2024 SEG Workshop on Fiber Optics Sensing for Energy Applications

DATE: 21-23 July 2024
Venue: Sheraton Xi'an North City Hotel
Address: No. 32 Yingbin Avenue, Weiyang Road, Xi'an City, Shaanxi Province, China
Tel: +86 (0) 29-88866888

Recommended Hotel
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Note: Please kindly reserve your room in advance due to meeting the peak season and note" SEG Workshop" while booking.

Contact Information
If you have any questions regarding with the Workshop, please contact SEG China office:
Email: china@seg.org
Tel: 86 10 5820 5048 ext.802

MEETING SCHEDULE

Onsite Registration		
21 July, 2024	09:00-18:00	Onsite Registration
	16:00-16:30	Session Chair Meeting
22 July, 2024	07:00-17:00	Onsite Registration
23 July, 2024	07:00-17:00	Onsite Registration

22 July 2024 Monday

Location: Lin De Grand Ballroom, first floor of the hotel
Session 1: Opening Ceremony/Technical Co-chairs & Invited Speaker Presentation
Opening Ceremony Host:
Session Chair:

Time	Title	Speaker
08:30-08:35	Welcome Remarks by Technical Co-chair	TBD
08:35-08:40	Opening Address	TBD
08:40-08:45	Opening Address	TBD
08:45-09:10	Presentation by Technical Co-chair: Image processing of jointly acquired 3D DAS-VSP data with an OBN survey in the Middle East	Gang Yu
09:10-09:35	Presentation by Technical Co-chair: Distributed Strain Sensing Applications in Unconventional Reservoir Development	Ge Jin
09:35-10:00	Presentation by Technical Co-chair: Integration and Intelligence of Optical Fiber Distributed Acoustic Sensors	Zuyuan He
10:00-10:25	**Group Photo & Coffee Break**	
10:25-10:50	Presentation by Technical Co-chair: Application Practice and Prospect of Fiber Optic Sensing Technology in Ordos Basin	Hongjun Lu
10:50-11:15	Invited Speaker: Distributed Acoustic Sensing: challenges and opportunities	Yingping Li (Online)
11:15-11:40	Invited Speaker: Development and Application of Distributed Acoustic Sensor Based on Precision Laser Spectroscopy Technology	Baoshan Wang
11:40-12:05	Invited Speaker: How to obtain subsurface images with extensive lateral areal coverage using 3D DAS-VSP: mirror migration, multiple migration, and well-surface joint imaging?	Zhengzheng Zhou
12:05-13:00	**Lunch**	

22 July 2024 Monday			
Location: Lin De Grand Ballroom, first floor of the hotel **Session 2: DAS Data Management, Processing and AI & Imaging and Monitoring** **Session Chair:**			
Time	**Abstract No.**	**Title**	**Speaker**
14:00-14:20	#14	DASEventNet: a Deep Learning Tool for DAS Microseismic Event Detection	Tieyuan Zhu, Pennsylvania State University
14:20-14:40	#27	Joint unsupervised denoising and classification network microseismic event detection in hydraulic fracturing distributed acoustic sensing monitoring	Shaojiang Wu, Institute of Geology and Geophysics, Chinese Academy of Sciences
14:40-15:00	#28	Interferometric reconstruction of surface waves from traffic noises by DAS	Jie Shao, Institute of Geology and Geophysics, Chinese Academy of Sciences
15:00 -15:20	#12	Multi-cascade Aggregation Network for Simultaneous Denoising and Reconstruction of DAS-VSP Data	Ming Cheng, Jilin University
15:20-15:40		Technology Showcase- Sensori® Fracture Monitoring System--Subsurface insights to optimize fracture performance	Halliburton
15:40-16:00	**Break & Poster Presentation**		
16:00-16:20	#06	Deep Learning-Based VSP Velocity Model Building Using First Arrival Traveltime	Wen Yang, BGP Inc, CNPC
16:20-16:40	#05	Distributed Gas-Liquid Two-phase Flow Monitoring Method	Keqing Zhang, Huazhong University of Science and Technology
16:40-17:00	#41	A Transformer-based Interpolation Method for Big Gap in DAS-VSP Record	Xintong Dong, Jilin University
17:00-17:20		Technology Showcase- Next-Generation High-Resolution Seismic Acquisition Equipment System Based on DAS	The 23rd Research Institute of China Electronics Technology Group Corporation

