

The 25th Anniversary

Institute of Astronomy

National Tsing Hua University

國立清華大學 天文研究所 廿五週年慶



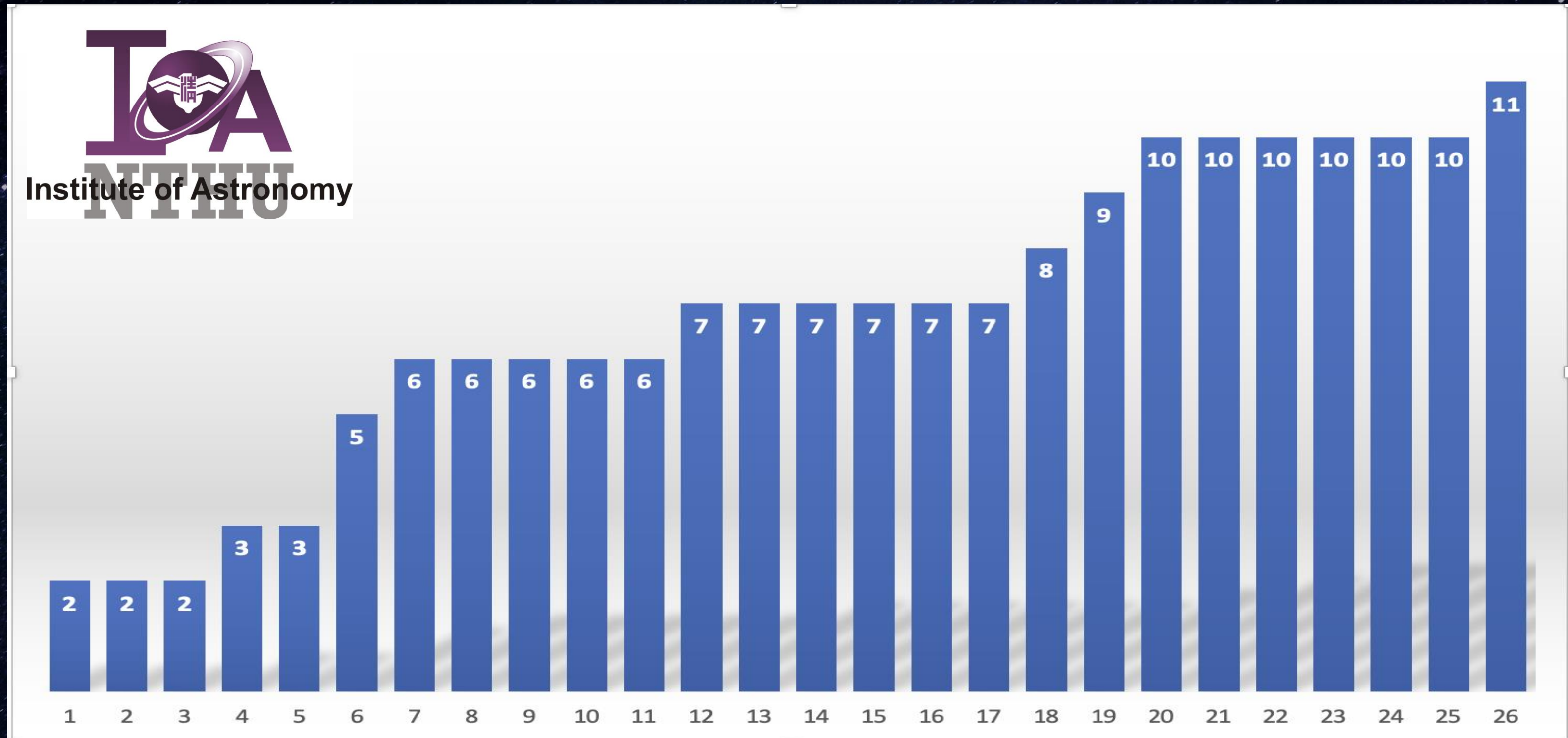
Where and when it was born



Now comes the 25th anniversary.

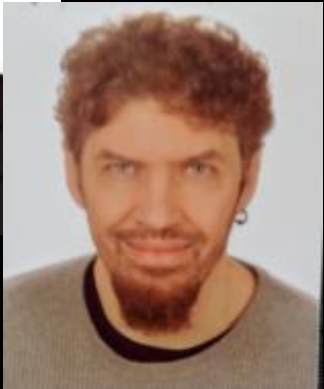
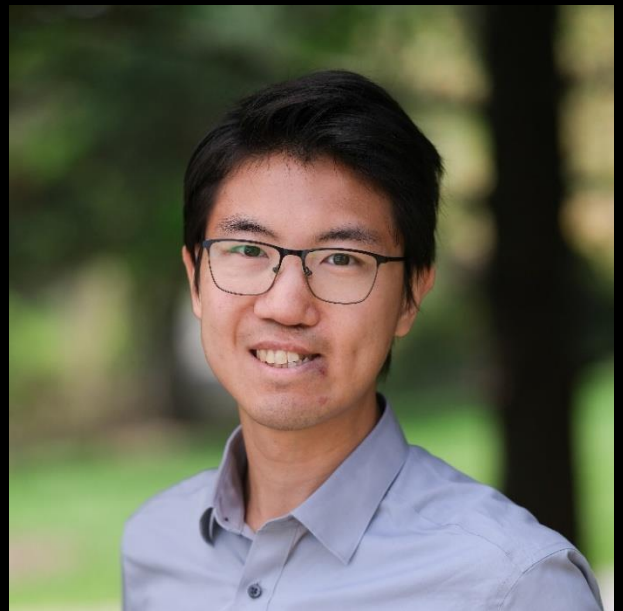
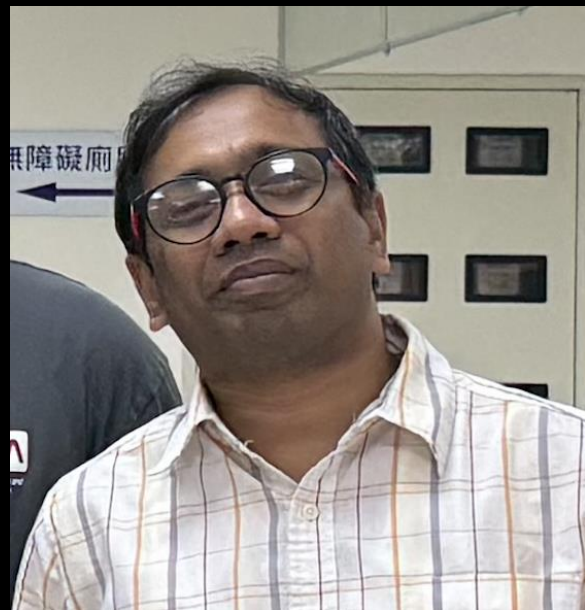
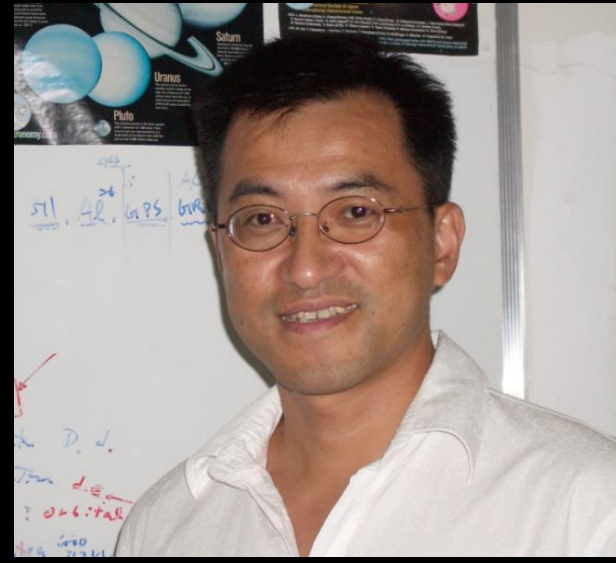
教師人數成長 (民國90-115 / 2001-2026)

Faculty Growth over the Last 25 Years



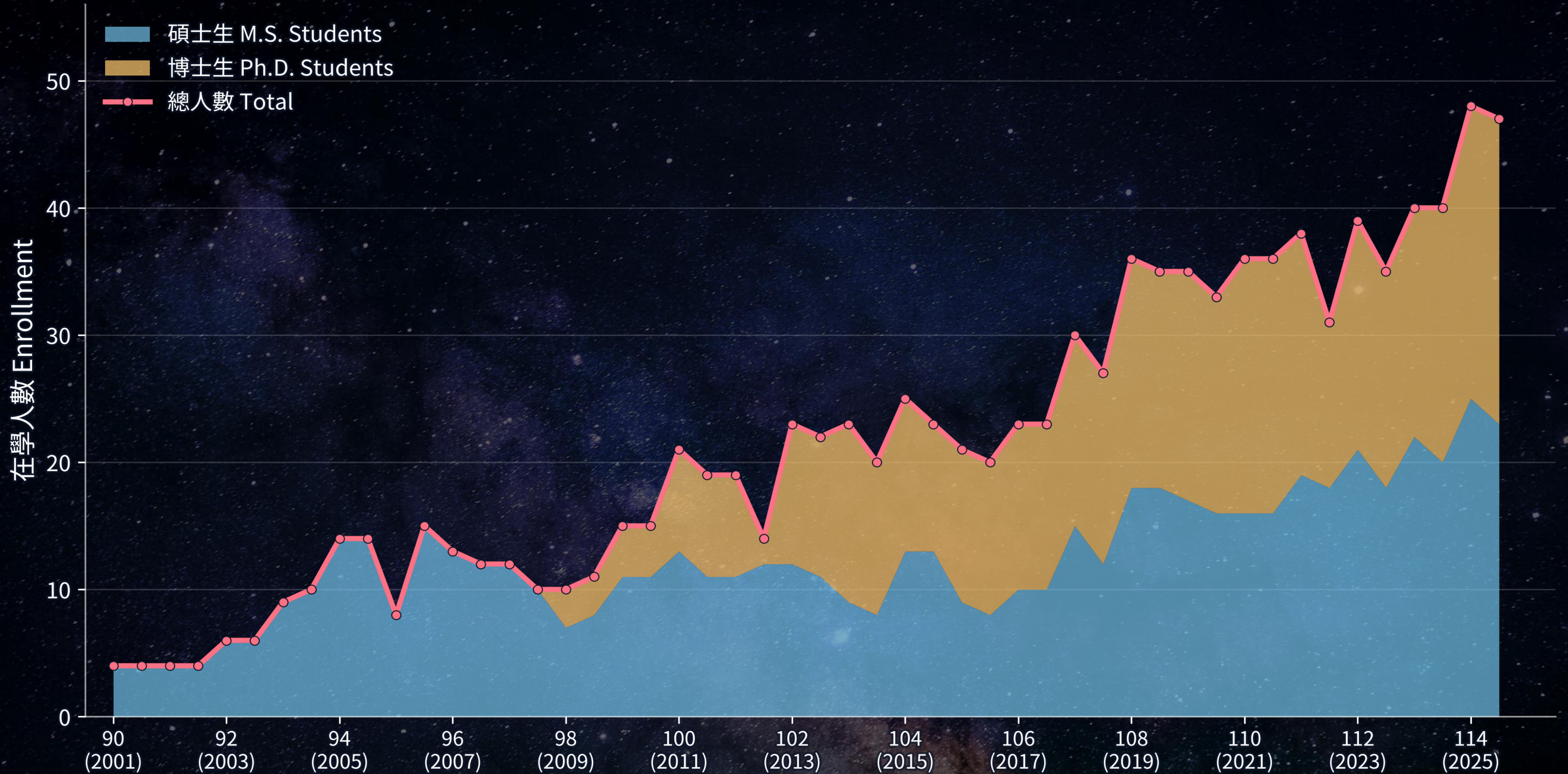
Year - 2000

老師 & 博後



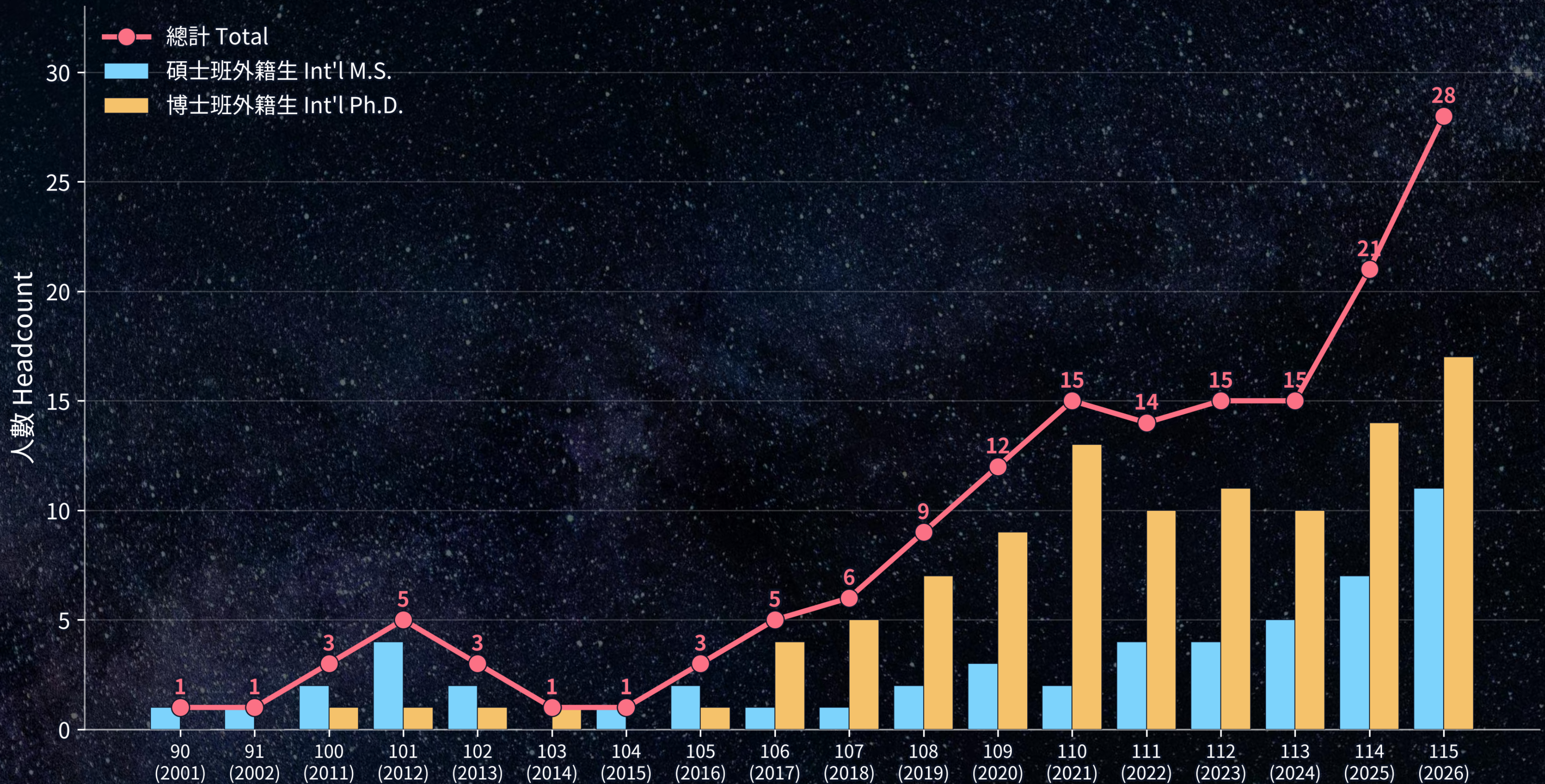
學生人數成長 (民國90-114 / 2001-2026)

M.S. + Ph.D. Enrollment, 25 Years



國際學生人數成長 (民國90-115 / 2001-2026)

