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# Scientific Advisory Board – Report

Community Summer Study  
Seattle, July 16–26, 2022

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## Scientific Advisory Board

- Review of proposals and related activities;
- Responsible for reviewing NTN Postdoc Fellowship applications;
- Reports and submits recommendations to the Steering Committee;
- Make of the committee: theorists and experimentalists with expertise in different sub-topics within neutrino physics;
- Tenure: 3+ years. One subset graduated last Summer. Working on changes for this Summer.

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## SAB Membership

- Alberto Gago<sup>†</sup> (PUC-Peru) – HEP theory/phenomenology and experiment (MINERvA, DUNE);
- André de Gouvêa, Chair (Northwestern) – HEP theory/phenomenology;
- Roxanne Guenette (Manchester) – experiment (MicroBooNE, SBND, DUNE);
- Alessandro Lovato (Argonne) – nuclear theory;
- Olga Mena<sup>†</sup> (IFIC-Valencia) – HEP theory/phenomenology and cosmology;
- Pedro Machado (Fermilab) – HEP theory/phenomenology;
- William Marciano (Brookhaven) – HEP and nuclear theory/phenomenology
- Ornella Palamara<sup>†</sup> (Fermilab) – experiment (ArgoNeuT, Icarus, SBND, DUNE);
- Sanjay Reddy (Washington) – nuclear theory and astrophysics;
- Kate Scholberg (Duke) – experiment (Super-Kamionande, COHERENT, DUNE);
- Irene Tamborra<sup>†</sup> (Bohr Inst.) – astroparticle physics theory;

Prior members include Belen Gavela (UAM/IFT), Renata Funchal (USP), Chang-Kee Jung (Stony Brook), and Cecilia Lunardini (Arizona State).

[<sup>†</sup> indicates those who joined in 2021]

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## **2018 Call – Visits and Workshops**

DONE

## **2019 Call – Support of Existing Students/Postdocs & Travel**

DONE, modulo pandemic related delays

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## 2020 & 2021 Calls – NTN Postdoctoral Fellowships

- 3-year postdoctoral fellowship at an institution, in the USA, of the applicants choosing\*;
- Applications reviewed by the SAB (multistep process described in a few slides);
- 20+ institutions have actively declared interest in hosting NTN Fellows, see <https://ntn.fnal.gov/host-institutions/>;
- 80+ applicants in 2021;
- Two NTN Fellows identified in December 2020 started in the Fall of 2021;
- Two NTN Fellows identified in December 2021, to start in the Fall of 2022;
- Review Criteria
  - Excellence;
  - Alignment with the Mission and the Goals of the NTN;
  - Diversity of Research Topics.

[\* modulo some boundary conditions]

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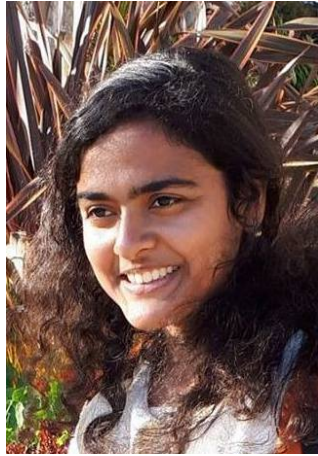
## NTN Fellows



- Bijaya Acharya (at Oak Ridge): neutrino–nucleus interaction physics; ab-initio treatment of electron/neutrino quasielastic scattering cross sections off heavy nuclei;



- Zahra Tabrizi (at Northwestern): neutrino phenomenology, within and beyond the standard model, searches for new phenomena using neutrino experiments;



- Payel Mukhopadhyay ( $\rightarrow$  UC Berkeley): supernova neutrinos, collective neutrino oscillations, numerical simulations of core-collapse supernovae to study nucleosynthesis;



- Ryan Plestid ( $\rightarrow$  Caltech): neutrino phenomenology, effective field theories and applications to neutrino interactions, QED corrections to neutrino–nucleus scattering.

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## NTN Postdoctoral Fellowships: Details of the Search Process

- First round

- Collect applications using Academic Jobs Online, similar to standard postdoc application;
- Every application is reviewed by at least four SAB members, at least two SAB members review all applications, modulo conflicts of interest. Input in the form of scores and comments;
- Based on AJO scores and feedback, SAB Chair constructs a long short-list (20–25 names);
- SAB meeting to construct, out of the long short-list, a short-list (6 names).
- Those on the short-list are contacted and move on to the second round (‘candidates’) below.



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- Second Round

- Candidates confirm interest in being considered and identify hosts and host institutions (this takes around one week);
- Candidates submit a research plan together with hosts. Hosts submit a supporting letter along with a statement that they understand and agree to the conditions of the NTN Fellowship;
- Interviews: candidates present a seminar (around 30 minutes, plus questions), attended by the members of the SAB. Seminars are recorded. (this takes around one week);

- Deliberation and Deliverables

- SAB meets (multiple times) in order to rank the short list;
- Ranked list ( $\leq 6$  names) and recommendations are submitted to the Steering Committee by the SAB Chair;
- SAB Chair and Steering Committee Chair work with hosts in order to extend offers.