EAGE, SPE.

## Teaching

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### COURSES

#### 2025-26

- Subsurface Modeling and Characterization: GEOPHYS 385H (Aut, Win, Spr)

#### 2024-25

- Exploring Geosciences with MATLAB: ENERGY 112, GEOPHYS 112 (Aut)
- Fluids and Flow in the Earth: Computational Methods: GEOPHYS 181, GEOPHYS 203 (Win)
- Rock Physics: ENERGY 252, GEOPHYS 262 (Aut)
- Seismic Reservoir Characterization: ENERGY 141, ENERGY 241, GEOPHYS 241A (Spr)
- Subsurface Modeling and Characterization: GEOPHYS 385H (Aut, Win, Spr, Sum)

#### 2023-24

- Subsurface Modeling and Characterization: GEOPHYS 385H (Aut)

#### 2022-23

- Exploring Geosciences with MATLAB: ENERGY 112, GEOPHYS 112 (Aut)
- Fluids and Flow in the Earth: Computational Methods: GEOPHYS 181, GEOPHYS 203 (Win)
- Rock Physics: ENERGY 252, GEOPHYS 262 (Aut)
- Subsurface Modeling and Characterization: GEOPHYS 385H (Aut, Win, Spr, Sum)

## STANFORD ADVISEES

### Doctoral Dissertation Reader (AC)

Guido Di Federico, Filippos Kostakis, Timmy Lui, Sofia Mantilla Salas, Ke Qin, Aman Raizada, Simone Salazar

### Postdoctoral Faculty Sponsor

Qi Hu

### Doctoral Dissertation Advisor (AC)

Jiayuan Huang, Eliane Petersohn, Rohan Sharma, Divakar Vashisth

### Master's Program Advisor

Alanood Alrassan

### Doctoral (Program)

Keanu Andaru, Ahmed ElGamal, Karthik Menon, Eliane Petersohn, Zi Wang, Minghui Xu, Jianing You

## Publications

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### PUBLICATIONS

- **Quantitative Analysis of Geopressure for Geoscientists and Engineers**  
Dutta, N. C., Bachrach, R., Mukerji, T.  
Cambridge University Press.2021
- **Seismic Reservoir Modeling: Theory, Examples, and Algorithms**  
Grana, D., Mukerji, T., Doyen, P.  
Wiley-Blackwell.2021
- **The Rock Physics Handbook, 3rd Ed.**  
Mavko, G., Mukerji, T., Dvorkin, J.  
Cambridge University Press.2020
- **Value of Information in the Earth Sciences: Integrating Spatial Modeling and Decision Analysis**  
Eidsvik, J., Mukerji, T., Bhattacharjya, D.

