



## A Tiny Circus Act

These nano-mushrooms are made of nanocrystalline platinum, a precious metal that can be used in everything from electrodes and dentistry equipment to expensive jewelry. In this case, the platinum mushrooms are actually nanoscale testing specimens that help scientists understand the effects of sample-size reduction on the mechanical strength and likelihood of fracture of the material being tested. In this image, captured by Xun Wendy Gu, a graduate student in the lab of Julia Greer, professor of materials science and mechanics, the mushroom stalks are just 120 nanometers in width, with a single nanometer being equal to one-billionth of a meter. To test the platinum, diamond grips are used to pull at the mushroom heads. This sometimes separates the mushrooms from the material on which they are embedded so that the mushrooms stick to each other in visually interesting ways. Gu's image was so interesting, in fact, that it won first place in the 2013 Art of Science competition, a semiannual event that celebrates the interplay between art and science. This year's exhibit, featuring 35 images, was organized by Caltech's literary and visual arts magazine, *Totem*, and sponsored by Robert Gerson Metzner (BS '38).—*KN*