



## TECHNOLOGY

# Metal Impregnated Elastomers as Compliant Electrodes

## OVERVIEW

Dielectric elastomer actuators (DEA) respond to electrical stimulation with a shape change, and they can therefore be used as "artificial muscles." DEAs have been shown to expand in area up to 300 percent when high voltage is applied to electrodes on each face of the elastomeric film. These actuators require electrodes that are compliant (stretchable), in order that they can follow the movement of the elastomer film. In fact, the electrodes should be just as, if not more, compliant than the elastomer film.

Researchers at the University of Maryland have developed a process for producing highly compliant electrodes that can be cured with UV radiation or through the use of a curing agent. More importantly, these electrodes can be fabricated on the micro-scale. The number of steps required to produce this conductive rubbery material is far less than the prior art, and it can be made at a fraction of the cost.

For additional information, please contact the Office of Technology Commercialization, 301 405 3947 or by e-mail [otc@umd.edu](mailto:otc@umd.edu).

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## Additional Information

### INSTITUTION

University of Maryland, College Park

### PATENT STATUS

Patent(s) pending

### LICENSE STATUS

Contact OTC for licensing information

### CATEGORIES

- Chemical
- Microelectronics

### EXTERNAL RESOURCES

- [US Patent 7,695,647](#)

