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 biodegradable consumer electronics. See page 1640.

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

1628 Next-Generation Digital Information Storage in DNA
G. M. Church et al.
Digital information can be stored in DNA at densities higher than digital media such as flash memory or quantum holography.

**RESEARCH ARTICLES**

1629 Out of the Tropics: The Pacific, Great Basin Lakes, and Late Pleistocene Water Cycle in the Western United States
M. Lyle et al.
Precipitation source regions for western North America changed substantially over the last deglaciation.

1634 Parallel Molecular Evolution in an Herbivore Community
Y. Zhen et al.
Parallel mutations in the alpha subunit of the sodium pump allow insects to specialize on host plants that produce ouabain.

**REPORTS**

1638 The Precise Solar Shape and Its Variability
J. R. Kuhn et al.
Observations with NASA’s Solar Dynamics Observatory show that the shape of the Sun does not vary with the 11-year solar cycle.

1640 A Physically Transient Form of Silicon Electronics
S.-W. Hwang et al.
A platform of materials and fabrication methods furnishes resorbable electronic devices for in vivo use.

1644 Gold-Catalyzed Direct Arylation
L. T. Ball et al.
A gold catalyst can link together aromatic rings under very mild conditions.

1648 Synthesis and Characterization of a Rhodium(I) σ-Alkane Complex in the Solid State
S. D. Pike et al.
Hydrogenation of a crystalline precursor enables structural characterization of a commonly evoked reaction intermediate.

1651 Toward Peace: Foreign Arms and Indigenous Institutions in a Papua New Guinea Society
P. Wiessner and N. Pupu
A case study shows that controlling conflict depends on local institutions.

1654 Adaptive Sleep Loss in Polygynous Pectoral Sandpipers
J. A. Lesku et al.
Male pectoral sandpipers go without sleep for days in order to mate as often as possible in the high Arctic.

**CONTENTS continued**
SCIENCEONLINE

RESEARCH ARTICLE: Superbinder SH2 Domains Act as Antagonists of Cell Signaling
T. Kaneko et al.

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

RESEARCH ARTICLE: The Tumor Suppressor PTEN Is Exported in Exosomes and Has Phosphatase Activity in Recipient Cells
U. Putz et al.

PERSPECTIVE: Where EGFR Receptors Transmit Their Signals
N. L. Lil and N. J. Sever

PERSPECTIVE: Cell Responses to Growth Factors—The Role of Receptor Tyrosine Kinase Intracellular Domain Fragments
G. Carpenter and A. Pazzi

PERSPECTIVE: Peptide-Binding Domains—Superbinder SH2 Domains
T. Kaneko et al.

PERSPECTIVE: Cell Responses to Growth Factors—The Role of Receptor Tyrosine Kinase Intracellular Domain Fragments
G. Carpenter and A. Pazzi

Perspective: Pharmacogenomics and Patient Care—One Size Does Not Fit All
K. M. Giacomini et al.

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.

SCIENCECAREERS

www.sciencemag.org/career_magazine
Free Career Resources for Scientists

Experimental Error: The Audacity of Graduate School
A. Ruben

The overworked grad student seems to embody the most pointless aspect of graduate school.

Big Pharma Ramps Up Postdoc Programs
M. Price

After years of layoffs, drug companies are turning to the youngest Ph.D. scientists for fresh ideas.

Content Collection: Getting Your Research Published
E. Pain

Proficiently publishing scientific articles is among the attributes that determine academic success.

SCIENCEPODCAST

www.sciencemag.org/multimedia/podcast
Free Weekly Show for 28 September 2012 Melt-away electronics, scientific thinking in kids, climate change in Mongolia, and more.

SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals Mail postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 2012 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): $149 (174) allocated to subscription). Domestic institutional subscription (15 issues): $599; Foreign postage extra: Mexico, Caribbean (surface mail) $55; other countries (air assist delivery) $85. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request. GST #1254 88122. Publications Mail Agreement Number 1069624. Printed in the U.S.A. Change of address: Allow 4 weeks, giving old and new addresses and 8-digit account number. Postmaster: Send change of address to AAAS, P.O. Box 96176, Washington, DC 20090-6176. Single-copy sales: $10.00 current issue, $25.00 back issue prepaid includes surface postage; bulk rates on request. Authorization to photocopy material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that $30.00 per article is paid directly to CCC, 22 Rosewood Drive, Danvers, MA 01923. The identification code for Science is 0036-8075. Science is indexed in the Reader’s Guide to Periodical Literature and in several specialized indexes.