

The 29<sup>th</sup> Hot Spring Harbor International Symposium  
**Cutting Edge of Technical Innovations in Trans-Omics**  
Medical Institute of Bioregulation, Kyushu University

**February 6-7, 2020**

Collaborative Research Station-I, Hospital Campus, Kyushu University, Fukuoka, JAPAN

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**Tuesday, February 6, 2020**

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10:00 - 10:05    Opening Remarks:  
                  **Yusaku Nakabeppu** (Director of Medical Institute of Bioregulation)

**Session 1: Trans-Omics Technology (Proteomics)**

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Chair: Yoshihiro Baba

10:05-10:40    S-01: **Yu-Ju Chen** (Institute of Chemistry, Academia Sinica, Taiwan)  
                  Proteogenomics Paves the Pathway to Next Generation Precision Medicine  
                  in Cancer  
                  (Presentation 30 minutes, Discussions 5 minutes)

10:40-11:05    S-02: **Yasushi Ishihama** (Kyoto University, Japan)  
                  Shotgun Proteoformics to Unveil Human Proteome and Proteoforms  
                  (Presentation 20 minutes, Discussions 5 minutes)

11:05-11:30    S-03: **Masaki Matsumoto** (Niigata University, Japan)  
                  iMPAQT ver. 2: New platform for absolute quantification of proteins of  
                  interest  
                  (Presentation 20 minutes, Discussions 5 minutes)

11:30-13:00    Lunch (meeting invited speakers only)

**Session 2: Trans-Omics Technology (Metabolomics)**

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Chair: Atsushi Suzuki

13:00-13:35    S-04: **Markus R Wenk** (National University of Singapore, Singapore)  
                  Translation of lipidomic technologies towards quantification of blood lipids  
                  (Presentation 30 minutes, Discussions 5 minutes)

13:35-14:00    S-05: **Mitsutoshi Setou** (Hamamatsu University, Japan)  
                  Promoting trans-omics study through the project of “Imaging Platform”  
                  (Presentation 20 minutes, Discussions 5 minutes)

14:00-14:25    S-06: **Yoshihiro Izumi** (Kyushu University, Japan)  
                  Inter-laboratory comparison of metabolite measurements for metabolomics  
                  data integration  
                  (Presentation 20 minutes, Discussions 5 minutes)

14:25-14:40 Group Photos

14:40-15:00 Coffee break

### **Session 3: Short Talks by Young Scientists**

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Chair: Shinichiro Sawa, Fumiyo Ikeda

Short talks of 15 minutes each  
(Presentation 10 minutes, Discussions 5 minutes)

15:00-15:15 Y-01: **Kenichi Horisawa** (Kyushu University, Japan)  
Trans-omic analysis for metabolic remodeling during liver regeneration

15:15-15:30 Y-02: **Chie Kikutake** (Kyushu University, Japan)  
Pan-cancer analysis for mutation hotspots in non-coding elements

15:30-15:45 Y-03: **Fumiko Matsuzaki** (Kyushu University, Japan)  
Integrated analysis through multiple molecular layers: transomic network dynamics

15:45-16:00 Y-04: **Eriko Sumiya** (Kyushu University, Japan)  
Transcriptomic characterization of cells involved in fetal bone development

16:00-16:15 Y-05: **Tsunaki Higa** (Kyushu University, Japan)  
Spatiotemporal Reprogramming of p57<sup>+</sup> Quiescent Stem Cells Underlies Regeneration and Neoplasia in the Intestinal Epithelium

16:15-16:30 Y-06: **Kazufumi Kunimura** (Kyushu University, Japan)  
Identification of the novel environmental factor essential for M cell maturation in Peyer's patches

16:30-16:50 Coffee break

### **Session 4: Trans-Omics Analysis**

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Chair: Hiroyuki Kubota

16:50-17:25 S-07: **Chang Matthew Wook** (National University of Singapore, Singapore)  
Reprogramming microbes to rewire host-microbiome interactions  
(Presentation 30 minutes, Discussions 5 minutes)

17:25-17:50 S-08: **Fumio Matsuda** (Osaka University, Japan)  
Trans omics analysis of metabolic rewiring in inhibitor treated cancer cells by integrating <sup>13</sup>C metabolic flux and metabolome analyses  
(Presentation 20 minutes, Discussions 5 minutes)

17:50-18:15 S-09: **Chikara Furusawa** (RIKEN / The University of Tokyo, Japan)  
Toward prediction and control of microbial evolution: Analysis of  
phenotypic constraints in laboratory evolution  
(Presentation 20 minutes, Discussions 5 minutes)

19:30- **Dinner party** (by invitation only)

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## Friday, February 7, 2020

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### Session 5: Single-Cell Analysis (Mass Spectrometry, Super-Resolution Imaging)

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Chair: Seiji Okada

10:00-10:35 S-10: **Ryan T. Kelly** (Pacific Northwest National Laboratory, USA)  
One Cell at a Time: Sample Processing and Analysis Platform for In-Depth  
Single-Cell Proteomics  
(Presentation 30 minutes, Discussions 5 minutes)

10:35-11:00 S-11: **Takeshi Bamba** (Kyushu University, Japan)  
Development of single-cell molecular phenotyping technologies based on  
mass spectrometry  
(Presentation 20 minutes, Discussions 5 minutes)

11:00-11:25 S-12: **Yasushi Okada** (RIKEN / The University of Tokyo, Japan)  
Live cell imaging technologies for single-cell analysis – How can imaging  
meets genomics?  
(Presentation 20 minutes, Discussions 5 minutes)

11:25-13:00 Lunch (meeting invited speakers only)

### Session 6: Single-Cell Analysis (Next Generation Sequencing)

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Chair: Mikita Suyama

13:00-13:25 S-13: **Itoshi Nikaido** (RIKEN BDR, Japan)  
RamDA-seq: a full-length total RNA-sequencing at a single-cell  
(Presentation 20 minutes, Discussions 5 minutes)

13:25-13:50 S-14: **Tomoko Yoshino** (Tokyo University of Agriculture & Technology,  
Japan)  
Characterization of circulating tumor cells in gastric cancer patients based  
on single-cell transcriptome analysis  
(Presentation 20 minutes, Discussions 5 minutes)

13:50-14:15 S-15: **Yasuyuki Ohkawa** (Kyushu University, Japan)  
Chromatin integration labelling Technology for expanding multi-omics  
(Presentation 20 minutes, Discussions 5 minutes)

14:15-14:20 Closing Remarks: **Takeshi Bamba** (Kyushu University, Japan)