About TMT strategic R&D fund

TMT戦略基礎開発研究経費について

Chikako Yasui (NAOJ, TMT-Project)
TMT J-SAC member
TMT Project member

TMT strategic R&D fund

- Purpose of this Budget (from the Application Guidelines)
  The TMT Project at the National Astronomical Observatory of Japan (NAOJ) is calling for proposals for basic research and development plans aimed at realizing future TMT observational instruments. For Japan to make significant contributions to the TMT project, it is crucial for researchers at universities and institutions to participate in the development by leveraging their unique ideas and specialized technologies. This budget aims to support such activities. The total budget for fiscal year 2025 is planned to be 10 million yen.

- Background
  2012: This budget program was launched.
  2020: Temporarily suspended due to budget cuts at NAOJ.
  2021: Resumed in response to requests from the TMT-J Science Advisory Committee and the broader astronomical community.
  For more details, please refer to:
  https://tmt.nao.ac.jp/researchers/support/

Required Research

(From the Application Guidelines)

This call for proposals focuses on the development of key technologies related to next-generation TMT instruments. Research plans that include one or more of the following topics are being sought. New applications and proposals that contribute to foster next generation researchers are especially welcome.

1) Research plans that, through this fiscal year's development efforts, are expected to achieve performance specifications and contribute to the acquisition of core technologies for next-generation TMT instruments for multiple years (including data analysis methods).

2) Research plans related to the development of key technologies for enhancing the functionality of TMT's initial instruments or telescope capabilities. These plans should demonstrate prospects for achieving performance specifications through this fiscal year's development efforts and are expected to lead to proposals for adoption (including data analysis methods, data archives, and environmental measurements).

3) Highly original and innovative ideas with applicability and feasibility. These should include basic studies and development that help define scientific goals and performance specifications for TMT applications. The research is expected to determine the parameters needed for performance specifications and instrument configurations within a few years. This may also include the organization of research meetings and expenses for proof-of-concept experiments.

4) Ideas not limited to narrow definitions of instrument development, but related to development topics such as data processing, archives, collaboration with other observartories/facilities, and small-scale research meetings that contribute to scientific research using TMT.

Past Achievements

- Support for Research Groups
  Enabled participation by Japanese research communities in the 2018 TMT Second-Generation Instrument White Paper.
  - MICHI (+J)
  - Planet System Imager (+J)
  - High-dspersion NIR spectroraph (IRD-like) (+J)
  - NIR multi-IFU muti-AO spectrograph (+J)
  - NIR MOS (IRMS re-design) (+J)
  - High-dispertion opetical spectrograph (+J)
  - High-dispertion opetical spectrograph (China only)
  - Rapid imaer + spctropolarimeter (+J)

- Sharing Outcomes within the Community
  Lab tours: Conducted prior to FY2019.
  Community briefings: Held in 2023.
  Results presentations: Delivered in 2020 and 2024.

- Case studies on instrument development for the Subaru Telescope, supported by this budget.

  For example:
  S. Ozaki+: Development of FOCAS IFU
  O.Guyon, J. Lozi+: Wavefront Control Testing for Adaptive Optics

  These two examples will be presented in more detail by the respective project members later in the session.

  For the integration of Subaru and TMT operations and to make the most effective use of Japan's limited budget, such research applications are highly welcome!

Schedule

Contingent on funding, the schedule is expected to be similar to FY2024:

- April 1: call for proposals opens
- April 30: Proposal submission deadline
- Mid-May: Evaluation and approval by TMT-JSAC
- Late-May: Notification of results

Please note that this schedule is contingent on funding and may change if the funding situation is different.