OCT 2025

Chao-Zhong Qin, PhD - CURRICULUM VITAE

Prof. Chao-Zhong Qin
Date of Birth: 25/09/1982
Material status: Married

Department of Carbon Storage Science and Engineering
School of Resources and Safety Engineering Chongqing University
Shazheng Street 174, 400044, Chongqing, China

Email: chaozhong.qin@cqu.edu.cn
Mobile: +86 139 9626 5151
Website: http://www.res.cqu.edu.cn/info/1207/5966.htm
Google scholar: https://scholar.google.com/citations?user=1d5BRo4AAAAJ&hl=zh-CN

Summary of research interests

My research focuses on flow and transport phenomena in diverse porous media, including geological formations and artificial materials. I am dedicated to developing image-based numerical models, advancing digital rock physics, and building cutting-edge numerical tools to gain deep insights into pore-scale physics. My work aims to bridge the gap between pore-scale and average-scale processes in porous media. Key applications include unconventional oil and gas recovery, fuel cells, sequestration of carbon dioxide, underground hydrogen storage, and design of porous materials.

Education background

- From 1/9/2001 until 30/6/2005: Bachelor student at Department of Engineering Mechanics, Xi'an JiaoTong University, Xi'an, China
- From 1/9/2005 until 30/6/2008: Master student at Department of Mechanical Engineering, University of Science and Technology of China, Hefei, China
- From 1/3/2009 until 30/9/2012: Doctoral student at General Motors Alternative Propulsion Research Center, Mainz-Kastel, Germany, and Department of Earth Sciences, Utrecht University, The Netherlands
  Dissertation: Water and heat management in polymer electrolyte fuel cells
  Supervisors: Prof. Majid Hassanizadeh from Utrecht University and Dr. Dirk Rensink from Opel AG

Professional experiences

- From 1/11/2019 until now, Professor, School of Resources and Safety Engineering, Chongqing University, China
- From 1/6/2024 until 31/7/2024, visiting Professor, Department of Mathematics, Hasselt University, Belgium (Host: Prof. Sorin Pop)
- From 1/2/2024 until 31/5/2024, visiting Professor, Department of Hydromechanics and Modelling of Hydrosystems, Stuttgart University, Germany (Host: Prof. Rainer Helmig and Prof. Bernd Flemish)
- From 1/11/2016 until 30/9/2019, Managing director of the Darcy Research Center of Technology University of Eindhoven and Utrecht University (part-time, one day per week)
- From 1/11/2016 until 30/9/2019, Researcher, Department of Mechanical Engineering, Technology University of Eindhoven, The Netherlands
  Supervisor: Prof. Harald van Brummelen

Research topic: Pore-scale modeling of spontaneous flow in porous media with the application of inkjet printing

- From 1/4/2016 until 30/5/2016, visiting Researcher, Department of Civil and Environmental Engineering, Princeton University, US (Host: Prof. Michael Celia)
- From 1/3/2014 until 30/5/2014, visiting researcher, Fraunhofer ITWM, Germany (Host: Prof. Oleg Iliev)
- From 1/11/2012 until 31/10/2016, Postdoc researcher, Department of Earth Sciences, Utrecht University, The Netherlands
  Supervisor: Prof. Majid Hassanizadeh
  Research topic: Fundamentals of multiphase flow in porous media, and reactive transport in porous media with mineral precipitation/dissolution

