DehaloCon IV 2024

The 4th International Conference on Anaerobic Biological Dehalogenation

Conference Book

-Organizer-

Sun Yat-sen University

Institute of Applied Ecology, Chinese Academy of Sciences

Guangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology

Key Laboratory of Pollution Ecology and Environmental Engineering of Chinese Academy of Sciences

September 26-28, 2024

Guangzhou, China

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The 4th International Conference on Anaerobic Biological Dehalogenation

Welcome Message

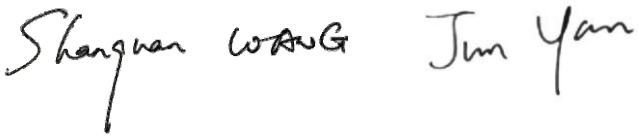
It is a great honor and pleasure for us to welcome you all to the DehaloCon-IV - The 4th International Conference on Anaerobic Biological Dehalogenation in Guangzhou, China, on behalf of the organizing committee. This conference is co-hosted by Sun Yat-sen University and the Institute of Applied Ecology, Chinese Academy of Sciences, both of which are committed to fostering scientific exchange and collaboration.

The DehaloCon-IV conference serves as a pivotal platform for scholars, researchers, and practitioners to converge and explore the latest advancements, methodologies, and discoveries in the field of anaerobic biological dehalogenation. This year's theme, "Advancing Environmental Sustainability through Anaerobic Biological Dehalogenation" underscores our collective commitment to addressing environmental challenges through innovative scientific approaches.

This year, we are delighted to host around 300 participants who will have the opportunity to engage in dynamic discussions and presentations. The conference will feature two plenary sessions and six parallel sessions, representing a significant expansion from previous editions with inclusion of the abiotic dehalogenation session. This addition marks a new direction in our exploration of dehalogenation, broadening the scope of our understanding and fostering interdisciplinary collaboration.

We eagerly anticipate fruitful discussions and the sharing of groundbreaking research that will contribute to our collective understanding and advancement of anaerobic biological dehalogenation. Together, let us inspire and motivate the young scientists joining us at this event, paving the way for future discoveries and advancements in this vital field.

On behalf of the organizing committee, we warmly welcome all of you to Guangzhou, China, and wish you all a productive discussion and a pleasant stay in this vibrant and historically rich city.



Shanquan Wang
Professor
Sun Yat-sen University

Jun Yan
Professor
Institute of Applied Ecology, Chinese Academy of Sciences

DehaloCon Overview

DehaloCon- I in Jena, Germany, 2014

Sessions

- Physiology and biochemistry of organohalide respiration
- Enzymology and structure-function relationship of reductively dehalogenating enzymes
- Corrinoids
- Regulation and gene expression of reductive dehalogenation
- Genes and genomes
- Ecophysiology of reductive dehalogenation
- Applied aspects of reductive dehalogenation

DehaloCon- II in Leipzig, Germany, 2017

Sessions

- Organohalide-Respiratory Chains
- Enzymology and Structure-Function Relationships of B_{12}-containing Enzymes
- Ecophysiology and Applied Aspects of Reductive Dehalogenation
- Non-respiratory Reductive Dehalogenation
- Omics and Meta'omics of OHRB

DehaloCon- III in Rome, Italy, 2021 (Online Conference)

Sessions

- Anaerobic Dehalogenation in Pristine and Contaminated Environments
- Organohalide Respiration: Biochemistry, Architecture, Regulation and Ecophysiology
- Omics and Meta-Omics of Organohalide-Respiring and Non-Respiring Bacteria
- Bioelectrochemical OHR: Fundamental Aspects and Engineered Solutions
- OHR Field-Scale Application

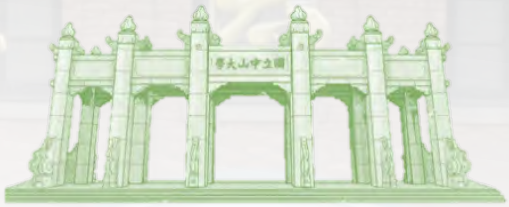
Host & Organizer

中山大学 简介

中山大学（Sun Yat-sen University），由中国民主革命先行者孙中山先生于1924年创办，位于中国广东省，是国家“双一流”建设高校之一。作为中国顶尖的综合性研究型大学，中山大学以学科齐全、科研实力强大著称，拥有众多国家级重点学科和科研平台，涵盖了基础研究、应用研究和创新技术的多个领域。中山大学现有国家级科研创新平台42个、省部级平台250个，学校着力推进理、工、医科重大科技基础设施建设。同时，学校设有多个校区，拥有一流的师资力量和先进的科研设施，为国家和社会培养了大批高层次人才。

Sun Yat-sen University Introduction

Sun Yat-sen University, founded in 1924 by Dr. Sun Yat-sen, the forerunner of the Chinese democratic revolution, is located in Guangdong Province, China, and is one of the national "double first-class" construction universities. As one of the top comprehensive research universities in China, Sun Yat-sen University is renowned for its full range of disciplines and strong scientific research strength, with a number of national key disciplines and research platforms covering multiple fields of basic research, applied research and innovative technology. At present, Sun Yat-sen University has 42 national research and innovation platforms and 250 provincial and ministerial platforms, and strives to promote the construction of major science and technology infrastructure in science, engineering and medicine. At the same time, the school has a number of campuses, with first-class teachers and advanced scientific research facilities, for the country and society to cultivate a large number of high-level talents.



世纪中大

2024年，中山大学迎来了建校一百周年，百年校庆是学校发展的重要里程碑，充分展现了学校百年积淀的文化底蕴和持续进步的学术影响力。“博学、审问、慎思、明辨、笃行”十字校训，激励着一代代学人严谨治学、探索求真，为振兴中华鞠躬尽瘁。百年来，中山大学秉承伟人志业，始终与国家民族同呼吸、共命运，坚持社会主义办学方向，落实立德树人根本任务。现在，中山大学进入发展新时期，即将开启新的百年征程。站在新的历史起点上，中山大学将始终牢记习近平总书记嘱托，贯彻落实习近平总书记关于教育的重要论述，弘扬百年中大精神，为实现中国式现代化、促进祖国和平统一、推动人类文明进步作出中大新的更大贡献！

A Century of Sun Yat-sen University

In 2024, Sun Yat-sen University will celebrate its 100th anniversary, which is an important milestone in the university's development, fully demonstrating the university's century-old cultural heritage and academic influence of continuous progress. The Cross motto of "Study Extensively, Enquire Accurately, Reflect Carefully, Discriminate Clearly, Practise Earnestly" has inspired generations of scholars to study rigorously, explore the truth, and devote themselves to revitalizing China. Over the past hundred years, Sun Yat-sen University has been adhering to the great aspirations, always breathing with the country and the nation, sharing a common destiny, adhering to the soialist school-running direction, and implementing the fundamental task of fostering morality and cultivating people. Now, Sun Yat-sen University has entered a new period of development and is about to embark on a new 100-year journey.

环境科学与工程学院

中山大学环境科学与工程学院成立于2002年10月，我国环境科学理论奠基人之一、著名环境学家唐永銮先生是中山大学环境学科重要学术领袖之一。学院设有环境科学系、环境工程系、环境科学研究所和实验教学中心4个教学与研究机构，拥有7个省部级科研平台。学院依托丰富的科研资源和多样化的合作平台，在土壤环境污染控制与修复、水污染治理、空气污染控制等关键领域取得了诸多重要进展，科研成果广泛应用于环境治理与生态修复。“十三五”以来，学院共承担国家重点研发项目、国家自然科学基金等国家级项目150余项，发表第一或通讯作者SCI论文800余篇，获得授权专利130余项，取得了一批国际认可的突破性研究成果。中山大学环境科学与工程学院将继续秉持创新和务实的精神，推动科研成果的转化与应用，为解决全球环境挑战提供有力的学术支撑。

The School of Environmental Science and Engineering at Sun Yat-sen University was established in October 2002. Prof. Yongluan Tang, a renowned environmental scientist, is a key academic leader in the university's environmental discipline. The school comprises four academic and research institutions and seven provincial and ministerial-level research platforms. Drawing on extensive research resources and diverse collaborative platforms, the school has achieved significant advancements in key areas such as soil pollution control and remediation, water pollution treatment, and air pollution control. These research outcomes have been widely applied in environmental management and ecological restoration. Since the 13th Five-Year Plan, the school has undertaken over 150 national-level projects, including National Key R&D Programs and National Natural Science Foundation projects. It has published more than 800 SCI-indexed papers as the first or corresponding author and has been granted over 130 patents, achieving a series of internationally recognized breakthrough research results. The School of Environmental Science and Engineering at Sun Yat-sen University will continue to uphold a spirit of innovation and pragmatism, advancing the translation and application of research findings and providing robust academic support to address global environmental challenges.

广东省环境污染控制与修复技术重点实验室

广东省环境污染控制与修复技术重点实验室（简称重点实验室）依托中山大学环境科学与工程学院建设，于2005年12月由广东省科技厅批准成立，2008年通过验收，并在2017年和2019年评估考核中获评优秀。实验室总面积5350平方米，拥有59名固定研究人员和总价值9280万元的先进仪器设备。实验室结合国家生态环境保护需求和粤港澳大湾区的区域特色，重点研究土壤污染修复与固废资源化、先进水处理及资源化技术、环境生态与功能微生物、区域生态模拟与风险评估技术，致力于解决大湾区及周边的水、土、气环境问题。实验室设立了多个研究团队，推动多学科协同创新，为区域生态环境保护提供重要科研支撑。

The School of Environmental Science and Engineering at Sun Yat-sen University was established in October 2002. Prof. Yongluan Tang, a renowned environmental scientist, is a key academic leader in the university's environmental discipline. The school comprises four academic and research institutions and seven provincial and ministerial-level research platforms. Drawing on extensive research resources and diverse collaborative platforms, the school has achieved significant advancements in key areas such as soil pollution control and remediation, water pollution treatment, and air pollution control. These research outcomes have been widely applied in environmental management and ecological restoration. Since the 13th Five-Year Plan, the school has undertaken over 150 national-level projects, including National Key R&D Programs and National Natural Science Foundation projects. It has published more than 800 SCI-indexed papers as the first or corresponding author and has been granted over 130 patents, achieving a series of internationally recognized breakthrough research results. The School of Environmental Science and Engineering at Sun Yat-sen University will continue to uphold a spirit of innovation and pragmatism, advancing the translation and application of research findings and providing robust academic support to address global environmental challenges.

