

Sergey Fomel
Wallace E. Pratt Professor of Geophysics
Department of Earth and Planetary Sciences and Bureau of Economic Geology
Jackson School of Geosciences
The University of Texas at Austin

7305 Grass Cove
Austin, TX 78759
(512) 913-6826
sergey.fomel@gmail.com

University Station, Box X
Austin, TX 78713-8972
(512) 475-9573
sergey.fomel@beg.utexas.edu

Research Interests

Exploration and computational geophysics: geophysical data analysis, seismic imaging, seismic wave propagation, geophysical inverse problems

Education

- Ph.D. in Geophysics, Stanford University 2001
- Diploma in Geophysics (with Honors), Novosibirsk University, Russia 1990

Research Experience

- Professor, The University of Texas at Austin 08/2012–Present
- Associate Professor, The University of Texas at Austin 09/2007–07/2012
- Research Scientist, The University of Texas at Austin 01/2004–08/2007
- Research Associate, The University of Texas at Austin 06/2002–12/2003
- Postdoctoral Fellow, Lawrence Berkeley National Laboratory 01/2001–05/2002
- Geophysical Adviser, Schlumberger Geco-Prakla 03/1998–09/1998
- Research Scientist, Institute of Geophysics SB RAS 10/1990–09/1994

Teaching Experience

- Computational Methods in Geological Sciences
University of Texas at Austin, Department of Earth and Planetary Sciences 2023–Present
- Machine Learning Applications in Geosciences
University of Texas at Austin, Department of Earth and Planetary Sciences 2021–Present
- Seismic Data Processing
University of Texas at Austin, Department of Earth and Planetary Sciences 2016–Present
- Multidimensional Data Analysis in Geosciences
University of Texas at Austin, Department of Earth and Planetary Sciences 2008–Present

- Seismic Imaging
University of Texas at Austin, Department of Earth and Planetary Sciences 2005–Present
- Mathematical Methods in Geophysics
University of Texas at Austin, Department of Earth and Planetary Sciences 2010–2014,2019
- Numerical Analysis
University of California Berkeley, Department of Mathematics 2002
- Seismic Migration Theory
Novosibirsk University, Department of Geology and Geophysics 1993–1994

International Awards and Honors

Professional achievement awards

- Honorary Member, Society of Exploration Geophysicists (SEG) 2022
- Honorary Member, Geophysical Society of Houston 2020
- Distinguished Lecturer, SEG: *Automating seismic data analysis and interpretation* 2020
- Conrad Schlumberger Award from the European Association of Geoscientists and Engineers (EAGE) "for pioneering work on the subjects of seismic imaging" 2011
- Special Meritorious Award for Engineering Innovation from Hart's E&P: *Imaging ultra deep structures using wave equation migration and illumination* (as consultant to 3DGeo) 2007
- J. Clarence Karcher Award from SEG "for numerous contributions to seismology" 2001

Publication awards

- Best Paper in *Interpretation* for the paper *Time-variant wavelet extraction with a local-attribute-based time-frequency decomposition for seismic inversion* (Zhang and Fomel) 2017
- Loránd Eötvös Award from EAGE for the paper *Path-Integral Seismic Imaging* (Landa, Fomel, and Moser) 2007
- Honorable Mention, Best Paper in *Geophysics* for the paper *Angle-domain common-image gathers by wavefield continuation methods* (Sava and Fomel) 2003

Presentation awards

- Honorable Mention, Best Paper at the 88th Annual International Meeting of SEG: *Least-squares seismic horizons with local slopes and multigrid correlations* (Wu and Fomel) presented by X. Wu 2019
- Top 25 presentation at the 88th Annual International Meeting of SEG: *Least-squares seismic horizons with local slopes and multigrid correlations* (Wu and Fomel) presented by X. Wu 2018

- Award of Merit, Best Student Paper for the paper *Diffraction-based migration velocity analysis using double-path summations* (Merzlikin and Fomel) presented by D. Merzlikin at the 87th Annual International Meeting of SEG 2018
- Best Student Poster for the paper *Semiautomatic seismic well ties and log data interpolation* (Bader, Wu, and Fomel) presented by S. Bader at the 87th Annual International Meeting of SEG 2018
- Top 39 presentation at the 87th Annual International Meeting of SEG: *Diffraction-based migration velocity analysis using double-path summations* (Merzlikin and Fomel) presented by D. Merzlikin 2017
- Top 39 presentation at the 87th Annual International Meeting of SEG: *Oriented anisotropy continuation using shifted hyperbola travel-time approximation* (Merzlikin, Fomel, and Sripanich) presented by D. Merzlikin 2017
- Top 39 presentation at the 87th Annual International Meeting of SEG: *Semiautomatic seismic well ties and log data interpolation* (Bader, Wu, and Fomel) presented by S. Bader 2017
- Award of Merit, Best Student Poster for the paper *Modified anelliptic approximations for qP velocities in transversely isotropic media* (Sripanich and Fomel) presented by Y. Sripanich at the 84th Annual International Meeting of SEG 2015
- Honorable Mention, Best Poster presented at the 84th Annual International Meeting of SEG: *Transforming prestack seismic data by Gardner continuation* 2015
- Top 30 presentation at the 84th Annual International Meeting of SEG: *Anelliptic approximations for qP velocities in orthorhombic media* (Sripanich and Fomel) presented by Y. Sripanich 2014
- Top 30 presentation at the 84th Annual International Meeting of SEG: *Modified anelliptic approximations for qP velocities in transversely isotropic media* (Sripanich and Fomel) presented by Y. Sripanich 2014
- Top 30 presentation at the 84th Annual International Meeting of SEG: *Random noise attenuation using local similarity* (Chen and Fomel) presented by Y. Chen 2014
- Top 30 presentation at the 84th Annual International Meeting of SEG: *Transforming prestack seismic data by Gardner continuation* 2014
- Best Student Poster for the paper *Comparison of seismic diffraction imaging techniques: plane wave destruction versus apex destruction* (Decker, Klovov, and Fomel) presented by L. Decker at the 83rd Annual International Meeting of SEG 2014
- Top 30 presentation at the 83rd Annual International Meeting of SEG: *Wave-equation time migration* 2013
- Top 30 presentation at the 82nd Annual International Meeting of SEG: *Seismic data decomposition into spectral components using regularized nonstationary autoregression* 2012
- Award of Merit, Best Student Poster for the paper *Lowrank finite-differences for wave extrapolation* (Song, Fomel, Ying, and Ding) presented by X. Song at the 81st Annual International Meeting of SEG 2012

- Best Poster presented at the 80th Annual International Meeting of SEG: *Seismic wave extrapolation using lowrank symbol approximation* (Fomel, Ying, and Song) 2011
- Two Top 30 presentations at the 80th Annual International Meeting of SEG:
Local similarity with the envelope as a seismic phase detector
Seismic wave extrapolation using lowrank symbol approximation 2010
- Top 30 presentation at the 78th Annual International Meeting of SEG:
Predictive painting of 3-D seismic volumes 2008
- Honorable Mention, Best Poster presented at the 77th Annual International Meeting of SEG:
Applications of nonstationary regression 2008
- Two Top 30 presentations at the 77th Annual International Meeting of SEG:
Applications of nonstationary regression
Time-lapse image registration using the local similarity attribute 2007
- Best Poster presented at the 76th Annual International Meeting of SEG: *Local seismic attributes* 2007
- Three Top 30 presentations at the 76th Annual International Meeting of SEG:
Towards the seislet transform
Post-stack velocity analysis by separation and imaging of seismic diffractions
Local seismic attributes 2006
- Top 25 presentation at the 75th Annual International Meeting of SEG:
A multistep approach to multicomponent seismic image registration with application to a West Texas carbonate reservoir study 2005
- Top 25 presentation at the 74th Annual International Meeting of SEG:
Theory of 3-D angle gathers in wave-equation imaging 2004
- Award of Merit for the paper *Wavefield extrapolation in Riemannian coordinates* (Sava and Fomel) presented by P. Sava at the 74th Annual International Meeting of SEG 2004
- Award of Merit for the paper *Amplitude-preserved common image gathers by wave-equation migration* (Sava, Biondi, and Fomel) presented by P. Sava at the 72nd Annual International Meeting of SEG 2001

Local Awards

- Wallace E. Pratt Professorship in Geophysics 2015–Present
- 2nd place, Best Represented Research Group award, 6th Annual GSEC Research Symposium, Jackson School of Geosciences, UT Austin 2017
- 2nd place, Best Represented Research Group award, 5th Annual GSEC Research Symposium, Jackson School of Geosciences, UT Austin 2016
- Best Represented Research Group award, 4th Annual GSEC Research Symposium, Jackson School of Geosciences, UT Austin 2015
- Shell Companies Foundation Distinguished Chair Fellowship, UT Austin 2014–2015

- Shell Companies Foundation Centennial Chair Fellowship, UT Austin 2012–2014
- Tinker Family BEG Publication Award “for exemplary publication record in exploration geophysics and dedication to the development of the open-source software Madagascar, as demonstrated in the 2013 publication *Seismic wave extrapolation using lowrank symbol approximation* (Fomel, Ying, and Song)” 2014
- Outstanding Educator Award, Jackson School of Geosciences, UT Austin 2012
- John E. “Brick” Elliott Centennial Professorship, UT Austin 2009–2012
- Centennial Distinguished Lecturer, Bureau of Economic Geology, UT Austin 2009
- Research Excellence Fellowship, Jackson School of Geosciences, UT Austin 2007–2009
- Research Fellowship, Jackson School of Geosciences, UT Austin 2006–2007
- Young Scientist Fellowship, Jackson School of Geosciences, UT Austin 2005–2006

Research Supervision

Postdoctoral fellows

- Xinming Wu (Ph.D. Colorado School of Mines) 2016–2019
Currently Professor at the University of Science and Technology of China
- Tieyuan Zhu (Ph.D. Stanford University) 2014–2016
Currently Associate Professor at the Pennsylvania State University
- Yen-Ming Mark Lai (Ph.D. University of Maryland, College Park) 2014–2015
Currently Data Scientist at IntegraFEC
- Hejun Zhu (Ph.D. Princeton University) 2013–2015
(co-advised with O. Ghattas)
Currently Associate Professor at the University of Texas at Dallas
- Mehdi Far (Ph.D. University of Houston) 2013–2014
(co-advised with B. Hardage)
Currently Lead Data Scientist at Amazon Web Services
- Jingwei Hu (Ph.D. University of Wisconsin-Madison) 2011–2014
(co-advised with L. Ying)
Currently Associate Professor at The University of Washington
- Alexander Klokov (Ph.D. Gubkin University of Oil and Gas, Russia) 2011–2013
Currently Lead Scientific Developer at Factor Technology
- Hesam Kazemeini (Ph.D. Uppsala University, Sweden) 2010–2011
Currently Seismic Specialist at Alpha Plus Reservoir Solutions
- Roman Kazinnik (Ph.D. Tel-Aviv University, Israel) 2009–2010
Currently Lead Data Scientist at Brighthouse Financial
- Yang Liu (Ph.D. Jilin University, China) 2007–2010
Currently Professor at Jilin University

- T. Jules Browaeys (Ph.D. Institut de Physique du Globe, France) 2006–2009
Currently Senior Geophysicist at Total E&P

Ph.D. students

- Nam Pham
Deep learning for automatic geophysical interpretation with uncertainty quantification 2022
Currently Data Scientist at SLB
- Zhicheng Geng
Deep learning for pattern recognition in seismic reflection data 2022
Currently Applied Scientist at Amazon
- Harpreet Kaur
Improving accuracy and efficiency of seismic data analysis using deep learning 2022
Currently Applied Scientist at Amazon
- Luke Decker
Parameter selection in seismic data analysis problems 2021
Currently Geophysicist at Chevron
- Yunzhi Shi
Deep learning empowers the next generation of seismic interpretation 2020
Currently Applied Scientist at Amazon Web Services
- Dmitry Merzlikin
Diffraction imaging by path-summation migration 2018
Currently Geophysicist at Schlumberger
- Zhiguang Xue
Regularization strategies for increasing efficiency and robustness of least-squares RTM and FWI 2017
Currently Machine Learning Software Engineer at Meta
- Yanadet Sripanich
Seismic anisotropy analysis using Muir-Dellinger parameters 2017
Currently Geophysicist at PTTEP
- Junzhe Sun
Seismic modeling and imaging in complex media with low-rank approximation 2016
Currently ML Research Scientist at Meta
- Yangkang Chen
Noise attenuation in seismic data from the simultaneous-source acquisition 2015
Currently Research Scientist at UT Austin
- Parvaneh Karimi
Seismic interpretation using predictive painting 2015
Currently Staff Geophysicist at Oxy
- Vladimir Bashkardin
Phase-space imaging of reflection seismic data 2014
Currently HPC Computational Scientist at BP

- Siwei Li
Imaging and velocity model building with linearized eikonal equation and upwind finite-differences 2014
Currently Chief Scientist at SensorEra
- Xiaolei Song
Application of Fourier finite differences and lowrank approximation method for seismic modeling and subsalt imaging 2012
Currently Geophysicist at BP
- William Burnett
Multiazimuth velocity analysis using velocity-independent seismic imaging 2011
Currently Geophysicist at ExxonMobil
- Hesam Kazemeini Uppsala University, Sweden
Seismic Investigations at the Ketzin CO₂ injection site, Germany: Applications to sub-surface feature mapping and CO₂ seismic response modeling 2009
(co-advisor, principal advisor: C. Juhlin)
Currently Geophysicist at ION
- Rebecca Gao passed candidacy, Ph.D. expected 2025
(co-advisor: Yangkang Chen)
- Hector Corzo Pola
- Shirley Mensah
- Akshika Rohatgi
- Rui Gong
- Sujith Swaminadhan (co-advisor: Shuvajit Bhattacharya)

M.S. students

- Hector Corzo Pola 2020–2023
Near-optimal correlation sequences using Q-Learning and shortest-path trees
Currently Ph.D. student at UT Austin
- Ben Gremillion 2017–2019
Seismic data interpolation with shaping inversion to zero offset and least-squares flattening
- Nam Pham 2017–2019
Automatic channel detection using deep learning
Currently Data Scientist at SLB
- Sean Bader 2016–2018
Seismic and well log data integration using data-matching techniques
Currently Geophysicist at EOG Resources
- Mason Phillips 2015–2017
Geophysical data registration using modified plane-wave destruction filters
Currently Geophysicist at DownUnder GeoSolutions
- Kelly Regimbal 2014–2016
Improving resolution of NMO stack using shaping regularization
Currently Data Scientist at Studio X

- Ryan Swindeman 2013–2015
Iterative seismic data interpolation using plane-wave shaping
Currently Lead AI Engineer at Noonlight
- Luke Decker 2012–2014
Seismic diffraction imaging methods and applications
Currently Geophysicist at Chevron
- Shaunak Ghosh 2011–2013
Multiple suppression in the t-x-p domain
Currently Staff Seismic Imager at CGG
- Salah Alhadab 2010–2012
Diffraction imaging of sediment drifts in Canterbury Basin
Currently Geophysicist at Saudi Aramco
- Yihua Cai 2010–2012
Spectral recomposition and multicomponent seismic image registration
Currently Geophysicist at Shell
- Boris Berkhin Novosibirsk University, Russia 1992–1993
True-amplitude seismic migration
Currently CEO at DataEast LLC

B.S. Honors students

- Reem Alomar 2020–2022
Seismic data analysis by least-squares non-stationary triangle smoothing
Currently Geophysicist at Saudi Aramco
- Tharit Tangkijwanichaku 2019–2021
Chain of operators for inverse Hessian estimation in least-squares migration
Currently Geophysicist at PTTEP
- Sarah Greer 2016–2018
A data matching algorithm and its applications in seismic data analysis
Currently Ph.D. student at MIT
- Lubna Barghouty 2012–2013
Surface-related multiple elimination and velocity-independent imaging of a 2D seismic line from the Viking Graben dataset
Currently Ph.D. student at MIT
- Yanadet Sripanich 2011–2013
An efficient algorithm for two-point seismic ray tracing
Currently Geophysicist at PTTEP

