# Yunyue Elita Li

## EDUCATION

**Stanford University** — Stanford, CA
Ph.D. in Geophysics — *Sep 2008 - Aug 2014*
M.S. in Geophysics — *Sep 2008 - Sep 2010*
Advisor: *Professor Biondo Biondi*
Integrated VTI model building with seismic, rock physics and geology

**China University of Petroleum** — Beijing, China
B.S. in Information and Computational Science — *Sep 2004 - Jul 2008*
Outstanding Undergraduate Thesis

## EMPLOYMENT

**Purdue University** — West Lafayette, IN
Associate Professor, Department of EAPS and Mathematics by Courtesy — *since Sep 2021*

**National University of Singapore** — Singapore
Assistant Professor, Department of Civil and Environmental Engineering — *Aug 2016 - Aug 2021*

**Massachusetts Institute of Technology** — Cambridge, MA
Postdoctoral Associate in Mathematics and Geophysics — *Aug 2014 - July 2016*
Supervisor: *Professor Laurent Demanet*

**Shell Global Solutions International** — Rijswijk, Netherlands
Research Intern — *Jun 2012 - Sep 2012*

**Shell International Exploration & Production Company** — Houston, USA
Research Intern — *Jun 2011 - Sep 2011*

**Schlumberger - WesternGeco** — Houston, USA
Research Intern — *Jun 2010 - Sep 2010*

## AWARDS AND HONORS

- Honorary Lecturer for South & East Asia, Society of Exploration Geophysicists, 2022
- Top papers presented at the SEG Annual Meeting (student author), 2018, Anaheim, California
- J. Clarence Karcher Award, Society of Exploration Geophysicists, 2018
- Top papers presented at the SEG Annual Meeting, 2017, Houston, Texas
- Honorable Mention, Best Paper in Geophysics, 2016
- Top papers presented at the SEG Annual Meeting, 2016, Dallas, Texas
- Centennial Teaching Assistant Award, 2012, Stanford University
- Best Oral Presentation Award, SUM/SEG Student Conference, 2012, Beijing, China
- The Robert G. Kirby Fellowship, 2008, Stanford University
- Michael L. Haider Fellowship in Earth Sciences, 2008, Stanford University

## TEACHING EXPERIENCE

- **Lecturer:** *Data visualization and analysis in Civil Engineering*, National University of Singapore
- **Lecturer:** *Geophysical imaging of the Earth interior*, National University of Singapore

- **Lecturer:** *Geophysical inverse problem*, National University of Singapore
- **Co-Lecturer:** *Computer Applications in Civil Engineering*, National University of Singapore
- **Co-Lecturer:** *Fundamentals of exploration geophysics*, Massachusetts Institute of Technology, 2015

## PROFESSIONAL SERVICE

- Editorial board (Journals)
  *Geophysics, Associate Editor (since 2019)*
  *The Leading Edge, Associate Editor (since 2020)*
  *Journal of Geophysical Research: Solid Earth, Guest Associate Editor (since 2020)*
- Technical and Organizational Committee
  Member, *CPS/SEG International Geophysical Conference and Exposition*, Beijing 2018
  Member, $5^{th}$ *International Workshop on Rock Physics*, Hong Kong 2019
  Chair, *SEG/EAGE Joint Workshop on Geophysical Applications in Smart Cities*, Singapore 2019
- Reviewer (Journals)
  *Geophysics, Geophysical Journal International, Geophysical Prospecting*
  *IEEE Signal Processing Magazine, IEEE Geosciences and Remote Sensing*
  *Journal of Geophysical Research: Solid Earth, Geophysical Research Letters*
- Committee member
  *SEG Translation Committee (Chairman 2014 - 2016), SEG Research Committee, SEG DL/HL Committee*
  *OTC Asia 2018 Program - SEG subcommittee, OTC Asia 2020 Oversight Committee*
  *EAGE Research Committee*

