

Keynote Speakers / Session Invited Speakers CV

- **Photo**

Photo of 伊藤慎一郎



- **Name and Contact Information**

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- **Education**

1986 Ph. D., Grad. Sch. of The University of Tokyo, Div. of Engineering,

1981 M.D., Grad. Sch. of The University of Tokyo, Div. of Engineering

1979 B.D., Dept. of Mech. Eng., The University of Tokyo

- **Professional Experience**

2021 President, Kogakuin University

2022 Member of the Engineering Academy of Japan

2009 Dept. Mechanical Engineering, Kogakuin University

1988 Lecturer, Dept. Mech. Eng., National Defense Academy

- **Honors and Awards**

Nov. 2009 Japan Frontier Award of the Japan Society of Mechanical Engineers

June 2002 The Best Conference Award at the 9th World Symposium Biomechanics and Medicine in Swimming

- **Topic of Talk**

"Aerodynamic performance of sports balls and their PIV analysis"

The trajectory of the soccer balls shows a sudden change in the case of no rotation, which affects the aspect of drag crisis changes depending on the surface shape, panel shape, and panel groove of balls. PIV is a very effective tool for understanding these phenomena. On the other hand, the rotating ball generates a lift called Magnus force due to the influence of circulation generated by the rotation. However, in a smooth ball, a negative Magnus force is generated under certain conditions. Soft tennis may have a peculiar flight unlike other ball games at the occurrence of the Negative Magnus effect. This peculiar flow will also be explained.