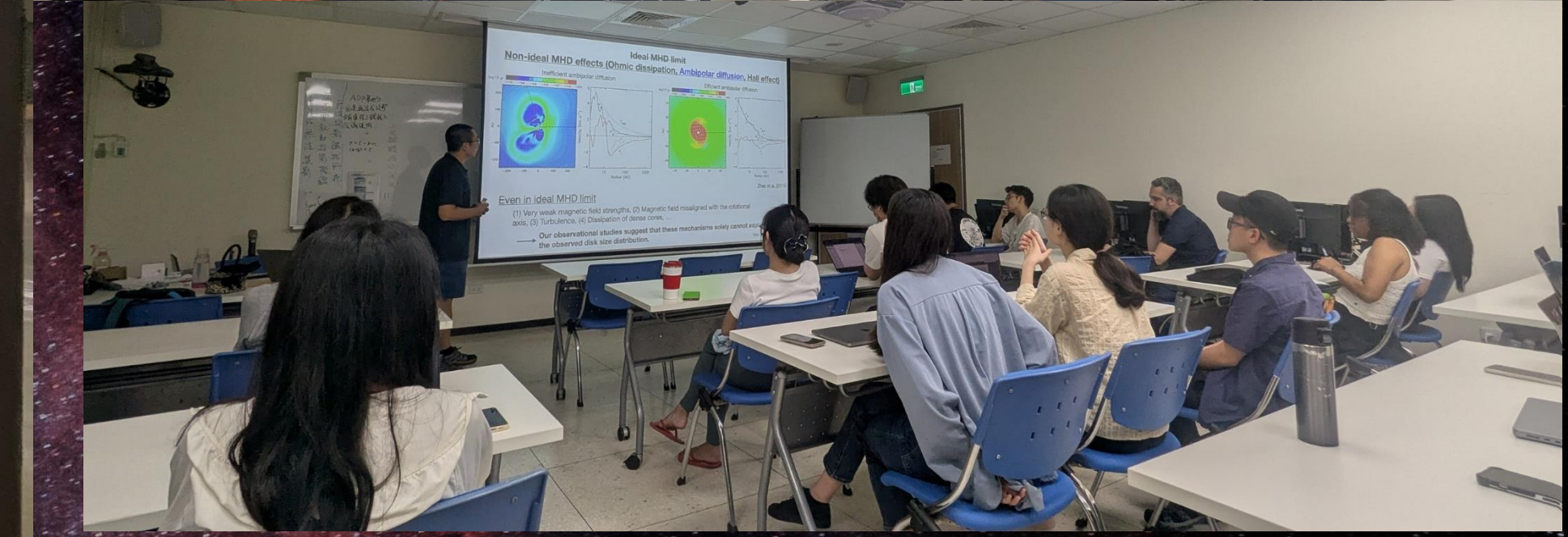
International Student Enrollment Growth



導生活動



專題演講



研討會



2023 NCTS TCA Summer Student Program



2024 NCTS TCA Summer Student Program

研討會



2023 臺灣天文聯合觀測網 教學工作坊

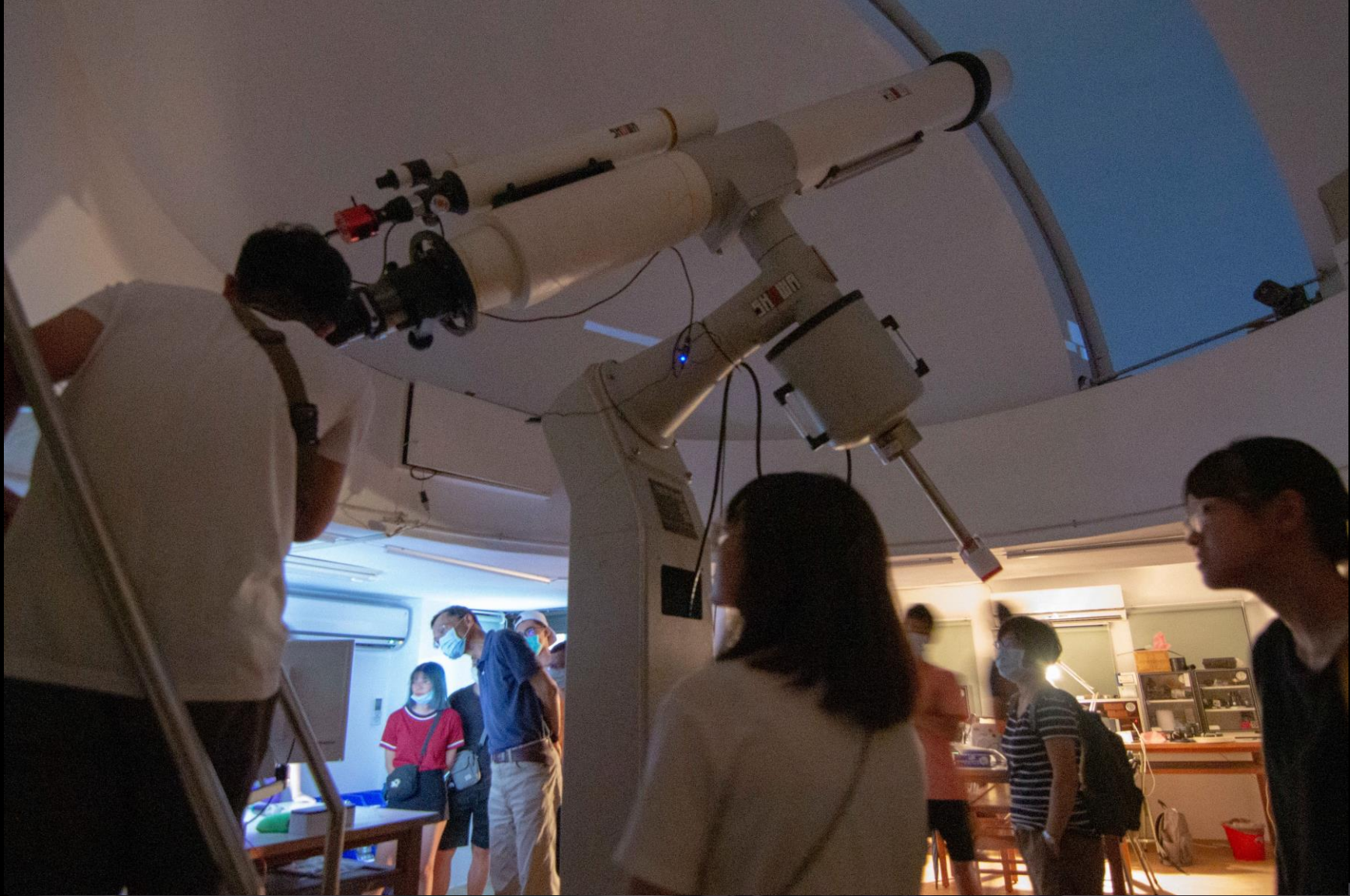


2025 天文年會



2025 Star/planet formation and astrochemistry meeting

校園天文台



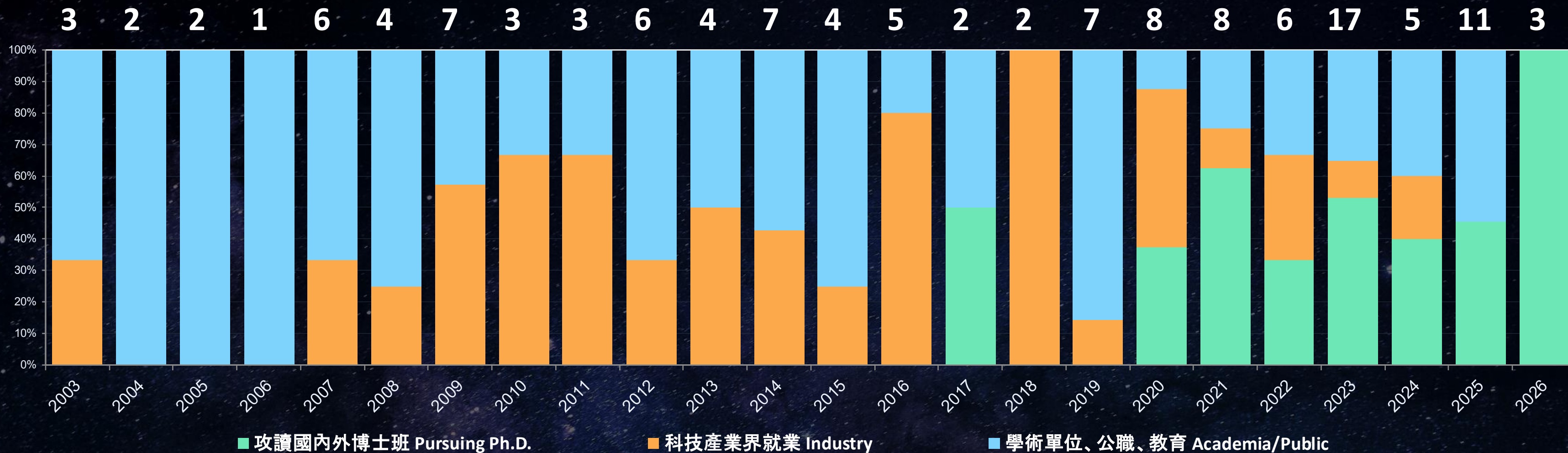
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清大天文台開放日
尼歐懷茲彗星觀測

國立清華大學
NATIONAL TSING HUA UNIVERSITY

畢業生去向分布 (2003-2026)

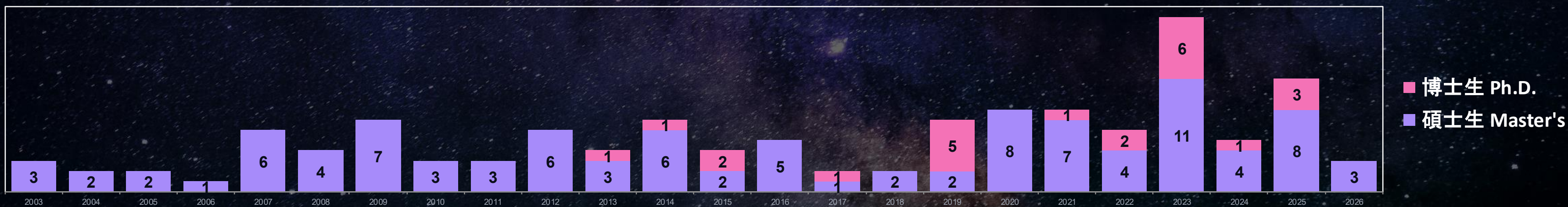
Graduate Destinations by Year (% share)



每年畢業生人數 (碩士 vs 博士)

碩士 103 • 博士 23 • 總計 126

Graduate Counts by Degree



天文所課程總表

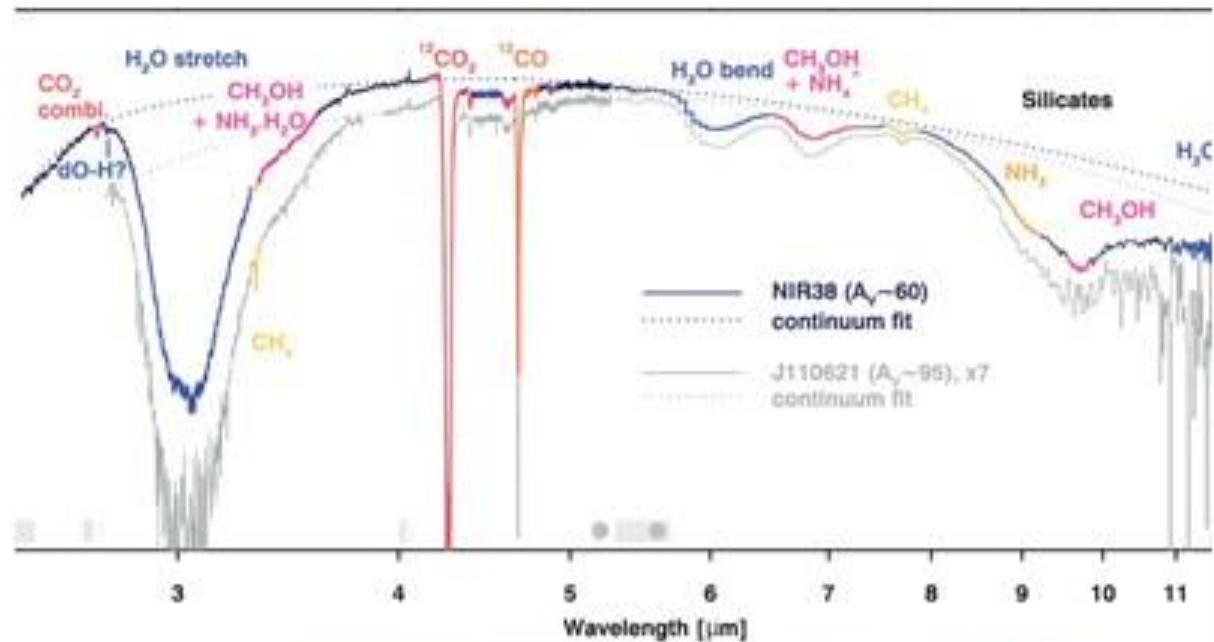
Course ID	Name	English name	Credit
PHYS2410	普通天文學一	General Astronomy (I)	3
PHYS2420	普通天文學二	General Astronomy (II)	3
PHYS3910	基礎天文觀測	Fundamentals of Observational Astronomy	3
PHYS3920	基礎天文觀測	Fundamentals of Observational Astronomy	3
ASTR2000	恆星與行星的形成 (磨課師)	Formation of Stars and Planets (MOOCS)	1
ASTR4330	天文物理導論	Introduction to Astrophysics	3
ASTR4340	近代宇宙學導論	Introduction to Modern Cosmology	3
ASTR4800	黑洞天文物理導論	Introduction to Black Hole Astrophysics	3
ASTR4900	系外行星導論	Introduction to Exoplanets	3
ASTR5100	恆星天文物理學	Stellar Astrophysics	3
ASTR5300	星系天文學	Galactic Astronomy	3
ASTR5400	星系動力學	Galactic Dynamics	3
ASTR5500	恆星形成	Star Formation	3
ASTR5910	專題演講一	Colloquium (I)	1
ASTR5920	專題演講二	Colloquium (II)	1
ASTR5930	天文研究演講	Astronomy Research Presentations	1

Course ID	Name	English name	Credit
ASTR6007	天文物理的前沿一	Frontier of Astrophysics Seminars I	1
ASTR6100	天文觀測	Observational Astronomy	3
ASTR6200	天文輻射物理	Astrophysical Radiative Processes	3
ASTR6300	電波天文學	Radio Astronomy	3
ASTR6350	高能天文物理	High Energy Astrophysics	3
ASTR6400	宇宙論	Cosmology	3
ASTR6500	星際介質	Interstellar Medium	3
ASTR6600	計算天文物理	Computational Astrophysics	3
ASTR6890	天體化學	Astrochemistry	1
ASTR6910	論文	Thesis	2
ASTR6920	論文	Thesis	2
ASTR9920	論文研究	Thesis	0

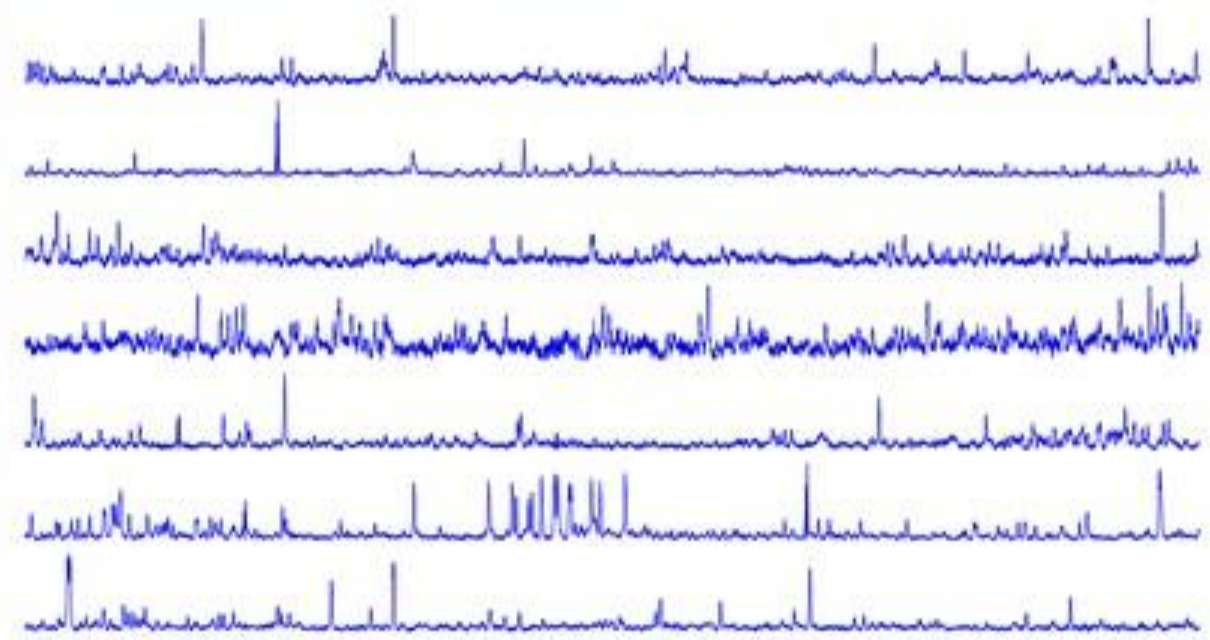
清華大學天文研究所研究計畫件數與經費趨勢 (95-115)

