# Ⅲ　国際シンポジウム

The 29th Hot Spring Harbor International Symposium

# Cutting Edge of Technical Innovations in Trans-Omics

**February 6 [Thu] - 7 [Fri]**

**10:00-18:15　10:00-14:20**

**2F Collaborative Research Station-I, Hospital Campus, Kyushu University**

病院キャンパス コラボステーション I 2F 視聴覚ホール

## Invited Speakers

**Markus R Wenk**
National University of Singapore, Singapore

**Fumio Matsuda**
Osaka University, Japan

**Yasushi Okada**
The University of Tokyo, Japan

**Yu-Ju Chen**
Institute of Chemistry, Academia Sinica, Taiwan

**Mitsutoshi Setou**
Hamamatsu University, Japan

**Chikara Furusawa**
The University of Tokyo, Japan

**Itoshi Nikaido**
RIKEN BDR, Japan

**Yasushi Ishihama**
Kyoto University, Japan

**Yoshihiro Izumi**
Kyushu University, Japan

**Ryan T. Kelly**
Pacific Northwest National Laboratory, USA

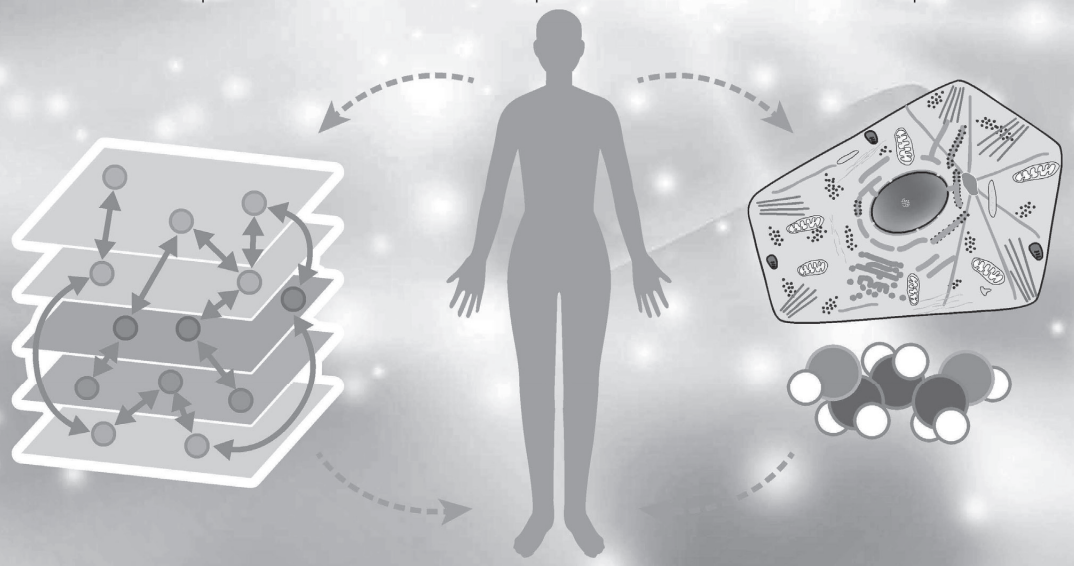
**Tomoko Yoshino**
Tokyo University of Agriculture & Technology, Japan

**Masaki Matsumoto**
Niigata University, Japan

**Chang Matthew Wook**
National University of Singapore, Singapore

**Takeshi Bamba**
Kyushu University, Japan

**Yasuyuki Ohkawa**
Kyushu University, Japan



## Access

空　　路：福岡空港→（地下鉄空港線）→「中洲川端駅」、貝塚方面へ乗換→（地下鉄箱崎線）→「馬出九大病院前駅」で下車
J　　R：「JR 博多駅」→（地下鉄空港線）→「中洲川端駅」、貝塚方面へ乗換→（地下鉄箱崎線）→「馬出九大病院前駅」で下車
「JR 博多駅」→「JR 吉塚駅」で下車
西　　鉄：西鉄福岡駅 →（地下鉄）→馬出九大病院前駅で下車
高 速 バ ス：天神バスセンター下車→（地下鉄）→「馬出九大病院前駅」で下車

コラボステーション I アクセスマップ
https://www.kyushu-u.ac.jp/f/35767/2019hospital_2.pdf

## Contact

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**Program**
http://www.bioreg.kyushu-u.ac.jp/mib/topics/symposium/2019program.pdf

**主催／九州大学生体防御医学研究所**

共催／・トランスオミクス医学研究拠点ネットワーク形成事業
・共同利用・共同研究拠点「多階層生体防御システム研究拠点」
・国立研究開発法人科学技術振興機構（JST）・戦略的創造研究推進事業（CREST）
「統合 1 細胞解析のための革新的技術基盤」
協賛／科研費新学術領域「代謝アダプテーションのトランスオミクス解析」

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Medical Institute of Bioregulation, Kyushu University

## February 6-7, 2020

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

## Tuesday, February 6, 2020

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

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

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)

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

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 $p57^{+}$ 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

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 $^{13}C$ 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)

## Friday, February 7, 2020

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

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)

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)


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