

# Ali Siahkoohi

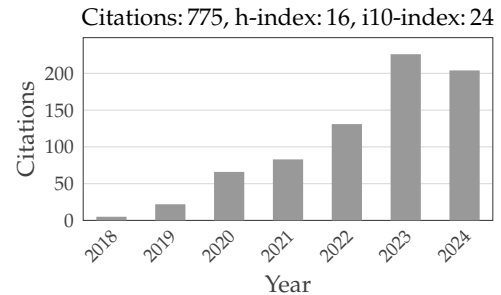
Simons Postdoctoral Fellow  
Dept. of Comp. Applied Math. & Operations Research  
Rice University

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Last updated: August 26, 2024

## Research Interests and Highlights

My research in *scientific machine learning*, under the mentorship of Maarten V. de Hoop and Richard G. Baraniuk, lies at the intersection of computational science and artificial intelligence, focusing on developing scalable, data-driven methods that leverage the strengths of both fields to address challenging, large-scale problems in computational science and engineering. Keywords defining my current research interests include: Bayesian deep learning, computational science, generative models, and uncertainty quantification.

Over the past years, I have published 39 peer-reviewed articles, including 17 first-author papers in high-impact journals and conference proceedings, such as NeurIPS, ICML, ICLR, Interspeech, MIDL, SPIE, TMLR, and Geophysics.



## Education

### Georgia Institute of Technology

Ph.D. in Computational Science and Engineering (minor in Applied Math.)

Advised by Felix J. Herrmann

August 2022

Atlanta, GA, USA

### University of Tehran

M.Sc. in Geophysics

March 2016

Tehran, Iran

### Sharif University of Technology

B.Sc. in Electrical Engineering

August 2013

Tehran, Iran

## Academic Appointments

### Rice University

Simons Postdoctoral Fellow

Department of Computational Applied Mathematics & Operations Research

Jointly hosted by Maarten V. de Hoop and Richard G. Baraniuk

August 2022 – Present

Houston, TX, USA

## Publications

Google Scholar profile: <https://scholar.google.com/citations?user=sxRMqYIAAAAJ&h>

## In Preparation & Under Review

- P4. A. Siahkoohi, R. Morel, R. Balestrieri, E. Allys, G. Sainton, T. Kawamura, and M. V. de Hoop. Martian time-series unraveled: A multi-scale nested approach with factorial variational autoencoders. Preprint arXiv:2305.16189; under review by *IEEE Transactions on Neural Networks and Learning Systems*, 2024 [pdf] [code] [slides] [bib]
- P3. P. M. Mayer, L. Luzi, A. Siahkoohi, D. H. Johnson, and R. G. Baraniuk. Removing bias from maximum likelihood estimation with model autophagy. Preprint arXiv:2405.13977; under review by *NeurIPS*, 2024 [pdf] [bib]

- P2. L. Baldassari, [A. Siahkoohi](#), J. Garnier, K. Sølna, and M. V. de Hoop. Taming score-based diffusion priors for infinite-dimensional nonlinear inverse problems. Preprint arXiv:2405.15676; under review by *NeurIPS*, 2024  
[pdf] [bib]
- P1. R. Orozco, [A. Siahkoohi](#), M. Louboutin, and F. J. Herrmann. ASPIRE: Iterative amortized posterior inference for Bayesian inverse problems. Preprint arXiv:2405.05398; under review by *Inverse Problems*, 2024a  
[pdf] [code] [bib]

