Shihao Yuan

Research Associate

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Education

Institut de Physique du Globe de Paris, Université Paris Cité — Paris, France
Ph.D. in Geophysics — 10/2014–04/2018

Université Paris Cité & MINES ParisTech & École Normale Supérieure — Paris, France
M.Sc. in Geophysics — 09/2013–07/2014

Peking University — Beijing, China
M.Sc. in Geophysics — 09/2011–08/2013

Jilin University — Changchun, China
B.E. in Applied Geophysics — 09/2007–06/2011

Research Experience

GNS Science — Lower Hutt, New Zealand
Visiting research scientist — 04/2025–current

- Near-surface characterization in the Wellington region using DAS-based passive seismic methods

Victoria University of Wellington — Wellington, New Zealand
Adjunct research and teaching fellow — 11/2023–current

- Looking through optical fibers to map earthquake vulnerabilities in population centers
  - Employing fiber optic technologies, such as distributed acoustic sensing and fiber optic gyroscopes, for subsurface imaging and monitoring in the Wellington area.

Colorado School of Mines — Golden, US
Research associate — 12/2022–current

- Distributed fiber optic sensing
  - Towards integrated fiber-optic distributed acoustic and electromagnetic sensing: Theory, simulation, and observation
  - Developing Python libraries that supports data processing for distributed fiber optic sensing and rotational seismology
- Near-surface characterization for earthquake hazards
  - Site-specific Vs30 determination in urban areas: 6C single-station vs. traditional seismic methods
- Waveform inversion of translation, rotation and strain ground motions
  - Seismic amplitude tomography using newly defined seismic observables
- Temporal seismic velocity variations from single-station 6C measurements
  - Estimating temporal changes in near-surface properties using 6C amplitude ratio methods

Ludwig-Maximilians-Universität München — Munich, Germany
Postdoctoral researcher — 05/2018–11/2022

- Rotational ground motion observations and analysis
  - Joint analysis of translational and rotational ground motions for seismic source tracking and structural imaging
- Seismic risk assessment in geothermal areas
  - Rapid peak ground motion predictions using classical and machine-learning-based methods
- Structural health monitoring using 6C measurements
  - Monitoring the velocity changes of a pre-stressed bridge using 6C point measurement
- Seismic anisotropy estimation using 6C measurements
  - Estimating anisotropic elastic parameters through joint analysis of translational and rotational recordings

Institut de Physique du Globe de Paris Paris, France
Ph.D. student 10/2014–04/2018

- Wavefield injection and extrapolation
  - A numerical solver for fast and accurate elastic wavefield reconstruction within target areas
- Full waveform modeling and inversion
  - Efficient high-frequency target-oriented elastic full waveform inversion for time-lapse surveys

Schlumberger Gould Research Center Cambridge, UK
Visiting student 01/2014–06/2014

- Wavefield gradiometry for real-time near-surface characterization
  - Retrieving local velocity structures from seismic ambient noise using spatial gradient wavefield

Peking University Beijing, China
Master student 09/2011–06/2013

- P- and S-wave receiver functions
  - Imaging the crustal and upper mantle discontinuities
- Seismic interferometry
  - Ambient noise surface wave tomography in North China Craton

Grants

- **SSA Community Grant** 09/2025
  Organizing workshop on "Seismic Imaging and Monitoring Using Six-component Single-station Measurements in Urban Areas", $5,000
  My role: **Lead organizer**
- **MBIE Smart Ideas Program, New Zealand** 06/2025-05/2028
  "Benchmarking earthquake hazard estimates using novel natural seismometers in lakes"
  My role: **Senior Personnel**, leading the design and acquisition of DAS surveys and deriving velocity models
- **BHP DCEM Develop Phase, US** 05/2025-05/2026
  "Proof of concept: Geological differentiation analysis", $444,492
  My role: **Co-PI**, leading the microtremor analysis using dense seismic node arrays and developing a versatile transdimensional probabilistic inversion framework.
- **NSF ACCESS Program, US** 04/2025-04/2026
  "Target-oriented Translational and Rotational Amplitude Tomography (ToTRAT)" – 1,000 node computing hours (EXPLORE project)
  My role: **Lead PI**, developing and testing a novel imaging algorithm.
- **USGS-Earthquake Hazards Program, US** 05/2024-08/2025
  "Initial investigation and continuous monitoring of site-specific near-surface shear-wave structures in the Reno-Carson City urban corridor using seismic rotational measurement", $91,336
  My role: **Lead PI**, establishing a novel near-surface characterization technique.
- **DOE-SBIR/STTR Program, US** 07/2023-04/2024
  "Distributed fiber optics electromagnetic sensing for subsurface monitoring of carbon storage sites", $41,233
  My role: **Co-PI**, leading modeling, testing, and optimization of a multiphysics fiber-optic sensing technique.

