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February 24, 2017
Sysmex Corporation

FY2016 Nakatani Award and Research Grant Recipients Announced

The Tokyo-based Nakatani Foundation for Advancement of Measuring Technologies in Biomedical Engineering today announced 3 recipients of The Nakatani Award, 30 recipients of its Technology Development Research Grants and 2 recipient of its Investigative Research Grants for fiscal 2016. Sysmex Corporation (HQ: Kobe; Chairman and CEO: Hisashi Ietsugu) has been a financial supporter of the Foundation for many years.

The Foundation was established in April 1984 as The Nakatani Foundation of Electronic Measuring Technology Advancement, endowed principally by Sysmex and its founder and first president, the late Taro Nakatani, with the goal of "promoting advances in electronic measuring technology as a foundation for industrial technology, in order to contribute to the development of Japanese society and its economy as well as the betterment of national life." On April 1, 2012, the foundation was renamed The Nakatani Foundation for Advancement of Measuring Technologies in Biomedical Engineering. The foundation's activities include the provision of awards for biomedical engineering measurement and related technologies, as well as technology developmental research grants, investigative research grants and technology exchange grants. In fiscal 2014, the foundation also commenced grant activities to promote science education at junior and senior high schools in the aim of expanding the base of education for future researchers.

1. Recipients and research themes
   Please see "Recipients of FY2016 Awards"

2. Total amount of grant (Technology Development Research Grants and Investigative Research Grants)
   ¥218,570,000-

3. Presentation ceremony
   Date and Time: February 24, 2017 at 13:00
   Place: Mandarin Oriental Tokyo, Grand Ball Room

3. About the foundation
   Name: Nakatani Foundation for Advancement of Measuring Technologies in Biomedical Engineering
   Location: 1-2-2 Ohsaki, Shinagawa-ku, Tokyo
   URL: https://www.nakatani-foundation.jp/

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Recipients of FY2016 Awards
Nakatani Foundation
for Advancement of Measuring Technologies in Biomedical Engineering

Nakatani Award

Grand Prize

(Yen)

Recipient	Position and Affiliation	Prize Theme	Amount
Seiryo Sugiura	Dept. of Human and Engineered Environmental Studies, Graduate School of Frontier Sciences The University of Tokyo Project Professor	A heart simulator “UT-Heart” facilitates our understanding of the pathophysiology by integrating experimental observations made at multi-levels of biological system	5,000,000

Encouraging Prizes

(Yen)

Recipient	Position and Affiliation	Prize Theme	Amount
Shoji Takeuchi	Center for international research on integrative biomedical systems, Institute of Industrial Science The University of Tokyo Professor	Membrane protein-based sensors using microfluidic device technology	2,500,000
Takufumi Yanagisawa	Global Center for Medical Engineering and Informatics, Department of Neurosurgery, Graduate School of Medicine, Osaka University, Endowed Research Division Associate Professor	Motor reconstruction by ECoG/MEG-BMI neuroprosthetic hand for severely paralyzed patient and the application for phantom limb pain treatment	2,500,000

Technology Development Research Grants

Special Research Grants: multi-year grants (two years)

(Yen)

Recipient	Position and Affiliation	Research Theme	Amount
Tetsuo Kobayashi	Graduate School of Engineering, Kyoto University Professor	Development of novel neuroimaging technologies based on neural magnetic fields measured by super-sensitive optically pumped atomic magnetometer modules	3,000,000

Hiroyuki Michiue	Department of Physiology, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences Assistant Professor	The development of *in vivo* non-invasive boron (^{10}B) concentration measurement technique with neutron-induced prompt gamma-ray analysis toward boron neutron capture therapy(BNCT) clinical application	30,000,000
Naoya Yahagi	Nutrigenomics Research Group, Faculty of Medicine, University of Tsukuba Associate Professor	Measurement of nuclear signals controlling energy metabolism through new approaches of nutrigenomics	30,000,000
Haruhiko Bito	Department of Neurochemistry, Graduate School of Medicine, The University of Tokyo Professor	Development of all-optical interrogation of long-term memory mechanisms using next-generation calcium indicator proteins	30,000,000
Shigeori Takenaka	Department of Applied Chemistry, Faculty of Engineering, Kyushu Institute of Technology Professor	Development of electrochemical chip for cancer diagnosis	29,650,000

Development Research Grants (Yen)

Recipient	Position and Affiliation	Research Theme	Amount
Masahito Yamanaka	Department of Quantum Engineering, Nagoya University, Assistant Professor	High-resolution multimodal imaging for deep tissue imaging and analysis	2,980,000
Prabhat Verma	Department of Applied Physics, Graduate School of Engineering, Osaka University Professor	Development of tip-enhanced super-resolution Raman microscopy in liquid to reveal cell membrane functions	3,000,000
Yukio Kawahara	Department of RNA Biology and Neuroscience, Graduate School of Medicine, Osaka University Professor	Development of a method for the quantification of RNA methylation using artificial nucleic acid probes	3,000,000
Kiyotaka Sasagawa	Nara Institute of Science and Technology Assistant Professor	Development of implantable fluorescence imaging device with ultra-low invasiveness and high sensitivity	2,960,000
Toshiyuki Hamada	Hokkaido University Graduate School of Health Science Visiting Professor	The development of the system detecting cancer by novel genes expression tracing technique	3,000,000