NSTC Projects, Non-NSTC Projects and Total Funded Budget





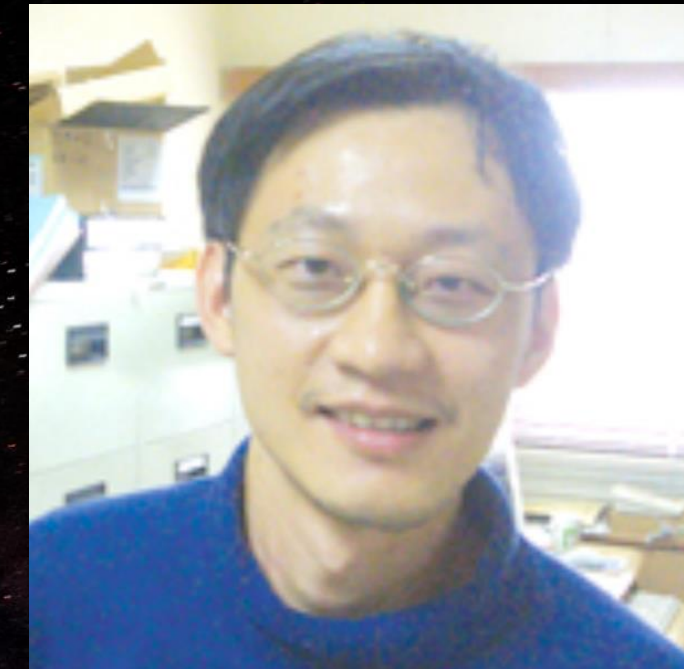
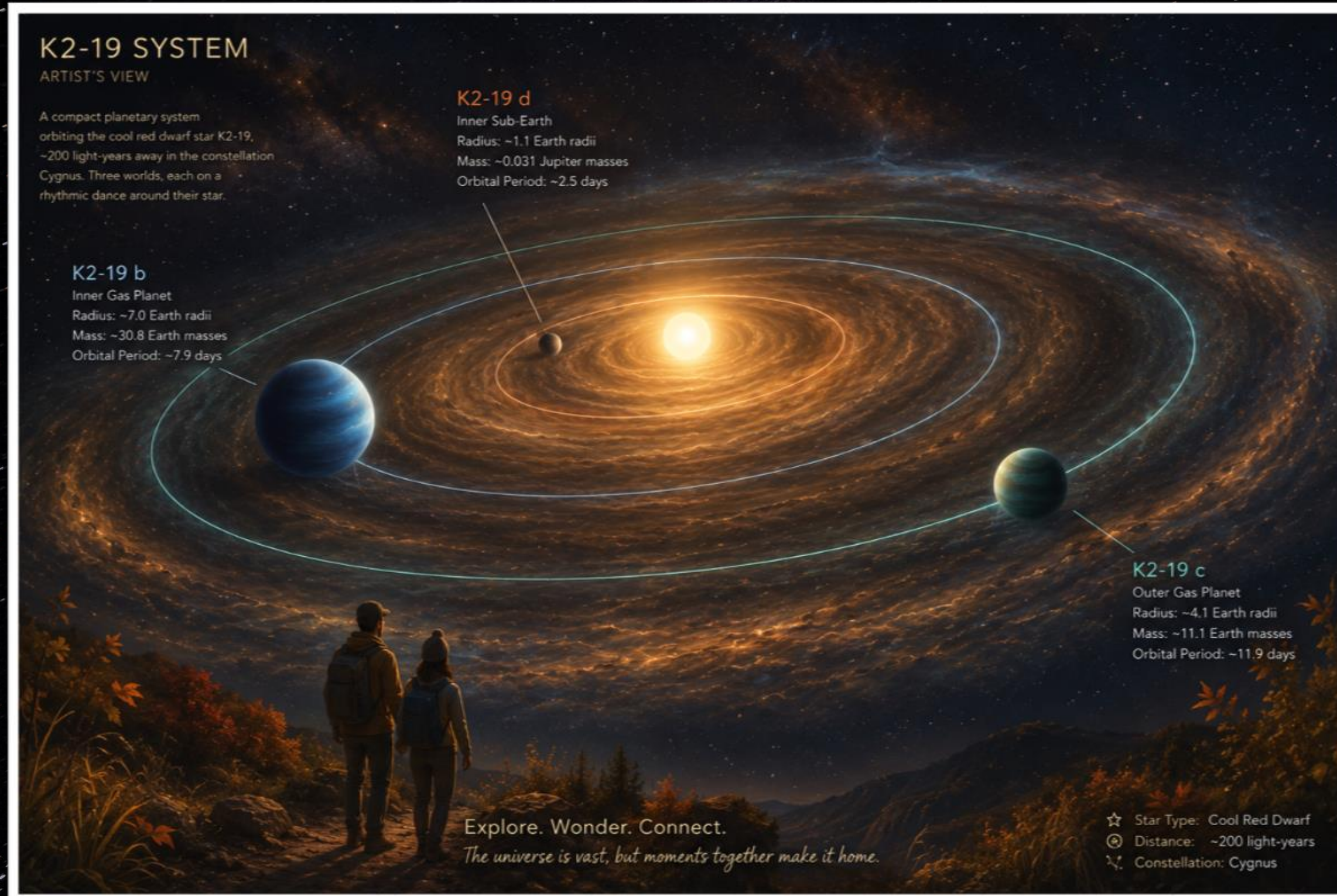
Prof. Daniel Harsono 何英宏



Star and Planet formation: A window to the origin of life

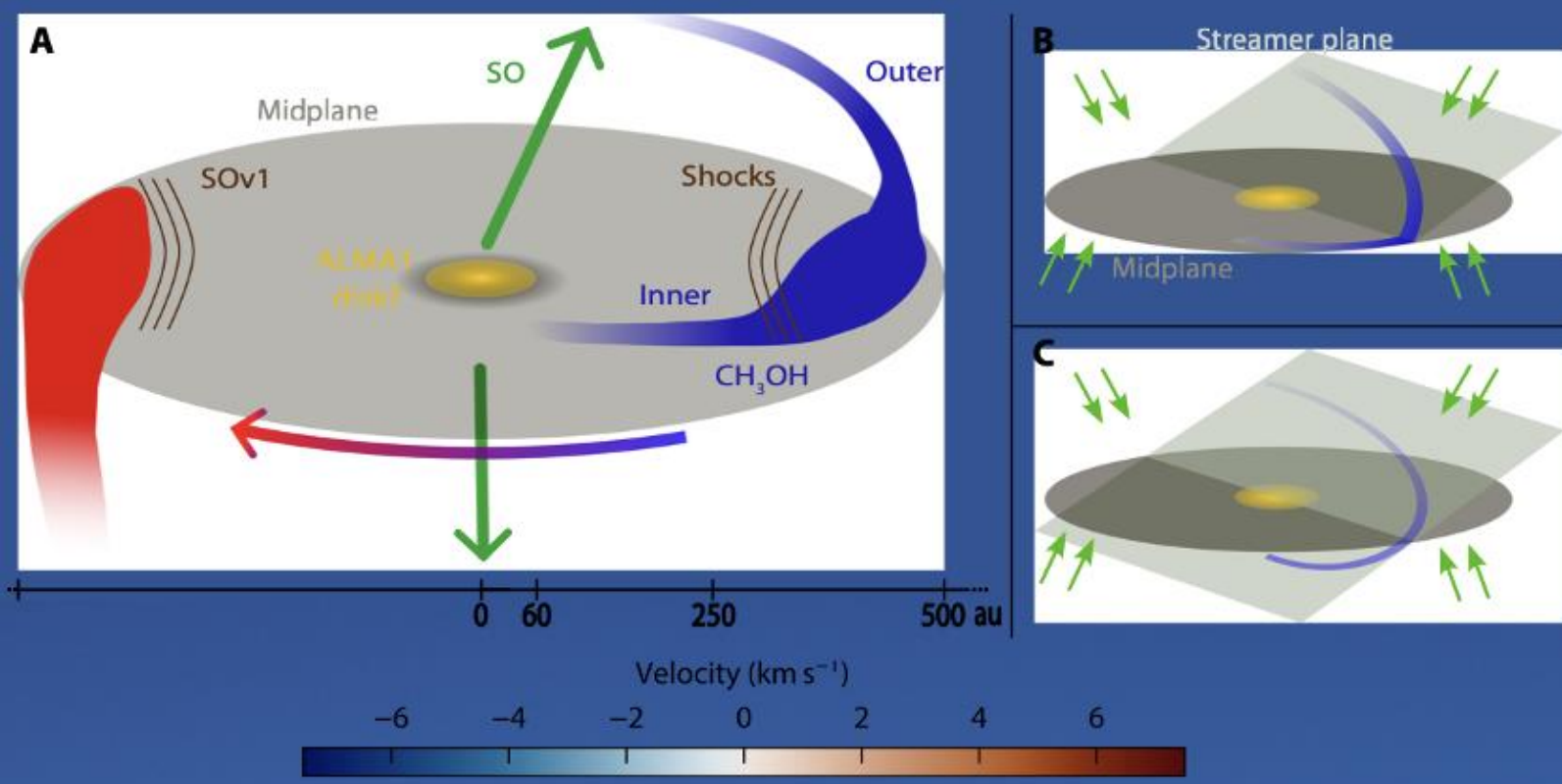
8 Nature / Nature Astr.

Resolving the Formation Puzzles of K2-19 Planets through a Decade of Transit Photometry



Prof. Ing-Guey Jiang
江瑛貴

Massive streamers feed high-mass protostars

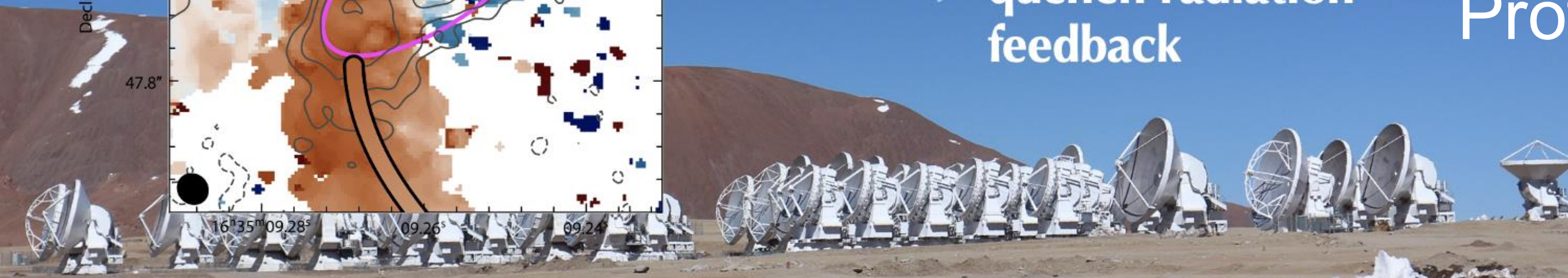
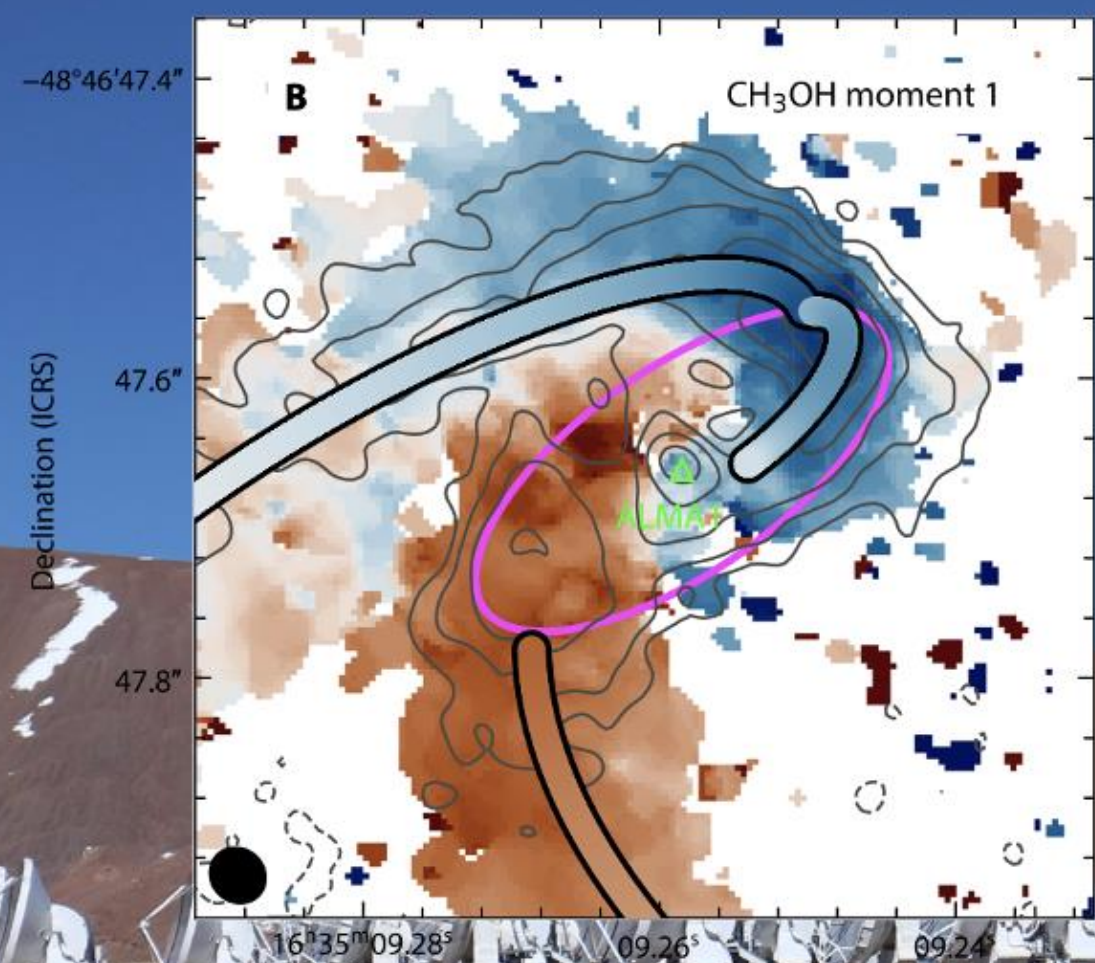


- ▶ High resolution survey of hot molecular cores
- ▶ Discover massive streamers (Olguin et al. 2025, Science Advances, 11, eadw4512)
 - ▶ not a conventional disk
 - ▶ quench radiation feedback



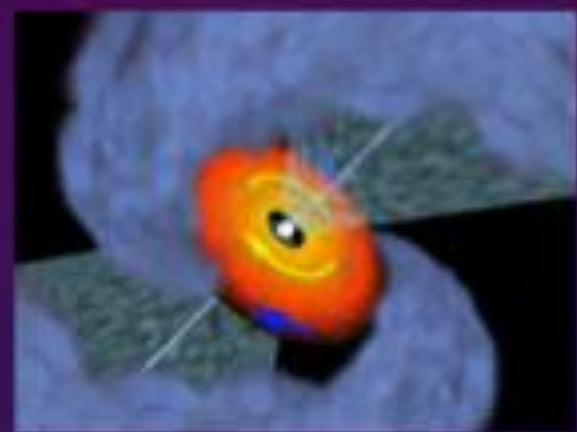
Prof. Huei-Ru Chen

陳惠茹



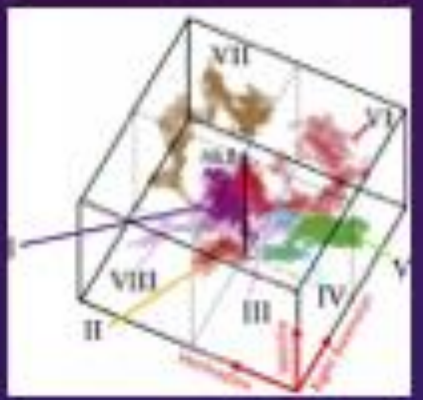
Shih-Ping Lai (賴詩萍)

178 papers (7178 citations), h-index=50
23 master students, 6 PhD students



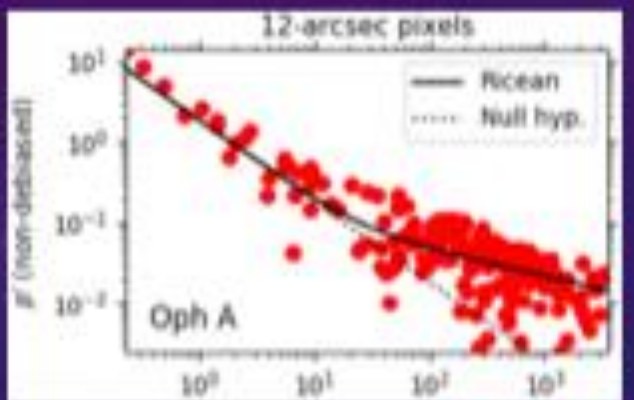
🏆 Discover youngest protostellar disk (ALMA press release)

Murillo, Lai, 2013, ApJ
Murillo, Lai, 2023, A&A



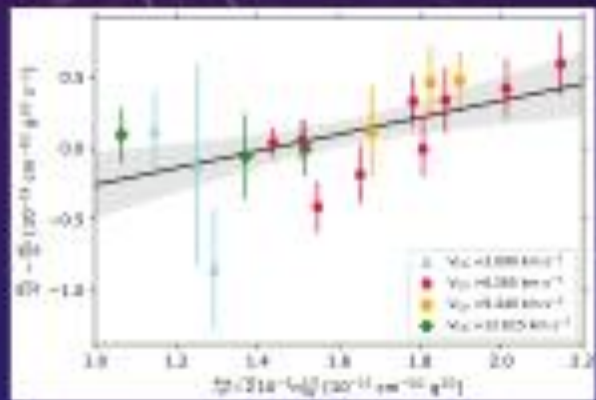
🏆 Pioneering studies of accretion streamers around disks

Cheong 2018
Hsieh, Lai, 2020, ApJ
Thieme, Lai, 2022, ApJ
Sandhyarani (+Lai), 2026, Sci. Adv.



🏆 Resolving a long-standing controversy: dust grains are aligned with B field!

