

## **Welcome!**

Thank you for coming to the international symposium "Ubiquitin New Frontier ~from Neo-Biology to Targeted Protein Degradation~". This symposium was originally scheduled for Oct 2020 but was postponed twice due to COVID-19, and finally realized today. We are very grateful to all the invited speakers who kindly agreed to participate in this symposium. In recent years, ubiquitin research has expanded significantly in all aspects of biological regulation, disease, and drug discovery. We believe that we have set up an attractive scientific program with outstanding invited speakers and the members of the ubiquitin research group in Japan covering up-to-date knowledge on ubiquitin biology, chemical tools, and targeted protein degradation. Participants will be 150 researchers from academia and industry. We wish you all an enjoyable and fruitful meeting. - Yasushi Saeki, Primary Organizer

## **Organizing Committee**

Yasushi Saeki (Tokyo Metropolitan Institute of Medical Science, Japan)

Shigeo Murata (The University of Tokyo, Japan)

Mikihiko Naito (The University of Tokyo, Japan)

Kazuhiro Iwai (Kyoto University, Japan)

Keiji Tanaka (Tokyo Metropolitan Institute of Medical Science, Japan)

## **Sponsors**

Grant-in-Aid for Scientific Research on Innovative Areas "New frontier for ubiquitin biology driven by chemo-technologies" from MEXT, Japan; The Uehara Memorial Foundation; Mochida Memorial Foundation for Medical and Pharmaceutical Research; UBiENCE Inc. (partial support for website production cost); FIMECS Inc. (partial support for website production cost); KYOWA KIRIN Co.Ltd. (partial support for abstract book cost)

## **Instruction for all participants**

**Infection prevention measures** - Participants are asked to wear masks. Please refrain from coming to the meeting if you have any of the symptoms such as a fever of 37.5°C or higher, cough, sore throat, fatigue, or loss of taste or smell.

**Reception** - The reception desk will be open at the entrance of Ito Hall (B2F) from 8:30 a.m. on December 3. Please pick up your participation card and abstract book.

**Lunches** - Several kinds of lunch boxes (bento) are available. Please bring your favorite one from the reception during the lunch break. Food and beverages are allowed inside the hall and the event space.

**Dinner** - There will be a buffet-style welcome party on the evening of the first day.

## **Instructions for oral presenters**

Presentations are expected to use his/her own laptop. The screen is 220 inches and optimized for 16:9 aspect (4:3 is also fine). Only HDMI connector is available. If your computer is not equipped with HDMI, please bring an appropriate converter.

## **Instructions for poster presenters**

Each panel space for display is 90 cm wide x 240 cm high. A0 size (portrait) is recommended. Please set up your poster during the lunch break on Dec. 3 and remove it after the meeting.

## Venue

Ito Hall, Ito International Research Center (B2F), The University of Tokyo  
(7-3-1 Hongo, Bunkyo-ku, Tokyo, 113-0033 Japan)



