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CONTENIDO

VOLUME 99, No. 5, SEPTEMBER/OCTOBER 2011

DEPARTMENTS

- 354 **From the Editor.**
- 355 **Letters to the Editors**
- 358 **Macroscope**
From research to reality.
Katherine Willmore.
- 362 **Computing Science**
Leave the driving to it.
Brian Hayes.
- 368 **Engineering**
Silver Bridge.
Henry Petroski.
- 374 **Marginalia**
That's interesting.
Roald Hoffmann.
- 378 **Ethics**
Digitizing the coin of the realm.
Francis L. Macrina.
- 382 **Science Observer**
A fish on an idea • In the news.
- 410 **Sightings**
Where art and science meet.

SCIENTISTS' BOOKSHELF

- 412 **Book Reviews**
Information • Curiosity • Patterns • Cooperation.

FROM SIGMA XI

- 429 **Sigma Xi Today**
Young investigator award • 2011 research conference • European regional conference.

FEATURE ARTICLES

384 **Tardigrades**

Microscopic “bears of the moss” are ubiquitous and all but indestructible.
William R. Miller.

392 **Self-healing Polymers and Composites.**

Capsules, channels and chemicals allow materials to repair themselves
S. R. White, B. J. Blaiszik, S. L. B. Kramer, S. C. Olugebefola, L. S. Moore and N. R. Sottos.

400 **Urbanism on West Africa’s Slave Coast.**

Archaeology sheds new light on cities in the era of the Atlantic slave trade.
J. Cameron Monroe.

THE COVER

Synthetic materials will eventually crack as they are pulled, pressed or twisted during everyday wear and tear. Taking inspiration from biological materials that can heal themselves, Scott R. White and his coauthors at the University of Illinois are developing materials with built-in automatic repair systems (“Self-healing Polymers and Composites,” pages 392-399). On the cover, a composite has a women vasculature that is used to deliver new material to a damaged site. At left, an artist’s rendition of one of these materials contains tiny spheres of healing agent. A crack has ruptured some of the spheres, which have spilled their contents and healed the damaged area. (Image on the cover courtesy of Piyush Thakre, Alex Jerez, Ryan Durdle and Jeremy Miller, Beckman Institute for Advanced Science and Technology, University of Illinois; illustration at left by Steve Eisenmann, courtesy of the Autonomous Materials Systems Group, Beckman Institute for Advanced Science and Technology, University of Illinois