Research Funding

- Reservoir multiphysics-driven digital twin of fine-tuned development of shale gas, Chongqing Science and Technology Bureau, CSTB2025TIAD-KPX0055, 20/6/2025-19/6/2028, 3000 000 RMB, PI
- Flow and transport in porous media: key technologies and fundamental research for advancing energy transition in China, Ministry of Human Resources and Social Security of the People's Republic of China, No. S20240032, 1/1/2024-31/12/2025, 500 000 RMB, PI
- Characterization of multiscale pore structures of tight sandstones, China Petrochemical Corporation, No. 33550000-24-ZC0699-0093, 390 000 RMB, 11/2024-06/2025, PI
- Nonlinear flow mechanisms and intelligent production prediction of deep shale gas reservoirs, NSFC (National Natural Science Foundation of China), No. U23A20595, 01/2024-12/2027, 950 000 RMB, PI
- Model development of nano/micro-scale nonlinear flow in shales, CNPC (China National Petroleum Corporation), No. JS2023-88, 11/2023-12/2024, 580 000 RMB, PI
- Bridging pore-scale flow dynamics to the Darcy-scale theory of capillary-driving two-fluid flow in porous media, Joint Exchange Program between NSFC and FWO, No. 12211530480, 01/2023-12/2024, 100 000 RMB, PI
- Pore-scale dynamics of spontaneous imbibition and its quantification in the two-phase Darcy model, NSFC (National Natural Science Foundation of China), No. 12072053, 01/2020-12/2024, 620 000 RMB, PI
- Fundamentals of multiscale flow and transport in coals and the development of physical models, lab director funding of the State Key Laboratory of coal mining disaster dynamics and control, No. ZR202001, 01/2021-12/2022, 200 000 RMB, PI
- Potential analysis of subsurface CO2 sequestration, China National Offshore Oil Corporation, CNOOC, No. CCL2022SZPS0031, 02/2021-07/2022, 1300 000 RMB, Co-PI
- Analysing spatial scaling effects in mineral reaction rates in porous media with a hybrid numerical model, Swiss National Science Foundation, No. 175673, 08/2018-07/2022, 245 888 CHF, Project partner

Supervision of PhD students and Postdocs

Name	Position	Dates
Dr. Han Jiang	Assistant professor	07.2024-present
	Postdoc	07.2021-06.2024
Dr. Jian Tian	Assistant professor	07.2024-present
	Postdoc	07.2021-06.2024
Ms. Xin Wang	PhD student	2021-present
Mr. Bowen Shi	PhD student	2021-present
Mr. Zhiwei Wang	PhD student	2023-present
Mr. Jianqi Rong	PhD student	2024-present

Mr. Haonan Hou	PhD student	2025-present

Articles in review

[1] Han Jiang, Bowen Shi, Chao-Zhong Qin, Christoph Arns, Majid Hassanizadeh. Pore-scale rock-typing and upscaling of relative permeability on a laminated sandstone through Minkowski measures. In revision.

[2] Wen Deng, Shilin Yu, Chao Zeng, Chao-Zhong Qin. Seismic excitation-induced bypass flow effects on bubbles: insights from the pore-doublet model. In review.

Published articles

[1] Bowen Shi, Jianqi Rong, Han Jiang, Bo Guo, S. Majid Hassanizadeh, Chao-Zhong Qin. The pore-network-continuum modeling of two-phase flow properties for multiscale digital rocks. Advances in Water Resources, 195, 105138, 2025.

[2] Xingyuan Zhao, Bowen Shi, Xin Wang, Jianlin Zhao, Fei Jiang, Chao-Zhong Qin. Modeling of permeability and formation factor of carbonate digital rocks: dual-pore-network and pore-network-continuum models. Transport in Porous Media, 152(6), 37, 2025

[3] Dongchen Liu, Xuefeng Yang, Deliang Zhang, Shan Huang, Rui Jiang, Jianqi Rong, Zhiwei Wang, Bowen Shi, Chao-Zhong Qin. The pore-network-continuum hybrid modeling of nonlinear shale gas flow in digital rocks of organic matter. Physics of Fluids, 37(6), 063608, 2025

[4] Dongchen Liu, Xuefeng Yang, Shengxian Zhao, Deliang Zhang, Shan Huang, Ning Zhu, Jianqi Rong, Bowen Shi, Zhiwei Wang, Chao-Zhong Qin. Three-dimensional reconstruction and connectivity analysis of REV-size organic matter in shales. Frontiers in Earth Science, 13, 1537217, 2025

[5] Xin Wang, Chao-Zhong Qin, Bo Guo, Sorin Pop, Jian Tian. Experimental validation of an image-based dynamic pore-network model for spontaneous imbibition in sandstones. Advances in Water Resources, 195, 104859, 2025

[6] Shoutong Diao, Haitao Li, Xinsheng Jiang, Chao-Zhong Qin, Minggao Yu, Chi-Min Shu. Effects of foam alumina porous media on methane/air explosion flames: A combined study of X-ray CT scanning-based image reconstruction and three-dimensional pore-level simulations. Fuel, 396(174), 135203, 2025

[7] Mingjun Chen, Xueni Chen, Yili Kang, Zheng Cheng, Lijun You, Gang Xiong, Dongsheng Yang, Chao-Zhong Qin. Investigation of water blocking mitigation in a normal-pressure shale gas reservoir by high-temperature treatment: Insights from heat transfer range. Fuel, 382, 133667, 2025

