

# Meet the Authors



**Taras V. Gerya** is a professor at the Swiss Federal Institute of Technology (ETH Zürich), where he works in the field of numerical modeling of geodynamic and planetary processes. He earned a PhD in petrology from Moscow State University in 1990 and a Habilitation in geodynamics from ETH Zürich in 2008. His recent research interests include modeling of subduction and collision processes, ridge-transform oceanic spreading patterns, intrusion emplacement into the crust, and core formation of the terrestrial planets. He is also the author of the first introductory textbook in numerical geodynamic modeling.



**Jane A. Gilotti** is a professor of geoscience at the University of Iowa. She received a BA in geology from the University of Maine and a PhD from Johns Hopkins University. Her postdoctoral positions at Lund University and the University of Uppsala, Sweden, led to an active research affiliation with the Geological Survey of Denmark and Greenland and numerous expeditions to the Greenland Caledonides. She held a position as senior scientist at the New York State Geological Survey before moving to Iowa. She is a fellow of the Mineralogical Society of America. Her main research interests are the tectonics and geodynamics of collisional orogens and deformational microstructures in high-strain rocks.



**Bradley R. Hacker** is a professor of geology in the Department of Earth Science at the University of California, Santa Barbara. His current research deals primarily with the application of geochronology, petrology, and microstructure to the understanding of the physical properties of the deep crust.



**Jörg Hermann** is an associate professor at the Australian National University in Canberra. He completed a master's degree and a PhD at ETH Zürich, Switzerland, in metamorphic petrology, structural geology, and tectonics. At the ANU, his focus switched to experimental petrology and the trace element geochemistry of metamorphic rocks. He is currently working on an interdisciplinary approach for constraining element mobility in subduction zones using high-pressure experiments and deeply subducted rocks as a natural laboratory. He is also interested in the use of trace elements to constrain high-grade metamorphic processes and the water content of mantle minerals.



**Thomas J. Lapen** is an associate professor in the Department of Earth and Atmospheric Sciences at the University of Houston. He received his BS in geology from Central Washington University, an MS in geology from Western Washington University, and a PhD in geology/geochemistry from the University of Wisconsin–Madison. Before entering the PhD program, he made geologic maps for the Washington State Department of Natural Resources, Division of Earth Resources. In his research, he uses isotope geochemistry and field- and lab-based petrologic analysis to understand the timing and rates of geologic and planetary processes.



**Hans-Joachim Massonne** holds the Chair of Mineralogy and Crystal Chemistry at Universität Stuttgart, Germany. He received a chemistry diploma in 1976, a geology diploma in 1977, and a doctoral degree in 1981 from Ruhr-Universität

Bochum. He is a fellow of the Mineralogical Society of America. His research interests are in crustal geodynamics based on experimental, petrological, and field studies.



**William C. McClelland** is a professor of geoscience at the University of Iowa. He received a PhD (1990) from the University of Arizona in tectonics and U–Pb geochronology. His postdoctoral and research positions at the University of California, Santa Barbara, were devoted to the application of TIMS U–Pb geochronology to various tectonic problems. Following an 11-year (1997–2008) academic position in economic geology at the University of Idaho, he moved to the University of Iowa. His current research interests are in linking field-based tectonic analysis with SIMS and LA–ICPMS U–Pb geochronology to establish the rates of tectonic processes and the timing of tectonic and mineralizing events.



**Patrick J. O'Brien** is a professor of petrology in the Institute of Earth and Environmental Science, Potsdam University, Germany. His research is focused on the relationship between high-grade metamorphism, predominantly of eclogite and granulite facies rocks, and modern and ancient geodynamic processes. He received his BSc from the University of London (UK) and his PhD from the University of Sheffield (UK). He is a fellow of the Mineralogical Society of America and has served on the editorial boards of *Lithos*, the *Journal of Metamorphic Geology*, and *Chemie der Erde*.



**Daniela Rubatto** is an associate professor and QEII Fellow at the Australian National University in Canberra, Australia. She migrated south after a degree at the University of Torino, Italy, and a PhD at the ETH in Zürich, Switzerland, where she first worked on high-pressure rocks. She combines geochronology with trace element geochemistry and petrology in studying the behavior of accessory minerals during metamorphism, particularly at high pressure and temperature. In her research, she integrates advanced analytical methods (e.g. SHRIMP ion microprobe) with experimental petrology and field studies to investigate the rates of metamorphic processes, mountain building, and the migration of fluids in the crust.



**Hans-Peter Schertl** is a petrologist at Ruhr-Universität Bochum in Germany, where he received his PhD in 1992. He has focused on UHP rocks from Dora-Maira in Italy, the Kokchetav Massif in Kazakhstan, and Dabie–Sulu in China. During two research visits at the University of California, Santa Barbara, he concentrated on dating Dora-Maira rocks, and he was involved in the first studies demonstrating a young Eocene age for UHP metamorphism in the Western Alps. His current research interests are in jadeitites and fluid–rock interaction in subduction zones/channels and in HP metamorphic rocks of the Caribbean. He serves as curator of the mineralogical collection at Ruhr-Universität Bochum.



