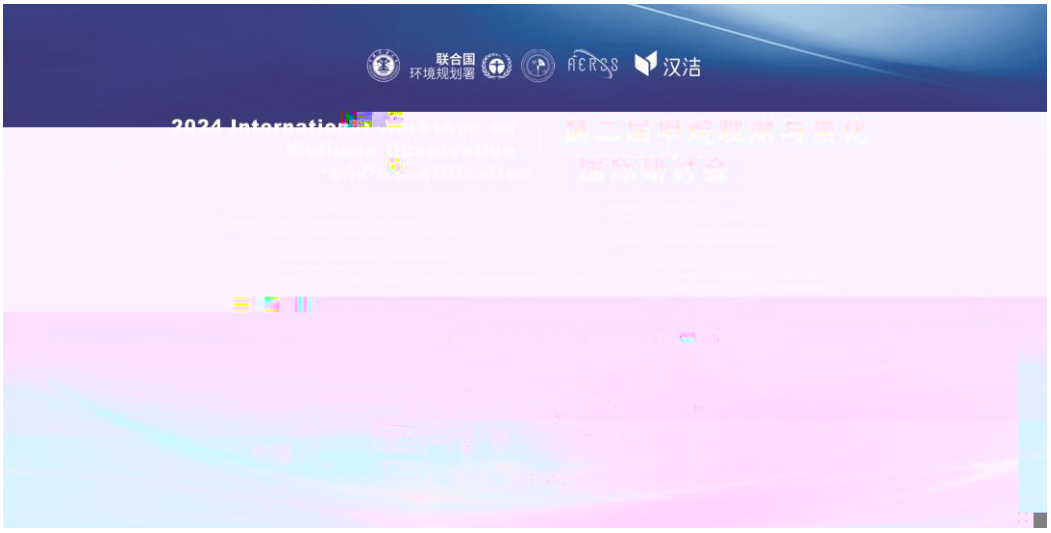

第二届甲烷观测与量化国际研讨会

2024 International Workshop on Methane Observation and Quantification

会议手册

Manual

Welcome Speech

Methane emission reduction is a powerful tool to control temperature rise in the short term, produces significant long-term climate benefits, and is a powerful lever to slow down the greenhouse effect. Observing and quantifying methane emissions using a variety of technical means both from sky/space and the ground provides important support for emissions reduction. On October 28, 2023, the first International Workshop on Methane Observation and Quantification was held in Xuzhou as a side event of the 18th International Mine Surveying Conference. In order to continue to build an academic exchange platform, the Second International Workshop on Methane Observation and Quantification will be held in Xuzhou from April 26 to 28, 2024. We warmly welcome all colleagues to attend the conference!

More than 120 participants from the United States, China, Canada, Australia, Germany, the Netherlands, and India will attend this conference. There are more than 30 exciting academic presentations covering multiple platforms such as satellite/aircraft/tower/ground, across multiple scales from global to regional and point source, and multiple fields of methane including coal mines/oil/gas/wetlands/paddy fields. We are looking forward to providing a platform for you to exchange ideas, discuss and investigate with each other, seek scientific truths and explore, promote the theoretical and technical level of methane observation and quantification, and contribute to policy-relevant and globally impactful climate governance. We wish you all a pleasant stay in Xuzhou during the conference!

China University of Mining and Technology
April, 2024

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China University of Mining and Technology (CUMT)

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UNEP's International Methane Emissions Observatory

Atmospheric Environment Remote Sensing Society

International Society for Mine Surveying

Digital Energy Committee, Chinese National Committee of International Society for Digital Earth

Jiangsu Key Laboratory of Coal-based Greenhouse Gas Control and Utilization

HaaenClean Digital Technology Co. Ltd.

HaaenClean Scientific Instrument Co. Ltd.

Beijing Wisdominc Technology Co. Ltd.