23 July 2024 Tuesday			
Location: Lin De Grand Ballroom, first floor of the hotel **Session 3: Advances in Fiber Optic Sensing (Interrogator, Fiber, Sensors & Conveyance) & Imaging and Monitoring** **Session Chair:**			
Time	**Abstract No.**	**Title**	**Speaker**
08:30-08:50	#47	Integrated application of DAS VSP & 3D surface seismic in reservoir description	Yijun Zhou, Xi'an geophysical exploration branch, BGP
08:50-09:10	#35	FWI and Multiple Migration of a Multi-well 3D DAS-VSP in Ultra-shallow Water	Qiongwei Li, Oil and Gas Technology Research Institute, PetroChina

			Changqing Oilfield Company
09:10-09:30	#33	A velocity-strain formulation for waveform inversion of DAS fiber-optic data based on gauge-length averaging cost function	Wei Zhou, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabi
09:30-09:50	#20	Determination of Moment Tensor Solution of Microseismic events during hydraulic fracturing using a fiber-optic distributed acoustic sensor array	Haoyu Lai, Institute of Geology and Geophysics, Chinese Academy of Sciences
09:50-10:10	#26	Comparative analysis of distributed acoustic sensing and geophones with horizontal and vertical vibrators for subsurface seismic imaging in urban areas	Yikang Zheng, Institute of Geology and Geophysics, Chinese Academy of Sciences
10:10-10:30	**Break & Poster Presentation**		
Session 4: Field Applications and Application Studies **Session Chair:**			
10:30-10:50	#32	Geological Insights from LFDAS Measurements: Monitoring Fracture Development in Hydraulic Fracturing in Longmaxi Formation, Sichuan Basin	Xiaosong Fu, Fiber Optoelectronics Technology Co. Ltd
10:50-11:10	#08	The Applications of Distributed Fiber Optic Sensing for Production Optimization in Oil Shale Reservoir	Liu Jiangbo, Research Institute of Oil & Gas Technology, Changqing Oilfield Company
11:10-11:30	#13	Cross Well Communication Evaluation with first Cement-in Fiber at Qingcheng Shale Oil HFTS	Jie Tang, Halliburton
11:30-11:50	#31	Application of single-mode distributed fiber optic for detection in horizontal well	Jianqiang Yang, Karamay Xianbo Technology Innovation and Incubation Co., Ltd

23 July 2024 Tuesday			
Location: Lin De Grand Ballroom, first floor of the hotel **Session 5: Field Applications and Application Studies** **Session Chair:**			
Time	**Abstract No.**	**Title**	**Speaker**
14:00-14:20	#01	Uncertainty analysis of quantitative hydraulic fracturing fluid and sand volumes calculated from DAS data	Zhengguang Zhao, North China Institute of Science and Technology
14:20-14:40	#02	Research of the application of uDAS and 3D VSP in tapping the potential of remaining reserves: an Changqing Oilfield Sai 6 reservoir example	Jiawei Ren, Oil & Gas Technology Research Institute, PetroChina Changqing Oilfield Company
14:40-15:00	#15	Application of 3D DAS-VSP in Junggar Basin, Western China	Zhidong Cai, Optical Science and Technology Ltd. CNPC
15:00 -15:20	#29	Production profiling of fractured horizontal well in tight oil reservoir from distributed temperature	Hongwen Luo, Southwest Petroleum University

		sensing	
15:20-15:40	#44	Distributed Fiber Optic Sensing for Production Logging Applications: A Technology Review for Changqing Oilfield	Ping Liu, Changqing Branch of China national logging corporation
15:40-16:00	**Break & Poster Presentation**		
16:00-16:20	#38	Strain Response Pattern of Inclined Fractures for Offset Well LF-DAS Monitoring	Weibo Sui, China University of Petroleum (Beijing)
16:20-16:40	#43	Comparative analysis of spiral fiber DAS data and three-component geophone data for engineering geological exploration	Zhongzhi Li, Shandong University
16:40-17:00	#30	Advances in Fiber-Optic Production Profile Testing in Unconventional Oil and Gas Reservoirs	Hao Zhang, Optical science& technology Chengdu Ltd. Co., BGP., CNPC.
17:00-17:20	#42	Monitoring TBM tunneling construction with distributed acoustic sensing	Gang Fang, Shandong University
17:20-17:40	**CLOSING CEREMONY**		