**Yong-Fei Zheng** is a professor at the University of Science and Technology of China and the director of the Key Laboratory of Crust–Mantle Materials and Environments in the Chinese Academy of Sciences. He obtained a Dr. rer. nat. in 1991 from the Geochemical Institute at the University of Göttingen in Germany. His current research focuses on the chemical geodynamics and fluid regime of continental subduction zones. He is a fellow of the Mineralogical Society of America and a member of the Chinese Academy of Sciences. He is an executive editor of the *Chinese Science Bulletin* and an associate editor of the *Geochemical Journal* and *Ore Geology Reviews*.

# Phase ID and elemental analysis on a benchtop

**NEW**



The new Supermini200 is a WDXRF spectrometer delivering exceptional resolution and low limits of detection with powerful new software.

[www.rigaku.com/products/xrf/supermini](http://www.rigaku.com/products/xrf/supermini)

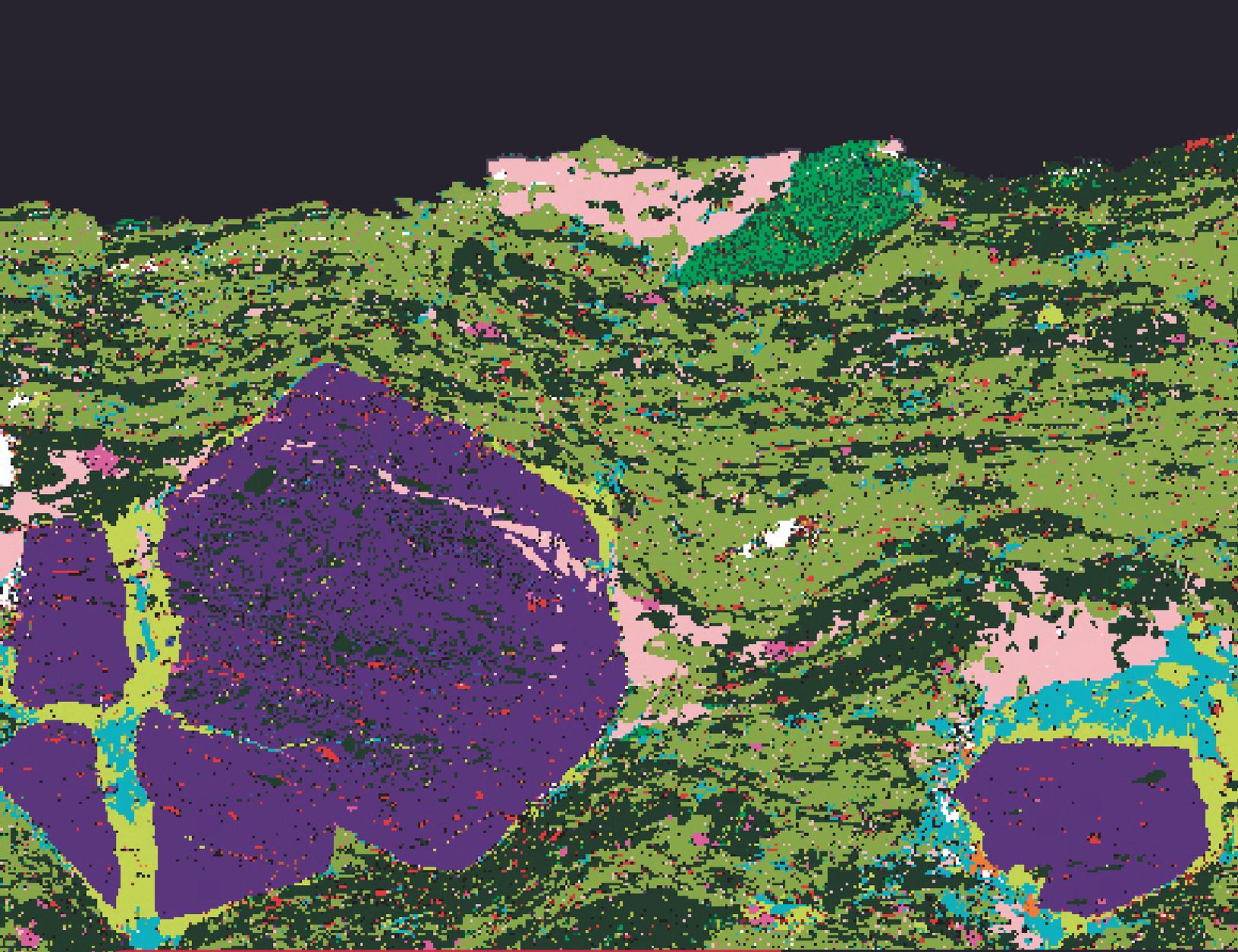


The new 5<sup>th</sup> generation MiniFlex™ XRD diffractometer has twice the power of its nearest competitor as well as a wide range of options.

[www.rigaku.com/products/xrd/miniflex](http://www.rigaku.com/products/xrd/miniflex)



Rigaku Corporation and its Global Subsidiaries  
website: [www.Rigaku.com](http://www.Rigaku.com) | email: [info@Rigaku.com](mailto:info@Rigaku.com)



## Quantifying Metamorphic Fabrics

FEI's Automated Mineralogy technology is helping petrologists unravel the many and varied geological events that metamorphic rocks have undergone.

Learn more about this image:  
[www.fei.com/elements-august](http://www.fei.com/elements-august)

The image is a of a garnet-mica schist from Brittany, France. Microtextures suggest the rock has undergone high-grade, regional metamorphism with associated poly-deformation. Image courtesy of Michael Garrick.



Explore. Discover. Resolve.