## Journal Publications

- J7. R. Orozco, P. Witte, M. Louboutin, [A. Siahkoohi](#), G. Rizzuti, B. Peters, and F. J. Herrmann. InvertibleNetworks.jl: A Julia package for scalable normalizing flows. *Journal of Open Source Software*, 9(99):6554, 2024b  
[pdf] [code] [link] [bib]
- J6. L. Luzi, P. M. Mayer, J. Casco-Rodriguez, [A. Siahkoohi](#), and R. G. Baraniuk. Boomerang: Local sampling on image manifolds using diffusion models. *Transactions on Machine Learning Research*, 2024a  
[pdf] [code] [link] [bib]
- J5. M. Louboutin, Z. Yin, R. Orozco, T. J. Grady II, [A. Siahkoohi](#), G. Rizzuti, P. A. Witte, O. Møyner, G. J. Gorman, and F. J. Herrmann. Learned multiphysics inversion with differentiable programming and machine learning. *The Leading Edge*, 42(7):474–486, 2023  
[pdf] [link] [bib] [featured in Seismic Soundoff]
- J4. Y. Zhang, Z. Yin, O. López, [A. Siahkoohi](#), M. Louboutin, R. Kumar, and F. J. Herrmann. Optimized time-lapse acquisition design via spectral gap ratio minimization. *Geophysics*, 88(4):A19–A23, 2023a  
[pdf] [link] [bib]
- J3. [A. Siahkoohi](#), G. Rizzuti, R. Orozco, and F. J. Herrmann. Reliable amortized variational inference with physics-based latent distribution correction. *Geophysics*, 88(3):R297–R322, 2023a  
[pdf] [slides] [code] [link] [bib] [featured in Geophysics Bright Spots]
- J2. [A. Siahkoohi](#), G. Rizzuti, and F. J. Herrmann. Deep Bayesian inference for seismic imaging with tasks. *Geophysics*, 87(5):S281–S302, 2022a  
[pdf] [code] [link] [bib]
- J1. [A. Siahkoohi](#), M. Louboutin, and F. J. Herrmann. The importance of transfer learning in seismic modeling and imaging. *Geophysics*, 84(6):A47–A52, 2019a  
[pdf] [code] [link] [bib]

## Peer-Reviewed Conference Proceedings

- C32. S. Alemohammad, J. Casco-Rodriguez, L. Luzi, A. I. Humayun, H. Babaei, D. LeJeune, [A. Siahkoohi](#), and R. G. Baraniuk. Self-consuming generative models go MAD. In *The Twelfth International Conference on Learning Representations*, 2024  
[pdf] [extended pdf] [poster] [link] [bib] [featured in the news <sup>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11</sup>]
- C31. L. Luzi, D. LeJeune, [A. Siahkoohi](#), S. Alemohammad, V. Saragadam, H. Babaei, N. Liu, Z. Wang, and R. G. Baraniuk. Titan: Bringing the deep image prior to implicit representations. In *IEEE International Conference on Acoustics, Speech and Signal Processing*, pages 6165–6169, 2024b  
[pdf] [code] [link] [bib]
- C30. L. Baldassari, [A. Siahkoohi](#), J. Garnier, K. Sølna, and M. V. de Hoop. Conditional score-based diffusion models for Bayesian inference in infinite dimensions. In *Advances in Neural Information Processing Systems*, volume 36, pages 24262–24290, 2023  
[pdf] [slides] [poster] [code] [link] [bib] [featured as a Spotlight presentation]
- C29. [A. Siahkoohi](#), R. Morel, M. V. de Hoop, E. Allys, G. Sainton, and T. Kawamura. Unearthing InSights into Mars: Unsupervised source separation with limited data. In *Proceedings of the 40th International*

