

The K-Way of Exploring the Universe and Sharing its Wonders

Narae Hwang
CfLAT, KASI

My GSMs in the Past

❖ 2015 Gemini Science Meeting in Toronto

◆ “Future & Science of Gemini Observatory”



◆ Gemini-K: Korean Perspective on Gemini Observatory



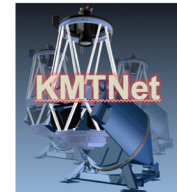
Gemini-K: 2016 and beyond

Gemini-K: Korean Perspective on Gemini Observatory

- KASI plans to stay with Gemini
 - as a limited-term partner in 2016
 - hopefully as a full partner thereafter
- KASI aims to promote science cases for...

Narae Hwang

Korea Astronomy and Space Science Institute (KASI)



My GSMs in the Past

❖ 2018 Gemini Science Meeting in San Francisco

◆ “Science and Evolution of Gemini Observatory”



◆ Gemini Observatory has gone through an important evolution, indeed.

Evolution of Gemini Partnership



Ministerio de Ciencia,
Tecnología e Innovación
Argentina



한국천문연구원
Korea Astronomy & Space Science Institute

My 3rd GSM (& 1st in Korea!)

❖ Gemini Observatory Science Meeting 2022

- ◆ No subtitle!
- ◆ Just ALL about Gemini Observatory!
- ◆ It's about many new things (evolution) to come in the Future!

NOIR Lab **GEMINI OBSERVATORY**
Exploring the Universe, Sharing its Wonders

GEMINI OBSERVATORY Science Meeting 2022

HOME PROGRAM WORKSHOPS PUBLIC EVENT 공개강연 VIRTUAL ATTENDEES TRAVEL & LOCAL INFO COVID-19 ORGANIZERS CODE OF CONDUCT REGISTRATION

K-Way of Exploring and Sharing

- ❖ Let me walk you through how we have done within Gemini Partnership
- ❖ And what we have accomplished in exploring and sharing the wonder of the Universe and Gemini itself

K-Way of Exploring the Universe w/ Gemini

CfLAT/KASI operates "K-GMT Science Program"
connecting Korean community and the Observatory

KASI 한국천문연구원

Center for Large Telescopes

Korean Gemini Office
(KGO)

