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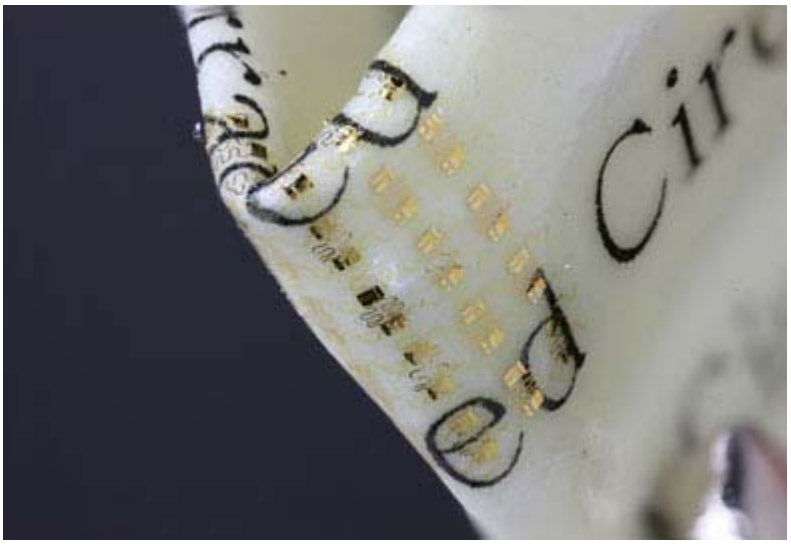
Nanotechnology electronics at the tip of your gloved finger

(*Nanowerk Spotlight*) Imagine this: Chip-based credit cards and other smart cards on sensors and electronics on doctors' surgical gloves; health monitors printed on T-shir devices embedded in your baby's diapers; human machine interfaces on workers' lea are just some of the systems that researchers envision today and that will become re thanks to research teams like John Rogers' group at the University of Illinois.

Nanotechnology-enabled electronics of the future will be invisible, i.e. transparent (se electronics made with carbon nanotubes"), or flexible, or both. One of the areas Roge is creating materials and processes that will allow high-performance electronics that a stretchable (see our previous Spotlight "Gutenberg + nanotechnology = printable elec



Electronic circuit on folded paper. (Image: Rogers group, University of I

Previous work by Rogers' group showed the ability to use silicon nanomaterials for fle stretchable circuits on plastic and rubber substrates, respectively. In their recent work those strategies and extend them for other classes of substrate, by incorporating thin layers between the circuits and the substrates to isolate, to a useful and important de from strains induced in the substrate by folding, bending, stretching or any other com mode of deformation.

"We have demonstrated examples of CMOS circuits on paper, fabric, leather and vin Nanowerk. "To our knowledge, this is the first example of active electronics integrate substrates. An additional advantage of our approaches is that the properties of the ci

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