# Fermi Proposer Workshop

## Workshop Agenda

2:00-3:30 PM (EST), Wed., Jan 24, 2024

| | |
|---|---|
| Welcome, Session Overview, and Goals | Chris Shrader |
| Mission Overview and News | Liz Hays (~10 min) |
| Overview of FSSC Online Services | Don Horner (~10 min) |
| GI Program Description, Opportunities, General Discussion | Chris Shrader (~20 min) |
| GI Science Nuggets (1-VG Attendee Contributions) | ~5-min each |

# Fermi Guest Investigator Opportunities

Chris Shrader,
*Fermi* Science support Center,
NASA/GSFC

# Fermi GI Program Overview

- **Broad community participation greatly enhances the scientific productivity of the Fermi mission**
  - **This is facilitated through a rigorous Guest Investigator (GI) program**
- **Primarily proposals for grant support**
  - **All science data products and basic analysis tools are publicly available through the FSSC as are proposal preparation and submission details**

# Program Overview (con.)

- **Participants can propose:**
  - **Analysis of all public data products**
    - **Includes development and dissemination of methodologies, e.g., algorithms, SW tools**
  - **Correlated observations relevant to Fermi**
    - **Includes opportunities for joint observation programs w/partner observatories; NRAO, NOIRlab, VERITAS, TESS and INTEGRAL**
    - **Proposers with separate access to other observatories can propose correlative programs**
  - **Theoretical investigations relevant to Fermi**

# Program Overview (con.)

- 2-stage review process
  - The first stage is the *science review*
    - Dual-anonymous peer-evaluation process
  - Budget proposals are solicited from successful first stage proposers
    - Internal review by NASA
- Support for ~35 research programs
  - Our goal is for ~$75k average grants, although
  - Also 1+/-1 new Large Projects @ ~$125k per year

# Recent History: Cycle 13-15 Summary

- ~100 proposals received, ~35 selected per cycle
- ~35% approval rate represents an improvement *wrt* past cycles
  - Cycles 5-10 average was 22%
- Recent Fermi selection rate is ~consistent with the average for NASA GO programs

# Joint Observation Programs

- The Fermi project has organized partnerships with several other observatories to establish joint program opportunities
- This includes NRAO, NOIRlab, INTEGRAL*, VERITAS and TESS.
- Prospective proposers should carefully review the appropriate MOU(s) on our website.

## Allotted Joint-Program Quotas

| | |
|---|---|
| NRAO: | 450-600 hrs on GBT, VLA & VLBA |
| NOIRlab: | 3-5% for various telescopes |
| VERITAS: | 120 hrs |
| INTEGRAL: | 250 ksec |
| TESS: | 1,000 2-minute cadence and 50 20-second cadence target slots |

* Terminates at end of 2024

# Cycle-16 Joint Program Statistics

**Requested** (proposals/obs time) / (time available)

---

NRAO: (11/650) / (450-600 hrs on GBT, VLA & VLBA)
NOIRlab: (4/80) / (3-5% for various telescopes)
VERITAS: (3/100) / (120 hrs)
INTEGRAL:(0/0) / (250 ksec)
TESS: (0/0) / (33 hrs)

These joint-program opportunities have often been under subscribed, often significantly.

**Important: C**arefully review the MOUs and contact the partner observatory helpdesks with technical questions. A ***one-page appendix*** will be evaluated for technical/programmatic considerations by the partner observatories. Scheduling of observations is to be negotiated by approved PIs, NOT by NASA