- Conference on Machine Learning*, volume 202, pages 31754–31772, 2023b  
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- C28. R. Orozco, M. Louboutin, A. Siahkoohi, G. Rizzuti, T. van Leeuwen, and F. J. Herrmann. Amortized normalizing flows for transcranial ultrasound with uncertainty quantification. In *Medical Imaging with Deep Learning*, volume 227, pages 332–349, 2023a  
[pdf] [link] [bib]
- C27. R. Orozco, A. Siahkoohi, M. Louboutin, and F. J. Herrmann. Refining amortized posterior approximations using gradient-based summary statistics. In *5th Symposium on Advances in Approximate Bayesian Inference*, 2023b  
[pdf] [link] [bib]
- C26. R. Orozco, A. Siahkoohi, G. Rizzuti, T. van Leeuwen, and F. J. Herrmann. Adjoint operators enable fast and amortized machine learning based Bayesian uncertainty quantification. In *Medical Imaging 2023: Image Processing*, volume 12464, page 124641L, 2023c  
[pdf] [link] [bib]
- C25. Y. Zhang, Z. Yin, O. Lopez, A. Siahkoohi, M. Louboutin, and F. J. Herrmann. 3D seismic survey design by maximizing the spectral gap. In *Third International Meeting for Applied Geoscience & Energy*, 2023b  
[pdf] [poster] [bib]
- C24. A. Siahkoohi, M. Chinen, T. Denton, W. B. Kleijn, and J. Skoglund. Ultra-low-bitrate speech coding with pretrained Transformers. In *Proceedings of Interspeech*, pages 4421–4425, 2022b  
[pdf] [link] [bib]
- C23. A. Siahkoohi, M. Louboutin, and F. J. Herrmann. Velocity continuation with Fourier neural operators for accelerated uncertainty quantification. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1765–1769, 2022c  
[pdf] [slides] [code] [link] [bib]
- C22. M. Louboutin, P. Witte, A. Siahkoohi, G. Rizzuti, Z. Yin, R. Orozco, and F. J. Herrmann. Accelerating innovation with software abstractions for scalable computational geophysics. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1482–1486, 2022  
[pdf] [slides] [link] [bib]
- C21. Z. Yin, A. Siahkoohi, M. Louboutin, and F. J. Herrmann. Learned coupled inversion for carbon sequestration monitoring and forecasting with Fourier neural operators. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 467–472, 2022  
[pdf] [slides] [code] [link] [bib] [student oral paper honorable mention]
- C20. Y. Zhang, M. Louboutin, A. Siahkoohi, Z. Yin, R. Kumar, and F. J. Herrmann. A simulation-free seismic survey design by maximizing the spectral gap. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 15–20, 2022  
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- C19. A. Siahkoohi, R. Orozco, G. Rizzuti, and F. J. Herrmann. Wave-equation based inversion with amortized variational Bayesian inference. In *EAGE Deep learning for seismic processing: Investigating the foundations workshop*, 2022d  
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- C18. R. Orozco, A. Siahkoohi, G. Rizzuti, T. van Leeuwen, and F. J. Herrmann. Photoacoustic imaging with conditional priors from normalizing flows. In *NeurIPS Workshop on Deep Learning and Inverse Problems*, 2021  
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- C17. A. Siahkoohi, G. Rizzuti, M. Louboutin, P. Witte, and F. J. Herrmann. Preconditioned training of normalizing flows for variational inference in inverse problems. In *3rd Symposium on Advances in Approximate Bayesian Inference*, 2021  
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- C16. [A. Siahkoohi](#) and F. J. Herrmann. Learning by example: Fast reliability-aware seismic imaging with normalizing flows. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1580–1585, 2021  
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- C15. R. Kumar, M. Kotsi, [A. Siahkoohi](#), and A. Malcolm. Enabling uncertainty quantification for seismic data preprocessing using normalizing flows (NF)—An interpolation example. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1515–1519, 2021  
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- C14. G. Rizzuti, [A. Siahkoohi](#), P. A. Witte, and F. J. Herrmann. Parameterizing uncertainty by deep invertible networks, an application to reservoir characterization. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1541–1545, 2020  
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- C13. M. Zhang, [A. Siahkoohi](#), and F. J. Herrmann. Transfer learning in large-scale ocean bottom seismic wavefield reconstruction. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1666–1670, 2020  
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- C12. [A. Siahkoohi](#), G. Rizzuti, and F. J. Herrmann. Weak deep priors for seismic imaging. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 2998–3002, 2020a  
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- C11. [A. Siahkoohi](#), G. Rizzuti, and F. J. Herrmann. Uncertainty quantification in imaging and automatic horizon tracking—A Bayesian deep-prior based approach. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1636–1640, 2020b  
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- C10. [A. Siahkoohi](#), G. Rizzuti, and F. J. Herrmann. A deep-learning based Bayesian approach to seismic imaging and uncertainty quantification. In *European Association of Geoscientists & Engineers Conference and Exhibition Extended Abstracts*, 2020c  
[pdf] [slides] [code] [link] [bib]
- C9. F. J. Herrmann, [A. Siahkoohi](#), and G. Rizzuti. Learned imaging with constraints and uncertainty quantification. In *NeurIPS Deep Inverse Workshop*, 2019  
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- C8. [A. Siahkoohi](#), R. Kumar, and F. J. Herrmann. Deep-learning based ocean bottom seismic wavefield recovery. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 2232–2237, 2019b  
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- C7. [A. Siahkoohi](#), D. J. Verschuur, and F. J. Herrmann. Surface-related multiple elimination with deep learning. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 4629–4634, 2019c  
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- C6. G. Rizzuti, [A. Siahkoohi](#), and F. J. Herrmann. Learned iterative solvers for the Helmholtz equation. In *European Association of Geoscientists & Engineers Conference and Exhibition Extended Abstracts*, 2019  
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- C5. [A. Siahkoohi](#), M. Louboutin, R. Kumar, and F. J. Herrmann. Deep convolutional neural networks in prestack seismic—two exploratory examples. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 2196–2200, 2018a  
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- C4. [A. Siahkoohi](#), R. Kumar, and F. J. Herrmann. Seismic data reconstruction with generative adversarial networks. In *European Association of Geoscientists & Engineers Conference and Exhibition Extended Abstracts*, 2018b

