SOCIETY OF EXPLORATION GEOPHYSICISTS

CNOOC BGP

SEG WORKSHOP 21-23 JULY 2024 Xi'an · China

SEG Workshop on Fiber Optics Sensing for Energy Applications

SEG 光纤传感技术在能源领域的应用研讨会

Official Program 会议手册

SOCIETY OF EXPLORATION GEOPHYSICISTS

国际勘探地球物理学家学会

SEG中国微信公众号

SEG 中国

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ATTENDING INSTRUCTION
参会须知

Registration 注册参会

Only registrants who have successfully finished the registration process are authorized to get access to the event venue with delegate badge and attend the workshop. Any questions, please email to china@seg.org

参会代表需在报到当天或之前完成注册，现场领取会议材料，凭参会代表证进入会场参会交流。

住宿及会议期间早餐代表自理，午晚餐由会议统一安排。酒店房间紧张，请务必提前预定。

如需协助，请联系会议邮箱：china@seg.org。

Onsite Registration 现场注册/报到

- Sunday, 21July, 09:00-18:00, Lobby, 1st Floor, Sheraton Xi’ an North City Hotel
- Monday, 22 July, 07:00-17:00, Lobby, 1st Floor, Sheraton Xi’ an North City Hotel
- Tuesday, 23 July, 07:00-17:00, Lobby, 1st Floor, Sheraton Xi’ an North City Hote
- 07月21日，周日，09:00-18:00，西安赛瑞喜来登大酒店，一层大堂
- 07月22日，周一，07:00-17:00，西安赛瑞喜来登大酒店，一层大堂
- 07月23日，周二，07:00-17:00，西安赛瑞喜来登大酒店，一层大堂

Onsite Tips 注意事项

The dining place of the buffet lunches & dinners is in Feast-All Day Dining Restaurant, 1st Floor, Sheraton Xi’an North City Hotel. Meal coupons will be required.

会议期间的自助午/晚餐地点：西安赛瑞喜来登大酒店一层，盛宴-全日餐厅。用餐时请出示午晚餐券。

All participants must wear the name badges to attend all the sessions.

会议期间，所有参会代表须佩戴胸卡入场。

To respect the copyright of all the presentations, any forms of sound, camera or video recordings are not allowed during the sessions.

为尊重报告的版权，会议所有报告期间禁止任何形式的录音、摄像及录影。

Brief Agenda 简明日程

Date 日期	Time 时间	Sessions 单元	Session Subject 单元主题	Location 地点
AM 22 July 2024 7月22日 上午	08:30-12:05	Session Ⅰ 单元Ⅰ	Opening Ceremony/Technical Co-chairs & Invited Speaker Presentation 开幕式/大会技术主席 & 特邀报告	Lin De Grand Ballroom, 1st Floor 麟德宴会厅 (酒店一层)
PM 22 July 2024 7月22日 下午	14:00-17:20	Session Ⅱ 单元Ⅱ	DAS Data Management, Processing and AI & Imaging and Monitoring DAS数据管理、处理和人工智能 & 成像与监测	
AM 23 July 2024 7月23日 上午	08:30-10:10	Session Ⅲ 单元Ⅲ	Advances in Fiber Optic Sensing (Interrogator, Fiber, Sensors & Conveyance) & Imaging and Monitoring 光纤传感技术进展 (调制解调器、光纤、传感器和传输) & 成像与监测	
	10:30-11:50	Session IV 单元 IV	Field Applications and Application Studies 现场应用和应用研究	
PM 23 July 2024 7月23日 下午	14:00-17:20	Session V	Field Applications and Application Studies 现场应用和应用研究	
22 July 2024 7月22日	15:40-16:00	Poster Session 张贴报告单元	Advances in Fiber Optic Sensing & DAS Data Management, Processing and AI 光纤传感技术进展 & DAS数据管理、处理和人工智能	
23 July 2024 7月23日	10:10-10:30		Field Applications and Application Studies 现场应用和应用研究	
	15:40-16:00		Monitoring/Downstream, Construction, Civil Engineering, Smart Cities/Environmental Monitoring 能源转型中的光纤/成像与监测/下游产业，建筑，土木工程，智慧城市/环境监测	

IMPORTANT CONTACT INFORMATION
重要联络方式

Meeting Venue
Sheraton Xi’ an North City Hotel
Add: No. 32 Yingbin Avenue, Weiyang Road, Xi'an City, Shaanxi Province, China
Tel: +86 (0) 29-8886 6888

会议地点
西安赛瑞喜来登大酒店
地址: 西安市未央路迎宾大道32号
电话: +86 029-8886 6888

Recommended Hotel
※ **Sheraton Xi'an North City Hotel**
Add: No. 32 Yingbin Avenue, Weiyang Road, Xi'an City, Shaanxi Province, China
Tel: +86 (0) 29-8886 6888
※ **Novotel Xi'an SCPG**
No.33 Weiyang Road, Weiyang District, Xi'an City, Shaanxi Province
Tel: +86 (0) 29-86699447
※ **Lavande Hotel (Xi'an Daming Palace Longshouyuan Subway Station)**
No.17, West Section, Longshou North Road, Weiyang District, Xi'an City, Shaanxi Province
Tel: +86 (0) 29-68291666

推荐住宿酒店
※ **西安赛瑞喜来登大酒店**
地址: 西安市未央路迎宾大道32号
电话: +86 029-8886 6888
※ **西安印力诺富特酒店**
地址: 西安市未央区未央路33号
电话: +86 029-8626 8888
※ **麗枫酒店 (西安大明宫龙首原地铁站店)**
地址: 西安未央区龙首北路西段17号
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TECHNICAL CO-CHAIRS
会议技术主席

Arthur C.H. Cheng

Arthur C.H. Cheng is the president of SEG (2023-2024), and an Adjunct Professor in the Earth, Environmental Science Programme at The Chinese University of Hong Kong. Prior to that, he was a Professor in the Department of Civil and Environmental Engineering, specializing in Petroleum Geosciences, at the National University of Singapore. Previously, he was Senior Manager for Acoustics and Borehole Seismics at Halliburton Technology, where he led the development of the Xaminer® Sonic Imager tool. He received a B.Sc. with Distinction in Engineering Physics from Cornell University in 1973, and a Sc.D. in Geophysics from MIT in 1978. He was one of the co-founders of the Earth Resources Laboratory at MIT in 1982 and was Project Leader of the MIT Borehole Acoustics and Logging Consortium until 1996, when he joined Western Atlas as Manager of Acoustic Science. He had also worked for Baker Atlas, Baker Hughes Inteq, SensorWise, and RockSolidImages in various managerial and consulting capacities.

He had published over 150 papers and 30 patents, with a number more pending. He has co-authored two books on borehole acoustics. His current research interests are rock physics modeling, quantitative seismic reservoir characterization, and near surface geophysics.

Arthur had served on several academic and industry positions through the years; he served as the Editor in Chief for Geophysics in 2023, and a member of the SEG Foundation Board of Directors for 11 years. He was named an Honorary Fellow by The Chinese University of Hong Kong in 2022, received the Honorary Membership Award from SEG in 2021, the Distinguished Technical Achievement Award from SPWLA in 2015, and the SPE Formation Evaluation Award in 2016.

Arthur C.H. Cheng 是 SEG国际勘探地球物理学家学会现任主席（2023-2024），也是香港中文大学地球与环境科学项目的兼职教授。在此之前，他曾是新加坡国立大学土木与环境工程系的教授，专攻石油地球科学。此前，他曾担任哈里伯顿技术公司声学与井孔地震资深经理，领导开发了Xaminer®声波成像工具。他于1973年在康奈尔大学获得工程物理学士学位，并于1978年在麻省理工学院获得地球物理学博士学位。他是1982年麻省理工学院地球资源实验室的联合创始人，并于1996年加入Western Atlas担任声学科学经理。他曾在Baker Atlas、Baker Hughes Inteq、SensorWise和RockSolidImages等公司担任各种管理和咨询职务。

他发表了150多篇论文和30项专利，还有更多的专利正在申请中。他与人合著了两本关于井孔声学的书籍，他目前的研究领域包括岩石物理建模、定量地震储层表征和近地表地球物理学。

Arthur在多个学术和行业岗位上任职多年；他于2023年担任《地球物理学》的主编，并在SEG基金会董事会任职11年。他于2022年被香港中文大学授予名誉院士称号，于2021年获得SEG荣誉会员奖，2015年获得SPWLA杰出技术成就奖，2016年获得SPE Formation Evaluation奖。

Mark E. Willis

Mark E. Willis is the Chief Scientific Advisor of Borehole Seismics at Halliburton. He is responsible for mentoring technologists, developing and promoting geophysical innovations, and fostering long-term client relationships. Prior to joining Halliburton in 2011, he worked in various research technology, supervisory and management positions at Mobil Oil, Cambridge GeoSciences, Massachusetts Institute of Technology Earth Resources Laboratory, and ConocoPhillips.