Visiting Ph.D. students

- Kristian Jensen 2019
University of Bergen, Norway
- Yuhan Sui 2017–2019
Harbin Institute of Technology, China

- Hanming Chen 2016–2017
China University of Petroleum, Beijing, China
- Xufei Gong 2016–2017
China University of Petroleum, Qingdao, China
- Xinming Wu 2015–2016
Colorado School of Mines
- Pengliang Yang 2013–2014
Xi'an Jiaotong University, China
- Gang Fang 2012–2013
China University of Petroleum, Dongying, China
- Zhonghuan Chen 2011–2012
Tsinghua University, China
- Shujuan Guo 2010–2011
China University of Petroleum, Dongying, China
- Min Zhang 2009–2010
China University of Petroleum, Dongying, China
- Hesam Kazemeini 2008–2009
Uppsala University, Sweden
- Guochang Liu 2008–2009
China University of Petroleum, Beijing, China

Ph.D. thesis committees

- Arnab Dhara Ph.D. in Geological Sciences
Regularizing seismic inverse problems : Transdimensional and machine learning based strategies 2023
Currently at SparkCognition
- Dimitri Voytan Ph.D. in Geological Sciences
Generative models for seismic imaging and inversion 2023
Currently at SparkCognition
- François Desquilbet Grenoble Alpes University, France, Ph.D. in Applied Mathematics
Fast marching method for the computation of first-arrival travel time of seismic waves in anisotropic media 2022
- Fuqiang Chen KAUST, Saudi Arabia, Ph.D. in Earth Science & Engineering
Novel misfit functions for full-waveform inversion 2022
- Thomas Greiner University of Oslo, Norway, Ph.D. in Geoscience
Deep learning in seismic wavefield reconstruction and resolution enhancement 2022
Currently at Accenture
- Oleg Ovcharenko KAUST, Saudi Arabia, Ph.D. in Earth Science & Engineering
Data-driven methods for the initialization of full-waveform inversion 2021
Currently at NVIDIA
- Son Phan Ph.D. in Geological Sciences
Machine learning algorithms solving seismic inversion challenges 2021
Currently at Schlumberger

- Aaron Myers Ph.D. in Computational Science, Engineering, and Mathematics
Particle methods for PDE-constrained Bayesian inverse problems 2020
Currently at Suited
- David Tang Ph.D. in Geological Sciences
Methods for analysis In digital images of sedimentary rocks 2020
Currently at ExxonMobil
- Janaki Vamaraju Ph.D. in Geological Sciences
Cost effective strategies for problems in computational geophysics: Seismic modeling
and imaging 2019
Currently at Meta
- Nicholas Alger Ph.D. in Computational Science, Engineering, and Mathematics
Data-scalable Hessian preconditioning for distributed parameter PDE-constrained in-
verse problems 2019
Currently at the University of Texas at Austin
- Badr Alulawi Ph.D. in Geological Sciences
Fast methods to model the response of fluid-filled fractures and estimate the fracture
properties 2018
Currently at Saudi Aramco
- Yunan Yang Ph.D. in Mathematics
Optimal transport for seismic inverse problems 2018
Currently at Cornell University
- Debanjan Datta Ph.D. in Geological Sciences
Implementing efficient global optimization methods in full waveform inversion 2017
Currently at Shell
- Benjamin Crestel Ph.D. in Computational Science, Engineering, and Mathematics
Advanced techniques for multi-source, multi-parameter, and multi-physics inverse prob-
lems 2017
Currently at Borealis AI
- Seungbum Koo Ph.D. in Civil, Architectural and Environmental Engineering
Time reversal concept for wave energy focusing 2017
Currently at MathWorks
- Rodolfo Victor Ph.D. in Petroleum and Geosystems Engineering
Multiscale, image-based interpretation of well logs acquired in a complex, deepwater
carbonate reservoir 2017
Currently at Petrobras
- Yawen He Ph.D. in Geological Sciences
Seismic chronostratigraphy at the reservoir scale: Modeling and applications 2017
Currently at LinkedIn
- Han Liu Ph.D. in Geological Sciences
Effect of fracture properties on seismic wave propagation in elastic media 2017
Currently at BP
- Pranav Karve Ph.D. in Civil, Architectural and Environmental Engineering
Inverse source problem for focusing wave energy to targeted subsurface formations:
theory and numerical experiments 2016
Currently at Vanderbilt University

- Qi Ren Ph.D. in Geological Sciences
Anisotropic seismic characterization of the Eagle Ford shale: rock-physics modeling,
stochastic seismic inversion, and geostatistics 2016
Currently at Google
- James Martin Ph.D. in Computational Science, Engineering, and Mathematics
A computational framework for the solution of infinite-dimensional Bayesian statistical
inverse problems with application to global seismic inversion 2015
- Tatyana Torskaya Ph.D. in Petroleum and Geosystems Engineering
Pore-scale analysis of grain shape and sorting effect on fluid transport phenomena in
porous media 2013
Currently at ExxonMobil
- Yang Xue Ph.D. in Geological Sciences
Novel stochastic inversion methods and workflows for reservoir characterization and
monitoring 2013
Currently at Shell
- Nadia Kremer University of Alberta, Canada, Ph.D. in Geophysics
Multidimensional seismic data reconstruction using tensor analysis 2013
Currently at Shell
- Jack Poulson Ph.D. in Computational Science, Engineering, and Mathematics
Fast parallel solution of heterogeneous 3D time-harmonic wave equations 2012
Currently at Google
- Engin Alkan Ph.D. in Geological Sciences
Exploring hydrocarbon-bearing shale formations with multi-component seismic tech-
nology and evaluating direct shear modes produced by vertical-force sources 2012
Currently at Shell
- John Hooker Ph.D. in Geological Sciences
Fracture scaling and diagenesis 2012
Currently at Pennsylvania State University
- Paul Tsuji Ph.D. in Computational Science, Engineering, and Mathematics
Fast algorithms for frequency-domain wave propagation 2012
Currently at Lawrence Livermore National Laboratory
- Robert Mallan Ph.D. in Petroleum and Geosystems Engineering
Interpretation of multi-component induction and sonic measurements acquired in high-
angle wells and joint 1D radial inversion of resistivity and sonic logs 2010
Currently at Chevron
- Chaoshun Hu Ph.D. in Geological Sciences
Stochastic tomography and Gaussian beam depth migration 2008
Currently at Chevron
- Chandan Kumar Ph.D. in Geological Sciences
Parameter inversion for seismic anisotropy 2006
Currently at BP
- Cem Kilic Ph.D. in Geological Sciences
Characterization and quantification of middle Miocene reservoirs of Starfak and Tiger
Shoal Fields, Offshore Louisiana, using genetic sequence stratigraphy and neural net-
works 2004
Currently at Shell

M.S. thesis committees

- Andrew Yanke M.S. in Geological Sciences
Feasibility of Isotropic Inversion in Orthorhombic Media: The Barrett Unconventional Model 2016
Currently at Statoil
- Saygin Ileri M.S. in Geological Sciences
AVA Analysis and Modeling of Multi-Component Seismic Wave Modes (P-P, P-SV and SV-P); Wolfberry Play Midland Basin, Texas 2015
Currently at Turkish Petroleum
- Jung Kyu Kim M.S. in Geological Sciences
Multicomponent seismic image matching and comparison - Fasken Ranch, Andrews County, Texas 2015
Currently at KOGAS
- Lucas Fidler M.S. in Geological Sciences
Fracture characterization in the New Albany Shale 2011
Currently at Memorial Resource Development

Publications

Book Chapters

1. X. Janson and S. Fomel, 2011, 3-D forward seismic model of an outcrop-based geocellular model, *in* Outcrops revitalized: Tools, techniques and applications; SEPM Concepts in Sedimentary Geology, No. 10 (Edited by O. J. Martinsen, M. Sullivan, A. Pulham, and P. Haughton), Allen Press, 87-106.

Peer-reviewed Journal Publications

1. L. Yang, S. Fomel, S. Wang, W. Li, J. Meng, C. Li, and Y. Chen, 2024, HCTNet: Robust prestack seismic inversion using a hybrid convolutional transformer: Geophysics, submitted.
2. L. Yang, S. Fomel, S. Wang, X. Chen, Y. Sun, and Y. Chen, 2024, Interpretation of an unsupervised learning framework for multi-dimensional erratic and random noise attenuation: IEEE Transactions on Geoscience and Remote Sensing, submitted.
3. L. Yang, S. Fomel, S. Wang, X. Chen, O. Saad, and Y. Chen, 2024, Salt3DNet: A self-supervised learning framework for 3D salt segmentation: Geophysics, submitted.
4. S. Fomel and J. Claerbout, 2024, Streaming prediction-error filters: Geophysics, submitted.
5. Y. Chen, A. Savvaidis, O. Saad, D. Siervo, D. Huang, Y. Chen, S. Fomel, I. Grigoratos, and C. Breton, 2024, Thousands of induced earthquakes per month in West Texas: The Seismic Record, submitted.

6. L. Yang, S. Fomel, S. Wang, X. Chen, Y. Sun, and Y. Chen, 2024, Unsupervised learning with multi-branch attention mechanism for multi-dimensional erratic and random noise attenuation: *Geophysics*, submitted.
7. Y. Chen, A. Savvaidis, and S. Fomel, 2024, Single-channel microseismic denoising using dictionary learning - applications to event detection and localization: *Geophysical Prospecting*, submitted.
8. L. Yang, S. Fomel, S. Wang, X. Chen, Y. Chen, and Y. Chen, 2024, SLKNet: An Attention-based Deep Learning Framework for Downhole Distributed Acoustic Sensing (DAS) Data Denoising: *Geophysics*, submitted.
9. Y. Chen, A. Savvaidis, and S. Fomel, 2024, Single-channel microseismic denoising using dictionary learning - applications to event detection and localization: *Geophysical Prospecting*, submitted.
10. Y. Chen, A. Savvaidis, S. Fomel, Y. Chen, O. Saad, H. Wang, Y. Oboue, L. Yang, W. Chen, 2024, Deciphering the invisible seismic signatures from fiber-optic cables: *Nature Communications*, submitted.
11. H. Kaur, R. Chunduru, D. Datta, and S. Fomel, 2024, Robust method for low frequency extrapolation for full waveform inversion using deep learning: *Geophysics*, submitted.
12. Y. Oboue, Y. Chen, S. Fomel, and Y. Chen, 2024, Protecting the weak signals in distributed acoustic sensing data processing using local orthogonalization: the FORGE data example: *Geophysics*, accepted.
13. O. Saad, Y. Chen, D. Siervo, F. Zhang, A. Savvaidis, G. Huang, N. Igonin, S. Fomel, and Y. Chen, 2024, EQCCT: A production-ready Earthquake detection and phase picking method using the Compact Convolutional Transformer: *IEEE Transactions on Geoscience and Remote Sensing*, accepted.
14. Y. Chen, A. Savvaidis, S. Fomel, Y. Chen, O. Saad, H. Wang, Y. Oboue, L. Yang, and W. Chen, 2024, Denoising of distributed acoustic sensing seismic data: *Seismological Research Letters*, accepted.
15. N. Pham and S. Fomel, 2024, Seismic data augmentation for automatic fault picking using deep learning: *Geophysical Prospecting*, v. 72, 125-141.
16. H. Kaur, J. Sun, M. Aharchaou, A. Baumstein, and S. Fomel, 2024, Deep learning framework for true amplitude imaging: Effect of conditioners and initial models: *Geophysical Prospecting*, v. 72, 92-106.
17. Z. Geng, S. Fomel, Y. Liu, Q. Wang, Z. Zheng, and Y. Chen, 2024, Streaming seismic attributes: *Geophysics*, v. 89, A7-A10.
18. Y. Oboué, Y. Chen, S. Fomel, W. Zhong, and Y. Chen, 2024, An advanced median filter for improving the signal-to-noise ratio of seismological datasets: *Computers and Geosciences*, v. 182, 105464.
19. L. Yang, S. Fomel, S. Wang, X. Chen, Y. Chen, 2023, Deep learning with soft attention mechanism for small-scale ground roll attenuation: *Geophysics*, v. 89, WA179-WA193.
20. O. Saad, Y. Chen, A. Savvaidis, S. Fomel, X. Jiang, D. Huang, Y. Oboue, S. Yong, X. Wang, X. Zhang, and Y. Chen, 2023, Earthquake forecasting using big data and artificial intelligence: a 30-weeks real case study in China: *Bulletin of the Seismological Society of America*, v. 113, 2461-2478.

21. L. Yang, S. Fomel, S. Wang, X. Chen, Y. Chen, and Y. Chen, 2023, SLKNet: An attention-based deep-learning framework for downhole distributed acoustic sensing data denoising: *Geophysics*, v. 88, WC69-WC89.
22. Y. Chen, A. Savvaidis, and S. Fomel, 2023, Dictionary learning for single-channel passive seismic denoising: *Seismological Research Letters*, v. 94, 2840-2851.
23. O. Saad, Y. Chen, D. Siervo, F. Zhang, A. Savvaidis, G. Huang, N. Igonin, S. Fomel, and Y. Chen, 2023, EQCCT: A production-ready earthquake detection and phase picking method using the compact convolutional transformer: *IEEE Transactions on Geoscience and Remote Sensing*, v. 61, 4507015.
24. L. Yang, S. Wang, X. Chen, W. Chen, O. Saad, X. Zhou, N. Pham, Z. Geng, S. Fomel, and Y. Chen, 2023, High-fidelity permeability and porosity prediction using deep learning with the self-attention mechanism: *IEEE Transactions on Neural Networks and Learning Systems*, v. 34, 3429-3443.
25. Y. Chen, A. Savvaidis, Y. Chen, O. Saad, and S. Fomel, 2023, Enhancing earthquake detection from distributed acoustic sensing data by coherency measure and moving-rank-reduction filtering: *Geophysics*, v. 88, WC13-WC23.
26. H. Kaur, Q. Zhang, P. Witte, L. Liang, L. Wu, S. Fomel, 2023, Deep learning based 3D fault detection for carbon capture and storage (CCS): *Geophysics*, v. 88, IM101-IM112.
27. Y. Chen, Y. Chen, S. Fomel, A. Savvaidis, O. Saad, and Y. Oboue, 2023, Pyekfmm: a python package for 3D fast-marching-based traveltimes calculation and its applications in seismology: *Seismological Research Letters*, v. 94, 2050-2059.
28. L. Yang, S. Fomel, S. Wang, X. Chen, Y. Chen. 2023, Denoising distributed acoustic sensing data using unsupervised deep learning: *Geophysics*, v. 88, V317-V332.
29. Y. Chen, A. Savvaidis, S. Fomel, Y. Chen, O. Saad, Y. Oboue, Q. Zhang, and W. Chen, 2023, Pyseistr: a python package for structural denoising and interpolation of multi-channel seismic data: *Seismological Research Letters*, v. 94, 1703-1714.
30. Y. Chen and S. Fomel, 2023, 3D true-amplitude elastic wave-vector decomposition in heterogeneous anisotropic media: *Geophysics*, v. 88, C79-C89.
31. O. Saad, S. Fomel, R. Abma, and Y. Chen, 2023, Unsupervised deep learning for 3D interpolation of highly incomplete data: *Geophysics*, v. 88, WA189-WA200.
32. Y. Chen, A. Savvaidis, S. Fomel, O. Saad, and Y. Chen, 2023, RFloc3D: a machine learning method for 3D real-time microseismic source location using P- and S-wave arrivals: *IEEE Transactions on Geoscience and Remote Sensing*, v. 61, 5901310.
33. L. Yang, S. Fomel, S. Wang, X. Chen, W. Chen, O. Saad, and Y. Chen, 2023, Porosity and permeability prediction using transformer and periodic long short term network: *Geophysics*, v. 88, WA293-WA308.
34. H. Kaur, S. Fomel, and N. Pham, 2023, Automated hyperparameter optimization for simulating boundary conditions for acoustic and elastic wave propagation using deep learning: *Geophysics*, v. 88, WA309-WA318.
35. H. Kaur, N. Pham, S. Fomel, Z. Geng, L. Decker, B. Gremillion, M. Jervis, R. Abma, and S. Gao, 2023, A deep learning framework for seismic facies classification: *Interpretation*, v. 11, T107-T116.
36. Y. Chen, A. Savvaidis, S. Fomel, Y. Chen, O. Saad, H. Wang, Y. Oboué, L. Yang, W. Chen, 2023, Denoising of distributed acoustic sensing seismic data using an integrated framework: *Seismological Research Letters*, v. 94, 457-472.