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- C3. [A. Siahkoohi](#) and A. Gholami. Sparsity promoting least squares migration for laterally inhomogeneous media. In *7th EAGE Saint Petersburg International Conference and Exhibition*, 2016  
[pdf] [link] [bib]
- C2. M. S. Ebrahimi, M. H. Daraei, J. Rezaei, and [A. Siahkoohi](#). A novel utilization of wireless sensor networks as data acquisition system in smart grids. In *Materials Science and Information Technology*, volume 433-440, pages 6725–6730, 2012  
[pdf] [link] [bib]
- C1. A. Najafi, [A. Siahkoohi](#), and M. B. Shamsollahi. A content-based digital image watermarking algorithm robust against JPEG compression. In *IEEE International Symposium on Signal Processing and Information Technology*, pages 432–437, 2011  
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## Theses

- T1. [A. Siahkoohi](#). *Deep generative models for solving geophysical inverse problems*. PhD thesis, **Georgia Institute of Technology**, 2022  
[pdf] [slides] [link] [bib]

## Technical Reports

- R3. M. Louboutin, [A. Siahkoohi](#), R. Wang, and F. J. Herrmann. Low-memory stochastic backpropagation with multi-channel randomized trace estimation. Technical Report arXiv:2106.06998, Georgia Institute of Technology, 2021  
[pdf] [code] [link] [bib]
- R2. [A. Siahkoohi](#), G. Rizzuti, P. A. Witte, and F. J. Herrmann. Faster uncertainty quantification for inverse problems with conditional normalizing flows. Technical Report arXiv:2007.07985, Georgia Institute of Technology, 2020d  
[pdf] [link] [bib]
- R1. [A. Siahkoohi](#), M. Louboutin, and F. J. Herrmann. Neural network augmented wave-equation simulation. Technical Report arXiv:1910.00925, Georgia Institute of Technology, 2019d  
[pdf] [code] [link] [bib]

## Awards

### Rice University

George R. Brown School of Engineering  
Future Faculty Fellows Award

June 2024  
Houston, TX, USA

## Selected Research Proposal Experience

### Topological deep learning, causal inference, and data-driven forecasting for subsurface multiscale multiphysics systems