## JOURNAL PUBLICATIONS

1. Ahmed Zidan, **Yunyue Elita Li**, and Arthur Cheng, "A Pareto Multi-Objective Optimization Approach for Anisotropic Shale Models", *JGR: Solid Earth*, 126, e2020JB021476, 2021
2. Nan You, **Yunyue Elita Li**, and Arthur Cheng, "3D Carbonate Digital Rock Reconstruction Using Progressive Growing GAN", *JGR: Solid Earth*, 126, e2021JB021687, 2021
3. Heng Zhang, D Zhao, J Zhao, **Yunyue Elita Li**, H Liu, M Ding, Y Jiang and X Xu, "Upper mantle heterogeneity and radial anisotropy beneath the western Tibetan Plateau", *Tectonics*, 40(2), 2021
4. Jinwei Fang, Hui Zhou, **Yunyue Elita Li**, Qingchen Zhang, Lingqian Wang, Pengyuan Sun, and Jianlei Zhang, "Data-driven low-frequency signal recovery using deep-learning predictions in full-waveform inversion", *Geophysics*, 85(6), A37–A43, 2020
5. Jizhong Yang, **Yunyue Elita Li**, Yuzhu Liu, Yanwen Wei and Haohuan Fu, "Mitigating the cycle-skipping of full-waveform inversion by random gradient sampling", *Geophysics*, 85(6), R493–R507, 2020
6. Bei Li, **Yunyue Elita Li**, and Jizhong Yang, "Q-interface imaging using accumulative attenuation estimation", *Geophysics*, 85(6), R509–R523, 2020
7. Jizhong Yang, **Yunyue Elita Li**, Yuzhu Liu, and Jingjing Zong, "Least-squares extended reverse time migration with randomly sampled space shifts", *Geophysics*, 85(6), S357–S369, 2020
8. Heng Zhang, Dapeng Zhao, Changhui Ju, **Yunyue Elita Li**, Guohui Li, Min Ding, Shuze Chen, and Junmeng Zhao, "Upper Mantle Deformation of the Terror Rift and Northern Transantarctic Mountains in Antarctica: Insight From P Wave Anisotropic Tomography", *Geophysical Research Letters*, 47(9), 2020
9. Gang Fang, **Yunyue Elita Li**, Yumin Zhao, and Eileen Martin, "Urban Near-surface Seismic Monitoring using Distributed Acoustic Sensing", *Geophysical Research Letters*, 47(6), 2020
10. Yunhuo Zhang, **Yunyue Elita Li**, Taeso Ku, "A modified seismic reflection approach for engineering geology investigation in fractured rock zones", *Engineering Geology*, 270(5), 2020
11. Nan You, **Yunyue Elita Li**, and Arthur Cheng, "Shale anisotropy model building based on deep neural networks", *JGR: Solid Earth*, 125(2), 2020
12. Sung-Woo Moon, Robin E. Kim, Arthur C.C. Cheng, **Yunyue Elita Li**, and Taeseo Ku, "Post-processing of background noise from SCPT auto source signal: A feasibility study for soil type classification", *Measurement*, 156, 2020
13. Jizhong Yang, **Yunyue Elita Li**, Arthur Cheng, Yuzhu Liu, and Liangguo Dong, "Least-squares reverse time migration in the presence of velocity errors", *Geophysics*, S567 - S580, 84(6), 2019

