

Meet the Authors



Yildirim Dilek is a professor of geology at Miami University and the vice president of the International Union of Geosciences (IUGS). He received his PhD from the University of California in structural geology and tectonics. He has worked extensively on the structure, geochemistry, and tectonics of the Phanerozoic ophiolites in the Alpine–Himalayan, North American Cordilleran, and Caledonian orogenic belts and of the modern oceanic lithosphere under the Mid-Atlantic Ridge and the Costa Rica Rift. His other research interests include Precambrian tectonics, mantle dynamics, and magmatism in collisional orogenic belts. Recently, he has been spending much time in Tibet and China exploring their fascinating geological landscapes.



Harald Furnes has been a professor in the Department of Earth Science, University of Bergen, Norway, since 1985. He received his D Phil from Oxford University, UK, in 1978. His main research involves the physical volcanology, geochemistry, and petrology of basaltic rocks in ophiolites, island arcs, oceanic islands, and continental flood basalt provinces ranging in age from recent to Archean. During the last 12 years his main research efforts have focused on Precambrian greenstones, in particular those in the Paleoproterozoic Barberton greenstone belt. In addition, he has been investigating the alteration of volcanic glass, specifically the microbial alteration of submarine basaltic volcanic rocks and the traces of early life.



Kathryn M. Goodenough is a senior geologist at the British Geological Survey. After completing a PhD in igneous petrology and geochemistry in 1997, she broadened her research into the field of crustal evolution. She was part of a BGS team that mapped the Oman–UAE ophiolite in the United Arab Emirates (UAE) between 2002 and 2006 and has continued to work in the UAE and Oman since. Her research investigates the role of subduction in a range of processes, including the formation of the early continental crust, the generation of alkaline magmatism and associated mineralization, and the initiation of subduction zones as recorded in ophiolites.



Osamu Ishizuka is a senior researcher at the Geological Survey of Japan/AIST and an invited researcher at IFREE, JAMSTEC. He completed a master's degree and a PhD at the University of Tokyo, Japan, in economic geology, geochronology, and marine geology, and then held a post-doctoral position at the University of Southampton. His specialties are Ar/Ar geochronology and igneous geochemistry. He is currently working on subduction-initiation processes along the Izu-Bonin-Mariana arc system. He is also interested in magma transport within the crust in active island arc volcanoes. He will serve as a cochief scientist for the IODP (International Ocean Discovery program) Expedition 351 in 2014.



Chris MacLeod is professor of geology in the Cardiff University School of Earth and Ocean Sciences (UK). His principal scientific interests deal with the formation and deformation of ocean lithosphere at submarine spreading centers and on the mechanisms of intraoceanic subduction initiation. He investigates these processes by conducting observation-based, multidisciplinary, mesoscale geological studies of ophiolite complexes and the modern ocean floor. For his PhD, under Ian Gass at the Open University, he

undertook some of the primary investigations of the southern Troodos transform fault zone in the Troodos ophiolite of Cyprus. For the subsequent 25 years he has worked on the Oman ophiolite.



Julian Pearce is a professor of geochemistry in the School of Earth and Ocean Sciences at Cardiff University. He received a BA in mineralogy and petrology from the University of Cambridge and a PhD from the University of East Anglia. His current work includes the development of new methodologies for the geochemical fingerprinting of rocks and the application of these methodologies to topical problems such as the understanding of Archean tectonic environments. This work has also led to a continuing interest in dredging and drilling the ocean floor, and he will be cochief scientist on the upcoming IODP Expedition 352 to the Izu-Bonin-Mariana forearc.



Mark K. Reagan is a professor in the Department of Earth & Environmental Sciences at the University of Iowa, USA. He received his PhD from the University of California, Santa Cruz, in 1987. His primary research involves the use of field relations, petrology, and geochemistry to investigate the origin and evolution of subduction-related magmas. One research focus since the 1980s has been on collecting and analyzing rocks from the Izu-Bonin-Mariana forearc islands and ocean floor to investigate subduction initiation and the early development of this arc system. He also uses U-series nuclide abundances to investigate the rates and timescales of magma generation, differentiation, and degassing in different tectonic settings.