Awarded in 2022

► Funding Source: Department of Energy

In Progress

► Principal Investigator: Maarten V. de Hoop

► **Contributions:** Led the effort to write the annual progress report

June 2024

### Learning and forecasting complex fault dynamics – Predictability of earthquakes

Submitted in 2024

► Funding Source: National Science Foundation

Under Review

► Principal Investigator: Maarten V. de Hoop

► **Contributions:** Developed ideas and wrote for one of the four research thrusts

March 2024

– Structure in data, clustering, lattice theory, and diffusion models

- Scientific ML-supported subsurface characterization in physical function spaces** Awarded in 2024  
In Progress
- ▶ Funding Source: Occidental Petroleum Corporation
  - ▶ Principal Investigator: Maarten V. de Hoop
  - ▶ **Contributions:** Developed ideas and wrote for two of the four research thrusts November 2023
    - Score diffusion, nonlinear operators, and uncertainty quantification in function spaces
    - Unsupervised, factorial data decomposition and hidden signals: Reservoir characterization below salt, denoising, and monitoring
- Exploring the local geometry of deep networks** Awarded in 2023  
In Progress
- ▶ Funding Source: Office of Naval Research (DURIP)
  - ▶ Principal Investigator: Richard G. Baraniuk
  - ▶ **Contributions:** Developed ideas and wrote for a research objective within one of the three research thrusts May 2023
    - The geometry of deep probabilistic models

## Professional Service

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### Editorial Service

- ▶ **Acta Geophysica** 2024 – Present  
Associate Editor  
Applied Geophysics section
- ▶ **Journal of Mathematics** 2023 – Present  
Guest Editor  
Special issue on Applied Mathematics in Inverse Problems and Uncertainty Quantification

### Conference Organization

- ▶ **Annual AAAI Conference on Artificial Intelligence** 2025  
Program Chair
- ▶ **International Meeting for Applied Geoscience & Energy** 2022  
Session Chair

### Technical Program Committee Member and Reviewer

- ▶ International Conference on Learning Representations (ICLR) 2024 – 2025
- ▶ Neural Information Processing Systems (NeurIPS) 2023 – 2024
- ▶ Advances in Approximate Bayesian Inference (AABI) 2023 – 2024
- ▶ Structured Probabilistic Inference & Generative Modeling (ICML workshop) 2023 – 2024
- ▶ International Conference on Machine Learning (ICML) 2024
- ▶ Artificial Intelligence and Statistics Conference (AISTATS) 2024
- ▶ International Speech Communication Association (Interspeech) 2023
- ▶ Deep Generative Models for Health (NeurIPS workshop) 2023
- ▶ International Meeting for Applied Geoscience & Energy 2023

### Journal Reviewer

- ▶ IEEE Transactions on Neural Networks and Learning Systems
- ▶ IEEE Geoscience and Remote Sensing Letters
- ▶ IEEE Transactions on Geoscience and Remote Sensing
- ▶ Notices of the American Mathematical Society (AMS)
- ▶ Remote Sensing
- ▶ Journal of Geophysical Research – Solid Earth
- ▶ Geophysical Prospecting

- Geophysics
- Geosciences
- Entropy

## Teaching Experience

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<b>Rice University</b> Substitute Instructor Department of Computational Applied Mathematics & Operations Research Numerical Analysis	Fall 2024 Houston, TX, USA
<b>Rice University</b> Substitute Instructor (18 lectures) Department of Computational Applied Mathematics & Operations Research Numerical Analysis I	Fall 2022 Houston, TX, USA
<b>Georgia Institute of Technology</b> Teaching Assistant School of Computational Science and Engineering Computational Foundations of Machine Learning	Spring 2022 Atlanta, GA, USA
<b>Georgia Institute of Technology</b> Teaching Assistant School of Computational Science and Engineering Imaging with Data-Driven Models	Fall 2019 Atlanta, GA, USA
<b>Georgia Institute of Technology</b> Teaching Assistant School of Computational Science and Engineering Numerical Analysis I	Fall 2018 Atlanta, GA, USA
<b>Sharif University of Technology</b> Teaching Assistant Department of Electrical Engineering Digital Signal Processing	Spring 2011 Tehran, Iran
<b>Sharif University of Technology</b> Teaching Assistant Department of Electrical Engineering Signals and Systems	Spring 2011 Tehran, Iran
<b>Sharif University of Technology</b> Teaching Assistant Department of Electrical Engineering Linear Algebra	Spring 2010 Tehran, Iran