[8] Pengtao Yue, Junjun Wu, Chao-Zhong Qin, Bowen Shi, Yang Wang, Yue Zhang, Yanan Zou, Jun Li, Liang Zhang, Xun Zhu, Miao Zhong, Qian Fu, Qiang Liao. Microenvironment design strategies for enhanced CO2 electroreduction with a 60% full-cell energy efficiency. Chemical Engineering Journal, 497, 154607, 2024

[9] Li Zhang, Bo Guo, Chao-Zhong Qin, Yongqiang Xiong. A hybrid pore-network-continuum modeling framework for flow and transport in 3D digital images of porous media. Advances in Water Resources, 190, 104753, 2004

[10] Yongjiang Luo, Yushi Sun, Xing Wang, Lijia Li, Chao-Zhong Qin, Lele Liu, Changling Liu. Modeling of synthesized hydrate-bearing sands: Effect of hydrate morphology on absolute and relative permeabilities. Geoenergy Science and Engineering, 236, 212745, 2024

[11] Bowen Shi, Han Jiang, Bo Guo, Jian Tian, Chao-Zhong Qin. Modeling of flow and transport in multiscale digital rocks aided by grid coarsening of microporous domains. Journal of Hydrology, 633, 131003, 2024

[12] Boshi Xu, Tao Ouyang, Yang Wang, Yang Yang, Jun Li, Liangliang Jiang, Chao-Zhong Qin, Dingding Ye, Rong Chen, Xun Zhu, Qiang Liao. Progresses on two-phase modeling of proton exchange membrane water electrolyzer. Energy Reviews, 3, 100073, 2024

[13] Luwen Zhuang, Fernanda O. Hoerlle, Hao Chen, Elizabeth M. Pontedeiro, Martinus Th. van Genuchten, Paulo Couto, Chao-Zhong Qin, Kairong Lin. Analysis of the unsaturated hydraulic properties of rocks using multiple laboratory methods. Journal of Hydrology and Hydromechanics, 72: 362-371, 2024

[14] Han Jiang, Christoph Arns, Yujie Yuan, Chao-Zhong Qin. SVM-based fast 3D pore-scale rock- typing and permeability upscaling for complex rocks using Minkowski functionals. Advances in Water Resources, 183, 104605, 2024

[15] Rui Wu, Zhihao Hu, Haojing Zhang, Jinqing Wang, Chao-Zhong Qin, Ye Zhou. Bubbles in Porous Electrodes for Alkaline Water Electrolysis. Langmuir, 40: 721-733, 2023

[16] Jian Tian, Yili Kang, Lijun You, Na Jia, Yijun Wang, Chao-Zhong Qin. Visualization study on the evolution of gas-water interface at pore-scale in tight sandstone rocks. Chinese Journal of Theoretical and Applied Mechanics, 56: 862-873, 2023

[17] Jian Tian, Qiang Chen, Yili Kang, Yijun Wang, Chao-Zhong Qin. Rapid assessment of water phase trapping on gas permeability reduction in typical tight gas reservoirs in China. Geomechanics and Geophysics for Geo-Energy and Geo-Resources, 9, 168, 2023

[18] Jianwen Dai, Li Li, Lei Shi, Yuting Jiang, Yukun Chai, Shenghao Wang, Jian Tian, Quan Gan, Qiang Chen, Chao-Zhong Qin. Limiting pathways and breakthrough pressure for CO_2 flow in mudstones. Journal of Hydrology, 625, 129998, 2023

[19] Yu-Bin Yang, Wen-Lian Xiao, Ling-Li Zheng, Qi-Hong Lei, Chao-Zhong Qin, You-An He, Shuai-Shuai Liu, Min Li, Yong-Ming Li, Jin-Zhou Zhao, Meng Chen. Pore throat structure heterogeneity and its effect on gas-phase seepage capacity in tight sandstone reservoirs: A case study from the Triassic Yanchang Formation, Ordos Basin. Petroleum Science, 20: 2892-2907, 2023

[20] Luwen Zhuang, S Majid Hassanizadeh, Chao-Zhong Qin. Experimental determination of in-plane permeability of nonwoven thin fibrous materials. Textile Research Journal, 93: 4656-4661, 2023

[21] Po-Wei Huang, Bernd Flemisch, Chao-Zhong Qin, Martin O Saar, Anozie Ebigbo. Validating the Nernst–Planck transport model under reaction-driven flow conditions using RetroPy v1.0. Geoscientific Model Development, 16: 4767-4791, 2023

