



Will robots ever replace humans? Japanese expert visits UP

Prof Hiroshi Ishiguro, Director of the Intelligent Robotics Laboratory at Osaka University, Japan, and leader in the development of the Geminoid series of humanoid androids, presented a public lecture at the University of Pretoria on 21 November 2012.

The lecture was hosted by the Department of Electrical, Electronic and Computer Engineering in the Faculty of Engineering, the Built Environment and Information Technology. It was facilitated by the Centre for Japanese Studies at the University's Gordon Institute of Business Science (GIBS) and the Japanese Embassy in Pretoria.

Japan leads the world in the field of robotics and androids. Prof Ishiguro's research focus includes the psychological and philosophical aspects of living with robots (androids). His android studies are well-known throughout the world, and his presentation addressed the question of whether robots will ever replace humans. This is a very pertinent question, as robots will soon be used everywhere: in manufacturing, mining, exploration,

navigation, medical care, home care, personal assistance and non-robotics-related research.

In his presentation, Prof Ishiguro explained that a significant limitation of existing robots is that they do not look like humans. In developing his androids (humanoid robots with human-like expressions, as well as human-like subconscious and reactive movements), he examined the characteristics of being human, and came to the following conclusion: "We are developing technologies, including robots, for understanding what it is to be human: it is a constructive way of understanding the human being." He anticipates that a future with humanoid robots will soon become a reality.

Advanced robotics is not just about engineering, and requires

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an understanding of human mental states, developed by working with neuroscientists and psychologists. In his experiments, he tried to develop an android that looks like a human being, but also talks like one. During the course of his research, he found that humans interact with other human beings using their imagination, so the ideal android would be one without age or gender, with an imagined face. He calls this a telenoid. He also demonstrated the possibility of using an android for future communication through a kind of mobile phone-like telenoid known as an elfoid.

The lecture was concluded with a fascinating robotics show, in which he demonstrated the engineering behind the making of robots. ❖



→ Prof Hiroshi Ishiguro shows the audience what a telenoid looks like and how it is capable of speech and interacting with human beings.