Poster Session

15:40-16:00, Monday, 22 July 2024

Session: Advances in Fiber Optic Sensing & DAS Data Management, Processing and AI

Session Chair:

Time	e-Screen	Abstract No.	Title	Author
15:40-15:45	1#	*#04*	Highly sensitive acoustic detection system containing weak grating fiber based on spring sensitization	Quanlong He, Logging Technology Research Institute, China National Logging Corporation
15:45-15:50	1#	*#16*	Research on Borehole Seismic DAS Technology in CCUS of Qinshui Basin	Jiangang Fu, Optical Science and Technology Chengdu Ltd, BGP Inc., CNPC
15:50-15:55	1#	*#25*	Monte Carlo non-negative dictionary learning method for distributed acoustic sensing data denoising	Yang Zeng, Yangtze University
15:40-15:45	2#	*#11*	Deep residual neural network with patch learning for denoising DAS data	Gui Chen, China University of Petroleum Beijing
15:45-15:50	2#	*#18*	Research on Monitoring and Interpretation of Injection Profiles in Horizontal Wells Based on Distributed Fiber Optic DAS	Qinze Li, Optical science& technology Chengdu Ltd. Co., BGP., CNPC
15:50-15:55	2#	*#37*	Application of DAS-Walkaway VSP in ultra-deep complex structure area of Kuqa Depression, Tarim Basin	Tengyu Wang, Tarim Oilfield Company, PetroChina

10:10-10:30, Tuesday, 23 July 2024

Session: Field Applications and Application Studies

Session Chair:

10:10-10:15	**1#**	***#09***	Technical Analysis of joint borehole and surface seismic acquisition in the Shengli Exploration area using I-DAS system	Fengming Mu, Shengli Branch of Sinopec Petroleum Engineering Geophysics Co., Ltd.
10:15-10:20	**1#**	***#19***	Seismic acquisition method and experiment of helically wound HW fiber	Fengyu Tan, Optical science& technology Chengdu Ltd. Co., BGP., CNPC
10:20-10:25	**1#**	***#21***	New progress in the application of optical fiber sensing technology in unconventional oil and gas field development	Zhou Wei, Optical science& technology Chengdu Ltd. Co., BGP., CNPC
10:10-10:15	**2#**	***#22***	Application of distributed acoustic sensing VSP in open-hole well of deep shale gas	Yu Wang, Optical science& technology Chengdu Ltd. Co., BGP., CNPC
10:15-10:20	**2#**	***#40***	Differences in measurement results caused by different installation positions of fiber optic DAS	Cai Dahai, Guokan Research Institute
10:20-10:25	**2#**	***#45***	Application of Downhole Tubulars Leak Detection Method Based on Distributed Fiber Optics	Ping Liu, Changqing Branch of China national logging corporation
15:40-16:00, Tuesday, 23 July 2024 **Session: Monitoring/Downstream, Construction, Civil Engineering, Smart Cities/Environmental Monitoring** **Session Chair:**				
15:40-15:50	**1#**	***#39***	Joint DSS and DAS monitoring experiment for strain evolution during hydraulic fracturing process	Xin Huang, SINOPEC Petroleum Exploration and Production Research Institute
15:50-16:00	**1#**	***#17***	Distributed Fiber Optic Microseismic Response Characteristics in Fracture-Induced TTI Media	Yi Yao, Institute of Geology and Geophysics, Chinese Academy of Sciences
15:40-15:50	**2#**	***#10***	The meso-mechanical mechanism of the weak muddy intercalation reinforced via microwave irradiation	Yucheng Gu, Southwest Petroleum University
15:50-16:00	**2#**	***#07***	Thunder Observation Using Urban Telecom Optical Fiber Cable With Distributed Acoustic Sensing	Heting Hong, University of Science and Technology of China