



K-GMT Perspective on Collaboration with Subaru Telescope

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❖ an official interface bet. KASI and GMTO
(~30 people incl. researchers, engineers, supporting staffs, etc.)

**K-GMT
Management**

**K-GMT Optical
Astronomical
Technology Group**

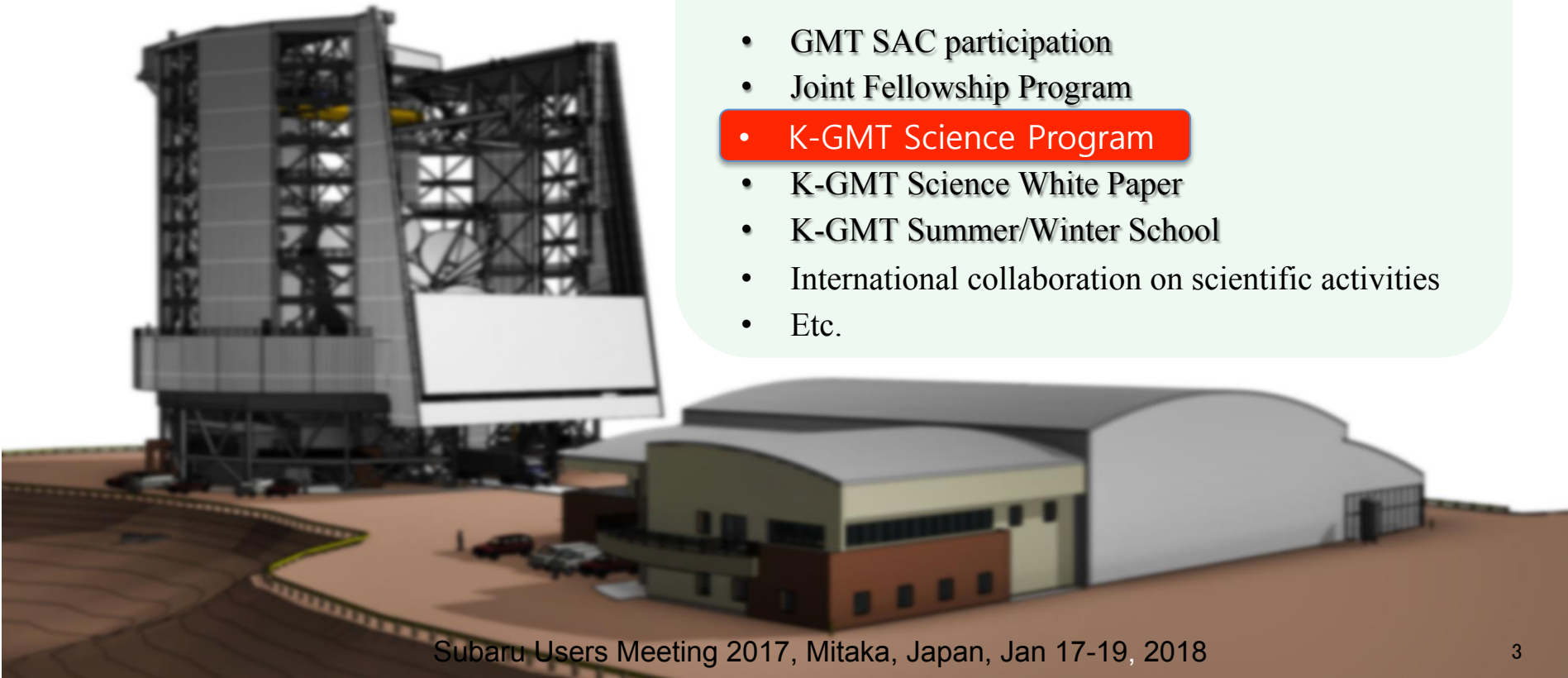
**K-GMT
Science Group
(KGSG)**

K-GMT Science Group: Missions

To Lead and Support the Development of Research Capability of the Community

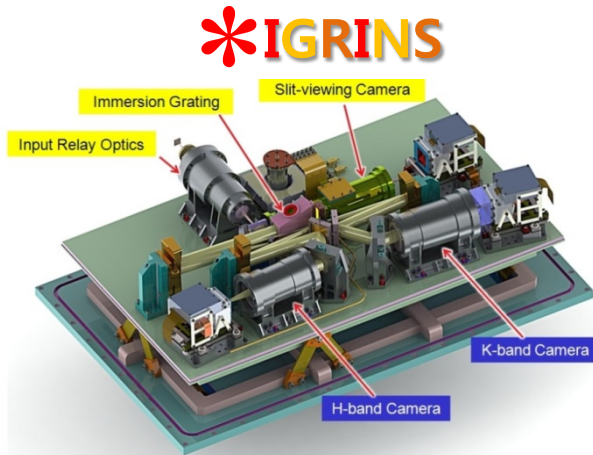
KGSG Operations include:

- GMT SAC participation
- Joint Fellowship Program
- **K-GMT Science Program**
- K-GMT Science White Paper
- K-GMT Summer/Winter School
- International collaboration on scientific activities
- Etc.



K-GMT Science Program

- Provides Korean community with access to large telescope/observing facilities