TAC
Obs. Support
Tech. Support



한국천문학회
THE KOREAN ASTRONOMICAL SOCIETY

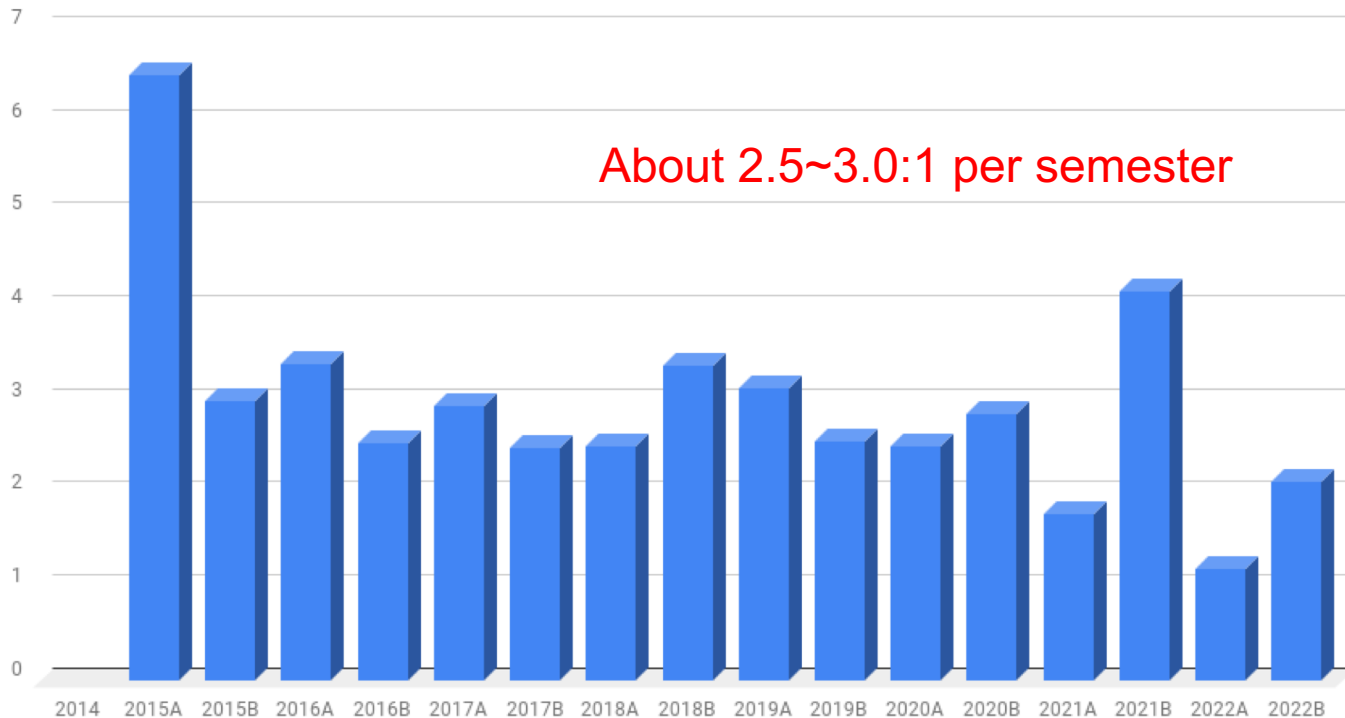


K-GMT Science Program

❖ Some Numbers on K-GMT Science Program

- ◆ Total 249 programs have been run or being run on Gemini since 2015
- ◆ About 400 programs were proposed and reviewed for Gemini time.