Guangzhou NBL Imaging System Limited

Supporter

The Administrative Centre for China's Agenda 21 21

General Agenda

Date	Agenda	Venue
April 26th, 2024 PM 2024-04-26	Registration	Sheraton Xuzhou Hotel Lobby
April 27th, 2024 AM 2024-04-27	Opening ceremony and Academic presentations	CUMT Nanhu Science and Technology Museum Lecture Hall
Lunch	CUMT Nanhu Faculty and Staff Restaurant	
April 27th, 2024 PM 2024-04-27	Academic presentations	CUMT Nanhu Science and Technology Museum Lecture Hall
April 27th, 2024 PM 2024-04-27	Dinner	Dazhang South Sanhuan Road Flagship Store ( )
April 28th, 2024 AM 2024-04-28	Academic presentations	CUMT Nanhu Science and Technology Museum Lecture Hall
Lunch	CUMT Nanhu Faculty and Staff Restaurant	

April 27th Morning 4 27

Moderator Jason Cohen (China University of Mining and Technology)

Time	Presenter	Topic
8:30-9:30		

11:55-12:10 (12 min talks&3 min questions)	**Yongguang Zhang (Shengxi Bai)** Nanjing University **( )**	Estimation of regional methane flux from a satellite-based high resolution methane assimilation system

April 27th Afternoon 4 27

Moderator Simit Raval (The University of New South Wales)

Simit Raval

Time	Presenter	Topic
14:00-14:20 (15 min talks&5 min questions)	**Lulu Shen** Peking University	Current and future levels of methane emissions derived from satellite observations and biogeochemical models
14:20-14:40 (15 min talks&5 min questions)	**Yashvardhan Verma** Indian Institute of Technology Bombay	Current state of knowledge and key gaps in India's inventory for fugitive methane emissions from coal mining
14:40-15:00 (15 min talks&5 min questions)	**Kaixu Bai** East China Normal University	A physics-informed data-driven method for near-real-time methane retrieval from Tropomi observations
15:00-15:15 (12 min talks&3 min questions)	**Meiyu Guo** Hong Kong Baptist University	Assessment of Methane Emissions from shale gas production in China
15:15-15:30 (12 min talks&3 min questions)	**Qiansi Tu** Tongji University	Estimating methane emissions from coal mines in Shanxi, China using TROPOMI and COCCON datasets TROPOMI COCCON
15:30-15:45	Coffee Break	
15:45-16:05 (15 min talks&5 min questions)	**Zhen Zhang** Qinghai Tibet Plateau Research Institute, CAS	Natural Methane Feedbacks and Their Impact on Climate Mitigation Strategies

16:20-16:35 (12 min talks&3 min questions)	**Jia Chen** Technical University of Munich	Urban Methane Emissions: Discover the Unknowns with Measurements and Modeling (Online)
16:35-16:55 (15 min talks&5 min questions)	**Ilse Aben** SRON Netherlands Institute for Space Research	Using different satellites in support of methane emission reduction (Online)
16:55-17:10 (12 min talks&3 min questions)	**Zhonghua He** Meteorological Bureau of Zhejiang Province	Research on methane concentration retrieval and point source emission detection using statistical and physical coupling method with Gaofen-5 AHSI 5 AHSI
17:10-17:25 (12 min talks&3 min questions)	**Kunpeng Zang** Zhejiang University of Technology	Methane emission from oil and gas exploration platform in the Bohai Sea
17:25-17:40 (12 min talks&3 min questions)	**Lu Zhang** National Satellite Meteorological Centre	Research on Payload Selection for Spaceborne Methane Point Source Detection
17:40-17:55 (12 min talks&3 min questions)	**Lihui Zu** Xi'an Zhongke Xiguang Aerospace Technology Co., Ltd.	Methane observation of small satellites in low orbit based on Fabry-Perot interferometry FP

April 28th Morning 4 28

Moderator Robert Field (UNEP's International Methane Emissions Observatory)

Robert Field

Time	Presenter	Topic
8:30-8:45 (12 min talks&3 min questions)	**Zhaocheng Zeng** Peking University	Remote sensing of methane emissions: from a North American megacity to global point sources
8:45-9:00 (12 min talks&3 min questions)	**Zichong Chen** Harvard University	Using point source imaging satellites to construct a finely resolved, annually updated Chinese coal mine methane emission inventory (Online))