14. **Yunyue Elita Li**, Arthur Cheng, and Nan You, "Shale anisotropy estimation from logs in vertical wells", *JGR: Solid Earth*, 6602-6611, 124(7), 2019
15. Yunhuo Zhang, **Yunyue Elita Li**, and Taeseo Ku, "Geotechnical site investigation for tunneling and underground works by advanced passive surface wave survey." Tunnelling and Underground Space Technology, 319-329, 2019
16. Guohui Li, **Yunyue Elita Li**, Heng Zhang, Wenlan Li, Qinghui Cui, Ling Bai, and Yuanze Zhou, "Detection of a low-velocity layer atop the mantle transition zone beneath northeastern South China Sea from triplicated waveform modeling", *BSSA*, 1181-1193, 109(4), 2019
17. Jizhong Yang, **Yunyue Elita Li**, Yanwen Wei, Haohuan Fu, and Yuzhu Liu, "Full-waveform inversion with randomized space shift", *The Leading Edge*, 197-203, 38(3), 2019
18. Qiaomu Qi, Arthur Cheng, and **Yunyue Elita Li**, "Determination of formation shear attenuation from dipole sonic log data", *Geophysics*, D73-D79, 84(3), 2019
19. Yunhuo Zhang, **Yunyue Elita Li**, Heng Zhang, and Taeseo Ku, "Near-surface site investigation by seismic interferometry using urban traffic noise in Singapore", *Geophysics*, B169-B180, 84(2), 2019
20. Yue Du, **Yunyue Elita Li**, Jizhong Yang, Arthur Cheng, and Xinding Fang, "Source independent converted wave imaging using acoustic propagators", *Geophysics*, S17-S27, 84(1), 2019
21. Jizhong Yang, Yuzhu Liu, **Yunyue Elita Li**, Arthur Cheng, and Liangguo Dong, "Joint least-squares reverse time migration of primary and prismatic waves" *Geophysics*, S29-S40, 84(1), 2019
22. Joseph Ho Yin Ma, **Yunyue Elita Li**, and Arthur Cheng, "Dependency of flow and transport properties on aperture distributions and compression states", *Geophysical Prospecting*, 900-912, 67(4), 2019
23. Heng Zhang, **Yunyue Elita Li**, Dapeng Zhao, Junmeng Zhao and Hongbing Liu, "Formation of rifts in central Tibet: Insight from P-wave radial anisotropy", *Journal of Geophysical Research: Solid Earth*, 8827-8841, 123, 2018
24. **Yunyue Elita Li**, Yue Du, Jizhong Yang, Arthur Cheng, and Xinding Fang, "Elastic reverse time migration using acoustic propagators", *Geophysics*, S399-S408, 83(5), 2018
25. Yi Shen, Jack Dvorkin, and **Yunyue Elita Li**, "Improving seismic $Q_P$ estimation using rock-physics constraints", *Geophysics*, MR187-MR198, 83(3), 2018.
26. **Yunyue Elita Li** and Laurent Demanet, "Full waveform inversion with extrapolated low frequency data", *Geophysics*, R339-R348, 81(6), 2016.
27. **Yunyue Elita Li**, Biondo Biondi, Robert Clapp and Dave Nichols, "Integrated VTI model building with seismic, geological and rock physics data: Part I - Theory and synthetic examples", *Geophysics*, C177-C191, 81(5), 2016.
28. **Yunyue Elita Li**, Biondo Biondi, Gary Mavko and Dave Nichols, "Integrated VTI model building with seismic, geological and rock physics data: Part II - Gulf of Mexico field examples", *Geophysics*, C205-C218, 81(5), 2016.
29. **Yunyue Elita Li**, Mandy Wong and Robert Clapp, "Equivalent accuracy at a fraction of the cost: Overcoming temporal dispersion", *Geophysics*, T189-T196, 81(5), 2016.
30. **Yunyue Elita Li**, Biondo Biondi, Dave Nichols, and Robert Clapp, "Toward a closed loop from seismic imaging to earth-model building", *The Leading Edge*, 135-139, 35, 2016.
31. **Yunyue Elita Li** and Laurent Demanet, "Phase and amplitude tracking for seismic event separation", *Geophysics*, WD59-WD72, 80(6), 2015.
32. **Yunyue Elita Li**, Biondo Biondi, Robert Clapp and Dave Nichols, "Wave equation migration velocity analysis for VTI models", *Geophysics*, WA59-WA68, 79(3), 2014.
33. Renè-Èdouard Plessix and **Yunyue Elita Li**, "Waveform acoustic impedance inversion with spectral shaping", *Geophysical Journal International*, 301-314, 2013.
34. **Yunyue Elita Li**, Yang Zhang and Jon Claerbout, "Hyperbolic estimation of sparse models from erratic data", *Geophysics*, V1-V9, 77(1), 2012.

## PEER-REVIEWED CONFERENCE PAPERS

1. Enhedelihai Nilot, Gang Fang, **Yunyue Elita Li**, and Yumin Zhao, "Characterizing ambient seismic sources in an urban environment", *IMAGE Meeting*, 2021.
2. **Yunyue Elita Li**, Enhedelihai Nilot, Yumin Zhao, and Gang Fang, "Urban activity monitoring using wireless geophones in Singapore", *IMAGE Meeting*, 2021.