In his career, Mark has performed research and development in distributed acoustic sensing, VSP technology, deep sonic log imaging, fracture identification using seismic data (time lapse VSP, microseismics, and surface seismic scattering), interferometric imaging, Kirchhoff and reverse time depth migration, full waveform inversion, machine learning, velocity model building, and sonic waveform processing.

Mark holds a B.S. in Applied Math and Physics from the University of Wisconsin – Milwaukee and a Ph.D. in Geophysics from MIT. He has written more than 100 papers, publications, and presentations, and holds multiple patents. He is a member of the SEG, EAGE, SSA, SPWLA, and ASA.

Mark E. Willis 是哈里伯顿公司的井孔地震学首席科学顾问。他负责指导技术人员，开发和推广地球物理创新技术，并促进与客户的长期关系。在2011年加入哈里伯顿之前，他曾在Mobil Oil、Cambridge GeoSciences、麻省理工学院地球资源实验室和康菲石油公司等担任研究技术、监督和管理职位。

在他的职业生涯中，Mark 在分布式声学传感、VSP 技术、深部声波测井成像、利用地震数据进行裂缝识别（时移 VSP、微地震和地表地震散射）、干涉成像、Kirchhoff 和逆时深度偏移、全波形反演、机器学习、速度建模和声波波形处理等方面进行了研究和开发。

Mark 拥有威斯康星大学密尔沃基分校的应用数学和物理学学士学位，以及麻省理工学院的地球物理学博士学位。他撰写了100多篇论文、出版物和演讲，并拥有多项专利。他是 SEG、EAGE、SSA、SPWLA 和 ASA 的会员。

Gang Yu
余刚

Gang Yu serves as the Senior Technical Advisor to the General Manager of BGP and the Senior Technical Director at Optical Science and Technology (Chengdu) Ltd. He provides technical support to BGP's Optical Science & Technology Division and Non-Seismic Division, offering technical advice to projects of microseismic monitoring of hydraulic fracturing operation, distributed acoustic sensing (DAS) VSP survey and 3D VSP imaging, integrated shale gas reservoir characterization, marine MMT and CSEM, land MT and TFEM, borehole-to-surface TFEM, etc.

Dr. Gang Yu holds a B.Sc. (Exploration Geophysics) and a M.Sc. (Geophysical Instrumentation) from Chengdu University of Technology of China, and a Ph.D. (Applied Geophysics) from Macquarie University of Australia. He is an active member of the Society of Exploration Geophysicists (SEG), the European Association of Geoscientists and Engineers (EAGE), and Society of Petrophysicists and Well Log Analysts (SPWLA).

Dr. Gang Yu has more than 35 years of international experience of geophysics, petrophysics, marine MT and CSEM, borehole seismic and logging services for the petroleum applications, environment, groundwater, and mining industry. He led, coordinated, and participated in many advanced geophysical R&D projects, and have demonstrated excellent organizational, operational, business development, marketing, communication, and problem-solving skills.

余刚博士是 BGP总经理高级技术顾问及中油奥博高级技术总监，为BGP光学科技事业部和非地震事业部提供技术支持，为水力压裂微地震监测、分布式光纤声波传感（DAS）VSP测量和三维VSP成像、页岩气储层综合表征、海洋MT和CSEM、陆地MT和TFEM、井地TFEM等项目提供技术建议。

余刚博士拥有成都理工大学勘探地球物理学学士学位、地球物理仪器学硕士学位，以及澳大利亚麦考瑞大学应用地球物理博士学位。他是国际勘探地球物理学家学会（SEG）、欧洲地质学家与工程师学会（EAGE）、国际岩石物理学家与测井分析师学会（SPWLA）的活跃会员。

余刚博士拥有超过35年的地球物理、岩石物理、海洋 MT 和 CSEM、井孔地震和测井服务的国际经验，为石油应用、环境、地下水和采矿业服务。他领导、协调和参与了许多先进的地球物理研发项目，并表现出优秀的组织、运营、业务开发、营销、沟通和解决问题的能力。

Ge Jin
金戈

Ge Jin is an Assistant Professor in the Geophysics Department at Colorado School of Mines (Mines). Before joining Mines in 2019, he worked as a research geophysicist at ConocoPhillips in Houston. He obtained his B.S. and M.S. at Peking University, Beijing, China, and his Ph.D. at Columbia University, New York, USA, all in geophysics.

Jin has been an active member of SEG since 2014 after joining the industry. He has contributed to the community as an author, reviewer, and editor for Geophysics, Interpretation, and The Leading Edge. He has also organized several special issues for these journals. Since 2019, Jin has served on the SEG Research Committee, where he advocates and works towards improving the abstract format, poster, and workshop experience of The International Meeting for Applied Geoscience & Energy (IMAGE). Jin is also part of the Technical Committee of IMAGE and has been responsible for organizing Distributed Acoustic Sensing sections and post-conventional workshops in recent years.

Currently, Jin is a member of the SEG Transformation Task Force, where he is leading efforts to implement an SEG membership achievement tracking system. The system aims to provide online recognition of SEG members for their awards, leadership, and volunteer efforts, with a special focus on younger-generation geophysicists. Additionally, Jin is actively involved in student activities and mentors the student chapter at Mines. Jin was elected as an SEG Council member representing District 3 in 2023, and since then, he has been actively involved in the discussions in the Council meetings and work sessions.

金戈，科罗拉多矿业学院地球物理系的助理教授。在2019年加入矿院之前，他曾在休斯顿的康菲石油公司 (ConocoPhillips) 担任研究地球物理学家。他在北京大学获得学士和硕士学位，在哥伦比亚大学获得博士学位，专业为地球物理学。

自2014年加入地球物理行业以来，金戈一直是SEG的活跃会员。他通过担任Geophysics, Interpretation和The Leading Edge等杂志的作者、审稿人和编辑，为SEG社区做出了贡献，他还为这些期刊组织了几期特刊。自2019年以来，他一直担任SEG研究委员会委员，在这里他倡导并致力于改进《应用地球科学与能源国际会议》（IMAGE）的摘要格式、张贴报告和研讨会体验。金戈还是IMAGE的技术委员会成员，并负责组织分布式声学传感部分和后续常规研讨会。

目前，金戈是SEG转型工作组的成员，他正在领导实施SEG会员成就追踪系统的工作。该系统旨在为SEG会员的奖项、领导力和志愿者工作提供在线认可，特别关注年轻一代地球物理学家的职业发展。此外，金戈还积极参与学生活动，并指导矿院的学生分会。他于2023年当选为SEG第三区的理事会成员代表，自那以后，他一直积极参与理事会会议和工作会议的讨论。

Zuyuan He
何祖源

Zuyuan He received his Ph.D. degree from the University of Tokyo, Japan, and became a Research Associate of the University of Tokyo in 1999. In 2001, he joined CIENA Corporation, Maryland, USA, as a Lead Engineer heading the optical testing and optical process development group. He returned to the University of Tokyo as a Lecturer in 2003, then became an Associate Professor in 2005 and a full Professor in 2010. He is now a Chair Professor at the Department of Electronic Engineering, Shanghai Jiao Tong University, China. His current research interests include optical sensors, optical interconnects, and optical computing. He co-authored about 500 papers in peer-refereed journals and international conferences, and has been awarded about 50 patents from China, Japan, USA, and UK, respectively.