9:00-9:15 (12 min talks&3 min questions)	**Yuzhong Zhang** Westlake University	Space-based monitoring of methane emissions from rice paddies in Northeast China throughout growth stages
9:15-9:30 (12 min talks&3 min questions)	**Xiao Lu** Sun Yat-sen University	Integrating satellite and surface measurement of methane concentration to infer methane emissions
9:30-09:45 (12 min talks&3 min questions)	**Pengfei Li** Shanghai Institute of Physics for Technology, Chinese Academy of Sciences	Quantitative hyperspectral satellite detection of global methane emission sources
9:45-10:00 (12 min talks&3 min questions)	**Minjie Zhao** Hefei Institutes of Physical Science, Chinese Academy of Sciences	Introduction to Atmospheric Methane Imaging Spectrometer and Inversion Algorithm
10:00-10:10 (8 min talks&2 min questions)	**Jiahui Zhang** &GHGSAT	Assessment of Methane Emissions from Oil and Gas Production Pads using Continuous Monitoring System and GHGSat Satellites Observatory GHGSAT
10:10-10:17 (5 min talks&2 min questions)	**Chelsea Fougere** St. Francis Xavier University	Estimating Canadian Landfill Methane Emissions from Aircraft Measurements)
10:17-10:25	Coffee Break	
10:25-10:40 (12 min talks&3 min questions)	**Ge Han** Wuhan University	Estimating methane emissions from coal mines and oil production regions using the GF and ZY series of satellites GF ZY
10:40-10:55 (12 min talks&3 min questions)	**Chong Wei** Shanghai Advanced Research Institute, Chinese Academy of Sciences	Spatiotemporal distribution of methane in megacity Shanghai, China

10:55-11:10 (12 min talks&3 min questions)	**Cheng Hu** Nanjing Forestry University	The inversion of greenhouse gas emission at city scale by using tower-based concentration observations
11:10-11:25 (12 min talks&3 min questions)	**Pengfei Han** Institute of Atmospheric Physics, CAS	The spatial-temporal variations of atmospheric CH_4 concentrations and enhancements over the Northern China based on multiple datasets: ground-based observations, TROPOMI, inventory and atmospheric inversions TROPOMI
11:25-11:40 (12 min talks&3 min questions)	**Cheng Fan** Aerospace Information Research Institute, CAS	Aerosol impact correction in methane remote sensing
11:40-11:55 (12 min talks&3 min questions)	**Kun Duan** The Chinese University of HongKong	Development of a high-accuracy methane analyzer using MIR laser absorption spectroscopy
11:55-12:10 (12 min talks&3 min questions)	**Shugang Wu** Institute of Earth Environment, CAS	A preliminary study of tracing methane sources using carbon isotopes in Xi'an, China

Poster Session

1. **Fan Lu** , China University of Mining and Technology
   Quantifying and attributing methane emissions from coal mine aggregation areas using high-frequency ground-based observations

2. **Huiru Zhong** , Peking University
   Unraveling the sources of uncertainty in China's top-down methane emission estimates

3. **Shutao Zhao** , Westlake University
   Deep-transfer-learning-assisted detection of methane ultra-emitters across different oil and gas fields using Sentinel-2 observations
   Sentinel-2
4. **Qian Zhang** , Nanjing University
   Radiative and chemical effects of non-homogeneous methane on terrestrial ecosystems carbon fluxes in Asia

5. **Junqing Zhang** , Nanjing Forestry University
   The attributions of observed strong seasonal variations for atmospheric CH_4 concentrations in urban area
   CH_4
6. **Xiaodong Huang** , Sun Yat-sen University
   Global methane emission estimation based on observations of atmospheric methane and carbon isotopes concentration

7. **Cheng He** , Sun Yat-sen University
   Distributions and decadal trends in methane emission from China: an inversion analysis of satellite observations of methane

8. **Xuzhang** , Northeastern University
   Global virtual methane flow along with international rice trade

9. **Shuwei He** , University of Chinese Academy of Sciences
   Prediction of anthropogenic methane emissions at provincial scale in China under different scenarios: a system modeling approach

How to participate online?