Cambridge University Press.2015

- **Quantitative Seismic Interpretation**  
Avseth, P., Mukerji, T., Mavko, G.  
Cambridge University Press.2005
- **Generative Geomodelling: Deep Learning Versus Geostatistics with Insights from Sedimentary Systems** *MATHEMATICAL GEOSCIENCES*  
Song, S., Huang, J., Mukerji, T.  
2026
- **Bayesian Inference for Subsurface Geophysical Inverse Problems** *REVIEWS OF GEOPHYSICS*  
Liu, M., Grana, D., Mosegaard, K., Sen, M. K., Xu, M., Mukerji, T.  
2026; 64 (1)
- **Pix2Geomodel: A next-generation reservoir geomodeling with property-to-property translation** *GEOENERGY SCIENCE AND ENGINEERING*  
Al-Fakih, A., Koeshidayatullah, A., Saraih, N. A., Mukerji, T., Kanfar, R., Alali, A., Kaka, S. I.  
2026; 258
- **Assessing uncertainty in source rock properties using Monte Carlo basin modeling: Application to the Canning Basin, Australia** *MARINE GEOSCIENCE AND ENERGY RESOURCES*  
Huang, J., Mukerji, T.  
2026; 184
- **Geomodelling of multi-scenario non-stationary reservoirs with enhanced GANSim** *PETROLEUM EXPLORATION AND DEVELOPMENT*  
Song, S., Tapan, M., Celine, S., Hisham, M., Man, F.  
2026; 53 (1): 205-220
- **Enhanced anomaly detection in well log data through the application of ensemble GANs** *APPLIED COMPUTING AND GEOSCIENCES*  
Al-Fakih, A., Koeshidayatullah, A., Mukerji, T., Kaka, S. I.  
2026; 29
- **Vision Mamba for permeability prediction of porous media** *PHYSICS OF FLUIDS*  
Kashefi, A., Mukerji, T.  
2026; 38 (1)
- **Statistical rock physics inversion for assessing source rock properties from seismic signatures: An application to the Canning Basin, Australia** *JOURNAL OF APPLIED GEOPHYSICS*  
Huang, J., Scheirer, A., Mukerji, T.  
2026; 244
- **Pushing the Boundaries of Porous Material Characterization: Universal Stochastic Data Fusion With Deep Learning** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Liu, M., Mukerji, T.  
2025; 130 (9)
- **Techno-economic analysis of natural and stimulated geological hydrogen** *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*  
Mathur, Y., Moise, H., Aydin, Y., Mukerji, T.  
2025; 165
- **The concept of a Blind Hydrogen System** *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*  
Awosiji, V., Graham, S., Mukerji, T.  
2025; 158
- **Deep learning forecasts the spatiotemporal evolution of fluid-induced microearthquakes** *COMMUNICATIONS EARTH & ENVIRONMENT*  
Chung, J., Manga, M., Kneafsey, T., Mukerji, T., Hu, M.  
2025; 6 (1)
- **Algorithms for extraction of reliable density ratios from pre-stack seismic data-Part 2: Applications** *GEOPHYSICAL PROSPECTING*  
Lehocki, I., Mukerji, T., Avseth, P., Jensen, E.  
2025

- **Algorithms for extraction of reliable density ratios from pre-stack seismic data-Part 1: Theory** *GEOPHYSICAL PROSPECTING*  
Lehocki, I., Mukerji, T., Avseth, P., Jensen, E.  
2025
- **Well log data generation and imputation using sequence based generative adversarial networks.** *Scientific reports*  
Al-Fakih, A., Koeshidayatullah, A., Mukerji, T., Al-Azani, S., Kaka, S. I.  
2025; 15 (1): 11000
- **Estimation of Equivalent Pore Aspect Ratio in Rock Physics Models and Validation Using Digital Rocks** *GEOSCIENCES*  
Queiroz, L., Grana, D., Fernandes, C., Mukerji, T., de Figueiredo, L., Mantovani, I.  
2025; 15 (2)
- **Physics-informed multi-grid neural operator: Theory and an application to porous flow simulation** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Song, S., Mukerji, T., Zhang, D.  
2025; 520
- **Quantifying Model Misrepresentation in Geophysical Inversion for Critical Mineral Exploration** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*  
Yin, Z., Miltenberger, A., Topinka, M., Wang, L., Mukerji, T., Caers, J.  
2025; 63
- **Geostatistical Inversion for Subsurface Characterization Using Stein Variational Gradient Descent With Autoencoder Neural Network: An Application to Geologic Carbon Sequestration** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Liu, M., Grana, D., Mukerji, T.  
2024; 129 (7)
- **A novel Fourier neural operator framework for classification of multi-sized images: Application to three dimensional digital porous media** *PHYSICS OF FLUIDS*  
Kashefi, A., Mukerji, T.  
2024; 36 (5)
- **Prediction of effective elastic moduli of rocks using Graph Neural Networks** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*  
Chung, J., Ahmad, R., Sun, W., Cai, W., Mukerji, T.  
2024; 421
- **Estimation of Reservoir Fracture Properties from Seismic Data Using Markov Chain Monte Carlo Methods** *MATHEMATICAL GEOSCIENCES*  
Feng, R., Mosegaard, K., Mukerji, T., Grana, D.  
2024
- **Soil geochemistry of hydrogen and other gases along the San Andreas fault** *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*  
Mathur, Y., Awosiji, V., Mukerji, T., Scheirer, A., Peters, K. E.  
2024; 50: 411-419
- **Applications of deep neural networks in exploration seismology: A technical survey** *GEOPHYSICS*  
Mousavi, S., Beroza, G. C., Mukerji, T., Rasht-Behesht, M.  
2024; 89 (1): WA95-WA115
- **rockphypy: An extensive Python library for rock physics modeling** *SOFTWAREX*  
Yu, J., Mukerji, T., Avseth, P.  
2023; 24
- **Stochastic Facies Inversion with Prior Sampling by Conditional Generative Adversarial Networks Based on Training Image** *MATHEMATICAL GEOSCIENCES*  
Feng, R., Mosegaard, K., Grana, D., Mukerji, T., Hansen, T.  
2023
- **Bayesian geophysical basin modeling with seismic kinematic metrics to quantify uncertainty for pore pressure prediction** *GEOPHYSICS*  
Fonseca, J., Pradhan, A., Mukerji, T.