 - Phase I: 2009~2013
 - Phase II: 2014~
 - Open time to Korean community
 - MMT: 2014~ (thru collaboration w/ U of Arizona)
 - Gemini: 2015~ (thru LTP w/ Gemini/AURA)
 - IGRINS: @McD/DCT(2014~), @Gemini-South(2018A)



K-GMT Science Program

Acting as an interface bet. Korea and Observatories
i.e. "virtual observatory"

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K-GMT Science Program

TAC
Obs. Support
Tech. Support



한국천문학회
THE KOREAN ASTRONOMICAL SOCIETY



McDonald Observatory
The University of Texas at Austin



The MMT Observatory
A joint facility of The Smithsonian Institution and The University of Arizona



K-GMT Science Program

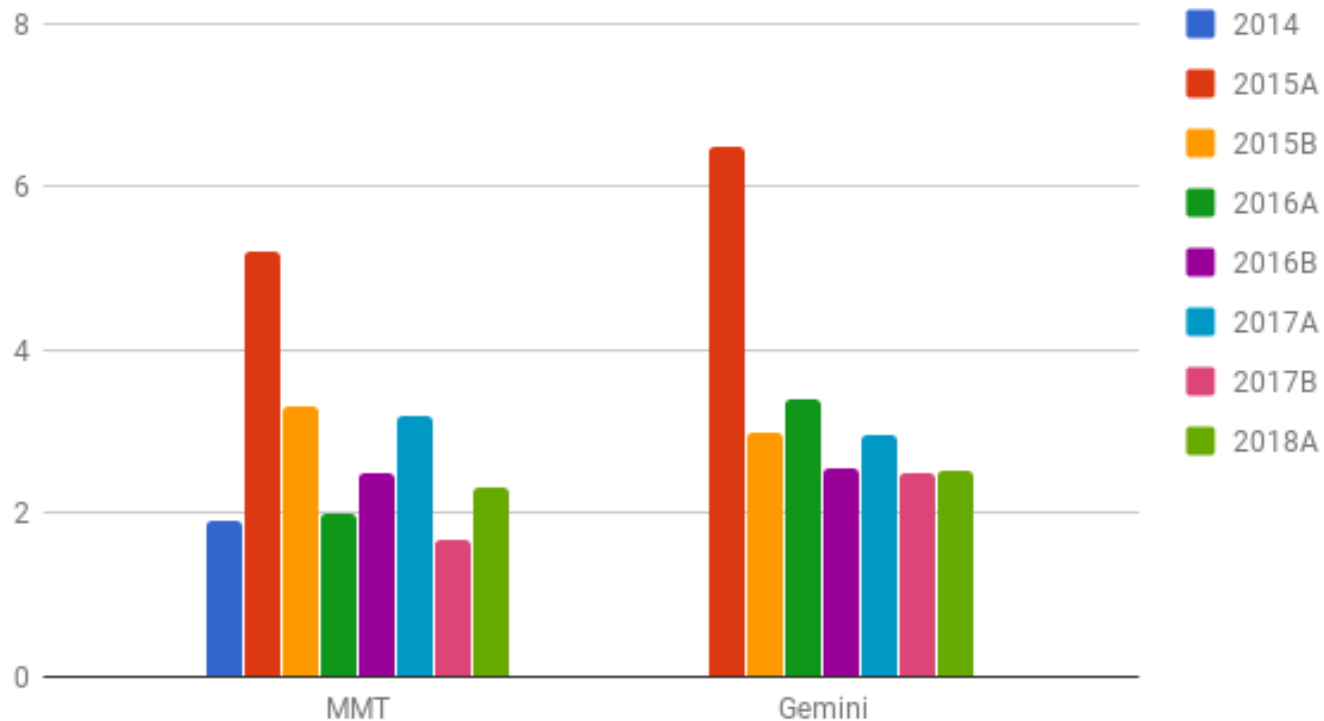
Aim to expand the program to include GMT and to establish "K-GMT Observatory" system