37. L. Yang, S. Fomel, S. Wang, X. Chen, W. Chen, O. Saad, and Y. Chen, 2023, Denoising of distributed acoustic sensing data using supervised deep learning: *Geophysics*, v. 88, WA91-WA104.
38. Y. Chen, S. Fomel, and R. Abma, 2023, Joint deblending and source time inversion: *Geophysics*, v. 88, WA27-WA35.
39. Z. Geng, Y. Chen, S. Fomel, and L. Liang, 2022, LOUD: Local orthogonalization constrained unsupervised deep learning denoiser: *IEEE Transactions on Geoscience and Remote Sensing*, v. 60, 5924912.
40. G. Huang, X. Chen, O. Saad, Y. Chen, S. Fomel, A. Savvaidis, Y. Chen, 2022, High-resolution and robust microseismic grouped imaging and grouping strategy analysis: *Geophysical Prospecting*, v. 70, 980-1002.
41. Z. Geng, Z. Hu, X. Wu, and S. Fomel, 2022, Semi-supervised salt segmentation using mean teacher: *Interpretation*, v. 10, SE21-SE29.
42. S. Zu, H. Cao, S. Fomel, and Y. Chen, 2022, Robust local slope estimation by deep learning: *Geophysical Prospecting*, v. 70, 847–864.
43. H. Wang, Y. Chen, Y. Oboe, R. Abma, Z. Geng, S. Fomel, and Y. Chen, 2022, Simultaneous reconstruction and denoising of extremely sparse 5D seismic data by a simple and effective method: *IEEE Transactions on Geoscience and Remote Sensing*, v. 60, 5909212.
44. O. Saad, Y. Chen, D. Trugman, M. S. Soliman, L. Samy, A. Savvaidis, M. A. Khamis, A. G. Hafez, S. Fomel, and Y. Chen, 2022, Machine learning for the fast and reliable source-location prediction in earthquake early warning: *IEEE Geoscience and Remote Sensing Letters*, v. 19, 8025705.
45. H. Wang, Y. Chen, O. Saad, W. Chen, Y. Oboe, L. Yang, S. Fomel, and Y. Chen, 2022, A Matlab code package for 2D/3D local slope estimation and structural filtering: *Geophysics*, v. 87, F1-F14.
46. O. Saad, Y. Chen, A. Savvaidis, S. Fomel, and Y. Chen, 2022, Real-time earthquake detection and magnitude estimation using vision transformer: *Journal of Geophysical Research - Solid Earth*, v. 127, e2021JB023657.
47. L. Decker and S. Fomel, 2022, A variational approach for picking optimal surfaces from semblance-like panels: *Geophysics*, v. 87, U93-U108.
48. Y. Chen, O. Saad, A. Savvaidis, Y. Chen, and S. Fomel, 2022, 3D microseismic monitoring using machine learning: *Journal of Geophysical Research - Solid Earth*, v. 127, e2021JB023842.
49. Z. Geng, Z. Zhao, Y. Shi, X. Wu, S. Fomel, and M. Sen, 2022, Deep learning for velocity model building with common-image gathers: *Geophysical Journal International*, v. 228, 1054–1070.
50. H. Kaur, A. Sun, Z. Zhong, and S. Fomel, 2022, Time-lapse seismic data inversion for estimating reservoir parameters using deep learning: *Interpretation*, v. 10, T167-T179.
51. L. Decker and S. Fomel, 2021, A probabilistic approach to seismic diffraction imaging: *Lithosphere*, v. 2021, 6650633.
52. H. Kaur, S. Fomel, and N. Pham, 2021, A fast algorithm for elastic wave-mode separation using deep learning with generative adversarial networks (GANs): *Journal of Geophysical Research - Solid Earth*, v. 126, e2020JB021123.

53. N. Pham and S. Fomel, 2021, Uncertainty and Interpretability analysis of encoder-decoder architecture for channel detection: *Geophysics*, v. 86, O49-O58.
54. Y. Chen and S. Fomel, 2021, Nonstationary local signal-and-noise orthogonalization: *Geophysics*, v. 86, V409-V418.
55. Y. Chen, S. Fomel, H. Wang, and S. Zu, 2021, 5D dealiased seismic data interpolation using nonstationary prediction-error filter: *Geophysics*, v. 86, V419-V429.
56. Y. Chen, O. Saad, M. Bai, X. Liu, and S. Fomel, 2021, A compact program for 3D passive seismic source-location imaging: *Seismological Research Letters*, v. 92, 3187-3201.
57. G. Huang, X. Chen, J. Li, O. Saad, Y. Chen, S. Fomel, C. Luo, and H. Wang, 2021, The slope-attribute-regularized high-resolution prestack seismic inversion: *Surveys in Geophysics*, v. 42, 625-671.
58. O. Saad, G. Huang, Y. Chen, A. Savvaidis, S. Fomel, N. Pham, and Y. Chen, 2021, SCALODEEP: A highly generalized deep learning framework for real-time earthquake detection: *Journal of Geophysical Research - Solid Earth*, v. 126, e2020JB021473.
 - Top downloaded paper in *Journal of Geophysical Research - Solid Earth* among work published in 2021.
 - Top cited paper in *Journal of Geophysical Research - Solid Earth* among work published in 2021-2022.
59. S. Fomel and H. Kaur, 2021, Wave-equation time migration: *Geophysics*, v. 86, S103-S111.
60. Y. Shi, X. Wu, and S. Fomel, 2021, Interactively tracking seismic geobodies with a deep learning flood-filling network: *Geophysics*, v. 86, A1-A5.
61. H. Kaur, N. Pham, and S. Fomel, 2021, Seismic data interpolation using deep learning with generative adversarial networks: *Geophysical Prospecting*, v. 69, 307-326.
 - Top cited paper in *Geophysical Prospecting* among work published in 2021-2022.
62. D. Merzlikin, S. Fomel, and X. Wu, 2020, Least-squares diffraction imaging using shaping regularization by anisotropic smoothing: *Geophysics*, v. 85, S313-S325.
 - Selected for *Geophysics* Bright Spots, *The Leading Edge* 2020.
63. H. Kaur, N. Pham, and S. Fomel, 2020, Improving resolution of migrated images by approximating the inverse Hessian using deep learning: *Geophysics*, v. 85, WA173-WA183.
64. Z. Geng, X. Wu, Y. Shi, and S. Fomel, 2020, Deep learning for relative geologic time and seismic horizons: *Geophysics*, v. 85, WA87-WA100.
65. H. Kaur, S. Fomel, and N. Pham, 2020, Seismic ground-roll noise attenuation using deep learning: *Geophysical Prospecting*, v. 68, 2064-2077.
66. Y. Shi, X. Wu, and S. Fomel, 2020, Waveform Embedding: automatic horizon picking with unsupervised deep learning: *Geophysics*, v. 85, WA67-WA76.
67. X. Wu, Z. Geng, Y. Shi, N. Pham, S. Fomel, and G. Caumon, 2020, Building realistic structure models to train deep convolutional neural networks for seismic structural interpretation: *Geophysics*, v. 85, WA27-WA39.
68. Z. Geng, X. Wu, S. Fomel, and Y. Chen, 2020, Relative time seislet transform: *Geophysics*, v. 85, V223-V232.

69. Y. Sripanich, S. Fomel, J. Trampert, W. Burnett, and T. Hess, 2020, Probabilistic move-out analysis by time warping: *Geophysics*, v. 85, U1-U20.
70. X. Wu, L. Liang, Y. Shi, Z. Geng, and S. Fomel, 2019, Multitask learning for local seismic image processing: fault detection, structure-oriented smoothing with edge-preserving, and seismic normal estimation by using a single convolutional neural network: *Geophysical Journal International*, v. 219, 2097-2109.
71. X. Wu, Y. Shi, S. Fomel, L. Liang, Q. Zhang, and A. Yusifov, 2019, FaultNet3D: Predicting fault probabilities, strikes, and dips with a single convolutional neural network: *IEEE Transactions on Geoscience and Remote Sensing*, v. 57, 9138-9155.
72. Y. Sripanich, S. Fomel, A. Stovas, 2019, Effects of lateral heterogeneity on time-domain processing parameters: *Geophysical Journal International*, v. 219, 1181-1201.
73. Z. Xue, H. Zhang, Y. Zhao, and S. Fomel, 2019, Pattern-guided dip estimation with plane-wave destruction filters: *Geophysical Prospecting*, v. 67, 1798-1810.
74. Y. Shi, X. Wu, and S. Fomel, 2019, SaltSeg: Automatic 3D salt segmentation using a deep convolutional neural network: *Interpretation*, v. 7, SE113-SE122.
75. N. Pham, S. Fomel, and D. Dunlap, 2019, Automatic channel detection using deep learning: *Interpretation*, v. 7, SE43-SE50.
76. S. Bader, X. Wu, and S. Fomel, 2019, Missing log data interpolation and semiautomatic seismic well ties using data matching techniques: *Interpretation*, v. 7, T347-T361.
77. D. Merzlikin, S. Fomel, and M. Sen, 2019, Least-squares path-summation diffraction imaging using sparsity constraints: *Geophysics*, v. 84, S187-S200.
78. X. Wu, L. Liang, Y. Shi, and S. Fomel, 2019, FaultSeg3D: Using synthetic data sets to train an end-to-end convolutional neural network for 3D seismic fault segmentation: *Geophysics*, v. 84, IM35-IM45.
79. A. Stovas and S. Fomel, 2019, Generalized velocity approximation: *Geophysics*, v. 84, C27-C40.
80. X. Wu, Y. Shi, S. Fomel, and F. Li, 2018, Incremental correlation of multiple well logs following geologically optimal neighbors: *Interpretation*, v. 6, T713-T722.
81. X. Wu and S. Fomel, 2018, Least-squares horizons with local slopes and multi-grid correlations: *Geophysics*, v.83, IM29-IM40.
82. X. Wu and S. Fomel, 2018, Automatic fault interpretation with optimal surface voting: *Geophysics*, v. 83, O67-O82.
83. Z. Xue, S. Fomel, and J. Sun, 2018, Increasing resolution of reverse-time migration using time-shift gathers: *Geophysical Prospecting*, v. 66, 726-735.
84. X. Wu, S. Fomel, and M. Hudec, 2018, Fast salt boundary interpretation with optimal path picking: *Geophysics*, v. 83, O45-O53.
85. Y. Sripanich and S. Fomel, 2018, Fast time-to-depth conversion and interval velocity estimation with weak lateral variations: *Geophysics*, v. 83, S227-S235.
86. Z. Xue, X. Wu, and S. Fomel, 2018, Predictive painting across faults: *Interpretation*, v. 6, T449-T455.
87. S. Greer and S. Fomel, 2018, Matching and merging high-resolution and legacy seismic images: *Geophysics*, v. 83, V115-V122.
88. Y. Chen and S. Fomel, 2018, EMD-seislet transform: *Geophysics*, v. 83, A27-A32.

89. Z. Xue, J. Sun, S. Fomel, and T. Zhu, 2018, Accelerating full-waveform inversion with attenuation compensation: *Geophysics*, v. 83, A13-A20.
90. G. Wu, S. Fomel, and Y. Chen, 2018, Data-driven time-frequency analysis of seismic data using nonstationary Prony method: *Geophysical Prospecting*, v. 66, 85-97.
91. M. Phillips and S. Fomel, 2017, Plane-wave Sobel attribute for discontinuity enhancement in seismic images: *Geophysics*, v. 82, WB63-WB69.
92. J. Sun, S. Fomel, Y. Sripanich, and P. Fowler, 2017, Recursive integral time extrapolation of elastic waves using low-rank symbol approximation: *Geophysical Journal International*, v. 211, 1478-1493.
93. Y. Sripanich, S. Fomel, J. Sun, and J. Cheng, 2017, Elastic wave-vector decomposition in heterogeneous anisotropic media: *Geophysical Prospecting*, v. 65, 1231-1245.
94. P. Karimi, S. Fomel, and R. Zhang, 2017, Creating detailed subsurface models using predictive image-guided well-log interpolation: *Interpretation*, v. 5, T279-T285.
95. Z. Xue, H. Zhu, and S. Fomel, 2017, Full waveform inversion using seislet regularization: *Geophysics*, v. 82, A43-A49.
96. L. Decker, D. Merzlikin, and S. Fomel, 2017, Diffraction imaging and time-migration velocity analysis using oriented velocity continuation: *Geophysics*, v. 82, U25-U35.
97. Y. Sripanich, S. Fomel, A. Stovas, and Q. Hao, 2017, 3D generalized nonhyperboloidal moveout approximation: *Geophysics*, v. 82, C49-C59.
98. A. Stovas and S. Fomel, 2017, The modified generalized moveout approximation, a new parameter selection: *Geophysical Prospecting*, v. 65, 687-695.
99. D. Merzlikin and S. Fomel, 2017, Analytical path-integral imaging of seismic diffractions: *Geophysics*, v. 82, S51-S59.
100. R. Zhang and S. Fomel, 2017, Time-variant wavelet extraction with a local-attribute-based time-frequency decomposition for seismic inversion: *Interpretation*, v. 5, SC9-SC16.
 - Best Paper in *Interpretation* 2017
101. Y. Sripanich and S. Fomel, 2016, Theory of interval traveltimes parameter estimation in layered anisotropic media: *Geophysics*, v. 81, C253-C263.
102. H. Zhu, S. Li, S. Fomel, G. Stadler, and O. Ghattas, 2016, A Bayesian approach to estimate uncertainty for full-waveform inversion using a priori information from depth migration: *Geophysics*, v. 81, R307-R323.
103. H. Zhu and S. Fomel, 2016, Building good starting models for full waveform inversion using adaptive matching filter: *Geophysics*, v. 81, U61-U72.
104. J. Sun, S. Fomel, T. Zhu, and J. Hu, 2016, Q-compensated least-squares reverse-time migration using lowrank one-step wave extrapolation: *Geophysics*, v. 81, S271-S279.
 - Selected for *Geophysics* Bright Spots, *The Leading Edge* 2016.
105. Y. Chen, J. Ma, and S. Fomel, 2016, Double sparsity dictionary for seismic noise attenuation: *Geophysics*, v. 81, V17-V30.
106. A. Stovas and S. Fomel, 2016, Mapping of moveout attributes using local slopes: *Geophysical Prospecting*, v. 64, 31-37.
107. J. Sun, S. Fomel, and L. Ying, 2016, Lowrank one-step wave extrapolation for reverse-time migration: *Geophysics*, v. 81, S39-S54.

