DMG Deutsche Mineralogische Gesellschaft

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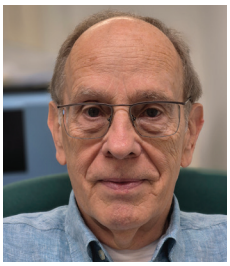
ABRAHAM GOTTLOB WERNER MEDAL TO RICHARD WIRTH



Richard Wirth is known as a specialist in transmission electron microscopy. However, his work shows that he is much more than just a methodologist and has made outstanding contributions across a broad field of mineralogy.

In 1976, he earned his diploma in mineralogy from the University of Würzburg, and in 1978, he received his doctorate there with a geochemical thesis on the Early Paleozoic basalts in northeastern Bavaria. He spent three years as a postdoc at the Institute for Metal Physics at the University of Saarbrücken (under Prof. Gleitner), followed by positions at the University of Cologne, as director of the Institute of Advanced Materials in Saarbrücken (INM), and at Ruhr University Bochum. In 1994, he was appointed director of the Transmission Electron Microscopy (TEM) Laboratory at the GFZ in Potsdam, a position he held until 2020. Since his retirement, he has continued to work there as a visiting researcher.

He was the first in the world to introduce the "focused ion beam" (FIB) preparation method for TEM in mineralogy and the geosciences. Together with his colleague Anja Schreiber, he established the laboratory for this purpose and further developed the methodology. What is particularly noteworthy is that he has made this method available to an incredible number of scientists: his list of publications includes more than 1,000 co-authors from around the world! His two seminal papers from 2004 (in the *EJM*) and 2009 (in *Chemical Geology*) have been cited well over 1,200 times combined.

Amid this recognition of the methodology he developed and his great willingness to collaborate, his contributions to specific topics in mineralogy and materials science are easily overlooked. Examples include his work on diamonds, which has yielded insights that would have been inconceivable without the use of TEM. In particular, the identification of inclusions provides important clues to diamond genesis. These inclusions include extremely rare compounds, such as silicides, nitrides, carbonatite melt, and various metal alloys, and he and his co-authors have demonstrated that diamonds are not only high-pressure, high-temperature indicators but can also form under other conditions (volcanogenic) through gas-phase deposition.

The mineral zircon, the standard mineral for radiometric dating, has also attracted his interest. Findings regarding nanoscale Pb inclusions have shown that TEM analyses not only provide a more solid foundation for interpreting isotopic data, but also open up the possibility to determine model ages for overprinting and Pb mobilization. These studies are also important for impact research, as demonstrated by examples from the Vredefort Dome and lunar rocks from *Apollo 15* and *Apollo 16*.

Richard Wirth also demonstrates the significance of TEM analysis for radiometric dating using the examples of monazite and xenotime, in which metasomatic overprinting and dissolution–precipitation phenomena play an important role, especially at low temperatures. These studies illustrate that the TEM method is indispensable for experimentally prepared samples—the transformation phenomena are often detectable only at the nanoscale but play a crucial role in the interpretation of isotope data. At the atomic scale, Th and U can accumulate in vacancies, thereby leading to discordant age data.

His work on grain boundary phenomena and reaction mechanisms represents another important contribution. In several studies, he has demonstrated the existence of an amorphous phase at grain boundaries, which is of great significance for the reaction mechanism in dissolution–recrystallization reactions. The significance of such observations extends far beyond metamorphic petrology and age dating—for example, to the weathering and formation of clay minerals or to the mechanical behavior of rocks in fault zones.

While the topics mentioned above fall within the realm of classical mineralogy, his work in the fields of organic geochemistry and bio-geo-interaction is rather unconventional, yet extremely innovative. He is interested in biominerals in bones, carbonate skeletons, and fossilized fungi, as well as the biogenic formation of iron oxides and hydroxides, volcanic glass as a substrate for microbial life, and novel disordered calcium phases in coccolithophore algae.

The worldwide recognition of his work is evident not only in the numerous citations of his publications, but also in the awards he has received: 2009 Fellow of the Mineralogical Society of America; 2010 Fellow of the Geological Society of America; 2010–2011 Visiting Professor at the University of Vienna (Austria); in 2005, he was appointed to the W.F. James Chair in Science at St. Francis Xavier University in Antigonish, Nova Scotia, Canada; he received GFZ Research Awards in 2003 and 2005; in 2013–2014, he served as Distinguished Lecturer for the Mineralogical Society of America; and in 2014, he was awarded the Hawley Medal by the Canadian Mineralogical Society.

