Beginning in 2005, workshops focused on preparations for and follow-ups to the International Heliophysical Year 2007. The IHY's legacy includes the current operation of 16 instrument arrays, with more than 1000 instruments recording data on solar–terrestrial interactions that range from coronal mass ejections to variations of the total electron content in the ionosphere. Organizations in Armenia, Brazil, France, Germany, Israel, Japan, Switzerland, and the US are providing instruments to the host institutions.

Starting in 2010 the workshops have addressed the International Space Weather Initiative (http://iswi-secretariat.org). Attendees reviewed the scientific results from the instrument arrays and discussed ways and means to continue space-weather research and education.

A full BSSI report, presented to UN member states in June 2013, is available at http://www.oosa.unvienna.org/pdf/limited/l/AC105_2013_CRP11E.pdf.

Peter Gruss, former president of the Max Planck Society, recently noted that "each new field [of research] must be sustainable for 20 to 25 years." He also wrote, "How good research is in any given country is dependent on the talent of its researchers and the genius of the best of them." The initiative is now 25 years old, involves all nations, and has enjoyed the freedom and the mandate to address particularly innovative topics.

The BSSI is now preparing to reevaluate the research results of the whole initiative. I invite readers of PHYSICS TODAY to send me their ideas for specific criteria for such a reevaluation process.

Hans J. Haubold
(hans@neutrino.aquaphoenix.com)
United Nations Office at Vienna
Vienna, Austria

Emergent-function realities

The letter by Moorad Alexanian (PHYSICS TODAY, February 2014, page 12) suggests that some realities, such as consciousness, free will, and the mind, are beyond science. Those essentially human phenomena are sometimes called subjective realities. I think it's better to call them for what they are: emergent-function realities. A car, for example, can be analyzed in great detail, but its main value is the emergent function of transport: move and carry. The horse also provided that function, but the car has had a profound effect on the social behavior of humans. Its emergent-function reality, not seen in its parts, can be deduced from a functional analysis and studied through its effect on human activity.

Many of the realities that we find mysterious, including life itself, are emergent functions. Life emerged from the self-assembly of the first "living" cell. Consciousness and other such subjective realities are emergent functions arising from the complexity of the physical brain and nervous system. Learning just how they arise is of great interest. And they can be studied scientifically by measuring their effect on human behavior. Perhaps the statement that science can handle "everything" is broader than Alexanian believes.

Henderson Cole
(coleiii@sbcglobal.net)
Holly Ridge, North Carolina

Correction

June 2014, page 28—The facility in the photograph was incorrectly identified as the Vermont Yankee nuclear power plant; it is actually the Virgil C. Summer Nuclear Station in Jenkinsville, South Carolina. ■