中国科学院沈阳应用生态研究所

中国科学院沈阳应用生态研究所（以下简称沈阳生态所）成立于1954年，其前身为中国科学院林业土壤研究所。沈阳生态所的研究面向陆地生态系统，涵盖宏观生态学、系统生态学、实验生态学、生物工程和生物技术等现代生态学的多个方面。自成立以来，沈阳生态所一直致力于解决与国家农林可持续发展、生态环境建设和应用生态学发展有关的重大问题，为东北工农业现代化和新型城镇化提供生态与环境保障，为生态文明-美丽中国建设提供科技支撑。

沈阳生态所是国家知识创新工程试点单位，现设有的3个研究中心，分别是森林生态与林业生态工程研究中心、土壤生态与农业生态工程研究中心、污染生态与环境生态工程研究中心。沈阳生态所现有1个国家重点实验室、1个国地联合实验室、3个院级重点实验室、14个省级重点实验室和工程中心；12个野外观测站，包括4个国家级野外站。

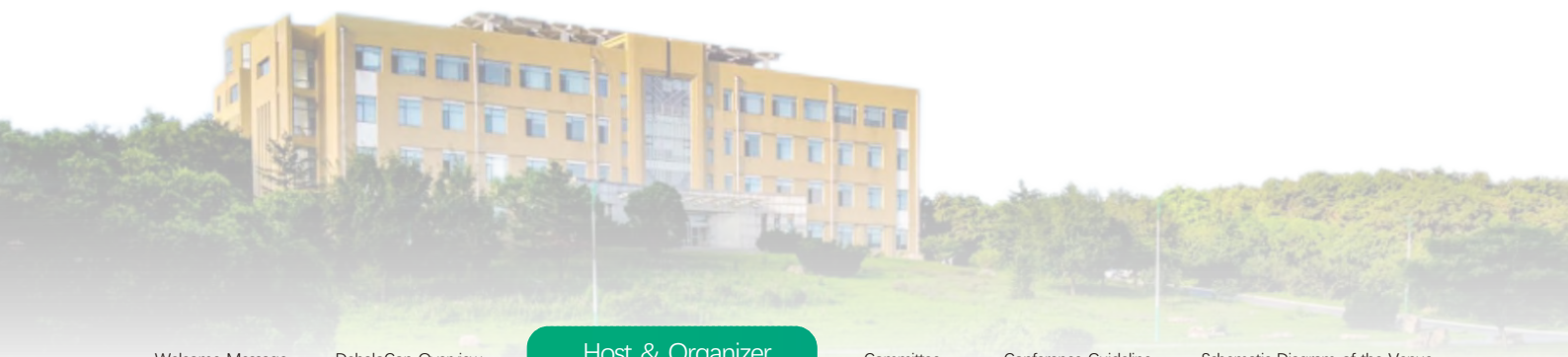
截至2023年底，沈阳生态所拥有院士1人；国家杰出青年基金获得者2人；国家优秀青年基金获得者11人，共获得省部级以上奖励240余项，其中国家奖34项，省部级奖213项，出版专著近320余部，发表SCI论文超过5300篇；授权专利653项。沈阳生态所与国内以及美国、英国、德国 等国家的众多高水平大学、科研机构开展合作研究与学术交流。主办中文期刊《应用生态学报》《生态学杂志》，及SCIE期刊 Ecological Processes 等学术刊物。

The Institute of Applied Ecology (IAE) of the Chinese Academy of Sciences (CAS)

The Institute of Applied Ecology (IAE) of the Chinese Academy of Sciences (CAS), was founded in 1954. It was formerly the Institute of Forestry and Soil Research, Chinese Academy of Sciences. The researches of the IAE focus on terrestrial ecosystems and covers various aspects of modern ecology, including macroecology, systems ecology, experimental ecology, bioengineering, and biotechnology. Since its establishment, the institute has been committed to addressing major issues related to national agricultural and forestry sustainable development, ecological environment construction, and the development of applied ecology. It provides ecological and environmental support for the modernization of agriculture and industry in Northeast China and new urbanization, while offering scientific and technological backing for the construction of an Ecological Civilization and a Beautiful China.

IAE was a pilot institute of the National Knowledge Innovation Program and have three research centers, (1) Forest Ecology and Forestry Ecological Engineering Research Center, (2) Soil Ecology and Agro-ecological Engineering Research Center, (3) Pollution Ecology and Environmental Ecological Engineering Research Center. IAE has 19 key laboratories, including 1 national key laboratory, 1 national-local joint laboratory, 3 CAS key laboratories, and 14 provincial key laboratories and engineering centers. IAE operates 12 field research stations, including 4 National Research Stations.

By the end of 2023, IAE has one Academician of Chinese Academy of Engineering, 2 researchers awarded with the National Science Foundation for Distinguished Young Scholars, and 11 researchers awarded with the National Outstanding Youth Foundation. IAE has won more than 240 provincial-, ministerial-, or national-level awards, including 34 national awards and 213 provincial- or ministerial-level awards, and has published 320 books or monographs, more than 5,300 Science Citation Index (SCI) papers, and has been granted more than 653 patents. IAE has cooperations and academic exchanges with many high-level universities and research institutions in China, the United States, Britain, Germany and other countries. IAE also hosts Chinese academic journals such as "Journal of Applied Ecology", "Journal of Ecology", and SCIE Journal Ecological Processes.



中国科学院污染生态与环境工程重点实验室

污染生态与环境工程实验室成立于2009年，在上世纪70年代在国内率先开展了土壤重金属、石油烃及PAHs污染调查及污染防治研究，而后相继开展了污水土地处理、土壤环境重金属元素背景调查及环境容量，土壤-植物系统中有机、无机污染物的分布、形态转化、行为特性、生态毒理效应及污染土壤生态修复等方面的研究，在污染生态学学科建设与发展方面做出了重要的贡献。

重点实验室以污染胁迫下的生态环境为主要研究对象：面向污染生态学的世界科技前沿，解决污染物在生态系统中迁移转化及生物毒理的理论难题；面向生态环境安全的国家重大需求，研发污染修复和源头控制的工程技术；面向绿色可持续国民经济主战场，揭示产业结构对区域生态环境质量的驱动机制和控制因子，建立区域生态环境风险评价的技术体系。自实验室成立以来，共承担国家自然科学基金、科技部、中国科学院等研究课题600余项，获得经费4亿余元，取得了一系列科研成果，在 *Science*、*Nature*、*Nature Chemical Biology*、*Nature Geoscience* 等主流学术期刊发表文SCI、EI文章600余篇，授权国际发明专利1项，国内发明专利161项，获得省部级科技进步及技术发明等奖项21项。

Key Laboratory of Pollution Ecology and Environmental Engineering of Chinese Academy of Sciences

The Laboratory of Pollution Ecology and Environmental Engineering was established in 2009. It was the first one in China that carried out the investigation of heavy metal pollution, petroleum hydrocarbons and PAHs pollution in the 1970s, and then carried out research on sewage land treatment, background investigation of heavy metal elements in the soil environment and its environmental capacity, the distribution of organic and inorganic pollutants, morphology, ecological and toxicological effects and ecological remediation of contaminated soil in the soil-plant system. It has made important contributions to the development of pollution ecology in China.

The Key Laboratory takes the ecological environment under pollution coercion as the main research object: solving the theoretical problems of pollutant migration and transformation and biotoxicology in ecosystems, revealing the formation mechanism of regional environmental pollution, and proposing the pollution blocking and controlling methods; researching and developing the engineering technologies of pollution remediation and source control; revealing the driving mechanism and control factors of industrial structure on regional ecological and environmental quality. Since 2009, the Key Laboratory has undertaken more than 600 research projects from the National Natural Science Foundation of China (NSFC), the Ministry of Science and Technology (MOST), the Chinese Academy of Sciences (CAS), etc., and has obtained a total funding of more than 400 million RMB. The key laboratory has made a lot of academic achievements, more than 600 scientific papers have been published in academic journals such as *Science*, *Nature*, *Nature Chemical Biology*, *Nature Geoscience*, and 1 international invention patent and 161 domestic invention patents have been granted, and 21 provincial and ministerial level awards for scientific and technological progress and technical invention.

