



Association of Applied Geochemists

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AAG COUNCILLORS FOR 2026–2027



John Carranza is a professor of economic geology at the University of the Free State in South Africa, where he has served since 2022. He previously held academic appointments at the University of KwaZulu–Natal, South Africa (2017–2021); James Cook University, Australia (2013–2016); and the University of Twente, Netherlands (2003–2012). Earlier in his career, he worked as an exploration geologist and geochemist with the Philippine Mines and Geosciences Bureau (1983–2001). He received his PhD in mineral potential mapping from TU Delft, Netherlands, in 2002.

His research interests include exploration geochemistry and ore genesis; spatial mathematics and statistics for mineral prospectivity modeling; and remote sensing for geological and mineral exploration. He has delivered 15 invited keynote or plenary lectures and 40 invited specialist lectures for academic, industry, and government audiences, principally on mineral prospectivity analysis and exploration geochemistry.

Professor Carranza has supervised 18 PhD and 37 MSc students and has published more than 325 papers in peer-reviewed geoscience journals, as well as more than 95 conference papers. He is the author of *Geochemical Anomaly and Mineral Prospectivity Mapping in GIS* (2008). According to Google Scholar, he has an h-index of 88 and more than 26,100 citations.

He has convened 22 sessions at international geoscience conferences and edited 15 special or thematic issues, including issues on mineral exploration geochemistry and the geochemistry of mineral deposits. He has been Editor-in-Chief of *Natural Resources Research* since 2012 and previously served as Senior Associate Editor of *Geochemistry: Exploration, Environment, Analysis* (2010–2023) and Associate Editor of the *Journal of Geochemical Exploration* (2010–2025) and *Ore Geology Reviews* (2011–2025).



Patrice de Caritat is an adjunct professor at the John de Laeter Centre, Curtin University (Australia), and a Visiting Fellow at the Research School of Earth Sciences, Australian National University (ANU). Patrice holds a Licentiate of Science (BSc Hons) from the University of Louvain (Belgium) and a PhD from the ANU. His research interests span environmental, exploration, and isotope geochemistry; hydrogeochemistry;

low-density geochemical and mineralogical mapping; forensic chemistry; and soil microbiome research. He has previously held senior professional positions at Geoscience Australia, the Australian Federal Police, and the Geological Survey of Norway. A Fellow of the Association of Applied Geochemists (AAG) since 2005, Patrice has also served as an Associate Editor for *Geochemistry: Exploration, Environment, Analysis* (2017–2023), and AAG Councillor (2011–2012, 2013–2014, 2019–2022, and 2024–2025), and Society News Editor for *Elements* (2011–2015). He has published over 200 scientific papers, reports, book chapters, and books, and has a Google Scholar h-index of 49.



Behnam Sadeghi is a Research Fellow at CSIRO's Australian Resource Research Centre (ARRC) and a Fulbright Research Scholar at the Carnegie Institution for Science's Earth and Planets Laboratory in Washington, DC, USA. His research focuses on mineral exploration for critical minerals and the energy transition.

His expertise encompasses urban and environmental geochemistry integrated with data science, mathematical geosciences—including fractal/multifractal modeling and compositional data analysis—geostatistics for simulation and uncertainty quantification, and advanced geographic information systems and geospatial data analytics. He also works on renewable and sustainable energy, particularly geothermal resource exploration.

Behnam is a Fellow of the Association of Applied Geochemists, the Australian Institute of Geoscientists, and the Australasian Institute of Mining and Metallurgy. He is a lifetime member of the International Association for Mathematical Geosciences and a Registered Professional Geoscientist in Information Geoscience with the Australian Institute of Geoscientists.



Martiya Sadeghi is a senior state geologist at the Geological Survey of Sweden (SGU), with 30 years of experience in applied geochemistry and the geochemistry and modeling of ore deposits. His work focuses on critical metals and minerals, including the application of artificial intelligence and numerical methods to improve mineral prospectivity mapping and advance understanding of mineral systems.

He is Editor-in-Chief of the *Journal of Geochemical Exploration* and is a Fellow of both the Society of Economic Geologists and the Association of Applied Geochemists. He also serves on the EU Critical Raw Materials (CRM) Board Subgroup on Exploration and contributes to several international and European research projects.

Martiya has authored more than 100 papers in international peer-reviewed journals, as well as book chapters and monographs. He has also produced more than 100 governmental reports, maps, exploration reports, and technical presentations. His professional interests include advancing applied geochemistry as a cornerstone of mineral systems analysis, promoting methodological innovation, and strengthening the role of geochemistry in addressing global challenges related to resource security and the energy transition.



Bimin Zhang is a geochemist with over 20 years of experience in exploration geochemistry. He is a professor and doctoral supervisor at the Institute of Geophysical and Geochemical Exploration, Chinese Academy of Geological Sciences, and Secretary-General of the UNESCO International Centre on Global-scale Geochemistry.

His work spans theoretical research, technology development, and international scientific collaboration. He is an expert in nanogeochemistry and deep-penetrating geochemical techniques for exploring deep-seated mineral resources. His current work includes mineral resource exploration in covered regions and leadership of the “Chemical Earth” International Big Science Program, which advances global geochemical mapping and international cooperation. He also integrates artificial intelligence technologies into mineral resource assessment and environmental studies.

Bimin earned his PhD from the Chinese Academy of Geological Sciences and his MSc from China University of Geosciences (Beijing). He is a Fellow of the Association of Applied Geochemists, chairs the Exploration Geochemistry Committee of the Geological Society of China, and serves as an Associate Editor for several professional journals, including *Geochemistry: Exploration, Environment, Analysis (GEEA)* and *Acta Geoscientia Sinica*.