- **LMU Excellent PostDoc Support Fund, Germany** 06/2022-12/2022
  "Core-mantle boundary heterogeneities inferred from 6-DoF single-station observations", €6,000
  My role: **Lead PI**, analyzing a novel dataset to investigate deep Earth structures.

Honors and Awards

- SSA international travel grant 2024
- CSM postdoctoral travel grant 2023
- BSSA top-cited spot papers for 2020 2021
- SEG/ExxonMobil student educational program travel grant 2016
- Geophysical Paris Exploration Group PhD fellowship, IPGP 2014
- Graduate student fellowship, IPGP 2013
- Graduate student fellowship, Peking university 2011–2013
- Outstanding graduate, Jilin University 2011
- First-class scholarship, Jilin University 2007–2011
- China national petroleum corporation scholarship 2011
- Mathematical modelling of second prize in Jilin Province 2010

Mentoring Experience

- **Yida Song**, project co-mentoring at CSM 2024
  PhD thesis: "Analysis of micro-seismic events based on DAS data related to Enhanced Geothermal System"
- **Tomas Snyder**, project co-mentoring at CSM 2023
  Master thesis: "Modeling fiber optic distributed magnetic sensing for subsurface monitoring"
- **Josephin Amelie Rieger**, co-supervising at LMU 2022
  Bachelor thesis: "Seismic source tracking and structural imaging using 6-DoF point measurement"
- **Sebastian Noe**, co-supervising at LMU 2020
  Master thesis: "Elastic tensor estimation from joint analysis of translation and rotation"
- **Anokhi Ashwin Shah**, co-supervising at LMU 2018
  Master thesis: "Seismic wavefield reconstruction in the presence of six-component observations"

Teaching Experience

- **Co-instructor and co-organizer** at SSA Annual Meeting 2025
  "Distributed acoustic sensing open-source software workshop": Responsibility for workshop design; Creating and reviewing training materials; Delivering lectures
- **Co-teaching** at VUW 2024
  "Advanced seismology": Responsibility for course design, delivery, and assessment; Creating lecture materials, assignments, and exams; Grading and providing feedback; Office hours and student mentoring
- **Co-teaching** at LMU Fall 2019-2020
  "Inverse problems in geophysics: a practical introduction": Creating lecture materials and hands-on exercises; Delivering lectures and sharing expertise on specific topics; Grading assignments and exams
- **Co-teaching** at LMU Fall 2018
  "New directions in seismology - full waveform inversion, slow and fast slip, numerical earthquake modelling": Creating lecture materials and hands-on exercises; Delivering lectures; Grading assignments/exams
- **Teaching assistant** at IPGP Fall 2017
  "Modelling and analysis of geophysical processes": Leading lab sections; Grading assignments and exams; Holding office hours; Supporting lead instructor
- **Field camp instructor** Fall 2014
  Teaching seismic refraction method with a 48-channel Geode system at Chambon-la-Forêt, France

SERVICE AND OUTREACH

- **AGU fall meeting program committee** 2024-current
- **Editorial board** 2024-current
  New Zealand Journal of Geology and Geophysics
- **Early career representative of AGU seismology section** 2023–current
- **SSA annual meeting session convener** 2025
  "Challenges and opportunities in constraining ground-motion models from physics-based ground-motion simulations"
- **Guest editor** 2024
  NZJGG special issue on active plate boundary faults around the Ring of Fire: deformation, structure, seismicity, and hazards
- **AGU travel grant review committee** 2022-2024
- **AGU fall meeting session convener** 2024
  "Seismology General Contribution: Seismic Instrumentation, Data Acquisition and Broader Impacts"
- **AGU fall meeting session convener** 2024
  "Seismology General Contribution: Structure"
- **SSA annual meeting session convener** 2024
  "Advancing Seismology with Distributed Fiber Optic Sensing"
- **AGU fall meeting session convener** 2023
  "Observing Wave Field Gradients in Seismology – Applications, Instrumentation, and Theory"
- **Peer reviewer**
  GJI, JGR-Solid Earth, Geophysics, Sensors, IEEE TGRS, IEEE GRSL, Acta Geophysica, BSSA, Earth and Space Science, The Leading Edge, Seismica, Nature Communication, Earth Surface Dynamics, SEG/IMAGE Annual Meeting Technical Program, NSF research proposal, GSI research proposal
- **SEG-IPGP student chapter president** 2016–2017