[22] Peng Liu, Baisheng Nie, Zhengduo Zhao, Jiajun Li, Huiming Yang, Chao-Zhong Qin. Permeability of micro-scale structure in coal: Insights from μ-CT image and pore network modelling. Gas Science and Engineering, 111, 204931, 2023

[23] Weijun Shen, Luo Zuo, Tianran Ma, Cong Chen, Chao-Zhong Qin, Liu Yang, Kun Xie. Quantitative studies on the characterization and evaluation of adsorbed gas and free gas in deep shale reservoirs. Energy & Fuels, 37: 3752-3759, 2023

[24] Jian Tian, Chao-Zhong Qin, Yili Kang, Lijun You, Na Jia, Jinghan Song. Reasons for low flowback behaviors of water-based fluids in tight sandstone gas reservoirs. Journal of Petroleum Science and Engineering, 220, 111152, 2023

[25] Jianlin Zhao, Feifei Qin, Linlin Fei, Chao-Zhong Qin, Qinjun Kang, Dominique Derome, Jan Carmeliet. Competition between main meniscus and corner film flow during imbibition in a strongly wetting square tube. Journal of Hydrology, 615: 128695, 2022

[26] Haitao Li, Mingqiu Wu, Zhongyong Liu, Fengchuan Wang, Ning Yang, Rongyang Lou, Chao-Zhong Qin, Minggao Yu, Yingying Yu. Permeation-diffusion characteristics and air-leakage blocking mechanism for the fire-extinguishing inorganic gel flows in loose broken coal particles. Fuel, 328, 125245, 2022

[27] Chao-Zhong Qin, Xin Wang, Huaijun Zhang, Mahmoud Hefny, Han Jiang, Jian Tian, Wen Deng. Numerical studies of spontaneous imbibition in porous media: Model development and pore-scale perspectives. Journal of Petroleum Science and Engineering, 218, 110961, 2022

[28] Po-Wei Huang, Bernd Flemisch, Chao-Zhong Qin, Martin O Saar, Anozie Ebigbo. Relating Darcy-scale chemical reaction order to pore-scale spatial heterogeneity. Transport in Porous Media, 144: 507-543, 2022

[29] Yongjiang Luo, Yushi Sun, Lijia Li, Xing Wang, Chao-Zhong Qin, Lele Liu, Changling Liu, Dongyu Wu. Image-based pore-network modeling of two-phase flow in hydrate-bearing porous media. 252, 124044, 2022

[30] Jianlin Zhao, Feifei Qin, Qinjun Kang, Chao-Zhong Qin, Dominique Derome, Jan Carmeliet. A dynamic pore network model for imbibition simulation considering corner film flow. Water Resources Research, 58, e2022WR032332, 2022

[31] Jian Tian, Qiang Chen, Chao-Zhong Qin, Yili Kang, Na Jia, Zhiyu Xi. Pore-scale systematic study on the disconnection of bulk gas phase during water imbibition using visualized micromodels. Physics of Fluids, 34, 062015, 2022

[32] Jie Huang, Qianting Hu, Chao-Zhong Qin, Zhenlong Song, Xiaodong Wang. Pre-peak acoustic emission characteristics of tight sandstone failure under true triaxial stress. Journal of Natural Gas Science and Engineering, 102, 104576, 2022

[33] Jie Huang, Chao-Zhong Qin, Yong Niu, Rui Li, Zhenlong Song, Xiaodong Wang. A method for monitoring acoustic emissions in geological media under coupled 3-D stress and fluid flow. Journal of Petroleum Science and Engineering, 211, 110227, 2022

[34] Chao-Zhong Qin, Xin Wang, Mahmoud Hefny, Jianlin Zhao, Sidian Chen, Bo Guo. Wetting dynamics of spontaneous imbibition in porous media: From pore scale to Darcy scale. Geophysical Research Letters, 49, e2021GL097269, 2022

[35] Yang Wang, Dingding Ye, Xun Zhu, Yang Yang, Chao-Zhong Qin, Rong Chen, Qiang Liao. Spontaneous imbibition in paper-based microfluidic devices: Experiments and numerical simulations. Langmuir, 38: 2677-2685, 2022

[36] Jie Huang, Qianting Hu, Zhenlong Song, Gongheng Zhang, Chao-Zhong Qin, Mingyang Wu, Xiaodong Wang. Classification of cracking sources of different engineering media via machine learning. Fatigue & Fracture of Engineering Materials & Structures, 44: 2475-2488, 2021

