

Updated  
Feb. 26, 2024

PRIME International Symposium (Feb. 29 – Mar. 1)

# WPI-PRIME International Symposium Frontiers in Human Metaverse Medicine Timetable



February 29 - March 1, 2024  
Osaka University Nakanoshima Center, Osaka, Japan

## Day 1: February 29<sup>th</sup>, 2024

9:00-9:30	Registration
9:30- 9:35	<b>Opening remarks by Shojiro NISHIO</b> (President, Osaka University)
9:35-9:40	<b>Congratulatory speech by Akira UKAWA</b> (Program Director, JSPS WPI)
9:40-9:50	<b>Explanation of PRIME International Symposium by Kohji NISHIDA</b> (Osaka University WPI-PRIME Center Director)
9:50-10:40	<b>ICE breaker: Meet and Greet</b>
10:40-12:00	<b>Session 1- Connecting the dots: How to harness organoid data to inform humans?</b> <i>Chairperson: Takanori TAKEBE/Yoshie HARADA</i>
	10:40- <b>Takanori TAKEBE</b> (Osaka University/WPI-PRIME & Graduate School of Medicine, Cincinnati Children's Hospital Medical Center/Center for Stem Cell and Organoid Research and Medicine) "Organoid-guided Precision Hepatology"
	11:00- <b>Atsushi WATANABE</b> (Osaka University/WPI-PRIME & Graduate School of Medicine) "Retinal Organoid Research for Overcoming Degenerative Eye Diseases"
	11:20- <b>Hideyuki OKANO</b> (Keio University/Graduate School of Medicine) "Advanced Human iPSCs-derived Organoid Technology to Investigate Alzheimer's Disease"
	11:40- <b>Katsuhiko HAYASHI</b> (Osaka University/WPI-PRIME & Graduate School of Medicine) "Development of Reproductive Systems in Culture"
12:00-13:30	<b>Lunch Break</b>
13:30-14:30	<b>Keynote speaker, 1<sup>st</sup> day:</b> <i>(Chairperson: Mariko OKADA)</i>
	<b>Emmanuel BARILOT</b> (Institut Curie/Department of Computational Biology) "Predicting Immunotherapy Response in Non-Small Cell Lung Cancer" <b>Thomas WALTER</b> (Institut Curie/Department of Computational Biology) "Prediction of molecular features from Whole Slide Images"

14:30-15:50	<b>Session 2- Inside the dots</b> <i>Chairperson: Katsuhiko HAYASHI</i>
	14:30- <b>Vivian HWA</b> (Osaka University/WPI-PRIME) "Human Growth Disorders for Organoid Modeling: Lessons from STAT5B Deficiency"
	14:50- <b>Noriyuki TSUMAKI</b> (Osaka University/WPI-PRIME & Graduate School of Medicine) "Construction of biodigital twin for osteoarthritis"
	15:10- <b>Arvind RAMANATHAN</b> (Institute for St. Cell Science and Regenerative medicine) "Skeletal Muscle Aging- Bedside to Bench"
15:30- <b>Shigeru MIYAGAWA</b> (Osaka University/WPI-PRIME & Graduate School of Medicine) "Human Metaverse Medicine in the Cardiovascular System"	
15:50-16:10	<b>Break</b>
16:10-17:30	<b>Session 3- Computed Biology: What will be key enabling technologies to characterize the biological state transition at a scale?</b> <i>Chairperson: Elisa DOMÍNGUEZ HÜTTINGER</i>
	16:10- <b>Masahiro MORITA</b> (Osaka University/WPI-PRIME, University of Texas Health Center) <b>Mariko OKADA</b> (Osaka University/WPI-PRIME, Institute for Protein Research) "Unveiling Organelles Dynamics in Cancer through Mathematical Methods"
	16:30- <b>Alfonso VALENCIA</b> (Barcelona Supercomputing Center/Life Sciences Department, Spanish National Bioinformatics Institute) <b>(online)</b> "Cell level Simulations"
	16:50- <b>Nozomu YACHIE</b> (Osaka University/WPI-PRIME, The University of British Columbia/School of Biomedical Engineering) "Technologies for <i>look-back-in-time</i> biology"
	17:10- <b>Denis THIEFFRY</b> (École Normale Supérieure/Department of Biology) <b>(online)</b> "Predictive and eproducible dynamical modelling of T-cell plasticity"
17:30-17:40	<b>Short Break</b>
17:40-18:30	<b>Special Lecture:</b> <i>(Chairperson: Kazuhiro SAKURADA)</i>
	<b>Kenichiro MOGI</b> (Sony Computer Science Laboratories, The University of Tokyo) "AI alignment for wellness and creativity of humans"
18:30-20:30	<b>Information Exchange meeting at Nakanoshima Center 9F</b>