Pattle, Lai, 2019, ApJ

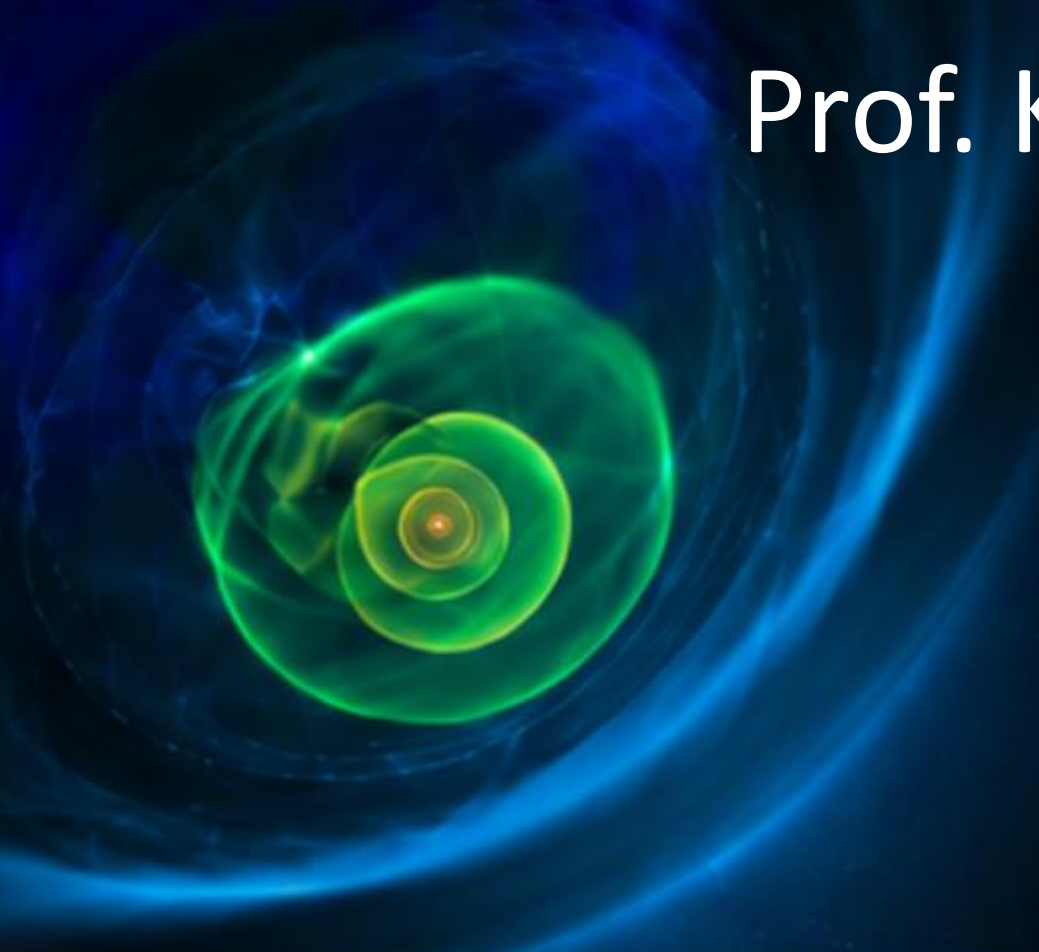


🏆 First determination of electric current and B field direction using Ampère's law

Ching (+Lai), 2026, Nat. Comm.



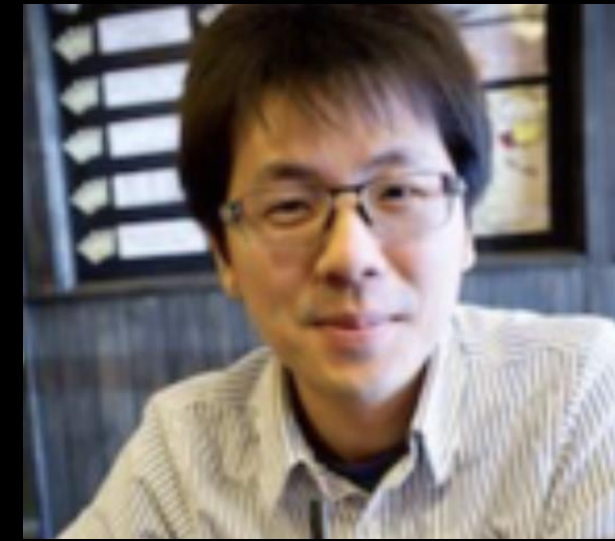
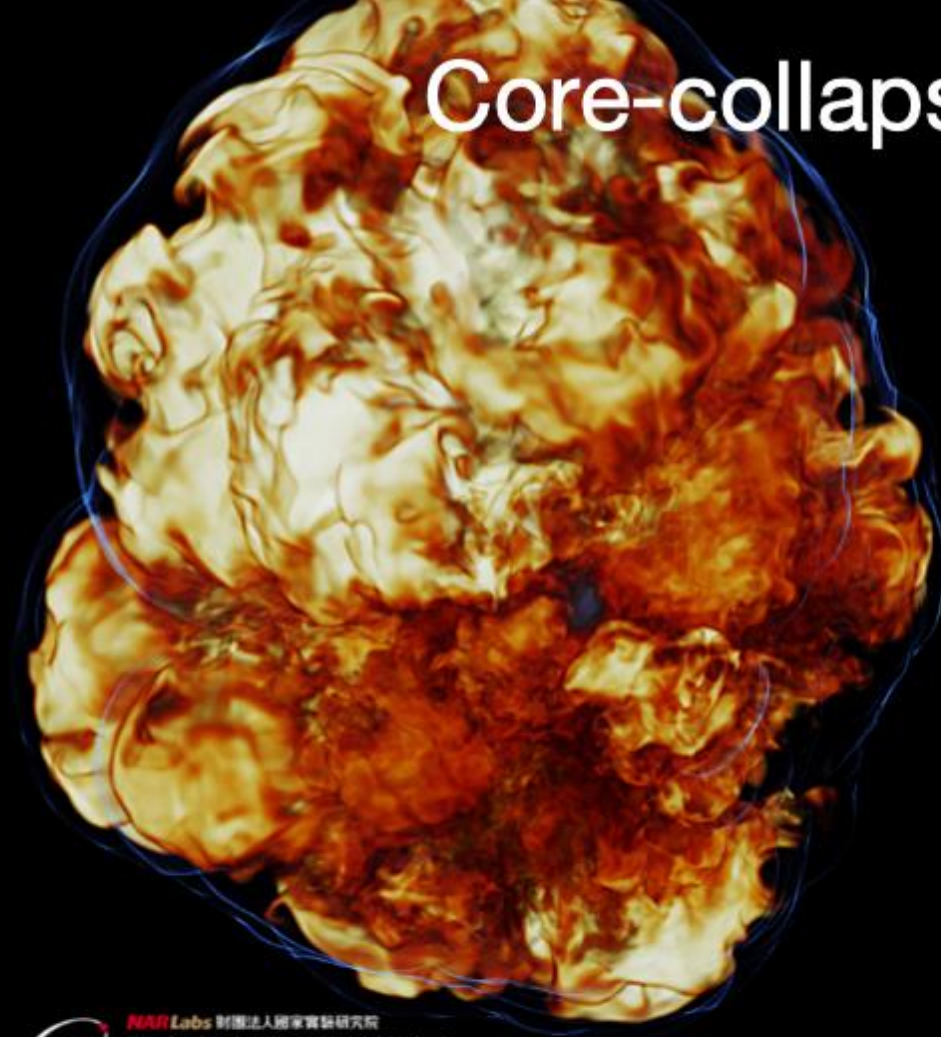
Surviving companions in SNR



Prof. Kuo-Chuan Pan
潘國全

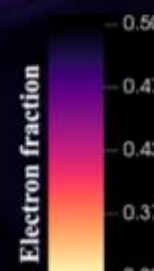
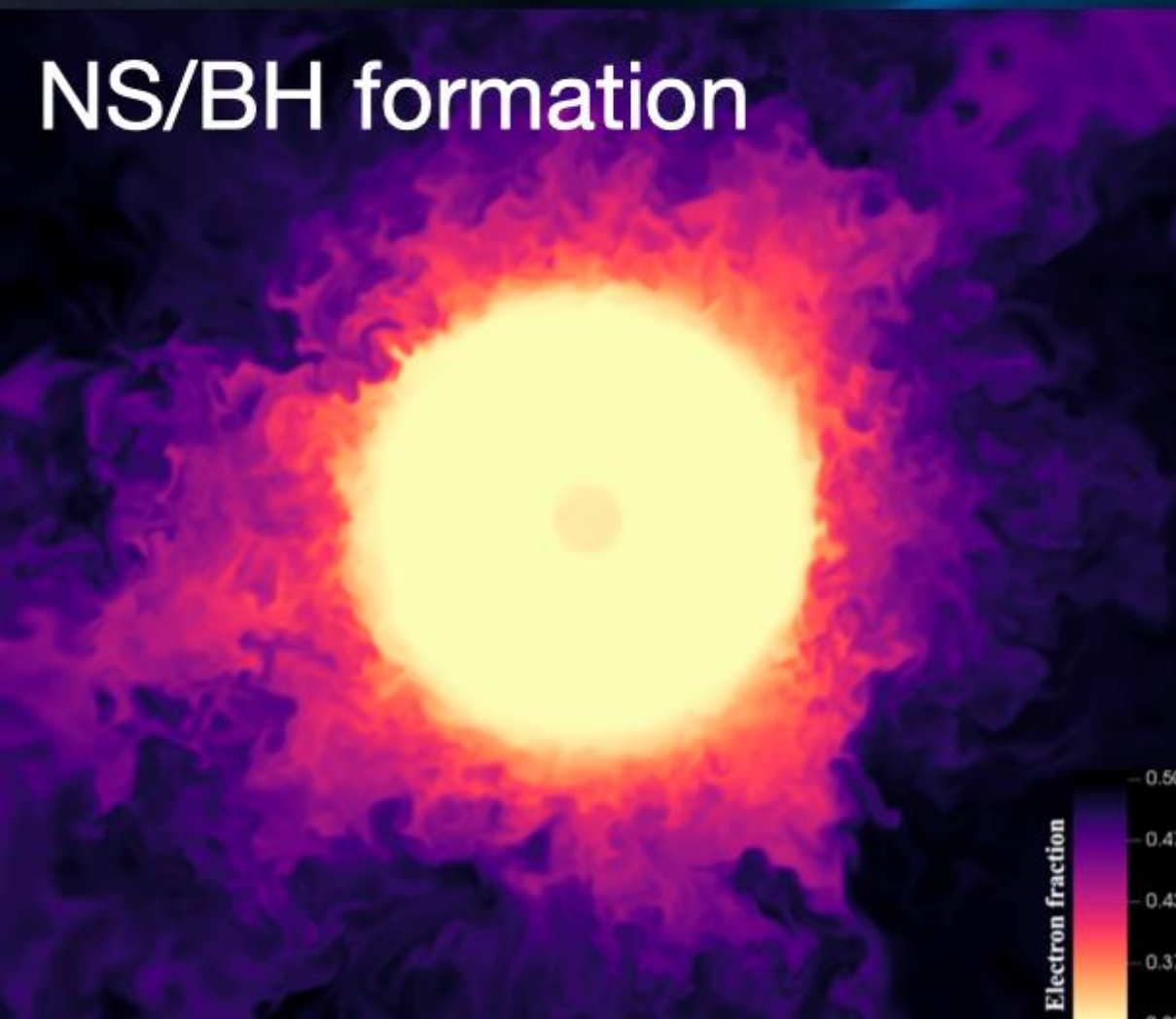


Core-collapse supernovae

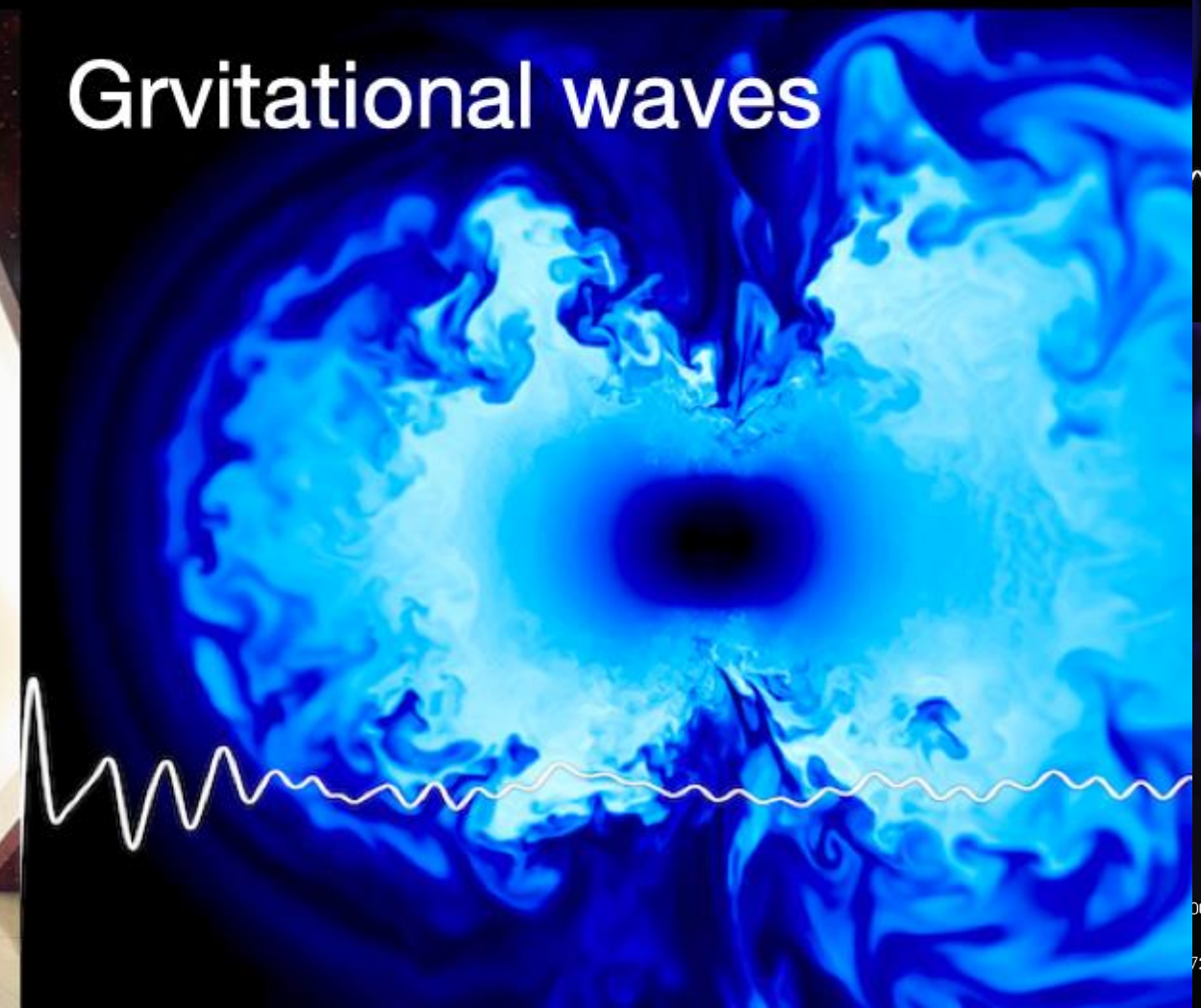


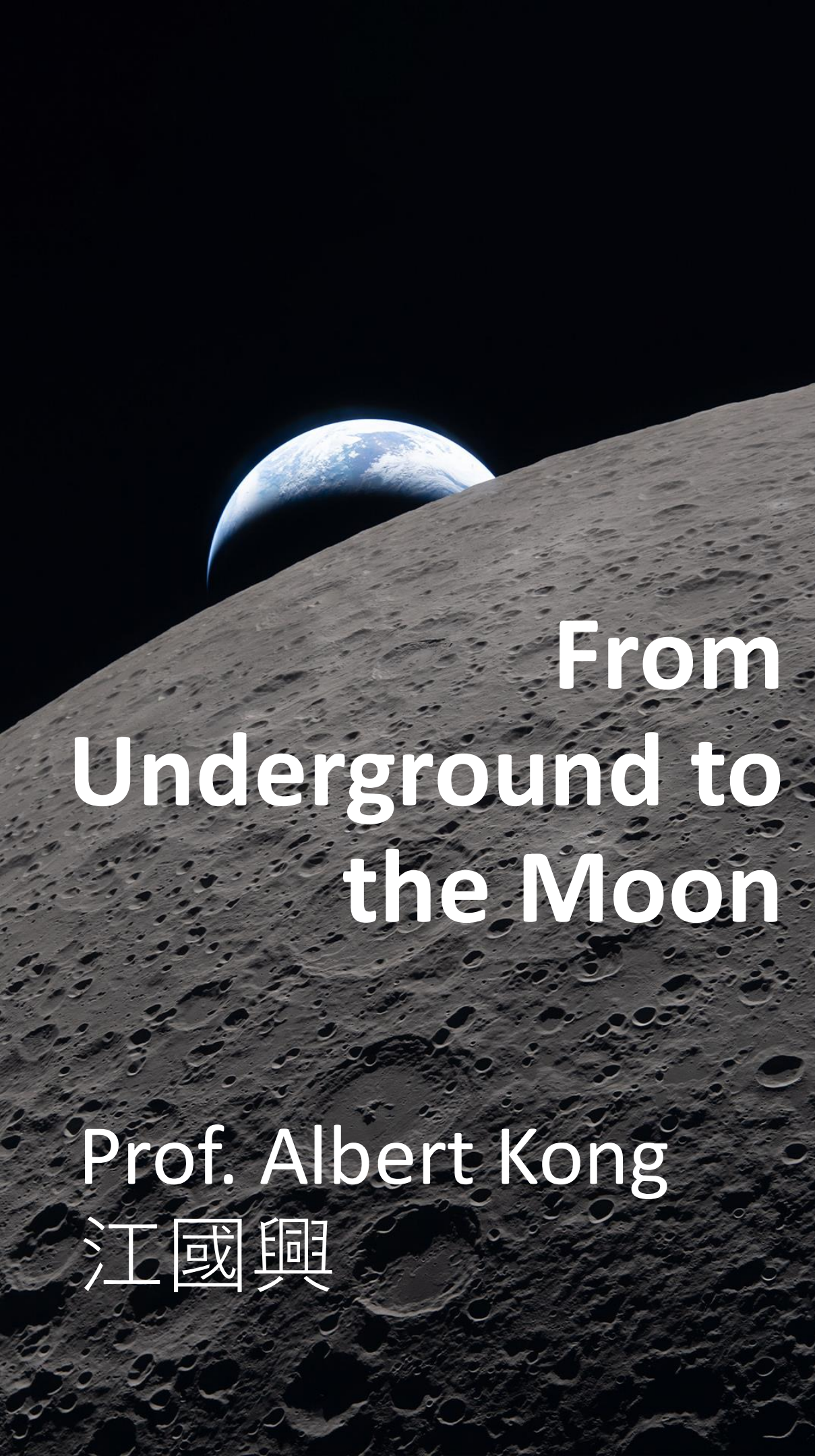
© Kuo-Chuan Pan, IoA, NTHU, Taiwan
Simulation is carried out by the Taiwan's 3 supercomputer at NCHC.
Visualization is done using yt on the GCA cluster at NTHU.

