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NANOTECHNOLOGY

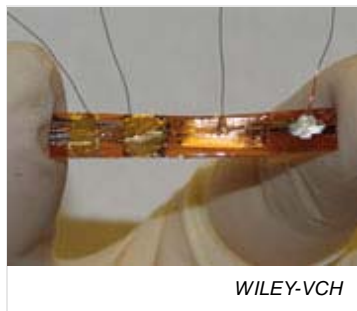
Sugar and shake sensor power

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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.



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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.

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