
THE NSF STATUTORY MISSION

To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense

—From The National Science Foundation Act of 1950 (P.L. 81-507)



THE NSF VISION

NSF envisions a nation that capitalizes on new concepts in science and engineering and provides global leadership in advancing research and education.

—From “Empowering the Nation Through Discovery and Innovation, NSF Strategic Plan for Fiscal Years 2011-2016”

About the Cover: Stretchable and Twistable Electronics

Researchers Yonggang Huang at Northwestern University and John Rogers at the University of Illinois at Urbana-Champaign have developed circuits that can stretch, bend, and even twist! In the past there have been limits for the use of electronic components—which have been flat and unbendable—due to the fact they are made primarily of silicon, which is brittle and inflexible. Bending or stretching would make the component useless. Now, Huang and Rogers have developed a process to produce stretchable electronics, increasing the stretching range by as much as 140 percent and allowing users to subject circuits to extreme twisting. The new technology improved upon several past developments by the pair. This emerging technology will be ideally suited in instances where flat, unbendable electronics would fail. Potential uses include flexible sensors, transmitters and new photovoltaic and microfluidic devices, as well as areas of medicine and athletics. Huang and Rogers are also looking into possible application of their technology in solar panels. This research was supported by the National Science Foundation (NSF) and the U.S. Department of Energy.

For more information see: www.nsf.gov/news/mmg/mmg_disp.cfm?med_id=65335

Credit: John Rogers, University of Illinois.