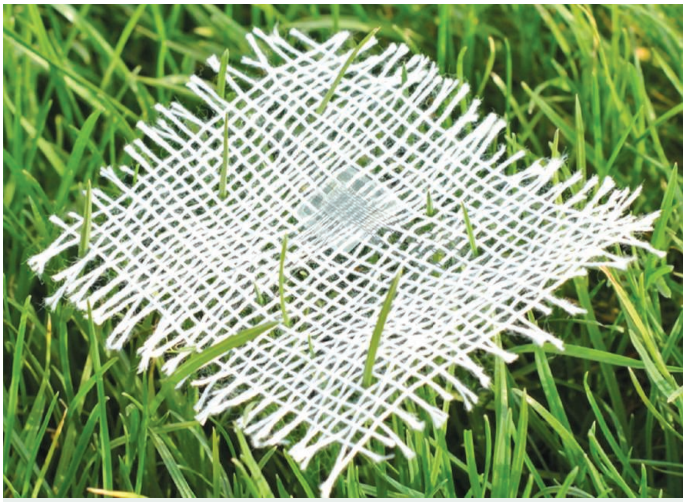


A solar cell textile integrated in a fabric.

MATERIALS SCIENCE

Weaving solar energy into fabrics

Imagine a sweatshirt that charges your cell phone or a sail that powers a ship's radio. To bring solar-powered fabric closer to reality, Pan *et al.* modified the standard design of a dye-sensitized solar cell by sandwiching the dye and electrolyte between two flexible electrodes. Earlier approaches twisted the electrodes together into cylinders. Instead, Pan *et al.* stacked grids of titanium dioxide-coated titanium wires and carbon nanotube fibers, making it easier to connect multiple cells. With a solid-state electrolyte, the cells lost less than 6% of their efficiency over 300 hours of operation in air. As a proof of principle, the authors used several woven cells connected in series to power a red light–emitting diode. — JSY

Angew. Chem. Int. Ed. **53**, 10.1002/anie.201402561 (2014).

EDUCATION

Making business students science-savvy

What happens when science pedagogy goes to business school? Future business leaders become knowledgeable about the latest developments in renewable-energy technology. Rodgers engaged undergraduate business management students in developing their business skills while learning about renewable-energy technologies by having them take a basic course on energy sources and prepare a "rocket pitch"—a short presentation designed to recruit investors. Rodgers also had the students research and design a new environmental technology project. The experience exposed them to primary sources and immersed them in debate about which energy source would be an ideal investment for the future. The approach, Rodgers found, prepared the business students to use scientific knowledge in their future business decisions. — MM

J. Coll. Sci. Teach. **43**, 28 (2014).

CANCER

Serendipity rules in cancer therapy

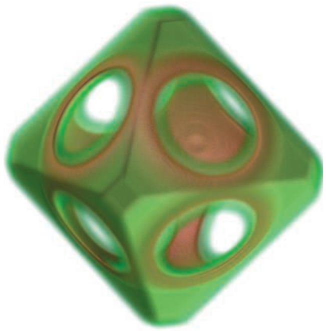
While testing cancer drugs in a mouse model of a deadly blood cancer, multiple myeloma, Shortt *et al*. made a startling discovery: On its own, an inert solvent commonly used as a drug delivery vehicle can halt the cancer's growth. The researchers noticed that control mice treated with *N*-methyl-2-pyrrolidone (NMP) survived longer than control mice treated with other drug delivery vehicles. Further analyses of NMP in cultured cells and live mice confirmed the solvent's antimyeloma activity. NMP shares certain mechanistic similarities with other promising drug candidates for myeloma that were discovered in more traditional ways. Plans for phase 1 clinical trials are under way. — PAK

Cell Rep. **7**, 10.1016/j.celrep.2014.04.008 (2014).

CHEMISTRY

Nanoparticle transformations in 3D

When silver nanocubes react with gold ions, they combine into hollow-frame octohedral structures. Now Goris *et al.* have imaged the process with electron tomography and x-ray element mapping to see how it happens. Goris *et al.* reacted silver nanocubes with $HAuCl_4$ and found that three silver atoms were oxidized for every gold atom consumed. They removed a series of samples at different points in the reaction and used three-dimensional (3D) tomography to see the steps.



A golden nanoparticle framework.

First, a pinhole opens up in one facet. Next, all the facets open up. Then the vertices flatten to become new facets, until finally only an octahedral wire frame structure remains. The analysis also revealed that a protective gold layer surrounded the initial pinhole and forced the reaction of silver from the interior of the nanocube. — PDS

Nano Lett. 10.1021/nl500593j (2014).

PHYSICS

Stretching graphene to switch it off

Graphene, which is made up of a single layer of carbon atoms arranged in a honeycomb pattern, has remarkable mechanical and electrical properties, but conducts electricity almost too well. Therefore, researchers are looking for ways to switch off graphene devices more easily. It is known that graphene sometimes develops electronic states in which it doesn't conduct electricity when it is placed on hexagonal boron nitride (hBN), another honeycomb-structured material. Woods *et al.* now have found that graphene stretches and adapts locally to the underlying hBN lattice so that the atoms of the two lattices lie on top of each other, as long as the angle of orientation of the graphene layer with respect to hBN is not too great. The matched areas probably contribute to the nonconducting states through the homogeneity of their electronic properties. — JS

Nat. Phys. 10.1038/nphys2954 (2014).

OCEANOGRAPHY

Arctic sea ice traps floating plastic

Scientists are all too familiar with microplastics—tiny polymer beads, fibers, or fragments—in ocean eddies or near coastlines. But currents, it turns out, also carry them to the Arctic. Obbard *et al*. melted and filtered parts of four Arctic sea-ice cores, analyzing the remaining particles' chemistry. They found rayon, as well as polyester, nylon, and other synthetic polymers. As Arctic ice freezes, the researchers argue, it traps floating microplastics, accumulating hundreds of particles per cubic meter: three orders of magnitude larger than some counts of particles in the Pacific Garbage Patch. And melting sea ice, they note, could release more than 1 trillion pieces of plastic to the ocean in the next decade. — EH

Earth's Future 10.1002/2014EF000240 (2014).