K-GMT Science Program

- Proposal Call:
 - 2 times per year (March, Sept)
 - Oversubscription rate ~ 3.0 (on average)
 - **About 100 programs were allocated from 2015 to 2018A**

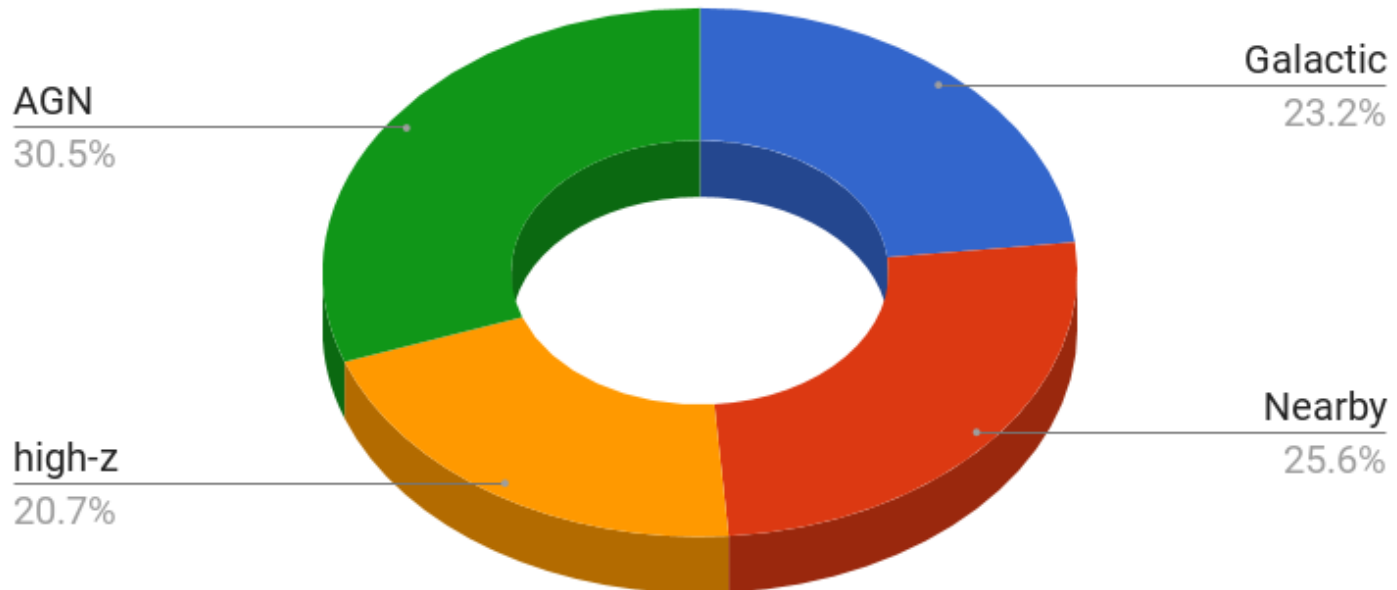
K-GMT SP Subscription Rate



K-GMT Science Program

- Research Topics (2015~2018A)