108. Z. Xue, Y. Chen, S. Fomel, and J. Sun, 2016, Imaging incomplete data and simultaneous-source data using least-squares reverse-time migration with shaping regularization: *Geophysics*, v. 81, S11-S20.
109. Y. Liu, S. Fomel, and C. Liu, 2015, Signal and noise separation in prestack seismic data using velocity-dependent seislet transform: *Geophysics*, v. 80, WD117-WD128.
110. Y. Sripanich and S. Fomel, 2015, On anelliptic approximations for qP velocities in transversely isotropic and orthorhombic media: *Geophysics*, v. 80, C89-C105.
111. J. Sun, T. Zhu, and S. Fomel, 2015, Viscoacoustic modeling and imaging using lowrank approximation: *Geophysics*, v. 80, A103-A108.
112. P. Karimi, S. Fomel, L. Wood, and D. Dunlap, 2015, Predictive coherency: *Interpretation*, v. 3, SAE1-SAE7.
113. P. Karimi and S. Fomel, 2015, Stratigraphic coordinates: a coordinate system tailored to seismic interpretation: *Geophysical Prospecting*, v. 63, 1246-1255.
114. P. Yang and S. Fomel, 2015, Seislet-based morphological component analysis using scale-dependent exponential shrinkage: *Journal of Applied Geophysics*, v. 118, 66-74.
115. Y. Chen and S. Fomel, 2015, Random noise attenuation using local signal-and-noise orthogonalization: *Geophysics*, v. 80, WD1-WD9.
116. J. Hu, S. Fomel, and L. Ying, 2015, A fast algorithm for 3D azimuthally anisotropic velocity scan: *Geophysical Prospecting*, v. 63, 368-377.
117. S. Li and S. Fomel, 2015, A robust approach to time-to-depth conversion and interval velocity estimation from time migration in the presence of lateral velocity variations: *Geophysical Prospecting*, v. 63, 315-337.
118. S. Fomel, 2015, Reproducible research as a community effort: Lessons from the Madagascar project: *Computing in Science and Engineering*, v. 17, 20-26.
119. T. Alkhalifah, S. Fomel, and Z. Wu, 2015, Source-receiver two-way wave extrapolation for prestack exploding-reflector modeling and migration: *Geophysical Prospecting*, v.63, 23-34.
120. L. Decker, X. Janson, and S. Fomel, 2015, Carbonate reservoir characterization using seismic diffraction imaging: *Interpretation*, v. 3, SF21-SF30.
121. W. Burnett, A. Klovov, S. Fomel, R. Bansal, E. Liu, and T. Jenkinson, 2015, Seismic diffraction interpretation at Piceance Creek: *Interpretation*, v. 3, SF1-SF14.
122. R. Zhang, X. Song, S. Fomel, M. K. Sen, and S. Srinivasan, 2014, Time-lapse prestack seismic data registration and inversion for CO₂ sequestration study at Cranfield: *Geophysical Prospecting*, v. 62, 1028-1039.
123. Y. Chen, S. Fomel, and J. Hu, 2014, Iterative deblending of simultaneous-source seismic data using seislet-domain shaping regularization: *Geophysics*, v. 79, V179-V189.
124. J. Cheng and S. Fomel, 2014, Fast algorithms for elastic-wave-mode separation and vector decomposition using low-rank approximation for anisotropic media: *Geophysics*, v. 79, C97-C110.
125. G. Fang, S. Fomel, Q. Du, and J. Hu, 2014, Lowrank seismic wave extrapolation on a staggered grid: *Geophysics*, v. 79, T157-T168.
126. R. H. Herrera, S. Fomel, and M. van der Baan, 2014, Automatic approaches for seismic to well tying: *Interpretation*, v. 2, SD101-SD109.

127. S. Fomel and M. van der Baan, 2014, Local skewness attribute as a seismic phase detector: *Interpretation*, v. 2, SA49-SA56.
128. S. Fomel and E. Landa, 2014, Structural uncertainty of time-migrated seismic images: *Journal of Applied Geophysics*, v. 101, 27-30.
129. S. Fomel, P. Sava, I. Vlad, Y. Liu, and V. Bashkardin, 2013, Madagascar: open-source software project for multidimensional data analysis and reproducible computational experiments: *Journal of Open Research Software*, v. 1, e8.
130. S. Li, A. Vladimirsky, and S. Fomel, 2013, First-break traveltimes tomography with the double-square-root eikonal equation: *Geophysics*, v. 78, U89-U101.
 - Selected for *Geophysics* Bright Spots, *The Leading Edge* 2013.
131. A. Klovov and S. Fomel, 2013, Selecting an optimal aperture in Kirchhoff migration using dip-angle images: *Geophysics*, v. 78, S243-S254.
132. S. Fomel, 2013, Seismic data decomposition into spectral components using regularized nonstationary autoregression: *Geophysics*, v. 78, O69-O76.
133. R. Zhang, X. Song, S. Fomel, M. K. Sen, and S. Srinivasan, 2013, Time-lapse seismic data registration and inversion for CO₂ sequestration study at Cranfield: *Geophysics*, v. 78, B329-B338.
134. Z. Chen, S. Fomel, and W. Lu, 2013, Omnidirectional plane-wave destruction: *Geophysics*, v. 78, V171-V179.
135. Y. Cai, S. Fomel, and H. Zeng, 2013, Automated spectral recomposition with application in stratigraphic interpretation: *Interpretation*, v. 1, SA109-SA116.
136. J. Hu, S. Fomel, L. Demanet, and L. Ying, 2013, A fast butterfly algorithm for generalized Radon transforms: *Geophysics*, v. 78, U41-U51.
137. S. Li and S. Fomel, 2013, Kirchhoff migration using eikonal-based computation of traveltimes source-derivatives: *Geophysics*, v. 78, S211-S219.
138. X. Song, S. Fomel, and L. Ying, 2013, Lowrank finite-differences and lowrank Fourier finite-differences for seismic wave extrapolation in the acoustic approximation: *Geophysical Journal International*, v. 193, 960-969.
139. S. Fomel, L. Ying, and X. Song, 2013, Seismic wave extrapolation using lowrank symbol approximation: *Geophysical Prospecting*, v. 61, 526-536.
 - Tinker Family BEG Publication Award
140. Y. Liu and S. Fomel, 2013, Seismic data analysis using local time-frequency decomposition: *Geophysical Prospecting*, v. 61, 516-525.
141. C. Saragiotis, T. Alkhalifah, and S. Fomel, 2013, Automatic traveltimes picking using instantaneous traveltimes: *Geophysics*, v. 78, T53-T58.
142. Z. Chen, S. Fomel, and W. Lu, 2013, Accelerated plane-wave destruction: *Geophysics*, v. 78, V1-V9.
143. S. Fomel and R. Kazinnik, 2013, Nonhyperbolic common reflection surface: *Geophysical Prospecting*, v. 61, 21-27.
144. A. Klovov and S. Fomel, 2012, Separation and imaging of seismic diffractions using migrated dip-angle gathers: *Geophysics*, v. 77, S131-S143.
 - Selected for *Geophysics* Bright Spots, *The Leading Edge* 2012.

145. A. Stovas and S. Fomel, 2012, Shifted hyperbola moveout approximation revisited: *Geophysical Prospecting*, v. 60, 395-399.
146. A. Stovas and S. Fomel, 2012, Generalized non-elliptic approximation in τ - p domain: *Geophysics*, v. 77, U23-U30.
147. G. Liu, S. Fomel, and X. Chen, 2011, Time-frequency analysis of seismic data using local attributes: *Geophysics*, v. 76, P23-P34.
148. Y. Liu and S. Fomel, 2011, Seismic data interpolation beyond aliasing using regularized nonstationary autoregression: *Geophysics*, v. 76, V69-V77.
149. X. Song and S. Fomel, 2011, Fourier finite-difference wave propagation: *Geophysics*, v. 76, T123-T129.
150. L. Casasanta and S. Fomel, 2011, Velocity-independent τ - p moveout in a vertically-varying VTI medium: *Geophysics*, v. 76, U45-U57.
151. W. Burnett and S. Fomel, 2011, Azimuthally anisotropic 3D velocity continuation: *International Journal of Geophysics*, Article ID 484653.
152. S. Fomel, 2011, Theory of 3-D angle gathers in wave-equation seismic imaging: *Journal of Petroleum Exploration and Production Technology*, 1, 11-16.
153. T. Alkhalifah and S. Fomel, 2011, The basic components of residual migration in VTI media using anisotropy continuation: *Journal of Petroleum Exploration and Production Technology*, 1, 17-22.
154. T. Alkhalifah and S. Fomel, 2011, Angle gathers in wave-equation imaging for transversely isotropic media: *Geophysical Prospecting*, 59, 422-431.
155. G. Liu, S. Fomel, and X. Chen, 2011, Stacking angle-domain common-image gathers for normalization of illumination: *Geophysical Prospecting*, 59, 244-255.
156. Y. Liu and S. Fomel, 2010, OC-seislet: seislet transform construction with differential offset continuation: *Geophysics*, 75, WB235-WB245.
157. S. H. Kazemeini, C. Yang, C. Juhlin, S. Fomel, C. Cosma, 2010, Enhancing seismic data resolution using prestack blueing: Case history from the Ketzin CO₂ injection site, Germany: *Geophysics*, 75, V101-V110.
158. T. Alkhalifah and S. Fomel, 2010, An eikonal based formulation for traveltime perturbation with respect to the source location: *Geophysics*, 75, T175-T183.
159. S. Fomel, 2010, Predictive painting of 3D seismic volumes: *Geophysics*, v. 75, A25-A30.
160. S. H. Kazemeini, C. Juhlin, and S. Fomel, 2010, Monitoring CO₂ response on surface seismic data; a rock physics and seismic modeling feasibility study at the CO₂ sequestration site, Ketzin, Germany: *Journal of Applied Geophysics*, v. 71, 109-124.
161. S. Fomel and Y. Liu, 2010, Seislet transform and seislet frame: *Geophysics*, v. 75, V25-V38.
162. Y. Liu, S. Fomel, and G. Liu, 2010, Nonlinear structure-enhancing filtering using plane-wave construction: *Geophysical Prospecting*, v. 58, 415-427.
163. S. Fomel and A. Stovas, 2010, Generalized nonhyperbolic moveout approximation: *Geophysics*, v. 75, U9-U18.
164. M. van der Baan and S. Fomel, 2009, Nonstationary phase estimation using regularized local kurtosis maximization: *Geophysics*, v. 74, A75-A80.

165. L. Ying and S. Fomel, 2009, Fast computation of partial Fourier transforms: *Multiscale Modeling & Simulation*, v.8, 110-124.
166. W. Burnett and S. Fomel, 2009, 3-D velocity-independent elliptically anisotropic move-out correction: *Geophysics*, v. 74, WB129-WB136.
167. Y. Liu, S. Fomel, C. Liu, D. Wang, G.-C. Liu, X. Feng, 2009, High-order seislet transform and its application of random noise attenuation: *Chinese Journal of Geophysics*, v. 52, 2142-2151.
168. M. K. Cameron, S. B. Fomel, and J. A. Sethian, 2009, Analysis and algorithms for a regularized Cauchy problem arising from a non-linear elliptic PDE for seismic velocity estimation: *Journal of Computational Physics*, v. 228, 7388-7411.
169. S. Fomel, S. Luo, and H. Zhao, 2009, Fast sweeping method for the factored eikonal equation: *Journal of Computational Physics*, v. 228, 6440-6455.
170. G. Liu, S. Fomel, L. Jin, and X. Chen, 2009, Stacking seismic data using local correlation: *Geophysics*, v. 74, V43-V48.
171. S. Fomel, 2009, Velocity analysis using AB semblance: *Geophysical Prospecting*, v. 57, 311-321.
172. T. J. Browaeys and S. Fomel, 2009, Fractal heterogeneities in sonic logs and low frequency scattering attenuation: *Geophysics*, v. 74, WA77-WA92.
173. S. Fomel and L. Jin, 2009, Time-lapse image registration using the local similarity attribute: *Geophysics*, v. 74, A7-A11.
174. S. Fomel, 2009, Adaptive multiple subtraction using regularized nonstationary regression: *Geophysics*, v. 74, V25-V33.
 - Reprinted in *Geophysics Today: A survey of the Field as the Journal Celebrates its 75th Anniversary* (Edited by the Editors of *Geophysics*), 2010, Society of Exploration Geophysicists.
175. M. K. Cameron, S. B. Fomel, and J. A. Sethian, 2008, Time-to-depth conversion and seismic velocity estimation using time-migration velocity: *Geophysics*, v. 73, VE205-VE210.
176. D. A. Rosales, S. Fomel, B. L. Biondi, and P. C. Sava, 2008, Wave-equation angle-domain common-image gathers for converted waves: *Geophysics*, v. 73, S17-S26.
177. P. Sava and S. Fomel, 2008, High-order kernels for Riemannian wavefield extrapolation: *Geophysical Prospecting*, v. 56, 49-60.
178. L. Zhang, J. W. Rector, G. M. Hoversten, and S. Fomel, 2007, Split-step complex Padé-Fourier depth migration: *Geophysical Journal International*, v. 171, 1308-1313.
179. S. Fomel, E. Landa, and M. T. Taner, 2007, Post-stack velocity analysis by separation and imaging of seismic diffractions: *Geophysics*, v. 72, U89-U94.
 - Selected for *Geophysics* Bright Spots, *The Leading Edge* 2007.
 - Reprinted in *Seismic Diffraction* (Edited by K. Klem-Musatov, H. Hoeser, T.-J. Moser, and M. Pelissier), 2016, Society of Exploration Geophysicists.
180. M. K. Cameron, S. B. Fomel, and J. A. Sethian, 2007, Seismic velocity estimation from time migration velocities: *Inverse Problems*, v. 23, 1329-1369.
 - Listed in Editorial Board Highlights in *Inverse Problems* 2007.

181. S. Fomel, 2007, Velocity-independent time-domain seismic imaging using local event slopes: *Geophysics*, v. 72, S139-S147.
182. S. Fomel, 2007, Local seismic attributes: *Geophysics*, v. 72, A29-A33.
183. S. Fomel, 2007, Shaping regularization in geophysical-estimation problems: *Geophysics*, v. 72, R29-R36.
 - Listed in Most Cited *Geophysics* Papers 2005-2010.
184. P. C. Sava and S. Fomel, 2006, Time-shift imaging condition in seismic migration: *Geophysics*, v. 71, S209-S217.
 - Listed in Most Cited *Geophysics* Papers 2005-2010.
185. S. Fomel and A. Guitton, 2006, Regularizing seismic inverse problems by model re-parameterization using plane-wave construction: *Geophysics*, v. 71, A43-A47.
186. E. Landa, S. Fomel, and T. J. Moser, 2006, Path-integral seismic imaging: *Geophysical Prospecting*, v. 54, 491-503.
 - Best Paper in *Geophysical Prospecting* 2006, Loránd Eötvös Award.
187. J. Lomask, A. Guitton, S. Fomel, J. Claerbout, and A. Valenciano, 2006, Flattening without picking: *Geophysics*, v. 71, P13-P20.
188. P. C. Sava and S. Fomel, 2005, Riemannian wavefield extrapolation: *Geophysics*, v. 70, T45-T56.
 - Listed in Most Cited *Geophysics* Papers 2005-2010.
189. S. Fomel, 2004, On anelliptic approximations for qP velocities in transversally isotropic media: *Geophysical Prospecting*, v. 52, 247-259.
190. P. C. Sava and S. Fomel, 2003, Angle-domain common image gathers by wavefield continuation methods: *Geophysics*, v. 68, 1065-1074.
 - Honorable Mention, Best Paper in *Geophysics* 2003.
 - Listed in Most Cited *Geophysics* Papers 2000-2010.
191. S. Fomel, P. C. Sava, J. Rickett, and J. F. Claerbout, 2003, The Wilson-Burg method of spectral factorization with application to helical filtering: *Geophysical Prospecting*, v. 51, 409-420.
192. S. Fomel and J. F. Claerbout, 2003, Multidimensional recursive filter preconditioning in geophysical estimation problems: *Geophysics*, v. 68, 577-588.
193. S. Fomel, 2003, Theory of differential offset continuation: *Geophysics*, v. 68, 718-732.
194. S. Fomel, 2003, Seismic reflection data interpolation with differential offset and shot continuation: *Geophysics*, v. 68, 733-744.
195. S. Fomel, 2003, Asymptotic pseudounitary stacking operators: *Geophysics*, v. 68, 1032-1042.
196. S. Fomel, 2003, Time-migration velocity analysis by velocity continuation: *Geophysics*, v. 68, 1662-1672.
197. S. Fomel, 2003, Velocity continuation and the anatomy of residual prestack time migration: *Geophysics*, v. 68, 1650-1661.
198. S. Fomel, 2002, Applications of plane-wave destruction filters: *Geophysics*, v. 67, 1946-1960.

- Listed in Most Cited *Geophysics* Papers 2000-2010.