## Mentoring Experience

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<b>Paul M. Mayer</b> <a href="#">[link]</a> PhD Student, Rice University	2022 – Present Houston, TX, USA
<ul style="list-style-type: none"> <li>▸ <b>Contributions:</b> Advised on the development of methods and software for two research projects on generative models</li> <li>▸ <b>Outcomes:</b> Co-authored two papers in the two projects (Luzi et al., 2024a; Mayer et al., 2024)</li> </ul>	

- Rafael Orozco** [\[link\]](#) 2021 – 2022  
 PhD Student, Georgia Institute of Technology Atlanta, GA, USA
- **Contributions:** Advised on the development of methods and software for scalable uncertainty quantification in medical imaging with generative models
  - **Outcomes:** Co-authored four papers in this project (Orozco et al., 2021, 2023b,c, 2024a)
- Mi Zhang** [\[link\]](#) 2019 – 2020  
 Visiting PhD Student, China University of Petroleum-Beijing Atlanta, GA, USA
- **Contributions:** Advised the student in developing a method for speeding up a prior work of mine (A. Siahkoobi et al., 2019b) and assisted in writing the manuscript
  - **Outcomes:** Co-authored a paper in this project (Zhang et al., 2020)

## Talks

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### Invited Talks

- T22. **CNRS, Université Montpellier** January 2023  
 Low-cost uncertainty quantification for large-scale inverse problems  
 RhEoVOLUTION Group (Dr. Andréa Tommasi) Virtual oral presentation
- T21. **Workshop on Subsurface Uncertainty Description and Estimation** August 2022  
 Reliable amortized variational inference with conditional normalizing flows via  
 physics-based latent distribution correction Oral presentation  
 International Meeting for Applied Geoscience & Energy
- T20. **Intelligent illumination of the Earth Workshop** June 2021  
 Fast and reliability-aware seismic imaging with conditional normalizing flows Virtual oral presentation  
 King Abdullah University of Science and Technology
- T19. **Advances in Seismic Imaging and Inversion Mini-symposium** October 2020  
 Unsupervised data-guided uncertainty analysis in imaging and horizon tracking Virtual oral presentation  
 The 3rd Annual Meeting of the SIAM Texas–Louisiana Section

### Contributed Talks

- T18. **International Conference on Machine Learning** July 2023  
 Unearthing InSights into Mars: Unsupervised source separation with limited data Poster presentation
- T17. **Symposium on Advances in Approximate Bayesian Inference** July 2023  
 Refining amortized posterior approximations using gradient-based summary statistics Poster presentation
- T16. **Geo-Mathematical Imaging Group Partners Meeting, Rice University** May 2023  
 Martian time-series unraveled: A multi-scale nested approach with factorial variational autoencoders Oral presentation
- T15. **Geo-Mathematical Imaging Group Partners Meeting, Rice University** May 2023  
 Unearthing InSights into Mars: Unsupervised source separation with limited data Oral presentation
- T14. **International Meeting for Applied Geoscience & Energy** August 2022  
 Velocity continuation with Fourier neural operators for accelerated uncertainty quantification Oral presentation
- T13. **Chrome Media Team, Google** December 2021  
 Low-bitrate speech coding with Transformers Virtual oral presentation
- T12. **ML4SEISMIC Partners Meeting, Georgia Institute of Technology** November 2021  
 Multifidelity conditional normalizing flows for physics-guided Bayesian inference Virtual oral presentation