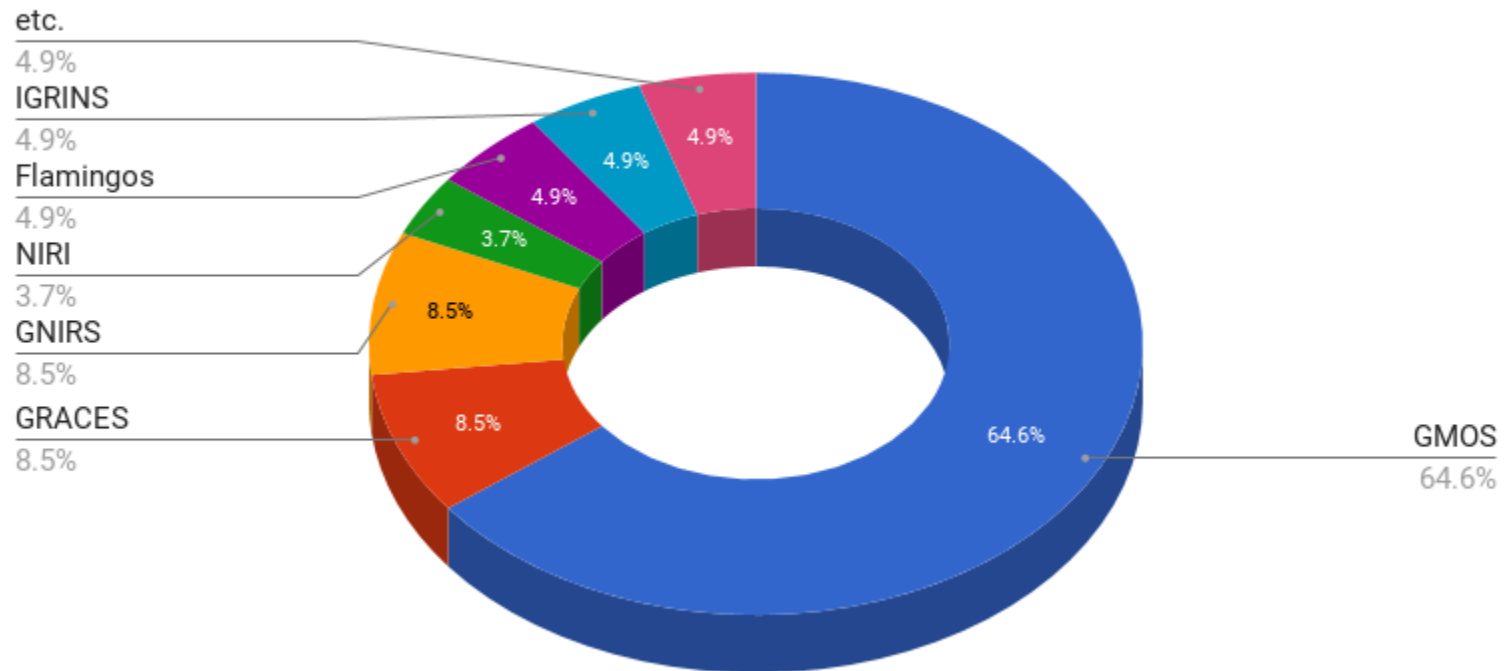
K-GMT SP Science Topics



K-GMT Science Program

- Instruments in Demand

K-GMT SP Gemini Instruments Used



K-GMT Science Program

- IGRINS subscription from Gemini community

INSTRUMENTATION (2018A)