Committee

Scientific Committee

Lorenz Adrian	Elizabeth A. Edwards	Cheng Gu	Max M. Häggblom
Feng He	Jianzhong He	Yan He	Zhiling Li
Frank E. Löffler	Qihong Lu	Michael Manefield	Yujie Men
Simona Rossetti	Jingchun Tang	Shanquan Wang	Jun Yan
Yi Yang	Naoko Yoshida		

Organizing Committee

Advisory committee

Rongliang Qiu	Yongfeng Jia	Lianpeng Sun	Yetao Tang

Conference chairs

Shanquan Wang	Jun Yan

Committee members

Chen Chen	Yanning Huang	Huijuan Jin	Zhiwei Liang
Xiuying Li	Yaqing Liu	Qihong Lu	Zhuobiao Ni
Lingling Peng	Xingxing Peng	Wenjing Qiao	Yanan Shi
Jingjing Wang	Weifeng Wang	Yi Yang	Lijuan Zhang
Yin Zhong			

Organizers

Sun Yat-sen University
Institute of Applied Ecology, Chinese Academy of Sciences
Guangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology
Key Laboratory of Pollution Ecology and Environmental Engineering of Chinese Academy of Sciences

Conference Guideline

Conference Information

Registration time, location and address

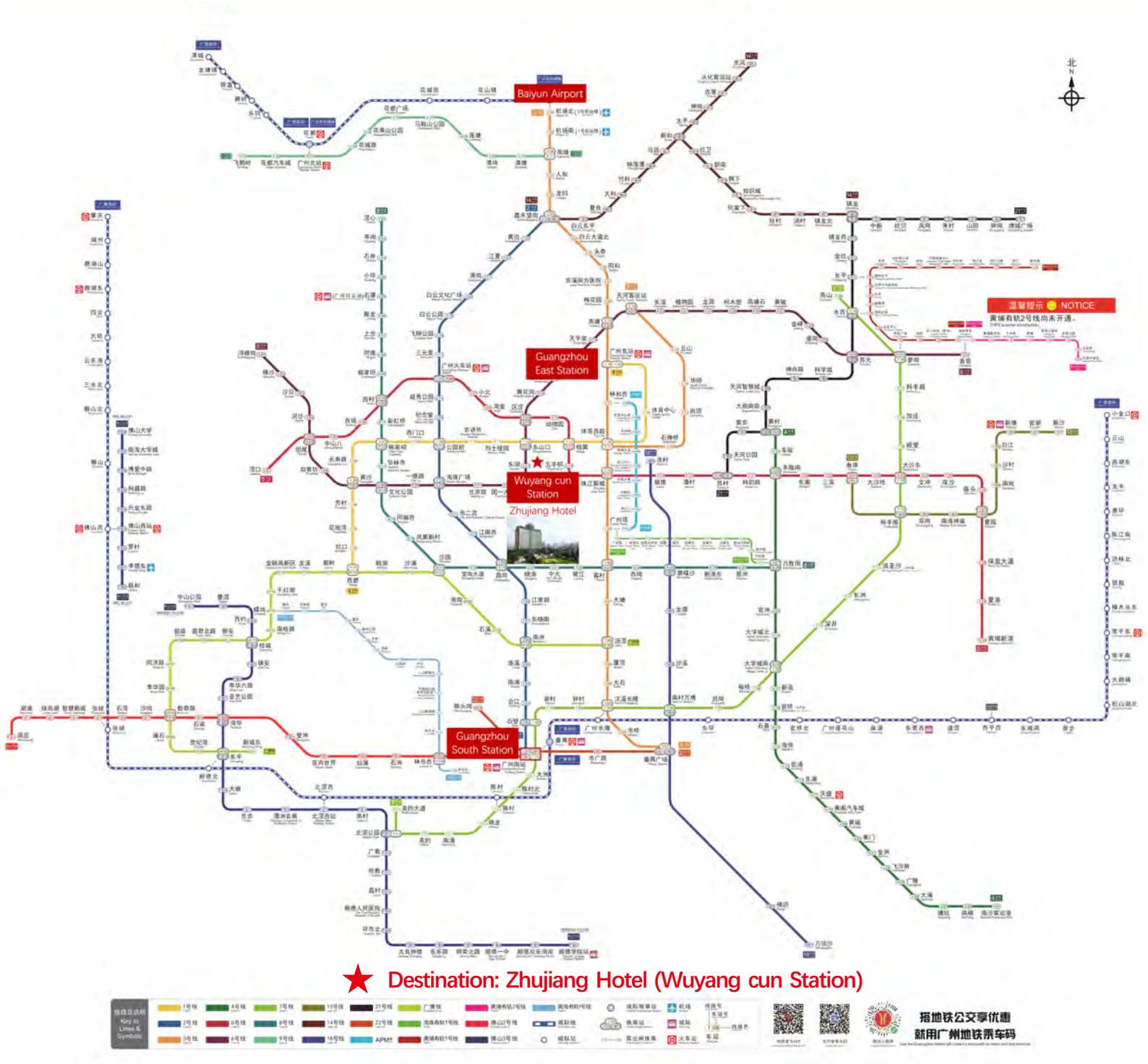
Time	September 26th-28th, 2024
Location	Zhujiang Hotel (also called Pearl River Hotel)
Address	No.2 Siyouyi Road, Yuexiu District, Guangzhou, Guangdong, China

Hotel and transportation

Accommodation Hotels	• Zhujiang Hotel • Ramada By Wyndham Pearl Guangzhou • Great Wall Hotel		
Departure	Guangzhou Baiyun International Airport	Guangzhou South Railway Station	Guangzhou East Railway Station
By Taxi	Approximately **55** minutes	Approximately **40** minutes	Approximately **15** minutes
By Bus		**No. 301A**: to Guangzhou Bridge North Bus Stop → **walk 750 meters**: to Zhujiang Hotel	**No. 122/263/195**: to Guangzhou Bridge North Bus Stop → **walk 750 meters**: to Zhujiang Hotel
By Subway	**Line 3**: to Zhujiang New Town → **Line 5**: to Wuyang Cun Station → **walk 1100 meters**: to Zhujiang Hotel	**Line 7**: to Hanxi Changlong Station → **Line 3**: to Zhujiang New City Station → **Line 5**: to Wuyang Cun Station → **walk 1100 meters**: to Zhujiang Hotel	**Line 1**: to Yangji Station → **Line 5**: to Wuyang Cun Station → **walk 1100 meters**: to Zhujiang Hotel

Guangzhou Metro System

Map



Registration

Opening Hours	September 26th 8:00-22:00, September 27th 8:00-12:00
Location	Conference Center, 1st floor

Oral Presentation & Poster Presentation

· LED display

The screen ratio of a PowerPoint presentation is 16:9, please select "Widescreen (16:9) " for your presentation file.

· Materials submission

Please bring your presentation file to the venue and copy it to the conference computer at least 3 hours before your presentation, or send your presentation file to us via email (to dehalocon2024@gmail.com) one day before your scheduled session.

· Poster presentation

The poster presentation time is from 8:00 AM on September 27th to 6:00 PM on September 28th.

Others

Please attend all activities on time according to the schedule with your delegate badge (pay attention to the time and location of each session). The conference staff will provide a reminder about the remaining time for each presentation. For details, please refer to the presentation schedule.

Please set your phone to silent or vibrate mode inside the conference venue.

Meal requires a meal coupon. The meal time and location are indicated on the meal coupon.

During the conference, if you have any special requirements regarding meals, accommodation, or other needs, please contact the conference team in a timely manner. We will do our best to provide the necessary support.

Team Roles and Contact Information		
	Organizing Committee	Conference Company
Overall Coordinator	Shanquan Wang Jun Yan	Jian Liu: 13710331231
Registration /Accommodation	Qihong Lu: 13430392474 Jingjing Wang: 13898169963	Lianchu Liang: 18927594943 Haixia Zheng: 13928883931
Transportation	Yi Su: 13699405618 Yelinzi Yuan: 18800237590	Guanxia Li: 18928794204
Venue/Poster	Rui Shen: 13798114037 Peichun Lin: 13414954672	Chengyu Zhao: 13902394571
Invoice	Qi Liang: 13608155003	Yongjian Feng: 13928824081

Schematic Diagram of the Venue

Plenary and Keynote Speaker

Lorenz Adrian is head of the Department of Molecular Environmental Biotechnology at the Helmholtz Centre for Environmental Research - UFZ in Leipzig, Germany, and Professor for Geobiotechnology at TU Berlin. He worked intensively on the microbiology, genomics and biochemistry of strictly organohalide-respiring bacteria, mainly *Dehalococcoides* and *Dehalogenimonas*. His research focus has now shifted to biotechnological approaches to reduce greenhouse gas emissions, including C1 metabolism and energy-positive wastewater treatment plants. Prof. Adrian has published~150 international publications, including *Nature*, *Science*, *Nature Biotechnology* and many other top-tier journals.

Jiejie Chen is a professor at the University of Science and Technology of China. Her primary research focuses on environmental theoretical calculations and the biological and chemical transformation of pollutants. Prof. Chen is a recipient of the National Natural Science Foundation's Outstanding Youth Fund and has won the Young Scientist Award from the Chinese Society of Environmental Sciences. She has published over 100 high-impact peer-reviewed journal papers, including in *PNAS, Nature Communications, Advanced Materials,* and *Environmental Science & Technology*. Prof. Chen is also a member of the Youth Innovation Promotion Association of the Chinese Academy of Sciences and the IWA China Youth Committee.

Elizabeth A. Edwards is a professor in Chemical Engineering and Applied Chemistry at the University of Toronto, Canada. Prof. Edwards is mainly engaged in anaerobic microbial community analysis, biodegradation, biotransformation, bioremediation, and anaerobic digestion of industrial and municipal wastes. Prof. Edwards' research team has discovered and characterized novel microbial cultures such as the now commercial KB-1® consortium that metabolize chlorinated ethenes and ethanes. This discovery led to the founding of SiREM Laboratories in Guelph, Ontario in 2002 to market bioaugmentation cultures. She is also the founding director of BioZone, a Centre for Applied Bioscience and Bioengineering Research and a Canada Research Chair in Anaerobic Biotechnology. She was appointed an Officer in the Order of Canada in 2020. She was awarded the 2023-2024 Distinguished Lectureship by the Association of Environmental Engineering and Science Professors (AEESP).

Jay J. Gan is a Distinguished Professor of Environmental Chemistry and the former chair of the Department of Environmental Sciences at the University of California, Riverside, U.S.A. His research interests include environmental analysis of organic pollutants, environmental processes, risk assessment and pollution remediation. To date, Prof. Gan has published more than 330 SCI papers and 5 edited books in *PNAS, ES&T, Analytical Chemistry* and other academic journals. Prof. Gan has been elected as a Fellow to the American Society of Agronomy (ASA, 2006), the American Association for the Advancement of Science (AAAS, 2008), the Soil Society of America (SSSA, 2010), and the American Chemical Society AGRO (2017). He is currently a Co-Editor-in-Chief of *Science of the Total Environment*, a tier-1 journal in the field of Environmental Science and Engineering.