Dr. He is an OPTICA Fellow. He has served as TPC members in a variety of international conferences, such as CLEO, OFC, and OFS, and as the General Chair of Asia Communications and Photonics Conference (ACP) 2014 and Asia-Pacific Optical Sensors Conference (APOS) 2016, respectively, and worked as an Associate Editor of IEEE/OSA Journal of Lightwave Technology 2013-2019.

何祖源，国家特聘专家，上海交通大学讲席教授，光纤通信国家重点实验室主任，OPTICA Fellow。日本东京大学博士，历任东京大学助教、讲师、副教授、教授，曾任美国CIENA公司主任工程师。曾任OFC、CLEO、OFS等国际会议技术程序委员会委员，2014年亚洲通信与光子学国际大会（ACP2014）主席，2016年亚太光学传感国际大会（APOS2016）主席，IEEE/OSA Journal of Lightwave Technology期刊Associate Editor，国家重点基础研究发展计划（973计划）信息科学领域咨询专家。

2012年年回国以来承担了国家自然科学基金重大科学仪器研制专项、国家重点研发计划项目等重要科研项目。在光电子学领域国际期刊和学术会议上发表论文和学术报告500余篇，其中邀请论文和邀请报告数十篇。获授权日、美、英等国专利20余项，中国发明专利30余项。

Hongjun Lu
陆红军

Hongjun Lu, Professor-level Senior Engineer, 5th Editorial Board Member of the Chinese core journal "Drilling & Production Technology." He has long been engaged in research on enhanced recovery and drilling and completion technology for unconventional oil and gas reservoirs. He has successively served as Chief Engineer of the Oil and Gas Technology Research Institute and Director of the Engineering Technology Management Department in Changqing Oilfield Company. Lu has extensive research experience and management expertise in areas such as low-permeability sandstone gas, tight oil and gas reservoirs, and enhanced recovery in unconventional shale oil and gas reservoirs. He has participated in over 40 research projects and served as the project manager for the national major project "Development Demonstration Project of Large Low-Permeability Lithologic Oil and Gas Reservoirs" and deputy project manager for the major CNPC project "Key Technology Research for Enhancing Recovery of Tight Sandstone Gas Reservoirs." Many of the research outcomes have achieved international advanced levels in technical indicators, contributing significantly to the large-scale and efficient development of lacustrine interlayer-type shale oil and substantially increasing the single-well production of the Sulige tight gas field.

He has received 15 provincial and ministerial-level science and technology awards, including three first prizes or higher. He holds 53 authorized invention patents, including four international patents, and has published over 30 papers in the Chinese core journals. He has been honored with titles as Advanced Science and Technology Worker of the Changqing Oilfield Company, one of the Top Ten Outstanding Young Persons, Outstanding Communist Party Member, and "Outstanding Academic Leader."

陆红军，教授级高级工程师，中文核心期刊《钻采工艺》第五届编委。长期从事非常规油气藏增产改造和钻完井工艺技术研究工作。先后担任长庆油田分公司油气工艺研究院总工程师、工程技术管理部主任等职务。在低渗砂岩气、致密油气藏和非常规页岩油气增产改造及提高采收率领域具有丰富的科研经历与管理经验，先后承担参与科研项目40余项，并担任国家重大专项“大型低渗透岩性油气藏开发示范工程”课题经理和中石油集团公司重大专项“致密砂岩气藏提高采收率关键技术研究”项目副经理，形成的多项研究成果技术指标达到国际先进水平，为陆相夹层型页岩油规模效益开发及苏里格致密气大幅提高单井产量做出了重要贡献。

先后获省部级科技成果奖15项，其中一等及以上3项；获授权发明专利53件，其中国际专利4件；在核心期刊发表论文30余篇。曾获长庆油田公司先进科技工作者、十大优秀青年、优秀共产党员和“优秀学科带头人”等荣誉称号。

TECHNICAL COMMITTEE MEMBERSS
技术委员会委员

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Gulan Zhang	Southwest Petroleum University
Yu Zhang	BGP Research and Development Center
Zhengguang Zhao	University of Emergency Management
Jingjing Zong	University of Electronic Science and Technology of China
Tao Zhu	Chongqing University

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申和平	北京神州普惠科技股份有限公司
孙琪真	华中科技大学
王一博	中国科学院地质与地球物理研究所
吴迎辉	Silixa
杨明红	武汉理工大学
詹　葛	TGS-NOPEC Geophysical Company
张固澜	西南石油大学
赵争光	应急管理大学
宗晶晶	电子科技大学
朱　涛	重庆大学
Alex Nilot	Jilin University
Andre Franzen	PETRONAS
M Hafizal Mad Zahir	PETRONAS
Yu Zhang	BGP Research and Development Center

Above names are listed in alphabetical order.

以上按姓氏音序列

KEYNOTE PRESENTATION
特邀报告简介

KEYNOTE PRESENTATION 1

Title: Distributed Acoustic Sensing: challenges and opportunities
Time : 10:50-11:15am, 22 July 2024
Speaker: Yingping Li, BlueSkyDas LLC

Speaker Biography

Dr. Yingping Li currently holds the position of Chief Scientist at BlueSkyDas LLC and serves as an Adjunct Professor at the University of Houston. With an esteemed career spanning over 40 years, he has excelled as both a seismologist and a geophysicist, establishing himself as a Subject Matter Expert (SME) in Borehole Geophysics during his tenure at Shell. His expertise has been sought after by renowned institutions such as Stony Brook University, MIT, Baker Hughes, and Shell itself. Dr. Li's current research is centered on Distributed Acoustic Sensing (DAS) technology and its diverse applications. Notably, he has taken on the role of Lead Editor for AGU Monograph 286 titled "Distributed Acoustic Sensing in Geophysics," a publication available through Wiley/AGU since 2021. Additionally, he has organized or co-organized various DAS sessions and workshops for AGU, EAGE, and SEG. He earned his B.S. in Geophysics from the University of Science and Technology of China (USTC) in 1982, followed by an M.S. in Seismology from the Institute of Geophysics of the Chinese Seismological Administration (IGCSA) in 1984. He completed his PhD in Geophysics at Stony Brook University in New York in 1992. Dr. Li is a life member of AGU and SEG.

李应平博士目前担任蓝天达斯（BlueSkyDas LLC）公司研究员，并兼任休斯顿大学客座教授。他拥有超过40年的职业生涯，在地震学和地球物理学领域取得了优异成绩，并在壳牌（Shell）公司任职期间成为井孔地球物理学的主题专家。他的专业知识备受知名机构如纽约州立石溪大学、麻省理工学院、贝克休斯公司以及壳牌公司的青睐。李博士目前的研究重点是分布式声学传感（DAS）技术及其多样化应用。他担任了AGU（美国地球物理联合会）286号专著《地球物理中的分布式声学传感》的主编一职，该出版物于2021年由Wiley/AGU发表。此外，他还组织或协助组织了AGU、EAGE、和SEG等机构的多个DAS专题会议和研讨会。1982年，他获得中国科学技术大学（USTC）地球物理学学士学位，1984年获得中国地震局地球物理研究所（IGCSA）地震学硕士学位，1992年在纽约州立石溪大学（SUNY @ Stony Brook）获得地球物理学博士学位。李博士是AGU和SEG的终身会员。

KEYNOTE PRESENTATION 2

Title : Development and Application of Distributed Acoustic Sensor Based on Precision Laser Spectroscopy Technology
Time : 11:15-11:40am, 22 July 2024
Speaker : Baoshan Wang, University of Science and Technology of China (USTC)

Speaker Biography

Baoshan Wang is a professor at the School of Earth and Space Sciences, University of Science and Technology of China (USTC). He received his Ph.D. degree in geophysics from USTC in 2003 and worked at Rice University as a postdoctoral researcher from 2008 to 2009. Baoshan's main research interests are the development of Distributed Optic-Fiber Sensing (DOFS) techniques and adopting the DOFS techniques in seismic observations and subsurface imaging under various conditions. He is a council of the Seismological Society of China and the deputy Editor-in-Chief of the journal "Earthquake Research Advances". He has published more than 100 papers in journals such as Nat. Comm., EPSL, JGR, and served as a reviewer for journals such as GRL, JGR (Excellence in Refereeing 2019), and BSSA.