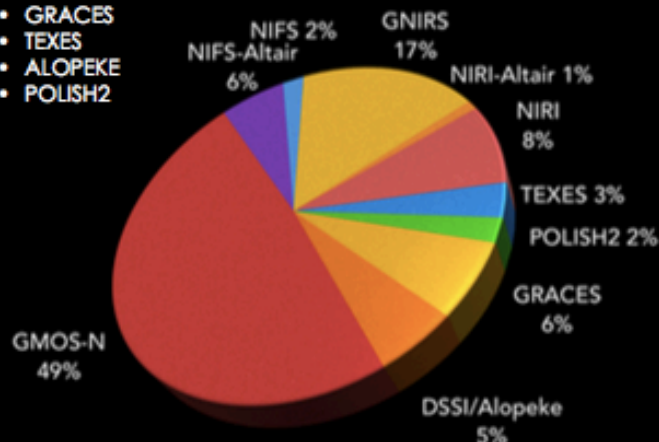
Gemini North

FACILITY

- GMOS (0.36-0.95 μm multi-object, long-slit and IFU spectrograph and imager) 2001
- NIRI (1-5 μm imager) 2001
- NIFS (1.0-2.5 μm integral field spectrograph) 2006
- GNIRS (1-5 μm long-slit and 0.9-2.5 μm cross-dispersed spectrograph) 2004
- AO system: ALTair 2004

VISITING (2018A)

- GRACES
- TEXES
- ALOPEKE
- POLISH2



(Charts show time requested, not approved)

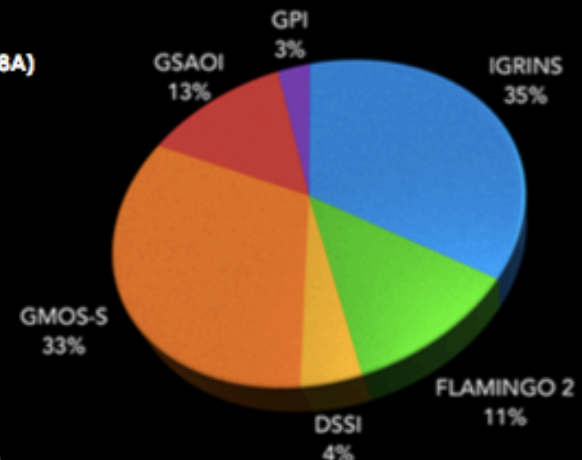
Gemini South

FACILITY

- GMOS (0.36-0.95 μm multi-object, long-slit and IFU spectrograph and imager) 2002
- GSAOI (0.9-2.4 μm high-resolution imager for use with Multi-Conjugate Adaptive Optics system "GeMS") 2013
- GPI (0.9-2.4 μm adaptive-optics imaging polarimeter/ integral-field spectrometer) 2014
- FLAMINGOS-2 (1.0-2.4 μm long-slit spectrograph and imager) 2013
- AO system: GeMS (Multi-conjugate adaptive optics system, GSAOI and Flamingo 2) 2013

VISITING (2018A)

