

## ABOUT THIS ISSUE

Volcanoes are the powerhouses of nature that can, within minutes, transform a beautiful mountainscape into a desolate landscape devoid of life. Many of us know of singular historic volcanic events because of their impact on society: the 79 AD Mount Vesuvius eruption that resulted in the destruction of Pompeii and Herculaneum (Italy); the deadly 1883 eruption of Krakatoa (Indonesia) that was heard 3,100 miles away; the tragedy of the 1985 Nevada del Ruiz (Columbia) eruption, which resulted in a lahar that killed more than three quarters of the 28,700 inhabitants of Armero; or the costly eruption of Eyjafjallajökull (Iceland) in 2010, which caused more than 10 million air passengers to be stranded and cost the global economy an estimated US\$ 4.7 billion. Whether eruptions are mild or catastrophic, volcanoes fascinate and captivate us.

As this issue goes to press (February 2017), there are 33 volcanoes erupting throughout the world, with another 1,500 active volcanoes slumbering until the conditions are right for an eruption. Some of those slumbering volcanoes have nasty histories, such as the supervolcano Campi Flegrei (near Naples, Italy) that is currently making headlines because it is seemingly approaching a “critical state”. The articles in this issue present our current understanding of how such volcanoes work and give us a glimpse into the world of magma – how it is formed and how it is transported to the surface. Much remains unknown the plumbing systems of volcanoes or what triggers an eruption. But, as you will read, scientists are making significant progress in uncovering the secrets of these powerhouses, which ultimately helps our world to be a safer place to live.

## THANKS GORDON

With this issue, Gordon Brown (Stanford University, California, USA) completes his three-year term as a principal editor of *Elements*. Gordon has been a vital part of our editorial team since 2014. During his tenure, he oversaw the following issues: “Kaolin” (v10n3), “Mineralogy of Mars” (v11n1), “Social and Economic Impact of Geochemistry” (v11n4), “Earth Sciences for Cultural Heritage” (v12n1), “Deep-Mined Geological Disposal of Radioactive Waste” (v12n4), and “Volcanoes: From Mantle to Surface” (v13n1). In addition to working closely with our guest editors and handling manuscripts, Gordon actively solicited contributions to our Perspectives column and wrote editorials to give us a historical context for today’s science. Thank you, Gordon, for all your hard work and the time you committed to *Elements*.

INTRODUCING NANCY L. ROSS,  
PRINCIPAL EDITOR 2017–2019

We are delighted to announce that Nancy L. Ross has joined the *Elements* team as a principal editor, replacing Gordon Brown (2014–2016), whose three-year term comes to an end with this issue. Nancy is currently Professor of Mineralogy and Head of the Geosciences Department at Virginia Tech (USA).



Nancy has been a pioneer in the study of the crystalline structures, elastic properties, and stabilities of Earth materials under the extreme pressures and temperatures of Earth’s lower crust and mantle. More recently, she has studied the thermodynamic properties and effect of surface hydration on metal-oxide nanoparticles. She uses a combination of theoretical modeling and experimental techniques (such as X-ray and neutron diffraction; Raman spectroscopy and inelastic neutron scattering) to determine the structure relations of crystals and vibrational properties of minerals that govern their thermodynamic properties.

Nancy is active within our scientific community. She was elected fellow of the Mineralogical Society of America (MSA) (1991), honorary fellow of the Società di Mineralogia e Petrologia (2014), and fellow of the Geological Society of America (2016). She served as President of MSA (2009–2010) and as MSA’s Distinguished Lecturer (2011–2012). She has served on a number of commissions and councils. She has also been on advisory groups for funding agencies [e.g. the Natural Environment Research Council (UK) and the National Science Foundation (USA)] and government laboratories [e.g. Oak Ridge National Laboratory (Tennessee, USA) and Los Alamos National Laboratory (New Mexico, USA)]. She served on the *Elements* advisory board 2005–2008.

The *Elements* editorial team is delighted that Nancy has accepted our invitation to become a principal editor, and we look forward to working with her. She is already hard at work on our October 2017 issue (“Boron: Light and Lively”).

**Gordon Brown, Bernie Wood, Friedhelm von Blanckenburg, Nancy Ross, and Jodi Rosso**

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TOP ROW: Fine fluorapatite crystal sections from Cerro de Mercado, Durango, Mexico; an excellent standard! BOTTOM ROW: Gemmy forsterites, San Carlos, Arizona (LEFT) and from the Sapat Mine, Pakistan (RIGHT).

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