Day 2: March 1<sup>st</sup>, 2024

8:40-9:00	<b>Morning Coffee</b>
9:00-10:30	<b>Session 4- Poster session by Rising Stars</b> (Chairperson: Nozomu YACHIE)
	<ul style="list-style-type: none"> <li>· <b>Elisa DOMÍNGUEZ HÜTTINGER</b> (WPI-PRIME, Osaka University/Universidad Nacional Autonoma de Mexico)</li> <li>· <b>Ai SHINOBU</b> (WPI-PRIME, Osaka University)</li> <li>· <b>Nika SHAKIBA</b> (WPI-PRIME, Osaka University/The University of British Columbia)</li> <li>· <b>Loïc CHADOUTAUD</b> (Institut Curie)</li> <li>· <b>Takahiro NEMOTO</b> (WPI-PRIME, Osaka University) and more...</li> </ul>
10:30-10:40	<b>Short Break</b>
10:40-11:40	<b>Keynote speaker, 2<sup>nd</sup> day:</b> (Chairperson: Takanori TAKEBE)
	<b>Johan AUWERX</b> (Swiss Federal Institute of Technology in Lausanne/Laboratory of Integrative System Physiology) "Cross-species genetics to map new players in mitochondria and aging"
11:40-13:00	<b>Lunch Break</b>
13:00-14:20	<b>Session 5- Visualizing network: What elements of biological and medical data will be visualized in Biodigital Twin?</b> Chairperson: Ai SHINOBU/Laurence CALZONE
	13:00- <b>Hideo YOKOTA</b> (Osaka University/WPI-PRIME, RIKEN/Center for Advanced Photonics) "Development of Image Processing Platform for Human Biodigital Twins"
	13:20- <b>Geoffrey SCHIEBINGER</b> (Osaka University/WPI-PRIME, The University of British Columbia/Department of Mathematics) "Towards a Mathematical Theory of Development"
	13:40- <b>Laurence CALZONE</b> (Institut Curie/Department of Computational Biology) "Modelling tumor invasion, from one cell to a population of cells"
	14:00- <b>Hajime NAGAHARA</b> (Osaka University/WPI-PRIME, Institute for Datability Science) "Machine learning for bio-medical analysis and modeling"
14:20-14:30	<b>Short Break</b>

14:30-15:50	<b>Session 6- Predictive precision medicine</b> Chairperson: Shingo TSUKADA/Shigeru MIYAGAWA
	14:30- <b>Kunio KASHINO</b> (Osaka University/WPI-PRIME, NTT Communication Science Laboratories/Media Information Laboratory) "Generating Electrocardiogram from Heart Parameters"
	14:50- <b>Zhaoshi JIANG</b> (BioMap US) "Data-driven drug development"
	15:10- <b>Kazuhiro SAKURADA</b> (Osaka University/WPI-PRIME, Keio University/Department of Extended Intelligence for Medicine) "Understanding biology, cognition, and disease through open thermodynamic systems theory"
15:30- <b>Julio SAEZ-RODRIGUEZ</b> (Heidelberg University/The Institute of Computational Biomedicine) (online) "Machine learning and mathematical models from multi-omics data for personalized medicine"	
15:50-16:00	<b>Short Break</b>
16:00-17:00	<b>Session 7- Ethical related issues, also EDI (equity, diversity, and inclusion)</b> Chairperson: Kazuto KATO/Atsuo KISHIMOTO
	16:00- <b>Atsuo KISHIMOTO</b> (Osaka University/WPI-PRIME & ELSI Center) "Exploring ethical, legal and social issues in human metaverse medicine"
	16:20- <b>Megan MUNSIE (The University of Melbourne/Melbourne Medical School)</b> "From stem cells to organoids and beyond: time to revisit ethical implications and public perceptions of this frontier science"
	16:40- <b>Alexander BERNIER</b> (McGill University/Center of Genomics and Policy) "Legal Foundations of Open Science: Cultivating Regulatory Capabilities in the Health Sector"
17:00	<b>Closing remarks by Takao ONOYE</b> (Executive Vice President, Osaka University)

\*Symposium contents are subject to change.