

Current Issue Research Highlights Article

NATURE | RESEARCH HIGHLIGHTS



NANOTECHNOLOGY

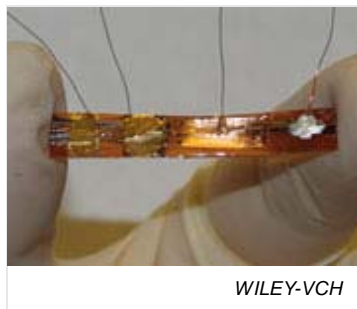
Sugar and shake sensor power

Nature **478**, 158 (13 October 2011) doi:10.1038/478158c

Published online 12 October 2011

Subject terms: Applied physics and engineering

Tiny sensors implanted into the body for medical monitoring can be powered in one of two ways: by metabolizing surrounding sugar or by harvesting the mechanical energy generated by small vibrations. A group led by Zhong Lin Wang of the Georgia Institute of Technology in Atlanta now describes a device (**pictured**) that can harvest energy from either source, or both at once.



The carbon fibre carries a biofuel cell on one end that uses immobilized enzymes to break down glucose and generate current. The other end is coated with a zinc oxide film, which generates current when force is applied. The researchers made measurements on a bundle of about 1,000 such fibres.

The hybrid generator can also be used to detect pressure variation in biological liquids such as blood, the researchers suggest.

Angew. Chem. 10.1002/anie.201104197 (2011)

Nature ISSN 0028-0836 EISSN 1476-4687

© 2011 Nature Publishing Group, a division of Macmillan Publishers Limited. All Rights Reserved.
partner of AGORA, HINARI, OARE, INASP, ORCID, CrossRef and COUNTER