In recognition of his innovative research and his commitment to the international scientific community, the German Mineralogical Society is awarding him the Abraham Gottlob Werner Medal.

Gerhard Franz (TU Berlin)

DORIS SCHACHNER MEDAL TO MELANIE KALIWODA

The DMG is awarding PD Dr. habil. Melanie Kaliwoda the 2026 Doris Schachner Medal for her outstanding contributions to raising the public profile of mineralogy in German-speaking countries. As deputy director of the Munich State Mineralogical Collection and a Privatdozent at LMU Munich, she exemplifies the combination of scientific excellence, collection management, and public outreach.

After earning her diploma in mineralogy in Heidelberg in 2000, she focused her doctoral and postdoctoral research on processes in the Earth's mantle, continuing this work at the University of Tübingen and the Max Planck Institute for Solid State Research using modern spectroscopic methods, particularly Raman spectroscopy. Since 2007, she has been shaping the Munich State Mineralogical Collection, where she is responsible for one of Europe's most important collection institutions and has established a Raman laboratory that is now a central component of geomaterials research in Munich.

Her research topics range from mantle xenoliths and ophiolites to meteorites and impact rocks, as well as light elements and the application of Raman spectroscopy to minerals, glasses, and organic materials. Her ongoing supervision of bachelor's and master's theses and a growing number of doctoral dissertations demonstrate her commitment to fostering the next generation of researchers. In 2020, she completed her habilitation at LMU Munich with work on peridotites from ophiolites and xenoliths as archives of Earth's mantle processes.

Her list of publications includes papers on the geochemical signature of intrusions, the role of light elements in the Earth's mantle, the characterization of meteorites, and the application of Raman methods

in archaeometry, construction materials research, and environmental geochemistry. In doing so, she impressively demonstrates the relevance of mineralogical expertise to numerous related disciplines.

Her museum-based educational work lends particular appeal to the concept behind the Doris Schachner Medal. As chief curator and deputy director of the Mineralogia Museum in Munich, she conceives and curates special exhibitions such as "MoonImpact" or "GeoArt," which combine scientific content with aesthetic design, storytelling, and clear educational presentation to attract a broad audience.

Another defining feature is the expansion of mineralogy into the realms of art, design, and space exploration. In collaboration with artists, such as Prof. Stephen Bottomley, exhibitions are created in which mineralogy and design open up new perspectives on topics in geomaterials science. At the same time, Melanie Kaliwoda is involved in ESA projects (CAVES & PANGAEA), supports the development of mineralogical databases for astronaut training, and analyzes rocks from asteroid missions, thereby illustrating the close interconnection between mineralogy, planetary geology, exploration, and future technologies.

Her involvement in professional associations underscores the breadth of her work. She is active in national and international committees, including the advisory boards of the DMG and the DVGeo, as well as in the International Mineralogical Association (IMA) and the IMA Commission on Museums, which she chairs. In addition, she is one of the co-founders of MUC-Labs and the Archaeo-Bio-Center, represents Germany in the IMA, and serves as treasurer of the Federal Association of Learning Labs (Bundesverband Lernort-Labor), working to strengthen extracurricular learning venues.

At career fairs, science fairs, and major events such as the Munich Show or the GeoErlebnistage, she regularly promotes mineralogy and raises the discipline's profile in public discourse. Melanie Kaliwoda embodies a rare combination of scientific excellence, institutional responsibility, and exceptional dedication to public outreach, through which she positions mineralogy as a crossroads between Earth system research, materials science, cultural heritage, and education.