ZOOM

Please enter the link below or scan the QR code on the left to join the virtual conference room.

https://us06web.zoom.us/j/84106140610?pwd=mySpCOcbQsXxzsUCclciKHbxFXelE9.1

https://meeting.tencent.com/dm/CYED1718WXk4

Selected Participants in Person

1) Zhengfu Bian, China University of MiningTechnology

2) Robert Field, UNEP's International Methane Emissions Observatory
   Robert Field
3) Simit Raval, The University of New South Wales
   Simit Raval
4) Yashvardhan Verma, Indian Institute of Technology Bombay

5) Steve Liang, Professor, University of Calgary, Canada

6) Donglai Xie, Environmental Defense Fund

7) Hanling Yang, Environmental Defense Fund

8) Shushi Peng, Peking University

9) Jason Cohen, China University of Mining and Technology

10) Zhaocheng Zeng, Peking University
    /
11) Zhen Zhang, Qinghai Tibet Plateau Research Institute, CAS

12) Xiuying Zhang, Nanjing University

13) Kaixu Bai, East China Normal University

14) Zhen Qu, North Carolina State University

15) Meiyu Guo, Hong Kong Baptist University

16) Lulu Shen, Peking University

17) Yuzhong Zhang, Westlake University

18) Cheng Hu, Nanjing Forestry University

19) Xiao Lu, Sun Yat-sen University

20) Pengfei Li, Shanghai Institute of Physics for Technology, Chinese Academy of Sciences

21) Chong Wei, Shanghai Advanced Research Institute, Chinese Academy of Sciences

22) Qiansi Tu, Tongji University

23) Cheng Fan, Institute of Space and Astronautical Information Innovation, CAS

24) Zhonghua He, Meteorological Bureau of Zhejiang Province

25) Kunpeng Zang, Zhejiang University of Technology

26) Ge Han, Wuhan University

27) Yinghui Han, University of Chinese Academy of Sciences

28) Guofeng Shen, Peking University

29) Naizhuo Zhao, Northeastern University

30) Minjie Zhao, Hefei Institutes of Physical Science, Chinese Academy of Sciences
,

31) Pengfei Han, Institute of Atmospheric Physics, CAS

32) Jian Xu, National Space Science Center (NSSC), the Chinese Academy of Sciences

33) Xiaojing Gu, East China University of Science and Technology

34) Kun Duan, The Chinese University of Hong Kong

35) Yang Gao, Xi'an Zhongke Xiguang Aerospace Technology Co., Ltd.

36) Lihui Zu, Xi'an Zhongke Xiguang Aerospace Technology Co., Ltd.

37) Mengxiao Wang, CNOOC Energy Technology & Services Limited

38) He Chen, Shanghai SastSpace Technology Co.,Ltd.

39) Cancan Lu, Shanghai SastSpace Technology Co.,Ltd.

40) Kai Qin, China University of Mining and Technology

41) Jun Zhu, DFH Satellite Co.,Ltd.

42) Chao Wang, DFH Satellite Co.,Ltd.

43) Xiaoran Yan, China oil and gas climate investments Co., Ltd.

44) Feng Jing, Institute of Earthquake Forecasting (IEF) of the China Earthquake Administration (CEA)

45) Lei Song, Climate Investment fund
Climate Investment

46) Huizhong Shen, Southern University of Science and Technology

47) Tianci Qi, Nanjing Institute of Geography and Limnology, CAS

48) Feng Liu, HaaenClean Digital Technology Co. Ltd.

49) Dacheng Wang, Aerospace Information Research Institute, CAS

50) Haiyun Lu, National Institute of Clean-and-Low-Carbon Energy

中国矿业大学简介

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