王宝善，中国科学技术大学博士生导师，国务院政府特殊津贴获得者，中国地球物理学会理事，中国地震学会理事，《Earthquake Research Advances》杂志执行副主编。 2003年毕业于中国科学技术大学，获理学博士学位。主要从事地球内部精细结构及其精细变化，新型地震观测技术等方面的研究。2012年获得国家自然科学基金委优秀青年基金资助。负责过重点研发计划(国际合作)项目，自然基金重大项目课题、基金面上、国际(地区)合作项目，地震行业专项等项目。曾获赵九章中青年科学奖、中国地球物理学会科技进步一等奖等奖励。在 NC、EPSL、JGR、GJI、BSSA、Geophysics、SRL等期刊发表100余论文，是JGR（2019年度JGR-solid earth 优秀审稿人），GRL, GJI, SRL, JAES, Geophysics, Scientific Reports, Geoscience Journal, 中国科学等杂志审稿人。

KEYNOTE PRESENTATION 3

Title : How to obtain subsurface images with extensive lateral areal coverage using 3D DAS-VSP: mirror migration, multiple migration, and well-surface joint imaging?
Time : 11:40am-12:05pm, 22 July 2024
Speaker : Zhengzheng Zhou, BGP International

Speaker Biography

Zhengzheng (Joe) Zhou graduated from Rice University in 1996 with MSc in physics. He worked at NuTec as R&D Manager, and at ION Geophysical as Chief Geophysicist. He has been with BGP International for eleven years as Houston R&D Center Manager. Throughout his career Zhou has made major contributions in areas such as Wave Equation Migration, Reverse Time Migration, and broadband processing.

周铮铮于1996年毕业于莱斯大学，获得物理硕士学位。他有着丰富的职业经历，曾在NuTec担任研发经理，在ION Geophysical任首席地球物理学家。他现在在BGP国际公司工作，担任休斯顿研发中心经理已有11年之久。在他的职业生涯中，他在波动方程偏移、反演时间偏移和宽频处理领域做出了开创性的贡献。

MEETING SCHEDULE
会议日程

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**	
08:35-08:40	**Opening Address**	
08:40-08:45	**Opening Address**	
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	Title	Speaker
14:00-14:20	**DASEventNet: a Deep Learning Tool for DAS Microseismic Event Detection**	*Tieyuan Zhu, Pennsylvania State University*
14:20-14:40	**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	**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	**Multi-cascade Aggregation Network for Simultaneous Denoising and Reconstruction of DAS-VSP Data**	*Ming Cheng, Jilin University*
15:20-15:40	**Technology Showcase: Technology Showcase - Sensori® Fracture Monitoring System--Subsurface insights to optimize fracture performance**	*Halliburton*
15:40-16:00	**Break & Poster Presentation**	
16:00-16:20	**Deep Learning-Based VSP Velocity Model Building Using First Arrival Traveltime**	*Wen Yang, BGP Inc, CNPC*
16:20-16:40	**Distributed Gas-Liquid Two-phase Flow Monitoring Method**	*Keqing Zhang, Huazhong University of Science and Technology*
16:40-17:00	**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	Title	Speaker
08:30-08:50	**Integrated application of DAS VSP & 3D surface seismic in reservoir description**	*Yijun Zhou, Xi'an geophysical exploration branch, BGP*
08:50-09:10	**Discussion on the application of fiber optic sensors in corrosion monitoring in oil fields**	*Qiongwei Li, Oil and Gas Technology Research Institute, PetroChina Changqing Oilfield Company*
09:10-09:30	**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	**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	**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	**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	**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	**Cross Well Communication Evaluation with first Cement-in Fiber at Qingcheng Shale Oil HFTS**	*Jie Tang, Halliburton*
11:30-11:50	**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	Title	Speaker
14:00-14:20	**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	**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	**Application of 3D DAS-VSP in Junggar Basin, Western China**	*Zhidong Cai, Optical Science and Technology Ltd. CNPC*
15:00 -15:20	**Production profiling of fractured horizontal well in tight oil reservoir from distributed temperature sensing**	*Hongwen Luo, Southwest Petroleum University*
15:20-15:40	**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	**Strain Response Pattern of Inclined Fractures for Offset Well LF-DAS Monitoring**	*Weibo Sui, China University of Petroleum (Beijing)*
16:20-16:40	**Comparative analysis of spiral fiber DAS data and three-component geophone data for engineering geological exploration**	*Zhongzhi Li, Shandong University*
16:40-17:00	**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	**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	No.	Title	Speaker
15:40-15:45	1#	P01	**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#	P02	**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#	P03	**Monte Carlo non-negative dictionary learning method for distributed acoustic sensing data denoising**	*Yang Zeng, Yangtze University*
15:40-15:45	2#	P04	**Deep residual neural network with patch learning for denoising DAS data**	*Gui Chen, China University of Petroleum Beijing*
15:45-15:50	2#	P05	**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#	P06	**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#	P07	**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#	P08	**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#	P09	**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#	P10	**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#	P11	**Differences in measurement results caused by different installation positions of fiber optic DAS**	*Cai Dahai, Guokan Research Institute*
10:20-10:25	2#	P12	**Application of Downhole Tubulars Leak Detection Method Based on Distributed Fiber Optics**	*Dong Li, Geological Research Institute 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#	P13	**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#	P14	**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#	P15	**The meso-mechanical mechanism of the weak muddy intercalation reinforced via microwave irradiation**	*Yucheng Gu, Southwest Petroleum University*
15:50-16:00	2#	P16	**Thunder Observation Using Urban Telecom Optical Fiber Cable With Distributed Acoustic Sensing**	*Heting Hong, University of Science and Technology of China*

MEETING SCHEDULE
会议日程

现场注册		
21 July, 2024	09:00-18:00	现场注册
	16:00-16:30	分单元主席会议
22 July, 2024	07:00-17:00	现场注册
23 July, 2024	07:00-17:00	现场注册

2024年7月22日，周一，上午

会场：麟德宴会厅（酒店一层）
单元一：开幕式/大会技术主席 & 特邀报告
开幕式主持人：
单元主席：

时间	题目	报告人
08:30-08:35	开幕致辞-	
08:35-08:40	开幕致辞	
08:40-08:45	开幕致辞	
08:45-09:10	大会技术主席报告1: 中东井-海VSP和OBN联采的三维DAS-VSP数据的成像处理	余刚
09:10-09:35	大会技术主席报告2: 分布式应变传感在非常规油气藏开发中的应用	金戈
09:35-10:00	大会技术主席报告3: 光纤分布式声波传感器的集成化与智能化	何祖源
10:00-10:25	**集体合照，茶歇**	
10:25-10:50	大会技术主席报告4: 光纤传感技术在鄂尔多斯盆地的应用实践与展望	陆红军
10:50-11:15	特邀报告 1: 分布式声学传感：挑战与机遇	李应平 (线上)
11:15-11:40	特邀报告 2: 基于精密激光谱学技术的分布式声波传感设备研发和应用	王宝善
11:40-12:05	特邀报告 3: 如何使用 3D DAS-VSP 获取具有宽横向覆盖的地下成像结果：镜像偏移、多重偏移和井-地表联合成像？	周铮铮
12:05-13:00	**午餐**	

2024年7月22日，周一，下午

主会场：麟德宴会厅（酒店一层）
单元二：DAS数据管理、处理和人工智能 & 成像与监测
单元主席：

时间	题目	报告人
14:00-14:20	DASEventNet：用于DAS微地震事件检测的深度学习工具	Tieyuan Zhu，宾夕法尼亚州立大学
14:20-14:40	基于联合无监督去噪和分类网络的水力压裂分布式光纤微地震事件检测	武绍江，中科院地质与地球物理研究所油气资源研究院重点实验室
14:40-15:00	基于DAS交通噪声的干涉法面波提取	邵婕，中国科学院地质与地球物理研究所
15:00-15:20	基于多尺度聚合网络的DAS-VSP数据同时去噪与重建	程明，吉林大学
15:20-15:40	**企业技术推介：** 哈里伯顿 Sensori®光纤压裂监测系统介绍	哈里伯顿
15:40-16:00	**茶歇，张贴报告**	
16:00-16:20	基于深度学习的VSP初至旅行时速度建模方法	杨雯，中国石油集团东方地球物理勘探有限责任公司
16:20-16:40	一种分布式气液两相流监测方法	张克清，华中科技大学
16:40-17:00	基于Transformer的DAS-VSP记录大间隔插值方法	董新桐，吉林大学
17:00-17:20	**企业技术推介：** 基于DAS的下一代高分辨率地震采集装备系统	中国电子科技集团公司第二十三研究所