- T11. **ML4SEISMIC Partners Meeting, Georgia Institute of Technology** November 2021  
Uncertainty quantification in imaging and automatic horizon tracking—A Bayesian deep-prior based approach Virtual oral presentation
- T10. **Society of Exploration Geophysicists International Exposition and Annual Meeting** September 2021  
Learning by example: Fast reliability-aware seismic imaging with normalizing flows Virtual oral presentation  
[video]
- T9. **Symposium on Advances in Approximate Bayesian Inference** January 2021  
Preconditioned training of normalizing flows for variational inference in inverse problems Prerecorded short oral presentation  
[video]
- T8. **European Association of Geoscientists & Engineers Annual Conference & Exhibition** December 2020  
A deep-learning based Bayesian approach to seismic imaging and uncertainty quantification Virtual oral presentation
- T7. **Society of Exploration Geophysicists International Exposition and Annual Meeting** October 2020  
Uncertainty quantification in imaging and automatic horizon tracking—A Bayesian deep-prior based approach Virtual oral presentation  
[video]
- T6. **Society of Exploration Geophysicists International Exposition and Annual Meeting** October 2020  
Weak deep priors for seismic imaging Virtual oral presentation  
[video]
- T5. **Society of Exploration Geophysicists Student Chapter, Georgia Tech** February 2020  
A deep-learning based Bayesian approach to seismic imaging and uncertainty quantification Oral presentation
- T4. **HotCSE Seminar, CSE Department, Georgia Institute of Technology** November 2019  
Learned imaging with constraints and uncertainty quantification Oral presentation
- T3. **Society of Exploration Geophysicists International Exposition & Annual Meeting** September 2019  
Deep-learning based ocean bottom seismic wavefield recovery Oral presentation
- T2. **Society of Exploration Geophysicists International Exposition & Annual Meeting** September 2019  
Surface-related multiple elimination with deep learning Oral presentation
- T1. **Society of Exploration Geophysicists International Exposition & Annual Meeting** October 2018  
Deep convolutional neural networks in prestack seismic—two exploratory examples Poster presentation

## Industry Research Experience

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**Google** August 2021 – December 2021  
Research Intern (cf. [A. Siahkoohi et al. \(2022b\)](#)) San Francisco, CA, USA  
Chrome Media Team

## Selected Media Coverage

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**When A.I.'s Output Is a Threat to A.I. Itself** August 2024  
The New York Times  
[link]

**Breaking MAD: Generative AI could break the internet** July 2024  
Rice News, Rice University  
[link]

<b>'Cesspool of AI crap' or smash hit? LinkedIn's AI-powered collaborative articles offer a sobering peek at the future of content</b> Fortune <a href="#">[link]</a>	April 2024
<b>AI's 'mad cow disease' problem tramples into earnings season</b> Yahoo!finance <a href="#">[link]</a>	April 2024
<b>'Mad' AI risks destroying the Information Age</b> The Telegraph <a href="#">[link]</a>	February 2024
<b>When AI Is Trained on AI-Generated Data, Strange Things Start to Happen</b> Futurism <a href="#">[link]</a>	August 2023
<b>Episode 194: Improving integration in machine learning workflows</b> Seismic Soundoff Podcast, Society of Exploration Geophysicists <a href="#">[link]</a>	July 2023
<b>Training AI With Outputs of Generative AI Is Mad</b> CDOtrends <a href="#">[link]</a>	July 2023
<b>AI's trained on AI-generated images produce glitches and blurs</b> NewScientist <a href="#">[link]</a>	July 2023
<b>Scientists make AI go crazy by feeding it AI-generated content</b> TweakTown <a href="#">[link]</a>	July 2023
<b>AI Loses Its Mind After Being Trained on AI-Generated Data</b> Futurism <a href="#">[link]</a>	July 2023
<b>Generative AI Goes 'MAD' When Trained on AI-Created Data Over Five Times</b> Tom's Hardware <a href="#">[link]</a>	July 2023
<b>Group Brings Seismic Imaging to Climate-Change Conversations and Beyond</b> College of Computing News, Georgia Institute of Technology <a href="#">[link]</a>	August 2022