INVITED TALKS

1. "Advancing urban seismology with transformative sensing technologies", University of Texas at Dallas 2025
2. "Six-component Measurements in Near-surface Characterization and Structural Health Monitoring", U.S. Geological Survey 2024
3. "Looking through fibers to explore the subsurface", Victoria University of Wellington 2024
4. "Seeing what is unseen - Imaging and monitoring structures through optical fibers", IPGP 2024
5. "Towards integrated fiber-optic distributed acoustic and magnetic sensing: theory, simulation and observation", China University of Geosciences (Beijing) 2023
6. "Monitoring a prestressed bridge using six-degree-of-freedom measurement", AGU Fall Meeting 2022
7. "Seismic source and structural imaging with six-component point measurements", The Institute of Geology and Geophysics, Chinese Academy of Sciences 2021
8. "Rotational ground motions observations and analysis", Colorado School of Mines 2021
9. "Six degree-of-freedom ground motion observations and analysis", University of Science and Technology of China 2021
10. "6-DoF broadband ground motion observations with portable sensors: validation, local earthquakes, and signal processing", Universität Potsdam 2020
11. "Localised time-lapse elastic full Waveform inversion using wavefield injection and extrapolation", TOTAL 2017
12. "Localised time-lapse elastic full waveform inversion", GPX, LITHOS and MINES ParisTech Celebration 2017

Lab and Field Experience

- Field work - Near-surface characterization in the Reno-Carson City urban corridor using multiple seismic measurements, US (7 days) 08/2024
- Lab experiment - Evaluating a prototype fiber optic sensor capable of detecting both electric and magnetic fields, US (3 days) 03/2024
- Field work - Small-scale field test of a prototype distributed magnetic sensing System, US (3 days) 03/2023
- Field trip - Tectonics of Alpine fold and thrust belt, France (7 days) 06/2015
- Field work - Deploy temporal seismic stations in Tengchong, China (11 days) 02/2013
- Field work - Deploy temporal seismic stations in Qinling area, China (25 days) 08/2012
- Field work - Retrieve seismic stations belonging to NECESSArray project, China (13 days) 08/2011

Career Development and Training

- **How to manage conflict in research supervision, Wellington, NZ** 11/2024
  The workshop has helped me become more aware of potential conflicts between students and supervisors. It prepares me to identify these conflicts effectively and improve my relationships with students. I have learned practical strategies for resolving conflicts through avoiding, accommodating, competing, collaborating, or compromising in various situations.
- **Effective supervision meetings & monitoring student progress workshop, Wellington, NZ** 10/2024
  This training workshop has provided me with valuable insights on creating an effective monitoring system. I have learned strategies for running efficient and productive supervisory meetings, as well as techniques for tracking student progress and boosting engagement.
- **Teaching near-surface geophysics workshop, Golden, US** 08/2024
  This workshop has prepared me to integrate near-surface geophysics instrumentation and methods into undergraduate courses, from introductory to majors-level. I have gained experience in designing and conducting geophysical surveys using different methods (such as ground penetrating radar, active seismic, electrical resistivity, and GPS/GNSS), processing the resulting data, and explaining how these methods can address important geoscience research questions. Additionally, I have practiced teaching these geophysical methods to others and developing plans for effective instruction.
- **CTEMPS hands-on workshop on distributed fiber optic sensing, Sagehen Creek, US** 08/2024
  During the 3.5-day workshop, I am gaining extensive hands-on experience related to the use and challenges of applying distributed acoustic sensing and distributed temperature sensing. This includes selecting fibers and instruments, fiber placement and repair, continuous calibration, data acquisition, and data analysis, etc.

Peer-reviewed journal articles

* Mentored student author

1. **Yuan, S.**, Bernauer, F., Wassermann, J., Martin, E., and Igel, H., 2024. Single-station vehicle tracking using six-component seismic measurements: A comparative study with array-based methods. EarthArXiv. (PDF Link). (accepted in Seismica)

2. Taddei, F., **Yuan, S.**, Freisinger, J., Müller, G., 2024. Seismic soil-structure interaction analysis considering a layered half space subjected to geothermal induced seismicity, *Journal of Physics: Conference Series*, 2647(8), pp.082020.