K-GMT Science Program (Gemini) Subscription Rates

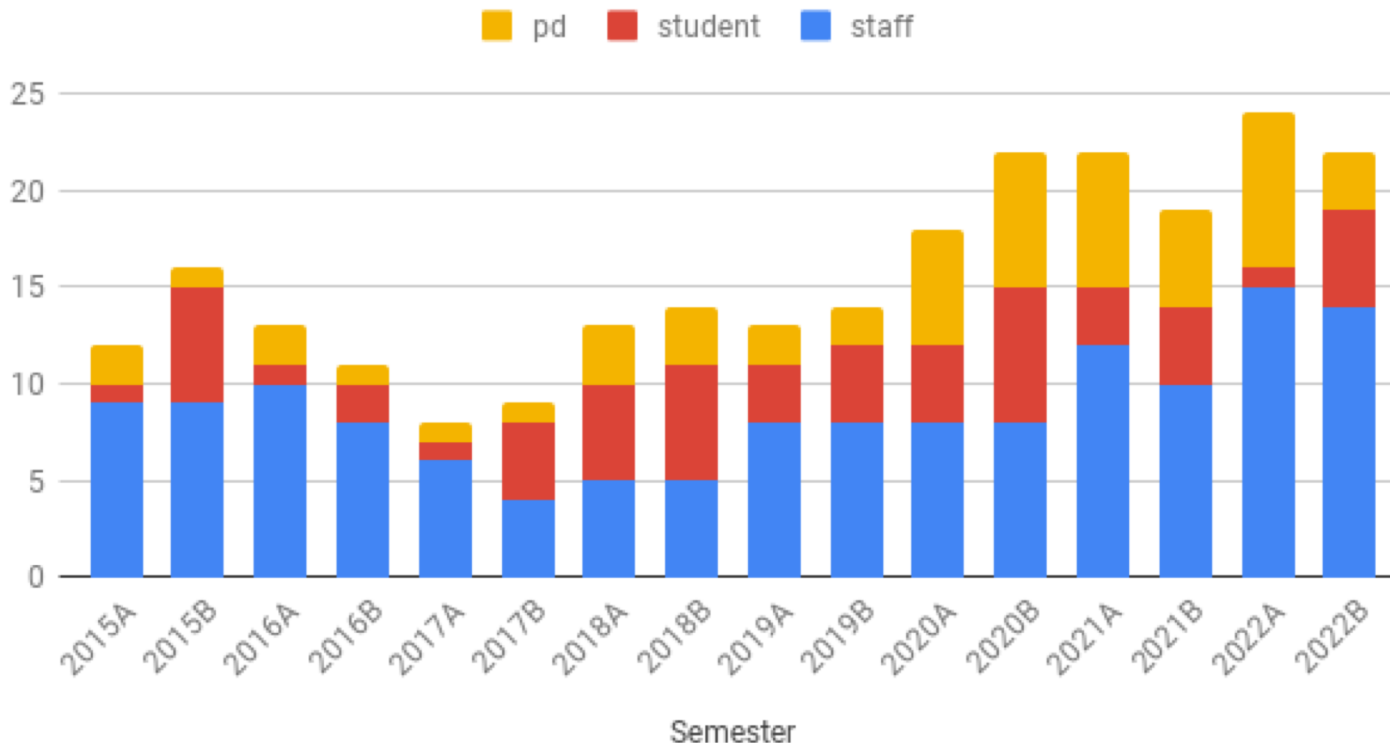


K-GMT Science Program

❖ Some Numbers on K-GMT Science Program

- ◆ Total 57 programs (about 23%) led by students, and 54 programs (about 22%) led by postdocs since 2015.

K-GMT Science Program (Gemini) PI status

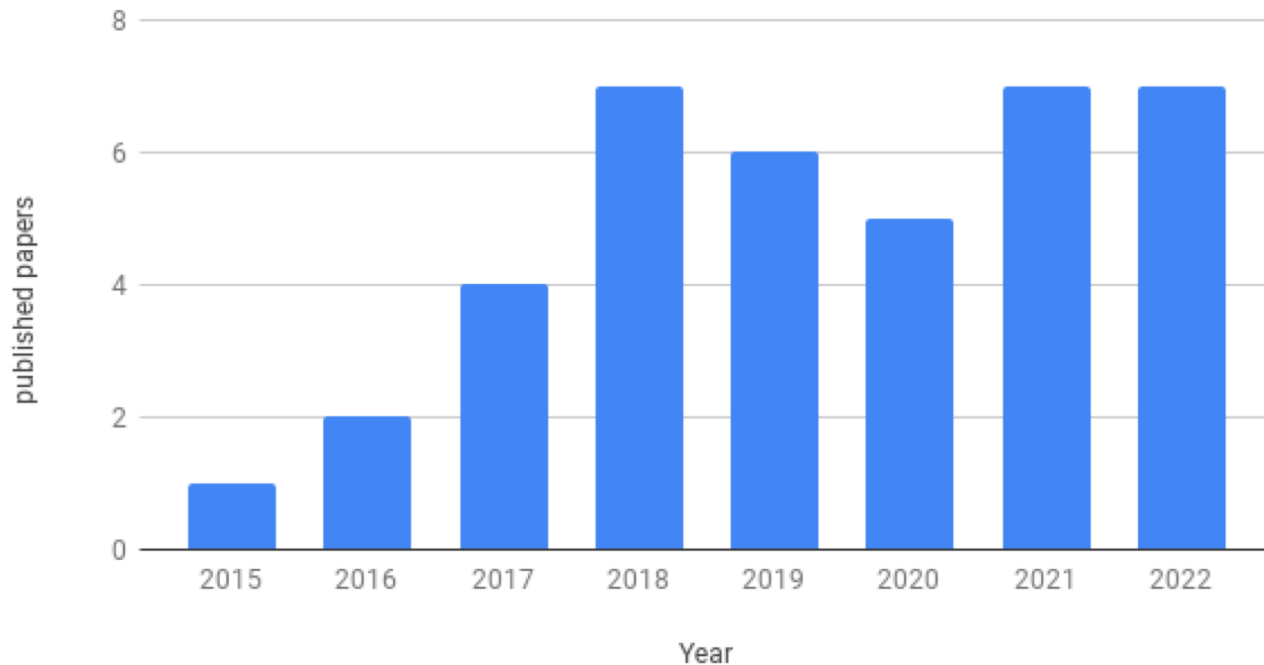


K-Way of Sharing the Wonder

❖ By publishing papers as usual

- ◆ Published papers from Korean time on Gemini (Gemini-K papers)
- ◆ Total 39 papers since 2015, still room for increase