199. S. Fomel and J. A. Sethian, 2002, Fast-phase space computation of multiple arrivals: Proceedings of the National Academy of Sciences, v. 99, no. 11, 7329-7334.
200. S. Fomel, J. G. Berryman, R. G. Clapp, and M. Prucha, 2002, Iterative resolution estimation in least-squares Kirchhoff migration: Geophysical Prospecting, v. 50, 577-588.
201. S. Fomel, 2002, Antialiasing of Kirchhoff operators by reciprocal parametrization: Journal of Seismic Exploration, v. 10, 293-310.
202. P. C. Sava and S. Fomel, 2001, 3-D travelttime computation by Huygens wavefront tracing: Geophysics, v. 66, 883-889.
203. T. Alkhalifah, S. Fomel, and Biondi, B., 2001, The space-time domain: theory and modelling for anisotropic media: Geophysical Journal International, v. 144, 105-113.
204. T. Alkhalifah and S. Fomel, 2001, Implementing the fast marching eikonal solver: spherical versus Cartesian coordinates: Geophysical Prospecting, v. 49, 165-178.
205. S. Fomel and L. Vaillant, 2001, Evaluating the Stolt-stretch parameter: Journal of Seismic Exploration, v. 9, 319-335.
206. S. Fomel and N. Bleistein, 2001, Amplitude preservation for offset continuation: confirmation for Kirchhoff data: Journal of Seismic Exploration, v. 9, 121-130.
207. B. L. Biondi, S. Fomel, and N. Chemingui, 1998, Azimuth moveout for 3-D prestack imaging: Geophysics, v. 63, 574-588.
 - Reprinted in 3-D Seismic Exploration (Edited by R.J. Graebner, B.A. Hardage, and W. A. Schneider), 2001, Society of Exploration Geophysicists.
208. A. M. Stovas and S. B. Fomel, 1996, Integral kinematically equivalent DMO operators: Russian Geology and Geophysics, v. 37, 102-113.
209. S. V. Goldin and S. B. Fomel, 1995, Estimation of reflection coefficient in DMO: Russian Geology and Geophysics, v. 36, no. 4, p. 103-115.
210. S. B. Fomel, 1994, Recurrent formulas for the derivatives of a CDP travelttime curve: Russian Geology and Geophysics, v. 35, no. 2, 129-137.
211. S. B. Fomel, 1994, To estimation of convergence for iterative travelttime inversion algorithm in layered media: Russian Geology and Geophysics, v. 35, 99-111.
212. S. B. Fomel, 1994, Method of velocity continuation in seismic time migration: Russian Geology and Geophysics, v. 35, 100-111.
213. S. B. Fomel, 1994, Kinematically equivalent differential operator for offset continuation of seismic sections: Russian Geology and Geophysics, v. 35, 122-134.

Refereed Conference Publications

1. L. Yang, S. Fomel, S. Wang, X. Chen, and Y. Chen, 2023, Unsupervised learning framework for denoising distributed acoustic sensing (DAS) data: EAGE Annual Meeting.
2. L. Yang, S. Fomel, S. Wang, X. Chen, Y. Sun, and Y. Chen, 2023, Unsupervised learning with a soft attention mechanism for 3-D erratic and random noise attenuation: EAGE Annual Meeting.

3. H. Kaur, S. Fomel, and N. Pham, 2022, Automated hyper-parameter optimization for deep learning framework to simulate boundary conditions for wave propagation: Second International Meeting for Applied Geoscience & Energy, 1935-1939.
4. R. Alomar and S. Fomel, 2022, Least-squares non-stationary triangle smoothing: Second International Meeting for Applied Geoscience & Energy, 2847-2851.
5. H. Corzo-Pola and S. Fomel, 2022, Shortest-path multiple well-log correlation: Second International Meeting for Applied Geoscience & Energy, 322-326.
6. S. Fomel, 2022, Operator chains and seismic data decomposition: Second International Meeting for Applied Geoscience & Energy, 2842-2846
7. S. Vinayak, R. Abma, and S. Fomel, 2022, Automatic detection of SEG-Y sampling format errors using machine learning: Second International Meeting for Applied Geoscience & Energy, 1961-1965
8. S. Fomel, 2022, Shaping regularization by fast explicit diffusion: Second International Meeting for Applied Geoscience & Energy, 3156-3160
9. N. Pham and S. Fomel, 2022, Seismic data augmentation for automatic faults picking using deep learning: Second International Meeting for Applied Geoscience & Energy, 1719-1724.
10. L. Yang, S. Wang, X. Chen, W. Chen, O. Saad, X. Zhou, N. Pham, Z. Geng, S. Fomel, Y. Chen, 2022, Deep learning framework with period and attention mechanisms for porosity and permeability prediction: EAGE Annual Meeting.
11. H. Kaur, S. Fomel, and N. Pham, 2021, Boundary conditions for acoustic and elastic wave propagation using deep learning: First International Meeting for Applied Geoscience & Energy, 1390-1394.
12. N. Pham, D. Dunlap, and S. Fomel, 2021, Channel facies and faults multisegmentation in seismic volumes: First International Meeting for Applied Geoscience & Energy, 1430-1434.
13. L. Decker and S. Fomel, 2021, A continuation approach for avoiding local minima in seismic velocity picking: First International Meeting for Applied Geoscience & Energy, 3354-3359.
14. H. Kaur and S. Fomel, 2021, Nonstretching NMO correction using deep learning: First International Meeting for Applied Geoscience & Energy, 1505-1509.
15. H. Kaur, N. Pham, S. Fomel, Z. Geng, L. Decker, B. Gremillion, M. Jervis, R. Abma, and S. Gao, 2021, A deep learning framework for seismic facies classification: First International Meeting for Applied Geoscience & Energy, 1420-1424.
16. Z. Geng, S. Fomel, Y. Liu, Q. Wang, Z. Zheng, and Y. Chen, 2021, Streaming seismic attributes: First International Meeting for Applied Geoscience & Energy, 2854-2858.
17. T. Tangkijwanichakul and S. Fomel, 2021, Inverse Hessian estimation in least-squares migration using chains of operators: EAGE Annual Meeting.
18. H. Kaur, N. Pham, and S. Fomel, 2020, Separating primaries and multiples using hyperbolic Radon transform with deep learning: 90th Annual International Meeting, SEG, 1496-1500.
19. N. Pham and S. Fomel, 2020, Uncertainty estimation using Bayesian convolutional neural network for automatic channel detection: 90th Annual International Meeting, SEG, 3462-3466.

20. H. Kaur, A. Sun, Z. Zhong, and S. Fomel, 2020, Time-lapse seismic data inversion for estimating reservoir parameters using deep learning: 90th Annual International Meeting, SEG, 1720-1724.
21. N. Pham, D. Merzlikin, S. Fomel, and Y. Chen, 2020, Passive seismic signal denoising using convolutional neural network: 90th Annual International Meeting, SEG, 1581-1585.
22. L. Decker and S. Fomel, 2020, A variational method for picking velocity surfaces from semblance scans: 90th Annual International Meeting, SEG, 3684-3688.
23. Y. Shi, X. Wu, and S. Fomel, 2019, Deep learning parameterization for geophysical inverse problems: SEG 2019 Workshop: Mathematical Geophysics: Traditional vs Learning, 36-40.
24. H. Kaur, S. Fomel, and N. Pham, 2019, Elastic wave-mode separation in heterogeneous anisotropic media using deep learning: 89th Annual International Meeting, SEG, 2654-2658.
25. S. Greer, S. Fomel, and M. Fry, 2019, Prestack phase corrections using local seismic attributes: 89th Annual International Meeting, SEG, 3949-3953.
26. H. Kaur, N. Pham, and S. Fomel, 2019, Seismic data interpolation using CycleGAN: 89th Annual International Meeting, SEG, 2202-2206.
27. X. Wu, L. Liang, Y. Shi, Z. Geng, and S. Fomel, 2019, Deep learning for local seismic image processing: fault detection, structure-oriented smoothing with edge-preserving, and slope estimation by using a single convolutional neural network: 89th Annual International Meeting, SEG, 2222-2226.
28. H. Kaur, N. Pham, and S. Fomel, 2019, Estimating the inverse Hessian for amplitude correction of migrated images using deep learning: 89th Annual International Meeting, SEG, 2278-2282.
29. Z. Geng, X. Wu, Y. Shi, and S. Fomel, 2019, Relative geologic time estimation using a deep convolutional neural network: 89th Annual International Meeting, SEG, 2238-2242.
30. X. Wu, Z. Geng, Y. Shi, N. Pham, and S. Fomel, 2019, Building realistic structure models to train convolutional neural networks for seismic structural interpretation: 89th Annual International Meeting, SEG, 4745-4750.
31. H. Kaur, S. Fomel, and N. Pham, 2019, Overcoming numerical dispersion of finite-difference wave extrapolation using deep learning: 89th Annual International Meeting, SEG, 2318-2322.
32. L. Decker and S. Fomel, 2019, Path-integral seismic diffraction imaging with probability weights: 89th Annual International Meeting, SEG, 4231-4235.
33. B. Gremillion and S. Fomel, 2019, Seismic image interpolation from irregular locations to a 3D grid using dynamic time warping: 89th Annual International Meeting, SEG, 4590-4594.
34. H. Kaur, N. Pham, and S. Fomel, 2019, A fast hyperbolic Radon transform algorithm using deep neural network: EAGE Annual Meeting.
35. H. Kaur and S. Fomel, 2019, Seismic imaging in stratigraphic coordinates: EAGE Annual Meeting.

36. H. Kaur, S. Fomel, and N. Pham, 2019, Ground roll attenuation using generative adversarial network: EAGE Annual Meeting.
37. A. Stovas and S. Fomel, 2019, Generalized velocity approximation in anisotropic media: EAGE Annual Meeting.
38. Z. Xue, H. Baek, H. Zhang, Y. Zhao, T. Zhu, and S. Fomel, 2018, Solving fractional Laplacian viscoelastic wave equations using domain decomposition: 88th Annual International Meeting, SEG, 3943-3947.
39. D. Merzlikin, S. Fomel, and X. Wu, 2018, Least-squares diffraction imaging using shaping regularization by anisotropic smoothing: 88th Annual International Meeting, SEG, 4326-4331.
40. B. Gremillion and S. Fomel, 2018, Improving spatial resolution of seismic stack using inversion to zero-offset with shaping regularization: 88th Annual International Meeting, SEG, 4568-4572.
41. X. Wu, Y. Shi, S. Fomel, and L. Liang, 2018, Convolutional neural networks for fault interpretation in seismic images: 88th Annual International Meeting, SEG, 1946-1950.
42. X. Wu and S. Fomel, 2018, Automatic fault interpretation using optimal surface voting: 88th Annual International Meeting, SEG, 1639-1643.
43. X. Wu and S. Fomel, 2018, Least-squares seismic horizons with local slopes and multi-grid correlations: 88th Annual International Meeting, SEG, 1688-1692.
44. S. Greer, Z. Xue, and S. Fomel, 2018, Improving migration resolution by approximating the least-squares Hessian using non-stationary amplitude and frequency matching: 88th Annual International Meeting, SEG, 4261-4265.
45. S. Bader, S. Fomel, and Z. Xue, 2018, Using well-seismic mistie to update the velocity model: 88th Annual International Meeting, SEG, 5218-5222.
46. S. Bader, K. Spikes, and S. Fomel, 2018, Missing well log data prediction using Bayesian approach in the relative geologic time domain: 88th Annual International Meeting, SEG, 804-808.
47. Y. Shi, X. Wu, and S. Fomel, 2018, Automatic salt-body classification using deep convolutional neural network: 88th Annual International Meeting, SEG, 1971-1975.
48. N. Pham, S. Fomel, and D. Dunlap, 2018, Automatic channel detection using deep learning: 88th Annual International Meeting, SEG, 2026-2030.
49. L. Decker and S. Fomel, 2018, A finite-element method for blind deconvolution with dynamic frequency wavelets: 88th Annual International Meeting, SEG, 4563-4567.
50. S. Bader, X. Wu, and S. Fomel, 2018, Missing well log estimation by multiple well-log correlation: EAGE Annual Meeting, We A 10.
51. D. Merzlikin, S. Fomel, X. Wu, and M. Phillips, 2017, Unconventional reservoir characterization using azimuthal seismic diffraction imaging: Unconventional Resources Technology Conference (URTeC), 2695232.
52. Y. Sripanich and S. Fomel, 2017, Fast time-to-depth conversion and interval velocity estimation with weak lateral variations: 87th Annual International Meeting, SEG, 5701-5705.
53. L. Decker, D. Merzlikin, and S. Fomel, 2017, Enhancing seismic diffraction images using semblance-weighted least-squares migration: 87th Annual International Meeting, SEG, 5294-5299.

54. D. Merzlikin, S. Fomel, and Y. Sripanich, 2017, Oriented anisotropy continuation using shifted hyperbola travel-time approximation: 87th Annual International Meeting, SEG, 4721-4726.
 - Listed in Top 39 SEG presentations of 2017.
55. Y. Sripanich, S. Fomel, and A. Stovas, 2017, Effects of lateral heterogeneity on reflection traveltimes: 87th Annual International Meeting, SEG, 5577-5582.
56. S. Greer and S. Fomel, 2017, Matching and merging high-resolution and legacy seismic images: 87th Annual International Meeting, SEG, 5933-5937.
57. X. Wu, Y. Shi, S. Fomel, and F. Li, 2017, Incremental correlation of multiple well logs following geologically optimal neighbors: 87th Annual International Meeting, SEG, 1945-1949.
58. Y. Shi, X. Wu, and S. Fomel, 2017, Finding an optimal well-log correlation sequence using coherence-weighted graphs: 87th Annual International Meeting, SEG, 1982-1987.
59. Y. Shi, X. Wu, and S. Fomel, 2017, Well log interpolation guided by geologic distance: 87th Annual International Meeting, SEG, 1939-1944.
60. S. Greer and S. Fomel, 2017, Balancing local frequency content in seismic data using non-stationary smoothing: 87th Annual International Meeting, SEG, 4278-4282.
61. D. Merzlikin and S. Fomel, 2017, Diffraction-based migration velocity analysis using double-path summations: 87th Annual International Meeting, SEG, 980-985.
 - Listed in Top 39 SEG presentations of 2017.
 - Award of Merit, Best Student Paper.
62. X. Wu, S. Fomel, and M. Hudec, 2017, Fast salt boundary interpretation with optimal path picking: 87th Annual International Meeting, SEG, 2060-2065.
63. S. Bader, X. Wu, and S. Fomel, 2017, Semiautomatic seismic well ties and log data interpolation: 87th Annual International Meeting, SEG, 2381-2385.
 - Listed in Top 39 SEG presentations of 2017.
 - Best Student Poster Presentation.
64. M. Phillips and S. Fomel, 2017, Estimation of timeshifts between time-lapse seismic images using spectral decomposition: 87th Annual International Meeting, SEG, 5839-5844.
65. Z. Xue, X. Wu, and S. Fomel, 2017, Predictive painting across faults: 87th Annual International Meeting, SEG, 1907-1912.
66. Z. Xue, S. Fomel, and T. Zhu, 2017, Visco-acoustic full waveform inversion with Q-compensation: EAGE Annual Meeting, Th-P4-10.
67. Y. Sripanich, S. Fomel, and P. J. Fowler, 2016, A comparison of anisotropic parameterizations for TI and orthorhombic media and their sensitivity with respect to qP velocities: 86th Annual International Meeting, SEG, 479-484.
68. Z. Xue, J. Sun, S. Fomel, and T. Zhu, 2016, Q-compensated full waveform inversion using constant-Q wave equation: 86th Annual International Meeting, SEG, 1063-1068.
69. Z. Xue, N. Alger, and S. Fomel, 2016, Full waveform inversion using smoothing kernels: 86th Annual International Meeting, SEG, 1358-1363.