3. Gang Fang, **Yunyue Elita Li**, Enhedelihai Nilot, Yumin Zhao, and Arthur Cheng, "Anonymous vehicle identification on seismic spectrograms", *IMAGE Meeting*, 2021.
4. Yumin Zhao, **Yunyue Elita Li**, and Bei Li, "Estimation of Rayleigh to Love waves ratio from ambient noise recorded by DAS", *IMAGE Meeting*, 2021.
5. Yanwen Wei, **Yunyue Elita Li**, and Haohuan Fu, "Building training dataset for deep learning-based P- and S-wave separation: field data case", *IMAGE Meeting*, 2021.
6. Nan You, **Yunyue Elita Li**, and Arthur Cheng, "2D-to-3D reconstruction of carbonate digital rocks using Progressive Growing GAN", *IMAGE Meeting*, 2021.
7. Bei Li, and **Yunyue Elita Li**, "Neural network-based CO2 interpretation from Sleipner 4D seismic images", *IMAGE Meeting*, 2021.
8. Ahmed Zidan, **Yunyue Elita Li**, and Arthur Cheng, "Regularized Amplitude Inversion using Kernelized Stein Discrepancy", *IMAGE Meeting*, 2021.
9. **Yunyue Elita Li**, Enhedelihai Nilot, and Xuan Feng, "Observation of guided and reflection P-waves in urban ambient noise cross-correlograms", *SEG Annual Meeting*, 2020.
10. Enhedelihai Nilot, **Yunyue Elita Li**, and Karen Kythgoe, "Bedrock detection based on seismic interferometry using ambient noise in Singapore", *SEG Annual Meeting*, 2020.
11. Huaigu Tang, Arthur Cheng, **Yunyue Elita Li**, and Xinding Fang, "Borehole acoustic full-waveform inversion", *SEG Annual Meeting*, 2020.
12. Jingjing Zong, Jizhong Yang, Arthur Cheng, and **Yunyue Elita Li**, "A walkaway VSP survey for fractured-basement imaging using RSS-RTM", *SEG Annual Meeting*, 2020.
13. Jizhong Yang, Jingjing Zong, Arthur Cheng, and **Yunyue Elita Li**, "The behavior of least-squares extended reverse time migration for vertical seismic profiling data", *SEG Annual Meeting*, 2020.
14. Joseph Ma, Yu Qiu, **Yunyue Elita Li**, Bo-Ye Fu, and Arthur Cheng, "Inversion of fracture aperture distribution from permeability-velocity relations", *SEG Annual Meeting*, 2020.
15. Bo-Ye Fu, Arthur Cheng, and **Yunyue Elita Li**, "The Poisson effect influence on the stress dependent fluid migration properties of a fracture", *SEG Annual Meeting*, 2020.
16. Gang Fang, **Yunyue Elita Li**, and Ohad Barak, "The seismic aircraft footprint: probing near surface and tracking aircraft", *SEG Annual Meeting*, 2020.
17. Yanwen Wei, **Yunyue Elita Li**, Jizhong Yang, JIngjing Zong, Jinwei Fang and Haohuan Fu, "Multi-task learning based P/S wave separation and reverse time migration for VSP", *SEG Annual Meeting*, 2020.
18. Yumin Zhao, and **Yunyue Elita Li**, "On beamforming of ambient noise recorded by DAS", *SEG Annual Meeting*, 2020.
19. Yong Zheng Ong, Nan You, **Yunyue Elita Li**, and Haizhao Yang, "Digital rock image inpanting using GANs", *SEG Annual Meeting*, 2020.
20. Yunhuo Zhang, **Yunyue Elita Li**, Heng Zhang, and Taeseo Ku, "Near-surface bedrock profiling using urban ambient noise: An autocorrelation approach", *SEG Annual Meeting*, 2019.
21. Yumin Zhao, Fang Fang, and **Yunyue Elita Li**, "Extracting subsurface information based on extremely short period of DAS recordings", *SEG Annual Meeting*, 2019.
22. Yanwen Wei, Haohuan Fu, **Yunyue Elita Li**, and Jizhong Yang, "A new P-wave reconstruction method for VSP data using conditional generative adversarial network", *SEG Annual Meeting*, 2019.
23. Nan You, **Yunyue Elita Li**, and Arthur Cheng, "Shale anisotropy model building based on deep neural networks", *SEG Annual Meeting*, 2019.
24. Jizhong Yang, **Yunyue Elita Li**, and Yuzhu Liu, "Least-squares reverse time migration with random space shift", *SEG Annual Meeting*, 2019.
25. **Yunyue Elita Li**, Jizhong Yang, Arthur Cheng, and Jiubing Cheng, "Simulating kinematics of P- and S-wave scattering using scalar wave equations", *SEG Annual Meeting*, 2019.
26. Bei Li, **Yunyue Elita Li**, and Jizhong Yang, "Robust data-driven Q-interface imaging", *SEG Annual Meeting*, 2019.
27. Enhedelihai Nilot, Yunhuo Zhang, **Yunyue Elita Li**, and Xuan Feng, "Deep bedrock detection based on ambient noise recorded by a short geophone array: A Singapore case study", *SEG Annual Meeting*, 2019.
28. Jizhong Yang, **Yunyue Elita Li**, Yuzhu Liu, "Robust reverse time migration with random space shifts", *EAGE Annual Meeting*, 2019.