[37] Chao-Zhong Qin, Harald van Brummelen, Mahmoud Hefny, Jianlin Zhao. Image-based modeling of spontaneous imbibition in porous media by a dynamic pore network model. Advances in Water Resources, 152, 103932, 2021

[38] Lijia Li, Xiaosen Li, Yi Wang, Chao-Zhong Qin, Bo Li, Yongjiang Luo, Jingchun Feng. Investigating the interaction effects between reservoir deformation and hydrate dissociation in hydrate-bearing sediment by depressurization method. Energies, 14, 548, 2021

[39] Mahmoud Hefny, Chao-Zhong Qin, Martin O Saar, Anozie Ebigbo. Synchrotron-based pore- network modeling of two-phase flow in Nubian Sandstone and implications for capillary trapping of carbon dioxide. International Journal of Greenhouse Gas Control, 103, 103164, 2020

[40] Sidian Chen, Chao-Zhong Qin, Bo Guo. Fully implicit dynamic pore‐network modeling of two‐phase flow and phase change in porous media. Water Resources Research, 56, e2020WR028510, 2020

[41] Amir Hossein Tavangarrad, Behzad Mohebbi, Chao-Zhong Qin, S Majid Hassanizadeh, Rodrigo Rosati, Jan Claussen, Bernhard Blümich. Continuum-scale modeling of water infiltration into a stack of two thin fibrous layers and their inter-layer space. Chemical Engineering Science, 207: 769-779, 2019

[42] Chao-Zhong Qin, Harald van Brummelen. A dynamic pore-network model for spontaneous imbibition in porous media. Advances in Water Resources, 133, 103420, 2019

[43] Chao-Zhong Qin, Bo Guo, Michael Celia, Rui Wu. Dynamic pore-network modeling of air-water flow through thin porous layers. Chemical Engineering Science, 202: 194–207, 2019

[44] Tuong Hoang, Clemens V. Verhoosel, Chao-Zhong Qin, Ferdinando Auricchio, Alessandro Reali, E. Harald van Brummelen. Skeleton-stabilized immersogeometric analysis for incompressible viscous flow problems. Computer Methods in Applied Mechanics and Engineering, 344: 421-450, 2019

[45] Yang Liu, Stefan Iglauer, Jianchao Cai, Mohammad A. Amooie, Chao-zhong Qin. Local instabilities during capillary-dominated immiscible displacement in porous media. Capillarity, 2: 1-7, 2019

[46] Luwen Zhuang, S. Majid Hassanizadeh, Chao-Zhong Qin, Arjen de Waal. Experimental investigation of hysteretic dynamic capillarity effect in unsaturated flow. Water Resources Research, 53: 9078-9088, 2017

[47] Chao-Zhong Qin, S. Majid Hassanizadeh, Anozie Ebigbo. Pore-scale network modeling of microbially induced calcium carbonate precipitation: Insight into scale dependence of biogeochemical reaction rates. Water Resources Research, 52: 8794-8810, 2016

[48] Chao-Zhong Qin, S. Majid Hassanizadeh, Lucas M. van Oosterhout. Pore-network modeling of water and vapor transport in the micro porous layer and gas diffusion layer of a polymer electrolyte fuel cell. Computation, 4, 21, 2016

[49] Luwen Zhuang, S. Majid Hassanizadeh, Martinus Th. van Genuchten, Anton Leijnse, Amir Raoof, Chao-Zhong Qin. Modeling of horizontal water redistribution in an unsaturated soil. Vadose Zone Journal, 15: 1-11, 2016

[50] Chao-Zhong Qin, S. Majid Hassanizadeh. Pore-network modeling of solute transport and biofilm growth in porous media. Transport in Porous Media, 110: 345-367, 2015

[51] Chao-Zhong Qin, S. Majid Hassanizadeh. Solute mass exchange between water phase and biofilm for a single pore. Transport in Porous Media, 109: 255-278, 2015

[52] Chao-Zhong Qin. Water Transport in the Gas Diffusion Layer of a Polymer Electrolyte Fuel Cell: Dynamic Pore-Network Modeling. Journal of The Electrochemical Society, 162(9): F1036-F1046, 2015

[53] Chao-Zhong Qin, S. Majid Hassanizadeh. A new approach to modelling water flooding in a polymer electrolyte fuel cell. International journal of hydrogen energy, 40: 3348-3358, 2015

