THIS ISSUE

Guest editors Fred Jourdan and Uwe Reimold take us on a whirlwind tour of various aspects of impact structures. They focus on terrestrial impact structures because understanding them is key to a better interpretation of impact structures in the Solar System. Many other features in this issue complement the thematic content. Hap McSween's editorial reminds us that near-Earth objects are not just the stuff of science fiction. CosmoElements gives us an overview of space missions searching for and sampling asteroids. Our first Perspective article, by two pioneers of impact research, relates the history behind the development of our thinking regarding impact structures. When we agreed to publish a second Perspective article, on the discovery of icosahedrite, the first natural quasicrystal, we had no idea that an extraterrestrial nature was postulated for this new mineral. The theme of this issue could not have been more fitting for this article.

At 80 pages, this is the second largest issue we have published. But this number of pages will become more common, as plans for 2012 include the publication of three 80-page issues to allow for more nonthematic content.

The 54 km diameter Charlevoix impact structure, about 105 km northeast of Quebec City, was my introduction to impact craters in the 1970s. It was "discovered" by Jehan Rondot, a geologist at the Ministère des Richesses naturelles of Quebec. He was the first to postulate an impact origin for this circular structure. In the course of regional mapping, he discovered unusual conic structures that turned out to be shatter cones. Rondot became fascinated by impact structures and spent the rest of his career studying them. A museum dedicated to the interpretation of the Charlevoix impact structure is under development, testimony to the touristic potential of many of these sites.

WELCOMING JAMS MEMBERS

With this first issue of 2012, we welcome the Japan Association of Mineralogical Sciences (JAMS) as the 17th participating society in *Elements*. JAMS is a young society, resulting from the merging of two well-established Japanese mineralogical societies in 2007. We look forward to reading their news on a regular basis (read their first news on page 61). To the many Japanese colleagues who will receive *Elements* for the first time, we look forward to hearing from you and we say *irasshaimase*.

WELCOMING JOHN VALLEY, PRINCIPAL EDITOR 2012–2014

Elements' newest principal editor is John W. Valley, the Charles R. Van Hise Professor and past chair of geology at the University of Wisconsin–Madison. John is known for his research on high-grade metamorphic rocks, Precambrian geology, and stable isotopes and trace elements in zircon as recorders of the Earth's environments. He is a fellow of the Mineralogical Society of America, the Geological Society of America, the American Geophysical Union, and the Geochemical Society/European Association of Geochemistry. John brings expertise in mineralogy, petrology, and geochemistry to his new job as editor. He acted as guest editor for our Early Earth issue (volume 2, number 4), and he has been a member of the advisory board. He comments that "I look forward to continuing the tradition of *Elements*. The vibrant format is fun to read and informative, with a mix of high-quality reviews on topics of scientific and societal interest." Welcome aboard, John.

THANKS HAP!

After this issue, Hap McSween retires as a principal editor of *Elements*. My first encounter with Hap was at the 2004 GSA meeting. He approached Rod Ewing and me with congratulatory words about *Elements*, whose launch issue had just been published, and he enquired if we would be interested in an issue on Mars. We encouraged him to submit a proposal. And indeed, a proposal soon landed on our desks. Our Water on Mars issue was published in June 2006. Hap was an extraordinarily efficient guest editor: the final papers reached me months before the deadline. You could say that he was noticed, and we were delighted when he accepted our invitation to join the editorial team two years later. During his term as principal editor, he was responsible for the following issues: Gold (v5n5), Sulfur (v6n2), Thermodynamics of Earth Systems (v6n5), Cosmochemistry (v7n1), When the Continental Crust Melts (v7n4), and Impact! (v8n1). During this period, he was also cochair of the Goldschmidt 2010 meeting in Knoxville and he became interim dean of science at the University of Tennessee. Still, his editorials landed on my desk months before they were due, and I could always count on an immediate response to queries. I can only salute such extraordinary efficiency. Hap was also instrumental in getting the Meteoritical Society on board—there is no doubt that his presentation to their council was very convincing. With this issue, he rotates off the editorial board: he will be sorely missed.

ELEMENTS ON GEOSCIENCEWORLD

There has been a major upgrade of the GeoScienceWorld (GSW) site hosting *Elements* (www.elements.geoscienceworld.org). GSW journals are now in a format supported by HighWire's Open Platform technology. This new interface is the visible face of a bottom-up rebuild of HighWire's electronic publishing platform, which was developed to meet the needs of a rapidly evolving Internet environment. The platform infrastructure will interact with many other systems. It is flexible and modular, so it can easily be built upon using Web 2.0 applications, feeds, widgets, and web services.

Even if your institution does not subscribe to GSW, you can still take advantage of many new features, especially the search capabilities. For example, a Google Maps–based search tool allows one to search and browse by topic using latitude and longitude coordinates in GeoRef. Full citations pop up when users hover over references within the text of an article. Keywords are hyperlinked and perform quick searches of that term within all *Elements*' content. Mouse-over previews of abstracts are displayed within both the tables of contents and search-results pages. So check it out at www.elements.geoscienceworld.org.

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None of these options is currently available but all could be developed for modest-sized objects if technology funding were appropriated. For NEOs more than a few kilometers in size, which would inflict horrendous global damage and perhaps mass extinctions, there is at present no feasible defense.

Because NEOs pose a global threat, the NRC report suggests that international cooperation is needed and recommends that a suitable international entity be organized and empowered to develop plans for dealing with the NEO hazard. Besides the USA, the Near-Earth Object Dynamic Site in Italy monitors potentially hazardous NEOs. The international community of planetary scientists is acutely aware of the NEO hazard, but their concerns are echoed by only a few officials from various nations. It is high time that the geologic community became engaged in this problem, given our knowledge of the likely consequences to our planet. The impact scars described in this issue of *Elements* demonstrate that the threat is real, albeit infrequent. I cannot imagine a more persuasive reason for nations to work together in common purpose. Whether we do or not remains to be seen.

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* Hap McSween was the principal editor in charge of this issue.