2023; 88 (6): M239-M259

- **Stochastic Geomodeling of Karst Morphology by Dynamic Graph Dissolution** *MATHEMATICAL GEOSCIENCES*  
Kanfar, R., Mukerji, T.  
2023
- **Prediction of fluid flow in porous media by sparse observations and physics-informed PointNet.** *Neural networks : the official journal of the International Neural Network Society*  
Kashefi, A., Mukerji, T.  
2023; 167: 80-91
- **GANSim-surrogate: An integrated framework for stochastic conditional geomodelling** *JOURNAL OF HYDROLOGY*  
Song, S., Zhang, D., Mukerji, T., Wang, N.  
2023; 620
- **Computation of effective elastic moduli of rocks using hierarchical homogenization** *JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS*  
Ahmad, R., Liu, M., Ortiz, M., Mukerji, T., Cai, W.  
2023; 174
- **Hierarchical Homogenization With Deep-Learning-Based Surrogate Model for Rapid Estimation of Effective Permeability From Digital Rocks** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Liu, M., Ahmad, R., Cai, W., Mukerji, T.  
2023; 128 (2)
- **Joint Inversion of Geophysical Data for Geologic Carbon Sequestration Monitoring: A Differentiable Physics-Informed Neural Network Model** *Journal of Geophysical Research: Solid Earth*  
Liu, M., Vashisth, D., Grana, D., Mukerji, T.  
2023; 128 (3)
- **Physics-informed PointNet: A deep learning solver for steady-state incompressible flows and thermal fields on multiple sets of irregular geometries** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Kashefi, A., Mukerji, T.  
2022; 468
- **Petrophysical inversion based on f-s-r amplitude-variation-with-offset linearization and canonical correlation analysis** *GEOPHYSICS*  
Grana, D., Russell, B., Mukerji, T.  
2022; 87 (6): M247-M258
- **Probabilistic inversion of seismic data for reservoir petrophysical characterization: Review and examples** *GEOPHYSICS*  
Grana, D., Azevedo, L., De Figueiredo, L., Connolly, P., Mukerji, T.  
2022; 87 (5): M199-M216
- **Brown and Korrington's expression for the saturated bulk modulus at high frequencies: Modification of Mavko and Jizba's squirt flow model** *GEOPHYSICS*  
Zhao, L., Chen, T., Mukerji, T., Zhang, M., Xing, T.  
2022; 87 (4): MR201-MR208
- **Randomized Tensor Decomposition for Large-Scale Data Assimilation Problems for Carbon Dioxide Sequestration** *MATHEMATICAL GEOSCIENCES*  
Liu, M., Grana, D., Mukerji, T.  
2022
- **Quantitative evaluation of the roles of ocean chemistry and climate on ooid size across the Phanerozoic: Global versus local controls** *SEDIMENTOLOGY*  
Koeshidayatullah, A., Trower, E. J., Li, X., Mukerji, T., Lehrmann, D. J., Morsilli, M., Al-Ramadan, K., Payne, J. L.  
2022
- **Multiscale Fusion of Digital Rock Images Based on Deep Generative Adversarial Networks** *GEOPHYSICAL RESEARCH LETTERS*  
Liu, M., Mukerji, T.  
2022; 49 (9)