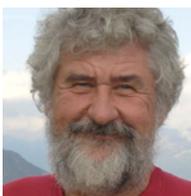
Paul T. Robinson is an honorary professor at the Chinese Academy of Geological Sciences, Beijing, and the China University of Geosciences (Wuhan). He received a PhD from the University of California, Berkeley. He was a professor at Oregon State University and the University of California, Riverside, before moving to Dalhousie University, Halifax, Canada. He is a fellow of the Geological Society of America and recipient of the Michael J. Keen Medal of the Geological Association of Canada. His major interests include the origin and evolution of oceanic lithosphere. He has worked on many ophiolites, and on the wide variety of unexpected minerals in them.



David I. Schofield is a principal geologist and chief geologist for Wales at the British Geological Survey. He is also a key member of the team that mapped the northern section of the Oman–UAE ophiolite in the UAE between 2002 and 2006 and is now involved in extending that research into Oman. His wider research focuses on investigating accretionary processes and paleogeographic evolution, particularly relating to Rodinia dispersal and Pangea assembly. He has worked on a range of major international projects in collisional tectonic zones, such as the Pan-African (Mauritania, Madagascar). He is currently science editor for the *Geological Society of America Bulletin*.



Mark Smits is a postdoctoral fellow at Hasselt University, Belgium. He received an MSc in biology and a PhD in soil science and geology from Wageningen University (the Netherlands). He did his PhD on “rock-eating” mycorrhizal fungi. Thereafter, at the University of Sheffield (UK) and Lund University (Sweden), he continued working on fungus-induced weathering on scales ranging from nanometer fungus–mineral interactions to plant and ecosystem processes. Currently he is working on the role of mycorrhizal fungi in soil carbon dynamics.

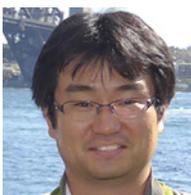


Hubert Staudigel is a senior scientist at the Institute for Geophysics and Planetary Physics of Scripps Institution of Oceanography at the University of California in San Diego. His current research focuses on seamount science and the geomicrobiology and geochemistry of water-rock interaction.



Michael T. Styles is a principal geologist at the British Geological Survey. After completing a PhD at Manchester University and postdoctoral research at Oslo University, he joined the Mineralogy and Petrology Group at BGS. He has longstanding research interests in mafic and ultramafic rocks and their mineralization. He has studied many ophiolites, including those in the

UK, and during the last 10 years has worked on regional mapping and economic geology applications in the Oman-UAE ophiolite. He led the UAE mapping project carried out by the BGS between 2002 and 2006. He is currently involved in studies of the carbonation of ultramafic rocks as a possible method of CO₂ sequestration.



Kenichiro Tani is a researcher at the Institute for Research on Earth Evolution, Japan Agency for Marine-Earth Science and Technology (JAMSTEC). He received a BS in geology and a MS in Earth and planetary science from the University of Tokyo and a PhD in geosciences from the Yokohama National University. Since joining JAMSTEC in 2002, he has collaborated with

Osamu Ishizuka in sampling and surveying the islands and ocean floor of the western Pacific. In this project, he focuses on determining the precise timing of tectonomagmatic processes in the intraoceanic Izu-Bonin-Mariana arc system using zircon U-Pb geochronology measured with a sensitive high-resolution ion microprobe (SHRIMP).



Robert J. Thomas is a principal geologist at the British Geological Survey. After obtaining his PhD in 1978, he worked at the Council for Geoscience, South Africa, until 2003. In this period he worked extensively on large mapping and research projects in South Africa, Antarctica, the Falkland Islands, Gabon, Morocco, Mozambique, and the UAE, including work on the Mesoproterozoic

Tugela ophiolite in southern Africa and part of the Oman-UAE ophiolite. In 2002 he joined BGS to manage several regional mapping projects in East Africa and was a member of the team that mapped the UAE part of the UAE-Oman ophiolite in great detail.



Jingsui Yang is a professor at the Institute of Geology, Chinese Academy of Geological Sciences, in Beijing. He received his PhD from Dalhousie University, Canada, in 1992. He has been working on ophiolites for many years, particularly on high-pressure minerals in mantle rocks, as well as on ultrahigh-pressure metamorphic rocks in paleo-subduction zones on the Tibetan plateau and in

other orogenic belts. He is a recipient of the Award of Scientific and Technological Process from the HLHL foundation in Hongkong and the LiShiguang Award in China. He is a fellow of the Mineralogical Society of America and the Geological Society of America.



