Personal Information
Name: Haina Wang
ORCID: 0000-0001-9042-5640

- **EMPLOYMENT**

2024-2025 Research assistant, Institute of Microbiology, Chinese Academy of Sciences

2020-2024 Postdoctoral research fellow, University of Bergen, Norway
Supervisor: Prof. Ruth-Anne Sandaa
Project: *Uncovering key players for regulation of phytoplankton function and structure: lessons to be learned from algal virus-haptophyte coexistence*
Investigated the infection cycles of marine giant viruses infecting haptophytes, combining cultivation and infection experiments with electron microscopy, proteomics and comparative genomics. Developed and optimized virion concentration and purification procedures and prepared samples for structural studies of PkV RF02.

2018-2020 Postdoctoral researcher, China University of Geosciences, Beijing
Supervisor: Prof. Hailiang Dong
Project: *Viral impacts on biogeochemical cycling*

- **EDUCATION**

2009-2017 Ph.D., Institute of Microbiology, Chinese Academy of Sciences, Biochemistry and Molecular Biology
Thesis: *Isolation and characterization of Sulfolobus ellipsoid virus 1 (SEV1) from a hot spring in Costa Rica*
Supervisor: Prof. Li Huang

2005-2009 B.Sc. in Biological Sciences and B.A. in English, Shandong Agricultural University

- **RESEARCH FUNDING**

2018-2024 China Postdoctoral Science Foundation, First-Class Funding
Project title: *Interaction among virus, dissimilatory iron-reducing bacteria Shewanella oneidensis MR-1 and iron-rich clay mineral nontronite NAu-2*
Role: Principal investigator

2020-2022 National Natural Science Foundation of China, Young Scientists Fund
Project Title: *The effect of clays and clay minerals on element cycling by adsorbing viruses*
Role: Principal investigator

2021-2023 Major Research Plan of the National Natural Science Foundation of China
Project title: *The mechanism of host cell lysis by archaeal viruses in extreme environments and its phylogenetic and ecological distribution*

Role: Task leader

2021-2023 CSP New Investigator project funded by the U.S. Department of Energy Joint Genome Institute

Project title: *Metatranscriptomic analysis of the different steps in a giant virus-algae infection*

Role: Co-principal investigator

• PUBLICATIONS

*Co-first authors; #Corresponding authors.

(1) Zhang H*, **Wang H***#, Li Y, Fan Y, Zhang Z, Chen H, Song K, Huang L#, Zhu P#. (2025). Insights into the spool-like architecture and infection strategy of an enveloped archaeal virus. *Science Advances*, 11(29): eadv7326.

(2) **Wang H**#, Meng L, Otaegi-Ugartemendia S, Condezo GN, Blanc-Mathieu R, Stokke R, Langvad MR, Brandt D, Kalinowski J, Dahle H, San Martín C, Ogata H, Sandaa RA#. (2025). Haptophyte-infecting viruses change the genome condensing proteins of dinoflagellates. *Communications Biology*, 8(1): 510.

(3) Zhang X*, **Wang H***, Liu Y, Dong H#. (2025). Effect of clay mineral on bacteria–virus interactions and the fate of microbial biomass carbon. *Geochimica et Cosmochimica Acta*, 394: 383–392.

(4) Zhang G*, Guo Z*, Liu S, Yang Q, Yuan Y, Guo K, Wang W, **Wang H**, Feng J, Chen W#, Sun Y#, Wang S#. (2025). Bacteriophage application in inhibiting corrosion-producing bacteria. *BMC Microbiology*, 25(1): 241.

(5) Liu Y, Zhang Z, Jiao N, Zhu YG, Zhang R, Dominguez-Huerta G, **Wang H**, Feng M, Wen R, Ji M, Zheng Q, Liu P#, Yao T. (2025). Diverse novel RNA viruses in the cryosphere of the Tibetan Plateau. *National Science Review*, 12(11): nwaf361.

(6) Zhang X, Liu Y, Guo D, Dong H#, **Wang H**#. (2023). Effects of clay minerals on biogeochemical significance of viruses: A review. *Chinese Science Bulletin*, 68(1): 87–99. (In Chinese)

(7) Sandaa RA#, Saltvedt MR, Dahle H, **Wang H**, Våge S, Blanc-Mathieu R, Steen IH, Grimsley N, Edvardsen B, Ogata H, Lawrence J. (2022). Adaptive evolution of viruses infecting marine microalgae (haptophytes), from acute infections to stable coexistence. *Biological Reviews*, 97(1): 179–194.

(8) Huang L#, **Wang H**, ICTV Report Consortium**.** (2021). ICTV Virus Taxonomy Profile: Ovaliviridae. *Journal of General Virology*, 102(3): 001546.

(9) Zhang J, Zheng X, **Wang H**, Jiang H, Dong H, Huang L#. (2020). Novel *Sulfolobus* fuselloviruses with extensive genomic variations. *Journal of Virology*, 94(4): e01624-19.