- **Consistency and prior falsification of training data in seismic deep learning: Application to offshore deltaic reservoir characterization** *GEOPHYSICS*  
Pradhan, A., Mukerji, T.  
2022; 87 (3): N45-N61
- **Application of Bayesian Generative Adversarial Networks to Geological Facies Modeling** *MATHEMATICAL GEOSCIENCES*  
Feng, R., Grana, D., Mukerji, T., Mosegaard, K.  
2022
- **Shape Carving Methods of Geologic Body Interpretation from Seismic Data Based on Deep Learning** *ENERGIES*  
Petrov, S., Mukerji, T., Zhang, X., Yan, X.  
2022; 15 (3)
- **Duration and Intensity of End-Permian Marine Anoxia** *GEOCHEMISTRY GEOPHYSICS GEOSYSTEMS*  
Pimentel-Galvan, M., Lau, K. V., Maher, K., Mukerji, T., Lehmann, D. J., Altiner, D., Payne, J. L.  
2022; 23 (1)
- **Bridging the Gap Between Geophysics and Geology With Generative Adversarial Networks** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*  
Song, S., Mukerji, T., Hou, J.  
2022; 60
- **Bridging the Gap Between Geophysics and Geology With Generative Adversarial Networks** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*  
Song, S., Mukerji, T., Hou, J.  
2022; 60
- **Stochastic inversion of gravity, magnetic, tracer, lithology, and fault data for geologically realistic structural models: Patua Geothermal Field case study** *GEOTHERMICS*  
Pollack, A., Cladouhos, T. T., Swyer, M. W., Siler, D., Mukerji, T., Horne, R. N.  
2021; 95
- **Point-cloud deep learning of porous media for permeability prediction** *PHYSICS OF FLUIDS*  
Kashefi, A., Mukerji, T.  
2021; 33 (9)
- **Fast inversion of gravimetric profiles via a modified version of the Pereyra-Rosen algorithm** *JOURNAL OF EARTH SYSTEM SCIENCE*  
Fernandez-Muniz, M., Pallero, J. G., Mukerji, T., Fernandez-Martinez, J. L.  
2021; 130 (3)
- **A Comparative Experiment on Heterogeneous Distributions of Stress Field for Underground Panels With Different Geological Setting in North China** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*  
Chen, T., Lin, Z., Liu, Z., Mukerji, T.  
2021
- **Bulk modulus for fluid-saturated rocks at high frequency: modification of squirt flow model proposed by Mavko & Jizba** *GEOPHYSICAL JOURNAL INTERNATIONAL*  
Zhao, L., Chen, T., Mukerji, T., Tang, G.  
2021; 225 (3): 1714-1724
- **Simulation of Fluvial Patterns With GANs Trained on a Data Set of Satellite Imagery** *WATER RESOURCES RESEARCH*  
Nesvold, E., Mukerji, T.  
2021; 57 (5)
- **Geological Facies modeling based on progressive growing of generative adversarial networks (GANs)** *COMPUTATIONAL GEOSCIENCES*  
Song, S., Mukerji, T., Hou, J.  
2021
- **GANSim: Conditional Facies Simulation Using an Improved Progressive Growing of Generative Adversarial Networks (GANs)** *MATHEMATICAL GEOSCIENCES*  
Song, S., Mukerji, T., Hou, J.