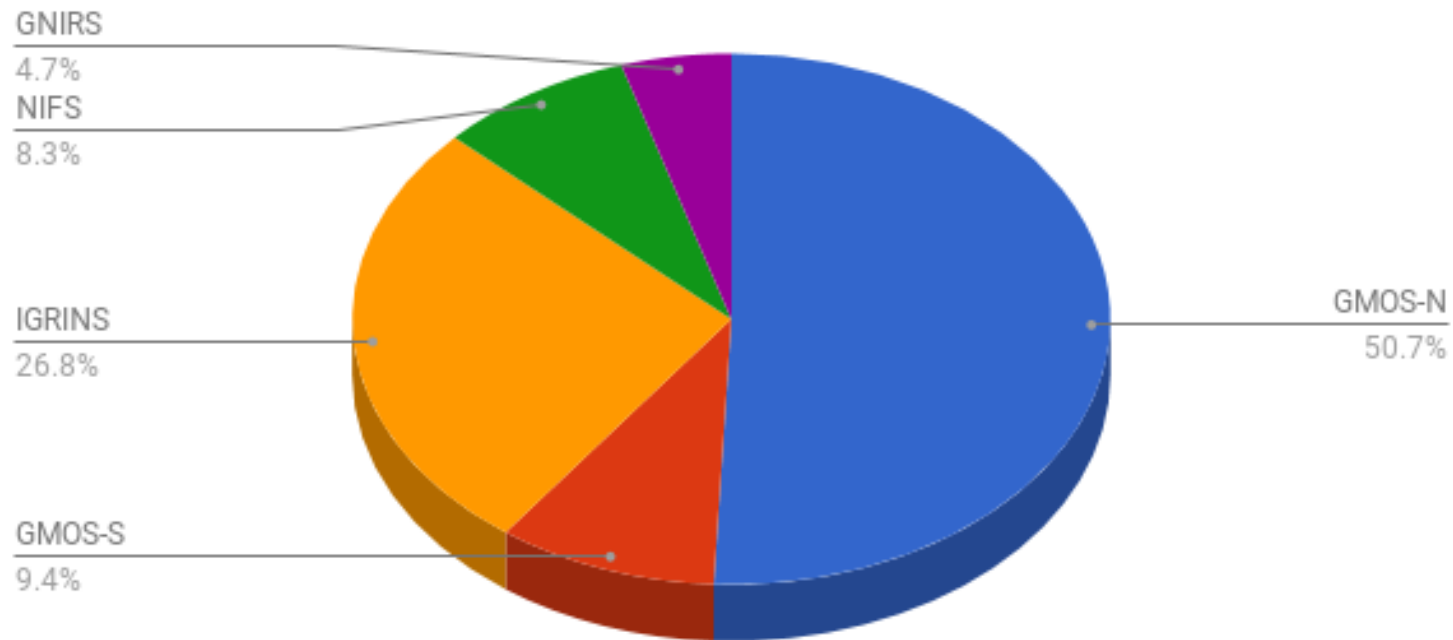
- DSSI
- IGRINS



K-GMT Science Program

- Allocation in 2018A (Gemini)

2018A Gemini Allocation of Korean programs



K-GMT SP: Publications

- 42 papers in total (2014~)
 - Phase I (2009~2013) - AAT: 1, UKIRT:2 papers
 - Phase II (2014~) - CFHT: 3, MMT: 5, Gemini: 7 papers
 - IGRINS: 14+13 (KASI) papers
 - <http://kgmt.kasi.re.kr/kgmtscience/content/publication-science-program>
 - **Including 2 PhD thesis papers (as of 2018 Jan)**
 - Expecting more

