

# PERSONALITY PROFILE



## Cyberman

**Professor Kevin Warwick has put one chip in his arm—and he wants another.**

By Melanie Austria Farmer

**P**rofessor Kevin Warwick has been fascinated with robots all of his life. Now he's trying to become one.

Two years ago Warwick, head of the cybernetics department at University of Reading ([www2.cyber.rdg.ac.uk/cyasp](http://www2.cyber.rdg.ac.uk/cyasp)) in England, became his own guinea pig after he asked a surgeon to implant a silicon chip in his left arm. Warwick nabbed headlines and a bundle of scientific research funding after becoming the first man with a microprocessor implant.

The implant, in place for nine days, acted as an identification signal, automatically opening doors and turning lights on for him when he entered a room. Computer systems tracked his movements when he was in the research building.

Now the 46-year-old scientist, who has spent a good chunk of his career studying the interaction between man, machines and animals, is gearing up for another go.

About a year from now, Warwick will undergo surgery once again. Another silicon chip will be implanted into his left arm, this time closer to his nervous system. Computers that monitor Warwick will be able to better read his movements and possibly even control his emotions and senses.

"That's the more serious stuff," said Warwick in a recent phone interview. "The implant will be picking up the electronic signals of the nervous system and transmitting them to the computer. We're also going to look at extra sensory signals." Information will be sent back to Warwick from the computers to give him a "sixth sense" of distance or range, which he calls "ultra-sonic signals that we humans don't have."

The success of the experiment could lead to assisting the blind by giving them a better sense of distance from objects, he said.

In the long-term, Warwick, an alumni of Aston University in England ([aston.ac.uk/home.html](http://aston.ac.uk/home.html)), said he hopes to close the

communication gap between humans and computers through signals alone. He says this will probably lead to surgically implanting a microprocessor in the human brain. In the near term, he and his team at Reading University are focused on researching the nervous system, movement and human emotion and linking those signals to a computer.

While most people fear a future world where humans merge with robots or where robots rule the earth, the spirited Warwick simply takes the fear of the unknown and translates that into excitement.

"It's right to fear (the unknown), but I find it exciting," said Warwick. "Those fears don't worry me. It's an exciting phenomena."

His wife agrees. She plans to get a chip implant herself if all goes well. As for their teenage daughter—"no way," she told them. •

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### SOME FACTS

**Born and raised:** Warwick is a native of England and resides in a suburb of Reading, which is about 40 miles west of London.

**Professional life:** Spent last 12 years at Reading University where he conducts his research and teaches third-year students.

**Personal hardware:** The microprocessor implanted in Warwick is off-the-shelf technology that he and his research team fine tuned for their experiments. (The name of the chip manufacturer is hush-hush.)

**Outside of work:** When not talking chip implants, he enjoys a walk in the country with his family or a soccer game rooting for the locals.

**Recent Film:** The last film he saw was *Erin Brockovich* starring Julia Roberts, which he gives a thumbs up.

**Reading materials:** The last book he read was *Angela's Ashes*, another thumbs up.

**Web favorites:** Media web sites, like [newyorktimes.com](http://newyorktimes.com), and other online information hubs.

**Kicking back:** Typical Friday night at Warwick's home: quiet evening, with a take-out meal and a nice bottle of wine.

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