(10) **Wang H***, Guo Z*, Feng H, Chen Y, Chen X, Li Z, Hernández-Ascencio W, Dai X, Zhang Z, Zheng X, Mora-López M, Fu Y, Zhang C, Zhu P#, Huang L#. (2018). Novel *Sulfolobus* virus with an exceptional capsid architecture. *Journal of Virology*, 92(5): e01727-17.

(11) Dai X, **Wang H**, Zhang Z, Li K, Zhang X, Mora-López M, Jiang C, Liu C, Wang L, Zhu Y, Hernández-Ascencio W, Dong Z, Huang L#. (2016). Genome sequencing of *Sulfolobus* sp. A20 from Costa Rica and comparative analyses of the putative pathways of carbon, nitrogen, and sulfur metabolism in various *Sulfolobus* strains. *Frontiers in Microbiology*, 7: 1902.

(12) **Wang H**, Peng N, Shah SA, Huang L#, She Q#. (2015). Archaeal extrachromosomal genetic elements. *Microbiology and Molecular Biology Reviews*, 79(1): 117–152.

(13) Xiang X*, Huang X*, **Wang H***, Huang L#. (2015). pTC plasmids from *Sulfolobus* species in the geothermal area of Tengchong, China: genomic conservation and naturally-occurring variations as a result of transposition by mobile genetic elements. *Life*, 5(1): 506–520.

(14) Zheng X, Liu H, Song L, Zhang L, **Wang H**, Dai X, Huang L#. (2015). *Phaeocystidibacter marisrubri* sp. nov., a member of the family Cryomorphaceae isolated from Red Sea sediment. *International Journal of Systematic and Evolutionary Microbiology*, 65(7): 2199–2203.

(15) Song L*, **Wang H***, Wang S, Zhang H, Cong H, Huang L#, Tien P#. (2014). Self-assembled bionanoparticles based on the *Sulfolobus tengchongensis* spindle-shaped virus 1 (STSV1) coat protein as a prospective bioscaffold for nanotechnological applications. *Extremophiles*, 18(4): 745–754.

(16) Erdmann S*, Chen B*, Huang X, Deng L, Liu C, Shah SA, Le Moine Bauer S, Sobrino CL, **Wang H**, Wei Y, She Q, Garrett RA, Huang L#, Lin L#. (2014). A novel single-tailed fusiform *Sulfolobus* virus STSV2 infecting model *Sulfolobus* species. *Extremophiles*, 18(1): 51–60.

(17) Song L, **Wang H**, Wang S, Zhang H, Cong H, Tien P#. (2014). Memory effect of reversibly thermoswitchable self-assembly-competent recombinant TMV coat protein with multi-binding moieties with potential applications in nanoparticle purification. *Journal of Materials Science*, 49(7): 2693–2704.

• CONFERENCES AND REPORTS

2025 6th Ringberg Symposium on Giant Virus Biology, Tegernsee, Germany
Invited talk: *A putative genome delivery system in a marine giant virus revealed by cryo-electron tomography*

2025 The 3rd Academic Salon on Earth and Ocean Atmospheric Sciences, Guangzhou, China
Invited talk: *The genome delivery system of a marine giant virus*

2025 13th Academic Symposium on Geomicrobiology of the Chinese Society for Microbiology, Mianyang, China
Oral presentation: *The cellular reprogramming potential of two marine giant viruses*

2025 Academic Symposium on Microbial Virology-2025, Guangzhou, China
Oral presentation: *A spool-like architecture of an enveloped archaeal virus and its infection strategy*

2025 The 5th International Conference of Geobiology, Wuhan, China
Oral presentation: *Effect of clay mineral on bacteria–virus interactions and the fate of microbial biomass carbon*

2024 Shenzhen University, Shenzhen, China
Invited talk: *Infection strategies revealed by three marine giant viruses*

2023 5th Ringberg Symposium on Giant Virus Biology, Tegernsee, Germany
Invited talk: *A novel architecture of the marine giant virus PkV RF01 and its assembly in the host cell*

2023 Confect 2023, Marine Microbial Virus Ecology and Evolution
Oral presentation: *Infection cycles of marine giant viruses Haptolina ericina virus RF02 and Prymnesium kappa virus RF02*

2022 Viruses of Microbes 2022, Guimarães, Portugal
Poster: *Genomes of two giant viruses and their capacity in the infection cycles*

2021 10th Aquatic Virus Workshop, online
Poster: *Genome analysis of Haptolina ericina virus RF02 and the Prymnesium kappa virus RF02 shed light on the interaction between giant viruses and hosts in the sea*

2016 11th International Congress on Extremophiles, Kyoto, Japan
Poster: *Identification and characterization of a Sulfolobus ellipsoid virus*

2014 China Young Scientist Forum (a U.S.–China people-to-people exchange forum for early-career researchers organized under China MOST/ U.S. Department of State framework)
Theme: Virus–host interactions in geothermal hot-spring ecosystems

2011 The 1st Conference on Geomicrobial Ecotoxicology, Wuhan, China
Report: *Diversity of archaeal viruses in acidic hot springs*

- **TEACHING EXPERIENCE**

Courses

2024-present Guest Lecturer, *Marine Viral Ecology*; *Frontiers in Environmental Virology*, Shenzhen University, China
Served as the instructor for the module on "Marine phytoplankton viruses", covering viral diversity, infection mechanisms, and ecological functions.

