

# THE ECONOMIC TIMES

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## SHIFTED LOYALTIES

The BPO gaze is no longer fixed on foreign shores. The deluge of domestic demand has breached the overseas bastion. P 4



## SILKEN COLOURS

In an effort to weave value-added products, CSTR is set to commercialise natural dyes for silk. P 19

## ON DIFFERENT GEAR

GM's Chevy Optra and Tavera will soon zip on new-gen euro-four compliant engine, already road-tested in Korea. P 7



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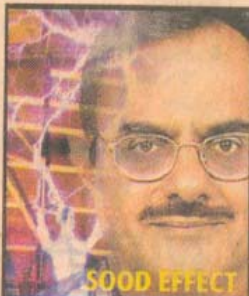
## DISCOVERY OF NEW ELECTRIC EFFECT TO AID EARLY DETECTION OF DISEASES

# Diagnostics get electrical 'teeth'

Vithal C Nadkarni  
MUMBAI 19 DECEMBER

**B**ANGALORE researcher Ajay Sood has scored a scientific hat trick. The professor of physics from the Indian Institute of Science and his Ph D student Ajay Negi claim to have discovered an electric effect that promises to revolutionise diagnostics and detection technology, to provide a new generation of ultra-sensitive medical tests, hi-tech chemical sniffers and anti-terrorism devices.

The new discovery adds 'electric teeth' to conventional test kits by means of a small charge to sharpen their sensitivity by several orders of



### SOOD EFFECT

- Ailments such as diabetes, rheumatism, AIDS, cancer can be detected at an earlier stage and more accurately
- In case of a chemical attack, the kit can detect the gas used at a lower concentration
- It can also be used in case of pollution too. For example, in cases like Bhopal gas leak, this kit can detect faster
- Can be used in manufacturing of nano particles and drugs

magnitude. That in turn promises to dramatically lower the bar for culprit molecules: they could be caught at progressively earlier stages of the disease, at extreme low concentrations. The new effect could also be used for ultra-sensitive sensors; in recognition of myriads of other molecules and chemicals that involves matching of molecules and their receptors in a lock-and-key manner.

In an exclusive interview with ET, Mr Sood, who has won numerous awards including the G D Birla award and the Third World Academy of Sciences prize from Trieste, Italy, described his newest discovery as "directed antibody-antigen

recognition" which, in lab tests, has proved to be far more sensitive than the random clumping together used in diagnosis today. As a physicist, Mr Sood seemed understandably cautious about speculation about the biotech impact of his discovery. However, when pressed for spin-offs for his electric corralling of colloidal particles, he said the effect could also be used in nanotech manufacturing and titration, in precipitation of molecules with great precision.

The scientists said an application for a worldwide patent had been filed and they were submitting the research for publication. In 2003, Mr Sood and his student Shankar Ghosh, now at the Tata Institute of Fundamental Research, electrified the global science community with their research on generation of electricity with liquid flow on carbon nanotubes. In 2004, Mr Sood and Mr Ghosh showed once again how to generate electricity by blowing gas onto doped semi-conductor material.

► 'Simple & elegant' research: P 3

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