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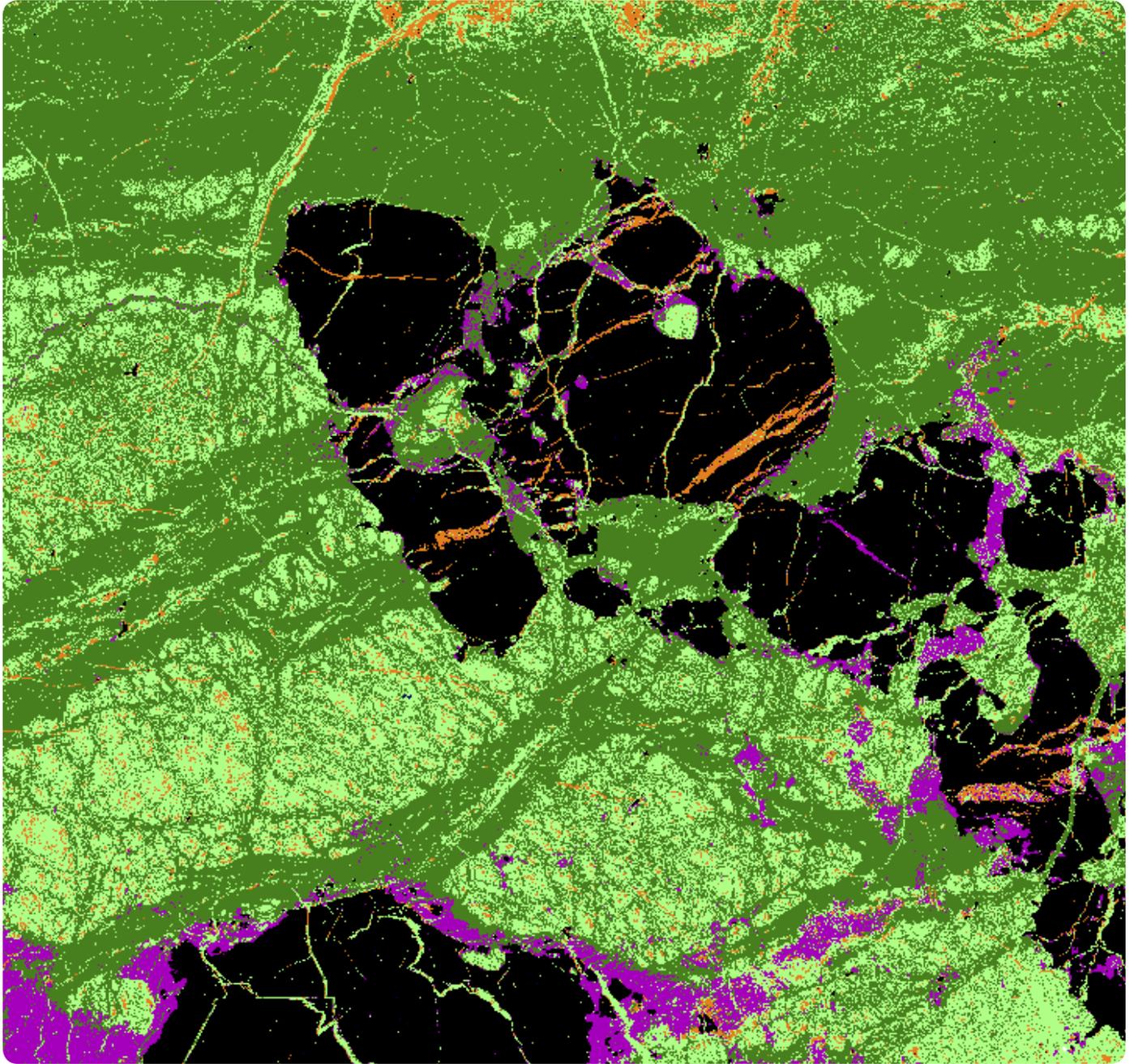


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Serpentinite. Color legend to image: Lizardite/Chrysotile, dark green; Lizardite/Chrysotile (Fe-rich), light green; Fe-Oxides, orange; Chrome Spinel, black; Chlorite, magenta. Sample from Kennack Sands, Cornwall, UK. Sample courtesy of Dr. Matthew Power & Image created by Dr. Gavyn Rollinson, Camborne School of Mines, University of Exeter.

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