70. J. Sun, Z. Xue, S. Fomel, T. Zhu, and N. Nakata, 2016, Full waveform inversion of passive seismic data for sources and velocities: 86th Annual International Meeting, SEG, 1405-1410.
71. H. Zhu and S. Fomel, 2016, Applications of adaptive matching filter in full waveform inversion: 86th Annual International Meeting, SEG, 1438-1443.
72. G. Wu, S. Fomel, and Y. Chen, 2016, Data-driven time-frequency analysis of seismic data using regularized nonstationary autoregression: 86th Annual International Meeting, SEG, 1700-1705.
73. M. Phillips, S. Fomel, and R. Swindeman, 2016, Structure-oriented plane-wave Sobel filter for edge detection in seismic images: 86th Annual International Meeting, SEG, 1954-1959.
74. Y. Shi, D. Merzlikin and S. Fomel, 2016, Microseismic source localization using time-domain path-integral migration: 86th Annual International Meeting, SEG, 2601-2606.
75. N. Nakata, G. C. Beroza, J. Sun, and S. Fomel, 2016, Migration-based passive source imaging for continuous data: 86th Annual International Meeting, SEG, 2607-2611.
76. R. Zhang and S. Fomel, 2016, Application of predictive painting to well-log data interpolation and seismic inversion: 86th Annual International Meeting, SEG, 3582-3586.
77. R. Zhang and S. Fomel, 2016, Time variant wavelet extraction using spectral decomposition for seismic impedance inversion: 86th Annual International Meeting, SEG, 3751-3756.
78. S. Fomel, 2016, Fast scattered data gridding: 86th Annual International Meeting, SEG, 4059-4063.
79. K. Regimbal and S. Fomel, 2016, High-resolution recursive stacking using plane-wave construction: 86th Annual International Meeting, SEG, 4069-4074.
80. J. Sun, S. Fomel, Y. Sripanich, and P. Fowler, 2016, Recursive integral time extrapolation of elastic waves using lowrank approximation: 86th Annual International Meeting, SEG, 4145-4151.
81. D. Merzlikin, S. Fomel, and A. Bona, 2016, Diffraction imaging using azimuthal plane-wave destruction: 86th Annual International Meeting, SEG, 4288-4293.
82. D. Merzlikin and S. Fomel, 2016, Least-squares path-integral diffraction imaging using sparsity constraints: 86th Annual International Meeting, SEG, 4299-4304.
83. S. Fomel and J. Claerbout, 2016, Streaming prediction-error filters: 86th Annual International Meeting, SEG, 4787-4791.
84. M. Phillips and S. Fomel, 2016, Seismic timelapse image registration using amplitude-adjusted planewave destruction: 86th Annual International Meeting, SEG, 5473-5478.
85. P. Karimi, S. Fomel, and R. Zhang, 2016, Time-lapse image registration using the stratigraphic coordinate system: 86th Annual International Meeting, SEG, 5500-5505.
86. Y. Sripanich, S. Fomel, P. Fowler, A. Stovas, and K. Spikes, 2016, Muir-Dellinger parameters for analysis of anisotropic signatures: 17th International Workshop on Seismic Anisotropy, 1-4.
87. J. Sun, S. Fomel, Y. Sripanich, and P. Fowler, 2016, Elastic wave extrapolation in strongly heterogeneous anisotropic media: 17th International Workshop on Seismic Anisotropy, 5-6.

88. Y. Sripanich and S. Fomel, 2016, Theory of interval travelttime parameter estimation in layered anisotropic media: 17th International Workshop on Seismic Anisotropy, 27-28.
89. A. Stovas and S. Fomel, 2016, Generalized Moveout Approximation Revisited. Alternative Parameter Selection: EAGE Annual Meeting, Th-LHR2-13.
90. Y. Sripanich, S. Fomel, J. Sun, and J. Cheng, 2015, Elastic wave-vector decomposition in orthorhombic media: 85th Annual International Meeting, SEG, 498-503.
91. H. Zhu, S. Li, S. Fomel, G. Stadler, and O. Ghattas, 2015, Uncertainty estimation for full-waveform inversion with a prior information from depth migration: 85th Annual International Meeting, SEG, 1409-1414.
92. J. Sun, T. Zhu, S. Fomel, and W. Song, 2015, Investigating the possibility of locating microseismic sources using distributed sensor networks: 85th Annual International Meeting, SEG, 2485-2490.
93. P. Karimi and S. Fomel, 2015, Image guided well log interpolation using predictive painting: 85th Annual International Meeting, SEG, 2786-2790.
94. G. Fang, J. Hu, and S. Fomel, 2015, Weighted least square based lowrank finite difference for seismic wave extrapolation: 85th Annual International Meeting, SEG, 3554-3559.
95. R. Swindeman and S. Fomel, 2015, Seismic data interpolation using plane-wave shaping regularization: 85th Annual International Meeting, SEG, 3853-3858.
96. K. Regimbal and S. Fomel, 2015, Improving resolution of NMO stack using shaping regularization: 85th Annual International Meeting, SEG, 3859-3863.
97. J. Sun, T. Zhu, and S. Fomel, 2015, Preconditioning least-squares RTM in viscoacoustic media by Q-compensated RTM: 85th Annual International Meeting, SEG, 3959-3965.
98. D. Merzlikin and S. Fomel, 2015, An efficient workflow for path-integral imaging of seismic diffractions: 85th Annual International Meeting, SEG, 4096-4100.
99. Z. Xue, S. Fomel, and J. Sun, 2015, RTM interpolation using time-shift gathers: 85th Annual International Meeting, SEG, 4216-4221.
100. Y. Chen and S. Fomel, 2015, EMD-seislet transform: 85th Annual International Meeting, SEG, 4775-4778.
101. Y. Lai, E. Price, R. Ward, and S. Fomel, 2015, Median balancing: a linearly convergent algorithm for time gain power correction: 85th Annual International Meeting, SEG, 5127-5131.
102. Y. Sripanich and S. Fomel, 2015, 3D generalized nonhyperboloidal moveout approximation: 85th Annual International Meeting, SEG, 5147-5152.
103. Y. Chen and S. Fomel, 2015, Random noise attenuation using local signal and noise orthogonalization: EAGE Annual Meeting, Th-N116-06.
104. Y. Chen, J. Ma, and S. Fomel, 2015, Double sparsity dictionary for seismic noise attenuation: EAGE Annual Meeting, Th-P6-03.
105. Y. Sripanich and S. Fomel, 2014, Modified anelliptic approximations for qP velocities in transversely isotropic media: 84th Annual International Meeting, SEG, 409-414.
 - Listed in Top 30 SEG presentations of 2014.
 - Award of Merit, Best Student Poster Presentation.

106. Y. Sripanich and S. Fomel, 2014, Anelliptic approximations for qP velocities in orthorhombic media: 84th Annual International Meeting, SEG, 453-457.
 - Listed in Top 30 SEG presentations of 2014.
107. Y. Sripanich and S. Fomel, 2014, Two-point seismic ray tracing in layered media using bending: 84th Annual International Meeting, SEG, 3371-3376.
108. S. Li, S. Fomel, and H. Zhu, 2014, Frequency-domain reverse-time migration with a sparse-frequency sampling: 84th Annual International Meeting, SEG, 3898-3904.
109. J. Sun, S. Fomel, and J. Hu, 2014, Least-squares reverse-time migration using one-step two-way wave extrapolation by non-stationary phase shift: 84th Annual International Meeting, SEG, 3967-3973.
110. Z. Xue, Y. Chen, S. Fomel, and J. Sun, 2014, Imaging incomplete data and simultaneous-source data using least-squares reverse-time migration with shaping regularization: 84th Annual International Meeting, SEG, 3991-3996.
111. J. Sun, T. Zhu, and S. Fomel, 2014, Viscoacoustic modeling and imaging using low-rank approximation: 84th Annual International Meeting, SEG, 3997-4002.
112. Y. Liu and S. Fomel, 2014, Separation of primaries and multiples using VD-seislet frame: 84th Annual International Meeting, SEG, 4140-4146.
113. Y. Chen and S. Fomel, 2014, Random noise attenuation using local similarity: 84th Annual International Meeting, SEG, 4360-4365.
 - Listed in Top 30 SEG presentations of 2014.
114. S. Fomel, 2014, Recent advances in time-domain seismic imaging: 84th Annual International Meeting, SEG, 4400-4404.
115. S. Fomel, 2014, Transforming prestack seismic data by Gardner continuation: 84th Annual International Meeting, SEG, 4643-4649.
 - Honorable Mention, Best Poster Award.
 - Listed in Top 30 SEG presentations of 2014.
116. L. Decker and S. Fomel, 2014, Diffraction imaging and velocity analysis using oriented velocity continuation: 84th Annual International Meeting, SEG, 4810-4815.
117. R. H. Herrera, M. van der Baan, and S. Fomel, 2014, Comparison of two semi-automatic techniques for seismic-to-well tying: EAGE Annual Meeting, Tu-E103-13.
118. R. Zhang, X. Song, S. Fomel, M. K. Sen, and S. Srinivasan, 2013, Time-lapse seismic registration and inversion for CO₂ sequestration study at Cranfield, Part II: Pre-stack Analysis: 83rd Annual International Meeting, SEG, 5015-5020.
119. J. Hu, S. Fomel, and L. Ying, 2013, A fast algorithm for 3D azimuthally anisotropic velocity scan: 83rd Annual International Meeting, SEG, 4795-4799.
120. S. Li and S. Fomel, 2013, A robust approach to time-to-depth conversion in the presence of lateral velocity variations: 83rd Annual International Meeting, SEG, 4800-4805.
121. X. Yang, J. Lu, and S. Fomel, 2013, Seismic modeling using the frozen Gaussian approximation: 83rd Annual International Meeting, SEG, 4677-4682.
122. L. Decker, A. Klovov, and S. Fomel, 2013, Comparison of seismic diffraction imaging techniques: plane wave destruction versus apex destruction: 83rd Annual International Meeting, SEG, 4054-4059.

- Best Student Poster Presentation.

123. J. Sun and S. Fomel, 2013, Lowrank one-step wave extrapolation: 83rd Annual International Meeting, SEG, 3905-3910.
124. T. Alkhalifah, Z. Wu, and S. Fomel, 2013, Exploring imaging capabilities of the extended prestack wavefield: 83rd Annual International Meeting, SEG, 3877-3881.
125. S. Fomel, 2013, Wave-equation time migration: 83rd Annual International Meeting, SEG, 3703-3708.
 - Listed in Top 30 SEG presentations of 2013.
126. A. Klovov and S. Fomel, 2013, Seismic diffraction imaging, one migration dip at a time: 83rd Annual International Meeting, SEG, 3697-3702.
127. G. Fang, S. Fomel, and Q. Du, 2013, Seismic wave extrapolation on a staggered grid using lowrank decomposition and lowrank finite-differences: 83rd Annual International Meeting, SEG, 3433-3438.
128. P. Karimi and S. Fomel, 2013, Predictive coherency: 83rd Annual International Meeting, SEG, 1492-1497.
129. P. Karimi and S. Fomel, 2013, Computing volumetric-curvature attributes using predictive painting: 83rd Annual International Meeting, SEG, 1477-1482.
130. J. Cheng and S. Fomel, 2013, Fast algorithms for elastic-wave-mode separation and vector decomposition using low-rank approximation for anisotropic media: 83rd Annual International Meeting, SEG, 991-997.
131. Y. Chen, S. Fomel, and J. Hu, 2013, Iterative deblending of simultaneous-source seismic data using shaping regularization: 83rd Annual International Meeting, SEG, 119-125.
132. A.M. Popovici, N. Tanushev, I. Sturzu, I. Musat, C. Tsingas, and S. Fomel, 2013, Fast beam migration using plane wave destructor (PWD) beam forming: 75th EAGE Conference and Exhibition incorporating SPE EUROPEC 2013, <http://dx.doi.org/10.3997/2214-4609.20130725>
133. S. Li and S. Fomel, 2013, A robust approach for time-to-depth conversion and interval velocity estimation: 75th EAGE Conference and Exhibition incorporating SPE EUROPEC 2013, <http://dx.doi.org/10.3997/2214-4609.20130371>
134. Y. Tao, M. Davidson, H. Swan, S. Fomel, J. Malloy, J. Howell, S. Chiu, and R. Olson, 2012, Constrained simultaneous automatic picking for VVAZ analysis: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-0271.1>.
135. J. Hu, S. Fomel, L. Demanet, and L. Ying, 2012, A fast butterfly algorithm for the hyperbolic Radon transform: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-0462.1>.
136. A. Klovov and S. Fomel, 2012, Optimal migration aperture for conflicting dips: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-0504.1>.
137. Y. Cai, S. Fomel, and H. Zeng, 2012, Spectral recomposition using separable non-linear least squares: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-0528.1>.

138. S. Li, S. Fomel, and A. Vladimirsky, 2012, Prestack first-break traveltime tomography using the double-square-root eikonal equation: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-0773.1>.
139. S. Ghosh and S. Fomel, 2012, Multiple suppression in the t - x - p domain: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-1398.1>.
140. S. Fomel, 2012, Seismic data decomposition into spectral components using regularized nonstationary autoregression: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-1416.1>.
 - Listed in Top 30 SEG presentations of 2012.
141. V. Bashkardin, T. J. Browaeys, S. Fomel, F. Gao, R. Kazinnik, S. A. Morton, S. Terentyev, A. Vladimirsky, and P. Williamson, 2012, Phase-space computation of multi-arrival traveltimes, Part I: Theory and concepts: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-1522.1>.
142. V. Bashkardin, T. J. Browaeys, S. Fomel, F. Gao, S. A. Morton, S. Terentyev, and A. Vladimirsky, 2012, Phase-space computation of multi-arrival traveltimes: Part II – Implementation and application to angle-domain imaging: 82nd Annual International Meeting, SEG, <http://dx.doi.org/10.1190/segam2012-1537.1>.
143. X. Song and S. Fomel, 2012, Lowrank finite-differences and lowrank Fourier finite-differences for seismic wave extrapolation: EAGE 73rd Conference and Exhibition, P215.
144. A. Klovov and S. Fomel, 2012, Diffraction imaging in the dip-angle domain: Viking Graben case study: EAGE 73rd Conference and Exhibition, Y025.
145. M. van der Baan, S. Fomel, and M. Perz, 2011, Phase analysis: A complementary tool to spectral decomposition?: 31st Annual GCSSEPM Foundation Bob F. Perkins Research Conference *Attributes: New Views on Seismic Imaging Their Use in Exploration and Production*, 251-258.
146. P. Karimi and S. Fomel, 2011, Stratigraphic coordinate system: 81st Annual International Meeting, SEG, 960-964.
147. C. Saragiotis, T. Alkhalifah, and S. Fomel, 2011, Automatic traveltime picking using local time-frequency maps: 81st Annual International Meeting, SEG, 1648-1652.
148. N. Tanushev, R. Tsai, S. Fomel, and B. Engquist, 2011, Gaussian beam decomposition for seismic migration: 81st Annual International Meeting, SEG, 3356-3361.
149. X. Song, S. Fomel, L. Ying, and T. Ding, 2011, Lowrank finite-differences for wave extrapolation: 81st Annual International Meeting, SEG, 3372-3376.
 - Award of Merit, Best Student Poster Presentation.
150. S. Li, S. Fomel, and A. Vladimirsky, 2011, Improving wave-equation fidelity of Gaussian beams by solving the complex eikonal equation: 81st Annual International Meeting, SEG, 3829-3834.
151. T. Alkhalifah and S. Fomel, 2011, A stable implementation of the prestack exploding reflector modeling and migration: 81st Annual International Meeting, SEG, 3851-3855.
152. W. Burnett, S. Fomel, and R. Bansal, 2011, Diffraction velocity analysis by path-integral seismic imaging: 81st Annual International Meeting, SEG, 3898-3902.