Plenary and Keynote Speaker

Max M. Häggblom is a Distinguished Professor and Chair of the Department of Biochemistry and Microbiology at Rutgers University, U.S.A. Research in his laboratory focuses on the biodegradation of environmental pollutants, especially halogenated aromatic compounds. Prof. Häggblom received the Special Merit Award of the Federation of European Microbiology Societies in recognition of his outstanding contribution to the field of microbiology, particularly in support of students and junior researchers. He has trained and mentored over 20 Ph.D. students and 30 postdoctoral researchers/visiting scholars. Prof. Häggblom has published his research findings in high-impact academic journals, including *Environmental Science & Ecotechnology, Applied and Environmental Microbiology, Environmental Microbiology* and *ISME* Journal. He is an elected fellow of the American Academy of Microbiology and the American Association for the Advancement of Science. Since 2011, Prof.Häggblom has been the Editor-in-Chief of the journal *FEMS Microbial Ecology*, greatly increasing the journal's impact. In addition, he has actively promoted international cooperation and organized several conferences and seminars in the field of environmental microbiology.

Feng He is a professor at the School of Environment and Ecology at Jiangnan University, China. Prof. He has long been engaged in environmental geochemistry and environmental nanotechnology research to address global sustainability challenges in the fields of emerging contaminant treatment, environmental remediation, agriculture, and resource recycling. His research is supported by projects such as National Science Fund for Distinguished Young Scholars, National Key Research and Development Program etc. Prof. He has published more than 100 SCI papers, and is included in Clarivate's Highly Cited Researchers. Prof. He is a member of the Special Committee on Soil Chemistry and Soil Environment of the Soil Science Society of China.

Yan He is currently a professor and Director of Institute of Soil and Water Resources and Environmental Science, College of Environmental & Resource Sciences, Zhejiang University, China. She is interested in the research of soil chemistry and biochemistry, environmental biogeochemistry, pollution ecology, and soil pollution control and remediation, with special focus on biogeochemical processes of typical elements and organic pollutants in soil ecosystem. She successively received the Distinguished Young Scholars Award by the National Natural Science Foundation of China in 2022. She also serves as associate editor of Soil Science Society of America Journal (2018-2023), and associate editor of Earth Critical Zone (2024 to date) etc. She has published more than 130 peer-reviewed articles, and has been awarded more than 30 million RMB in competitive grants in the recent five years.

Jiandong Jiang is a professor and the dean of College of Life Sciences, Nanjing Agricultural University, China. He received his B. A. (2001) and Ph. D. (2006) in Microbiology at Nanjing Agricultural University. His research mostly focuses on the microbial catabolism of chemical pesticides, with great interests in aerobic and anaerobic dehalogenation of halogenated aromatics. He is a recipient of the National Natural Science Fund for Excellent Young Scholars. Prof. Jiang has published over than 80 papers in SCI journals such as *Nature Food, Nature Communications, ISME* Journal and *Microbiome*, etc. Currently, he is the vice chairman of the Environmental Microbiology Committee of the Chinese Society of Microbiology, and the Soil Biology and Biochemistry Committee of the Soil Science Society of China. Additionally, Prof. Jiang also serves as the Associate Editor of the journal *International Biodeterioration & Biodegradation* and the editorial board member of *Applied and Environmental Microbiology*.

Plenary and Keynote Speaker

Frank E. Löffler is the Goodrich Chair of Excellence Professor at the University of Tennessee, Knoxville, U.S.A. His research primarily focuses on the degradation of anthropogenic contaminants and bioremediation, the use of molecular biological tools for environmental monitoring, the study of natural organohalides on current and early Earth, microbial ecology and systems biology approaches, and the cultivation and isolation of novel microorganisms. Additionally, Prof. Löffler employs a multidisciplinary approach, integrating cultivation-based techniques with advanced genetic, biochemical, analytical, meta-omics, and computational methodologies. He is a recipient of the American Society for Microbiology Fellowship (2016), the Environmental Restoration Program of the Year Award (as Co-Principal Investigator, 2015), and the ITRC DNAPL Bioremediation Team of the Year Award (2008).

Michael Manefield is a professor at the University of New South Wales, Australia. He is trained as an environmental scientist with a major in microbiology, and has broad interests in environmental microbiology with an increasing focus on applications. His research highlights include the discovery of the first bacterial quorum sensing inhibitors, the development of RNA based stable isotope probing and characterization of anaerobic chloroform degrading bacteria. Dr. Manefield has also published over 120 scientific articles, graduated over 15 Ph.D. students. He is also the co-founder and former director of the Joint Academic Microbiology Seminars, founder of Micronovo Pty Ltd, a committee member of the Australasian Land & Groundwater Association, and a senior editor for *International Society for Microbial Ecology* Journal.

Hans-Hermann Richnow is a professor and is the Head of the Department of Isotope Biogeochemistry and the Centre for Chemical Microscopy – ProVIS at the Helmholtz Centre for Environmental Research (UFZ), Germany, until his retirement in June 2022. He is now an Emeritus and guest scientist at UFZ and a senior advisor at Isodetect. In 2023, his guest professorship at the China University of Geosciences (Beijing) was extended for five years. With over 350 publications and an h-index of 64, he is a highly cited scientist. His research focuses on stable isotope fractionation, microbial community analysis, and the spatial dimensions of biogeochemical reactions. He is also an editorial board member and project evaluator for various agencies.

Steven Rokita is a professor at Johns Hopkins University, U.S.A. He received his Ph.D. from the Massachusetts Institute of Technology in 1979 and gained post-doctoral training at Rockefeller University. His independent career began at Stony Brook University and later continued as a professor at the University of Maryland, College Park. His research program is united by a common interest in describing the structure and activity of biological macromolecules through their essential chemical reactivity. Current projects include enzymatic dehalogenation and reversible covalent chemistry expressed by quinone methide intermediates. In recent years, he has published over 100 papers in international journals such as *Nature Communications*, the *Journal of the American Chemical Society*, and *Angewandte Chemie International Edition*.

Plenary and Keynote Speaker

Jingchun Tang is a professor at the College of Environmental Science and Engineering at Nankai University and the director of the Tianjin Engineering Center of Environmental Diagnosis and Contamination Remediation. His current research focuses on environmental microbial technology and toxicology, the development of biochar and nanomaterials for remediation purposes, ecological remediation, microplastic pollution and its environmental impact. Prof. Tang has published over 200 papers with H index of 57 and received the Asian Young Biotechnologist Award in 2012 and Tianjin Science and Technology Progress Award for several times. Prof. Tang serves as an editorial board member of the *Frontiers in Microbiology* and a member of the Resource Recycling Professional Committee of the Chinese Society of Natural Resources.

Naoko Yoshida is an associate professor at the Nagoya Institute of Technology, Japan. She has a strong background in both theoretical and applied aspects of environmental science, having worked extensively on environmental impact assessments and the role of microorganisms in environmental processes. Prof. Yoshida held academic positions at Kyoto University from 2008 to 2010 and Toyohashi University of Technology from 2010 to 2013. Her work is characterized by a commitment to advancing knowledge in environmental management and improving methodologies for assessing and mitigating environmental risks.

Songhu Yuan is a professor at China University of Geosciences (Wuhan). His primary research focuses on the reactive oxygen species (ROS) and electron transfer processes in the subsurface environment, as well as the remediation of chlorinated solvents contaminated sites. He was granted the Outstanding Youth Fund by NSFC (2020) and was selected as the Young Changjiang Scholar by the Ministry of Education (2017). He has chaired over 20 projects including National Key Research and Development Program and National Science Foundations, and has published over 90 SCI papers as the first or corresponding author, including 40 papers in Nature Index journals such as *Environmental Science & Technology* and *Geochimica et Cosmochimica Acta*.

Stephen Zinder is a emeritus professor at Cornell University, U.S.A. His research focuses on chemical transformations carried out by anaerobic microorganisms and the properties of these microorganisms. Specific research areas include methanogenesis from acetate, nitrogen fixation by methanogenic *Archaea*, and microbial reductive dehalogenation of organohalides. His collaboration with Prof. James Gossett at Cornell led to the discovery of *Dehalococcoides*, a critical organism in bioremediation of organohalides. More recent research centered on chlorobenzene dechlorination by *Dehalobacter*.