Gemini publication from Korean time

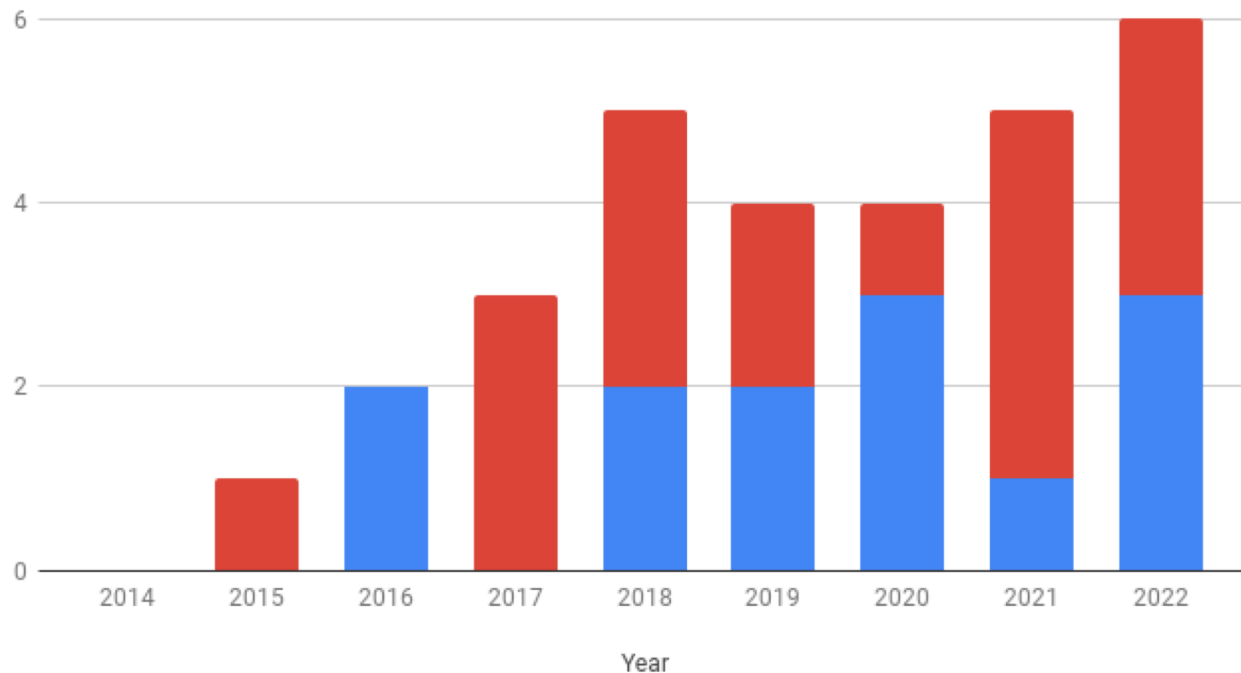


K-Way of Sharing the Wonder

❖ Publications led by Young researchers

◆ About 77% of all Gemini-K publications are led by young researchers

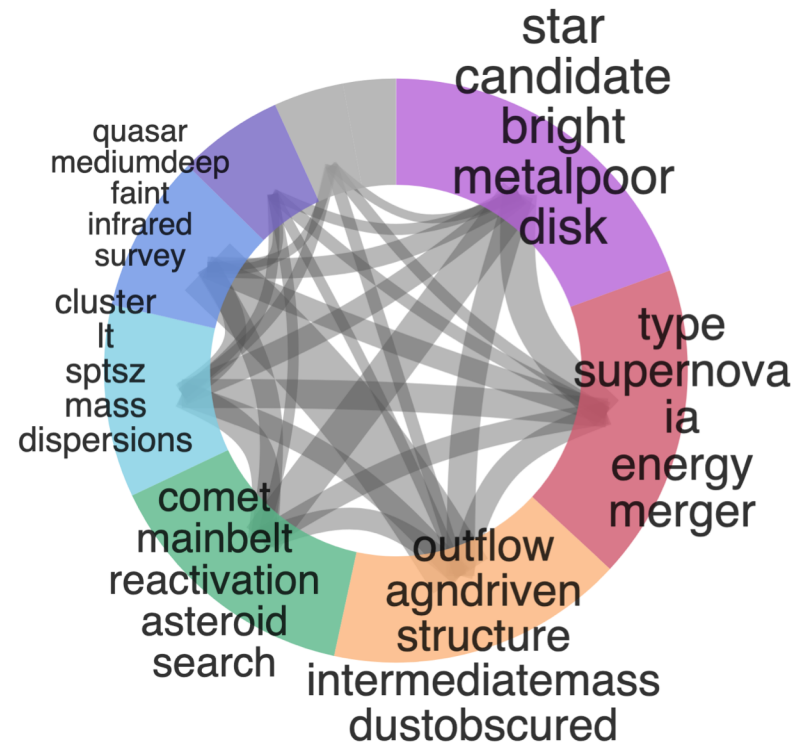
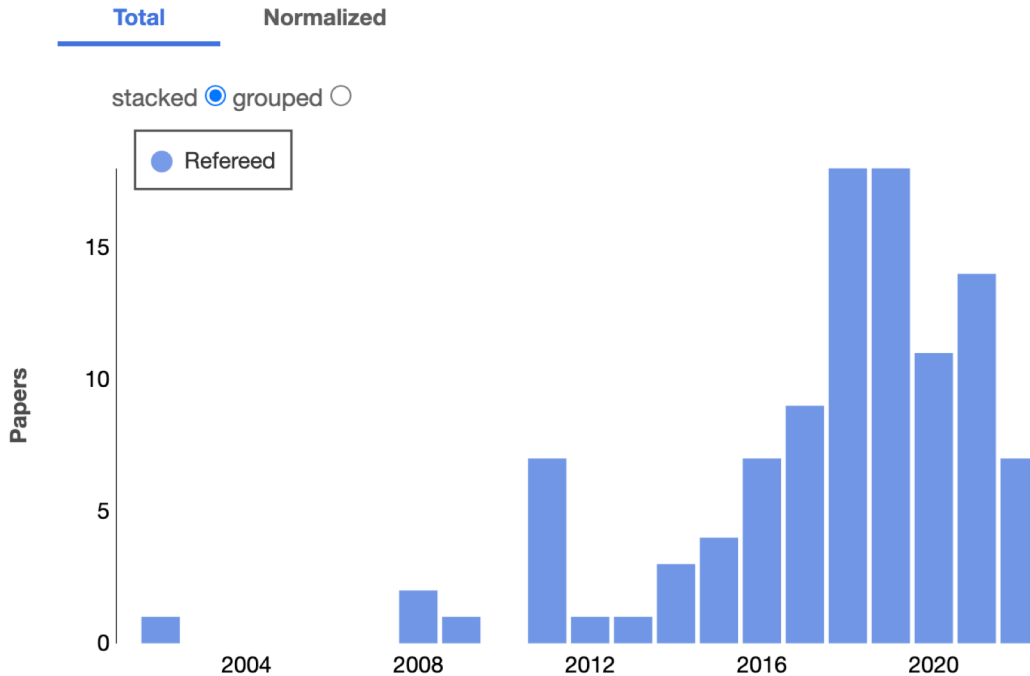
Gemini Publications led by Students (Red) and Postdoctors (Blue)



K-Way of Sharing the Wonder

❖ We do not stop at the boundary of Korean time

- ◆ ADS search of Gemini papers w/ researchers in Korea
- ◆ About 100 papers since 2000, and steeply increasing since 2015
- ◆ Sign of active engagement in global research networks thru Gemini