NS/BH formation



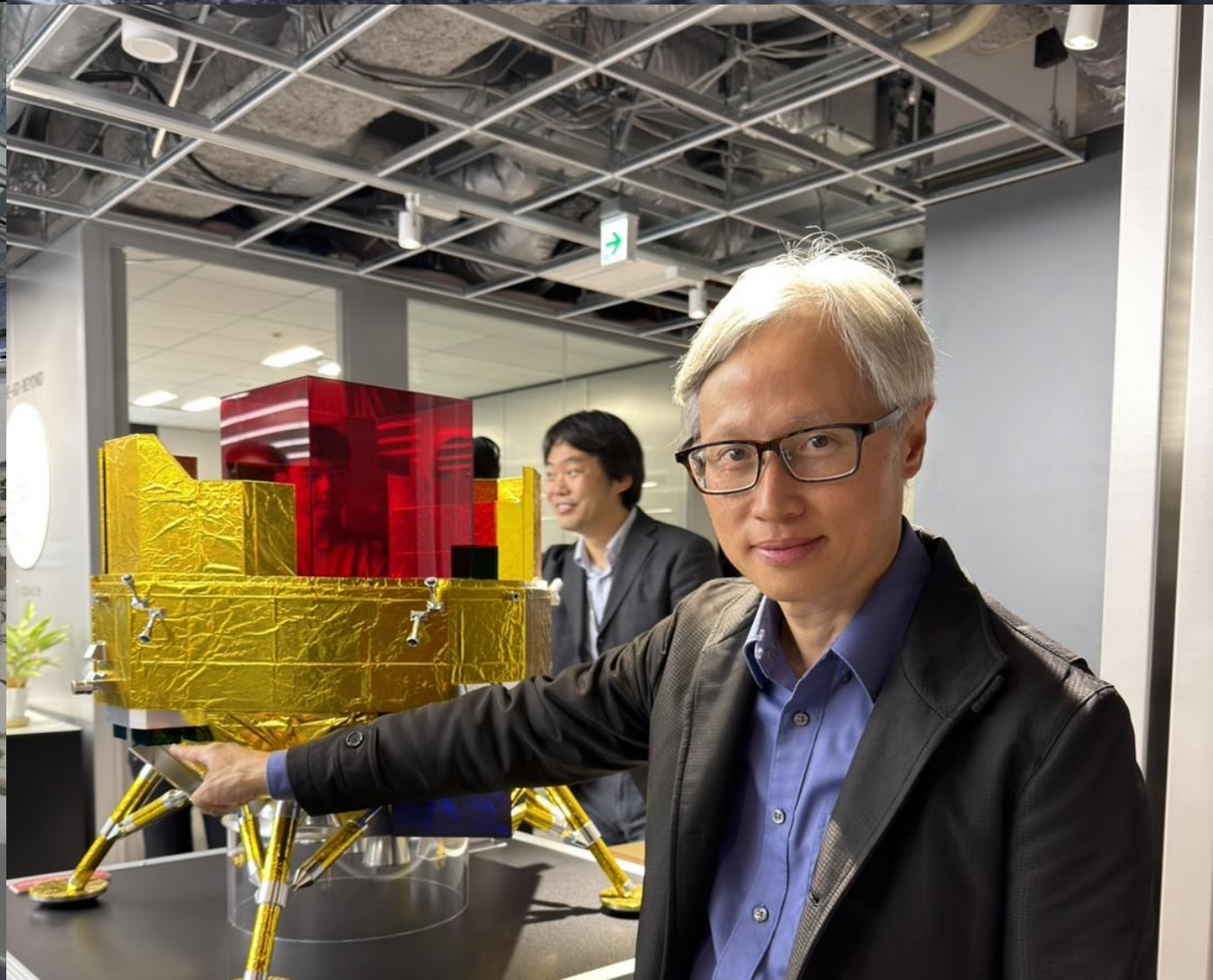
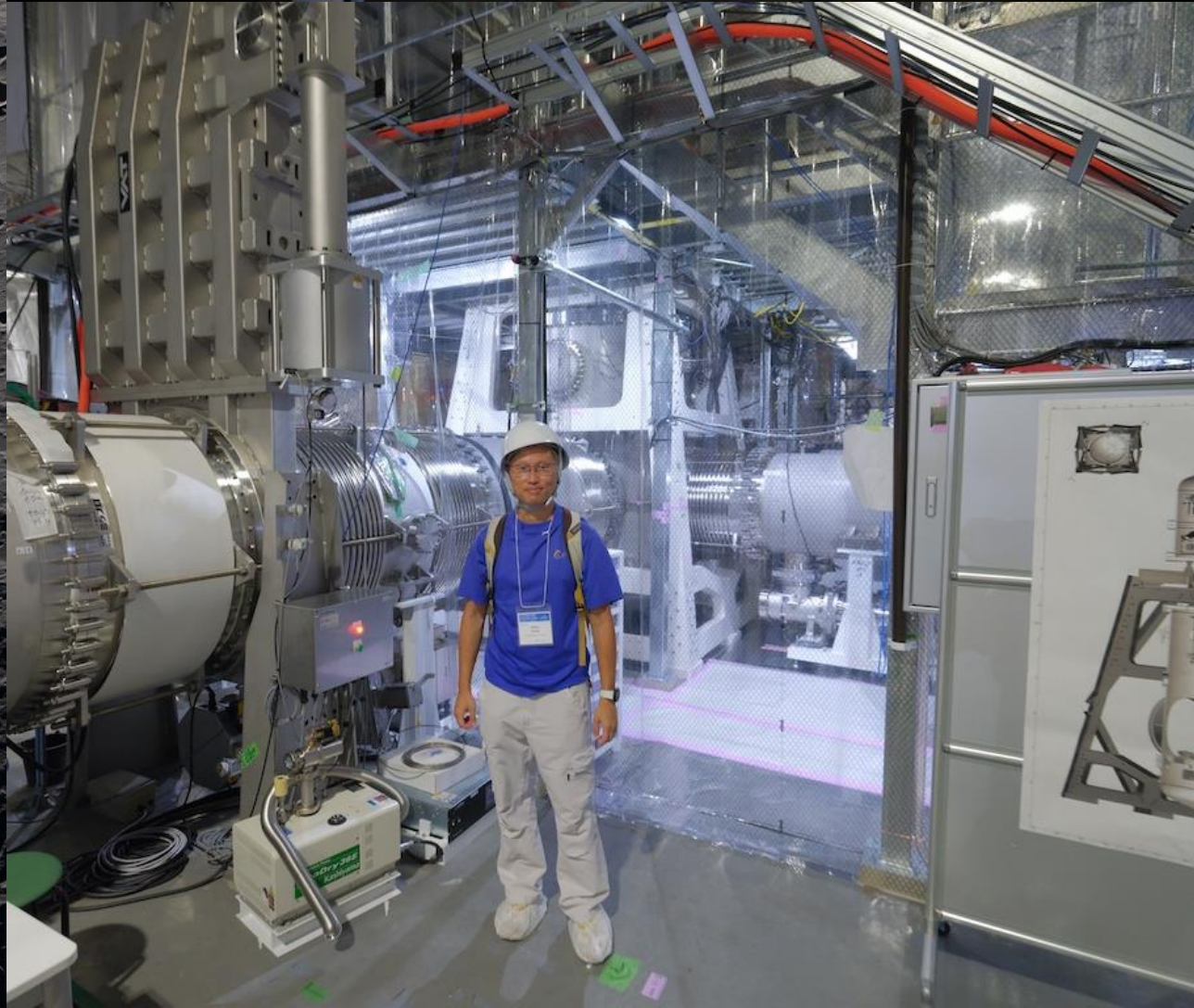
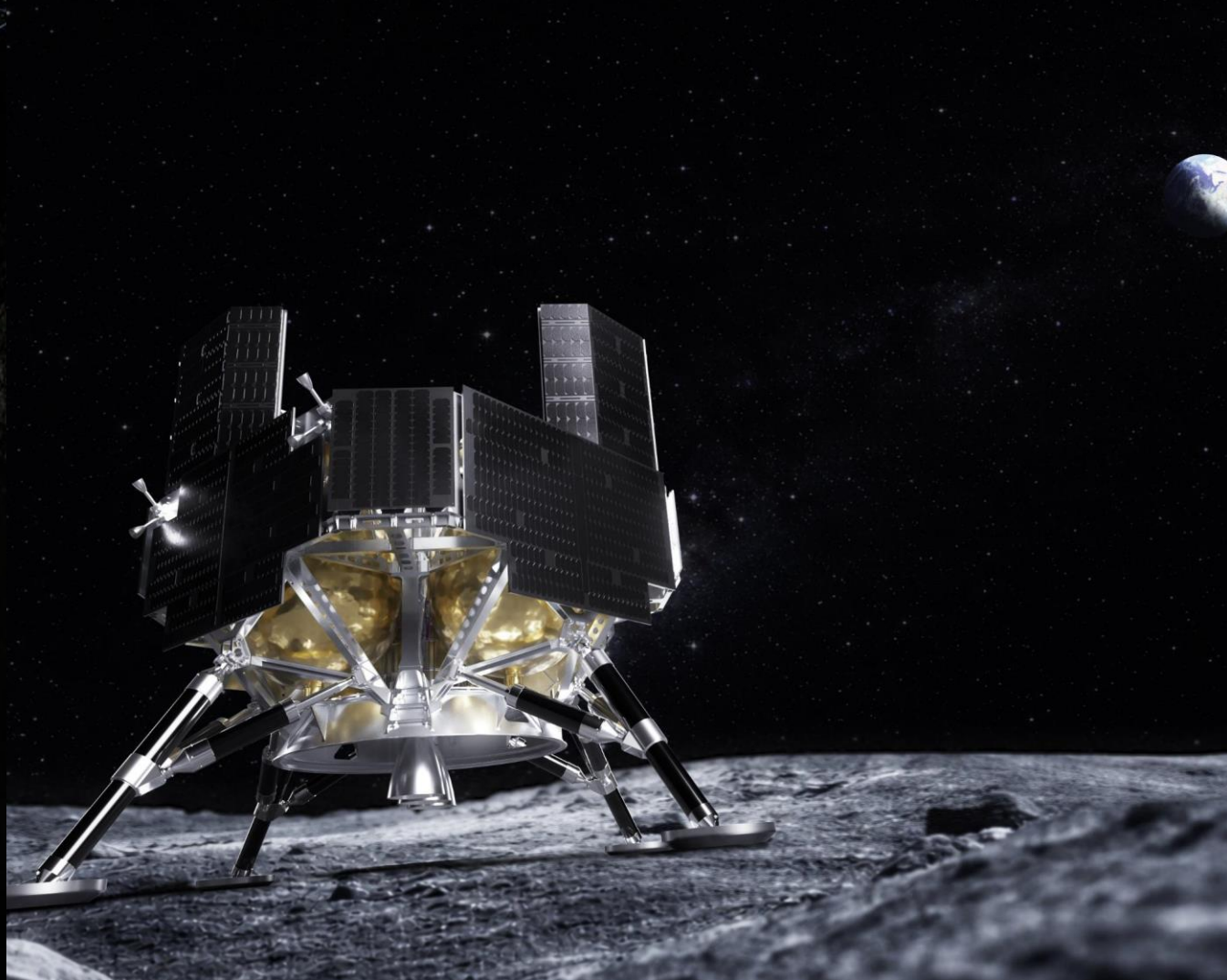
Gravitational waves



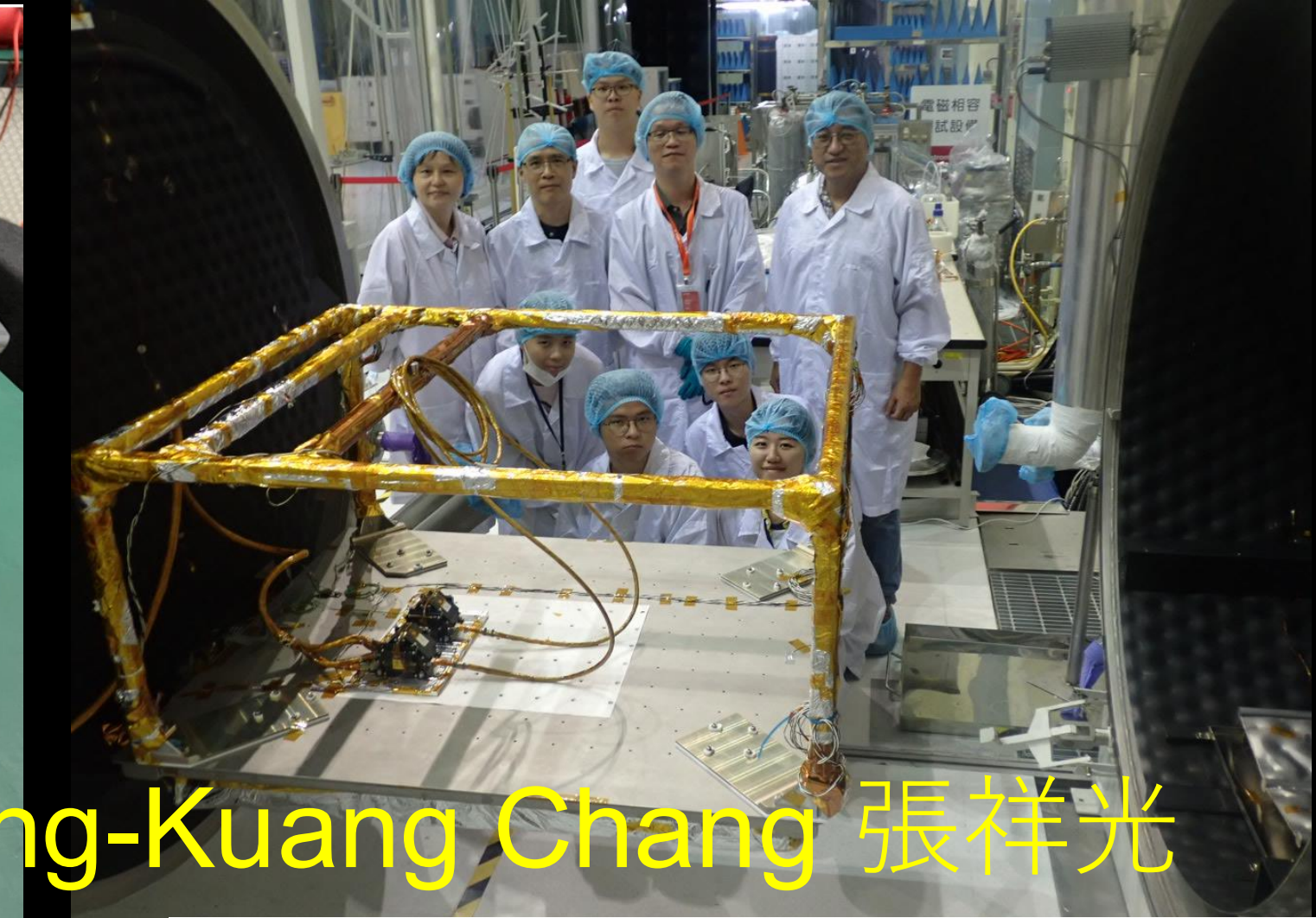
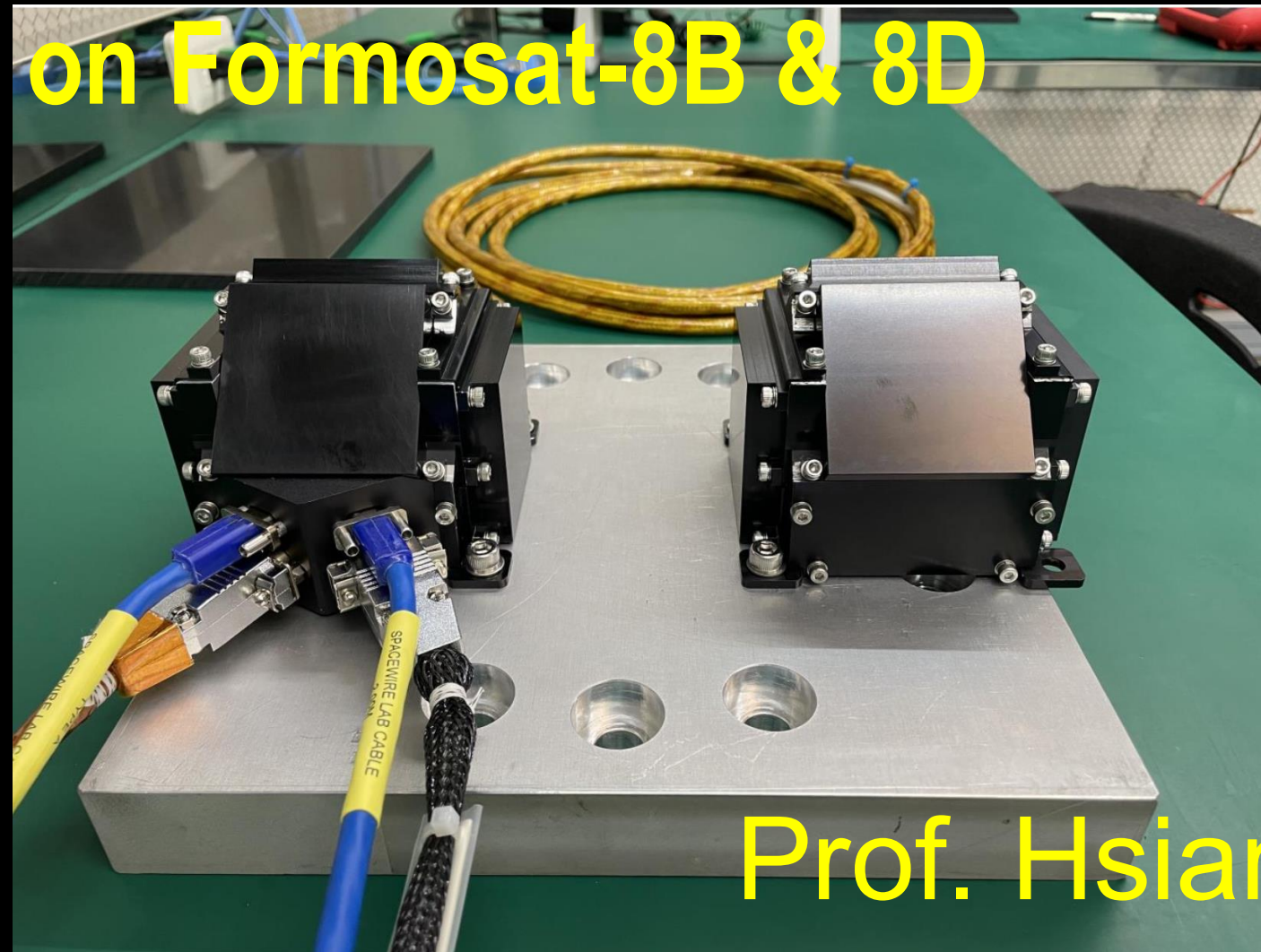