Programme at a Glance

Date	Time	Process	Site
26th September	08:00-22:00	Registration	Conference Center
	18:00-19:30	Dinner	Dining Hall
	20:00-21:00	Committee discussion	Conference Center
27th September	08:00-08:30	Opening ceremony	Multi-functional Hall (3rd floor)
	08:30-11:50	Plenary lectures	
	12:00-13:30	Lunch	Dining Hall
	13:30-18:00	Sessions 1-3	Conference Center
	18:00-19:30	Gala dinner	Dining Hall
	20:00-22:00	Graduate session	Conference Center
28th September	08:00-12:00	Sessions 4-6	Conference Center
	12:00-13:30	Lunch	Dining Hall
	13:30-16:30	Plenary lectures	Multi-functional Hall (3rd floor)
	16:30-17:00	Closing ceremony	
	18:00-19:30	Dinner	Dining Hall

Detailed Programme

Chair: Elizabeth A. Edwards, Lorenz Adrian
Date: Friday, 27th September 2024
Venue: Multi-functional Hall (3rd Floor)

Time	OPENING CEREMONY
08:00~08:10	Welcome Speech 1
08:10~08:20	Welcome Speech 2
08:20~08:30	Welcome Speech 3
Time	**PLENARY LECTURES**
8:30-8:55	The history, development, and prospects of microbial dehalogenation **Stephen Zinder**, Cornell University, U.S.A.
8:55-9:20	Electrokinetic-enhanced biodehalogenation of trichloroethylene in low-permeability matrixes: Insight from spatio-temporal variations of microbial community and biodehalogenation activity **Songhu Yuan**, China University of Geosciences (Wuhan)
9:20-9:45	Diverse anaerobic organohalide-respiring bacteria in the marine environment **Max M. Häggblom**, Rutgers University, U.S.A.
9:45-10:05	**Group photo**
10:05-10:35	**Coffee break**
10:35-11:00	Dehalogenating food webs **Frank E. Löffler**, University of Tennessee, U.S.A.
11:00-11:25	Aerobic and anaerobic dehalogenation of halogenated aromatics **Jiandong Jiang**, Nanjing Agricultural University, China
11:25-11:50	An alternate dehalogenase for aerobic applications **Steven Rokita**, Johns Hopkins University, U.S.A.
12:00-13:30	**Lunch**

Chair: Max M. Häggblom, Qihong Lu
Date: Friday, 27th September 2024
Venue: Conference Hall-1 (1st floor)

Time	SESSION 1 Environmental occurrence, fate and biogeochemical cycling of emerging organohalides
13:30-13:50	Isotope fractionation to study the mode of dehalogenation from the laboratory to field studies **Hans-Hermann Richnow**, Helmholtz Centre for Environmental Research, Germany
13:50-14:10	Distribution characteristics of halogenated organic pollutants and metabolic mechanism of dehalogenated bacteria in Polar Marine environment **Chunfang Zhang**, Zhejiang University, China
14:10-14:25	Prevalent and active dehalogenation metabolism in microorganisms of the deepest ocean **Rulong Liu**, Shanghai Ocean University, China
14:25-14:40	Application of multi-element compound-specific stable isotopes in characterization of microbial degradation mechanisms of brominated organic flame retardants **Guoguang Wang**, Dalian Maritime University, China
14:40-14:55	Anaerobic biotransformation of Halogenated Organic Pollutants: Insights from compound-specific stable isotope analysis **Yanhong Zeng**, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
14:55-15:10	Humin-facilitated dehalogenation of tetrabromobisphenol A and its complete biodegradation through anaerobic-aerobic treatments **Guiping Liu**, Nanjing Agricultural University, China
15:10-15:25	Multi-omics insights into the function and evolution of sodium benzoate biodegradation pathway in *Benzoatithermus flavus* gen. nov., sp. nov. from hot spring **Chaojian Hu**, Sun Yat-sen University, China
15:25-15:45	**Coffee break**

Time	SESSION 1 Environmental occurrence, fate and biogeochemical cycling of emerging organohalides
15:45-16:05	Anaerobic organohalide biodegradation in the Botany Sands Aquifer **Michael Manefield**, University of New South Wales, Australia
16:05-16:25	Combining CSIA and enantiomer fractionation for evaluation the transformation of α-HCH: from field to lab **Yaqing Liu**, Guangxi University, China
16:25-16:40	Microbial colonization on four types of microplastics to form biofilm differentially affecting organic contaminant biodegradation **Wenbo Guo**, Shanghai Jiao Tong University, China
16:40-16:55	Quantum chemistry's journey into organohalide respiration **Shangwei Zhang**, Beijing Normal University, China
16:55-17:10	CO-driven electron and carbon flux fuels synergistic microbial reductive dechlorination **Jingjing Wang**, Institute of Applied Ecology, Chinese Academy of Sciences
17:10-17:25	Exploring biodiversity and genetic resources of organohalides-cycling microbiota in the global ocean **Na Zhou**, Sun Yat-sen University, China
17:25-17:40	Adsorption of PCBs on microplastics mitigated greenhouse gas emission by changing C/N metabolism in freshwater sediment **Wenzhu Zhang**, Nankai University, China
17:40-17:55	Biotransformation of chlorinated organophosphate esters in anaerobic cultures enriched from gutter sludge of a vehicle dismantling site **Sen Yang**, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
18:00-19:30	**Dinner**

Chair: Lorenz Adrian, Yan Xu
Date: Friday, 27th September 2024
Venue: Conference Hall-2 (1st floor)

Time	SESSION 2 Cultivation and biochemistry of organohalide-respiring bacteria (OHRB)
13:30-13:50	Carboxylate chain elongation: environmental relevance, microbial ecology, and usage in anaerobic dehalogenation **Anca G. Delgado**, Arizona State University, U.S.A.
13:50-14:10	Reduction in nitrate inhibition of microbial dechlorination of polychlorinated biphenyls: role of small organic acids **Yan Xu**, Southeast University, China
14:10-14:30	Efficient degradation of brominated flame retardants by synergistic integration of iron catalysis and bacteria **Xingxing Peng**, Sun Yat-sen University, China
14:30-14:45	Synergistic material–microbe interface toward deeper anaerobic defluorination **Shun Che**, University of California, Riverside, U.S.A.
14:45-15:00	*Trichlorobacter* sp. strain IAE dihaloeliminates 1,1,2-trichloroethane and 1,2-dichloroethane **Lisi Jiang**, Shenyang Normal University, China
15:00-15:15	Pangenomic insights into *Dehalobacter* evolution and acquisition of dechlorination genes **Olivia Bulka**, University of Toronto, Canada
15:15-15:30	Anaerobic biotransformation of hexachlorocyclohexane isomers in aqueous condition: dual C-Cl isotope fractionation and impact on microbial community compositions **Xinyu Zhang**, Guangxi University, China
15:30-15:45	**Coffee break**

Time	SESSION 2 Cultivation and biochemistry of organohalide-respiring bacteria (OHRB)
15:45-16:05	Mechanisms of dehalorespiration and extracellular electron uptake in *Pseudomonas* sp. CP-1 **Zhiling Li**, Harbin Institute of Technology, China
16:05-16:25	Stimulating Feammox reaction in iron-rich, acidic sediments from AFFF-impacted sites for PFAS defluorination **Shan Huang**, Princeton University, U.S.A.
16:25-16:45	Organohalide respiration with diclofenac by *Dehalogenimonas* **Xiuying Li**, Institute of Applied Ecology, Chinese Academy of Sciences
16:45-17:00	De novo biosynthesis of an unconventional cobamide with demethylated corrin ring in *Sulfurospirillum diekertiae* **Huijuan Jin**, Institute of Applied Ecology, Chinese Academy of Sciences
17:00-17:15	A mountain from a molehill: chloroalkane reductive dehalogenases have distinct activity on common substrates despite high sequence similarity **Lucy Ross-Blevis**, University of Toronto, Canada
17:15-17:30	Metagenome-assisted enhancement of CAHs bioremediation tools **Kaiwen Yang**, Shanghai Jiao Tong University, China
18:00-19:30	**Dinner**

Chair: Jingchun Tang, Naoko Yoshida

Date: Friday, 27th September 2024

Venue: Conference Hall-3 (2nd floor)

Time	SESSION 3 Site remediation and technology
13:30-13:50	From isolation to practical application: bioremediation with organohalide-respiring bacteria **Naoko Yoshida**, Nagoya Institute of Technology, Japan
13:50-14:10	Improve niche colonization and microbial interactions for organohalide-respiring-bacteria-mediated remediation of chloroethene-contaminated sites **Qihong Lu**, Sun Yat-sen University, China
14:10-14:25	Degradation of trichloroethylene by combining microorganism and biochar supported nano zero-valent iron: an exploratory research **Huilong Luo**, Institute of Resources and Environment, Beijing Academy of Science and Technology, China
14:25-14:40	Stimulation of reductive and oxidative dechlorination through bioelectrochemical membrane-less reactors: major findings and perspectives at laboratory and pilot scales **Geremia Sassetto**, University of Rome Sapienza, Italy
14:40-14:55	Study on the effectiveness of an in situ biogenic sulfidated zero-valent iron system for the selective removal of trichloroethylene in groundwater **Jia Xin**, Ocean University of China
14:55-15:10	Niche construction in bioelectrochemical system with three-dimensional electrodes achieving biodegradation of 2,4-dichlorophenol and refractory intermediates **Deping Li**, Shanghai Jiao Tong University, China
15:25-15:45	**Coffee break**

Time	SESSION 3 Site remediation and technology
15:45-16:05	Studies on the practical application of a bacterial consortium containing *Dehalococcoides* strains **Masafumi Yohda**, Tokyo University of Agriculture and Technology, Japan
16:05-16:25	Inhibiting effects of coexisting substances on biodechlorination and biochar's roles in enhancing it **Ling Zhao**, Shanghai Jiao Tong University, China
16:25-16:40	Strategies and mechanisms for improving groundwater remediation efficiency of chlorinated ethenes by controlling particle size of polyhydroxyalkanoate **Jie Ma**, Hubei University, China
16:40-16:55	Full scale demonstration of in-situ anaerobic dehalogenation bioremediation in China **Boyang Chen**, Beijing Bosen Environmental Technology Co., Ltd., China
16:55-17:10	Microbiome resistance mediates stimulation of reduced graphene oxide to simultaneous abatement of 2,2',4,4',5-pentabromodiphenyl ether and 3,4-dichloroaniline in paddy soils **Yi Sun,** Institute of Soil Science, Chinese Academy of Sciences
18:00-19:30	**Dinner**

Chair: Frank E. Löffler, Yi Yang

Date: Saturday, 28th September 2024

Venue: Conference Hall-1 (1st floor)

