

## **Keynote Address:**

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### **'State of Play in RoboCup Soccer'**

#### **Abstract**

Hiroaki Kitano from the Sony Research Laboratories presents the latest developments in the world robotic soccer competition known as RoboCup. New initiatives for RoboCup include the Sony Dog (Aibo) league, the recent developments in humanoid robotics, and programs such as RoboCup Rescue.

RoboCup is a worldwide initiative to foster research into artificial intelligence and cooperative robotics. The three major competitions are the simulator league, a purely software based research arena and two hardware based leagues, the F180 and F2000 competitions. Teams of up to four robots compete against other teams from all parts of the world for the title of World Robotic Soccer Champion. The challenge of putting a team of robots on the field is extremely complex; involving research in robot mechanics, electronics, vision, planning as well as team management, organization and the development of team based enterprise among researchers.

Since its inception in 1997 RoboCup has been a showcase for new and innovative robot designs, as well as advances in artificial intelligence and cooperative behaviour. In the space of four short years the quality of research has elevated the level of play from basic strategies of ball finding to complex multi player passing and collaboration.

This year sees the introduction of the humanoid robot league an exciting development with significant implications for many robotic applications. It is envisaged that eventually, a robot team will compete against a team of humans.

In addition, teams of Sony Aibo dog robots will also compete.

Hiroaki Kitano presents an overview of RoboCup and its prospects for new and innovative research into collaborative Robotics.