From Underground to the Moon

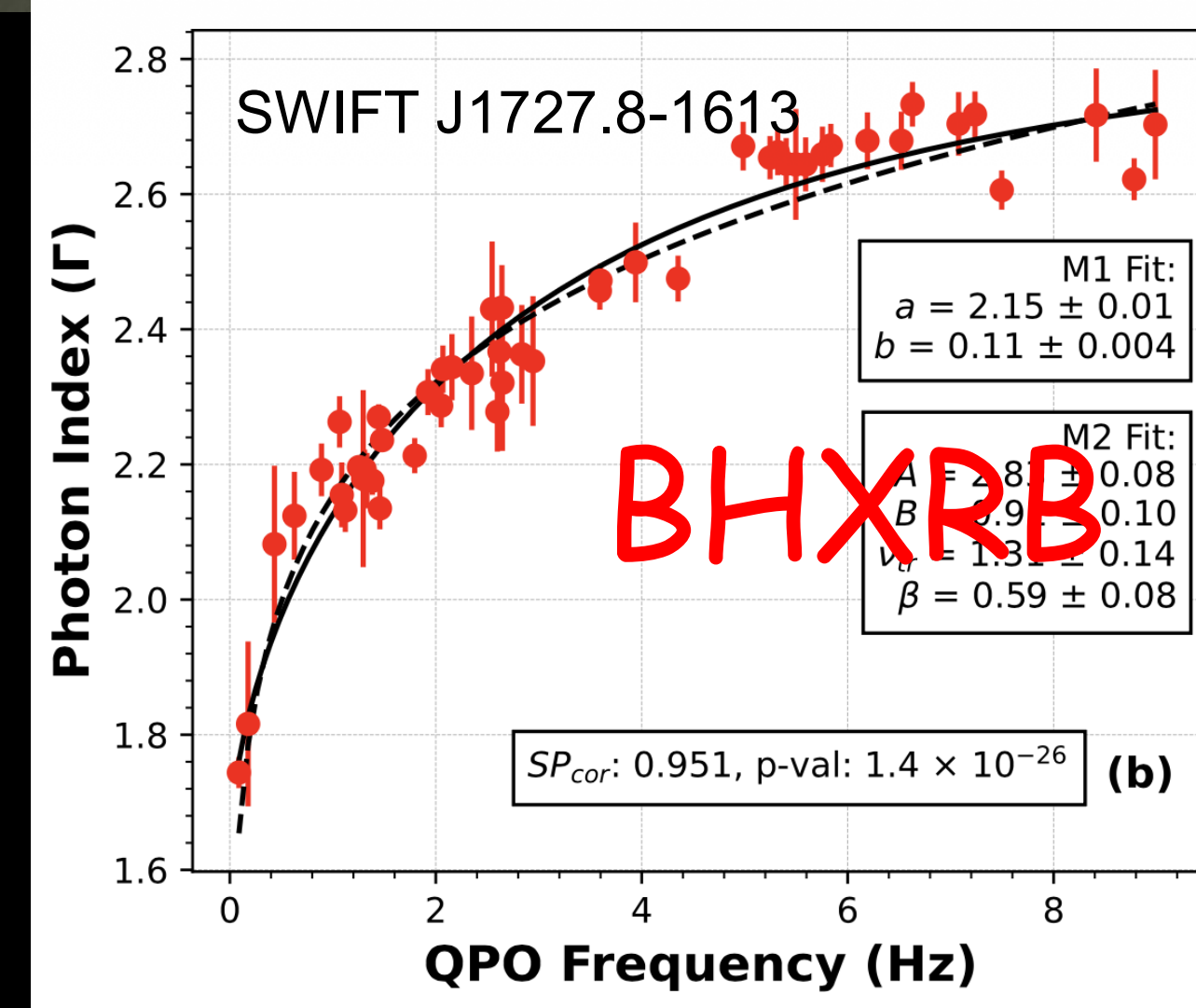
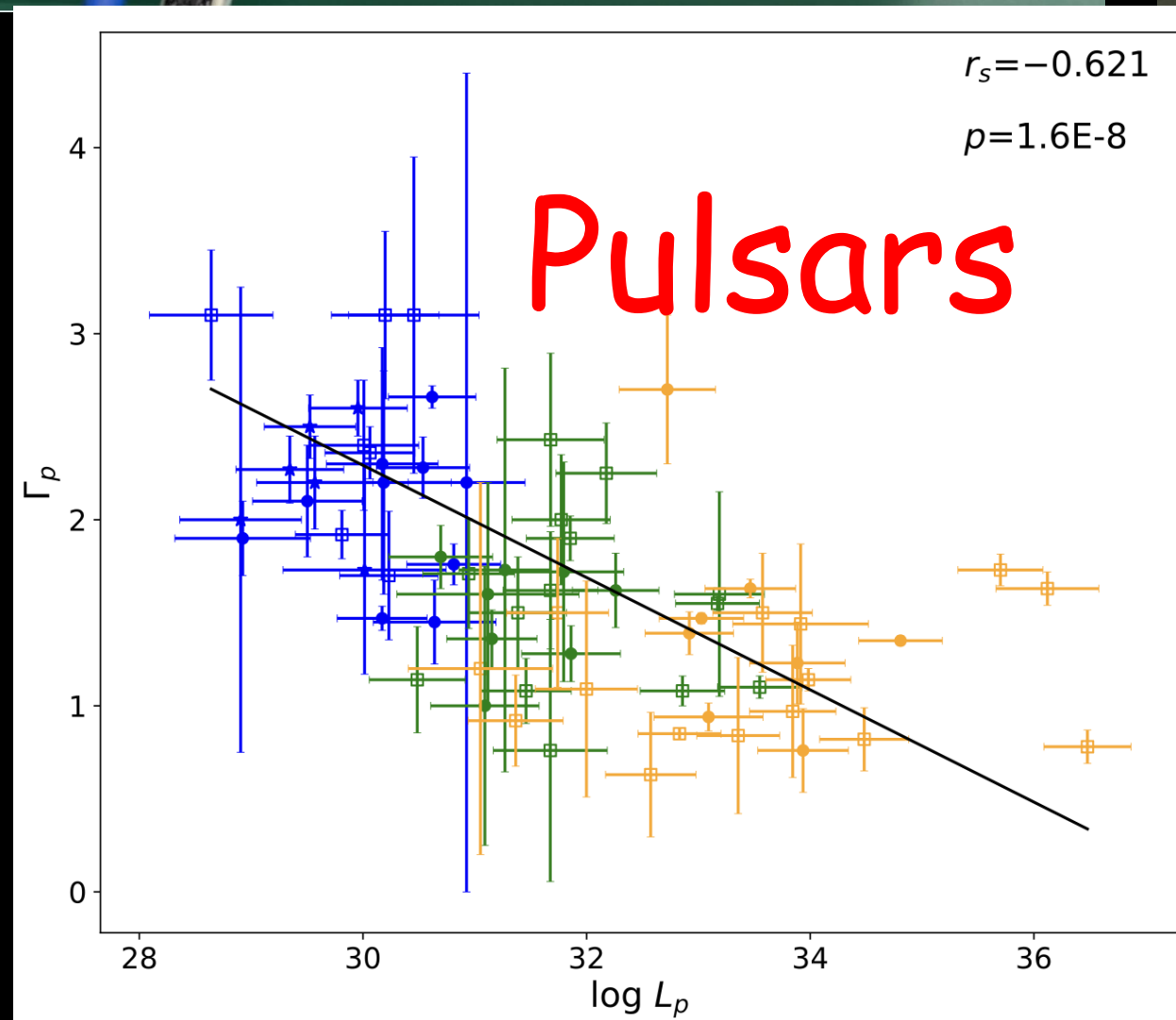
Prof. Albert Kong
江國興



GTM & GPM to fly on Formosat-8B & 8D



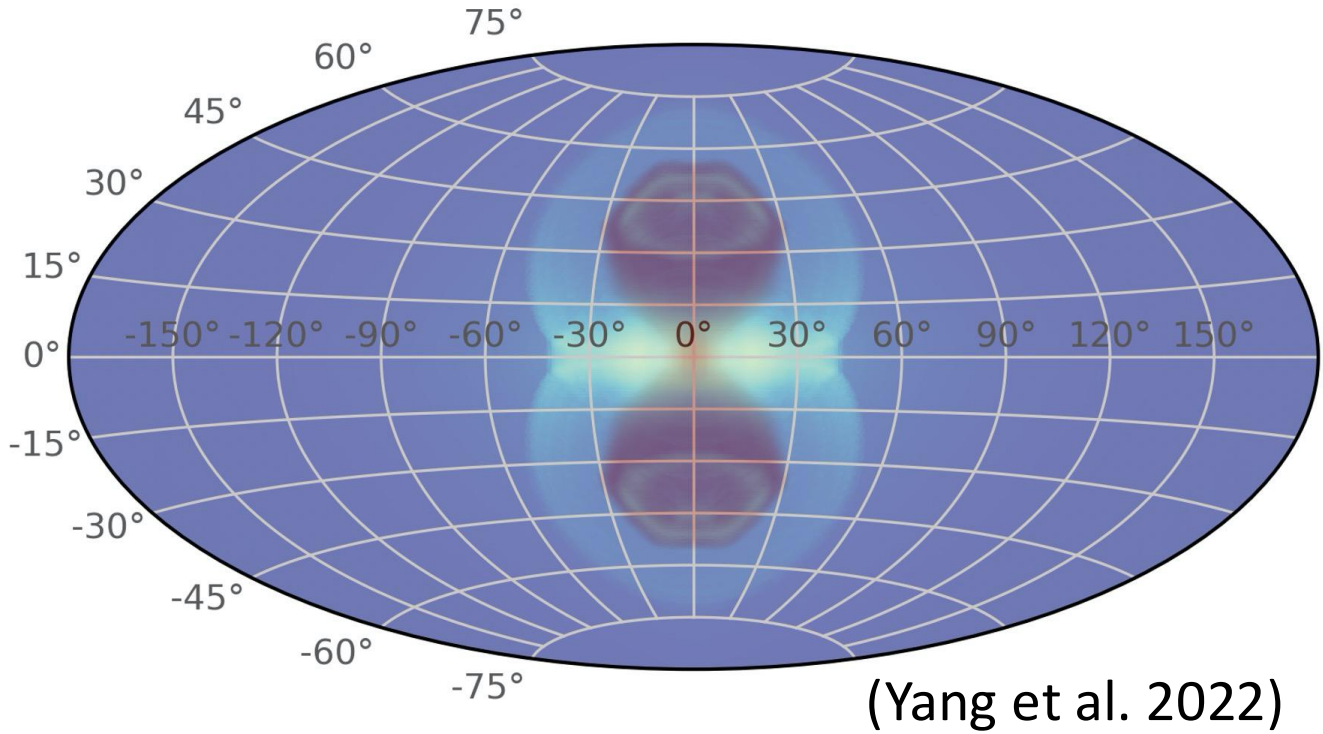
Prof. Hsiang-Kuang Chang 張祥光



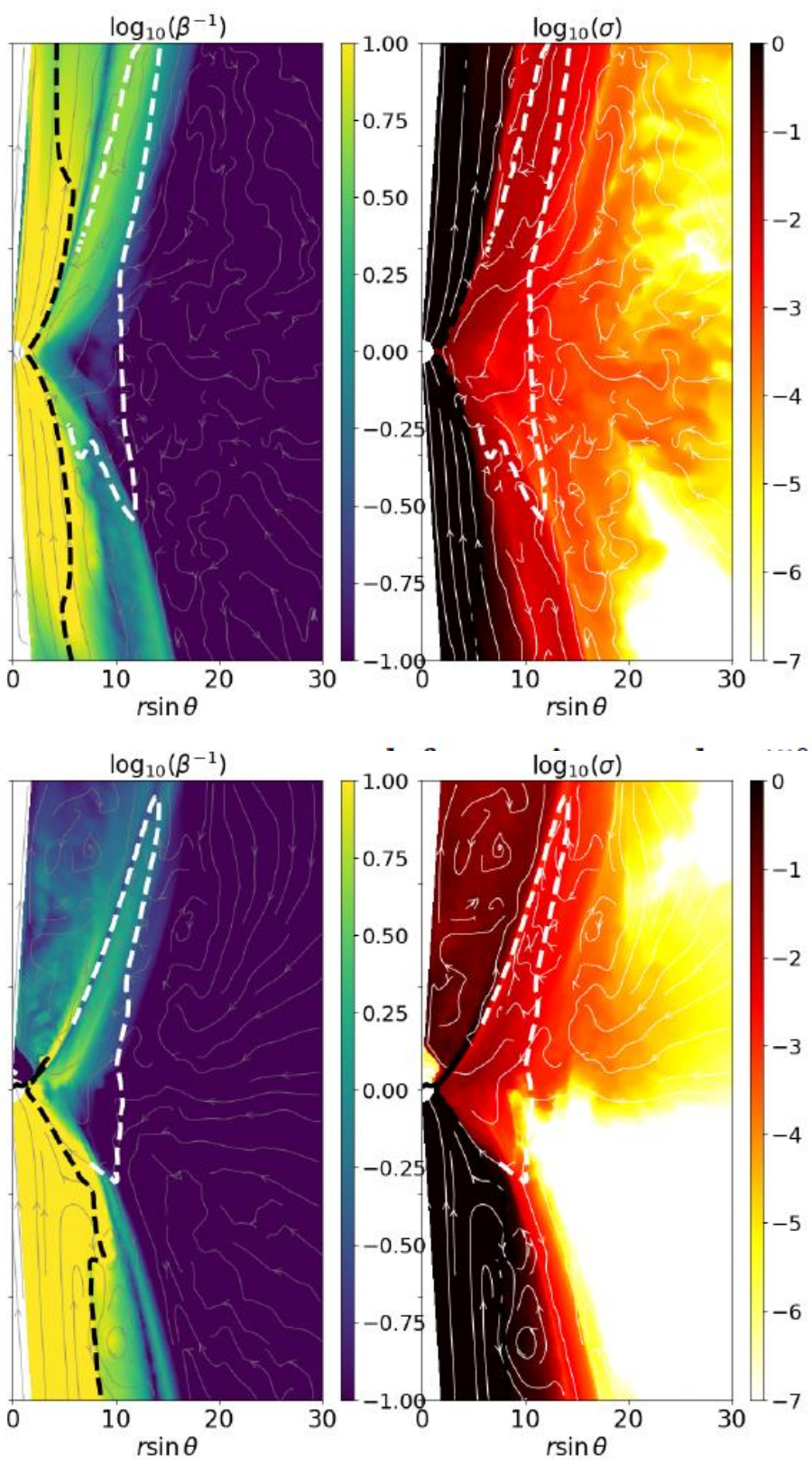
Cosmic Feedback Group of Prof. Karen Yang (楊湘怡)



