

# Photonic Seismology Lighting the Way Forward

7-10 October 2024 • Vancouver, BC

## Schedule at a Glance

Please note: Presenting author is bold in the schedule below. Schedule is current as of 17 June 2024 and is subject to change.

All poster and oral presentation abstracts may be viewed online at [online gallery](#). As new presentations are added, the online gallery will update automatically.

### Monday, 7 October 2024

4-7:30 PM	Registration Open
5-6 PM	Opening Reception & Posters
6-7:30 PM	Opening Keynote: Illuminating a Decade of DAS and Beyond. <b>Jonathan Ajo-Franklin</b>

### Tuesday, 8 October 2024

7-8:30 AM	Breakfast & Posters
<b>Sensing Technologies and their Latest Developments</b>	
8:30-9 AM	KEYNOTE: Phase Transmission Fiber-optic Sensing: Theory and Emerging Technologies. <b>Andreas Fichtner</b>
9-9:15 AM	INVITED: Novel Types of Distributed Acoustic Sensing (DAS) Systems with Unconventional Performance. <b>Miguel Gonzalez-Herraez</b>
9:15-9:30 AM	Harnessing Transatlantic Submarine Cables for Tidal and Strain Measurements. <b>Meichen Liu</b>
9:30-9:45 AM	Comprehensive Evaluation of DAS Performance: Instrument Response, Noise Floor, and Amplitude Saturation. <b>Qiushi Zhai</b>
9:45-10 AM	Rotation Sensing with Optic Technology. <b>Heiner Igel</b>
10-10:15 AM	Rayleigh Scattered Wave Analysis Techniques in Distributed Optical Fiber Sensing for Broadband Geophysical Observation in the Seafloor. <b>Eiichiro Araki</b>
10:15-10:45 AM	Discussion Period
10:45-11:15 AM	Coffee Break

### Earthquake Characterization Using Fiber-optic Cables

11:15-11:45 AM	KEYNOTE: South Island Seismology at the Speed of Light Experiment (SISSLE)- Characterizing the Alpine Fault at Haast (South Westland, New Zealand). <b>Meghan Miller</b>
11:45 AM-12:00 PM	INVITED: Advancing Earthquake Characterization with Telecom Fiber Networks. <b>Jiaxuan Li</b>
12:00-12:15 PM	INVITED: 10-m-deep Earthquake Swarms (Mw-2) Near the Milun Fault in Hualien, Taiwan, Detected by the MiDAS Seismic Monitoring System. <b>Yen-Yu Lin</b>
12:15-12:30 PM	Exploring Earthquake Source Characteristics Using Borehole Optical Fiber Arrays: Insights from the 2022 M6.8 Chihshang, Taiwan, Earthquake. <b>Jolan Liao</b>
12:30-12:45 PM	Accurate Magnitude and Stress Drop Using the Spectral Ratios Method Applied to Distributed Acoustic Sensing. <b>Itzhak Lior</b>
12:45-1:15 PM	Discussion Period
1:15-3 PM	Lunch and Posters

### Real-Time Monitoring and Warning with Fiber Optic Seismology

3-3:30 PM	KEYNOTE: Assessing Distributed Acoustic Sensing for Real-time Monitoring and Earthquake Early Warning (EEW) in the Southernmost Cascadia Subduction Zone 3D. <b>Jeffrey McGuire</b>
3:30-3:45 PM	Low-cost DAS Arrays using Commercially Owned Fibers and Interrogators for Continuous Seismic Monitoring and Early-warning. <b>Itzhak Lior</b>
3:45-4 PM	Toward Integration of DAS Arrays and Traditional Seismic Networks for Real-Time Earthquake Monitoring and Early Warning. <b>Yuancong Gou</b>

4 - 4:15 PM	Seismic Event Monitoring with DAS in the Cloud. <b>Marlon Ramos</b>
4:15-4:30 PM	Distributed Acoustic Sensing of Fiber Networks for Earthquake Monitoring and Early Warning Operations. <b>Ettore Biondi</b>
4:30-5 PM	Discussion Period
5-7 PM	Sponsor Demonstrations, Posters and Reception

### Wednesday, 9 October 2024

7-8:30 AM	Breakfast & Posters
<b>Exploring the Frontier of Environmental Processes Using Fiber-optic Sensing</b>	
8:30-9 AM	KEYNOTE: Fluvial Monitoring with Distributed Acoustic Sensing. <b>Danica Roth</b>
9-9:15 AM	INVITED: Fiber Optic for Environment Sensing (FORESEEx): Examples from Urban and Arctic Arrays. <b>Tieyuan Zhu</b>
9:15-9:30 AM	INVITED:Enhancing Hydrological Monitoring with Fiber-Optic Sensing. <b>Yan Yang</b>
9:30-9:45 AM	Evaluating Strain and Temperature Variations with Low Frequency Distributed Acoustic Sensing. <b>Susanne Ouellet</b>
9:45-10 AM	Exploiting DAS Records Directly for Source and Structural Properties – Examples from the Greenland Ice Sheet. <b>Brian Kennett</b>
10-10:30 AM	Break
10:30-10:45 AM	Monitoring Groundwater Dynamics in the Lyon Water Catchment using DAS combined with Ambient Noise Interferometry. <b>Destin Nziengui Bâ</b>
10:45-11 AM	Multiplexed Distributed Acoustic Sensing at the Ocean Observatory Initiative Regional Cabled Array. <b>Bradley Lipovsky</b>
11-11:30 AM	Discussion Period
11:30 AM-12 PM	Coffee Break

