

NewScientist.com

- [Free E-Zine](#)
- [Subscribe to Magazine](#)
- [Customer Service](#)

28 February 2005

[HOME](#) | [NEWS](#) | [EXPLORE BY SUBJECT](#) | [BACK PAGE](#) | [SUBSCRIBE](#) | [SEARCH](#) | [ARCHIVE](#) | [RSS](#) | [JOBS](#)

Premium

[Premium Content](#)

LATEST HEADLINES

- [Captive chimpanzees' release declared a success](#)
- [The touchy-feely side of telecoms](#)
- [Cultured bone offers novel wedding rings](#)
- [Gay men read maps like women](#)
- [Nanosopic 'ruler' could provide microchip benchmark](#)
- [Swirling plumes of ocean life linked to floods](#)
- [Vast budget boost needed to fight bird flu](#)
- [Ice age bacteria brought back to life](#)
- [ALL LATEST NEWS](#)

PRINT EDITION



Subscribe

- [Current issue](#)
- [Archive](#)
- [Premium](#) [Premium Content](#)

JOBS

JOB OF THE WEEK

Job of the Week

- [Research Scientist/Engineer - Machine Learning](#)
- [Csiro](#)

The World's No.1 Science & Technology News Service

How to make electricity from a gentle puff of air

- 28 August 2004
- From [New Scientist Print Edition](#). [Subscribe](#) and get 4 free issues.

HERE'S another one for the list of miraculous things you can do with carbon nanotubes: blow gas over them and you can generate electricity.

Ajay Sood of the Indian Institute of Science in Bangalore and colleagues reported last year that pushing water through carbon nanotubes generates electricity ([New Scientist](#), 25 January 2003, p 15). Now they have discovered that gas has a similar effect. For instance, argon flowing at 11 metres per second over single-walled carbon nanotubes inclined at an optimal angle of 45 degrees generated 5.6 microvolts across the ends of the nanotubes. Oxygen and nitrogen flowing past other materials such as copper and some semiconductors also generated voltages ([Physical Review Letters](#), vol 93, p 86601).

When the gas strikes the base of the inclined surface, it is momentarily halted. As it tries to flow up the slope a pressure gradient is set up, which in turn causes the temperature of the gas to change as it moves. That is when something called the Seebeck effect — in which a temperature gradient across a solid generates a voltage — kicks in, and a voltage appears across the sample.

Even human breath blown at an inclined sample of carbon nanotubes produced a measurable result of several microvolts.

From issue 2462 of [New Scientist magazine](#), 28 August 2004, page 15

[Printable version](#)



[Email to a friend](#)

[RSS Feed](#)



• For exclusive news and expert analysis every week [subscribe](#) to New Scientist Print Edition

• For what's in New Scientist magazine this week see [contents](#)

• [Search](#) all stories

• [Contact us](#) about this story

• [Sign up](#) for our free newsletter

- [Australia](#)
- [EMBO WORKSHOP ON RNA CONTROL OF NEURONAL FUNCTION](#)
- [TARGET Conferences](#)
- [Upper Galilee, Middle East/Africa](#)
- [Medical Laboratory Scientist](#)
- [Canterbury District Health Board](#)
- [Christchurch, NZ SOUTH ISLAND, New Zealand](#)

SUBSCRIPTIONS

- [Subscribe](#)
- [Renew](#)
- [Change address](#)

SUBSCRIBER LOGIN

username :

password :

- [Forgotten your password?](#)
- [Subscribe now](#)
- [Institutional Subscribers](#)
- [Athens login](#)

[Subscribe and get 4 free issues](#)

[NewScientist Jobs](#)

SPONSORED LINKS

- [Car Insurance by A Quote](#)
- [Van Insurance by A Quote](#)
- [Bike Insurance by A Quote](#)

- [Home Mortgage](#)
- [Movers in Your area](#)
- [Find Moving Companies](#)
- [Real Estate](#)

- [Price Comparison](#)
- [Versicherungen Versicherung](#)
- [1stoptravelinsurance.co.uk](#)
- [Lingerie](#)
- [Life Insurance](#)