153. W. Burnett and S. Fomel, 2011: Diffraction imaging using 3D azimuthally-anisotropic velocity continuation, EAGE 73rd Conference and Exhibition, B026.
154. L. Casasanta and S. Fomel, 2010, VTI interval velocities by predictive painting in the τ - p domain: 80th Annual International Meeting, SEG, 232-237.
155. A. Stovas and S. Fomel, 2010, Generalized moveout approximation in the τ - p domain: 80th Annual International Meeting, SEG, 253-257.
156. A. Al-Dajani and S. Fomel, 2010, Fractures detection using multi-azimuth diffractions focusing measure: Is it feasible?: 80th Annual International Meeting, SEG, 287-291.
157. W. Burnett and S. Fomel, 2010, Azimuthally anisotropic 3D velocity continuation: 80th Annual International Meeting, SEG, 307-312.
158. S. Fomel and M. van der Baan, 2010, Local similarity with the envelope as a seismic phase detector: 80th Annual International Meeting, SEG, 1555-1559.
 - Listed in Top 30 SEG presentations of 2010.
159. T. Alkhalifah and S. Fomel, 2010, Source-receiver two-way wave extrapolation for prestack exploding-reflector modeling and migration: 80th Annual International Meeting, SEG, 2950-2955.
160. S. Fomel, L. Ying, and X. Song, 2010, Seismic wave extrapolation using lowrank symbol approximation: 80th Annual International Meeting, SEG, 3092-3096.
 - Best Poster Award.
 - Listed in Top 30 SEG presentations of 2010.
161. X. Song and S. Fomel, 2010, Fourier finite-difference wave propagation: 80th Annual International Meeting, SEG, 3204-3209.
162. Y. Liu and S. Fomel, 2010, Trace interpolation beyond aliasing using regularized non-stationary autoregression: 80th Annual International Meeting, SEG, 3662-3667.
163. Y. Liu and S. Fomel, 2010, Seismic data analysis using local time-frequency transform: 80th Annual International Meeting, SEG, 3711-3716.
164. M. van der Baan, M. Perz, and S. Fomel, 2010, Nonstationary phase estimation for analysis of wavelet character: EAGE 72nd Conference and Exhibition, D020.
165. L. Casasanta and S. Fomel, 2010, Velocity-independent τ - p moveout in a layered VTI medium: EAGE 72nd Conference and Exhibition, C030.
166. M van der Baan, M Perz, S Fomel, 2010, Nonstationary phase estimation: A tool for seismic interpretation?: GeoCanada Conference, 884.
167. G. Liu, S. Fomel, and X. Chen, 2009, Time-frequency characterization using local attributes: 79th Annual International Meeting, SEG, 1826-1829.
168. S. Fomel and N. Tanushev, 2009, Time-domain seismic imaging using beams: 79th Annual International Meeting, SEG, 2747-2752.
169. T. Alkhalifah and S. Fomel, 2009, Angle gathers in wave-equation imaging for VTI media: 79th Annual International Meeting, SEG, 2899-2903.
170. G. Liu, S. Fomel, and X. Chen, 2009, Stacking angle-domain common-image gathers for normalization of illumination: 79th Annual International Meeting, SEG, 2949-2954.
171. Y. Liu, S. Fomel, and G. Liu, 2009, Structure-enhancing nonlinear filtering of seismic images: 79th Annual International Meeting, SEG, 3223-3227.

172. Y. Liu and S. Fomel, 2009, OC-seislet: seislet transform construction with differential offset continuation: 79th Annual International Meeting, SEG, 3228-3232.
173. S. Fomel and R. Kazinnik, 2009, Non-hyperbolic common reflection surface: 79th Annual International Meeting, SEG, 3620-3624.
174. W. Burnett and S. Fomel, 2009, Moveout analysis by time-warping: 79th Annual International Meeting, SEG, 3710-3714.
175. S. Fomel and A. Stovas, 2009, Generalized nonhyperbolic moveout approximation: 11th International Congress of the Brazilian Geophysical Society.
176. Y. Liu and S. Fomel, 2009, Structure-enhancing LUM filtering for seismic images: EAGE 71st Conference and Exhibition, V026.
177. H. Kazemeini, S. Fomel, and C. Juhlin, 2008, Prestack spectral blueing: A tool for increasing seismic resolution: 78th Annual International Meeting, SEG, 854-858.
178. S. Fomel, 2008: Predictive painting of 3-D seismic volumes: 78th Annual International Meeting, SEG, 864-868.
 - Listed in Top 30 SEG presentations of 2008.
179. S. Fomel, 2008, Nonlinear shaping regularization in geophysical inverse problems: 78th Annual International Meeting, SEG, 2046-2051.
180. E. Landa, S. Fomel, and M. Reshef, 2008, Separation, imaging, and velocity analysis of seismic diffractions using migrated dip-angle gathers: 78th Annual International Meeting, SEG, 2176-2180.
181. S. Fomel and Y. Liu, 2008, Seismic data analysis with one-dimensional seislet frame: 78th Annual International Meeting, SEG, 2581-2585.
182. W. Burnett and S. Fomel, 2008, 3-D velocity-independent elliptically anisotropic moveout correction: 78th Annual International Meeting, SEG, 2952-2956.
183. W. Burnett and S. Fomel, 2008, A Gaussian beam analysis of the Radon transform: 78th Annual International Meeting, SEG, 2993-2997.
184. M. Cameron, S. Fomel, and J. Sethian, 2007, Inverse problem in seismic imaging: Proc. Appl. Math. Mech., 7, 1024803-1024804.
185. S. Fomel and L. Jin, 2007, Time-lapse image registration using the local similarity attribute: 77th Annual International Meeting, SEG, 2979-2983.
 - Listed in Top 30 SEG presentations of 2007.
186. T. J. Browaeys and S. Fomel, 2007, Directional analysis of the wave-equation imaging condition: 77th Annual International Meeting, SEG, 2250-2254.
187. S. Fomel, 2007, Applications of nonstationary regression: 77th Annual International Meeting, SEG, 1962-1966.
 - Honorable Mention, Best Poster Award.
 - Listed in Top 30 SEG presentations of 2007.
188. A. M. Popovici, S. Crawley, Y. Li, C. Lupascu, and S. Fomel, 2007, Imaging ultra deep geologic structures using wave equation migration and illumination: 10th International Congress of the Brazilian Geophysical Society.
189. M. T. Taner, S. Treitel, M. Al-Chalabi, and S. Fomel, 2007, An offset dependent NMO velocity model: EAGE 69th Conference and Exhibition, P036.

190. T. J. Browaeys and S. Fomel, 2007, Seismic attenuation in a von Karman correlated medium: EAGE 69th Conference and Exhibition, P261.
191. S. Fomel and A. Stovas, 2007, Generalized non-hyperbolic moveout approximation: EAGE 69th Conference and Exhibition, B041.
192. S. Fomel and G. Hennenfent, 2007, Reproducible computational experiments using SCons: 32nd International Conference on Acoustics, Speech, and Signal Processing (ICASSP), IV/1257-1260.
193. M. Cameron, S. Fomel, and J. Sethian, 2006, Seismic velocity estimation and time to depth conversion of time-migrated images: 76th Annual International Meeting, SEG, 3066-3069.
194. S. Fomel, 2006, Towards the seislet transform: 76th Annual International Meeting, SEG, 2847-2850.
 - Listed in Top 30 SEG presentations of 2006.
195. S. Fomel, E. Landa, and M. T. Taner, 2006, Post-stack velocity analysis by separation and imaging of seismic diffractions: 76th Annual International Meeting, SEG, 2559-2562.
 - Listed in Top 30 SEG presentations of 2006.
196. A. A. Duchkov, M. V. de Hoop, and S. Fomel, 2006, Continuation of a class of seismic processors and associated rays: 76th Annual International Meeting, SEG, 2549-2552.
197. P.C. Sava and S. Fomel, 2006, Time-shift imaging condition for converted waves: 76th Annual International Meeting, SEG, 2460-2463.
198. M. T. Taner, S. Fomel, and E. Landa, 2006, Prestack separation of seismic diffractions using plane-wave decomposition: 76th Annual International Meeting, SEG, 2401-2404.
199. S. Fomel, 2006, Local seismic attributes: 76th Annual International Meeting, SEG, 1228-1231.
 - Best Poster Award.
 - Listed in Top 30 SEG presentations of 2006.
200. P. Sava and S. Fomel, 2006, Generalized imaging conditions for wave-equation migration: EAGE 68th Conference and Exhibition, paper G-014.
201. R. J. Ferguson and S. Fomel, 2006, Interpolation and extrapolation of seismic data using Newton's Method: AIP Conference Proceedings, v. 834, 296-304.
202. S. Fomel, M. Backus, K. Fouad, B. Hardage, and G. Winters, 2005, A multistep approach to multicomponent seismic image registration with application to a West Texas carbonate reservoir study: 75th Annual International Meeting, SEG, 1018-1021.
 - Listed in Top 25 SEG presentations of 2005.
203. R. J. Ferguson and S. B. Fomel, 2005, Data regularization and redatuming using Newton's method: 75th Annual International Meeting, SEG, 1669-1672.
204. A. Guitton, J. Lomask, and S. Fomel, 2005, Non-linear estimation of vertical delays: 75th Annual International Meeting, SEG, 841-844.
205. B. Artman and S. Fomel, 2005, Fourier-domain imaging condition for shot-profile migration: 75th Annual International Meeting, SEG, 2013-2016.
206. S. Fomel, 2005, Shaping regularization in geophysical estimation problems: 75th Annual International Meeting, SEG, 1673-1676.

207. S. Fomel, 2005, Velocity-independent time-domain seismic imaging using local event slopes: 75th Annual International Meeting, SEG, 2269-2272.
208. S. Fomel and A. Guitton, 2005, Model preconditioning by plane-wave construction in geophysical estimation problems: 75th Annual International Meeting, SEG, 2601-2604.
209. P. C. Sava and S. Fomel, 2005, Coordinate-independent angle-gathers for wave equation migration: 75th Annual International Meeting, SEG, 2052-2055.
210. P. C. Sava and S. Fomel, 2005, Time-shift imaging condition: 75th Annual International Meeting, SEG, 1850-1853.
211. P. C. Sava and S. Fomel, 2005, Wave-equation common-angle gathers for converted waves: 75th Annual International Meeting, SEG, 947-950.
212. P. C. Sava and S. Fomel, 2004, Seismic modeling with Riemannian wavefield extrapolation: EAGE 66th Conference and Technical Exhibition.
213. L. Zhang, J. W. Rector, G. M. Hoversten, and S. Fomel, 2004, Split-step complex Padé-Fourier depth migration: 74th Annual International Meeting, SEG, 989-992.
214. P. Sava and S. Fomel, 2004, Wavefield extrapolation in Riemannian coordinates: 74th Annual International Meeting, SEG, 1049-1052.
 - Award of Merit, Best Student Presentation.
215. S. Fomel, 2004, Theory of 3-D angle gathers in wave-equation imaging: 74th Annual International Meeting, SEG, 1053-1056.
 - Listed in Top 25 SEG presentations of 2004.
216. R. J. Ferguson, S. B. Fomel, and M. K. Sen, M. K., 2003, Wave propagation in heterogeneous media by a least squares one way operator: EAGE 65th Conference and Technical Exhibition.
217. S. Fomel and M. M. Backus, 2003, Multicomponent seismic data registration by least squares: 73rd Annual International Meeting, SEG, 781-784.
218. S. Fomel, 2003, Angle-domain seismic imaging and the oriented wave equation: 73rd Annual International Meeting, SEG, 893-896.
219. S. Fomel, 2003, Differential azimuth moveout: 73rd Annual International Meeting, SEG, 2068-2071.
220. S. Fomel, M. M. Backus, M. DeAngelo, P. Murray, and B. A. Hardage, 2003, Multicomponent seismic data registration for subsurface characterization in the shallow Gulf of Mexico: in Offshore Technology Conference, Paper No. 15117.
221. P. Murray, M. DeAngelo, M. M. Backus, B. A. Hardage, R. J. Graebner, and S. Fomel, 2003, Interpreting multicomponent seismic data in the Gulf of Mexico for shallow sedimentary properties: Offshore Technology Conference, OTC Paper No. 15118.
222. P. C. Sava and S. Fomel, 2002, Wave-equation migration velocity analysis beyond the Born approximation: 72nd Annual International Meeting, SEG, 2285-2288.
223. P. C. Sava, S. Fomel, and B. L. Biondi, 2001, Amplitude-preserved common image gathers by wave-equation migration: 72nd Annual International Meeting, SEG, 296-299.
 - Award of Merit, Best Student Presentation.
224. S. Fomel, 2001, Migration velocity analysis by velocity continuation: 71st Annual International Meeting, SEG, 1107-1110.

225. S. Fomel, 2001, Seismic data interpolation and noise attenuation with plane-wave destructor filters: 71st Annual International Meeting, SEG, 1985-1988.
226. S. Fomel, 2001, Seismic reflection data interpolation with differential offset and shot continuation: 71st Annual International Meeting, SEG, 2045-2048.
227. P. C. Sava and S. Fomel, 1998, Huygens wavefront tracing: a robust alternative to ray tracing: 68th Annual International Meeting, SEG, 1961-1964.
228. J. Rickett, J. Claerbout, and S. Fomel, 1998, Implicit 3-D depth migration by wave-field extrapolation with helical boundary conditions: 68th Annual International Meeting, SEG, 1762-1765.
229. T. Alkhalifah, S. Fomel, and B. Biondi, 1998, Time-domain processing in arbitrarily inhomogeneous media: 68th Annual International Meeting, SEG, 1756-1759.
230. B. L. Biondi, R. G. Clapp, S. Fomel, and T. Alkhalifah, 1998, Robust reflection tomography in the time domain: 68th Annual International Meeting, SEG, 1847-1850.
231. R. G. Clapp, B. L. Biondi, S. Fomel, and J. F. Claerbout, 1998, Regularizing velocity estimation using geologic dip information: 68th Annual International Meeting, SEG, 1851-1854.
232. Y. Sun and S. Fomel, 1998, Fast-marching eikonal solver in the tetragonal coordinates: 68th Annual International Meeting, SEG, 1949-1952.
233. S. Fomel, 1997, Velocity continuation and the anatomy of prestack residual migration: 67th Annual International Meeting, SEG, 1762-1765.
234. B. L. Biondi, S. Fomel, and N. Chemingui, 1996, Application of azimuth moveout to 3-D prestack imaging: 66th Annual International Meeting, SEG, 431-434.
235. S. Fomel, N. Bleistein, H. Jaramillo, and J. K. Cohen, 1996, True amplitude DMO, offset continuation and AVA/AVO for curved reflectors: 66th Annual International Meeting, SEG, 1731-1734.
236. S. Fomel and B. L. Biondi, 1995, The time and space formulation of azimuth moveout: 65th Annual International Meeting, SEG, 1449-1452.
 - Reprinted in Prestack Depth Migration and Velocity Model Building (Edited by I. F. Jones, R. I. Bloor, B. L. Biondi, and J. T. Etgen), 2009, Society of Exploration Geophysicists.

Other Publications (last three years)

1. J. Ma, Q. Cheng, S. Fomel, M. Sacchi, R.-S. Wu, Y. Liu, Y. E. Li, 2023, Advances in mathematical geophysics – Introduction: Geophysics, v. 88, WAI-WAii.
2. B. Abriel, M. Araya, H. Di, S. Fomel, J. Lomask, P. Nivlet, J. Vamaraju, and B. Wallet, 2022, Special section introduction: Automated approaches to interpretation: Interpretation, v. 10, SCi-SCi.