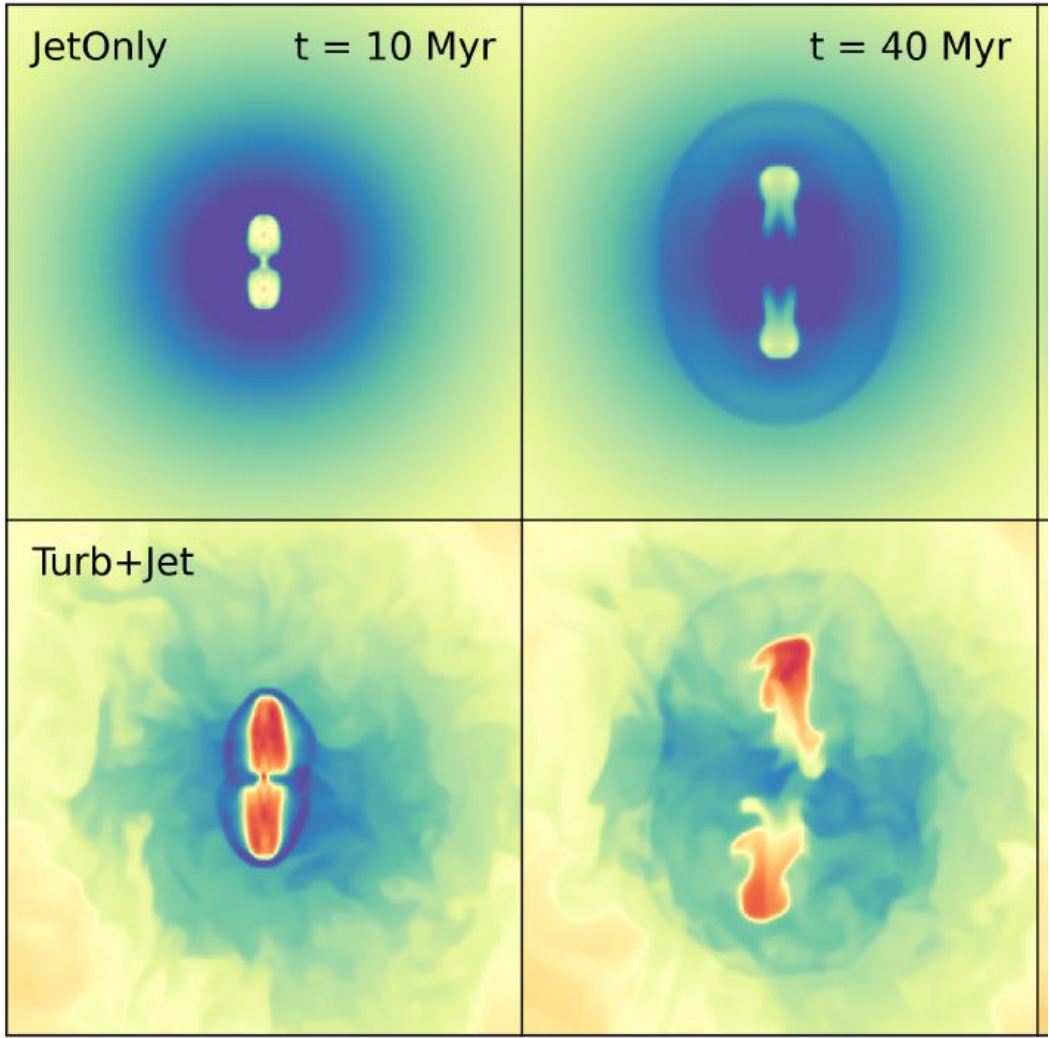
Modeling the Fermi/eROSITA bubbles



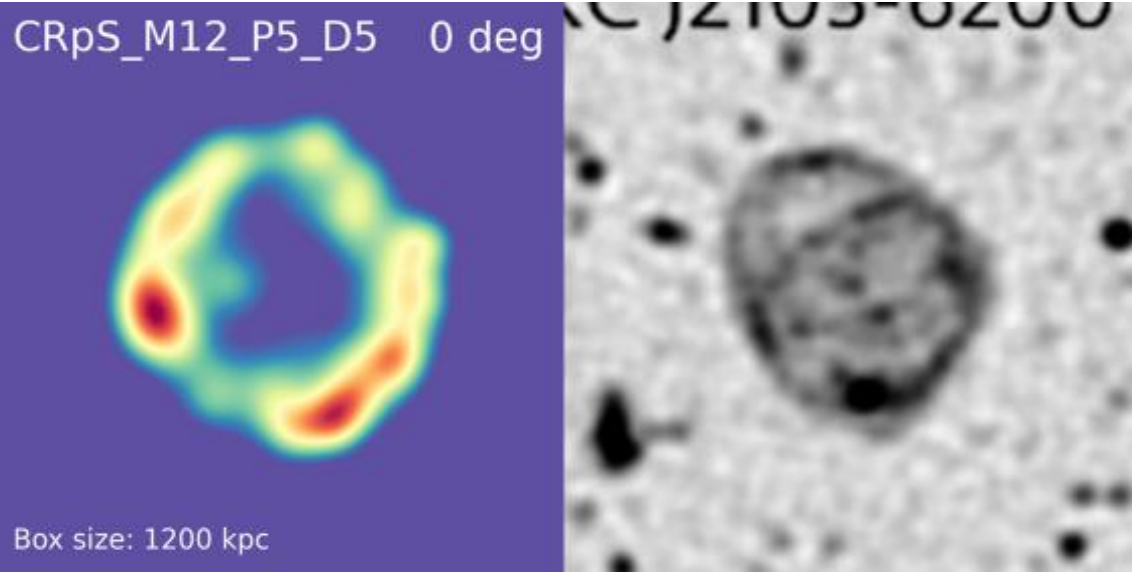
GRMHD simulations of BH accretion disks



Heating by AGN feedback in galaxy clusters



Origin of the newly discovered "odd radio circle"



Simulated image
(Lin & Yang 2024)

Observed image
(Norris et al. 2022)

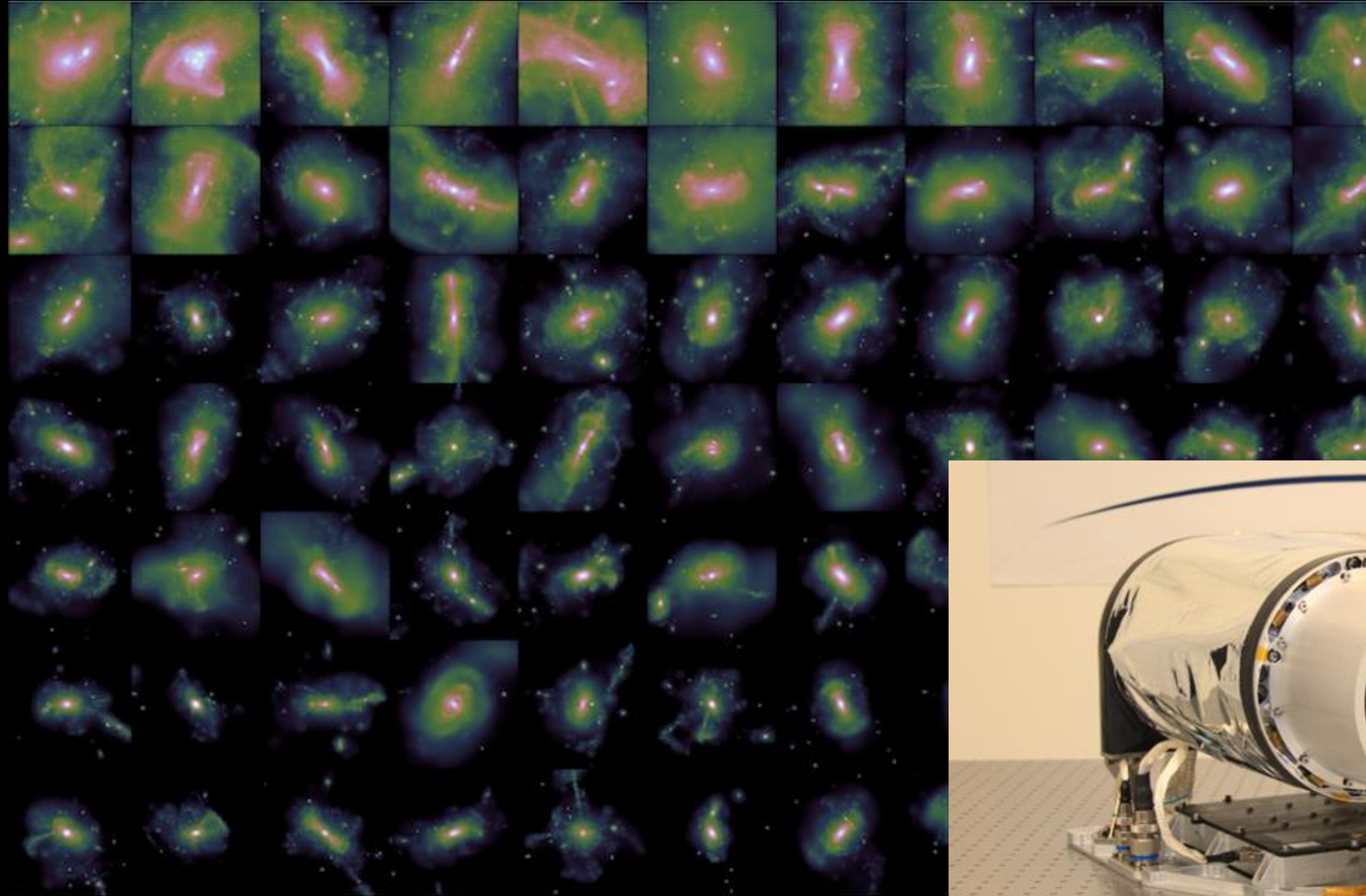
(Palit et al. 2026)

(Li & Yang 2026)

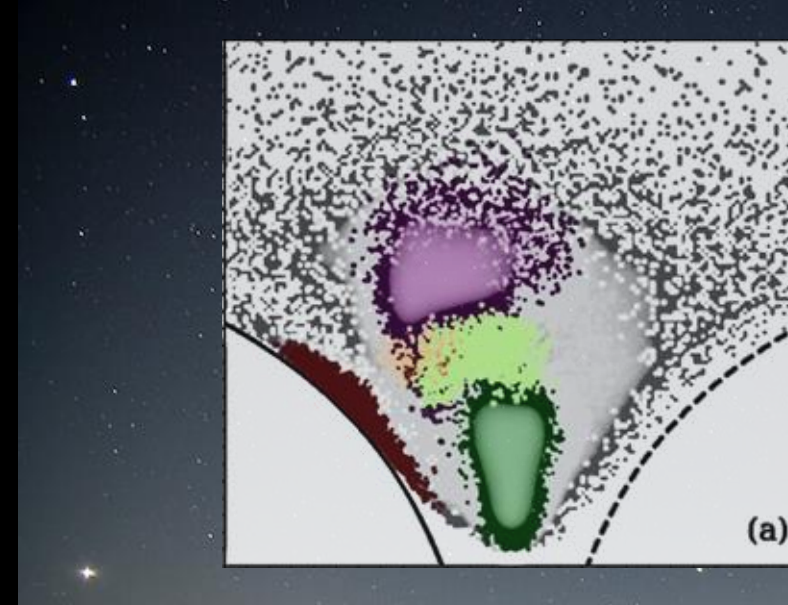
Prof. Andrew Cooper

Galaxy Formation and Galactic Archaeology

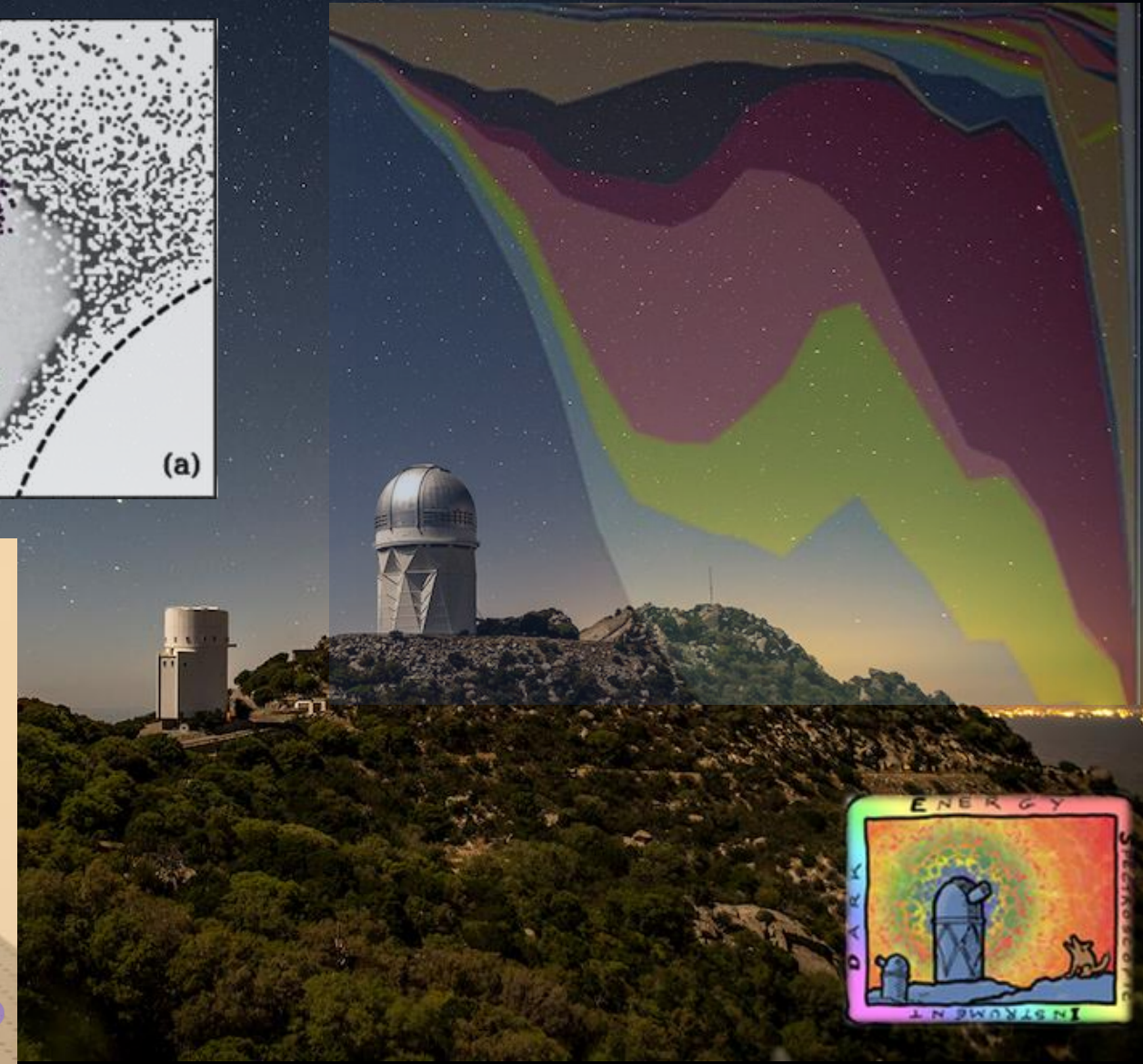
Exploring galaxies through their faint stellar halos, tidal streams, globular clusters and dwarf satellites



We used the IoA CICA cluster to create "STINGS": a suite of 6000 cosmological simulations of galactic stellar halos



We are partners and science group leads in ARRAKIHS, a new binocular space telescope (ESA, to launch in 2030)



We are major participants in the 12-million-star Dark Energy Spectroscopic Instrument Milky Way Survey

CICA (“Centre for Informatics and Computation in Astronomy”)

In-house high performance computing at IoA.

Designed and operated collectively by IoA faculty.

The largest scientific computing facility at NTHU: 2000 HPC cores, GPU and high-memory nodes, 1.1 PB of storage.

Shared among all IoA faculty, postdocs and students; available freely to our collaborators, colleagues in the Department of Physics, and other astronomers in Taiwan.

Over the last 6 years, CICA has boosted our research productivity and student proficiency in HPC:

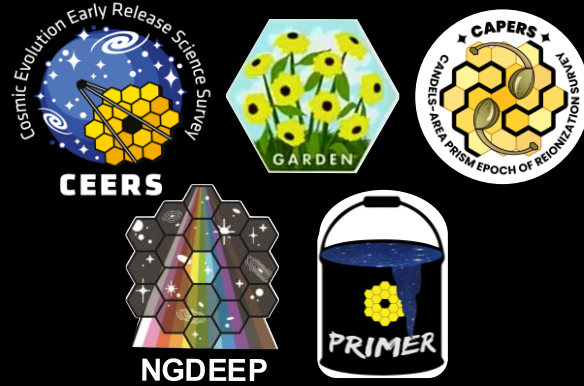
- **118 active users** (194 registered in total, >30 external collaborators);
- **Acknowledgement in 95 peer-reviewed publications with 1536 citations.**

Prof. L. Y. Aaron Yung 容朗殷

為國際太空望遠鏡項目提供前沿星系演化的物理模型



偉伯望遠鏡



哈勃望遠鏡



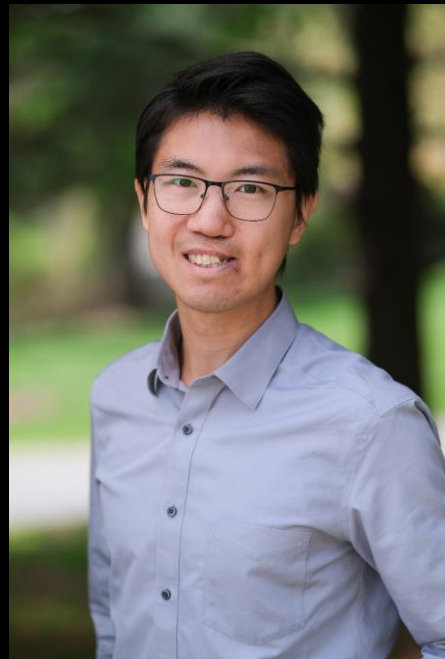
深空觀測 (Deep fields)

- 只能覆蓋像月亮大小的天域
- 能觀測約數十萬星系
- 有助理解星系在宇宙歷史中的演化



大型巡天觀測 (cosmological survey)

- 比深空大 1,000x 到 100,000x
- 數以千萬計的星系
- 提供解開黑洞成長和宇宙學中大量尚待突破的開放問題的契機



Launched & is awesome!