**Awarded:** (proposals/obs. time)

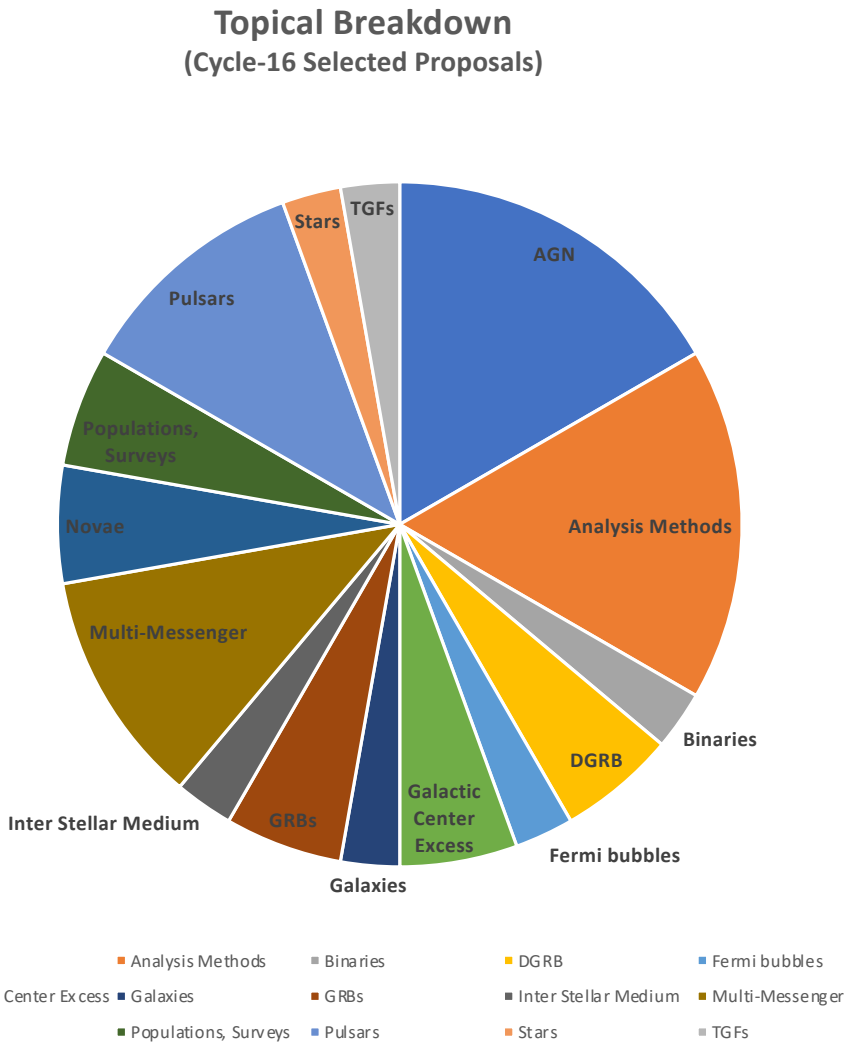
---

NRAO: 5/495 (3 VLA/VLBA, 2 GBT)
NOIRlab: 1/16 hrs
INTEGRAL: 0/0
VERITAS: 0/0
TESS: 0/0

The program is **topically diverse:** The distribution of topical categories among Cycle-16 selections is depicted here:

**Programmatic breakdown:**
The range of supported activities is also diverse - LAT data analysis (40%), GBM data analysis (7%), Correlated MW observation (28%, Theory (25%)

**Useful resource:** Titles and abstracts of previously selected programs are public domain information and are available on the FSSC website.



# Proposal Writing Tips

- Read the proposal preparation instructions. Don't get penalized for trivialities: e.g., formatting violations, DAPR violations
- Proposal needs to make the case that a problem is pertinent and that you offer a viable plan to solve it (or make tangible progress)
- Show that it ties in to the big picture in some manner; don't assume all the panelists are niche experts on your topic
- Get to the point; avoid lengthy introductions and extensive reference lists. Close with a concise summary statement
- One or two carefully prepared graphics are extremely beneficial
- If possible, ask a colleague (other than a co-I) to read and critique a mature draft

# Proposal Evaluation Process

- Following the model of all NASA GI/GO programs each proposal is evaluated by a NASA-convened, anonymous peer-review panel.
- The agency strives for fairness and equity in this process. Effort is made to optimize the collective expertise pool for participation in this process.
- Initiated in Cycle 14 and continuing henceforth Fermi has employed a **dual-anonymous peer review process.**

