Tokyo Symposium & Workshop on Genomic Medicine, Therapeutics and Health (Hybrid event available in person and by Zoom; see http://tokyo-symposium.com)

Objectives: These events will bring academic and industry scientists together to discuss research at the frontiers of biomedical science and its interface with computational advances. Speakers from Japan, North America, France, UK, and other countries will present leading-edge research and applications from the linked fields of genomics, RNA biology, immunology, epidemiology, data science, and other related areas that are central to the advancement of biomedicine. The symposium will showcase how these are rapidly expanding the medical arsenal and transforming future health care.

Showcasing UK Biobank: The symposium and accompanying workshop will provide a unique opportunity to learn in-depth about UK Biobank (UKB), the world's leading health research database. UKB links genomics, proteomics, metabolomics and imaging to health and environmental/lifestyle information on a large-scale. UKB data can be accessed and exploited by academic and industry researchers worldwide to fuel advances in biomedicine.

Organisers: The RIKEN Center for Integrated Medical Sciences, the Victor Phillip Dahdaleh Institute of Genomic Medicine at McGill University, the Fondation Pasteur Japan, the University of Kyoto and UK Biobank.

Please join us for an outstanding series of presentations and discussion.

Symposium April 8-10, 2024

Venue: Hitotsubashi Hall, National Center of Sciences Building 2F,2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo 101-8439

Themes and confirmed speakers:

Day 1 Large-scale data for precision health: *Makoto Arita (RIKEN), Rory Collins (UK Biobank), Stéphanie Debette (U. Bordeaux), Marc-Emmanuel Dumas (Imperial College London), Mark Effingham (UK Biobank), Jemma Hopewell (U. Oxford), Yoichiro Kamatani (U. Tokyo), Yukinori Okada (RIKEN), Norishige Morimoto (IBM Japan), Ioannis Ragoussis (McGill).*

UKB leadership will explain the study's impact in achieving new discoveries to improve health. Technological advances that have powered the generation of the massive datasets, including molecular data, large-scale imagining, and health record linkages, that underlie this research in UKB, and other studies will be highlighted, and the topics covered will include analytic approaches to analyse and interpret these data. Advances in computing that will power new analysis methods will be discussed. Further details regarding accessing UKB and similar data from other cohort studies elsewhere will be explored at the workshop following the symposium.

Day 2 From precision health to new diagnostics and therapies: *Shiro Akinaga (NANO MRNA), Raquel Cuella Martin (McGill), Yoko Hamazaki (Kyoto), Carolina Ilkow (U. Ottawa), Kazuoshi Ishigaki (RIKEN), Fumihiko Ishikawa (RIKEN), Nada Jabado (McGill), David Juncker (McGill), Nagahiro Minato (Kyoto), Yoko Nakai (HORIBA), Rami Suzuki (National Cancer Centre Venture ARC Therapies), Wataru Takasaki (Daiichi-Sankyo).*

Day 2 will cover how advances in areas such as genome-editing, RNA-based medicine, cellular therapies and regenerative medicine, and the advent of other new technology are impacting

therapeutic developments. Examples from the field of oncology will serve as illustrations of the revolution in health arising from these. An important theme will be the ability to accelerate health improvements through partnership between academia and industry.

Day 3 Society, immunology, infection and planetary health: *Tineke Cantaert (Institut Pasteur Cambodia), Tony De Fougerolles (Evox Therapeutics), Myrielle Dupont-Rouzeyrol (Institut Pasteur Nouvelle-Calédonie), Samantha Gruenheid (McGill), Chih-hsing Ho (Academia Sinica), Yuka Iwasaki (RIKEN), Yann Joly (McGill), Kaori Muto (RIKEN), Won Bok Lee (Ewha Institute for Biomedical Law and Ethics), Mathieu Mancini (McGill), Kazuyo Moro (RIKEN), Hiroshi Ohno (RIKEN), Anavaj Sakuntabhai (Pasteur), Etienne Simon-Loriere (Pasteur).*

Day 3 will address the question of how genomics and immunology can be combined to advance understanding, prevention and treatment of infectious and chronic diseases. Examples will include microbiome studies, and work toward eradication of vaccine-preventable diseases worldwide. One session is dedicated to the societal and policy questions that arise from the research. The role of the Institut Pasteur network of laboratories around the world, and the new Foundation Pasteur Japan initiative will be presented.

Workshop on biobanks and data analysis April 11-13, 2024

Venue: Shin-Marunouchi Building, 10th floor, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6510

Confirmed speakers:

Days 4-6 Show casing the UK Biobank and similar initiatives from Japan and other countries, and the computational method to analyse and interpret such massive health datasets: *Guillaume Bourque (McGill), Mark Effingham (UK Biobank), Yoichiro Kamatani (U. Tokyo), Shohei Kojima (RIKEN), Guillaume Lettre (U. de Montréal), Yue Li (McGIll), Koichi Matsuda (U. Tokyo), Toshiharu Ninomiya (U. Kyushu), Pak Sham (HKU), Yutaka Suzuki (U. Tokyo), Katsushi Tokunaga (NCGM), Masayuki Yamamoto (U. Tohoku).*

The workshop is open to students and scientists wishing to learn more about UK Biobank and related initiatives, and the computational methodology to analyse and interpret biobank datasets. In addition to in-depth information about UKB and how to access and exploit UKB data such as whole-genome sequences on the whole cohort, presentations will include discussion of other programs on precision medicine from Japan, Canada and Hong Kong, methodology for biobank scaled data generation, and practical introductions to computational methods for analysis of self-report and administrative data, polygenic risk scores, and fine-mapping.

Participation is free but registration is mandatory. In-person places are limited. Please consult: http://tokyo-symposium.com