International Mineralogical Association

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2024 MEDAL OF EXCELLENCE IN MINERALOGICAL SCIENCES TO PROFESSOR HAILIANG DONG

The IMA is honored to present its 2024 Medal of Excellence in Mineralogical Sciences to Prof. Hailiang Dong of China University of Geosciences, Beijing, China. Professor Dong has made groundbreaking and transformative contributions at the intersection of mineralogy and microbiology, particularly in the study of microbe–mineral interactions. His pioneering research has revolutionized the field of geomicrobiology through the use of rigorous experimental and analytical methods. His original discoveries include the role of microbial iron redox reactions in the formation of biogenic minerals, as well as the measurement of the deepest known microbial communities on Earth through a dedicated deep drilling program. Prof. Dong has an exemplary and sustained record of contributions to academic societies, funding agencies, and research networks, including mentoring many cohorts of young scientists.

Prof. Dong completed his BSc and MSc studies at China University of Geosciences, Wuhan (1988) and China University of Geosciences, Beijing, China (1991), respectively, and earned his PhD from the University of Michigan, USA (1997). After a postdoctoral research fellowship at Princeton University, USA (1997–2000), he joined the Department of Geology of Miami University, USA, where he started his professional career as an assistant professor, and then as associate professor and professor. He was subsequently appointed as a professor of China University of Geoscience, Beijing to establish a new laboratory to further develop his research.

In his early career, Prof. Dong studied ^{40}Ar-^{39}Ar dating techniques for clay minerals, which elucidated the mechanism of argon retention in clay minerals, demonstrating the dating technique in determining the diagenetic age of sedimentary rocks. In the 2000s, he shifted his focus to the interaction between microbes and minerals, discovering the important role of microbes in the transformation of smectite to illite—previously thought to have occurred entirely through abiotic processes. His study demonstrated that, by reducing structural Fe(III) in smectite, Fe(III)-reducing microbes catalyzed the transformation of smectite to illite within 2 weeks at room temperature and pressure. Without bacteria, this reaction typically requires much higher temperature and pressure, making it a classic example of a microbially catalyzed mineral reaction. This groundbreaking finding also opened new avenues for studying the roles of microbes in the precipitation and transformation of various minerals, including dolomite, Fe-oxides, and clay minerals. Between the 2000s and 2010s, Prof. Dong played a key role in the Chinese Continental Scientific Deep Drilling Project, applying his geomicrobiological expertise to the study of the deep biosphere. More recently, he has focused on the physics and chemistry of microbe–mineral interactions, particularly extracellular electron transfer between microbes and minerals.

Prof. Dong has published 355 peer-reviewed research papers in prestigious international journals, including *Science*, *Nature Communications*, *Nature Reviews Microbiology*, *Nature Reviews Earth and Environment*, and *Nature Geoscience*. Notably, his publications are cited more than 2,000 times each year, with a total citation count exceeding 22,600 and an outstanding H-index of 80, reflecting the tremendous influence of his work in the mineralogical community.

Prof. Dong is currently the President of the Geomicrobiology Society of China. In 2014–2016, he held important positions in the United States National Science Foundation (NSF), including Program Director and Acting Section Head of Division of Earth Science. He has also been actively involved in editing many international journals, serving as co-editor-in-chief of *Chemical Geology* and *Geo-Bio Interfaces*, and as an Associate Editor for many journals including *Geochimica et Cosmochimica Acta* (*GCA*), *mLife*, *Geomicrobiology Journal*, and *Clays & Clay Minerals*. Starting this year, he is serving as Executive Editor of *GCA*, a major post with strong responsibility and time dedication.

Prof. Dong's high international reputation has been recognized through many prestigious honors and awards, including the Marion L. and Chrystie M. Jackson Mid-Career Clay Scientist Award of the Clay Minerals Society (CMS) (2008); the Marilyn and Sturges W. Bailey Award, the highest honor given by the CMS (2025); SERDP Project of the Year Award (2013); Fellow of Geological Society of America (2018); Follows of Durham University - Institute of Advanced Study (2019); and Geochemistry Fellow of the Geochemical Society (GS) and the European Association of Geochemistry (EAG) (2023).

We extend our heartfelt congratulations to Prof. Dong on this prestigious award, which is a testament to exceptional representation of contemporary international mineralogy, both as an outstanding scientist and as a dedicated member of the community. He remains an active and innovative scientist, and we eagerly anticipate his future discoveries and achievements.

Please note that Prof. Dong will deliver his medalist talk at the 24th General Meeting of the IMA in Nanjing, 2026, where Prof. Irifune (Japan), the 2023 awardee will also present his medalist talk.

24th GENERAL MEETING OF THE INTERNATIONAL MINERALOGICAL ASSOCIATION

August 20–24, 2026, Nanjing, China

IMPORTANT DATES:

- Session proposal deadline:
  August 31, 2025 (open from April 1 to August 31, 2025)
- Abstract submission deadline:
  March 1, 2026 (the submission window should open on October 15, 2025)
- Opening of the IMA General Assembly:
  August 20, 2026

Further details can be found at http://ima2026.nju.edu.cn.