# What is Dual-Anonymous Peer Review?

- In dual-anonymous peer review, the reviewers do not have explicit knowledge of the identities of the proposing team during the scientific evaluation of the proposal.
- The primary intent of dual-anonymous peer review is to eliminate “the team” as a topic during the scientific evaluation of a proposal.
- This creates a shift in the review-panel discussions, away from the individuals, and towards a discussion of the scientific merit of a proposal.
- The goal is to **eliminate or at least minimize Conscious and Subconscious Bias** in the selection process**.**

# Consider Volunteering to Serve as a Panelist

- Serving as a peer-review panelist can be extremely beneficial in terms of improving your proposal writing skills
- Participants get to see first hand the evaluation and decision-making process
- It will also help you update your knowledge on a variety of subjects
- You can volunteer via a link on the Fermi SSC website *Proposals* page

# Cycle 17 Timeline

- Schedule: Feb. 15, 2024, proposal due date
  - ~late April 2024: virtual peer-review meeting
  - ~late May/early June 2024: Stage-I selections
  - July/August stage-II awards
- We hope to again select 30-40 programs
- No significant policy changes *wrt* Cycle 16

# Additional Information

- Again, for all proposal preparation details please visit the FSSC Web site, in particular the "Proposals" page:
  - ***https://fermi.gsfc.nasa.gov/ssc/***
- Also, feel free to make use of our helpdesk with any Fermi-related questions
- **Good luck with your Fermi proposals!**

# Extra Slides

# Dual Anonymous Proposal Preparation

- Stage-I proposal submission done as before via ARK/RPS
  - Include PI/co-I info but names are hidden from reviewers
  - Numerical references, no "first person" attributions
  - Panelists may not speculate PI, co-I identities
  - Include "team identity and expertise" page
  - Cite access to specific facilities as private communications or arrangements
- Relaxes certain types of panelist conflicts of interest
- **After** deliberation and grading names will be revealed
  - A proposal can then be disqualified, but not re-scored