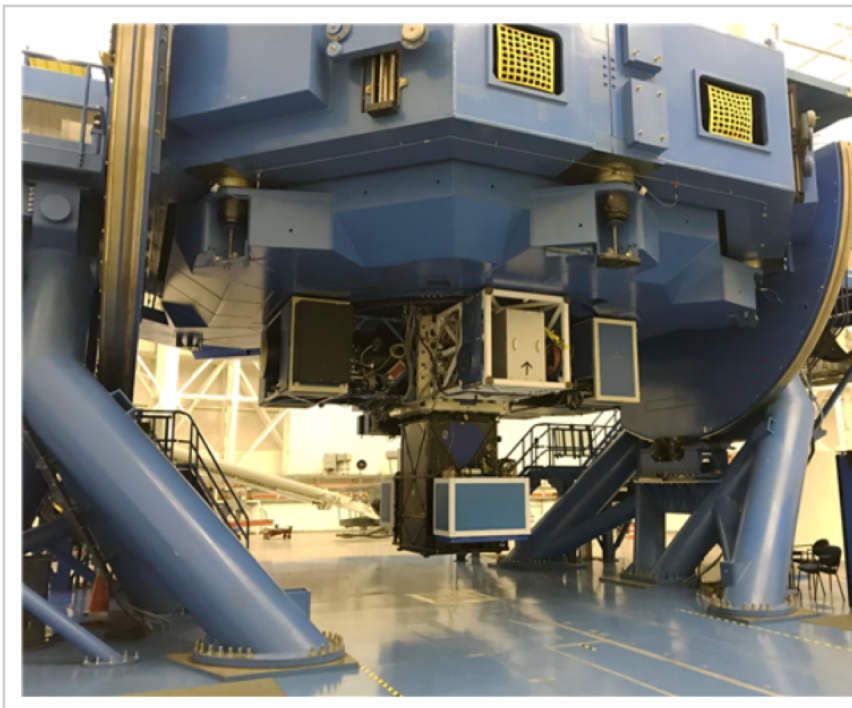
Some Examples of Sharing the Wonder

- ❖ intermediate mass BH by Jong-Hak Woo (2019) --
<https://noirlab.edu/public/news/gemini1904/>
- ❖ Fragmented Asteroid by Yoonyoung Kim (2018) --
<https://www.gemini.edu/node/12678>
- ❖ high-z quasars by Youngjung Kim, Myungshin Im (2017) --
<https://www.gemini.edu/node/12446>
- ❖ late stages of stellar lives by Heewon Lee (2015) --
<https://webarchive.gemini.edu/blog/index.html.19.html>
- ❖ there will be more to come in the future!

K-Way of Exploring the Universe w/ Gemini

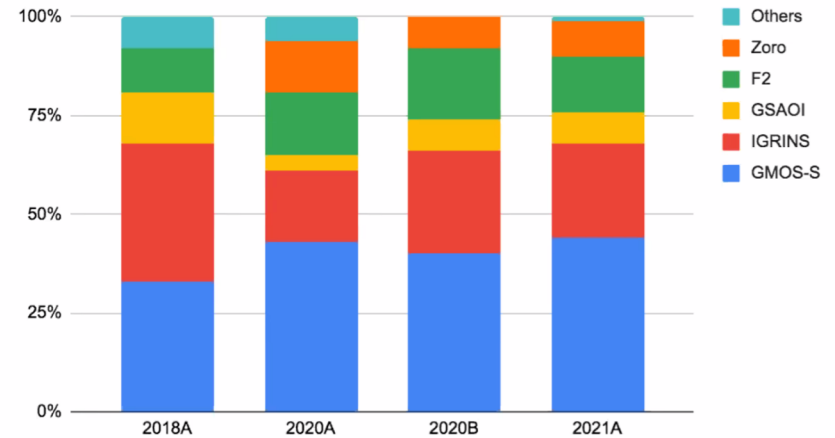
❖ We provide a new way of exploration to Gemini Community

◆ IGRINS – operating at Gemini South since 2018



IGRINS is popular among Gemini users

2018A, 2020A, 2020B and 2021A



Credit: Jae-Joon Lee (2020/11/30)

K-Way of Exploring the Universe w/ Gemini

- ❖ We help Gemini to keep the capability even longer
 - ◆ IGRINS-2 : new improved version of IGRINS, future facility instrument of Gemini North
 - ◆ Scheduled to commission in the latter half of 2023
 - ◆ see Heeyoung's talk today



