

国際滞在型天文学宇宙物理学研 究会・スクールの拠点形成

A base for international residential
research workshops and schools
for astronomy and astrophysics

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0 Past experience

- 京大基研、KEK、東大Kavli IPMUでは、**時間的に余裕をもった滞在型研究会**が行われている。
- **日本の天文学**では滞在型研究会がなぜあまりないのか？
- At YITP, Kyoto, KEK and the Kavli IPMU, there are **residential meetings/Schools with plenty of time to spare.**
- Why are there no such meetings in Japanese **astronomy communities?**

2. Science Goal

- 世界をリードする研究者を余裕を持ったスケジュールで複数人招聘する研究会・スクール
- 参加者同士で議論する時間をゆったり設ける
- 全く新しい共同研究のアイデアを創発
- 国立天文台発のオリジナル論文をコンスタントに出すことを期待
- A workshop or school that invites several world-leading researchers in **schedule with plenty of room**
- Time is set aside for **participants to discuss with each other**
- Emergence of completely **new ideas** for collaborative research **at the NAOJ**
- Expectation of consistent publication of **original papers from the NAOJ**

3. Scientific objectives

- コロナ後、オンライン会議が増え、対面で徹底的に議論を尽くす機会が著しく減っている。
- 若手の育成に極めて甚大な影響を与える
- 国立天文台が、世界の一流の研究者を招聘し、彼らと若手とをつなぐハブの役割を果たすことを目的とする。
- Since the coronavirus pandemic, there has been an increase in **online meetings**, and opportunities for **thorough face-to-face discussions** have **decreased significantly**.
- This will have a **huge impact** on the development of **young researchers**.
- The NAOJ aims to invite world-class researchers and act as a **hub to connect them with young researchers**.

4. Science investigations

- その年のテーマを一つ決める
 - 有名講師を数名招聘し、フルサポートで国立天文台に滞在
 - 参加人数は数十名程度を想定。
 - 滞在先はコスモス会館と民間のホテル。オフィスも提供。
 - 1日に2、3時間ほどの招待講演と参加者によるショートトーク。
 - あとは、すべてフリーディスカッション
 - ゆったりとした時間を確保して徹底的に議論をする機会を与えることが特徴
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- Decide on a theme for the year, and stay for a period of about one to several weeks
 - Invite several famous lecturers and stay at the National Astronomical Observatory with full support
 - The number of participants is expected to be around several dozen.
 - Accommodation is at the Cosmos Hall and private hotels. An office is also provided.
 - Invited lectures of around 2-3 hours a day and short talks by participants.
 - The rest is all free discussion
 - The feature is to give people the opportunity to thoroughly discuss things in a relaxed atmosphere

For example, schedule of a week

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
08:00 - 09:00		Free Discussion	Free Discussion at Mt. Takao /Mt. Tsukuba	Free Discussion	Free Discussion			
09:00 - 10:00		Free Discussion		Free Discussion	Free Discussion			
10:00 - 11:00	Invited 1-1	Invited 2-1		Invited 2-2	Invited 3-2			
11:00 - 12:00	Invited 1-2	Short talks by Participants		Short talks by Participants	Short talks by Participants			
12:00 - 13:00	LUNCH	LUNCH		LUNCH	LUNCH			
13:00 - 14:00	Free Discussion	Free Discussion		Free Discussion	Free Discussion at downtown Tokyo			
14:00 - 15:00	Free Discussion			Free Discussion		Free Discussion		
15:00 - 16:00	Short talks by Participants			Invited 3-1		Free Discussion		
16:00 - 17:00	Free Discussion			Free Discussion		Free Discussion		
17:00 - 18:00	Free Discussion	Free Discussion		Free Discussion	Free Discussion			
	Reception			Dinner at Shibuya				

Every year, each field takes its turn

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2036
宇宙論・銀河 Cosmology Galaxy		Blue				Blue				Blue				Blue	
系外惑星・恒 星系 Planets			Green				Green				Green				Green
星惑星形成 Stars				Red				Red				Red			
コンパクトオ ブジェクト・ 恒星進化					Orange				Orange				Brown		

Compact
Objects

6. Originality and international competitiveness

- 日本では、YITP、KEK、Kavli IPMUなどで、滞在型の研究会・スクールが行われている。
 - KEK理論センターでは、私をチェアとするKEK-Cosmo研究会・スクールを2016年から2022年まで毎年開催した。
 - <https://research.kek.jp/people/kohri/project2016J.html>
 - これを国立天文台で継続する。
 - 米アスペン物理学研究所がオフィスを提供し、毎年数100人規模の人材を集めている。財源はアメリカ国立科学財団(NSF)
 - 日本の天文学では国立天文台しかできない
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- In Japan, residential research groups and schools are held at YITP, KEK, Kavli IPMU, etc.
 - At the KEK Theory Center, the KEK-Cosmo Research Group and School, of which I am the chair, was held every year from 2016 to 2022.
 - <https://research.kek.jp/people/kohri/project2016J.html>
 - This will continue at the National Astronomical Observatory of Japan.
 - The Aspen Institute in the United States provides the office, and every year it attracts several hundred people. The funding comes from the National Science Foundation (NSF)
 - In Japanese astronomy, only the National Astronomical Observatory of Japan can do this

7. Current Status

- We are in the process of organizing members

8. Cost assessments, budget line and status

- Budget scale for the entire project (total amount or amount per year): **16M JPY/year**
- National Astronomical Observatory funding (total amount or amount per year): **14 M JPY/year**
- We are hoping to receive **(7+7=14) M JPY /year** in Unkou-Kin funding. This will also cover the personnel costs of hiring a new project assistant professor (successor staff) to carry out this program (**7 M JPY /year**), as well as research expenses.
- Some of them may have requested support from **OISTER WEB** and other organizations.
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- By applying for some grants, e.g., Grant-in-Aid for Scientific Research, we will add **2M JPY/year** into the total amount.

9. Members (with junior faculties)

NAOJ

- Kazunori Kohri (PI), M. G. Dainotti, Koh Takahashi, M. Ouchi, M. Machida (DoS)

Others (Joint Research Institutes in Japan)

- Y. Urakawa (KEK), T. Asano (ICRR), M. Takada (IPMU), S. Mukohyama, K. Ioka (YITP), etc.

10. Why NAOJ ?

- NAOJは、我が国の天文学の共同研究機関
- 東京郊外という立地も、利便性などから海外の研究者にとって魅力的
- ホストとなれる研究者が多数在籍

- NAOJ is a unique joint research institution for astronomy in Japan
- Its location in the suburbs of Tokyo is also attractive to overseas researchers due to its convenience
- In NAOJ, many researchers who can act as hosts.