Time	SESSION 4 Dehalogenation microbiome
8:00-8:20	Collaborative dechlorination by iron-based materials and microbiome: problems and challenges **Jingchun Tang**, Nankai University, China
8:20-8:40	Characterization of microbes and genes involved in the biodegradation of BDE-209 and BaP under anaerobic condition **Xiaoxia Lu**, Peking University, China
8:40-9:00	Metagenomics of a mini-pilot bioreactor utilizing polyhydroxyalkanoates and biochar as bio-based materials for enhanced reductive dechlorination processes **Bruna Matturro**, Italian National Research Council, Italy
9:00-9:20	Deciphering the triclosan degradation mechanism in *Sphingomonas* sp. strain YL-JM2C: implications for wastewater treatment and marine resources **Ying Xu**, Shanghai Jiao Tong University, China
9:20-9:35	Waterdepth-dependent environmental adaptive mechanisms of reductive dehalogenators across marginal sea sediments **Dongdong Zhang**, Zhejiang University, China
9:35-9:50	Ecophysiology and environmental distribution of organohalide-respiring bacteria **Yue Lu**, Hunan University, China
9:50-10:05	Metabolic characteristics of diverse reductive dehalogenators in deep-sea cold seeps: meta-analysis, microbial cultivation, and implication **Zhaochao Deng**, Zhejiang University, China
10:05-10:20	**Coffee break**

Chair: Simona Rossetti, Zhiling Li

Date: Saturday, 28th September 2024

Venue: Conference Hall-1 (1st floor)

Time	SESSION 5 Bio-electron dehalogenation
10:20-10:40	Groundwater remediation of chlorinated hydrocarbons using electro-based technologies: current trends and perspectives **Fang Zhang**, Tsinghua University, China
10:40-11:00	The iron-humic acid (Fe-HA) complexes deciphers metabolic bottleneck codes of dissimilatory iron-reducing bacteria (DIRB): achieving sustainable reductive dehalogenation by utilizing natural carbon source **Ang Li**, Harbin Institute of Technology, China
11:00-11:20	Unveiling the electronic metal-support interaction on Pd-based cathode for hydrodechlorination **Dahong Huang**, University of Science and Technology of China
11:20-11:35	*Desulfosprosinus* facilitates the bioelectrochemical dechlorination of *Dehalococcoides* **Lingyu Meng**, Nagoya Institute of Technology/Institute of Soil Science, Chinese Academy of Sciences
11:35-11:50	The inhibitory effect of chloroacetonitrile on anaerobic ammonia oxidation process and the enhanced strategy by circular pulse electric field **Ning Zhang**, Henan University of Science and Technology, China
12:00-13:30	**Lunch**

Chair: Feng He, Lizhi Huang
Date: Saturday, 28th September 2024
Venue: Conference Hall-2 (1st floor)

Time	SESSION 6 Abiotic dehalogenation
8:00-8:20	Abiotic and biotic reductive dehalogenation of halogenated flame retardants **Yin Zhong**, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences
8:20-8:40	Bone char switch on reductive dehalogenation of trichloroethene by series of Fe (II)-bearing minerals **Weizhao Yin**, Jinan University (Guangzhou), China
8:40-8:55	S-ZVI@biochar constructs a directed electron transfer channel between dechlorinating bacteria, *Shewanella oneidensis* MR-1 and trichloroethylene **Honghong Lyu**, Hebei University of Technology, China
8:55-9:10	Catalytic hydrodehalogenation activity and selectivity of polyiodinated phenolic disinfection byproducts at ambient conditions **Shuxue Yang**, Nanjing University, China
9:10-9:25	Photocatalytic dechlorination for sewage treatment **Yang Qu**, Heilongjiang University, China
9:25-9:40	Elucidating the differential impacts of S-nZVI and nZVI on microbial reductive dechlorination of trichloroethene by *Dehalococcoides* **Binbin Wang**, Zhejiang University of Technology, China
9:40-9:55	Minor chromium passivation of S-ZVI enhanced the long-term dechlorination performance of trichlorethylene: effects of corrosion and passivation on the reactivity and selectivity **Jiaming Guo**, Nankai University, China
9:55-10:20	**Coffee break**

Time	SESSION 6 Abiotic dehalogenation
10:20-10:40	Synergistic reductive-oxidative dehalogenation driven by Fe (II) redox chemistry **Lizhi Huang**, Wuhan University, China
10:40-10:55	Nitridation coupled with sulfidation enhances the reductive dechlorination performance of zero valent iron **Li Gong**, Zhejiang University of Technology, China
10:55-11:10	Simultaneous dehalogenation and detoxification of halogenated PPCPs by carbon dioxide radical anions based advanced reduction processes **Lei Zhou**, East China University of Science and Technology
11:10-11:25	Study on molecular regulation accelerating defluorination of perfluorinated compounds and its mechanism **Zhanghao Chen**, Nanjing University, China
11:25-11:40	Electroreductive defluorination of unsaturated PFAS by a quaternary ammonium surfactant-modified cathode via direct cathodic reduction **Yue Wang**, South China Agricultural University
11:40-11:55	Dechlorination of polyvinyl chloride microplastics and their migration in aquatic organisms **Chao Wang**, Jiangsu Environmental Engineering Technology Co., Ltd., China
12:00-13:30	**Lunch**

Chair: Frank E. Löffler, Jun Yan
Date: Saturday, 28th September 2024
Venue: Multi-functional Hall (3rd floor)

Time	PLENARY LECTURES
13:30-13:55	Deciphering reductive dehalogenase specificity through targeted mutagenesis of chloroalkane reductases **Elizabeth A. Edwards**, University of Toronto, Canada
13:55-14:20	Systematic investigation of reductive dechlorination and methanogenesis: Associations, mechanisms and environmental implications **Yan He**, Zhejiang University, China
14:20-14:45	Construction and mechanistic analysis of enzyme-like electrocatalytic dechlorination systems **Jiejie Chen**, University of Science and Technology of China
14:45-15:15	**Coffee break**
15:15-15:40	Abiotic dehalogenation and detoxification with sulfur species **Jay J. Gan**, University of California, Riverside, U.S.A.
15:40-16:05	Advances in chemical dechlorination by sulfidated zero-valent iron: theory and technology development **Feng He**, Jiangnan University, China
16:05-16:30	Biochemistry of organohalide respiration in *Dehalococcoides mccartyi* **Lorenz Adrian**, Helmholtz Centre for Environmental Research, Germany
16:30-17:00	**Closing Ceremony**
18:00-19:30	**Dinner**

Chair: Dongdong Zhang, Bruna Matturro

Date: Friday, 27th September 2024

Venue: Conference Hall-2 (1st floor)

Time	Graduate session
20:00-20:10	Effective catalytic hydrodehalogenation removal of halogenated odorants in water using confined palladium catalyst **Yufan Zhang**, Nanjing University, China
20:10-20:20	Synergy of metal-support interaction and positively charged Pd promoting efficient C-Cl bond activation on Pd-based Ce-MOF-derived catalysts **Xiaojie Hu**, Nanjing University, China
20:20-20:30	Anaerobic dechlorination of chlorobenzenes by cultures enriched from two field sites in China **Jun Zhang**, Nanjing University, China
20:30-20:40	Enhanced reductive degradation of trichloroethylene by ball milled nitridation of bimetallic Ni-ZVI: combination effect of electron transfer and catalytic hydrogenation **Yinghao Shi**, Nankai University, China
20:40-20:50	A new *Dehalogenimonas* from estuarine sediments dechlorinates 1,2-dichloroethane under elevated salinity **Hongyan Wang**, Institute of Applied Ecology, Chinese Academy of Sciences
20:50-21:00	A colony system for degradable perchloroethylene isolated from halogenated hydrocarbon contaminated soil **Chao Yang**, Tongji University, China
21:00-21:10	Removal performance and mechanism of sulfur-contained odor gas emitted from food waste treatment plant by biotrickling filter **Qihao Feng**, Guangdong University of Technology, China
21:10-21:20	Mechanisms of TCE biodegradation of high dissolved H_2 and O_2: implication for electrokinetic-enhanced bioremediation **Weiwei Ouyang**, China University of Geosciences
21:20-21:30	Charactering the biotransformation of hexachlorocyclohexane and its chemical degradation by nano zero valent iron in anoxic condition **Fangcheng Lu**, Guangxi University, China
21:30-21:40	Immobilization of the crude enzyme extracted from *Stenotrophomonas* sp. GYH within modified zeolitic imidazolate framework (ZIF-8-NH2) and its application in trichloromethane removal **Aobo Chen**, Zhejiang University of Technology, China
21:40-21:50	Configurations of bioelectrochemical reactor for environmental remediation: a review **Zhenyi Ji**, Zhejiang University of Technology, China
21:50-22:00	Inoculation of anaerobic ammonia oxidation sludge for ultra-fast start-up of CANON process and performance optimization **Yujia Guo**, Zhengzhou University of Light Industry, China

Poster Programme

	Name	Poster
1	**Bruna Matturro**, Italian National Research Council, Italy	Microbial characterization and selection of chlorinated and non-chlorinated hydrocarbon-degrading bacteria at a multicontaminated site of national interest in Italy
2	**Aiden Zhaoxiang Liu**, University of Toronto, Canada	Investigating the anaerobic biotransformation of the pesticide chlordecone
3	**Sikai Xie**, Zhejiang University, China	Peroxymonosulfate activation by iron self-doped sludge-derived biochar for perfluorooctanoic acid degradation
4	**Hao Yu**, Zhejiang University, China	Microbial degradation potential of halogenated organics in the cold seep of the South China Sea: a perspective from non-targeted analysis
5	**Jiaxin Li**, Zhejiang University, China	Elevated atmospheric CO_2 altered the degradation of halogenated organic pollutants and CH_4 production from free air CO_2 enrichment
6	**Zhenghua Wu**, Zhejiang University, China	*Geobacter* sp. dihaloeliminates 1,2-dichloroethane and its potential in remediation of dichloroethane-contaminated sites
7	**Zhirong Sun**, Zhejiang University of Technology, China	Aerobic biodegradation of trichloromethane by *Stenotrophomonas* sp. GYH and its biodegradation mechanism analysis
8	**Junyin Pan**, Zhejiang University of Technology, China	Hydrated neodymium oxide nanoparticles confined in a porous polystyrene anion exchanger for enhanced fluoride removal from groundwater
9	**Kelsie Herzer**, Arizona State University, U.S.A.	The lovely and unique characteristics of *Geobacter lovleyi*
10	**Tianyu Li**, Sun Yat-sen University, China	Efficient degradation of hexabromocyclododecane using montmorillonite supported nano-zero-valent iron and *Citrobacter* sp. Y3