2022 Invited participant, *Current Geobiological Topics* (BIO318), University of Bergen, Norway
Invited by Prof. Ida Helene Steen to assist students interested in archaeal viruses during literature discussion sessions.
Curated and provided relevant review and research articles for students.
Engaged in discussion, provided feedback on student presentations, and addressed key research questions.

2021 Guest lecturer, *General Microbiology* (BIO214), University of Bergen, Norway
Delivered a lecture entitled "Introduction to Archaeal Viruses"
Provided students with an overview of archaeal viruses including morphology, diversity, survival strategies under harsh conditions and ecological significance.

2018 Organizer and Instructor, Research Training Seminar: "Literature Review", China University of Geosciences, Beijing, China
Designed and taught a training course for graduate students on literature retrieval, critical reading and writing scientific reviews.
Provided hands-on guidance in database searching, citation management and research organization.

Textbooks and educational resources development

2025 *Marine Viral Ecology*. Associate editor (Science Press, in preparation; expected publication in 2027）

2021 *Encyclopedia of China, Third Edition*. Contributing Author. (Encyclopedia of China publishing house)

Supervision

2020-2024 **Ph.D. student supervision, co-supervisor**
Xiaowen Zhang, School of Earth Sciences and Resources, China University of Geosciences, Beijing, China
Research topic: *The effect of clays and clay minerals on element cycling by adsorbing viruses*
Funded by the Young Scientists Fund of the National Natural Science Foundation of China

2021-2024 **Master's student supervision, co-supervisor**
Yan Liu, School of Water Resources and Environment, China University of Geosciences, Beijing, China
Research topic: *Effect of a phage on reducing iron-rich clay mineral NAu-2 by dissimilatory iron-reducing bacteria*
Funded by the first class support of China Postdoctoral Science Foundation

2018-2020 **Undergraduate mentoring.** Mentored 2 undergraduate students, China University of Geosciences, Beijing

• ACADEMIC SERVICE

2025 Expert member, Virology Subgroup, Ministry of Education's Key Discipline Teaching Resource Development Project (China)

2025 Session organizer, 13th Academic Symposium on Geomicrobiology of the Chinese Society for Microbiology

2022-present Member of the *Ovaliviridae* Study Group, International Committee on Taxonomy of Viruses, ICTV. https://ictv.global/study-groups

2022-present Reviewer for *the ISME Journal*, *ISME Communications, Frontiers in Microbiology*, *Extremophiles*.

• FELLOWSHIPS AND AWARDS

2023 Fellowship of Overseas Research Grant, Research Council of Norway (RCN)
Research visit to Carmen San Martín's laboratory at Centro Nacional de Biotecnología (CNB-CSIC), Madrid, Spain, for structural studies of marine giant viruses.
Research topic: *A novel architecture of the marine giant virus PkV RF01 and its assembly in the host cell revealed by cryo-ET and FIB-SEM*

2021 Erasmus travel grant (Spain)

2016	National Scholarship for Doctoral Students
2016	Merit student, Chinese Academy of Sciences
2014	Third Class Award in State Key Laboratory of Microbial Resources, Institute of Microbiology, Chinese Academy of Sciences
2011	Third Class Award in State Key Laboratory of Microbial Resources, Institute of Microbiology, Chinese Academy of Sciences

- **FIELD WORK**

2018	Expedition of Tibet geothermal systems, China, work package leader
2015	Sample collection in Tibet geothermal systems, China
2011	Tengchong PIRE (U.S.–China project), research participant Performed hot spring sample collection and concentration and established enrichment cultures for virus isolation and characterization.

- **SERVICE AND OUTREACH**

2020	*Illustrating COVID-19: Multidisciplinary Perspectives*. Science Press. Chapter author.
2017	Leopold, A. *Round River* (Chinese edition: 《环河》). Foreign Language Teaching and Research Press. Sole translator (English-Chinese translation). Selected for 13th Five-Year National Key Publication Plan (2016), China Outstanding Popular Science Book List (Quarterly Selection, 2018), Baidao Recommended Reads-New Knowledge category (2023), Baidao Nature Museum Annual Book List (2023).
2020-present	Guest editor and reviewer, DUKU (读库).
2011-2015	Research mentor, Beijing Youth Science and Technology Club/ High School Affiliated to Renmin University of China (RDFZ)
2014	10th Public Science Day, Institute of Microbiology, Chinese Academy of Sciences Public outreach talk: *Miracles of Life: Extreme Microorganisms*
2013	Diagnosed phage contamination in fermentation of Shenzhou Biology & Technology Co., Ltd., a supplier of skin care products.
2012-present	Translator and guest editor in the Science Publishing Section, Foreign Language Teaching and Research Press. Participate in the translation project "*Nature: The Living Record of Science*" (A Chinese-British project to translation of classic articles published in *Nature*).
2010	Volunteer science demonstrator, National Science Popularization Day (China) Delivered interactive outreach demonstrations for the public and youth (DNA ethanol precipitation); the activity was covered by CCTV-1 News Broadcast.