3. Chambers, D., Jin, G., Tourei, A., Issah, A., Lellouch, A., Zhu, D., Girard, A., **Yuan, S.**, Cullison, T., Snyder, T., Kim, S., Danes, N., Punithan, N., Boltz, M., Mendoza, M., 2024. DASCore: a Python Library for Distributed Fiber Optic Sensing, *Seismica*, 3(2).

4. Noe, S.*, **Yuan, S.**, Montagner, J., and Igel, H., 2022. Anisotropic elastic parameter estimation from multi-component ground motion observations: a theoretical study. *Geophysical Journal International*, 229(2), pp.1462-1473.

5. Igel, H., Schreiber, K.U., Gebauer, A., Bernauer, F., Egdorf, S., Simonelli, A., Lin, C.J., Wassermann, J., Donner, S., Hadziioannou, C. and **Yuan, S.**, Brotzer, A., Kodet, J., Tanimoto, T., Hugentobler, U., Wells, J-P., 2021. ROMY: a multicomponent ring laser for geodesy and geophysics. *Geophysical Journal International*, 225(1), pp.684-698.

6. **Yuan, S.**, Fuji, N. and Singh, S.C., 2021. High-frequency localized elastic full waveform inversion for time-lapse seismic surveys. *Geophysics*, 86(3), pp.1-55.

7. **Yuan, S.**, Gessele, K., Gabriel, A.A., May, D.A., Wassermann, J. and Igel, H., 2021. Seismic source tracking with six degree-of-freedom ground motion observations. *Journal of Geophysical Research: Solid Earth*, 126(3).

8. **Yuan, S.**, Simonelli, A., Lin, C.J., Bernauer, F., Donner, S., Braun, T., Wassermann, J. and Igel, H., 2020. Six degree-of-freedom broadband ground-Motion observations with portable sensors: validation, local earthquakes, and signal processing. *Bulletin of the Seismological Society of America*, 110(3), pp.953-969.

9. Sollberger, D., Igel, H., Schmelzbach, C., Edme, P., van Manen, D.J., Bernauer, F., **Yuan, S.**, Wassermann, J., Schreiber, U. and Robertsson, J.O., 2020. Seismological processing of six degree-of-freedom ground-motion data. *Sensors*, 20(23), p.6904.

10. **Yuan, S.**, Fuji, N., Singh, S. and Borisov, D., 2017. Localized time-lapse elastic waveform inversion using wavefield injection and extrapolation: 2-D parametric studies. *Geophysical Journal International*, 209(3), pp.1699-1717.

11. Edme, P. and **Yuan, S.**, 2016. Local dispersion curve estimation from seismic ambient noise using spatial gradients. *Interpretation*, 4(3), pp.SJ17-SJ27.

12. **Yuan, S.**, Chen, Y., 2015. Investigation on crustal and upper mantle discontinuities in western part of North China Craton using P-wave receiver functions. *Progress in Geophysics* (in Chinese), 30(6), p.2589-2595.

13. Yang, W., Liu, B., Wang, Q., Wang, H., **Yuan, S.**, 2011. 2-D P-wave velocity structure in the Xinfengjiang reservoir area–Results of Yingde–Heyuan–Luhe deep seismic sounding profile. *Progress in Geophysics* (in Chinese), 26(6), p.2589-2595.

Preprints and Technical Reports

* Mentored student author

1. **Yuan, S.** and Martin, E., 2025. Potential higher-mode bias in DAS-based MASW for near-surface characterization. (PDF Link). (under review in Geophysics)

2. Li, D., Li, B., Gabriel, A-A., Ulrich, T., **Yuan, S.,** Wang, K., and Bürgmann, R., 2025. Thermal pressurization governs rupture dynamics of the 2021 Mw 8.2 Chignik, Alaska earthquake. (PDF Link). (under review in JGR-Solid Earth).

3. **Yuan, S.**, Bernauer, F., Liao, C., Martin, E., Hadziioannou, C., Niederleithinger, E., Li, D., Wassermann, J., and Igel, H., 2024. Bridge monitoring using six-component gournd motion measurements. engrXiv. (PDF Link). (under review in Structural Health Monitoring)

4. **Yuan, S.**, and Martin, E., 2024. Target-oriented amplitude tomography with joint translational, rotational and strain measurements. CWP annual report. (PDF Link)

5. Snyder, T.*, **Yuan, S.**, Martin, E., Homa, D., Dejneka, Z., Pickrell, G., Wang, A., Theis, L., 2024. Computational Modeling of the Driving Forces Behind Fiber-optic Distributed Magnetic Sensing. CWP annual report. (PDF Link).

