

# GI-CoRE GSQ, GSB & IGM JOINT SYMPOSIUM

## Quantum, Informatics, Biology & Medicine

(5<sup>th</sup> GSQ Symposium & 1<sup>st</sup> GSB Symposium)



Wi-Fi network available in Room A: "GI-CoRE Symposium"

**DAY 1: July 10 (Mon), 2017**

### Room A: Quantum, Informatics, Biology & Medicine

Venue: Special Conference Hall, Faculty of Medicine, Hokkaido University

1-1. **10:00-10:20 Hiroki Shirato** (Hokkaido Univ. GSQ)

*Opening Address: Quantum, Informatics, Biology and Medicine*

1-2. **10:20-11:00 Shin-ichi Minato** (Hokkaido Univ. GSB)

*The algorithmic techniques for processing large-scale combinatorial data and applications to real-life problems.*

----- Coffee Break -----

1-3. **11:10-11:50 Massimo Piccardi** (Univ of Technology, Sydney. GSB)

*Natural language processing and machine learning for healthcare data*

1-4. **11:50-12:30 Erqi Pollom** (Stanford Univ. GSQ)

*To randomize or not to randomize? Challenges with observational studies using "big data"*

----- Lunch Break -----

-Highlights of Recent Research in GI-CoRE GSQ and Faculty of Medicine -

1-5. **14:30-14:50 Anussara Prayongrat** (Hokkaido Univ. Schl. Med)

*Model-based Approach to Select A Radiotherapy Technology: Summary of GI-CoRE GSQ 4<sup>th</sup> Symposium toward International Consensus*

1-6. **14:50-15:05 Hidehisa Takahashi & Shigetsugu Hatakeyama**

(Hokkaido Univ. Faculty of Med)

*Big data analysis in bioinformatics to address mechanism of gene expression*

1-7. **15:05-15:25 Khin Khin Tha** (Hokkaido Univ. GSQ)

*Identification of Noninvasive Biomarkers for Glioblastoma: The Role of "Radiomics"*

----- Coffee Break -----

1-8. **15:50-16:30 Hiroshi Hirata** (Hokkaido Univ. Grad School of Info Science and Tech)

*Magnetic resonance of electron spins: Its application to oxygen mapping*

1-9. **16:30-17:10 John Canning** (Univ of Technology, Sydney. GSB)

*Photonic Sensing Technologies for Medical Applications*

1-10. **17:10-17:30 Hiroki Arimura** (Hokkaido Univ. GSB) *Summary*

### Room B: Radiation Biology School for Graduate Students

Venue: Seminar Room 2-1, Faculty of Medicine, Hokkaido University

1-1. **10:00-11:00 Amato Giaccia** (Stanford Univ. GSQ)

Biology for Radiotherapy I

1-2. **11:10-12:10 Amato Giaccia** (Stanford Univ. GSQ)

Biology for Radiotherapy II

#### Organizers:

Global Station for Quantum Medical Science and Engineering (GSQ), Global Station for Big Data and Cybersecurity (GSB), Institute for Genetic Medicine (IGM), Hokkaido University, Department of Radiation Oncology, School of Medicine, Stanford University

GSQ- Tel:+81-11706-8511/Email:gsq@oia.hokudai.ac.jp / GSB- Tel:+81-11706-7261/Email:gsb@oia.hokudai.ac.jp

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**DAY 2: July 11 (Tue), 2017**

### Room A: Quantum, Biology and Medicine

Venue: Special Conference Hall, Faculty of Medicine, Hokkaido University

2-1. **10:20-10:30 Amato Giaccia** (Stanford Univ. GSQ)

*Opening Address*

2-2. **10:30-11:20 Ichio Aoki** (QST)

*Sensing and theranostic contrast agents for MRI*

----- Coffee Break -----

2-3. **11:30-12:20 Masaaki Murakami** (Hokkaido Univ. IGM)

*Gateway reflexes, a new paradigm of neuro-immune crosstalk*

----- Lunch Break -----

2-4. **14:20-14:35 Jin-Min Nam & Chi-Che Hsieh** (GSQ Stanford Unit)

*Molecular targets for suppression of cancer invasion*

2-5. **14:35-14:50 Sumito Yoshida & Tsukasa Seya** (Hokkaido Univ. Dept. Immunology)

*TLR3 adjuvant induces tumor regression in concert with radiation therapy in mouse tumor-implant models*

2-6. **14:50-15:40 Yu Miao** (Stanford Univ. GSQ)

*Developing affinity based therapy for the treatment of metastatic cancer*

----- Coffee Break -----

2-7. **16:00-16:15 Yutaka Takahashi** (Osaka Univ.)

*Radiobiological effectiveness in various sarcoma cell lines in particle beam irradiation*

2-8. **16:15-17:05 Quynh-Thu Le** (Stanford Univ. GSQ)

*Research on Radiation Oncology and Immunology*

2-9. **17:05-17:30 Quynh-Thu Le** (Stanford Univ. GSQ)

*Summary and Closing Remarks*

### Room B: Big-data Analysis and IoT

Venue: 11F Meeting Room, IST Building, Grad School of Information Science and Technology, Hokkaido University

#### Student Research Workshop

2-1. 13:30-14:45 Big-data Analysis

2-2. 15:00-16:15 IoT

\* The time allocation for two sessions will depend on the number of presentations.

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