2021

- **Analysis of Spatially Distributed Fracture Attributes: Normalized Lacunarity Ratio** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*  
Roy, A., Perfect, E., Mukerji, T.  
2021; 126 (2)
- **Probabilistic Evaluation of Geoscientific Hypotheses with Geophysical Data: Application to Electrical Resistivity Imaging of a Fractured Bedrock Zone** *Journal of Geophysical Research: Solid Earth*  
Miltenberger, A., Uhlemann, S., Mukerji, T., Dafflon, B., Williams, K., Wang, L., Wainwright, H.  
2021; 126
- **Quantitative Analysis of Geopressure for Geoscientists and Engineers Preface** *QUANTITATIVE ANALYSIS OF GEOPRESSURE FOR GEOSCIENTISTS AND ENGINEERS*  
Dutta, N. C., Bachrach, R., Mukerji, T., Dutta, N., Bachrach, R., Mukerji, T.  
2021: IX+
- **Bayesian Optimized Monte Carlo Planning**  
Mern, J., Yildiz, A., Sunberg, Z., Mukerji, T., Kochenderfer, M. J., Assoc Advancement Artificial Intelligence  
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2021: 11880-11887
- **Improved POMDP Tree Search Planning with Prioritized Action Branching**  
Mern, J., Yildiz, A., Bush, L., Mukerji, T., Kochenderfer, M. J., Assoc Advancement Artificial Intelligence  
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2021: 11888-11894
- **A Graph-Theoretic Monte Carlo Framework for Comparing Delta Surface Dynamics and Subsurface Structure in Numerical Models and Physical Experiments** *Mathematical Geosciences*  
Miltenberger, A., Mukerji, T., Hariharan, J., Passalacqua, P., Nesvold, E.  
2021; 53 (6)
- **Petrophysical properties prediction from prestack seismic data using convolutional neural networks** *GEOPHYSICS*  
Das, V., Mukerji, T.  
2020; 85 (5): N41–N55
- **Approximate Bayesian inference of seismic velocity and pore-pressure uncertainty with basin modeling, rock physics, and imaging constraints** *GEOPHYSICS*  
Pradhan, A., Dutta, N. C., Le, H. Q., Biondi, B., Mukerji, T.  
2020; 85 (5): ID19–ID34
- **Lithofacies-dependent rock-physics templates of an unconventional shale reservoir on the North Slope, Alaska** *INTERPRETATION-A JOURNAL OF SUBSURFACE CHARACTERIZATION*  
Minh Tran, Mukerji, T., Scheirer, A.  
2020; 8 (3): T611–T623
- **Seismic Bayesian evidential learning: estimation and uncertainty quantification of sub-resolution reservoir properties** *COMPUTATIONAL GEOSCIENCES*  
Pradhan, A., Mukerji, T.  
2020; 24 (3): 1121–40
- **Introduction to special section: Rock properties from AVA/AVO analysis** *INTERPRETATION-A JOURNAL OF SUBSURFACE CHARACTERIZATION*  
Zhang, Z., Bao, C., Cardona, R., Castagna, J., Dygert, T., Mukerji, T., Gelinsky, S., Russell, B., Sun, Y., Zhang, S.  
2020; 8 (1)
- **A spatial-statistical investigation of surface expressions associated with cyclic steaming in the Midway-Sunset Oil Field, California** *GEOMECHANICS AND GEOPHYSICS FOR GEO-ENERGY AND GEO-RESOURCES*  
Pollack, A., Mukerji, T., Fu, P., Nelson, D., Bartling, B., Toland, M., Lopez, A., Guice, R.  
2020; 6 (1)
- **Accounting for subsurface uncertainty in enhanced geothermal systems to make more robust techno-economic decisions** *APPLIED ENERGY*  
Pollack, A., Mukerji, T.

2019; 254

- **Compact models for adaptive sampling in marine robotics** *INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH*  
Fossum, T., Ryan, J., Mukerji, T., Eidsvik, J., Maughan, T., Ludvigsen, M., Rajan, K.  
2019
- **Convolutional neural network for seismic impedance inversion** *GEOPHYSICS*  
Das, V., Pollack, A., Wollner, U., Mukerji, T.  
2019; 84 (6): R869–R880
- **Value of information analysis for subsurface energy resources applications** *APPLIED ENERGY*  
Dutta, G., Mukerji, T., Eidsvik, J.  
2019; 252
- **Value of information of time-lapse seismic data by simulation-regression: comparison with double-loop Monte Carlo** *COMPUTATIONAL GEOSCIENCES*  
Dutta, G., Mukerji, T., Eidsvik, J.  
2019; 23 (5): 1049–64
- **Static and dynamic effective moduli of elastic-perfectly plastic granular aggregates under normal compression** *GEOPHYSICS*  
Kerimov, A., Mavko, G., Mukerji, T., Dvorkin, J.  
2019; 84 (5): MR185–MR194
- **Prestack and poststack inversion using a physics-guided convolutional neural network** *INTERPRETATION-A JOURNAL OF SUBSURFACE CHARACTERIZATION*  
Biswas, R., Sen, M. K., Das, V., Mukerji, T.  
2019; 7 (3): SE161–SE174
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