29. Yunhuo Zhang, **Yunyue Elita Li**, Heng Zhang and Taeseu Ku, "Optimized passive seismic interferometry for bedrock detection: A Singapore case study", *SEG Annual Meeting*, 2018.
30. Gang Fang, **Yunyue Elita Li**, Yue Du, Joseph Ma, Eileen Martin and Diming Yu, "Near-surface monitoring enabled by Distributed Acoustic Sensing: An example of the Stanford Array Data", *SEG Annual Meeting*, 2018.
31. Joseph Ma, Qiaomu Qi, Yu Qiu, **Yunyue Elita Li** and Arthur Cheng, "Inferring static elastic properties of fractures from flow measurements", *SEG Annual Meeting*, 2018.
32. Bei Li, **Yunyue Elita Li** and Jizhong Yang, "Q-interface imaging based on data-domain attenuation estimation", *SEG Annual Meeting*, 2018.
33. Jizhong Yang, **Yunyue Elita Li**, Yanwen Wei, Haohuan Fu and Yuzhu Liu, "Full-waveform inversion based on gradient sampling algorithm with randomized space shift", *SEG Annual Meeting*, 2018.
34. Jizhong Yang, **Yunyue Elita Li**, Arthur Cheng, Yuzhu Liu and Liangguo Dong, "Least-squares reverse time migration with velocity errors", *SEG Annual Meeting*, 2018.
35. Yue Du, **Yunyue Elita Li**, Jizhong Yang, Arthur Cheng and Xinding Fang, "Multicomponent and source-free converted-wave reverse-time migration for VSP", *SEG Annual Meeting*, 2018.
36. **Yunyue Elita Li**, Yue Du, Jizhong Yang, Arthur Cheng and Xinding Fang, "A separated formulation of the elastic wave equation in P-and S-potential Fields", *EAGE Annual Meeting*, 2018.
37. Yue Du, **Yunyue Elita Li**, Jizhong Yang, Arthur Cheng and Xinding Fang, "Source-free converted-wave reverse-time migration using acoustic propagators", *CPS/SEG Beijing 2018 International Geophysical Conference and Exposition*, 2018.
38. Joseph Ho Yin Ma, **Yunyue Elita Li**, and Arthur Cheng, "Modelling electrical resistance of stressed rough fractures", *APGCE*, 2017.
39. **Yunyue Elita Li**, Fangyan Huang, and Arthur Cheng, "Anisotropic model building from well logs and seismic amplitudes", *APGCE*, 2017.
40. **Yunyue Elita Li**, Arthur Cheng and Aaron Fong, "Anisotropic model building from logs in vertical wells", *SEG Annual Meeting*, 2017, Ranked in the top 39 papers out of 1100 presented.
41. **Yunyue Elita Li**, and Laurent Demanet, "Extrapolated full-waveform inversion: An image-space approach", *SEG Annual Meeting*, 2017.
42. Jizhong Yang, Yuzhu Liu, Liangguo Dong, **Yunyue Elita Li**, and Arthur Cheng, "Least-squares reverse time migration incorporating prismatic waves", *SEG Annual Meeting*, 2017.
43. Qiaomu Qi, Arthur Cheng, and **Yunyue Elita Li**, "Estimating formation shear attenuation from frequency-dependent dipole-flexural wave attenuation", *SEG Annual Meeting*, 2017.
44. Joseph Ho Yin Ma, **Yunyue Elita Li** and Arthur Cheng, "The effects of aperture distribution and compression on transport properties in rock fractures", *SEG Annual Meeting*, 2017.
45. **Yunyue Elita Li**, "Extrapolated Full Waveform Inversion via Model Extension", *EAGE*, 2017.
46. **Yunyue Elita Li**, and Laurent Demanet, "Extrapolated full-waveform inversion (EFWI) with synthesized low-frequency data", *SEG Annual Meeting*, 2016, Ranked in the top 30 papers out of 1100 presented.
47. **Yunyue Elita Li**, Biondo Biondi, Gary Mavko, and Dave Nichols, "Integrated VTI Model Building with Seismic, Geological and Rock Physics Data", in *77th EAGE Conference & Exhibition*, 2015.
48. **Yunyue Elita Li**, Yi Shen and Peter Kang, "Integration of seismic and fluid-flow data: a two-way road linked by rock physics", in *77th EAGE Conference & Exhibition*, 2015.
49. **Yunyue Elita Li**, Gary Mavko and Dave Nichols, "Stochastic rock physics modeling for seismic anisotropy", in *SEG Expanded Abstracts*, 33, 2014.
50. **Yunyue Li**, "Image-guided WEMVA for azimuthal anisotropy", in *SEG Expanded Abstracts*, 32, 2013.
51. **Yunyue Li**, Peng Shen and Colin Perkins, "VTI migration velocity analysis using RTM". *SEG Extanded Abstracts*, 31, 2012.
52. **Yunyue Li** and Biondo Biondi, "Migration velocity analysis for anisotropic models", *SEG Extended Abstracts*, 30, 2011.
53. **Yunyue Li**, Dave Nichols, Konstantin Osypov and Ran Bachrach, "Anisotropic tomography using rock physics constraints", *EAGE 73rd Conference and Exhibition*, 2011.
54. **Yunyue Li**, Yang Zhang and Jon Claerbout, "Geophysical applications of a novel and robust L1 solver", *SEG Extended Abstracts*, 29, 2010.

