

Bioscience forum at HISF 20th Anniversary Symposium

Sunday, August 20, 2017 (Day 2 of symposium)

9:00-12:00 paper presentations

12:00-13:00 lunch

13:00-15:00 forum & workshop ("Bioscience" is one out of eight topics)

15:30-16:00 closing ceremony

Expected participants: 50 (out of 300 for the entire symposium)

Organizers

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Purpose of the forum

In the past decades, the biosciences have witnessed a tremendous growth. The biosciences are providing previously unimaginable translational opportunities from bench to bedside and revolutionizing our interaction with our planet. Interdisciplinary research with electrical, mechanical engineering and computer technologies are at the forefront of bringing exciting biological concepts to great inventions. Whole cell/whole organism simulations, 3D bio-printing, prosthetic organs and their interaction with human tissues are some examples of how biological concepts are being exploited to improve our health. Massive genome wide association studies to link variation in genome to a phenotypic trait have become possible due to evolution of sequencing technologies. Advances in the field of agriculture and plant physiology has equipped our crops to be high yielding, nutritious and less susceptible to environmental factors. At the same time, the advance of biotechnology is posing novel threats to society. The privacy of genomic information in conjunction with clinical trial and health records as well as the regulations guiding the genome engineering of human embryos are important ethical, biopolitical issues. A careful analysis of risks and advantages is required. The objective of "Cutting Edge of Bioscience" is to provide a platform for HISF scholars to share their research and insights on these topics, ranging from agriculture, forestry, cancer biology, and cellular reprogramming. HISF scholars will reflect on how their research is contributing to their respective field and society.

Speakers

Ishmael Gritli (Eli Lilly Japan)

Yuichi Abe (National Institute of Biomedical Innovation, Health and Nutrition, Japan)

Shoko Takahashi (Genequest Inc.)

Lahiru N. Jayakody (National Bioenergy Center, National Renewable Energy Laboratory, USA)

Fumiaki Funahashi (Copine)

Mari Yoshida (University of Glasgow)

Time table

- 13:00 Introduction
Muhammad Ishtiaq
- 13:05 Keynote: "Anti-cancer Drug and Pharmaceutical Industry"
Ishmael Gritli (Eli Lilly Japan)
- 13:30 "Addressing Bacterial Antibiotic Resistance by the Optimisation of a Dynamic Drug Environment"
Mari Yoshida (University of Glasgow)
- 13:45 "Precision medicine driven by proteomics / proteogenomics"
Yuichi Abe (National Institute of Biomedical Innovation, Health and Nutrition, Japan)
- 14:00 "Life science innovation through personal genome service"
Shoko Takahashi (Genequest Inc.)
- 14:15 "Next-generation fuels and chemicals from Biomass"
Lahiru N. Jayakody
(National Bioenergy Center, National Renewable Energy Laboratory, USA)
- 14:30 "What you can and what you can't: Potentials and off limits of biotechnology in Agriculture"
Fumiaki Funahashi (Copine)
- 14:45 Free discussion (Moderator: Keisuke Ishihara)
- 14:55 Summery
Keisuke Ishihara