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Study promises brighter, more flexible screens - August 21, 2009

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Posted for Mico Tatalovic

The prospect of gigantic, flexible LEDs screens has been raised by a new paper, published this week in [Science](#). The paper describes a process for making ultra-thin LEDs that can simply be stamped onto other materials such as glass, plastics and rubber.

Currently, organic LEDs, so named as they are made out of thin carbon-based materials, are used in cheap portable systems such as mobile phones. Much brighter and more robust inorganic LEDs, made out of gallium arsenide and gallium nitride, are commonly used for video billboards but they cannot flex and are difficult to assemble.

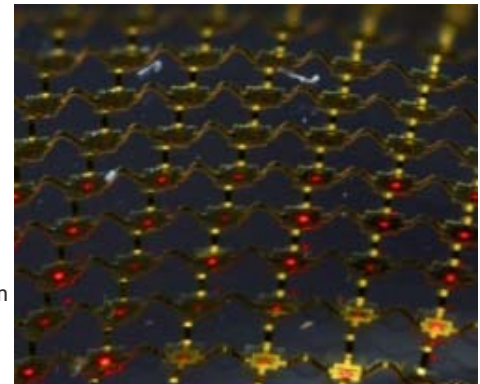
“So what we were trying to do really is combine some of the advantages of the processing of the organic devices, with the robustness and brightness of the inorganic,” says study author John Rogers, of the University of Illinois ([press release](#)).

The team has now developed a process that could lead to mass production of tiny inorganic LEDs in such a way to allow them to be embedded onto other, flexible materials - this will allow bright, durable inorganic LEDs to become as cheap and flexible as organic LEDs.

“By printing large arrays of ultrathin, ultras-small inorganic LEDs and interconnecting them using thin-film processing, we can create general lighting and high-resolution display systems that otherwise could not be built with the conventional ways that inorganic LEDs are made, manipulated and assembled,” says Rogers ([press release 2](#)).

Some funding for the research came from Ford, who wanted to make flexible brake lights for their cars, notes [Reuters](#).

Image: Photo by D. Stevenson and C. Conway, Beckman Institute, University of Illinois



Posted by Daniel Cressey on August 21, 2009

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