K-Way of Exploring the Universe w/ Gemini

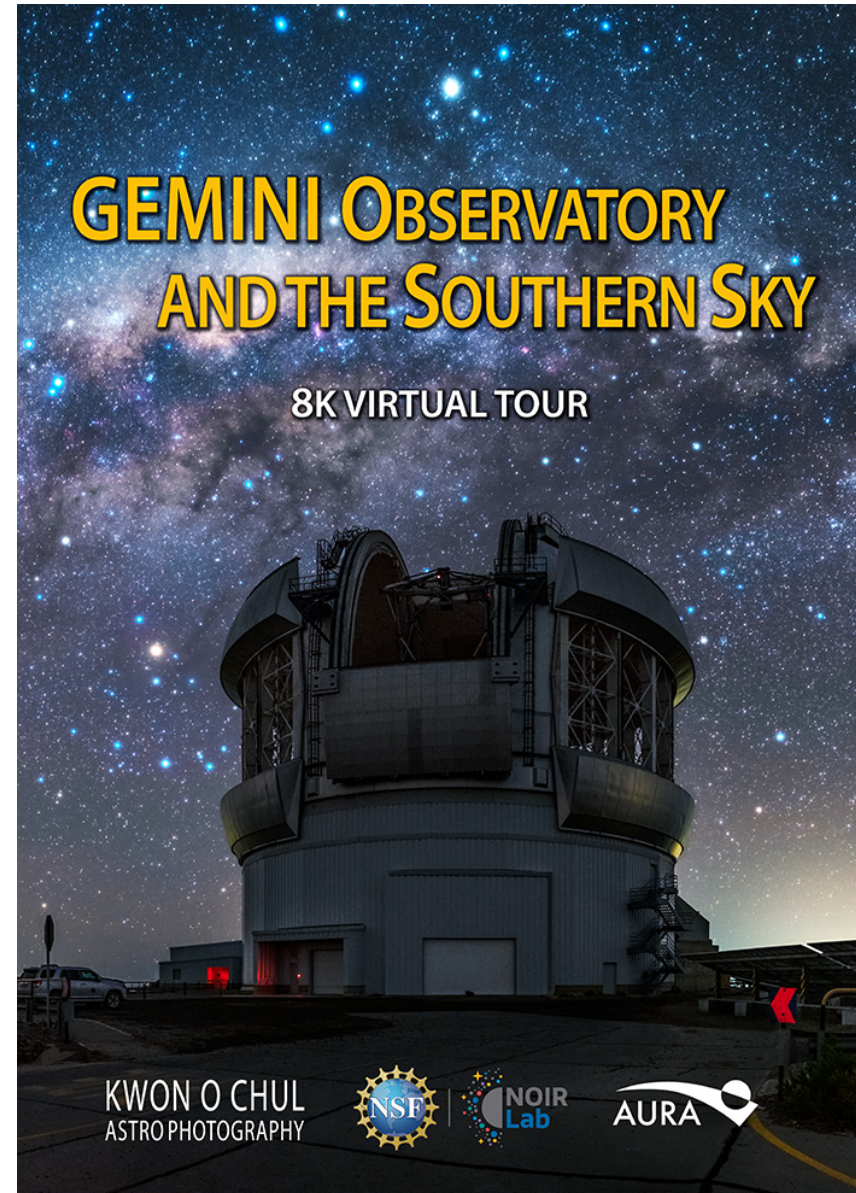
❖ And probably more to come in the future...

- ◆ We know some guys are always brooding over the idea of making a new instrument.
- ◆ They usually consider Gemini for their first choice of deployment.

We Share the Wonder of Gemini

❖ Public Outreach

- ◆ Gemini South 8K fulldome video by Kwon O Chul --
<https://noirlab.edu/public/videos/noirlab-okwon-gemini-shortshow/>
- ◆ “Live from Gemini” for Schools
- ◆ Etc.



We Share the Wonder of Gemini

- ❖ Special Public Event on 7/28
 - ◆ “The Magic of Astrophotography and Astronomy at Gemini Observatory”
 - ◆ Live streaming over Youtube
 - ◆ English translation is available
 - ◆ We share the joy and wonder of discovering universe with every people in various ways, and KASI and Korean community will be active partners in those efforts.

천체사진가 권오철의 제미니 천문대 촬영기

권오철
kwonochul.com

2022 7월 28일 목요일
오후 7시

밀레니엄 힐튼 서울
그랜드 볼룸 Seoul

천체사진가 권오철이 제미니 천문대를 여행하며 촬영한 사진과 이야기를 들려주는 시간.
한국천문연구원이 운영에 참여하고 있는 국제적인 천문시설에서 만난 망원경과 사람들 이야기.

Live streaming
youtube.com/c/GeminiObservatory

본 강연은 우리말로 진행되며
온라인으로 생중계 됩니다.

