

# THE TIMES OF INDIA

## **Future stock**

From Sabeer Bhatia in 1999 to Sangeeta Bhatia in 2003, Indians have figured on the honours list of Technology Review (TR) year after year. Since 1999, the world's oldest technology magazine, published by MIT, has been identifying the TR35 — a unique group of young innovators under 35 years of age, who are handpicked for their groundbreaking research that's changing people's lives. It's an exclusive club that includes the likes of Marc Andreessen, co-founder of Netscape; Jonathan Ive, designer of the iMac, and Mark Zuckerberg (2007) for Facebook. The 7th Class of Outstanding Innovators this year has four Indians, each of whom represents TR's quest for excellence in technology of the future...

## **Tapan Parikh - mobile tools for developing economies**

His mobile phone-based tool called CAM is changing the way small businesses function in developing countries. It's an application toolkit that allows users to capture data from paper-based manual processes that are ubiquitous in India. "It's an integrated mobile phone framework for delivering a variety of services in villages," Parikh says. A PhD student in computer sciences at the University of Washington, Parikh has spent half his time in graduate school travelling around India and working with the people who would use his technology. His journey began in 2000, when dissatisfied with pure research, the New Yorker left academia and travelled to his parents' homeland. Here he developed a new focus for his research. CAM helps self-help groups in micro-finance to document their operations, which allows them to make informed decisions and access more capital. In agriculture, it helps small farming cooperatives maintain strict standards enforcing quality and various certification requirements. "The goal is to create a more stable, empowered economy in rural India based on community-owned businesses," says Parikh. On being chosen the 'Humanitarian of the Year', he says: "It's exciting when your work is recognised as promising. I hope to live up to that promise." Parikh continues his work with NGOs in Gujarat and Tamil Nadu.

## **Shetal Shah - cushioning preemies**

He believes doctors should focus on the impact of trauma as much as they do on medication. This New York-based neonatal paediatrician has created a new way of measuring how the physical stress a premature baby experiences while being transported in an ambulance affects its overall health. "It's a way to measure how the forces and accelerations imparted on an infant can create inflammation, that could potentially worsen the baby's health," he says. Shah got the idea of cushioning preemies while travelling around New York's roads in ambulances. "I noticed how disruptive these vibrations were to me, and I started thinking what it meant for the infant." He created the cushion by adapting an accelerometer to the head of a neonatal mannequin, and driving around New York in a borrowed ambulance. "Originally aimed at premature infants, the larger application is for those who are injured and require medical transport to a hospital like soldiers or seriously injured accident victims," says Shah. A frequent traveller to India, Shah spent a month teaching neonatal medicine at the Kashiben Children's Hospital in Baroda last April.

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## **Partha Ranganathan - power-aware computing systems**

He designs energy-efficient systems for future computing environments. "Power consumption is rapidly emerging as one of the key limiting factors impeding greater adoption of more advanced computing solutions," he says. Realising this, Ranganathan focused his research on strategies to bring consumption down. He has developed energy-adaptive displays and energy-aware user interfaces. And also several new approaches for measuring and monitoring power. "For consumers these innovations will improve battery life dramatically and enhance the usability of mobile devices," says the IIT Madras alumni. A principal research scientist at HP Labs, Ranganathan is involved in a lot of activities in India. "I'm passionate about how NRIs in the US can give back to India and other emerging economies," he says. That's why as a PhD student, he was active with Friends of Young Minds, an NGO that helped ship old computers to under-privileged children in India.

## **Sanjit Biswas - cheap & easy net access**

He believed everyone could get connected to the Net. So Biswas created a system for connecting people wirelessly. A PhD student at MIT, he took leave to co-found Meraki Networks. And in less than 18 months, the system is being used to build thousands of networks in over 45 countries. "Our effort is to connect the emerging market of the next billion users to the internet. Rather than relying on wired infrastructure, which can be expensive and difficult to deploy, our technology enables individuals to create their own wireless networks and bring access to their communities in a matter of days," he says. Already, Meraki Networks are starting to appear in New Delhi and Hyderabad, as well as in the villages of Tamil Nadu and Nepal.