Fabio Joseph (LMU Munich)

DMG SHORT COURSES IN FALL 2026

DMG will support several short courses in fall 2026. All courses will be aimed primarily at advanced-level undergraduate and graduate students but, as always, are open to more senior researchers as well. Nonlocal student members of DMG will be eligible for travel support to the amount of € 100. Further information can be found at https://www.dmg-home.org/aktuelles/doktorandenkurse/. Please mark your calendars:

(7-26) **Application of Diffusion Studies to the Determination of Timescales in Geochemistry and Petrology**, Institute for Geosciences, Ruhr University Bochum, Sumit Chakraborty, 28 September–2 October 2026, sumit.chakraborty@rub.de

(8-26) **21st Freiberg Short Course in Economic Geology, Carbonatites and their Critical Mineral Systems**, 1–4 December 2026, Helmholtz-Institute Freiberg for Resource Technology, Germany in cooperation with TU Bergakademie Freiberg, Germany, Sebastian Tappe & Jens Gutzmer, https://tu-freiberg.de/en/fakult3/min/econgeology/21st-freiberg-short-course-economic-geology

OBITUARY – FRITZ SEIFERT (1941–2026)

Friedrich "Fritz" Seifert was born in Dresden (Germany) in 1941. After a PhD in Kiel, he went to the university in Bochum to work with Werner Schreyer, with whom he always maintained a long cooperation and close friendship. Seifert and Schreyer together pioneered the field of high-pressure and ultrahigh-pressure metamorphism by working out the stability fields of various phases. Practically, this often involved experiments with internally-heated gas-pressure vessels at the very limits of their capabilities. During his time in Bochum, Fritz Seifert developed quite some reputation for curious accidents with these vessels, with various metal pieces shooting into and through concrete walls—fortunately, nobody was ever hurt in these events. One of his favored minerals was sapphirine and he spent quite some time working out the pressure and temperature stability field of this phase.

After his habilitation in Bochum, Fritz Seifert took over a professorship in Kiel in 1974. From 1973 to 1982, he also visited the Geophysical Laboratory in Washington DC several times to work with Bjorn Mysen and Dave Virgo on the structure of silicate melts and glasses, using Raman and also Mössbauer spectroscopy. Notably, they showed for the first time by direct Raman spectroscopic measurements of silicate melts up to 1350 °C that the structure of melts and glasses are indeed very similar—but different in some details. At that time, this was an absolutely pioneering study, which vindicated the long-held assumption that glasses are some sort of "frozen-in" silicate melts.

In 1986, Fritz Seifert became the first director of the newly founded Bayerisches Geoinstitut (Bavarian Research Institute for Experimental Geochemistry and Geophysics, BGI) in Bayreuth, which he rapidly developed into a leading institution in high-pressure research in Earth sciences and beyond. Under the leadership of Fritz Seifert, the institute became a magnet for young and experienced researchers from all over the world and many of the established colleagues in the field today started their career as postdocs in Bayreuth. The success of the institute, however, was by no means guaranteed from the beginning. The first provisional laboratories in wooden barracks and in an old farmhouse (with the laboratories in the basement regularly flooded after strong rain) were the smallest problem. More serious was the fact that due to some changes in state politics and university leadership, the political support for the institute vanished and sometimes even turned into some rather hostile environment. It was only due to the energy and tenacity of Fritz Seifert that the institute survived until the general political situation became more friendly and supportive again. Naturally, this meant that his time for doing research was limited. Nevertheless, during the time in Bayreuth, Fritz Seifert was still actively involved in many scientific projects, notably on the crystal chemistry and stability of perovskite phases. He was also involved in a study that reported the first discovery of a crystalline silicate with five-coordinated silicon.

Fritz Seifert's style of working in Bayreuth is still very much remembered by his former colleagues. It involved very long hours, starting very early in the morning and regularly extending into weekends and holidays. One of the early postdocs in the wooden barracks was Sumit Chakraborty, who used to work until late in the night. One day, he wrote an email with a scientific question to Fritz Seifert just before he left his office at 2 am in the morning. Fritz Seifert immediately replied when he started to work at about 5 am—and apologized for the long time it had taken him to respond to this email. No staff member or visitor in Bayreuth failed to be impressed by Fritz Seifert's truly breathtaking consumption of pipe tobacco—at a time when this was still considered to be socially acceptable at the work place. I remember once walking into his office and I noticed that the door of a large cabinet there was left open. The entire cabinet was neatly stuffed out with packages of pipe tobacco. As he started to work very early in the morning, he also had installed an alarm on his computer that reminded him at 5 pm in the afternoon that it is now time to relax a bit, to socialize with other people, and to drink a beer.

Fritz Seifert passed away on May 7, 2026, just one day before his 85th birthday.

Hans Keppler (BGI Bayreuth)