

Tokyo Symposium on Genomic Medicine, Therapeutics and Health

April 8 - Day 1 Large-scale data for precision health		
Time	Title	Speakers
09:30-09:50	Introduction to symposium	Mark Lathrop & Ichiro Taniuchi
<i>Chair</i>	<i>Mark Lathrop</i>	
09:50-10:50	UK Biobank: scale, depth, duration ... but, most importantly, accessibility	Rory Collins, UK Biobank/Oxford
<i>Chair</i>	<i>Anavaj Sakuntabhai</i>	
10:50-11:20	Biobank scaled proteomics: Olink	Cindy Lawley, Olink
Break		
11:40-12:10	Exploiting biobank data to unravel genomics of vascular brain disease	Stéphanie Debette, Bordeaux University
Lunch		
13:10-13:40	What we learned from Biobank Japan Project - statistical genetics in Japan	Yukinori Okada, RIKEN
13:40-14:10	Leveraging biobanks and big data for cardiovascular precision medicine	Jemma Hopewell, Oxford
14:10-14:40	Autoimmunity pathology elucidated by large-scale immunogenetics studies	Kazuyoshi Ishigaki, RIKEN
14:40-15:10	Aging of immunity and immunity in aging	Nagahiro Minato, Kyoto University
15:10-15:15	Advances in sequencing technologies: PacBio	Wilson Cheng, PacBio
Break		
<i>Chair</i>	<i>Yukinori Okada</i>	
15:40-16:10	Obtaining "mechanistic insights" from biobank data	Yoichiro Kamatani, UTokyo
16:10-16:30	The challenge of large data in biomedicine: UK Biobank	Lucy Burkitt-Gray, UK Biobank
16:30-16:50	Japan Precision Medicine Platform- Scaling Precision Medicine and Cross-Industry Collaborations	Nino da Silva, BC Platforms
16:50-17:35	Keynote: Advances in computing	Norishige Morimoto, IBM Japan

April 9 - Day 2 From precision health to new diagnostics and therapies		
Time	Title	Speakers
<i>Chair</i>	<i>Ichiro Taniuchi</i>	
09:15-09:45	From viruses to extracellular vesicles: unleashing their potential as next-generation drug delivery platforms	Carolina Ilkow, Ottawa Hospital Research Institute
09:45-10:15	mRNA-based therapeutics : current status and future perspective	Shrio Akinaga, NANO MRNA
10:15-10:45	Regeneration of thymic function using iPSC technology: towards overcoming T-cell aging	Yoko Hamazaki, Kyoto University
Break		
<i>Chair</i>	<i>Ioannis Ragoussis</i>	
11:00-11:30	HORIBA's vision and challenges for the life sciences	Yoko Nakai, HORIBA
11:30-12:00	Towards better diagnostics and biomarkers: microfluidics, 3D printing, and single extracellular vesicle analysis	David Juncker, McGill
12:00-12:30	Shimadzu's life science project	Makoto Watanabe, Shimadzu
Lunch		
<i>Chair</i>	<i>Sidong Huang</i>	
13:30-14:00	Precision genome editing screening to enquire protein function	Raquel Cuella Martin, McGill
14:00-14:30	Tackling oncohistone pathogenesis at the root in cancer	Nada Jabado, McGill
14:30-15:00	Engineering robustness in stem and immune cell therapy	Fumihiko Ishikawa, RIKEN
15:00-15:30	Metabolomics in human studies and the discovery of bioactive microbial metabolites	Marc Dumas, Imperial College London
Break		
<i>Chair</i>	<i>Fumihiko Ishikawa</i>	
16:00-16:30	Biology of LipoQuality and the Lipidome Atlas	Makoto Arita, RIKEN
16:30-17:00	Innovations in biomedicine	Rami Suzuki, ARC Therapies
17:00-17:30	Keynote: Modality strategy in pharma industry	Wataru Takasaki, Daiichi-Sankyo

April 10 - Day 3 Society, immunology, infection and planetary health		
Time	Title	Speakers
09:15-09:30	RIKEN IMS	Kazuhiko Yamamoto
<i>Chair</i>	<i>Kazuyoshi Ishigaki</i>	
09:30-10:00	Transcriptional repression of transposons mediated by genomic structural changes	Yuka Iwasaki, RIKEN
10:00-10:30	Immunogenomics of Mendelian and complex immune defects	Mathieu Mancini, McGill
Break		
<i>Chair</i>	<i>Jorg Fritz</i>	
10:50-11:10	Introduction: policy for international genomic data sharing in an interconnected world	Yann Joly, McGill
11:10-11:40	Action plan for whole genome analysis in Japan: patient data ecosystem and patient involvement	Kaori Muto, RIKEN
11:40-12:10	The governance framework of biobanks and precision health in Taiwan	Chih-Hsing Ho, Academia Sinica
12:10-12:40	South Korea's approach to pseudonymized use of human genomic data	Won Bok Lee, Ewha Womens University
Lunch		
<i>Chair</i>	<i>Silvia Vidal</i>	
13:15-13:45	Engineering nature's nanoparticle system to deliver genetic medicines	Tony De Fougères, Evox Therapeutics
13:45-14:15	Obesity, insulin tolerance and gut microbiome	Hiroshi Ohno, RIKEN
14:15-14:45	Gene-microbe interactions in new mouse models of Parkinson's Disease	Samantha Gruenheid, McGill