Invited Presentations (last three years)

- | | |
|---|----------|
| • Chevron | Aug 2023 |
| • Workshop on Scientific Machine Learning (SciML) | Apr 2023 |

- 5th Annual Meeting of the SIAM Texas-Louisiana Section Nov 2022
- Grenoble Alpes University, Institut des sciences de la Terre Oct 2022
- ExxonMobil Aug 2022
- SEG Research Workshop: Data Analytics & Machine Learning May 2022
- 17th International Congress of the Brazilian Geophysical Society Nov 2021
- Microsoft Oct 2021
- SPE Virtual Workshop: Open Subsurface May 2021
- Petrobras Apr 2021
- Saudi Aramco Apr 2021
- Chevron Apr 2021
- ExxonMobil Mar 2021

Professional Activities

- Member of American Geophysical Union (AGU), European Association of Geoscientists and Engineers (EAGE), Institute of Electrical and Electronics Engineers (IEEE), Society of Exploration Geophysicists (SEG), Society for Industrial and Applied Mathematics (SIAM).
- Reviewer of research articles for *AAPG Bulletin*, *Applied Sciences*, *Bulletin of the Seismological Society of America*, *Chinese Journal of Oceanology and Limnology*, *Communications in Mathematical Sciences*, *Computational and Mathematical Methods in Medicine*, *Computational Geosciences*, *Computers & Geosciences*, *Computer Methods in Applied Mechanics and Engineering*, *Earthquake Science*, *Exploration Geophysics*, *Frontiers of Information Technology & Electronic Engineering*, *Geophysical Journal International*, *Geophysics*, *Geophysical Prospecting*, *Geophysical Research Letters*, *IEEE Geoscience and Remote Sensing Letters*, *IEEE Signal Processing Letters*, *IEEE Transactions on Geoscience and Remote Sensing*, *International Journal of Robust and Nonlinear Control*, *Inverse Problems*, *Inverse Problems in Science & Engineering*, *Journal of Applied Geophysics*, *Journal of Geophysics and Engineering*, *Journal of Computational Physics*, *Journal of Seismic Exploration*, *Mathematical Problems in Engineering*, *Near Surface Geophysics*, *Netherlands Journal of Geosciences*, *Neural Computing & Applications*, *Numerical Algorithms*, *Petrophysics*, *Pure and Applied Geophysics*, *Quarterly Journal of Mechanics and Applied Mathematics*, *Recent Patents on Signal Processing*, *SIAM Journal on Scientific Computing*, *SPE Journal*, *SPE Reservoir Evaluation & Engineering*, *Wave Motion*
- Reviewer of grant proposals for Israel Science Foundation, Natural Sciences and Engineering Research Council of Canada (NSERC), National Science Foundation (NSF), Netherlands Organisation for Scientific Research (NWO), Pazi Foundation (UPBC/IAEC), Petroleum Research Fund (American Chemical Society)
- Associate Editor of *IEEE Transactions on Geoscience and Remote Sensing*, *Geophysical Data Processing* 2020–Present

- Guest Associate Editor of *Geophysics*,
special section on Advances in Mathematical Geophysics 2021–2022
- Guest Associate Editor of *Interpretation*,
special section on Automated Approaches to Interpretation 2021–2022
- Guest Editor of *IEEE Signal Processing Magazine*,
special issue on Subsurface Exploration in the Information Age 2017–2018
- Guest Associate Editor of *Geophysics*,
special section on Reproducible Research: Geophysics Papers of the Future 2016–2017
- Guest Associate Editor of *Interpretation*,
special section on Computer-Assisted Seismic Interpretation Methods 2016–2017
- Guest Associate Editor of *Geophysics*,
special issue on Signal and Noise Separation 2014–2015
- Guest Associate Editor of *Interpretation*,
special section on Petroleum Geomechanics and Fracture Interpretation 2014–2015
- Guest Associate Editor of *Interpretation*, special section on Thin Beds 2014–2015
- Guest Associate Editor of *Interpretation*, special section on Diffraction Imaging 2013–2014
- Guest Editor of *International Journal of Geophysics*,
special issue on Seismic Imaging 2010–2011
- Guest Associate Editor of *Geophysics*, special issue on Seismic Data Sampling 2009–2010
- Guest Editor of *Computing in Science and Engineering*,
special issue on Reproducible Research 2008–2009
- Associate Editor of *Geophysics*, Seismic Migration and Signal Processing 2004–2009
- Member of the SEG North American Regional Advisory Committee 2021–Present
- Member of the EAGE Education Committee 2020–Present
- Chair of the SEG Publications Committee 2013–2015, 2019–2021
- SEG Vice-President for Publications (elected) 2017–2019
- Co-Chair of the SEG Technical Program Committee 2016–2017
- Chair of the SEG Distinguished Lecturer Committee 2015–2017
- Member of the SEG Distinguished Lecturer Committee 2012–Present
- Member of the SEG Publications Committee 2008–2021
- Member of the SEG Publication Policy Committee 2007–2010, 2013–2015
- District Representative of the SEG Council (elected) 2008–2010, 2011–2013
- Chair of the SEG Technical Program Committee 2011

- Chair of the SEG Translations Committee 2007–2010
- Member of the SEG Translations Committee 2000–2012
- Member of the SEG Online Committee 2004–2007
- Member of the SEG Technical Program Committee 2007
- Seission Chair, IMAGE Conference 2023
- Session Chair, EAGE Annual Meeting 2011, 2014–2015, 2023
- Session Chair, SEG Annual Meetings 2004–2005, 2008–2010, 2013, 2016
- Creator and project manager of SEGTeX, an open-source L^AT_EX package for geophysical publications <http://www.ahay.org/wiki/SEGTeX> 2001–Present
- Creator and project manager of MADAGASCAR, an open-source software package for geophysical data analysis <http://www.ahay.org> 2003–Present
- Member of the Technical Program Committee, Energy In Data Conference 2020–2021
- Co-organizer of the special session *Geophysical Data Analysis and Inversion in the Era of Artificial Intelligence* at the International Geoscience and Remote Sensing Symposium (jointly with N. Kazemi) 2023
- Co-organizer of SEG Workshop *Machine Learning Blind-test Challenge* (jointly with D. Bevc, A. Halpert, F. Herrmann, C. Esmersoy, and B. Power) 2020
- Member of the Organizing Committee, Energy In Data Conference 2019–2020
- Co-chair of the SEG 3rd International Workshop on Mathematical Geophysics: Traditional vs. Learning (jointly with J. Ma, M. Sacchi, and R. Wu) 2019
- Co-organizer of minisymposium *Advances in Seismic Imaging and Inversion* at the SIAM Conference on Imaging Science (jointly with L. Demanet and M. Sacchi) 2018
- Co-organizer of Madagascar School in Shanghai (jointly with J. Chen) 2017
- Co-organizer of Madagascar School in Houston (jointly with K. Schleicher and W. Zhang) 2017
- Co-organizer of Madagascar School in Zurich (jointly with F. Broggini and J. Shragge) 2016
- Co-organizer of EAGE Workshop *Open-source Software in Applied Geosciences* (jointly with F. Broggini, T. Günther, and R. Hewett) 2016
- Chair of the Organizing Committee, 17th International Workshop on Seismic Anisotropy (IWSA) 2015–2016
- Member of the Organizing Committee, SIAM Conference on Imaging Science 2015–2016
- Co-organizer of SEG Workshop *Rank-Reduction and Other Sparse Transform Methods with Application to Data Reconstruction, De-Noising, De-Blending and Imaging* (jointly with R. Abma, S. Aeron, A. Ramirez, and M. Sacchi) 2015

- Co-organizer of SEG Workshop *De-Primary-Removing Negative Effects of Seismic Reflections* (jointly with T. Fei, M. Fehler, T. J. Moser, and M. Popovici) 2015
- Co-organizer of minisymposium *Sparsity-Promoting Seismic Data Analysis* at the 8th International Congress on Industrial and Applied Mathematics (jointly with J. Ma) 2015
- Co-organizer of Madagascar School for Advanced Users in Qingdao (jointly with Q. Du, G. Fang, and Y. Liu) 2015
- Co-organizer of minisymposium *Advances in Software for Computational Geosciences* at the SIAM Conference on Mathematical and Computational Issues in the Geosciences (jointly with R. Hewett) 2015
- Co-organizer of Madagascar School in Harbin (jointly with Y. Liu and J. Shragge) 2015
- Co-organizer of International Workshop on Mathematical Geophysics (jointly with J. Ma, M. Sacchi, and R.-S. Wu) 2014–2015
- Co-organizer of SEG Workshop *Latest Developments in Time-Frequency Analysis* (jointly with J-B. Tary and M. van der Baan) 2014
- Co-organizer of Madagascar Working Workshop (jointly with W. Symes) 2014
- Co-organizer of ASEG Workshop *Madagascar (Open Source Processing)* (jointly with J. Shragge) 2013
- Co-organizer of School on Reproducible Computational Geophysics in Austin (jointly with S. Li and P. Sava) 2012
- Co-organizer of School on Reproducible Computational Geophysics in Beijing (jointly with Y. Liu, Y. Liu, and Y. Wang) 2011
- Co-organizer of minisymposium *Gaussian Beams in Seismology* at the SIAM Conference on Mathematical and Computational Issues in the Geosciences (jointly with N. Tanushev) 2011
- Co-organizer of PTTC Workshop on Reproducible Computational Geophysics (jointly with P. Sava and I. Vlad) 2010
- Co-organizer of EAGE Workshop *Migration Velocity Analysis in Anisotropic Media* (jointly with T. Alkhalifah, F. Audebert, and P. Fowler) 2010
- Organizer of minisymposium *Regularization Strategies in Applied Geophysical Inverse Problems* at the Applied Inverse Problems conference 2009
- Co-organizer of minisymposium *Mathematical and Computational Problems of Time-domain Seismic Imaging* at the SIAM Conference on Mathematical and Computational Issues in the Geosciences (jointly with J. Schleicher) 2009
- Co-organizer of Madagascar School on Reproducible Computational Geophysics (jointly with P. Sava and I. Vasconcelos) 2009
- Co-organizer of EAGE Workshop *Reconstruction, Recovery and Interpolation of Multi-dimensional Seismic Wave Fields* (jointly with M. Sacchi and S. Spitz) 2009

- Co-organizer of Workshop *Gaussian Beams with Application to Seismology* (jointly with B. Engquist and R. Tsai) 2007
- Co-organizer of School and Workshop *Reproducible Research in Computational Geophysics* (jointly with F. Herrmann and P. Sava) 2006
- Organizer of minisymposium *Geoscience Applications of Dijkstra-Like Methods for Solving Hamilton-Jacobi Equations* at the SIAM Conference on Mathematical and Computational Issues in the Geosciences 2003
- Co-organizer of minisymposium *Seismic Velocity Analysis* at the SIAM Conference on Mathematical and Computational Issues in the Geosciences (jointly with W. Symes) 2003
- Co-organizer of SEG Workshop *Synthetic Seismograms for Processed Seismic Data and for Seismic Field Data* (jointly with M. Backus and T. Stark) 2003

University Service

- Co-founder and director of the Texas Consortium for Computational Seismology (jointly with B. Engquist) 2011–Present
- Faculty liason for the IT Committee
Department of Earth and Planetary Sciences 2023–Present
- Member of the Endowment Committee
Jackson School of Geosciences 2022–Present
- Member of the Faculty Development Leave Committee
Department of Geological Sciences 2022–Present
- Chair of the Faculty Search Committee in Earth Resources
Jackson School of Geosciences 2022
- Member of the Midscale Computing Infrastructure Committee
Jackson School of Geosciences 2021–2022
- Member of the Graduate Studies Subcommittee
Oden Institute for Computational Engineering and Sciences 2017–2020
- Chair of the Appointments Committee
Jackson School of Geosciences 2018–2019
- Member of the Steering Committee, Scientific Software Days 2015–2018
- Member of Energy Theme Executive Committee,
Jackson School of Geosciences 2012–2018
- Member of the Appointments Committee
Jackson School of Geosciences 2016–2017
- Member of the Exploration Geophysics Faculty Search Committee 2014–2015
- Member of the Comprehensive Periodic Review Committee,
Department of Geological Sciences 2014–2015

- Chair of the Promotion Advisory Committee, Bureau of Economic Geology 2014–2015
- Member of the Geophysics Faculty Search Committee 2013–2014
- Member of the Promotion Advisory Committee, Bureau of Economic Geology 2012–2013
- Co-organizer of Annual *Scientific Software Days*
(jointly with V. Eijkhout, A. Terrel, and M. Tobis) 2007–2013
- Member of the Ad-Hoc Committee on GSC membership 2012
- Member of the Computational Geosciences Committee 2011–2012
- Member of the KAUST-AEA Faculty Search and Curriculum Committees 2008–2010
- Member of the Jackson School Strategic Council 2007–2010
- Member of the Exploration Geophysics Faculty Search Committee 2007–2009

Grants

1. Texas Consortium for Computational Seismology 2011–Present
(Co-P.I.: B. Engquist) \$4,130,000
Multiple Industrial Sponsors
2. Data Sets for the Acceleration of AI/ML Derived Segmentation of Geologic Properties and Interpretation 2021–2022
(Co-P.I.: D. Dunlap) \$399,159
SEAM (SEG Advanced Modeling Corporation)
3. Using Deep Learning to Accelerate Time-Lapse Seismic Data Inversion Workflow for Reservoir Parameter Estimation in Carbon Dioxide Sequestration Studies 2021–2022
(Fellowship for H. Kaur) \$66,323
Equinor
4. Elastic Multi-parameter Waveform Inversion for Subsalt Imaging 2016–2018
(Fellowship for Z. Xue) \$123,080
Statoil
5. Path-Integral Seismic Diffraction Imaging of Fractured Shale Reservoirs 2016–2018
(Fellowship for D. Merzlikin) \$123,080
Statoil
6. Characterization of Fractured Shale Reservoirs Using Anelliptic Parameters 2015–2017
(Fellowship for Y. Sripanich) \$123,014
Statoil
7. Phase Correction of Prestack Seismic Data Using Local Attributes 2014–2016
BP America \$65,556
8. High-Resolution Imaging of the Barrolka Dataset Using Diffraction Attributes 2014–2015
GeoFrac Consortium, University of Adelaide, Australia \$53,213

9. Lowrank Reverse Time Migration for Subsalt Imaging (Fellowship for J. Sun) Statoil	2013–2016 \$175,749
10. High-resolution Seismic Attributes for Fracture Characterization in Grosmont (Co-P.I.: P. Eichhubl) Shell	2012–2014 \$488,243
11. Waveform Tomography with Cost-function in the Image Domain (Fellowship for S. Li) Statoil	2012–2014 \$116,000
12. Extracting Seismic Events by Predictive Painting and Time-Warping Statoil	2012–2015 \$262,451
13. Seismic Wave Focusing for Subsurface Imaging and Enhanced Oil Recovery (Co-P.I.: C. Huh, L. Kallivokas, L. Ying) KAUST	2011–2014 \$1,498,259
14. Unconventional Resources: Geophysics, Phase II (Lead P.I: E. Potter) ExxonMobil	2011–2013 \$216,082
15. Near Surface Velocity Estimation (Co-P.I.: T. Alkhalifah) Saudi Aramco and KAUST	2010–2012 \$103,848
16. Seismic Sedimentology of Non-Marine Songliao Basin (Lead P.I.: H. Zeng) PetroChina RIPED	2010–2012 \$364,329
17. Enhanced Seismic Imaging of Land Data BGP International	2010–2011 \$125,000
18. Source-receiver Wave Extrapolation (Co-P.I.: T. Alkhalifah, L. Ying) KAUST	2010–2011 \$268,136
19. Multiazimuth Seismic Diffraction Imaging (Co-P.I.: P. Eichhubl) Research Partnership to Secure Energy for America	2009–2012 \$1,105,000
20. Unconventional Resources: Computational Geophysics (Lead P.I: E. Potter) ExxonMobil and Jackson School of Geosciences	2009–2011 \$337,000
21. Fast Beam Migration Saudi Aramco and Z-Terra	2010 \$50,199
22. Attenuation of diffraction multiples ConocoPhillips	2009–2010 \$83,164
23. Subsalt Seismic Imaging Using Levelset Methods Hess and Total E&P USA	2008–2011 \$600,000
24. Seismic Data Regularization and Noise Attenuation Using Transform Methods BGP International	2007–2009 \$250,000
25. Improving Wave Fidelity of Gaussian Beams (co-P.I: B. Engquist, R. Tsai) Chevron ETC	2007–2009 \$450,000

26. Seismic Reservoir Characterization Using Diffraction Imaging	2007
Total E&P	\$45,000
27. Full Waveform Inversion of Angle Gathers (co-P.I.: M. Sen)	2006–2007
Shell E&P and Jackson School of Geosciences	\$500,000
28. Coronation Multicomponent Study (Lead P.I.: M. Tomasso, Co-P.I.: O. Ghattas)	2006–2007
Apache Corporation, GXT Input/Output, and Jackson School of Geosciences	\$240,000
29. Seismic Imaging by Riemannian Wavefield Extrapolation	2004–2006
ExxonMobil URC	\$284,118
30. Multiple Elimination Using Plane-Wave Construction	2005–2006
Norsk Hydro	\$60,401
31. Wave-Equation Velocity Analysis (Lead P.I.: P.Sava)	2005–2006
BP America Production Company and Jackson School of Geosciences	\$125,000
32. Differential Azimuth Moveout, Phase II	2005–2006
Total E&P	\$45,000
33. Petrophysical Analysis of Multicomponent Seismic Data	2004–2005
U.S. Department of Energy STTR/SBIR and 3DGeo Development	\$40,000
34. Narrow Azimuth Migration	2004
Petroleum Geo-Services	\$80,000
35. Differential Azimuth Moveout	2003–2005
Total E&P	\$33,392