

ABOUT THIS ISSUE

In just about every physical science course the concept of the atom is taught. Students are introduced to the three subatomic particles of electrons, protons, and neutrons. Usually, there is a lot of emphasis on electrons, because their configuration determines the chemical properties of an atom. And the protons get a lot of attention as well: who doesn't like H⁺? Sadly, too often, neutrons are left in the "Oh, there is another part of an atom" category ... that neutral subatomic particle that adds weight to the atom.

The neutron was discovered in 1932, several decades after the discovery of the electron and the proton. But, the neutron took the world by storm in the 1930s with the discovery of nuclear fission in 1938 and the birth of the atomic age. Many of us benefit

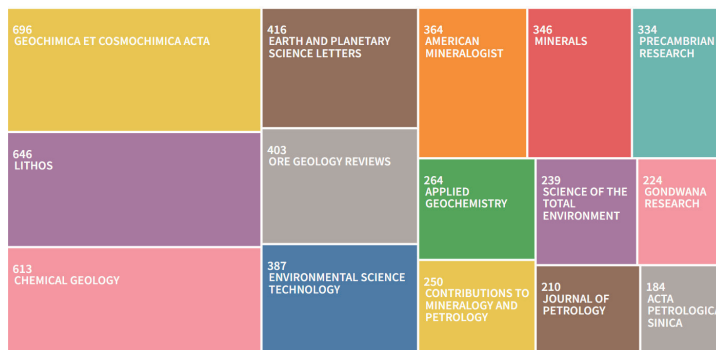
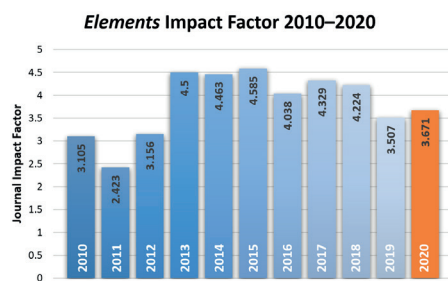


from neutrons, because they are the backbone of the nuclear power industry. And, with the advent of dedicated neutron sources such as neutron generators and spallation sources, we also benefit from neutrons as the basis for experiments such as those featured in this issue of *Elements*. Nancy Ross and David Cole open their introductory article with the statement, "The fundamental properties of the neutron make it a powerful tool for Earth science investigations because neutrons provide information that cannot be obtained by any other research method." We hope that after reading the articles in this issue of *Elements* that the neutron will move from the "Oh, there is another part of the atom" category to "Wow! Let me tell you about the neutron" category.

VISIBILITY OF ELEMENTS

The Clarivate™ Journal Citation Reports for 2020 were released in July 2021. *Elements'* journal impact factor for 2020 was 3.671. For your reference, the journal impact factor takes into consideration the citation rate of only those articles published in the previous 2 years: in this case, those published in 2018 and 2019 and cited in 2020. *Elements'* journal impact factor (JIF) has remained relatively steady over the past 10 years (see graphic).

The 585 thematic articles published in *Elements* from 2005 to 2020 have received a total of 26,935 citations. *Elements* articles have been cited in 2,833 different journals. Approximately a third of those citations are found in the 15 journals shown in the graphic below, with the journals *Geochimica et Cosmochimica Acta*, *Lithos*, *Chemical Geology*, *Earth and Planetary Science Letters*, and *Ore Geology Reviews* being most popular.



In our June 2018 issue (v14n3), we highlighted that there were four *Elements* articles that each had over 200 citations. Three years later, the number of 200+ citation articles have almost quadrupled (15 articles). And, at the time of the release of this issue, there are 5 articles that have well over 400 citations each. Three of these articles were on our 2018 list, but there are two articles on zircons that have recently found popularity in the literature, and they now join the 400+ club.

- "Water Management Challenges Associated with the Production of Shale Gas by Hydraulic Fracturing" by Gregory et al. (2011, v7n3, pp 181–186) – **526** citations
- "Re-equilibration of zircon in aqueous fluids and melts" by Geilser et al. (2007, v3n1, pp 43–50) – **522** citations

- "Ferruginous Conditions: A Dominant Feature of the Ocean Through Earth's History" by Poulton and Canfield (2011, v7n2, pp 107–112) – **467** citations
- "CO₂ Sequestration in Deep Sedimentary Formations" by Benson and Cole (2008, v4n5, pp 325–331) – **449** citations
- "Zircon Behaviour and the Thermal Histories of Mountain Chains" by Harley et al. (2007, v3n1, pp 25–30) – **424** citations

Each *Elements* issue contains 5–7 thematic articles that collectively present a coherent picture of a topic. So, even though we celebrate the successes of individual articles, such as those listed above, we believe that it is also important to evaluate the collective impact of our thematic issues. As of July 2020, 48% of the 95 *Elements* issues have had over 200 citations each, with the most highly cited issues since the time of publication being the following:

- v3n1 – "Zircon, Tiny but Timely" (1,670)
- v8n5 – "Rare Earth Elements" (1,016)
- v4n5 – "CO₂ Sequestration" (970)
- v10n2 – "Ophiolites" (957)
- v7n2 – "Iron in Earth Surface Systems" (859)
- v2n2 – "Arsenic" (798)
- v3n5 – "The Critical Zone" (765)
- v4n2 – "Phosphates and Global Sustainability" (733)

Some of these issues continue to receive ~150+ new citations a year, even though they were published almost 10 years ago. This is evidence of the staying power of *Elements*.

We can confidently say that *Elements'* readers have access (in print and online) to excellent articles on relevant topics that have lasting interest to our scientific community.

BREAKING NEWS



Janne Blichert-Toft has accepted our invitation to join the editorial board of *Elements*. Beginning in January 2022, she will assume the role of Principal Editor – Geochemistry. Janne is a research director with the CNRS at the École Normale Supérieure de Lyon (France). She is a geochemist who specializes in radiogenic and stable isotopes with applications to geochronology, terrestrial and planetary mantle–crust evolution and mantle dynamics, mantle geochemistry, crustal growth, early Earth geodynamics, early life, planetology, cosmochemistry, meteoritics, anthropology, geoarchaeology, archaeology, archaeometry, and numismatics. In addition to her research activities, she serves as an editor for several geochemical journals including *Geochimica et Cosmochimica Acta*; *Geochemistry*, *Geophysics*, *Geosystems*; and *Geochemical Perspectives*. We look forward to working with Janne in the years ahead.

John Eiler, Richard Harrison, Becky Lange, and Jodi Rosso