## Wi-Fi

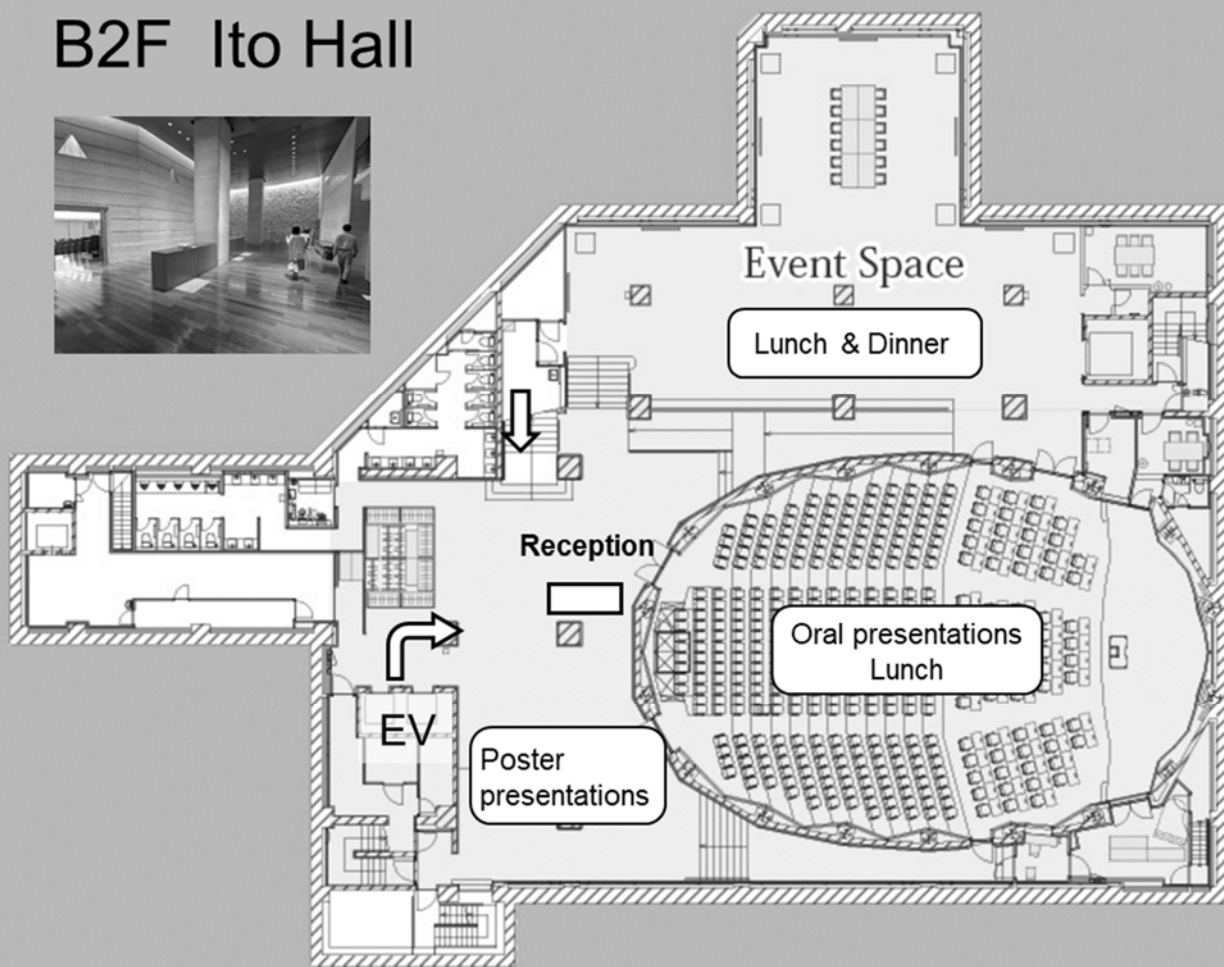
Network name: iirc-hall  
Password: #09-20-guest



Entrance to the Ito Hall (stairs or elevator)



## B2F Ito Hall



# Program

## **December 3, 2022 (Saturday)**

8:30-9:20 Registration (Ito Hall, B2F)

9:20-9:30 Opening Remarks - Yasushi Saeki

### **9:30-10:50 Session 1 "The ubiquitin code" (Chair: Shuya Fukai)**

9:30-9:50 Kazuhiro Iwai - Kyoto University  
*"Regulation and function of LUBAC-mediated linear ubiquitination in immunity"*

9:50-10:15 David Komander - WEHI, Australia  
*"Crossing Codes"*

10:15-10:35 Fumiaki Ohtake - Hoshi University  
*"Role of the branched ubiquitin code in targeted protein degradation"*

10:35-10:50 Fumiyo Ikeda - Osaka University  
*"The linear ubiquitin chain assembly complex (LUBAC) generates heterotypic ubiquitin chains"*

### **11:00-12:10 Session 2 "PQC and physiology (Part 1)" (Chair: Shigeo Murata)**

11:00-11:25 Daniel Finley - Harvard Medical School, USA  
*"Global remodeling of the proteome in terminal differentiation"*

11:25-11:50 Toshifumi Inada - The University of Tokyo  
*"Conserved role of K63-linked polyubiquitination in the RQT-mediated splitting of the collided ribosomes"*

11:50-12:10 Yasushi Saeki - Tokyo Metropolitan Institute of Medical Science  
*"Ubiquitylation-dependent phase separation of the proteasome"*

### **12:10-14:00 Lunch (Bento) / Poster Flash Talks / Installation of Posters**

### **14:00-15:30 Session 3 "Diseases and therapeutic strategy" (Chair: Hiroyuki Kawahara)**

14:00-14:25 Ivan Dikic - Goethe University Frankfurt, Germany  
*"ISGylation and ubiquitination in anti-viral innate immunity"*

14:25-14:45 Koji Yamano - Tokyo Medical and Dental University  
*"Understanding of mitochondrial selective autophagy using chemical technologies"*

14:45-15:00 Toshiaki Fukushima - Tokyo Institute of Technology  
*"Molecular mechanisms underlying the over-activation of deubiquitinating enzyme USP8 and USP48 by Cushing's disease-associated mutations"*