Launch in Sep 2026



Phase A+ early 2026



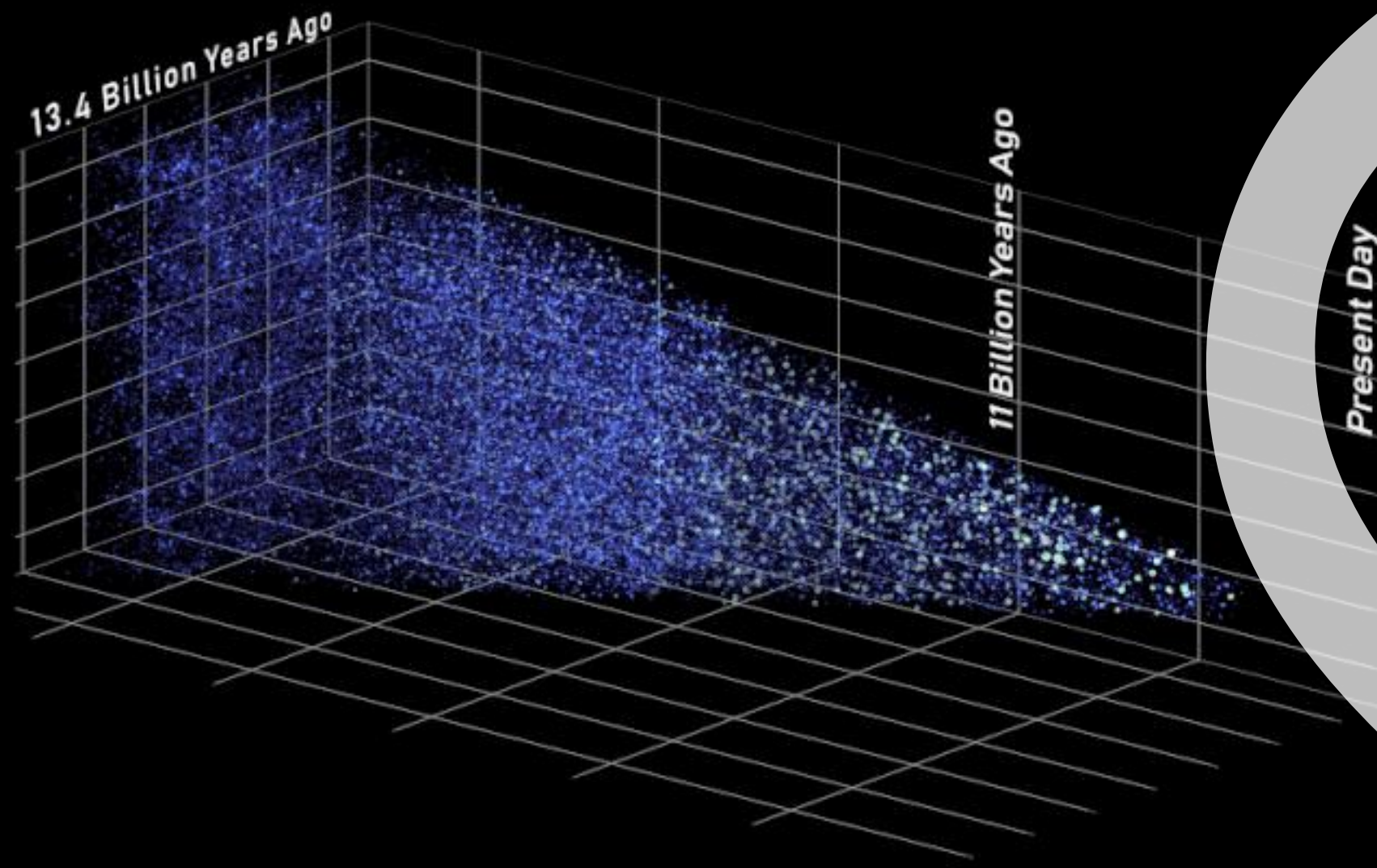
Selection in 2026



& many others on the way

Prof. L. Y. Aaron Yung 容朗殷

為國際太空望遠鏡項目提供前沿星系演化的物理模型



模擬宇宙示意圖 (擷自NASA新聞稿)



Launched & is awesome!



Launch in Sep 2026



Phase A+ early 2026

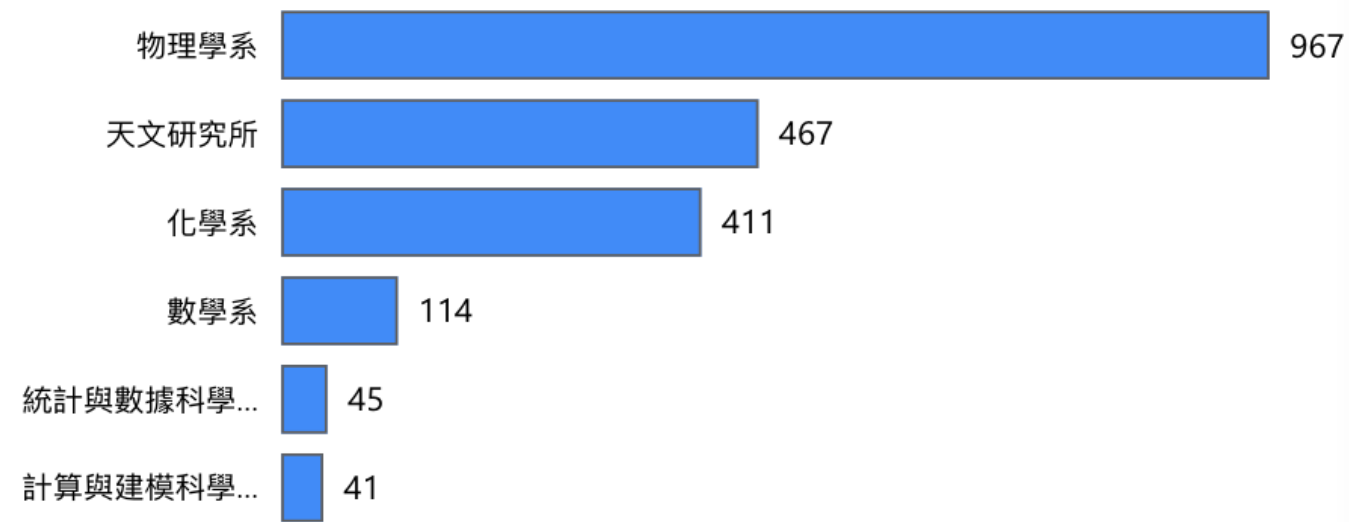


Selection in 2026

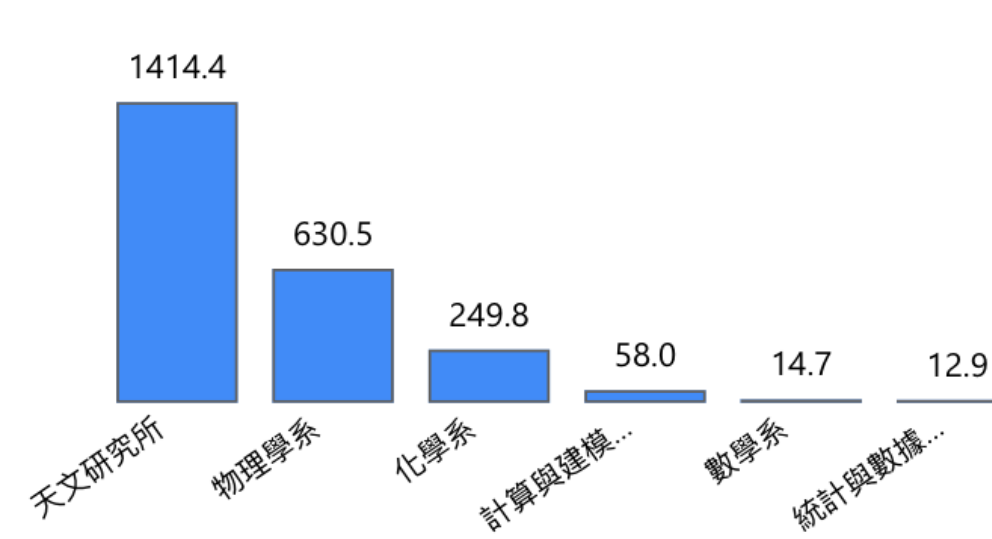


& many others on the way

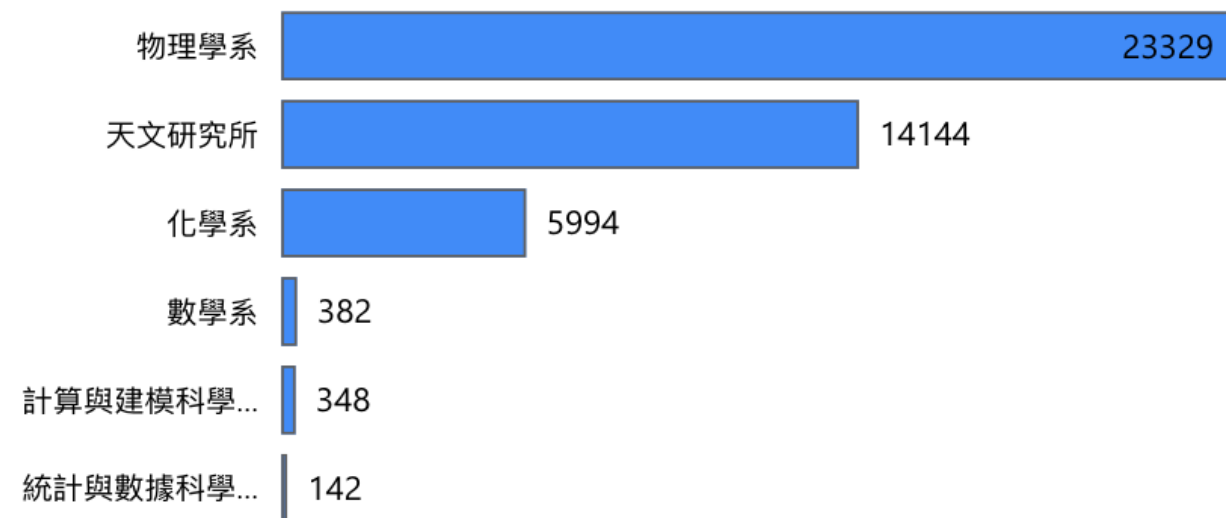
論文發表數



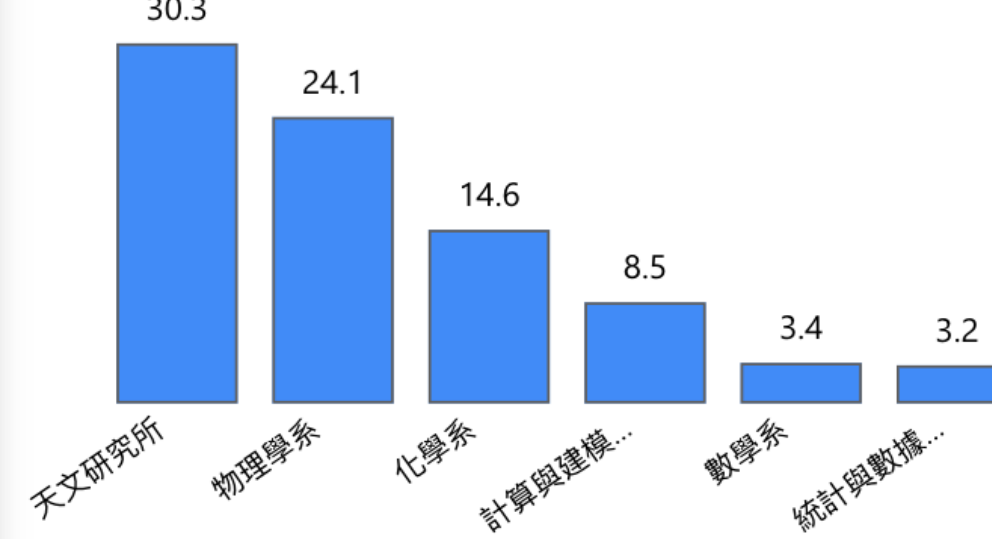
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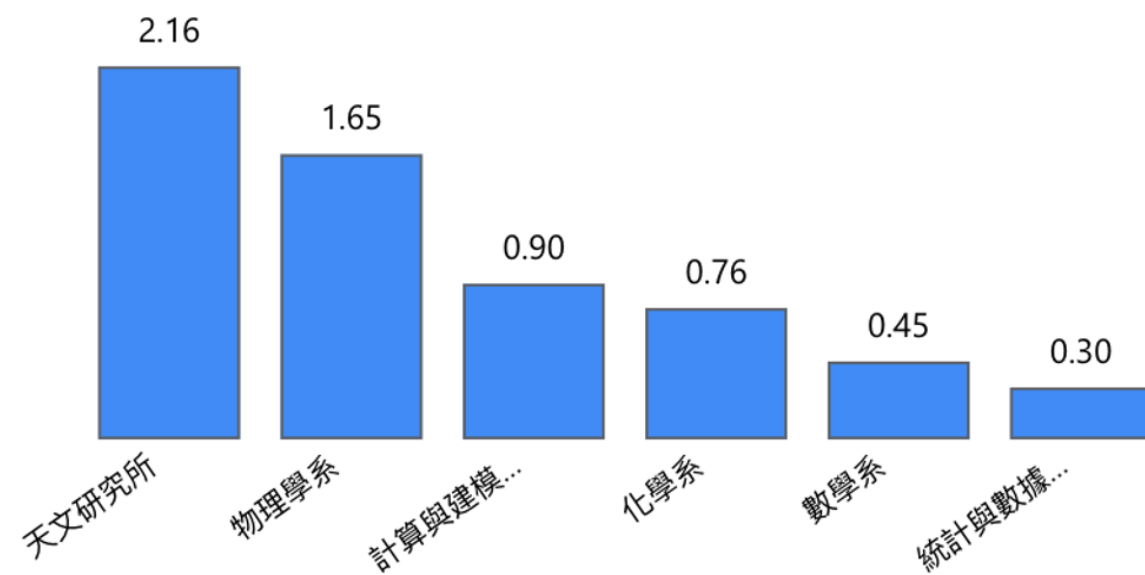
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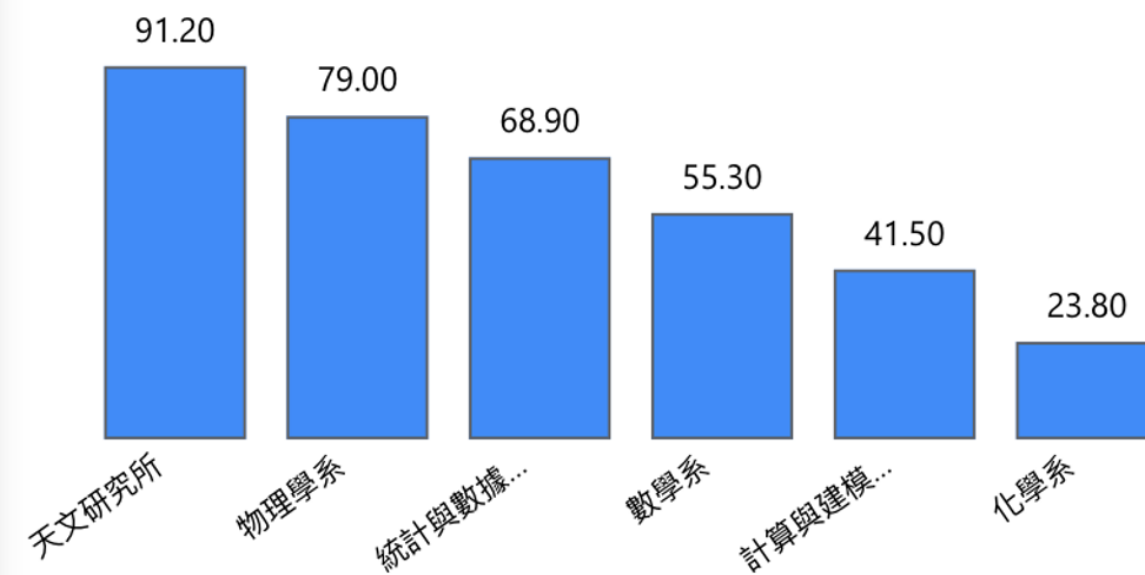
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FWCI(排除自引用)



國際合作比例(%)



文體類型：**Articles, reviews, conference papers, books and book chapters(不含自我引用)**
 資料來源：**Scopus資料庫**
 論文區間：**2019-2024年**
 擷取時間：**2026年4月14日**

強大的助理群



**Thank you for joining us
in this endeavor**

Let's move forward together into the next 25 years !



Institute of Astronomy

NTU