Weekend

Singapore's Dr Robot

By Ashley George In Dubai (Eye Catchers)

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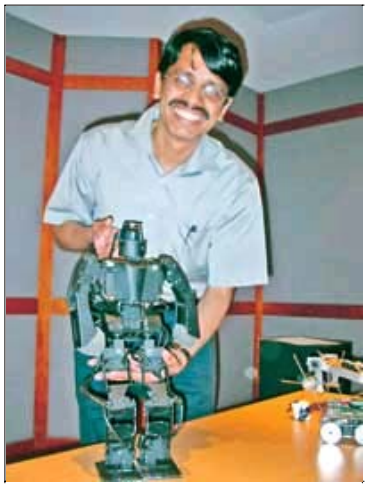
That is what friends call Dr Prahlad Vadakkepat, who dreams of a world where humans and robots live in harmony. Dr Prahlad was in Dubai recently – on work and later, to share his learning with friends from his alma mater.



"God not only plays dice. He also sometimes throws the dice where they cannot be seen." – Stephen Hawking

THERE IS A disturbing agony to the thought of perfectly active men suddenly finding themselves wheel-chair bound. Dr Prahlad Vadakkepat used to swim, play squash, go for long walks and travel for hours at a stretch. That was until an attack of Deep Vein Thrombosis (DVT) or economy class syndrome, followed by a medicine overdose, had him bed-ridden for six painfully long months. In those six months, he created, along with two of his students, a humanoid (two-legged) robot, Manus.

From illness to invention is the stuff that makes inspiring tales, the touch of melancholy adding to the inspiration quotient.

But, today, looking back on the illness without the judgmental comfort of a scientist, Dr Prahlad feels that his enthusiasm to work, despite the constraints, helped him overlook his handicap, and thus, return to normal life.

Dr Prahlad wouldn't have realized it then — and to that he agrees now — but God's invisible dice, which made one of India's most promising robotics scientists entirely dependent on another human being for every basic need, had indeed seeded a noble invention.

It took Dr Prahlad one step closer to his dream: To have a world where robots and people live in harmony, and where robots step out of their industrial and sci-fi realm, into homes to enhance your comfort.

Alongside his personal anguish and frustration at being dependent, Dr Prahlad was also motivated by the pain of a friend's daughter, a sprightly kid, polio-affected. "Imagine the world of difference that will come into her life if she can move around freely with the assistance of a motor-controlled robot!"

Now, assistant professor of Electrical and Computer Engineering at the National University of Singapore, Dr Prahlad holds a doctorate and M

Tech from one of India's most prestigious engineering institutions – the IIT Madras. Graduating from the NSS Engineering College, Palakkad, Dr Prahlad initiation into the world of robots started early in his career.

Following a stint at the Regional Engineering College, Calicut, he pursued post-doctoral studies at the Korea Advanced Institute of Science and Technology, when he started his association with the Federation of International Robot-Soccer Association (FIRA).

Robot-soccer isn't merely about teams of robots playing soccer. However, the world now has its own Robot World Cup, which was clinched by Dr Prahlad's humanoid robot and robot soccer teams for the last two consecutive years.

Dr Prahlad says that soccer, essentially, is the playing out of a universal truth – that people struggle and fight for scarce resources. Here is this indivisible ball and 22 players, each of them competing and co-operating to gain access to it.

"No matter how much wealth we have, we continue to compete and co-operate in the global stage as well as parochially for selfish interests – water, land, oil, you name it," observes Dr Prahlad.

"The players out there do not communicate with words; their language is football. Robot-soccer, in its larger picture, is about accomplishing a robotic world, where the robots communicate with each other."

These robots can play a critical role in enhancing the quality of our lives. Apart from their routine and widely accepted industrial applications, robots can step into our drawing room, be a part of our office and come to the support of our geriatric population.

That is one of the aims of the dedicated robotics science that Dr Prahlad pursues. "Robots have already come out of factories; they live with us, in our homes," he says.

Already, Dr Prahlad, as the founder and chief mentor of Robhatah Robotic Solutions in Singapore, has been instrumental in launching a robotic vacuum cleaner, which can be programmed to suit our comfort.

EVENTUALLY, Dr Prahlad foresees humanoid robots serving as our assistants, helping us with our day-to-day chores; distributing medicines to the old and bed-ridden; and even substituting the pretty personal secretaries, who can be freed to do more meaningful and creative job than send e-mails and sift through faxes.

Dr Prahlad does not feel that a robotic age means total surrender to technology. "Look at computers; they have indeed made our lives easy," he says.

"Essentially, every living species is selfish – even single-celled organisms. This selfishness, sometimes for survival, motivates us to work hard. Selfishness, thus, becomes productive as long as it is not a bother to someone else. Approach robots from a positive perspective – they build new sciences; they create new demands; they support several ancillary industries and thus, generate employment."

He says that the current perception of robots as perpetuated by films is wrong. "By definition, even a simple software is a robot, a computer virus is a robot; we have interactive toys that are robots," he says.

However, the jerky movements and the malevolence of robots as portrayed in films have a wider appeal than a simple hand-held device, which might be far more beneficial to mankind than the million-dollar Hollywood-generated giant robot.

But then, Dr Prahlad does not rule out the possibility of a thinking robot in the near future. "We still don't know the intricacies involved in human

thinking; there are several complexities involved in the process. However, scientists are tackling that too through DNA computing. If technology advances sufficiently fast, it is not impossible to have self-thinking robots very soon in our midst," he says.

That need not be frightening, he reassures. "Even without robots, we have several scary elements around us. Why, even a bread-knife can be lethal. It is man who decides whether he must use his invention for good or bad. It is bad and wrong to use robots against the welfare of mankind but that is not the problem of the robot; it is the problem of the man, who programmes the robot to do so."

The unassuming professor, who does not resort to scary jargons, rests his case.

But are the Dr Nos out there listening?

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