024年7月23日，周二，上午

会场：麟德宴会厅（酒店一层）
单元三：光纤传感技术进展（调制解调器、光纤、传感器和传输）& 成像与监测
单元主席：

时间	题目	报告人
08:30-08:50	DAS VSP和三维地面地震技术在储层描述中的综合应用	周义军，中石油东方地球物理公司研究院长庆分院
08:50-09:10	光纤传感器在油田内腐蚀监测应用的探讨	李琼玮，中石油长庆油田油气工艺研究院
09:10-09:30	基于标尺长度平均成本函数的DAS光纤数据波形反演的速度-应变公式	*Wei Zhou, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabi*
09:30-09:50	利用光纤分布式声波传感DAS阵列确定水力压裂微地震事件的矩张量解	赖浩宇，中科院地质与地球物理研究所油气资源研究重点实验室
09:50-10:10	城市地区纵横波可控震源的分布式光纤和检波器信号比较分析	郑忆康，中科院地质与地球物理研究所油气资源研究重点实验室
10:10-10:30	**茶歇，张贴报告**	
单元四：现场应用和应用研究 **单元主席：**		
10:10-10:30	LFDAS测量：监测四川盆地龙马溪组水力压裂中的裂缝发育的地质洞察	*Xiaosong Fu, IFDATA LLC*
10:50-11:10	分布式光纤传感技术在页岩油藏生产优化中的应用	刘江波，中国石油长庆油田分公司油气工艺研究院、低渗透油气田勘探开发国家工程实验室
11:10-11:30	固井光纤在庆城页岩油矿场实验室监测井间沟通的首次应用	唐杰，哈里伯顿中国能源服务有限公司
11:30-11:50	单模分布式光纤在水平井检测中的应用	杨坚强，克拉玛依先博技术创新与孵化有限公司

2024年7月23日，周二，下午

会场：麟德宴会厅（酒店一层）
单元五：现场应用和应用研究
单元主席：

时间	题目	报告人
14:00-14:20	利用DAS数据定量计算水力压裂进液量和进砂量的不确定性分析	赵争光，华北科技学院
14:20-14:40	基于uDAS的三维井地联采剩余储量挖潜研究-以长庆油田塞6油藏为例	任佳伟，中石油长庆油田分公司油气工艺研究院
14:40-15:00	3D DAS-VSP在中国西部准噶尔盆地的应用	蔡志东，中油奥博（成都）科技有限 公司
15:00 -15:20	基于分布式温度传感的致密油藏压裂水平井产出剖面解释	罗红文，西南石油大学
15:20-15:40	分布式光纤传感技术在生产测井中的应用：长庆油田实践概述	刘平，中国石油集团测井有限公司长庆分公司
15:40-16:00	**茶歇，张贴报告**	
16:00-16:20	倾斜裂缝邻井低频DAS监测应变响应模式研究	隋微波，中国石油大学（北京）石油工程学院
16:20-16:40	工程地质探测中螺旋光纤DAS数据与三分量检波器数据的对比分析	李忠治，山东大学岩土与结构工程研究中心
16:40-17:00	非常规油气藏中光纤产液剖面测试的进展	张昊，中油奥博（成都）科技有限公司
17:00-17:20	DAS监测盾构隧道	方刚，山东大学
17:20-17:40	**闭幕式 & 颁奖**	

张贴报告

2024年7月22日，周一，15:40-16:00
单元主题：光纤传感技术进展 & DAS数据管理、处理和人工智能
单元主席：

时间	显示屏编号	编号	题目	汇报人
15:40-15:45	1#	P01	基于弱光栅光纤的高灵敏声波远探测系统	贺全龙，中国石油集团测井有限公司测井技术研究院
15:45-15:50	1#	P02	光纤井中地震技术在沁水盆地CCUS中的应用研究	付检刚，中油奥博（成都）科技有限 公司
15:50-15:55	1#	P03	蒙特卡洛非负字典学习方法用于分布式声学传感数据去噪	曾阳，长江大学油气资源与勘探技术教育部重点实验室
15:40-15:45	2#	P04	用于DAS数据去噪的基于补丁学习策略的深度残差神经网络	陈桂，中国石油大学(北京)
15:45-15:50	2#	P05	基于分布式光纤DAS的水平井注入剖面监测及处理解释研究	李沁泽，中油奥博（成都）科技有限 公司
15:50-15:55	2#	PO6	DAS-Walkaway VSP在塔里木盆地库车坳陷超深双复杂区的应用研究	王腾宇，中国石油天然气股份有限公司塔里木油田公司
2024年7月23日，周二，10:10-10:30 **单元主题：现场应用和应用研究** **单元主席：**				
10:10-10:15	1#	P07	胜利探区I-DAS井地联采技术分析	牟风明，中国石化地球物理公司胜利分公司
10:15-10:20	1#	P08	螺旋缠绕光缆地震采集方法和试验	谭丰羽，中油奥博（成都）科技有限 公司

10:20-10:25	1#	P09	光纤传感技术在非常规油气田开发中的应用新进展	周慰，中油奥博（成都）科技有限 公司
10:10-10:15	2#	P10	光纤VSP在深层页岩气裸眼井中的应用	王渝，中油奥博（成都）科技有限 公司
10:15-10:20	2#	P11	光纤DAS安装位置不同导致的测量结果差异	蔡大海，国勘研究院
10:20-10:25	2#	P12	基于分布式光纤的井下管柱找漏方法应用	李栋，中国石油集团测井有限公司地质研究院
2024年7月23日，周二，15:40-16:00 **单元主题：能源转型中的光纤/成像与监测/下游产业，建筑，土木工程，智慧城市/环境监测** **单元主席：**				
15:40-15:50	1#	P13	大尺寸真三轴水力压裂光纤DSS与DAS联合应变监测实验	黄鑫，中国石油化工股份有限公司石油勘探开发研究院
15:50-16:00	1#	P14	裂缝诱导TTI介质中的分布式光纤微震响应特征	姚艺，中科院地质与地球物理研究所
15:40-15:50	2#	P15	微波加固边坡软弱泥化夹层细观力学机理研究	辜钰程，西南石油大学
15:50-16:00	2#	P16	基于城市通讯光缆的DAS观测	洪鹤庭，中国科学技术大学

TECHNOLOGY SHOWCASE
技术推介

HALLIBURTON
哈里伯顿

Tuesday, 22 July 2024
15:20-15:40.....TECHNOLOGY SHOWCASE: Technology Showcase - Sensori® Fracture Monitoring System--Subsurface insights to optimize fracture performance
2024年7月22日，星期二
15:20-15:40.....企业技术推介：哈里伯顿 Sensori®光纤压裂监测系统介绍

The 23rd Research Institute of China Electronics Technology Group Corporation
中国电子科技集团公司第二十三研究所

Tuesday, 22 July 2024
17:00-17:20.....TECHNOLOGY SHOWCASE: Next-Generation High-Resolution Seismic Acquisition Equipment System Based on Fiber Optic Sensing
2024年7月22日，星期二
17:00-17:20.....企业技术推介：基于光纤传感的下一代高分辨率地震采集装备系统

SmartFleet® Fracture Monitoring System
哈里伯顿SmartFleet®光纤压裂监测系统

HALLIBURTON

ABOUT HALLIBURTON 公司简介

Founded in 1919, Halliburton is one of the world's leading providers of products and services to the energy industry.
Halliburton create innovative technologies, products, and services that help our customers maximize their value throughout the life cycle of an asset and advance a sustainable energy future.