6. Snyder, T.*, **Yuan, S.**, Martin, E., Homa, D., Dejneka, Z., Pickrell, G., Wang, A., Theis, L., 2023. Towards integrated fiber-optic distributed acoustic and magnetic sensing: Theory, simulation, and observation. CWP annual report. (PDF Link).

Peer-reviewed conference proceedings

1. **Yuan, S.**, Martin, E., 2024. Target-oriented amplitude tomography with joint translational, rotational and strain measurements. In International Meeting for Applied Geoscience & Energy.

2. Csuka, A., Keil, S., **Yuan, S.**, Vogt, S., Cudmani, R. and Wasserman, J., 2024. Aspects regarding site response analysis considering induced seismicity in the Munich region. In 18th World Conference on Earthquake Engineering.

3. **Yuan, S.**, Fuji, N., Singh, S., and Borisov, D., 2017. Towards high resolution localised elastic full waveform inversion. In 79th EAGE Conference and Exhibition.

4. **Yuan, S.**, Fuji, N., Singh, S., and Borisov, D., 2017. Efficient 3D localized elastic full-waveform inversion for time-lapse seismic surveys. In SEG Technical Program Expanded Abstract.

5. **Yuan, S.**, Fuji, N., Borisov, D., and Singh, S., 2016. Localised time-lapse 3D elastic full Waveform inversion using finite-difference injection and wavefield extrapolation. In 78th EAGE Conference and Exhibition.

Manuscripts in preparation

1. **Yuan, S.**, and Martin, E., "A DAS-based refraction microtremor method (ReMi) for near-surface characterization: Opportunities and challenges", in preparation.

2. **Yuan, S.**, and Martin, E., "Target-oriented amplitude tomography with joint translational and rotational measurements", in preparation.

3. **Yuan, S.**, Li, Z., Cottaar, S., Wassermann, J., and Igel, H., "Assessing the lateral refraction of lower mantle heterogeneities from multi-component ring laser observations", in preparation.

4. Taddei, F., **Yuan, S.**, et al., "Soil-Structure interaction analysis of buildings subjected to geothermal induced seismicity", in preparation.

5. **Yuan, S.**, Snyder, T., Martin, E., et al., "Distributed magnetic field sensing using fibre optics in borehole environments", in preparation.

6. **Yuan, S.**, Snyder, T., Martin, E., et al., "Modeling fundamental principles of distributed magnetic sensing for geophysical applications", in preparation.

7. **Yuan, S.**, Wassermann, J., and Igel, H., "Joint inversion of receiver function and surface wave dispersion using six degree-of-freedom point measurement", in preparation.

8. Mendoza, M., Martin, E., **Yuan, S.**, et al., "A Year of Open Distributed Acoustic Sensing Data Above the Cascadia Subduction Zone", in preparation.

Selected conferences abstracts

* Mentored student author

1. Song, Y.*, **Yuan, S.**, and Martin, E., "Bayesian Inversion of Microseismic Event Locations at the FORGE Geothermal Site." In SSA Annual Meeting Abstracts, 2025.

2. Li, D., Bora, S., Benites, R., Thingbaijam, K., Howell, A., Williams, C. A., **Yuan, S.**, Kaiser, A., Manea, E., Hill, M., and Gerstenberger, M. C., "Characterizing Ground Motion Through Multi-fault Dynamic Rupture Simulations in Central New Zealand." In SSA Annual Meeting Abstracts, 2025.

3. **Yuan, S.**, Martin, E., Bogolub, K., "Site-specific Vs30 determination in urban areas: 6C single-station vs. traditional seismic methods." In AGU Fall Meeting Abstracts, 2024.

4. Martin, E., **Yuan, S.**, Snyder, T., Martin, E., Homa, D., Dejneka, Z., Pickrell, G., Theis, L., Wang, A., "Frontiers in Fiber Optic Sensing Beyond Seismic Data." ARMA US Rock Mechanics/Geomechanics Symposium, 2024.

5. **Yuan, S.**, Bernauer, F., Martin, E., Liao, CM., Hadziioannou, C., Niederleithinger, E., Wassermann, J., Igel, H., "Monitoring Temporal Velocity Variations of Shallow Subsurface and Engineering Structures Using 6C Single-station Measurement." In SSA Annual Meeting Abstracts, 2024.