<b>Filling the Data Gap: Ocean-bottom Sensing with Fiber-optic Cables</b>	
12-12:30 PM	KEYNOTE: Science with Transoceanic Seafloor Cables. <b>Giuseppe Marra</b>
12:30-12:45 PM	INVITED: Spatio-temporal Observations of Nonlinear Wave-wave and Wave-current Interaction with DAS. <b>Ethan Williams</b>
12:45-1 PM	INVITED: DAS Observation for High-frequency Tsunamis Excited Near Torishima Island, Japan. <b>Takashi Tonegawa</b>
1-3 PM	Lunch and Posters
3-3:15 PM	Imaging the Near-surface Structure and Monitoring the Microseismicity Around the Changdao Earthquake Swarm Area with Distributed Acoustic Sensing. <b>Baoshan Wang</b>
3:15-3:30 PM	Exploring the Potential of Distributed Acoustic Sensing in Ocean Acoustics. <b>Shima Abadi</b>
3:30-3:45 PM	Results from an Optical Fiber Seafloor Strainmeter. <b>Mark Zumberge</b>
3:45-4 PM	Distributed Optical Fiber Sensing Over Multi-Span Subsea Telecom Cables with Active Amplification. <b>Mikael Mazur</b>
4-4:15 PM	Observing Seafloor Processes by Distributed Fiber Optic Sensing Using an Academic Cable Offshore Catania Sicily (Italy) and a Commercial Telecom Network in the Guadeloupe Archipelago (Lesser Antilles). <b>Marc-Andre Gutscher</b>
4:15-5 PM	Discussion Period
5-7 PM	Sponsor Demonstrations, Posters and Reception

### Thursday, 10 October 2024

7-8:30 AM	Breakfast & Posters
<b>An Innovative Photonic Vision of Volcanoes and Geothermal Systems</b>	
8:30-9 AM	KEYNOTE: Fibre Optic Sensing for Innovative Imaging and Monitoring of Geothermal and Volcanic Systems. <b>Philippe Jousset</b>
9-9:15 AM	INVITED: A New Imaging Standard for Volcanic Systems Through Fiber Sensing and Novel Processing Algorithms. <b>Ettore Biondi</b>
9:15-9:30 AM	INVITED:Fibre-Optic Seismology on Remote, Subglacial, Submarine and Actively-Erupting Volcanoes. <b>Sara Klaasen</b>

9:30-9:45 AM	Imaging Magma Flow Migration Through a Dike Using Low-frequency DAS Measurements. <b>Jiaxuan Li</b>
9:45-10 AM	Using Low-frequency DAS Signals for Early Warning During the Sundhnúksígur, Iceland, Eruptions in 2024. <b>Vala Hjörleifsdóttir</b>
10-10:15 AM	Seismic Velocity Changes Associated with the 2023-2024 Eruption Sequence on the Reykjanes Peninsula. <b>Elijah Bird</b>
10:15-10:45 AM	Discussion Period
10:30-11 AM	Coffee Break

<b>How to Scale Up</b>	
2-3:30 PM	Panel discussion consisting of the following panelists: Zack Spica, Eileen Martin, Voon Hui Lai, Allen Husker, Connie Stewart and Fabrice Cotton
3:30-4 PM	Future Direction of Photonic Seismology and Discussion Period
4-5:15 PM	Closing Reception

<b>Urban Seismology</b>	
11-11:30 AM	KEYNOTE: Large-scale Monitoring of Urban Environments by Fiber-optic Seismology: Lessons from Eight Years of the Stanford DAS Project. <b>Biondo Biondi</b>
11:30-11:45 AM	INVITED: Optimizing DAS Ambient Seismic Noise Interferometry Workflows for Efficient, High-resolution Investigation of the Urban Subsurface. <b>Verónica Rodríguez Tribaldos</b>
11:45 AM-12 PM	Building Health Monitoring Using Ambient Noise Interferometry Across Multistory DAS Arrays. <b>Chen Gu</b>
12-12:15 PM	Data Augmentation Techniques to Improve Automatic Detection in DAS Records. <b>Alfonso Ortiz-Avila</b>
12:15-12:30 PM	Fiber Optic Seismology in Densely Populated Urban Areas Exposed to Seismic Hazard. <b>Krystyna Smolinski</b>
12:30-1 PM	Discussion Period
1-2 PM	Lunch and Posters