11	**Siying Li**, Sun Yat-sen University, China	Auxiliary applications in the research of diclofenac biodegradation: functional prediction of keystone species based on machine learning
12	**Ziqi Peng**, Sun Yat-sen University, China	Isolation, screening and identification of PAHs degrading bacteria from sediment in Pearl River Estuary
13	**Yongchao You**, Qingdao University, China	The metabolic mechanism and physiological response of sodium pentachlorophenate in different genotypes of rice
14	**Xinrui Jiang**, Qingdao University, China	Electron donor and electron shuttle enhanced the reductive dichlorination of perchloroethylene
15	**Zhaozhao Gao**, Institute of Soil Science, Chinese Academy of Sciences	Colorimetric fluoride detection reveals *in vivo* cometabolic defluorination of poly-fluoroalkyl substances
16	**Chenchen Huang**, China University of Mining & Technology/ Chinese Academy of Sciences	Anaerobic biotransformation of two novel brominated flame retardants: kinetics, isotope fractionation and reaction mechanisms
17	**Rui Shen**, Sun Yat-sen University, China	Novel organohalide-respiring bacteria and their unique microbial connections for reductive dehalogenation in landfills
18	**Shujing Yang**, Institute of Applied Ecology, Chinese Academy of Sciences	Anaerobic microbial degradation of hexachloro-1,3-butadiene (HCBD): an investigation of the transformation mechanism
19	**Hengyi Liao**, Institute of Applied Ecology, Chinese Academy of Sciences	Organohalide respiration: retrospective and perspective through bibliometrics

20	**Xiaocui Li**, Institute of Applied Ecology, Chinese Academy of Sciences	Dihaloelimination of a broad spectrum of halogenated alkanes by novel *Dehalococcoides* strains from petroleum-contaminated soil
21	**Panpan Chen**, Institute of Applied Ecology, Chinese Academy of Sciences	Farmland harbors PCE and 1,1,2-TCA-dechlorinating *Dehalobacter* species
22	**Yuanzhi Wang**, Institute of Applied Ecology, Chinese Academy of Sciences	Anaerobic biotransformation of herbicide quinclorac by *Dehalogenimonas*
23	**Siqi Huang**, Institute of Applied Ecology, Chinese Academy of Sciences	Exploring the synergy between *Trichlorobacter* and a *Dehalococcodia* population to achieve efficient detoxification of 1,1,2-trichloroethane
24	**Mukhtiar Ali**, National University of Singapore (Suzhou) Research Institute, China	Microplastics are the carriers for poly- and perfluoroalkyl substances (PFAS) in the wastewater treatment plant
25	**Jinting Liu**, National University of Singapore, Singapore	Plastisphere microbiomes respiring persistent organohalide pollutants
26	**Guofang Xu**, National University of Singapore, Singapore	Combatting multiple aromatic organohalide pollutants by bioaugmentation with a single *Dehalococcoides* in sediments
27	**Liyuan Qiang**, Shihezi University, China	Long-range atmospheric transport and characteristics of polyvinyl chloride microplastics in glacier snow samples
28	**Zhihui Qin**, Zhejiang University, China	Developing the script “degenerate primer 111” to enhance the coverage of universal primers for the small subunit rRNA gene on target microorganisms

Agilent
Trusted Answers

安捷伦新污染物分析解决方案

- 靶向分析 & 非靶向分析
- 效应导向分析 (EDA)
- PFAS 分析方案
- 水中 95 种抗生素自动在线固相萃取 LC/MS/MS 分析解决方案
- 水中抗生素预警和耐药研究利器
- 一针进样可测定 82 种有机污染物的 LC/MS/MS 分析全流程解决方案
- 微塑料分析整体解决方案
- 环境暴露与疾病机理深入研究

Agilent Ultivo LC/TQ　Agilent 7250 GC/Q-TOF　Agilent 6546 LC/Q-TOF

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《安捷伦新污染物分析应用文集》

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安捷伦最新 GC/TQ 系统助您突破一切极限

全新推出的 Agilent 7010D GC/TQ 系统重新定义了高端性能，其具有出色的稳定性和超痕量级灵敏度，持续致力于提升可持续性和透明度。7010D 专为需要进行各种行业应用（例如分析食品中的农药或环境样品中的 SVOC）的实验室而设计。安捷伦深知进行 GC/MS 分析的实验室在多组分农药残留分析中所面临的挑战，而 7010D 能够以稳定的性能有效地定量分析数百种农药，并大幅延长正常使用时间。

GC/TQ 系统融合了可加热的镀金四极杆、Agilent JetClean 和内置智能功能，再加上安捷伦创新的 HES 2.0 离子源技术，可提供阿克级检出限和首屈一指的性能。另外，使用最新的 Agilent MassHunter 采集软件 13.0 时，您将体验到现代风格的智能界面，同时在舒适度上较之以前毫不逊色。

www.agilent.com/gcms/7010d-gc-tq

DE95085081

MAGIGENE

美格基因 >>>

广东美格基因科技有限公司（美格基因）成立于2016年8月，专注于微生物组学、合成生物学创新技术以及产品的研发与产业化。2022年，美格基因入选国家“专精特新”小巨人企业。

美格基因总部位于深圳市国际创新谷，运营中心位于广州国际生物岛，下设广州微芯生物科技有限公司、方舟生物安全科技（广州）有限公司、壹健生物科技（苏州）有限公司、美格微芯（北京）基因科技有限公司四家子公司。

美格基因拥有一支由国际知名学者领衔的高水平研发与产业化队伍，微生物组科研服务、微生物检测、环境DNA检测、微生物基因芯片、微生物调控、基因组酶学、纳米抗体等相关的技术与产品居国际领先水平。

展望未来，美格基因志在国际微生物组及合成生物学领域占有一席之地，以微生物组和纳米抗体技术等造福社会。

公司总部·深圳国际创新谷

广州运营中心·广州国际生物岛

2016.8 成立于2016年8月

2022 入选国家“专精特新”小巨人企业

BUSINESS AREA

业务领域 >>>

微生物组技术与产品

微生物组学

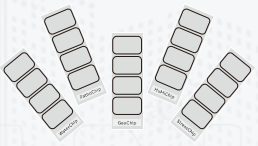
- 微生物多样性（二代）/ 微生物多样性（三代）
- 宏基因组（二代）/ 宏基因组（三代）
- 细菌框架图 / 细菌完成图 / 真菌精细图 /
- 细菌及真菌基因组重测序 / 宏病毒组 / 病毒基因组
- 宏转录组 / 高通量转录表达谱 / 真核转录组 / 原核转录组

质谱组学

- 非靶标代谢组学
- 广泛靶标代谢组
- 高通量靶标代谢组学
- 宏蛋白质组
- 普通蛋白质组学

基因芯片

- 美格基因芯片
- 高通量qPCR芯片（代理）

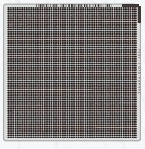


多组学联合分析

- 微生物多样性+代谢组联合分析
- 转录组＋代谢组联合分析
- 转录组+蛋白质组联合分析
- 微生物多样性＋高通量qPCR芯片联合分析

极速计算及分析服务

- 美格云生态（MagiMeta Cloud）
- 宏基因组（极速分析）
- DNA宏病毒组（极速分析）



试剂及仪器

核酸提取与纯化试剂

① DNA提取
② RNA提取
③ DNA / RNA共提取
④ 质粒提取 / 核酸纯化

高通量测序试剂

① DNA建库试剂
② RNA建库试剂

检测试剂

① 水生动物疫病检测试剂
② 宠物疫病检测试剂
③ 畜禽疫病检测试剂
④ 物种鉴定 / 物种源性检测试剂
⑤ 环境微生物检测试剂

核酸定量试剂

样品采集与保存试剂

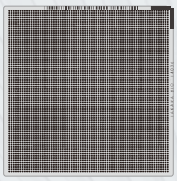
全自动核酸提取仪

便携式qPCR仪

核酸提取检测一体机

环境生态安全技术与产品

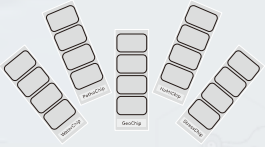
高通量qPCR技术平台	环境DNA（eDNA）生物多样性检测	美格基因芯片（国产芯片）
碳氮磷硫功能基因芯片	鱼类多样性检测	蓝藻检测芯片
抗生素抗性基因芯片	陆生植物多样性检测	赤潮检测芯片
砷功能基因芯片	陆生动物多样性检测	病原检测芯片
病原微生物检测芯片	鸟类多样性检测	甲烷检测芯片
环境污染溯源芯片	土壤动物多样性检测	
重金属抗性基因芯片	水生浮游动植物多样性检测	
毒力因子基因芯片		



环境微生物

完整
解决方案

病原微生物



美格基因数据库

1

微生物组数据库

美格微生物组数据（MagiMicroDB）：目前针对扩增子数（16S、18S、ITS），收录达10万余例样本，其来源于国际主流库(NCBI、Qiita、EMBL等)及大量人工清洗汇整。

