

すばる望遠鏡の国際協力への提言

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### すばる望遠鏡の国際協力



装置開発

共同研究

## Keck/Gemini Time Exchange

Gemini-N/S

**Keck-I several nights Keck-II** several nights LGS-AO maximum 2 nights



### 共同研究の仕組みを作る Keck/UC/Cal Tech

Both Keck and Subaru communities must prepare for coming of TMT

Time trades – continue, expand current arrangement as instrumentation becomes more complementary

Collaborative large scale projects that engage members of both user communities

**Coordinated instrument development** 

### Science Collaboration with Keck

Questions –

What is demand for time trades? What will it be in the future?

Are collaborative projects worth pursuing?

If so, how to encourage, foster?

Is coordinated instrument development worth pursuing?

- how to engage?



## Time Exchange with Gemini

- Subaru Intensive / Gemini Large and Long Programs

- Gemini Fast Turnaround
- The exchange of time between the Gemini and Subaru communities will continue in 2017B. Gemini expects to be able to exchange a minimum of 5 nights in semester 2017B.





### Science Project with VLT/ESO

#### Dear Professor Arimoto -

I am planning a trip to North America, probably 14-22 June, hoping to visit both Hawaii and Baltimore.

I wonder if you could let me know if it would be possible to meet during my visit, with a view to discussing whether there is common ground on the issue of swapping time between Subaru Telescope and ESO facilities?

Rob Ivison
ESO Director for Science
2016/5/25

## Science Project with VLT/ESO

120 VLT + 120 Subaru nights

- ESO will commit up to 12 VLT nights per semester from early 2018, using any ESO instrument, over as many as 10 semesters, with a matched commitment from the Subaru side. We will support one or more very large projects tackling important issues, projects which would not be possible with only one of the partners, involving groups that span the ESO-Subaru communities.



A. Vazdekis (IAC, Spain)

# Collaboration with Korea TMT-GMT Synergy

Now that Japan strongly support the TMT and Korea being a member of the GMT, the collaboration using

both telescopes in 2020s will be a great synergy.
I think now Korea – Japan WSssing how we work to Seoul, 2012/11/15-16<sup>r ELT</sup> era.
For this, I suggest you to form a meeting of a small

group, though would grow in number, of optical astronomers to brainstorm how to do collaborative research, both in science and in instrumentation in the interim period before the large telescope in hand.

Byeong-Gon Park (PI of the Korean GMT project) 2011/07/22

### Approach from KASI to Subaru

2013-10-31

I know that Subaru will invite international partners in the (near?) future, from the discussion with you before. I wonder whether you can give me any idea when it would actually happen.

We have secured some fund for Large Telescope Access Program and we are making action plans and scenarios for the year of 2014, and beyond.

So, if I have some better idea on your timeline plan for a new partner to Subaru, then I will be able to put some input to our plan for Subaru.

Narae Hwang, PhD
Project Scientist, K-GMT Project Office (KASI)



#### Gemini-K: Current Status

- KASI joins Gemini as Limited-term Partner
- K-GMT Science Program
  - 2015~: 10 nights / semester
  - Open to observing proposals from Korean community



#### Gemini e-Newscast #64

October 23, 2014

#### KASI Joins Gemini as a Limited-term Partner

The Korea Astronomy and Space Sciences Institute (KASI) will be a limitedterm partner of Gemini in 2015. A memorandum of understanding is signed, providing the Korean community access to both telescopes. The total amount of time available is roughly 20 nights over the year. We look forward to working with our new partner!





#### **Chinese TAP**

The Telescope Access Program (TAP) was started in 2011 to provide access to international optical-infrared telescope facilities to astronomers based in China. TAP currently allocates time on four telescopes: the Canada-France-Hawaii Telescope (CFHT), the Palomar 5.1m (P200), the MMT, and the Magellan telescopes. TAP is designed to provide China-based principal investigators (PIs) access to facilities that allow them to carry out their science programs, train students and postdocs, and initiate international collaboration.

**Scientific Organizing Committee** 

Gang Zhao (NAOC) Eric Peng (PKU) Shude Mao (NAOC) Suijian Xue (NAOC)

#### Subaru - LAMOST Collaboration

I'm writing this message to talk with you about the possibility of hosting a Subaru-LAMOST op. It would be quite interesting and hold such a joint mini-workshop, Subaru will be one important facilities sinc esearches of LAMOST science MOSTh as now started the regular survey, AsL uld expect that such a joint workshop be a we od opportunity to start-up a long-term to prompt East-Asia astronomy. boratio

> Gang ZHAO (NAOC) 2012/12/13





- 1. The Parties agree to a long-term collaboration between Japan and Taiwan on the Subaru Telescope.
- 2. The Parties agree that ASIAA will aim to continue to raise the funds and develop the technology to: (a) participate in and to complete the construction of the HSC, the PFS, and the related upgrading of Subaru's prime focus capability, which are unique among the existing 8-10m class telescopes in the world, (b) participate in and to complete the upgrade to the Multi-Object InfraRed Camera and Spectrograph for integral-field spectroscopy (nuMOIRCS).

### **MOU** with ASIAA

- 3. The Parties will exchange engineers, scientists, graduate students in order to conduct joint development of technology and to conduct joint experiments and science campaign programs.
- 4. Subaru Telescope is accessed through the competitive observing proposal basis. The Parties in particular encourage and assist Taiwanese researchers to submit successful proposals, via cooperative and collaborative efforts.

#### Subaru Winter School 12/7 – 12/9, 2016 NCU, Taiwan



#### **Subaru School in Vietnam**

I would like to thank you again for your visit at ICISE this summer. We are very honoured.

During a lunch time, we have talked about a possibility to organize a school or workshop about the SUBARU Telescope.

Do you think if it is possible for the summer of 2017? We would love to host such a school organized by Subaru collaboration and ICISE.

Jean Tran Thanh Van 2016/09/23

## Rencontres du Vietnam

The International Center for Interdisciplinary Science and Education (ICISE)

The Centre will also host several two-week thematic schools, involving groups of 40 to 50 students and junior researchers, coming mainly from South East Asia, accompanied by senior lecturers from Asia, Australia, Europe and the Americas.





ACADEMY OF SCIENCE JULY 2015

#### Australia in the era of global astronomy

The decadal plan for Australian astronomy 2016-2025



#### **Fundamental Question** of the Universe

How did the first stars and galaxies transform the Universe?

What is the Nature of Dark Matter and Dark Energy?

# How do Galaxies Form and Evolve across Cosmic Time?

How do Stars and Planets Form?

How Are Elements Produced by Stars and Recycled through Galaxies?

# What is the Nature of Matter and Gravity at Extreme Densities?

### **New Strategic Program**

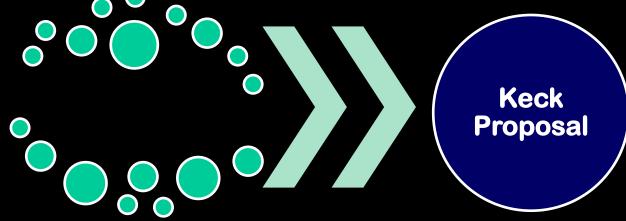
for each science





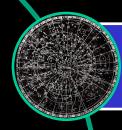
### **Proposal Review**







### まとめ



#### すばる国際共同研究枠



観測所は仕組みを整える



時間の獲得は競争で