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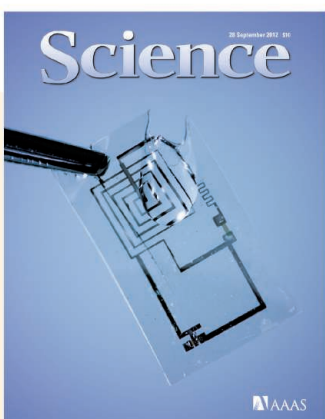


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COVER

A biodegradable integrated circuit (length: ~2.54 centimeters) shown partially dissolved by a droplet of water. This demonstration system includes transistors; diodes; inductors and capacitors, with magnesium for the electrodes/interconnects; magnesium oxide for the gate/interlayer dielectrics; silicon nanomembranes for the semiconductor; and silk as a thin, flexible substrate. The dissolution characteristics can be tuned to address applications such as bioresorbable implants, biodegradable environmental monitors, and compostable consumer electronics. See page 1640.

Image: Beckman Institute, University of Illinois, and Tufts University

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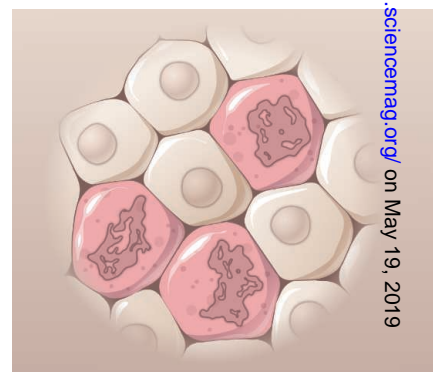
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Status and Solutions for the World's Unassessed Fisheries

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10.1126/science.1223389

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K. Doronin et al.

10.1126/science.1226625

Gene Loops Enhance Transcriptional Directionality

S. M. Tan-Wong et al.

10.1126/science.1224350

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Jet-Launching Structure Resolved Near the Supermassive Black Hole in M87

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Comment and Response on "The Geometric Structure of the Brain Fiber Pathways"

Comment: M. Catani et al.

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The Signal Transduction Knowledge Environment

25 September issue: <http://scim.ag/ss092512>

RESEARCH ARTICLE: Superbinder SH2 Domains Act as Antagonists of Cell Signaling

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PERSPECTIVE: Peptide-Binding Domains—Are Limp Handshakes Safest?

N. J. Haslam and D. C. Shields

Engineered, high-affinity SH2 domains inhibit cell signaling, which may have therapeutic potential.

RESEARCH ARTICLE: Phosphorylation of Cytohesin-1 by Fyn Is Required for Initiation of Myelination and the Extent of Myelination During Development

J. Yamauchi et al.

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RESEARCH ARTICLE: The Tumor Suppressor PTEN Is Exported in Exosomes and Has Phosphatase Activity in Recipient Cells

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A tumor suppressor protein with lipid phosphatase activity travels to target cells in microvesicles.

PERSPECTIVE: Where EGF Receptors Transmit Their Signals

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Trafficking of activated receptors controls the transcriptional response to epidermal growth factor.

PERSPECTIVE: Cell Responses to Growth Factors—The Role of Receptor Tyrosine Kinase Intracellular Domain Fragments

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26 September issue: <http://scim.ag/stm092612>

RESEARCH ARTICLE: Quantitative Analysis of the Human Airway Microbial Ecology Reveals a Pervasive Signature for Cystic Fibrosis

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A distinctive, stereotyped microbiome is present in the lungs of cystic fibrosis patients.

RESEARCH ARTICLE: An RNA Profile Identifies Two Subsets of Multiple Sclerosis Patients Differing in Disease Activity

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RESEARCH ARTICLE: Vascular Catheters with a Nonleaching Poly-Sulfobetaine Surface Modification Reduce Thrombus Formation and Microbial Attachment

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Pharmacogenomics research points to a personalized approach for prescribing and dosing medications.

REVIEW: Biomaterial-Associated Infection—Locating the Finish Line in the Race for the Surface

H. J. Busscher et al.

Infection-reducing biomaterials must balance host tissue integration and prevention of microbial attachment.

SCIENCE CAREERS

www.sciencereers.org/career_magazine

Free Career Resources for Scientists

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Experimental Error: The Audacity of Graduate School

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Big Pharma Ramps Up Postdoc Programs

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