体现完整样本信息含：测序平台、片段选区、取样点、疾病类型、文献等，并全面支持在线数据整合分析服务。

2

病毒组数据库

美格基因病毒数据（MagiVirusDB）：收录的病毒序列数量超过34万条，N50长度近50Kbp，并采用ICTV最新发布的病毒分类信息注释病毒序列。

其中，RNA病毒序列的数量超过20万条。美格基因病毒数据库的不断扩容更新为识别鉴定病毒提供了有力的支持。

3

环境DNA数据库

壹健生物环境DNA宏条形码数据库(OH eDNA-metabarcodingDB)：通过对十多个国际主流宏条码数据库(BOLD、Figshare、MitoFish等)进行序列整合和信息完善，并测序补充了国内部分代表性的物种宏条码序列，自主构建了7个扩增片段宏条码数据库，包括线粒体的12S、16S、COI基因，叶绿体的rcbL基因和trnL-F间区，核糖体RNA的18S和ITS序列。

广东美格基因科技有限公司

深圳国际创新谷三期7栋B座13层
广州国际生物岛官洲生命科学中心A栋28层
广州佳德科技园B栋3层

服务热线：400-968-5700
邮箱地址：support@magigene.com
美格官网：www.magigene.com

美格基因

美格科服

JCBio

甲圭宏生物

广州市甲圭宏生物科技有限公司

Guangzhou Jiaguihong Biotechnology Co., Ltd

我司致力于科学实验仪器设备服务应用专业性技术公司。公司从事生物科学仪器安装调试、设备维护、仪器维修、设备改造以及配件销售服务。我们以真诚的服务态度和专业的技术为客户提供一站式服务，为客户提供更加便利、省心的服务解决方案。

主要设备部分包括广域厌氧操控系统及新型生物反应器装置。学仪器安装调试、设备维护、仪器维修、设备改造以及配件销售服务。我们以真诚的服务态度和专业的技术为客户提供一站式服务，为客户提供更加便利、省心的服务解决方案。

主要设备部分包括广域厌氧操控系统及新型生物反应器装置。

JCBio
甲圭宏生物

广州市甲圭宏生物科技有限公司

地址：广州市番禺区南村镇金坑江润大厦610室

电话：020-31126951

传真：020-31126954

JGBio 广州市甲圭宏生物科技有限公司

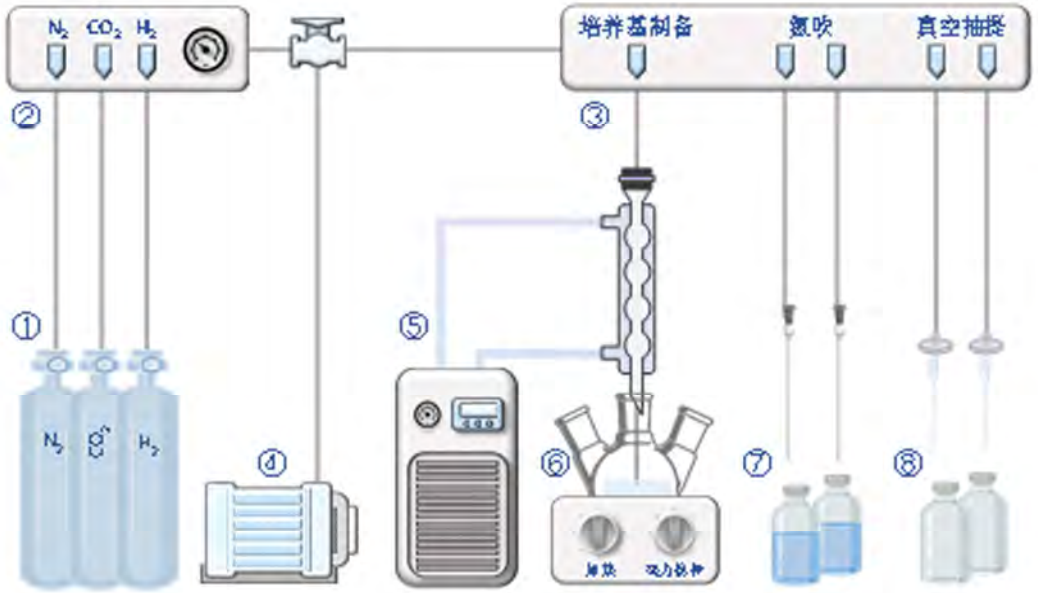
甲圭宏生物 Guangzhou Jiaguihong Biotechnology Co., Ltd

广域厌氧操控系统JG-2401A

产品简介 Product profile

JG-2401A厌氧微生物培养系统适用于反消化菌、硫酸盐还原菌、产甲烷菌等不同厌氧程度要求的微生物培养物制备及培养生境设置,设备适应性广,不仅可以与厌氧瓶,顶空瓶对接,也可以和厌氧罐及其配套的各类型培养皿对接,同时可通过加热提高培养基溶液温度(培养基煮沸)和分压控制(氮吹及抽真空)达到培养体系控氧和氧化还原电位调节。

系统配置 system configuration



说明:

① 高压气瓶
② 高压气体输入模块
③ 低压气体输出模块
④ 真空泵
⑤ 冷凝回流装置
⑥ 加热装置
⑦ 氮吹血清瓶
⑧ 低压气体血清瓶

- 高压气体分布模块(1-3):通过调节气路阀门(1-2),可选择三种气体(N2、CO2和H2)进行分配并输送(3),可选择输送单一气体或比例任意的混合气体至培养基制备模块。
- 培养基制备模块(5-7):通过冷凝回流装置(5)和加热装置(6)对培养基进行加热和氮吹,达到除氧的目的;在培养基分装过程中,可利用氮吹部分(7)对分装装置除氧避免分装过程中的O2渗入。
- 真空模块(4&8):通过连接真空泵(4)和真空抽提部分(8),可对培养基进行抽提除氧。

主要设备 Main equipment

北京博诚立新环境科技股份有限公司
BEIJING BOSEN ENVIRONMENTAL TECHNOLOGY CO,LTD

股票简称：博诚环境
股票代码：870421

北京博诚立新环境科技股份有限公司成立于2007年，是一家提供污染场地评估、方案设计和修复工程完整解决方案的国家高新技术企业，2017年成功挂牌新三板，具有中关村瞪羚企业、北京市“专精特新”中小企业、科技型中小 企业和中国环保优秀品牌企业等称号。

公司“地下水原位强化生物修复集成技术与应用”项目荣获国家环境保护科学技术奖二等奖、入选绿色化工园区适用技术。

污染场地
生物修复领跑者

诚实守信 尽责合作
卓越创新 客户至上


环境保护科学技术奖

获奖证书

获奖项目：地下水原位强化生物修复集成技术与应用

获奖等级：二等奖

获 奖 者：北京博诚立新环境科技股份有限公司（第一完成单位）

二〇二一年一月

证书号：KJ2021-2-36-D01


中国石油和化学工业联合会

关于公布“2021年绿色化工园区适用技术”名单的决定

各有关单位：

为落实国家相关产业政策，做好绿色化工园区建设的技术支撑，中国石油和化学工业联合会化工园区工作委员会组织开展了“2021年绿色化工园区适用技术”申报认定工作。经自主申请、文件审查、专家评审和网上公示，确定19项技术入选“2021年绿色化工园区适用技术”名单，现予以公布。

附件：“2021年绿色化工园区适用技术”名单

典型客户

Standard Chartered 渣打银行 | DUPONT | 长庆油田

蓝丰生化 | AVIC | 中国一重 CFHI

腾格里沙漠污染事件蒸发池场地地下水原位强化生物修复工程

北京市海淀区中坤大厦1201 | www.bosentech.com | 010-51656067 | bchj@bosentech.com

核心技术

原位强化 生物修复技术

原理

特种功能生物菌剂原位注入

工程集成技术调控生境条件

微生物大量繁殖将有机污染物矿化降解

技术特点

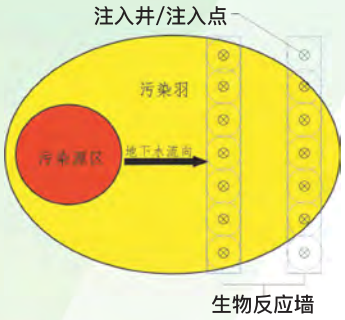
施工简单，扰动小

满足严格的地下水标准

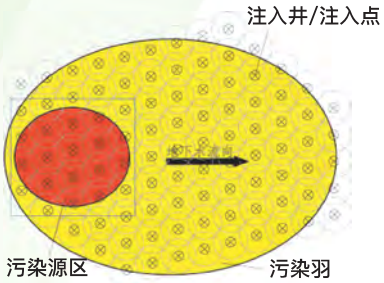
低碳绿色，保持土壤地下水生态环境功能

显著降低修复费用

风险管控应用场景



全面修复应用场景



厌氧脱卤 生物修复菌剂BS-1

多种型号菌剂

氯代烯烃：四氯乙烯、三氯乙烯、二氯乙烯、氯乙烯

氯代烷烃：二氯甲烷、氯仿、1,2-二氯乙烷、1,1,2-三氯乙烷、1,2-二氯丙烷、1,2,3-三氯丙烷

菌剂特色

国家重点研发计划“场地地下水卤代烃污染修复材料和技术”项目研发成果

厌氧脱卤呼吸完全降解氯代烃

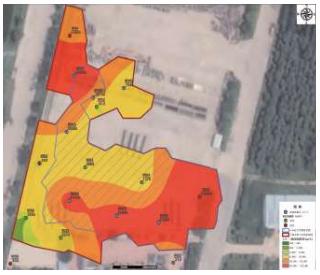
性能媲美国际知名KB-1菌剂

填补国内空白

罐装厌氧脱卤菌剂

吨桶装厌氧脱卤菌剂

某氯代烃污染场地 原位厌氧生物修复工程（约8万m^3）



污染分布图

营养助剂配置与储存

饱和带修复井注射厌氧菌剂

包气带直推注入厌氧菌剂

The 4th International Conference on Anaerobic Biological Dehalogenation