哈里伯顿公司成立于 1919 年，是全球能源领域产品和服务的主要供应商之一。公司致力于提供创新的技术、产品和服务，帮助客户在油气井的全生命周期内实现价值最大化，并推动可持续能源未来的发展。

ABOUT SmartFleet® SmartFleet®光纤压裂监测系统介绍

During stimulation, you want every stage to count, but do you know how effective your frac program is? With core acreage diminishing and parent-child interference increasing, subsurface insight over what is taking place down hole has never been more important. With limited subsurface insight, making improvements to optimize completions takes time, and typically a high well count. To make every stage count, the SmartFleet® fracture monitoring system gives you real-time access to subsurface measurements with downhole fiber optical cable, while providing live visualization of fracture performance across every stage. This intelligence while fracturing helps you eliminate subsurface blind spots for more dynamic decision-making—so you can stop sacrificing value and start improving returns.

在水力压裂过程中，每一段的改造都很重要，但您对改造的有效性了解多少呢？随着核心区块面积减少及子母井干扰等情况的增加，充分了解压裂井井下动态变得尤为重要。如果对井下情况了解有限，往往需要大量时间和井次去验证改进优化完井措施的有效性。哈里伯顿SmartFleet® 压裂监测系统能够让您通过光纤实时获取井下测量数据，实时量化显示每一段的压裂改造情况，让每一段都贡献价值。同时，能够帮您消除井下盲点，做出更灵活的决策，避免低效的价值牺牲，快速增加回报。

The SmartFleet system provides real-time visualization of fracture measurements, cluster uniformity and well interactions.
SmartFleet®系统可实时同步展示压裂动态、簇间改造均一性和井间干扰情况。

To learn more about the SmartFleet system contact your local stimulation expert or visit us on the web at www.halliburton.com.
如果您想了解更多可以随时咨询哈里伯顿的客户代表或访问我公司网站www.halliburton.com。

EXHIBITION
展览

Exhibit Hours 展览时间

08:30-17:30, Monday, 22 July 7月22日 星期一 08:30-17:30
08:30-17:30, Tuesday, 23 July 7月23日 星期二 08:30-17:30

Exhibitors List (in order of booth #)
参展商名单(按展位号排序)

Optical Science & Technology (Chengdu) Ltd. 中油奥博（成都）科技有限公司	Booth 01
NINGBO ALLIANSTREAM PHOTONICS TECHNOLOGY CO., LTD. 宁波联河光子技术有限公司	Booth 02
Xi'an Changqing Tongxin Pe/troleum Technology Co., Ltd. 西安长庆同欣石油科技有限公司	Booth 03
Jiangsu Huaneng Cable Co., Ltd. 江苏华能电缆股份有限公司	Booth 06
The 23RD Research Institute of China Electronics Technology Group Corporation 中国电子科技集团公司第二十三研究所	Booth 07
APSENSING（Shanghai）Co, Ltd. 安尔普传感技术(上海)有限公司	Booth 08
Beijing Appsoft Technology Co., Ltd. 北京神州普惠科技股份有限公司	Booth 09
Karamay Xianbo Technology innovation and incubation Co., LTD. 克拉玛依先博技术创新与孵化有限公司	Booth 10
China National Logging Company (CNLC) 中国石油集团测井有限公司	Booth 11
OptaSoft (Beijing) Technology Co., Ltd. 光软（北京）科技有限责任公司	Booth 12

中油奥博（成都）科技有限公司
Optical Science & Technology (Chengdu) Ltd.

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中油奥博（成都）科技有限公司
Optical Science and Technology (Chengdu) Ltd.

Booth#01

Optical Science & Technology (Chengdu) Ltd is a high-tech company controlled by BGP Inc., CNPC and provides borehole geophysical technology services with distributed optical fiber sensing technology as its core. We are mainly engaged in the R & D and manufacturing of uDAS®, the R & D of downhole optical fiber deployment technology and devices, borehole seismic acquisition, processing and interpretation, software development and technical services, oil & gas reservoir geophysics and long-term dynamic monitoring, oil & gas pipeline networks, culverts, landslide safety monitoring technologies and service business. The leading product uDAS® has independent intellectual property rights, has obtained a number of patents and certifications，reached the international leading level. In 2019, uDAS® was selected into the National "13th Five-Year Plan" Scientific and Technological Achievements Exhibition. Applied for 218 patents, registered four software copyrights and three proprietary technologies. Participated in the compilation of two industry standards, and four enterprise standards, and won 1St prize for technical inventions from the Chinese Optical Engineering Society, One gold medal from the first "Golden Sui Award". One 1st prize of Science and Technology Progress Award of China Geophysical Society.

In 2020, we have been recognized as a national high-tech enterprise; selected as a "Science and Technology Reform Demonstration Enterprise" by the State-owned Assets Supervision and Administration Commission of the State Council; an Enterprise Technology Center in Sichuan Province; and a national Certification of first-level intellectual property advantage demonstration enterprise; demonstration project of large-scale transformation of major scientific and technological achievements of CNPC.

中油奥博（成都）科技有限公司是由中国石油集团东方地球物理勘探有限责任公司控股，以分布式光纤传感技术为核心的井中地球物理技术服务的高科技公司。公司主要从事uDAS®研发与制造,井中光纤布设工艺与装置研发,井中地震采集、处理、解释以及软件开发与技术服务，油藏地球物理与长期动态监测，油气管网、涵洞、滑坡安全监测等技术与服务业务。主导产品uDAS®分布式光纤传感地震仪具有自主知识产权，在多项关键技术上有突破，达到国际领先水平。2019年该技术入选国家“十三五”科技成就展。申请专利218件，登记软件著作权4项、专有技术3项，参与编写行业标准2项、企业标准4项，获得中国光学工程学会技术发明一等奖1项、首届“金燧奖”金奖1项，中国地球物理学会科技进步奖一等奖1项。

2020年先后被认定为国家高新技术企业；入选国资委“科改示范企业”；四川省“专精特新”企业；四川省企业技术中心；国家级知识产权优势示范企业认定；中石油集团重大科技成果规模化转化示范项目。

宁波联河光子技术有限公司
NINGBO ALLIANSTREAM PHOTONICS TECHNOLOGY CO., LTD.

地址：浙江省宁波市奉化区汇明路98号经济开发区千人创业园6幢1号
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电话：+86 (0574)-59552229

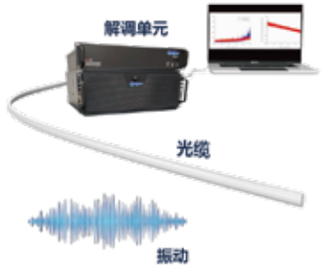
AllianStream 联河光子

Booth#02

NINGBO ALLIANSTREAM PHOTONICS TECHNOLOGY CO., LTD. is a high-tech enterprise founded by the Intelligent Photonics Research Center of the State Key Laboratory of Optical Fiber Communication of Shanghai Jiao Tong University, in strict accordance with the relevant regulations of the State on the encouragement of scientific and technological achievements, as the Shanghai Jiao Tong University scientific and technological achievements of the implementation of the project and the completion of the high-tech enterprises.

Distributed Acoustic Sensing (DAS) is a new technology that has revolutionized seismic acquisition in recent years. Compared with traditional acquisition system, DAS has the advantages of withstanding harsh environments, ease of deployment and long distance continuous measurements. It can be permanently deployed underground, providing high-resolution data with large spatial coverage. It has proved to be an efficient and cost effective acquisition tool for natural earthquake observations, urban activity monitoring, and hydrocarbon exploration.

宁波联河光子技术有限公司是依托上海交通大学光纤通信国家重点实验室智能光子学研究中心，严格依照国家关于鼓励科技成果转化的相关法规，作为上海交通大学科技成果完成人实施项目而创建的高科技企业。



分布式光纤声波传感系统(Distributed Acoustic Sensing，DAS)是近年来迅速发展的新型地震数据采集系统。与传统地震检波器相比，DAS具有耐受恶劣环境，易实现大区域高密度观测等优点。

DAS系统可以永久布设于地下，易实现大区域、高密度观测，具有较强抗干扰能力，随需求选择 DAS空间采样率，实现超高密度的动态监测，在天然地震观测、城市活动监测以及油气勘探领域具有很大潜力。

西安长庆同欣石油科技有限公司
Xi'an Changqing Tongxin Pe/troleum Technology Co., Ltd.