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K-GMT Science Program

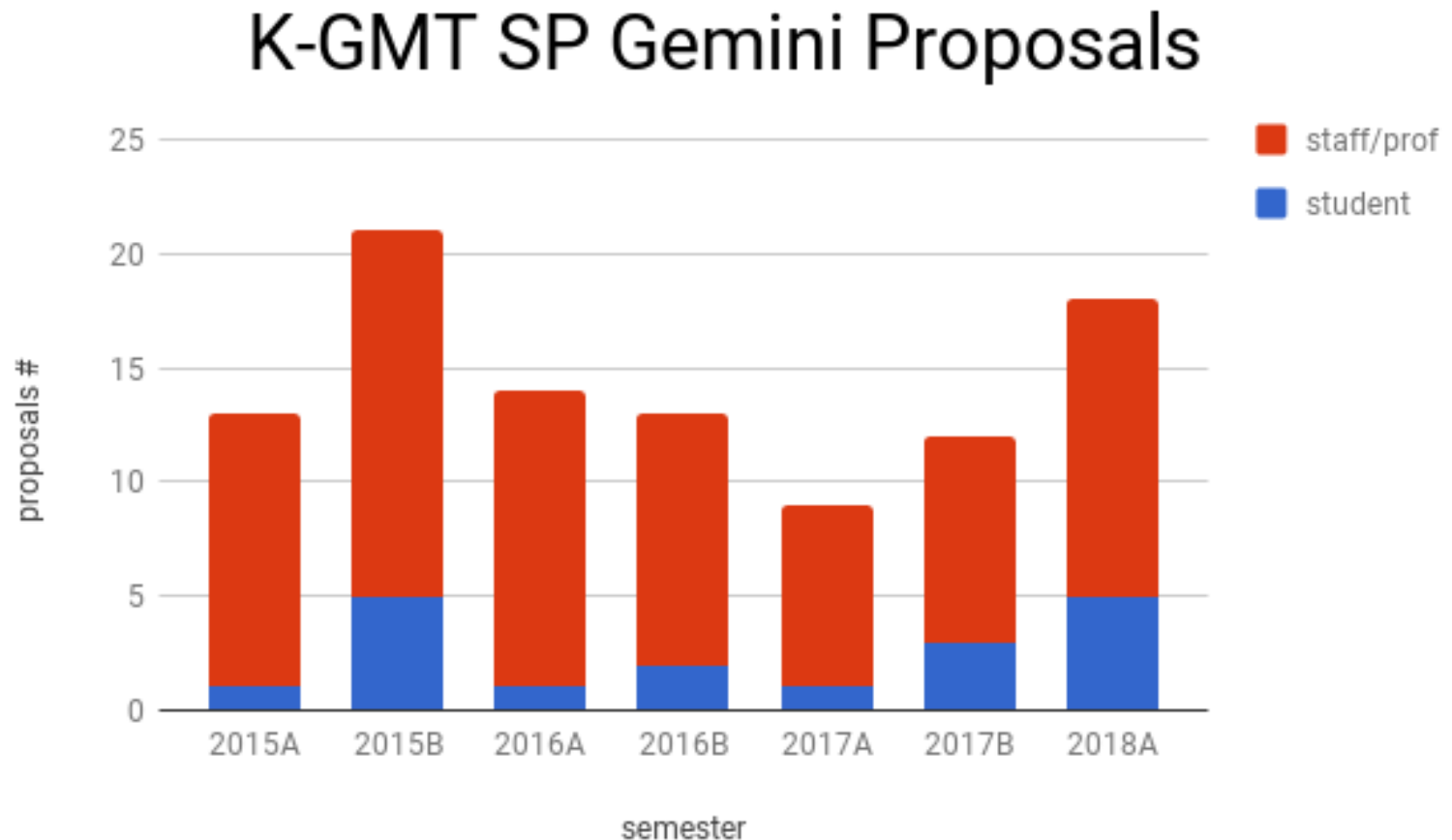
IGRINS - CIP for 2017 Trimester 2

Publication of K-GMT Science Program



K-GMT Science Program

- also supports students' thesis programs
 - thru K-GMT TAC system



K-GMT Science Program

- Currently trying to expand Gemini+MMT user base in Korea
 - About 100 programs allocated from 2015
 - Including about 10 PhD thesis projects
- It also helps expand 'prospect' Subaru user base
 - How many Korean programs have been allocated with Subaru since 2000?

Collaborations w/ Subaru

Korea-Japan collaborations on various levels

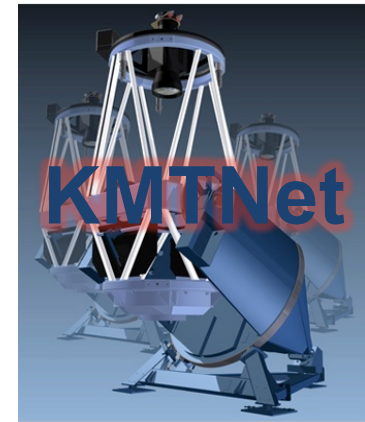
- 2013 Contacted Subaru for possible future partnership
- 2014 Feb. Subaru Winter School in KASI
- 2015 Oct. Dr. Arimoto attended KAS meeting
- 2016-2017 Feb Subaru UM FY2015, FY2016
- 2017 Oct. Dr. Yoshida attended KAS meeting

- Next?