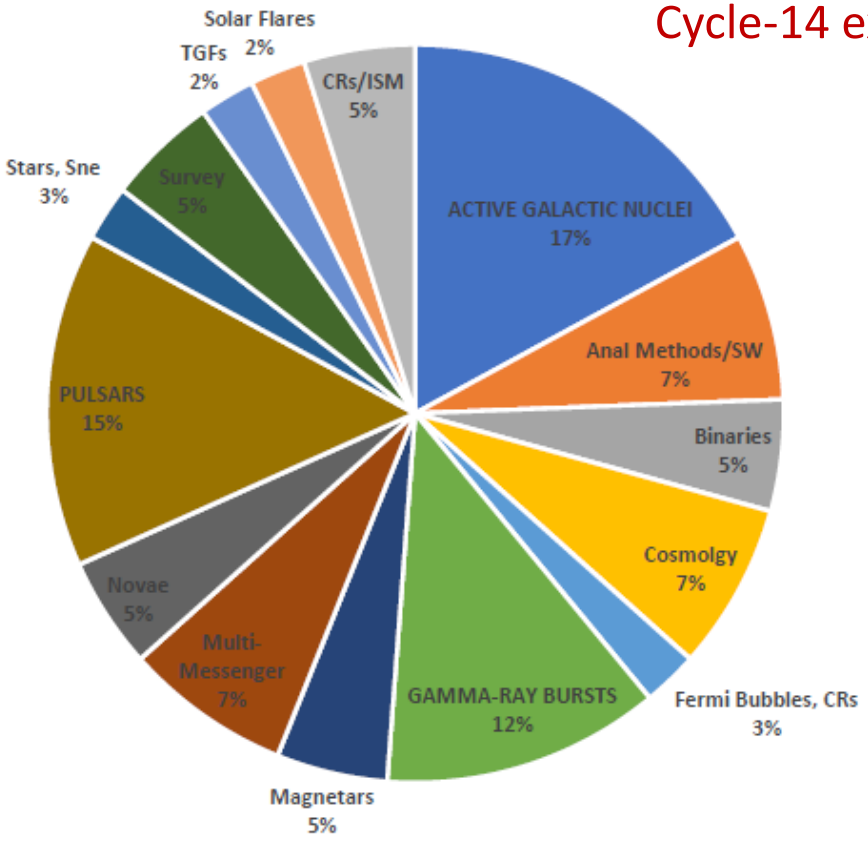
# Example of Anonymization

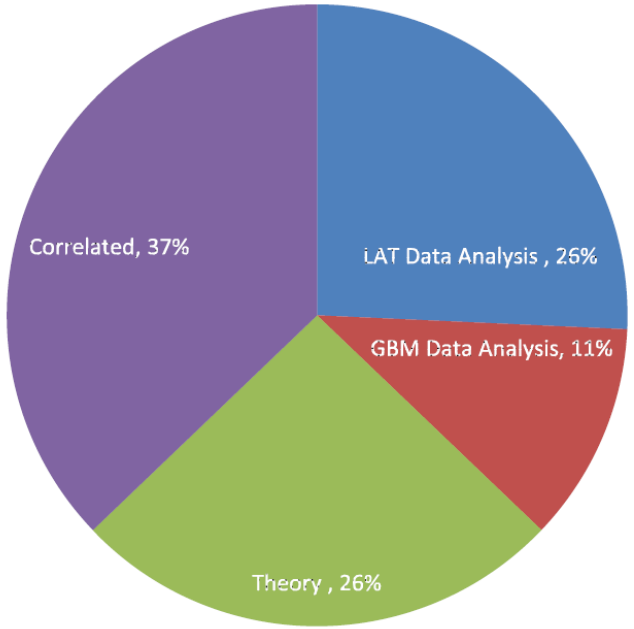
- *In Rogers et al. (2014), we concluded that the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. This object is the only known example of such a phenomenon, and it thus provides a unique opportunity to illuminate the nature of Type Ia supernovae and the progenitors. If our model from Rogers et al. (2014) is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare with our first epoch obtained in 2007 to measure the proper motion of the shock wave.*

- Here is the same text, again re-worked following the anonymizing guidelines:
- *Prior work [12] concluded that the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. This object is the only known example of such a phenomenon, and it thus provides a unique opportunity to illuminate the nature of Type Ia supernovae and the progenitors. If the model from [12] is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare with a first epoch obtained in 2007 to measure the proper motion of the shock wave.*

# Topical, Proposal Type Distribution

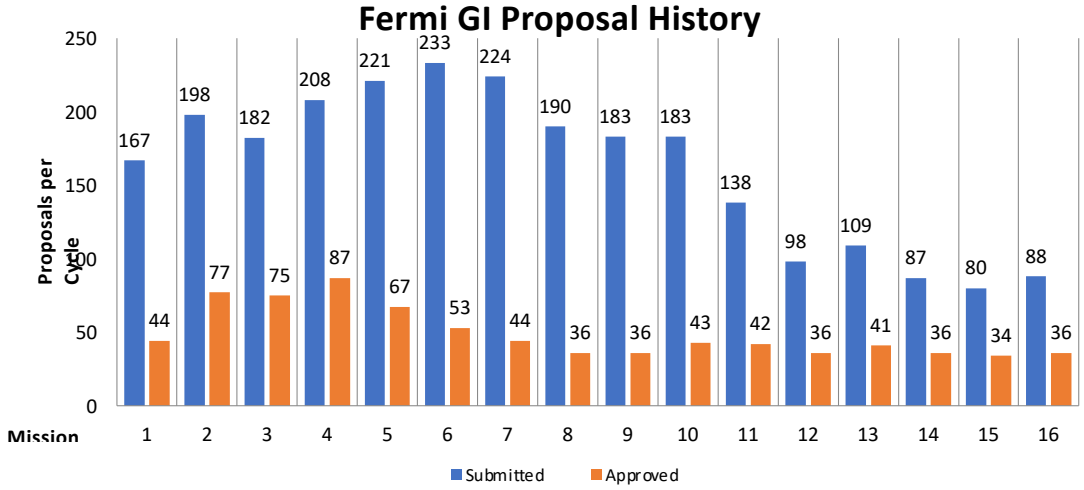
Cycle-14 example




SA/GSFC

# GI Program History




Selection rate ~40%, slightly over recent years, ~factor of 2 improvement over Cy-2-10 average

Grant level flat since Cycle-13.