## PLENARY AND KEYNOTE SPEECHES

1. "Wave mode separation from VSP data: Conventional vs. NN methods", Keynote Speaker, 5-7 November 2019, *2019 SEG 3rd International Workshop on Mathematical Geophysics: Traditional vs Learning*, Beijing, China
2. "Shale anisotropy estimation from well logs based on Hudson-Cheng model and deep neural network", Keynote Speaker, 25-27 October 2019, *2nd SEG Rock Physics Workshop: Challenges in Deep and Unconventional Oil/Gas Exploration*, Qingdao, China
3. "Active and passive seismic investigation for bedrock mapping in an urban environment: Cases studies in Singapore", Keynote Speaker, 29-31 July 2019, *SEG Geophysics for Smart City Development Workshop*, Beijing, China
4. "Theory and implementations of multicomponent elastic wave imaging", Plenary Speaker, 11-14 March 2019, *SIAM Conference on Mathematical and Computational issues in the Geosciences*, Houston, US
5. "Coupled optical and seismic modeling for a realistic DAS record", Keynote speaker, 28-30 October 2018, *SEG Borehole Geophysics Workshop*, Guilin, China
6. "Geophysical applications in urban environments", Plenary Speaker, 17th October 2018, *SEG Annual Meeting*, Anaheim, US

## INVITED TALKS

7. "Listening to Singapore: Seismology for urban monitoring", Jan 2021, *Isterre Grenoble*, France (presented remotely)
8. "Towards Wave-mode separation on field data using deep neural networks", Nov 2020, *Artificially Intelligent Earth Exploration Workshop*, UAE (presented remotely)
9. "Waveform inversion, space extension, and model space sampling", July 2020, *SIAM Imaging Science*, Canada (presented remotely)
10. "Urban geophysical sensing and applications", Jun 2020, *Pennsylvania State University*, USA (presented remotely)
11. "Listening to Singapore: Harvesting urban noise for space, water, and geohazard", Jun 2020, *Geotechnical Society of Singapore*, Singapore (presented remotely)
12. "Waveform inversion with gradient sampling - new understanding of spatial shifts", Feb 2020, *MIT - Earth Resources Laboratory*, Boston, USA
13. "Listening to Singapore: Harvesting urban noise for space, water, and geohazard", Feb 2020, *MIT - Department of Civil and Environmental Engineering*, Boston, USA
14. "Solving large-scale geophysical inverse problems - physics and learning", Feb 2020, *Purdue University*, West Lafayette, USA
15. "Multicomponent elastic imaging: Theory, practice, and limitations", Jul 2019, *Southern University of Science and Technology*, Shenzhen, China
16. "Elastic reverse time migration and inversion", Apr 2019, *University of Science and Technology of China*, Hefei, China
17. "Full waveform inversion with random space shifts", Dec 2018, *China University of Petroleum*, Beijing, China
18. "Elastic reverse time migration: new insights from old equations", Dec 2018, *Peking University*, Beijing, China
19. "Distributed Acoustic Sensing: A Stereoscopic Urban Monitoring System", Dec 2018, *ExxonMobil Research and Engineering Company*, Clinton, US
20. "Mitigating nonconvexity of seismic inverse scattering problem", Sep 2018, *Workshop on Qualitative and Quantitative Approaches to Inverse Scattering Problems*, Institute for Mathematical Sciences, Singapore
21. "Elastic imaging: new insights from old equations", Mar 2018, *Workshop on Seismicity near the Hutubi Underground Gas Storage and Mechanism of Induced Earthquakes*, CUHK, China
22. "Least-squares reverse time migration in the presence of velocity errors", Oct 2017, *Mathematical Geophysics Workshop*, Harbin, China