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Booth#03

Xi'an Changqing Tongxin Pe/troleum Technology Co., Ltd. was established on September 14, 2022, with a registered capital of 510 million yuan. It is held 51% by Wuhu Changdong Investment Center, a subsidiary of China Great Wall Asset Management Corporation under the Ministry of Finance, and 49% by China National Petroleum Corporation Changqing Oilfield Company. This is the first successful case of a mixed-ownership reform within CNPC through capital increase and share expansion to introduce external investors.

The company primarily engages in petroleum and natural gas technology services, production of oilfield chemical additives, pipeline inspection, pipeline anti-corrosion and surface construction engineering, mechanical product processing and manufacturing, information system integration services, network technology services, and emerging energy technology research and development. It has signed strategic agreements and patent implementation licenses with research institutes such as the Changqing Oilfield Oil and Gas Process Research Institute and the Exploration and Development Research Institute, promoting the transformation of scientific and technological achievements, sharing core results, and providing technical support for the efficient advancement of the technology industry.

西安长庆同欣石油科技有限公司成立于2022年9月14日，注册资金5.1亿元。由财政部旗下中国长城资产芜湖长栋投资中心持股51%，中国石油集团长庆石油勘探局有限公司持股49%，是中石油首个以增资扩股形式引入外部投资者的混合所有制改革成功案例。

主要从事石油与天然气技术服务、油田化学助剂生产、管道检测、管道防腐与地面建设工程、机械产品加工制造、信息系统集成服务、网络技术服务、新兴能源技术研发等业务。与长庆油田油气工艺研究院、勘探开发研究院等科研单位签署战略协议、专利实施许可，推动科技成果转化，共享核心成果，为科技产业高效推进提供技术保障。

江苏华能电缆股份有限公司
Jiangsu Huaneng Cable Co., Ltd.

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Booth#06

Jiangsu Huaneng Cable Co.,Ltd. focus on cable manufacturing over 50 years. We are industrial standard constitutor of Wireline Logging Cable in China. Since 1997, through technology introduction, digestion, absorption and re innovation, Huaneng company has achieved a perfect transformation from industry followers to industry leaders, has kept the pursuit of product quality for over 50 years, and provided the best quality and cost-effective products for the field of energy exploration and development in China.

With cable sizes of industry standards, Huaneng's fiber optic products are compatible with standard electrical pipeline pressure control equipment,single-core casing well logging tools, and cabletraction equipment. They can be either deployed in inclined shafts or horizontal wells, pumped or towed downwards.

Distributed fiber optic sensing wireline cable products can be used to detect temperature, monitor wellbore activity throughout the entire cable length, and can also be used for remote sensing directional fiber optic sensors, such as pressure transducer or strain transducer, with the combination of distributed acoustic sensing (DAS) and distributed temperature sensing (DTS) methods, it can be used to measure weak signal strain and microseismic events between wells, and obtain high-quality logging data.

江苏华能电缆股份有限公司是有着50年电缆生产历史的国家高新技术企业,是油气井用承荷探测电/光缆行业标准制定者。从1997年起，通过技术引进、消化、吸收与再创新，华能公司实现了从行业追随者到行业领军者的蜕变，保持着五十多年如一日精益求精的对产品品质的追求，为我国的能源勘探和开发领域提供高品质、高性价比的产品。

华能的光纤产品采用行业标准的电缆尺寸，可与标准电气管线压力控制设备、单芯套管井测井工具以及电缆牵引设备相兼容。可以部署在斜井或水平井中，可以向下泵送或牵引。

分布式光纤传感承荷探测电缆产品可以用来探测温度，监听整个电缆长度的井筒活动，也可以用来遥测指向光纤传感器，如压力传感器或应变传感器等；应用分布式声学传感系统(DAS)和分布式温度传感测量系统(DTS)相结合的方法，能够测量井间弱信号应变和微地震事件，获取高质量的测井数据。

中国电子科技集团公司第二十三研究所
The 23RD Research Institute of China Electronics Technology Group

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中国电子科技集团公司第二十三研究所
THE 23RD RESEARCH INSTITUTE OF CHINA ELECTRONICS TECHNOLOGY GROUP CORPORATION

Booth#07

The 23rd Research Institute of China Electronics Technology Group Corporation, established in January 1963, is the largest specialized research institute in China focused on the study and application of optical and electrical information transmission lines and fiber optic sensing.

We have long been dedicated to the research and development of seismic exploration equipment systems based on fiber optic sensing technology. In the field of onshore geophysical exploration, the institute has developed a high-density ground seismic acquisition system (FGS) based on distributed helical wound cable and Distributed Acoustic Sensing (HWC-DAS). For marine geophysical exploration, we developed a DAS-based high-density marine seismic fiber towed cable acquisition system (FTS) u. Additionally, We offer mature solutions with permanently embedded fiber optic sensors for monitoring the full lifecycle of oil reservoirs and carbon sequestration.

We Institute look forward to collaborating with oil companies, geophysical companies, and related universities to further advance the application and development of fiber optic sensing in the field of geophysics. We aim to lead the next generation of high-resolution seismic exploration technology and welcome all opportunities for cooperation.

中国电子科技集团公司第二十三研究所成立于1963年1月，是国内最大的专业研究光、电信息传输线及光纤传感应用的研究所。

23所长期致力于基于光纤传感技术的地震勘探装备体系研发。在陆上物探方面，23所研发了基于分布式螺旋光缆和分布式声学传感(HWC-DAS)的高密度地面地震采集系统（FGS）；在海洋物探方面，23所研发了基于DAS的小道距高密度海洋地震拖缆地震采集系统（FTS）；在油藏全生命周期监测和碳封存监测方面，23所提供永久埋置光纤传感器的成熟解决方案。

23所期待与油田公司、地球物理公司及相关高校科研工作者合作，进一步推动光纤传感在地球物理领域中的应用与发展，引领下一代高分辨率地震勘探技术，欢迎合作。

安尔普传感技术（上海）有限公司
APSENSING （Shanghai） Co, Ltd.

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AP SENSING
advanced photonic

Booth#08

Our Mission: A passionate focus on people and on customer needs ensures our continued success. We stand for expertise and quality, with highly-qualified and committed employees, worldwide offices, and a network of expert regional partners. AP Sensing is "Leading the Way with Passion."

Our Values: We strive to continually improve our 35+ year HP/Agilent heritage in optical test leadership. Our employees and partners have a talent for innovation. With the industry's most complete set of tests and certifications, we will continue to set industry standards and strive to be the best possible partner for you.

安尔普传感技术(上海)有限公司是隶属于德国AP SESNING GmbH在中国的全资子公司。AP SENSING的历史可以追溯到惠普，惠普成立于1939年，是一家测试和测量公司，惠普的电子测量仪器部门于1999年从惠普公司独立成为安捷伦科技有限公司，是全球最大的仪器仪表公司。APSENSING专注于光纤传感在线测量仪器的研发，生产和市场。

APSENSING提供DTS、DAS、DSS三大系列光纤传感系统，提供包括传感仪器、配套软件、工程管理、数据解释等油气藏和地震勘探的整体配套服务。

北京神州普惠科技股份有限公司
Beijing Appsoft Technology Co., Ltd.

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Booth#09

Beijing APPSOFT Technology Co., LTD. (APPSOFT), founded in 2003, is a state-level specialized and innovative "Little Giant" enterprise supported by the Ministry of Industry and Information Technology. The company has long been based on optics, optical fiber sensing, underwater acoustic detection as the core technology, developing and producing optical fiber sensors, marine high-tech equipment products. Through nearly two decades of technical accumulation and market development, the company has successfully developed fiber optic hydrophone towed line array series products, fiber optic hydrophone submarine array series products, fiber optic hydrophone noise measurement and analysis system, offshore oil and gas exploration system, etc. The technical level is in a leading position in China. The products are mainly used in underwater acoustic field measurement, remote detection, underwater security, marine resources development, geological exploration, and other fields.

Our company has established an industry-academia-research base of 30,000 ㎡ of marine acoustic optoelectronic system integration, which owns provincial fiber optic hydrophone detection engineering laboratories, academician expert workstations, with engineering and mass production capacity of primitive manufacturing, array assembly, performance testing, engineering testing of hydrophones and array, and dry end equipments.

