



Tokyo Tech

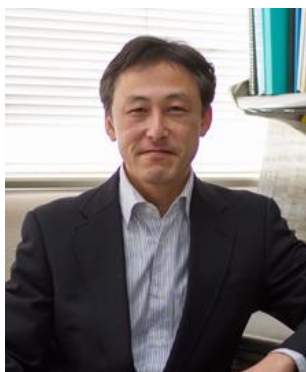
[Webinar] 2020 Tokyo Tech Research Showcase

Tuesday, September 15, 2020

Program

- 13:00—13:10 Opening remarks
Tokyo Tech Executive Vice President Tetsuya Mizumoto
NSTDA Executive Vice President Chadamas Thuvasethakul
- 13:10—13:40 Prof. Toshiaki Fukui, School of Life Science and Technology
Metabolic engineering for microbial synthesis of biodegradable polyesters from biomass resources
- 13:40—14:10 Prof. Hiroyuki Ohta, School of Life Science and Technology
Lipid remodeling under nutrient starvation in microalgae and its application for oil production
- 14:10—14:40 Prof. Kiyohiko Nakasaki, School of Environment and Society
New biotechnologies enhance utilization of resources and wastes for environment
- 14:40—15:10 Prof. Michikazu Hara, Institute of Innovative Research
Sugar conversion to a monomer for high-performance polyamides
- 15:10—15:20 Closing remarks

Speakers' Profile



Toshiaki FUKUI

**Professor, School of Life Science and Technology
Tokyo Institute of Technology**

Professor Toshiaki FUKUI received his Dr. of Eng. from Kyoto University in 1994. He conducted researches on microbial synthesis of polyhydroxyalkanoates (PHAs) in 1994-1998 as a research scientist at RIKEN institute, and metabolisms, enzymes, and genetic engineering of hyperthermophilic archaea in 1998-2004 as an assistant professor at Kyoto University. Since joining Tokyo Institute of Technology in 2004, he has been studying on biotechnology and bioengineering using microorganisms such as PHA-producing bacteria, methylotrophic bacteria, and hyperthermophilic archaea. He also is the recipients of several awards for his contributions to the microbial engineering field, e.g. Young Scientist Award for Enzyme Engineering, Toyama Award.

Research field

- 1) Microbial synthesis of biopolyesters
- 2) Hyperthermophiles



Hiroyuki OHTA

**Professor, School of Life Science and Technology
Tokyo Institute of Technology**

ACADEMIC PREPARATION

Doctor of Agriculture (1984.4 - 1987.3),

Graduate School of Agriculture Kyoto University

Specialties: Biochemistry

Dissertation title: Studies on the formation and degradation of lipid Hydroperoxide in rice grains (Supervisor: Prof. Yuhei Morita)

M.S. of Agriculture (1982.4 – 1984.3), Division of Food Science and Biotechnology, Kyoto University (Supervisor: Prof. Yuhei Morita)

B. A. in Agricultural Sciences, Department of Agriculture, Kobe University (1982. 3)

PROFESSIONAL EXPERIENCE

- Teaching Assistant, 1987.4 -1988.3, Kyoto University
- Postdoctoral position, 1988.4-1989.8, Mitsui Plant Biotechnology Research Institute,
- Postdoctoral position, 1989.9-1991.6, National Institute of Basic Biology, Okazaki,
- Tokyo Institute of Technology 1991.7 -
- Assistant Professor, 1991.7-1996.12, Department of Bioscience and Biotechnology,
- Associate Professor, 1997.1-2000.3, Department of Bioscience and Biotechnology
- Associate Professor, 2000.4 - 2007.6, Graduate School of Bioscience and Biotechnology
- Professor, 2007.6 to 2014 9, Center for Biological Resources and Informatics
- Professor, 2014.10 to 2016 3, Graduate School of Bioscience and Biotechnology
- Professor, 2016.4 to present, School of Life Science and Technology,

Associate Scientist 1998.8-1999.3 at Laboratoire de Physiologie Cellulaire Végétale (LPCV), Centre National de la Recherche Scientifique (CNRS) – Commissariat à l'Energie Atomique (CEA) - Université Joseph Fourier (UJF), Grenoble, France

Director, Dr. Jacques Joyard's Laboratory

RESEARCH AREA

Plant lipids, Plant hormones, Microalgae, Colonization of land by plants, Biofuel

AWARDS

Bioindustry Award 2009

Seiichi Tejima Paper Award, 2014

Terry Galliard Medal, 2018

PROFESSIONAL AFFILIATIONS

- The Japanese Society of Plant Physiologists (councilor, 2011-2013, 2016-2019)
- The Botanical Society of Japan (councilor, 2003.1-2006.12, 2011-2014, 2017-2020)
- Japanese Association of Plant Lipid Researchers (secretary-general, 2004-2018, 2019- Chair)

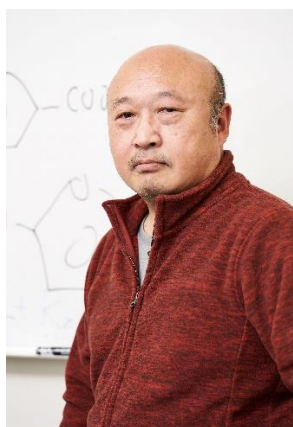


Kiyohiko NAKAZAKI

Professor, School of Environment and Society, Tokyo Institute of Technology

Kiyohiko NAKAZAKI received Doctor of Engineering in Chemical Environmental Engineering from Tokyo Institute of Technology (Tokyo Tech) in 1985. After serving as a Research Associate in 1985-1988, as an Associate Professor in 1988-2000, and as a Professor in 2000-2009 at Shizuoka University, he has been a Professor at Tokyo Tech since 2009. His research interests include biological

treatments of solid waste and wastewater, and biorefinery from biomass to produce value-added materials and energy. He has joined many research projects sponsored by Japanese government such as the zero-emission project (production of biodegradable plastic from paper sludge), the new technology for conversion of lignocellulose (production of bioethanol from bamboo), and the UMI (Universal Marine Industry) project (production of bioethanol from seaweed). Recently, he is very interested in a new microbial DNA analysis-based approach to improve environmental biotechnologies. He calls that approach as “DNA engineering”.



Michikazu HARA

**Professor, Institute of Innovative Research,
Tokyo Institute of Technology**

Michikazu HARA obtained Ph. D. degree in chemistry at Tokyo Institute of Technology in 1992. After graduating, he spent 4 years as a researcher at Research and Development Center, TOSHIBA corporation. In 1997, Dr. Hara joined Chemical Resources Laboratory, Tokyo Institute of Technology and had worked for the Pennsylvania State University as a postdoc supervised by Professor Thomas E. Mallouk in 1999-2000. He was promoted to Associate Professor at the Chemical Resources Laboratory, Tokyo Institute of Technology in 2000. In 2006, as a Professor, he moved to Materials and Structures Laboratory in the same university and concurrently holds the post of the project leader for “Solid acid Eco-catalyst” project at Kanagawa Academy of Science and Technology (KAST). Dr. Hara has conducted aggressive research on the development of solid catalysts for the environmentally benign production of chemicals and energy. He was awarded 5th Scientific American 50 (2006) because of the carbon catalyst presented in this feature.