# **Subaru Telescope International Partnership Workshop – Summary Report**

Date: 1 / 27 / 2018

To: The Director of the Subaru Telescope

To. The Birector	of the Subaru Telescope			
	Name	Yosuke Minowa / Yusei Koyama		
Workshop chair person	Affiliation Job Title	Subaru Telescope, Assistant Professor		
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Workshop title	ULTIMATE-Subaru collaboration meeting 2018 https://www.naoj.org/Projects/newdev/ngao/201801_collabo_mtg/index.html			
Date	1 / 15 / 2018 - 1 / 16 / 2018			
Venue (address)	Mitaka Campus, National Astronomical Observatory of Japan (Tokyo, Japan)			
Number of participants	26			
Workshop overview	(Please briefly describe scientific rationales, and what you learned/achieved through the WS.)  Rationale: ULTIMATE-Subaru is the project to develop next-generation facility adaptive optics system and instruments utilizing its capabilities of the Subaru Telescope. In the current plan, ULTIMATE-Subaru will exploit Ground Layer AO (GLAO) system to offer wide-field (15'x15') capability (imaging/MOS spectroscopy/multi-IFS) in NIR, and is expected to become a "core platform" of international collaboration in science and instrumentation at the Subaru Telescope in 2020s. The goal of this meeting is to share the current status and timeline of ULTIMATE-Subaru project between the core institutes (ANU/AAO/NRC/ASIAA), and to establish an (pre-)official partnership by defining the area of contribution from each partner institute.  Overview (Day-1): There was a report from ULTIMATE WG members on the current status of ULTIMATE-Subaru project, including the latest version of the AO simulation which is an on-going collaboration with ANU. We then had presentations by the invited representatives of each partner institute on their scientific/technical interests on ULTIMATE-Subaru. Finally, we had a detailed discussion on the possible collaboration between the partners, project management, and A/Is toward the Conceptual Design Review (CoDR) scheduled in July 2018.  Overview (Day-2): The 2 <sup>nd</sup> day was mostly devoted for science team discussion to summarize A/Is toward the CoDR. We first had a report from the chairs of five science subgroups (high-z imaging/high-z MOS spectroscopy/ IFU science/nearby galaxies/Galactic science), and then had a discussion on survey design, and how to expand the science team, in particular focusing on how to establish a smooth communication and scientist network between the partner countries.			
Discussion on Subaru international operation during the workshop	(Please describe what you discussed toward the era of Subaru international operation) In addition to scientific interests, all the partners show strong interests in the development of GLAO and/or instrument of ULTIMATE-Subaru. In the current framework of Subaru international operation, instrument development will not be regarded as a contribution to the "telescope operation". This sounds complicated and perhaps discouraging for many of potential partner institutes having interests in technical contribution in ULTIMATE-Subaru. It is therefore very important to establish a framework which can accommodate interests in instrumentation to attract more countries/institutes in the world.			
Comments on the Subaru WS support program (if any)	It would be great if there is a guideline for the possible use of a part of the allocated budget to support lunch/dinner costs with foreign participants. Although this is not a scientific point at all – this might affect the impression of Subaru for possible partner countries.			

Note 1: You can adjust the size of the boxes as you want, but the report must be within 1-page. Note 2: Please attach the final WS program and participant lists when submitting this report.

# Participant List:

- Yosuke Minowa (co-chair, Subaru)
- Yusei Koyama (co-chair, Subaru)
- Ikuru Iwata (Subaru)
- Takashi Hattori (Subaru)
- Michitoshi Yoshida (Subaru)
- Ichi Tanaka (Subaru)
- Christophe Clergeon (Subaru) via zoom
- Nagayoshi Ohashi (Subaru)
- Yoshito Ono (Subaru)
- Naruhisa Takato (Subaru)
- Masayuki Akiyama (Tohoku)
- Tadayuki Kodama (Tohoku)
- Kentaro Motohara (U Tokyo)
- Yutaka Hayano (NAOJ)
- Hideki Takami (NAOJ)
- Chris Lidman (AAO) via zoom
- Simon Ellis (AAO)
- Luc Simard (NRC)
- Dennis Crabtree (NRC)
- Yen-Ting Lin (ASIAA)
- Shiang-Yu Wang (ASIAA)
- Visa Korkiakoski (ANU)
- Blair Conn (ANU)
- Masao Hayashi (NAOJ)
- Ken-ichi Tadaki (NAOJ)
- Tomoko Suzuki (NAOJ)

## **Program:**

### Jan 15th (Day1): Technical & Management Session

10:30-10:40 Opening announcement (Yusei Koyama)

### [Chair, Ono]

10:40-10:55 Opening remark (Michitoshi Yoshida)

10:55-11:25 ULTIMATE project overview (Yosuke Minowa)

11:25-11:45 ULTIMATE-START (Masayuki Akiyama)

11:45-12:05 ULTIMATE AO simulation (Visa Korkiakoski)

12:05-12:25 ULTIMATE instrument plan (Takashi Hattori)

12:25-14:00 Lunch Meeting

#### [Chair, Ohashi]

14:00-14:20 Collaboration framework (Ikuru Iwata)

14:20-14:40 AAO (Simon Ellis)

14:40-15:00 ANU (Blair Conn)

15:00-15:15 ASIAA (Shiang-Yu Wang)

15:15-15:30 ASIAA (Yen-Ting Lin)

15:30-15:50 NRC (Luc Simard)

15:50-16:15 Break

16:15-17:15 Discussion (I) - project management (Minowa)

(19:00- Banquet)

#### Jan 16 (Day2): Science Session

#### [Chair, Akiyama]

10:00-10:20 Science team status (Yusei Koyama)

10:20-10:40 High-z imaging (Tadayuki Kodama)

10:40-11:00 High-z MOS (Ken-ichi Tadaki)

11:00-11:20 IFU science (Chris Lidman)

11:20-11:40 Nearby galaxies (Kentaro Motohara)

11:40-12:00 Galactic science (Yusei Koyama)

12:00-14:00 Lunch

14:00-15:00 Discussion (II) - Science (Koyama)

15:00-15:15 Break

15:15-15:50 Summary - A/I toward CoDR2018 (Minowa, Koyama)

15:50-16:00 Closing remarks (Yoshida)