[54] Chao-Zhong Qin, S. Majid Hassanizadeh. Multiphase flow through multilayers of thin porous media: General balance equations and constitutive relationships for a solid–gas–liquid three-phase system. International Journal of Heat and Mass Transfer, 70: 693–708, 2014

[55] Chao-Zhong Qin, S. Majid Hassanizadeh, Dirk Rensink. Numerical studies on liquid water flooding in gas channels used in polymer electrolyte fuel cells. Chemical engineering science, 82: 223-231, 2012

[56] Chaozhong Qin, S Majid Hassanizadeh, Dirk Rensink, Stephan Fell. One-dimensional phenomenological model for liquid water flooding in cathode gas channel of a polymer electrolyte fuel cell. Journal of The Electrochemical Society, 159, B737, 2012

[57] Chaozhong Qin, S Majid Hassanizadeh, Dirk Rensink, Stephan Fell. Direct simulation of liquid water dynamics in the gas channel of a polymer electrolyte fuel cell. Journal of The Electrochemical Society, 159, B434, 2012

[58] Chao-Zhong Qin, Dirk Rensink, Stephan Fell, S. Majid Hassanizadeh. Two-phase flow modeling for the cathode side of a polymer electrolyte fuel cell. Journal of power sources, 197: 136-144, 2012

Invited talks and seminars (2023-now)

1. Invited talk at The 10th Asian Symposium on Computational Heat Transfer and Fluid Flow, October 9-13, 2025, Wuhan, China
2. Keynote talk at The 5th International Symposium on Multiscale Simulations of Thermophysics, September 26-28, 2025, Hefei, China.
3. Invited lecture at Huairou National Laboratory, China, August 25, 2025.
4. Keynote talk, 1st International Conference on Sustainable Energy Conversion and Storage, July 19- 21, 2025, Harbin, China.
5. Invited lecture at Xi'an University of Science and Technology, July 10, Xi'an, China.
6. Invited talk, The 7th International Conference on Digital Core Analysis & the 2025 China InterPore Conference on Porous Media, July 4-6, 2025, Qingdao, China.

7. Plenary talk, The 2nd National Conference on Spontaneous Imbibition Theory and Applications in Porous Media, April 25-27, 2025, Beijing, China.
8. Invited talk, The 5th SPWLA-SW Annual Conference, January 19-21, 2025, Chengdu, China.
9. Invited speaker, The 3rd Shenzhen-Beijing Institute of Moscow State University Symposium on Computational Geophysics, November 9-11, 2024, Shenzhen, China.
10. Keynote talk, International Conference on Heat and Mass Transfer in Porous Media: Fundamentals and Applications (HMT-PM2024), November 7-10, 2024, Xi'an, China.
11. Invited speaker, The 8th National Conference on Multiphysical Coupling Theory and Applications in Geotechnical Engineering, October 25-27, 2024, Beijing, China.
12. Invited lecture, InterPore China webinar, August 28, 2024.
13. Invited lecture at Institute of Geo-Hydroinformatics, Hamburg University of Technology, Hamburg, Germany, July 29, 2024.
14. Invited lecture at Institute of Geophysics, ETH Zürich, Switzerland, July 23, 2024.
15. Invited lecture at SÉMINAIRE NAVIER, France, July 2, 2024.
16. Invited speaker, Coupled free flow-porous medium systems, June 12-14, 2024, Stuttgart, Germany.
17. Invited speaker, SFB 1313 Status Seminar 2024, March 18-20, 2024, Herrenberg, Germany.
18. Invited speaker, The 17th National Conference on Seepage Mechanics, August 17-20, 2023, Beijing, China.
19. Invited speaker, The 6th International Conference on Digital Core Analysis, July 5-7, 2023, Qingdao, China.
20. Invited speaker, The 33rd National Natural Gas Academic Annual Conference, June 1-2, 2023, Nanning, China.
21. Invited speaker, Sino-German joint workshop "Opportunities and Challenges in CO2 Geologic Utilization and Storage", February 22-24, 2023, Wuhan, China.

Professional activities and society Membership

- Executive Associate Editor-in-Chief, Earth Energy Science, since 2025
- Associated Editor, Advances in Water Resources, since 2025
- Academic Editor, Geofluids, since 2023
- Lead organizer, MS06-A at InterPore Annual Conference, since 2022
- Committee member of InterPore China, since 2024
- Membership, International Society of Porous Media
- Membership, American Geophysical Union