Takashi Ushida	Department of Mechanical Engineering　School of Engineering, The University of Tokyo, Professor	Development of Hybrid System of TeraHertz Spectroscopy with Circular Dichroism Spectroscopy	3,000,000
Niraula Madan	Nagoya Institute of Technology, Graduate School of Engineering, Faculty of Electrical and Mechanical Engineering, Associate Professor	Development of highly sensitive large-area imaging array for medical applications using epitaxially grown CdTe layer	3,000,000
Reiko Arakawa	Institute of Medical Genetics, Tokyo Women's Medical University Assistant Professor	Development of next generation diagnostic agents for spinal muscular atrophy (SMA)	3,000,000
Yuhei Miyauchi	Institute of Advanced Energy, Kyoto University Associate Professor	Bioimaging using upconversion fluorescence of carbon nanotubes	3,000,000
Hiromi Imamura	Division of Systemic Life Science, Graduate School of Biostudies, Kyoto University Associate Professor	Visualization of branched-chain amino acids inside living cells with fluorescent biosensors	2,980,000
Yasuhiro Kazuki	Chromosome Engineering Research Center, Tottori University Associate Professor	Generation of a system for the evaluation of time-dependent induction of drug metabolizing enzyme by chromosome engineering technology	3,000,000
Yumi Tohyama	Division of Biochemistry, Faculty of Pharmaceutical Sciences, Himeji Dokkyo University Professor	Development of early detection method of thrombus formation by analyzing neutrophil extracellular traps (NETs)	3,000,000
Kazuhide Miyamoto	Pharmaceutical Sciences, Himeji Dokkyo University, Associate Professor	Simplified detection system of ubiquitination using an artificial ubiquitin-ligase	3,000,000
Tatsuo Michiue	Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo Professor	Establishment of novel strategies for measuring cell tension using multiple FRET tension probes	3,000,000

Koji Matsuura	Department of Biomedical Engineering, Faculty of Engineering, Okayama University of Science Associate Professor	Signal Transduction Analyses of Mammalian Embryos *in Vitro* Cultured Using Dynamic Culture System	3,000,000
Kazuo Tanaka	Graduate School of Engineering, Kyoto University Associate Professor	Development of detection system for a trace amount of biomolecules with ^{19}F MR Probes	3,000,000
Toshiro Ohashi	Division of Human Mechanical Systems and Design, Faculty of Engineering, Hokkaido University Professor	Development of migration assay of cancer cells with application of mechanical stress and measurement of traction forces	3,000,000

Junior Researcher Grants (Yen)

Recipient	Position and Affiliation	Research Theme	Amount
Yoshimitsu Sagara	Laboratory of Smart Molecules, Research Institute for Electronic Science, Hokkaido University Assistant Professor	Development of Supramolecular Mechano-sensing Probes to Evaluate Forces Generated by Integrins	1,500,000
Yasuaki Kumamoto	Department of Pathology and Cell Regulation, Graduate School of Medical Sciences, Kyoto Prefectural University of Medicine Assistant Professor	Unmyelinated nerve detection by a multipoint Raman scattering measurement technique	1,500,000
NGUYEN THANH VINH	The University of Tokyo, IRT Research Initiative Project Researcher	Small volume measurement of blood viscosity using piezoresistive force sensor	1,500,000
Shogo Watanabe	Department of Medical Technology, Graduate School of Health Sciences, Okayama University Senior Assistant Professor	Development of a device for vascular treatment to realize a safe intervention guided by 3-dimensional CT image	1,500,000
Watanabe Hiroyuki	Department of Patho-Functional Bioanalysis, Graduate School of Pharmaceutical Sciences, Kyoto University Assistant Professor	Development of near-infrared/two-photon fluorescent probes for detection of amylin aggregates and its application to the pathologic clarification of diabetes	1,500,000

Kenta Shimba	School of Engineering, Tokyo Institute of Technology JSPS Research Fellow	Development of a novel intracellular recording method with membrane proteins	1,500,000
Kazuki Nagayasu	Center for the Promotion of Interdisciplinary Education and Research, Kyoto University Program-Specific Assistant Professor	Development and application of multicolor microendoscope for deep brain imaging	1,500,000
Moeto Nagai	Department of Mechanical Engineering, Toyohashi University of Technology Lecturer	Massively Parallel Single-Cell Printer for High-Throughput Cell Function Analysis	1,500,000

Investigative Research Grants (Yen)

Recipient	Position and Affiliation	Research Theme	Amount
Kazuo Umezawa	Department of Emergency and Critical Care Medicine, Tokai University School of Medicine Assistant Professor	The verification of diagnostic method for the pesticide poisoning by volatile skin gas analysis to practical use.	3,000,000
Yasuki Kobayashi	Department of Public Health Graduate School of Medicine, The University of Tokyo Professor	Study on the relationship between arterial stiffness and dementia using non-invasive Arterial Velocity pule Index (AVI) measurement	3,000,000