K-GMT SP in Future

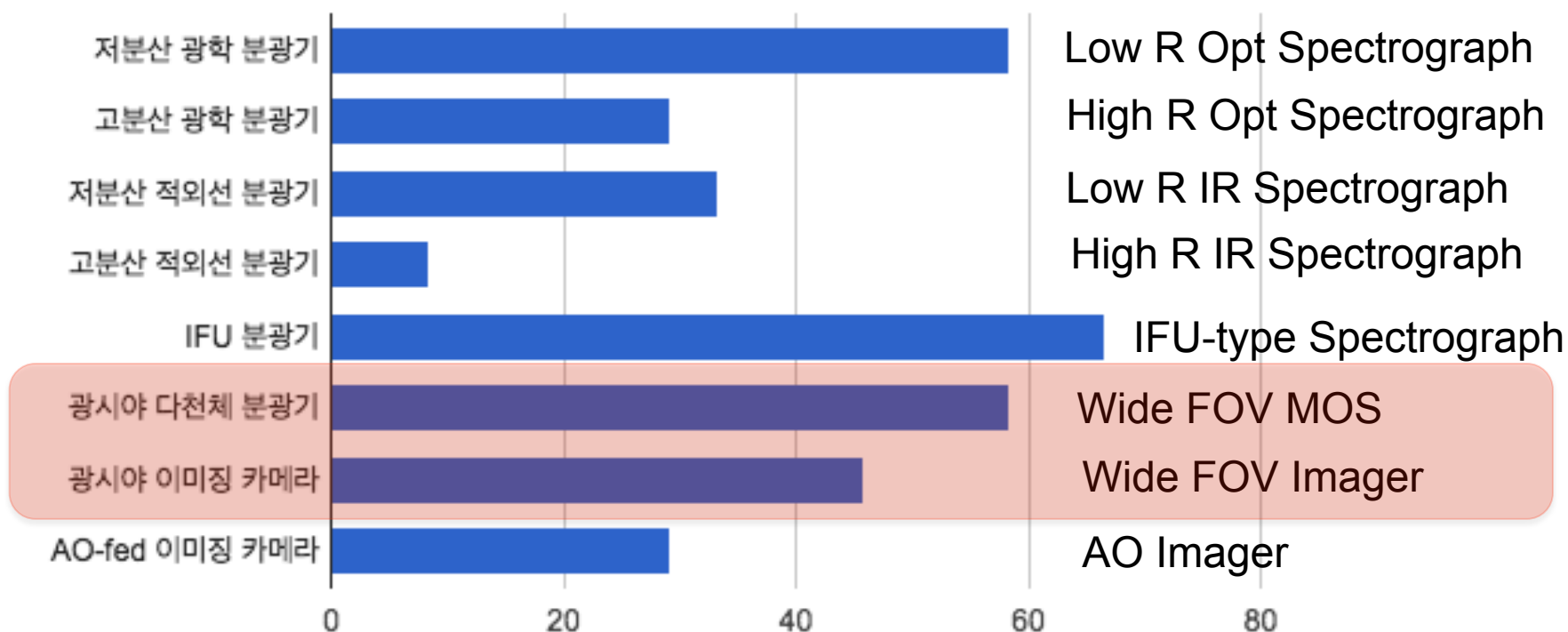
- Gemini:
 - Plan to use in combination with ALMA, KMTNet, LSST, GMT
 - Will be a major component of future 'K-GMT Observatory'



- MMT/Magellan:
 - Confirmed until 2018 based on collaborations w/ U of Arizona
 - Expand to initiate KASI-Arizona Joint Postdoctoral Fellowship (1st fellow started to work at U of Arizona in Sep 2017)
- Subaru?

[e.g.] User Survey in 2016

What type of Instrument do you need?



K-GMT Science Program w/ Subaru

"K-GMT & Subaru Collaboration" network
that can also lead to future GMT & TMT collaboration!



Thank you