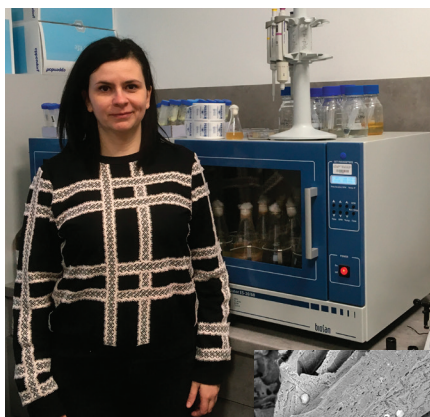




## DOMEYKO AWARD GOES TO A MINERALOGIST

The Domeyko Award is presented every other year to a young scientist for outstanding contributions to mineralogical or geological sciences. This year's recipient is Anna Potysz (University of Wrocław, Poland) who was honoured for her work on the bioweathering of copper metallurgical slags. The work is interdisciplinary and, as Dr Potysz says, it is "in the forefront of many disciplines: geochemistry, mineralogy, soil science and microbiology." She continues: "I address the problem of environmental contamination by metallic pollutants at sites impacted by industrial activity. Of particular interest to me is the geochemical stability of metal-laden industrial wastes, namely 'slags' disposed of long ago without the appropriate environmental oversight. The presence of such contaminated sites, with a lack of proper impermeable barriers designed to prevent metal migration, may require remediation actions be taken to avoid further contamination."



Experiments are running – Dr Anna Potysz in her laboratory.

Bacteria are picky eaters – fayalite crystals are removed from a slag by microbial activity.



The work has many laboratory challenges, and the experimental work has mostly been done at a laboratory that was designed, set up, and led by Dr Potysz herself. She started from scratch, and now her

laboratory is a place of scientific collaborations, both in Poland and internationally. This is how Dr Potysz describes her work: "I perform laboratory simulations demonstrating interactions of industrial wastes with soil and vegetation cover. I evaluate the impact(s) of soil microbial organisms, root exudates, and soil organic matter on bioweathering of minerals and their synthetic equivalents [i.e. slag components]. I run toxicity tests (mainly with plants) and I am engaged in phytoremediation: that is, the search for efficient plants, as well as suitable conditions for, the 'rehabilitation' of polluted soils in the vicinity of former industrial centres."

To learn more on the challenges of working with bacteria, please check the latest publications by Anna Potysz: these include, Potysz et al. (*Journal of Environmental Chemical Engineering*, 2020, doi.org/10.1016/j.jece.2020.104450); Potysz et al. (*Construction and Building Materials*, 2020, doi.org/10.1016/j.conbuildmat.2020.118474); Potysz and Kierczak (*Minerals*, 2019, doi.org/10.3390/min9090542); Potysz et al. (*Journal of Geochemical Exploration*, 2019, v206, pp1–14); Potysz et al. (*Applied Geochemistry*, 2018, v98, pp22–35); Potysz et al. (*Chemosphere*, 2017, v178, pp197–211).

## EMU RESEARCH EXCELLENCE MEDAL 2020 WINNER



Dr Oliver Plümper

The recipient of the 2020 Research Excellence Medal of the European Mineralogical Union (EMU) is Dr Oliver Plümper from Utrecht University (the Netherlands). He receives the award for his outstanding contributions to the mechanics and implications of fluid–mineral interactions and for his international collaborative research.

Dr Plümper has established himself as a leading researcher in fluid–rock interactions and their consequences for a wide range of geochemical and geophysical processes. His research has had considerable impact in the fields of fluid–mineral/rock interaction, nanogeosciences, and mineral deformation. He has shown how chemical reactions at the mineral interface scale are coupled to mechanical deformation to induce large-scale alterations of the oceanic lithosphere. He is also well-known for clarifying how fluids are initially released in dehydrating systems. With the insights that these results have provided, he has been able to link fluid fluxes in subduction zones to the global water cycle. His research is genuinely transdisciplinary and is characterized by investigations that span the full scale from geological outcrops to nanometre-size mineral defects. His findings also have implications for important societal issues, including earthquake nucleation and propagation, CO<sub>2</sub> sequestration, and nuclear waste encapsulation.

His broader activities have marked him out as a leader who will undoubtedly continue to make a major contribution to geoscience research. He investigates mineralogical questions by using multi-scale analytical techniques that range from X-ray tomography to transmission electron microscopy and from Raman spectroscopy to numerical modelling. He actively contributes to the transnational access scheme of the European Plate Observing System (EPOS), which provides access to advanced facilities and mineralogical expertise across Europe.

For his seminal contributions to fluid–mineral interactions and for his far-reaching interdisciplinary and international collaborative research, Dr Oliver Plümper is a highly deserving recipient of the 2020 Research Excellence Award of the European Mineralogical Union. The medal will be presented during the 2021 Goldschmidt Conference in Lyon (France), or during an appropriate virtual ceremony.

For more information about nominations for the 2021 EMU Research Excellence Medal, visit [http://eurominunion.org/?page\\_id=152](http://eurominunion.org/?page_id=152).