NOIRLab GEMINI OBSERVATORY AURA

NSF IAC CIRC ILNA Ministério de Ciência, Tecnologia e Inovação Argentina KASI 한국천문연구원

Looking into the Future

KASI's global network: current and future

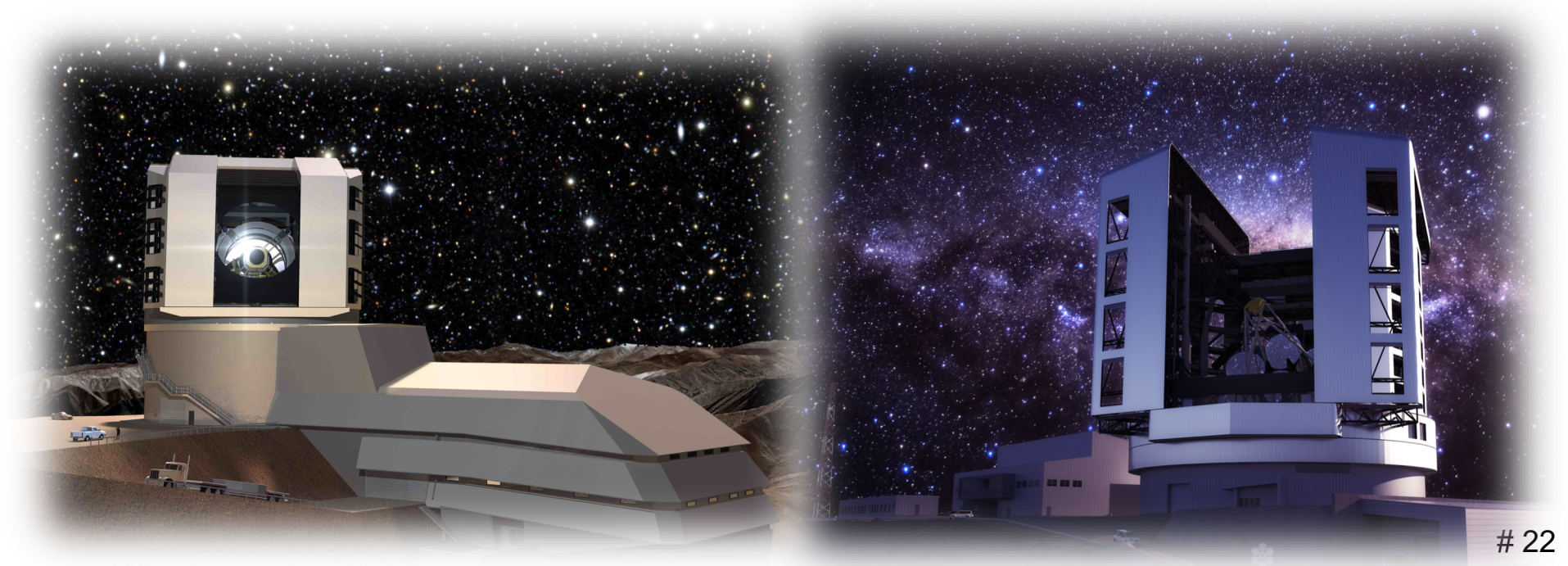
❖ KASI operates (directly and indirectly) many facilities worldwide

- ◆ Gemini Observatories are key optical facilities of KASI
- ◆ KASI will expand its network to include Rubin and GMT in Chile
- ◆ KASI is planning to station Research Staff in Chile



Future with Gemini and Beyond

- ❖ KASI's partnership with Gemini will grow into...
 - ◆ KASI-Rubin Collaboration
 - ◆ US-ELT Program Collaboration
 - ◆ Etc.
- ❖ ...more close partnership with NOIRLab/AURA as well as other Gemini partners



Future for Gemini Community

❖ Strength of Gemini

- ◆ High Time Resolution -- ToO, AEON, GHOST, etc.
- ◆ High Spatial Resolution – GeMS, GNAO
- ◆ Highly Flexible Operation

◆ And Gemini Partners with diverse backgrounds and interests

- ❖ Making and Shaping the Future in the way we want is much easier than predicting, and rewarding!
- ❖ KASI and Korean community will actively engage in the making of Gemini's future.

감사합니다 Thank you
Gracias Obrigado
Merci Mahalo

