

Congratulatory Message

Celebrating JRM Volume 20 and Three Epoch-making Robots from Japan



Kazuo Yamafuji
The founding Editor-in-Chief
Professor Emeritus of the University
of Electro-Communications

The Journal of Robotics and Mechatronics is celebrating its 20th volume since its launch in 1989. As the JRM's founding Editor-in-Chief, I would like to express my heartfelt gratitude to all of those persons and organizations that have helped make the JRM so successful.

This is also a time for celebrating the development of three epoch-making robots in Japan between 1978 and 1997.

Scara Robot: The Scara robot was developed in 1978 by Professor Hiroshi Makino of Yamanashi University and four Japanese companies – Fujitsu, Telmec, Ultrasonic Ind. Co., and Sankyo. As John Hartley wrote in “The Industrial Robot” (March 1982, UK), “More startling, perhaps, was the announcement that IBM was to sell Sankyo Skilam robot in the USA as the IBM 7535. Most of Japanese robots were based on overseas designs. The exception, of course, is the Scara robot.” The Scara was honored as the first Japanese robot dedicated at the Robotic Pavillion at Carnegie Mellon University in 2006.

Parallel Bicycle Robot: The parallel bicycle (PB) robot developed in 1986 by Professor Kazuo Yamafuji of the University of Electro-Communications was driven by a parallel bicycle consisting of a pair of parallel wheels and an inverted pendulum body supported on the wheel axis. The PB robot has been applied both to locomotion for mobile robots and to personal vehicles. It was first successfully commercialized as the Segway Personal Transporter developed by Dean Kamen in 2001 in the US. Applications to a humanoid drive were realized by Toyota in 2004 and by Hitachi in 2007.

Biped Walking Robot: Honda introduced its epoch-making humanoid P2 with biped and double hand in 1997. Driven by an on-board battery, the biped robot walked smoothly for over 30 minutes at 4 km/h similar to a human being. Honda P2 movie surprised and delighted people worldwide, and its release of ASIMO in 2002 was an advanced type of P2. ASIMO has become the de facto standard of the biped humanoid and is expected to have many applications in social and industrial environments.

Kazuo Yamafuji