ENGINEERING FOR AGRICULTURE
PROVIDING GLOBAL FOOD SECURITY

Session Organizers:
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Crop varieties and cultivation technology are connected to the unique natural environment of different countries.
What engineers need to do?

Farming techniques have been developed and have supported growing world populations.

Recently, agricultural sustainability attracts global attention for several reasons.

- The threat of Climate change
- Increasing food prices
- Need of food safety
- Need for improving food quality and variety

Stable production
Low cost
Energy and material conservation
Environment conservation

Assuring safety and quality
Guidelines or standards for food
Variety of foods in all seasons
Minimizing food losses

Engineering
Challenges

Engineering solutions in

• Developed and developing countries
• Urban and rural area
• Consumer and Producer
Panel discussion

• Engineering for sustainable agricultural production in developed and developing countries

• Engineering for food safety and quality
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1. Applications of Precision Agriculture in Rural Communities
   Dr. Amy Kaleita, Associate Professor, Iowa State University

2. Construction of “enetourism” which tourist bring leftover food to methane fermentation using hot spring.
   Dr. Chika Tada, Associate Professor, Tohoku University

3. Engineering CEA Systems for a Sustainable Future: Status, Challenges and Opportunities
   Dr. Murat Kacira, Associate Professor, University of Arizona

4. Development of Technique for Estimation of Geographical Origin of Food Using Stable Isotope and Trace Element Analyses
   Dr. Yaeko Suzuki, Researcher, National Food Research Institute, Japan

5. Food Safety and Quality Assurance of Food Products
   Ms. Yoko Obayashi, Manager, Ajinomoto