6. **Yuan, S.**, Snyder, T., Martin, E., Homa, D., Dejneka, Z., Pickrell, G., Theis, L., Wang, A., "Distributed Fiber-optic Magnetic Sensing for Subsurface Imaging and Monitoring." In SSA Annual Meeting Abstracts, 2024.

7. **Yuan, S.**, Snyder, T., Martin, E.R., Homa, D., Dejneka, Z., Pickrell, G., Wang, A., Theis, L., "Bringing Distributed Magnetic Sensing from the Lab to the Field." International Meeting for Applied Geoscience & Energy, 2023.

8. Bernauer, F., **Yuan, S.**, Wassermann, J., Igel, H., Hadziioannou, C., Guattari, F., ... & Eibl, E. P., "Monitoring material properties of civil engineering structures with 6C point measurements." In AGU Fall Meeting Abstracts, 2023.

9. Bernauer, F., Balaskas, G., Hadziioannou, C., Dhabu, A., Liao, C., Niederleithinger, E., **Yuan, S.**, Wassermann, J., Igel, H., "Monitoring material properties of civil engineering structures with 6C point measurements." In EGU General Assembly Conference Abstracts, 2023.

10. Bernauer, F., **Yuan, S.**, Strobel, F., Wassermann, J., Igel, H., Hadziioannou, C., Guattari, F., Liao, C., Hicke, K., Niederleithinger, E., Eibl, E., "6C sensing applied to structural health monitoring." 6th International Working Group on Seismology IWGoRS Meeting, 2023.

11. **Yuan, S.**, Bernauer, F., Liao, CM., Hadziioannou, C., Niederleithinger, E., Li, D., Wassermann, J., Igel, H., "Monitoring a prestressed bridge using six-degree-of-freedom measurement." In AGU Fall Meeting Abstracts, 2022.

12. Li, D., Li, B., Ulrich, T., **Yuan**, S., Biemiller, J., Gabriel., A-A., "Preliminary 3D dynamic rupture modelling of the 2021 M8.2 Chignik, Alaska megathrust earthquake accounting for pore fluid pressurisation." In AGU Fall Meeting Abstracts, 2021.

13. **Yuan, S.**, Wassermann, J., Bernauer, F., Brotzer, A., and Igel, H., "Vehicular source tracking and near-surface characterization with six degree-of-freedom point measurements." In AGU Fall Meeting Abstracts, 2021.

14. **Yuan, S.**, Wassermann, J., and Igel, H., "Towards localized waveform inversion with seismic translation, rotation, and strain." In AGU Fall Meeting Abstracts, 2021.

15. Sollberger, D., Igel, H., Schmelzbach, C., Bernauer, F., **Yuan, S.**, Wassermann, J., Gebauer, A., Schreiber, U., and Robertsson, J., "Towards field data applications of six-component polarization analysis." In EGU General Assembly Conference Abstracts, 2020.

16. Eibl, E., Currenti, G., Wassermann, J., Jousset, P., Vollmer, D., Larocca, G., Pellegrino, D., Pulviventi, M., Contrafatto, D., and **Yuan, S.**, "Rotational sensor on a volcano: New insights from Etna, Italy." In EGU General Assembly Conference Abstracts, 2020.

17. Igel, H., Bernauer, F., Wassermann, J., **Yuan, S.**, Gebauer, A., and Schreiber, U., "The ROMY project: A 4-component ring laser for geophysics and geodesy." In EGU General Assembly Conference Abstracts, 2020.

18. **Yuan, S.** and Igel, H., "Joint inversion of receiver function and surface wave dispersion using 6C point measurement." In AGU Fall Meeting Abstracts, 2019.

19. **Yuan, S.**, Igel, H., Wassermann, J., Bernauer, F., Gebauer, A., and Schreiber, U., "Six degrees of freedom analysis of point ground motions: application to G-ring and ROMY data." In EGU General Assembly Conference Abstracts, 2019.

20. Igel, H., **Yuan, S.**, Taufiqurrahman, T., Gabriel, A., and Montagner, J., "Rotational motions in anisotropic media." In AGU Fall Meeting Abstracts, 2019.

21. Fuji, N., Lai, S. T., **Yuan, S.**, Katayama, I., "One-station time-lapse seismic imaging: concept and preliminary applications." In AGU Fall Meeting Abstracts, 2018.