14:45-15:15	Appendectomy suppresses ulcerative colitis via ILC2	Kazuyo Moro, RIKEN
Break		
16:00-16:15	<i>Pasteur Japan</i>	Anavaj Sakuntabhai, Institut Pasteur
Chair	Ciro Piccirillo	
16:15-16:35	Leveraging viral genomic data for outbreak response	Etienne Simon-Loriere, Institut Pasteur
16:35-16:55	The role of IgG Fc in dengue immunopathology	Tineke Cantaert, Institut Pasteur Cambodia
16:55-17:15	Arboviruses in the Pacific Region, what's up? Example of New Caledonia	Myrielle Dupont-Rouzeyrol, Institut Pasteur Nouvelle-Calédonie
17:15-17:35	DENFREE Thailand cohort reveals response to dengue infection	Ponpan Matangkasombut, Mahidol University

Workshop - Genomic Medicine, Therapeutics and Health

April 11 - Day 4		
Time	Title	Speakers
09:30-09:45	Opening remarks	Fumi Matsuda, Kyoto University
09:45-10:30	UK Biobank: Overview of the data resource <i>General overview of data, initial assessment & enhancements</i>	Lucy Burkitt-Gray, UK Biobank
10:30-10:45	Registering and Accessing the resource <i>Application process, costs, tips for a smooth process</i>	Daisy Vinter, UK Biobank
Break		
11:15-11:45	UK Biobank Data: Health outcomes data <i>Types of health outcomes fields, data structures and coding</i>	Daisy Vinter, UK Biobank
11:45-12:15	UK Biobank Data: Genomics data <i>Types of genomic data available, including 500k WGS data release</i>	Lucy Burkitt-Gray, UK Biobank
Lunch		
13:15-14:00	Introduction to the UKB-RAP <i>Projects, Costs, Data Structure, Jupyter/Rstudio, Running Jobs</i>	Daisy Vinter, UK Biobank
14:00-14:40	GWAS on UKB-RAP <i>Step-through illustration, extraction of phenotypic data, performing a GWAS</i>	Lucy Burkitt-Gray, UK Biobank
Break		
15:10-15:50	Harnessing the power of UK Biobank in applied genetic epidemiological research	Jemma Hopewell, Oxford
15:50-16:30	Creating your own applets on UKB-RAP <i>Overview and step-through illustration of applet creation</i>	Daisy Vinter, UK Biobank
16:30-17:30	Panel discussion: Using biobank data across cohorts	Guillaume Bourque, McGill, Chair

April 12 - Day 5		
Time	Title	Speakers
09:00-09:15	Introduction to biobanks and data access	Yoichiro Kamatani, UTokyo
09:15-09:45	Challenge for Precision Medicine: the Tohoku Medical Megabank Project	Masayuki Yamamoto, Tohoku University
10:15-10:45	Japan Prospective Studies Collaboration for Aging and Dementia	Toshiharu Ninomiya & Masato Akiyama, Kyushu University
10:45-11:15	National Center Biobank Network in Japan	Katsushi Tokunaga, National Center for Global Health and Medicine
11:15-11:45	Nagahama cohort study	Fumi Matsuda, Kyoto University
11:45-12:15	The BioBank Japan Project for Personalized Medicine	Koichi Matsuda, UTokyo
Lunch		
13:00-13:45	CARTaGENE biobank project: CARTaGENE: a population-based cohort to study the epidemiology and genetics of diseases in the Province of Quebec (Canada)	Guillaume Lettre, Université de Montréal
13:45-14:30	Characterising the immune cell landscape at biobank scale	Yutaka Suzuki, UTokyo
Break		
15:00-15:45	Investigating disease risks of mobile genetic elements in biobanks	Shohei Kojima, RIKEN
15:45-16:30	Psychiatric genomic research using biobank data	Pak Sham, University of Hong Kong
16:30-17:00	Discussion	Led by Yoichiro Kamatani

April 13 - Day 6		
Time	Title	Speakers
09:00-10:20	Lecture- Polygenic risk score (PRS) modeling <i>Bayesian regression on PRS</i>	Yue Li, McGill
Break		
10:40-12:00	Lecture - Phenotyping and PheWAS <i>Automatic phenotyping with topic modeling</i>	Yue Li, McGill
Lunch		
13:00-15:00	Practical - Polygenic risk score (PRS) modeling <i>Using the VIPRS tool (Zabad et al., AJHG 2023)</i>	Shadi Zabad, McGill
Break		
15:30-17:00	Practical - Phenotyping and PheWAS <i>Using MixEHR-seed (Song et al., KDD 2023)</i>	Ziyang Song, McGill