

# The 7th GI-CoRE Medical Science and Engineering Symposium FLASH, MBA, & 4DRT

<Moderator: Kikuo Umegaki>

## DAY 1: Sunday, August 18, 2019

8:45 – 9:00

### Opening Remarks

*With the Summary of the consensus in GI-CoRE meetings in Sapporo 2014 - 2018*

Hiroki Shirato (Hokkaido Univ. GSQ)

## Session I: Advanced Radiobiology ; Mitochondria, PD-1, and FLASH

<Chairman: Amato Giaccia>

9:00 – 9:30

### 1. Radiotherapy, Distribution of ROS in Cells, and Mitochondria in Cells

Yasuhito Onodera (Hokkaido Univ. GSQ)

9:30 – 10:00

### 2. Radiation therapy links to cancer immunotherapy by immune T cells

Kenji Chamoto (Kyoto Univ., Previously Hokkaido Univ.)

10:00 – 10:40

### 3. Biology of FLASH

Erinn Rankin (Stanford Univ. GSQ)

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

10:50 – 11:30

### 4. Clinical aspects of FLASH

Billy W Loo (Stanford Univ. GSQ)

11:30 – 12:15

### 5. Discussion <Facilitator: Amato Giaccia>

Stanford Univ., Hokkaido Univ., Kyoto Univ. and Dr. Soren Bentzen

12:15 – 13:30

### Poster Session with light meal and refreshments

<Chairs: Taeko Matsuura, Naoki Miyamoto, Jin-Min Nam and Khin Khin Tha>

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## **Session II: Radiotherapy based on Biomedical Models and Informatics**

<Chairman: Hiroki Shirato>

13:30 – 14:10

### **6. Reducing Toxicities in Pediatric Patients through Advanced Technologies**

Susan Hiniker (Stanford University Medical Center)

14:10 – 14:50

### **7. Natural language processing for end-of-life predictive modeling**

Daniel Chang (Stanford Univ. GSQ)

14:50 – 15:20

### **8. Modeling of Normal-Tissue Response after Carbon-Ion Radiotherapy**

Naruhiko Matsufuji (National Institutes for Quantum and Radiological Science and Technology)

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

15:40 – 15:55

### **9. Clinical Usefulness of model-based approach (MBA) in Head and Neck Cancer**

Koichi Yasuda (Hokkaido Univ. GSQ)

15:55 – 16:10

### **10. Multi-variant NTCP model and Proton**

Anussara Prayongrat (Hokkaido Univ. School of Medicine)

Keiji Kobashi (Hokkaido Univ. Hospital)

16:10 – 16:55

### **11. Newest ICRU view for Model-based Approach (MBA)**

Soren Bentzen (University of Maryland School of Medicine)

16:55 – 17:55

### **12. Discussion <Facilitator: Hiroki Shirato>**

SU, HU, QST, JASTRO, and ICRU (Dr. Soren Bentzen)

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**DAY 2: Monday, August 19, 2019**

***Session III: Recent Advances in Quantum Biomedical Science and Engineering***

<Chairman: Daniel Chang>

8:45 – 9:30

## **13. Overview**

Amato Giaccia (Stanford Univ. GSQ)

9:30 – 10:00

## **14. Radiomics in Cancer**

Khin Khin Tha (Hokkaido Univ. GSQ)

10:00 – 10:45

## **15. Real-world data and Deep Learning in Radiation Oncology**

Lei Xing (Stanford Univ. GSQ)

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

11:00 – 11:30

## **16. Future of 4DRT**

Shinichi Shimizu (Hokkaido Univ. GSQ)

11:30 – 11:55

## **17. Discussion <Facilitator: Daniel Chang>**

SU, HU, QST, and ICRU (Dr. Soren Bentzen)

11:55 – 12:00

## **Closing Remarks**

Hiroki Shirato (Hokkaido Univ. GSQ)

\*The content of this meeting and its summary may be disclosed as a report and be sent as a proposal to an international organization if some consensus is reached.