15:00-15:15 Daisuke Morito - Showa University School of Medicine  
*"Pathogenic action of a large ATPase/ubiquitin ligase, mysterin/RNF213"*

15:15-15:30 Tsukasa Okiyoneda - Kwansei Gakuin University  
*"Development of CFTR-associated RING-type E3 ubiquitin ligase inhibitors and their therapeutic application"*

**15:30-15:50** Coffee Break

**15:50-17:00** **Session 4 " Targeted protein degradation (Part 1)"** (Chair: Mikihiko Naito)

15:50-16:15 Alessio Ciulli - University of Dundee, UK

*"How PROTAC degraders work: design principles and drug development for challenging cancer targets"*

16:15-16:35 Yosuke Demizu - National Institute of Health Sciences, Japan

*"Development of potent PROTACs targeting hematopoietic prostaglandin D synthase via in silico design"*

16:35-17:00 Hiroshi Handa - Tokyo Institute of Technology

*"Discovery of CRBN as a target of thalidomide: a breakthrough for progress in the development of targeted protein degraders"*

**17:00-20:00** **Group Photo / Welcome Party / Poster Session**

### **December 4, 2022 (Sunday)**

8:30-9:00 Registration (Ito Hall, B2F)

9:00-9:05 Announcement - Yasushi Saeki

**9:05-10:35** **Session 5 "Molecular mechanism"** (Chair: Yasushi Saeki)

9:05-9:30 Kylie Walters - National Cancer Institute, USA

*"Interactions and Targeting of Proteasome Substrate Receptors hRpn10 and hRpn13"*

9:30-9:55 Eri Sakata - Göttingen University, Germany

*"Structural basis for regulation of the AAA+ ATPases in protein quality control"*

9:55-10:15 Shuya Fukai - Kyoto University

*"Structure-guided design of peptide derivatives that inhibit the Ufd1-Npl4 cofactor complex of p97"*

10:15-10:35 Shigeo Murata - The University of Tokyo

*"Molecular mechanisms that respond to proteasome dysfunction"*

**10:50-12:00** **Session 6 "Chemo-tech for ubiquitin research"** (Chair: Takumi Ito)

10:50-11:10 Akimitsu Okamoto - The University of Tokyo

*"Chemically functionalized Ub"*

11:10-11:30 Yoshimasa Kawaguchi - Kyoto University

*"Attenuated cationic lytic peptides for intracellular delivery"*

11:30-11:45 Gosuke Hayashi - Nagoya University

*"Monobodies for ubiquitin and proteasome research"*

11:45-12:00 Yusaku Miyamae - University of Tsukuba

*"A method for conditional regulation of cellular protein stability using liberation-prone degron"*

- 12:00-14:00 Lunch (Bento) / Luncheon Seminar (FIMECS Inc.) / Poster Presentation**
- 14:00-15:25 Session 7 " PQC and physiology (Part 2)" (Chair: Koji Yamano)**
- 14:00-14:25 Hsueh-Chi Sherry Yen - Academia Sinica, Taiwan  
*"C-degron pathway for protein degradation"*
- 14:25-14:50 Claudio Joazeiro - ZMBH, Heidelberg University, Germany  
*"Evolution of mechanisms for sensing and responding to ribosome stalling and collision"*
- 14:50-15:05 Daisuke Oikawa - Osaka Metropolitan University  
*"The inhibition of linear ubiquitination mitigates amyotrophic lateral sclerosis-associated TDP-43 aggregation"*
- 15:05-15:25 Minoru Yoshida - RIKEN Center for Sustainable Resource Science  
*"Identification of a quality control system to cope with aberrant proteins produced by mis-splicing"*
- 15:25-15:45 Coffee Break**
- 15:45-17:10 Session 8 " Targeted protein degradation (Part 2)" (Chair: Kazuhiro Iwai)**
- 15:45-16:10 Masato Kanemaki - National Institute of Genetics, Japan  
*"Inducing protein degradation with the power of plant"*
- 16:10-16:30 Minoru Ishikawa - Tohoku University  
*"PROTACs for neurodegenerative disorders "*
- 16:30-16:50 Takumi Ito - Tokyo Medical University  
*"Molecular mechanisms of the therapeutic effects of thalidomide and its derivatives"*
- 16:50-17:10 Mikihiro Naito - The University of Tokyo  
*"Targeted protein degradation as a novel strategy for precision medicine against cancers"*
- 17:10-17:30 Wrap-up and concluding remarks from organizers**