北京神州普惠科技股份有限公司，成立于2003年，工信部重点支持的国家级专精特新“小巨人”企业。通过二十年的技术沉淀和发展，以光学、光纤传感、水声探测为技术基础，成功开发光纤水听器拖曳线列阵/海底阵系列产品/噪声测量分析系统、海洋油气勘测系统等产品，可应用于水声场测量、远程探测、水下安防及海洋资源开发、地质勘探等领域，技术水平处于国内领先地位。

公司建立3万㎡的海洋声学光电系统集成产学研基地，拥有省级光纤水听器探测工程实验室、院士专家工作站，具备基元制造、阵列组装、性能测试、工程试验在内的水听器及阵列、干端设备的工程化及大规模生产能力。

克拉玛依先博技术创新与孵化有限公司
Karamay Xianbo Technology innovation and incubation Co., LTD

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Booth#10

Karamay Xianbo Technology Innovation and Incubation Co., Ltd. (hereafter referred to as "Xianbo ") is a comprehensive technology enterprise dedicated to high-tech research and development, testing services, and innovative achievement incubation. Xianbo focuses on the research and application of cutting-edge technologies such as distributed fiber optic technology, micro-seismic technology, and rock and geological fluid analysis technology.

Xianbo collaborates with the global technology leader in distributed fiber optic technology, France's FOSINA company, to develop the application of this technology in various fields. Including applications in the oil and gas industry include well logging, cementing quality evaluation, perforation monitoring, water and gas injection, flow profile analysis, micro-seismic monitoring, oil and gas production, and well completion evaluation, etc.

Xianbo has achieved significant results in the research and development of micro-seismic technology in cooperation with France's Vinci technology company in fluid transport information by monitoring and analyzing tiny underground seismic signals.

In addition, during the initial establishment, Xianbo Company invested in the construction of a high-precision laboratory with advanced rock and geological fluid analysis technology, including rock physical property testing, chemical composition analysis, fluid phase analysis, and other fields. At the same time, it actively seeks cooperation and exchanges with domestic and foreign universities, research institutions, and enterprises to jointly promote technological innovation and industrial upgrading.

克拉玛依先博技术创新与孵化有限公司（以下简称“先博公司”）是一家专注于高新技术研发、测试服务及创新成果孵化的综合性科技企业，秉承“科技创新，服务社会”的宗旨专注于分布式光纤技术、微地震技术和岩石与地质流体分析技术等前沿领域的研发与应用。

先博公司与全球技术领先的法国FOSINA公司合作开展分布式光纤技术涉及石油和天然气行业的应用，包括井中地震、固井质量评价、射孔监测、注水注气、流量剖面分析、微地震监测、油气生产和完井评价等。

同时，与法国Vinci技术公司合作通过监测和分析地下微小地震信号，实现对地下储层、裂缝和流体运移等信息的精准探测。

另外，建立初期先博公司投资建设了拥有先进的岩石与地质流体分析技术，包括岩石物理性质测试、化学成分分析、流体相态分析等多个方面的高精尖实验室。并积极寻求与国内外高校、科研机构和企业的合作并参与各类科研项目和技术攻关，致力于将科研成果转化为实际生产力，推动高新技术产业的发展与升级。

中国石油集团测井有限公司
CHINA NATIONAL LOGGING CORPORATION

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中国石油集团测井有限公司
CHINA NATIONAL LOGGING CORPORATION

Booth#11

China National Logging Company (CNLC) was established in December 2002. After over 20 years' development, CNLC has integrated basic logging theory research, equipment development & manufacturing, wellbore technology service and comprehensive research of reservoir. It is primarily engaged in the research and development of logging and perforating technology, equipment manufacturing, technical services, and data application. CNLC provides full-process technical support for oil and gas field drilling, fracturing, and oil extraction. After four business restructurings, CNLC has achieved unified management of China National Petroleum Corporation(CNPC)'s domestic and international logging businesses and is now the largest specialized logging company in China and the third largest in the world. CNLC has established the CPLog, a complete set of logging equipment and CIFlog, a big data platform, both of them have independent intellectual property rights. CNLC has established a CNPC logging academician workstation, post-doctoral scientific research workstation, logging laboratory, and technical test base. It is fully involved in major domestic oil and gas exploration and development as well as overseas "the Belt and Road" energy cooperation construction, covering 16 oil and gas fields of CNPC and markets of SINOPEC, CNOOC, and Yanchang Petroleum in China. Overseas, CNLC mainly serves 19 countries in the Middle East, Central Asia, Africa, America and the Asia-Pacific region. Complete sets of equipment are sold to countries such as Russia, Iran, and Canada. Perforating equipment is sold to 40 countries including the United States, Turkmenistan and Thailand. CNLC actively serves new energy and new fields such as geothermal energy, dry hot rock, combustible ice, CCUS (Carbon Capture, Utilization, and Storage) and mineral resources.

中油测井（CNLC）成立于2002年12月，主营测井射孔技术研发、装备制造、技术服务和资料应用，并为油气田钻井、压裂、采油等业务提供全过程技术支持。经历四次业务重组，实现中国石油国内、国际测井业务统一管理，现为国内最大、世界第三的专业化测井公司。公司成立以来，打造出具有自主知识产权的CPLog测井装备、CIFLog软件平台等国际先进的测井技术装备。建有中国石油测井院士工作站、博士后科研工作站、测井重点实验室、技术试验基地。全面参与国内重大油气勘探开发和海外“一带一路”能源合作建设，国内覆盖中国石油16个油气田和中石化、中海油、延长石油等市场。海外主要服务中东、中亚、非洲、美洲、亚太19个国家。成套装备销往俄罗斯、伊朗、加拿大等国家；射孔器材销往美国、土库曼、泰国等40个国家。积极服务地热、干热岩、可燃冰、CCUS、矿产资源等新能源新领域。

光软（北京）科技有限责任公司
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中国光软 OptaSoft

Booth#12

OptaSoft is a corporate dedicated in providing distributed fiber-optic sensing (DFOS) services. We are committed to providing DFOS solutions for oil and gas exploration and development, mining, urban underground space, carbon sequestration, enhanced geothermal system projects. OptaSoft boasts a series domestic proprietary software product, which have made breakthroughs in DFOS data processing and interpretation and broken up software blockade from foreign companies. OptaSoft has been awarded with a series software copyrights and invention patents related to DFOS data processing and interpretation.
OptaSoft's technical team has independently developed the Optix series of multi-scenario DFOS data processing and interpretation software. Optix series software aim to provide data processing and interpretation solutions for various applications, with OptixFrac for hydraulic fracturing monitoring, OptixProduction for production profiling, OptixLeakage for well integrity evaluation and OptixListen for microseismic monitoring.
OptaSoft, among many DFOS service providers, is the first company in China that has successfully developed and commercialized software products for hydraulic fracturing and production profiling of oil and gas wells.
OptaSoft has established collaboration partnerhips with multiple domestic oil giants and mining corporations. We are committed to spare every effort in developing Optix series software and digital solutions in order to provide more comprehensive services.

光软（北京）科技有限责任公司（以下简称“光软”)是一家行业领先、赋能百业、专注于分布式光纤监测技术服务的科技创新企业。我们致力于为油气勘探开发、矿山开采、城市地下空间、碳封存、地热等项目提供分布式光纤监测解决方案。光软拥有一系列自主研发的国产软件，攻克了数据处理解释的“卡脖子”算法，突破了国外企业对该领域软件的封锁，并取得一系列软件著作权、发明专利等知识产权。

光软技术团队自主研发了Optix系列多场景分布式光纤监测软件，在油田压裂监测、产液剖面监测、井筒泄漏监测、微震监测四个领域均有成熟的软件产品，分别为OptixFrac, OptixProduction, OptixLeakage和OptixListen。光软是国内首家研发出油田压裂剖面和产液剖面监测软件的公司。

光软已经与国内多家油田及矿山企业建立了合作关系。我们将深耕Optix系列软件产品和数字化解决方案，为行业提供更加完善的服务。

ORGANIZER
主办方

SEG SM
SOCIETY OF EXPLORATION GEOPHYSICISTS

CNPC BGP

SUPPORTERS
支持单位

中石油长庆油田油气工艺研究院
Research Institute of Oil & Gas Technology, Changqing Oilfield, CNPC

中国石油集团测井有限公司
China National Logging Corporation

长安大学
Chang'an University