

# Framework for the International Partnership with the Subaru Telescope

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# Discussion at the last Subaru UM and Partnership WS in March 2017

- Framework for the international partnership was discussed based on the case where Australia was going to be the first international partner.
  - In advance to the last Subaru UM, Japan and Australia had been discussing details of the framework for the partnership.
- However, Australia has decided to enter strategic partnership with ESO in May 2017.
- Although Subaru will still follow the basic framework and policy for the partnership we have been discussing some part of the framework should be reconsidered based on the latest situation and inputs from potential partners.

**Revised framework will be discussed at this session**

# Basic policy for the international partnership

- Subaru does not simply sell its machine time for each partner to make observations independently of other partners, including Japan; rather the framework should have a scheme, using which partners can share their machine time to run intermediate to larger scale observational programs.
- Time allocation of the telescope should be done based on the review of observation proposals with a single TAC.
  - Single TAC is ideal to maximize scientific outputs and also to promote scientific collaborations among partners.
  - Partners should be involved into the time allocation process.
- International partners should participate in the operation and the decision-making processes of the Subaru Telescope
  - The Subaru Telescope is going to establish Board and STC

# Potential Partners

- East Asian Observatory (EAO)
  - China, Korea, Taiwan
- Canada
- India
- It would be difficult for Australia to be an international partner until 2027 although there might be still a possibility that Australia could collaborate on instrumentation/AO developments with Subaru (discussed later)

# Two categories of the partner(I)

- Full partner(FP); this is the partner we have been previously discussed
  - Full access to the machine time, including SSP
  - Full participation in decision-making process
  - More than 2 M USD contribution (including in-kind cont.)
- Semi-partner(SP); newly introduced category
  - Limited access to the machine time
  - Limited participation in decision-making process
  - More than 500 K USD (up to 2 M USD) contribution *in cash only*

# Benefit and responsibility of the partner

|                 |  | FP  | SP                            |
|-----------------|--|---|-------------------------------|
| Machine time    | Regional time                                    | ○   | ○                             |
|                 | Shared time                                      | ○   | ○                             |
|                 | SSP (or equivalent large program)*               | ○   |                               |
| Decision making | Time Allocation Committee (TAC)                  | ○   | ○                             |
|                 | Science and Technology Advisory Committee (STAC) | ○   |                               |
|                 | Board  | ○   |                               |
| Contribution    |  | > 2 M USD<br>(inc. in-kind<br>up to 20\$) | > 500 K USD<br>(in cash only) |
| Term            |  | 4 years<br>(renewable)                    | 2 years (up to<br>4 years?)   |

\*The current SSP using HSC and the next SSP using PFS are excluded

# Institutional Collaborator

- In addition to Full Partner and Semi-Partner, Institutional Collaborator (IC) may be also introduced for institutions that would like to make in-kind contributions on instrumental development
  - Note that in-kind contributions on instrumental development are not counted as contributions to be a partner.
  - At least in-kind contribution equivalent to 100 K USD (up to 500 K USD)
  - Eligible to access to International time (e.g., up to 5% of the total available observation time)

International Time: Subaru has allocated “international time” (up to ~20% of the total available time for Open-Use), which can be accessed by anybody in the world. In order to promote the international partnership, Subaru plans to **reduce the amount of international time**, and to allow **general non-Japanese users to have limited access to International time**.

# Benefit and responsibility of the partner and collaborator

|                 |  | FP                                     | SP                            | IC                                     |
|-----------------|--|--|-------------------------------|--|
| Machine time    | Regional time                                    | ○                                      | ○                             |  |
|                 | Shared time                                      | ○                                      | ○                             |  |
|                 | SSP (or equivalent large program)*               | ○                                      |                               |  |
|                 | International time                               |  |                               | ○                                      |
| Decision making | Time Allocation Committee (TAC)                  | ○                                      | ○                             |  |
|                 | Science and Technology Advisory Committee (STAC) | ○                                      |                               |  |
|                 | Board  | ○                                      |                               |  |
| Contribution    |  | > 2 M USD<br>(inc. in-kind up to 20\$) | > 500 K USD<br>(in cash only) | > 100 K USD<br>(in kind on inst. Dev.) |
| Term            |  | 4 years (renewable)                    | 2 years (up to 4 yrs?)        | ??                                     |

\*The current SSP using HSC and the next SSP using PFS are excluded



# Observation time for partners

Discussion  
point

- All the available nights for science observations except for the UH time, international time, and DDT are allocated to each partner as Regional Time based on their contribution. Regional Time is divided as follows;
  - Regional Guaranteed Time (RGT): observation time allocated to each partner as guaranteed time while a part of regional time is shared by all the partners as explained below
  - Time for SSP or equivalent large program: A part of Regional Time (e.g., 30%) of Full Partner is pooled for SSP or equivalent large program
  - Shared Time (ST): A part of Regional time (e.g., 25%) except for the time for SSP is pooled as Shared Time and shared by partners to allow them to run medium to large scale programs



# How to share observation time among partners?

- Subaru basically encourages to collaborate among partners, but cannot force to do it. We try to introduce a scheme, using which partners can share observations time (TBD);
- Time for SSP is going to be shared among partners
  - Note that the number of scientists from each partner may have to be limited.
- Shared Time (ST) is going to be shared among partners to run intermediate-scale program, such as intensive program.
- We may also introduce to combine RGT to collaborate among partners.

# Discussion points

- New framework of the partnership
  - Full partner, Semi-partner, Institutional Collaborator
- Sharing observation time among partners
  - Ok with this idea? What is the scheme to share time?
- International time
  - In order to encourage to be partners, we consider to significantly reduce international time. Appropriate size? 5%?

Framework for the partnership is going to be discussed by the working group established by EAO