

# The Field Robotics Center

## Seminar Series

**Tuesday, Nov 12    NSH 1109    1pm-2pm**

Food and Drinks will be served



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### **Development of Farming Robot to Practice Environmentally Friendly Agriculture**

**Abstract:** We believe that an autonomous robot is better-suited to practicing environmentally friendly agriculture. Besides, we consider that agricultural robots don't need to perform operations that have conventionally performed by humans but should practice a new cultivation method that is done by only autonomous robots.

First, we elaborated the master plan of the environmentally friendly cultivation method by the agricultural robot, and proposed and designed robot structure, farm equipment and control method while repeating field experiments to confirm validity of the new cultivation method. In 2000, we started to develop a prototype because we succeeded in obtaining external funds. During the term of this project, we carried out some experiments where the wheeled robot autonomously tilled and transplanted plug seedlings in the field.

Recently we have developed some farm work equipment for our robot; transplanting, weed cutting, plant growth measurement, harvesting etc. In addition, we have discussed a legged robot for our farming robot locomotion because legged locomotion is compatible to our proposed cultivation method.

**Speaker Bio:** Junya received Bachelor's degree (1993), master's degree (1995) and Doctor's degree (2004) in electrical engineering from Hosei University in Japan. In 1996, he started to work for Faculty of Regional Environment Science, Tokyo University of Agriculture and undertook a study of the automation and robotization of agriculture machinery. In 2006, he joined to Faculty of Engineering, Kinki University. At present he works on the automation and robotization of agriculture machinery continuously, and studies the mechanical vibration problem of agricultural machinery and automobiles.



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