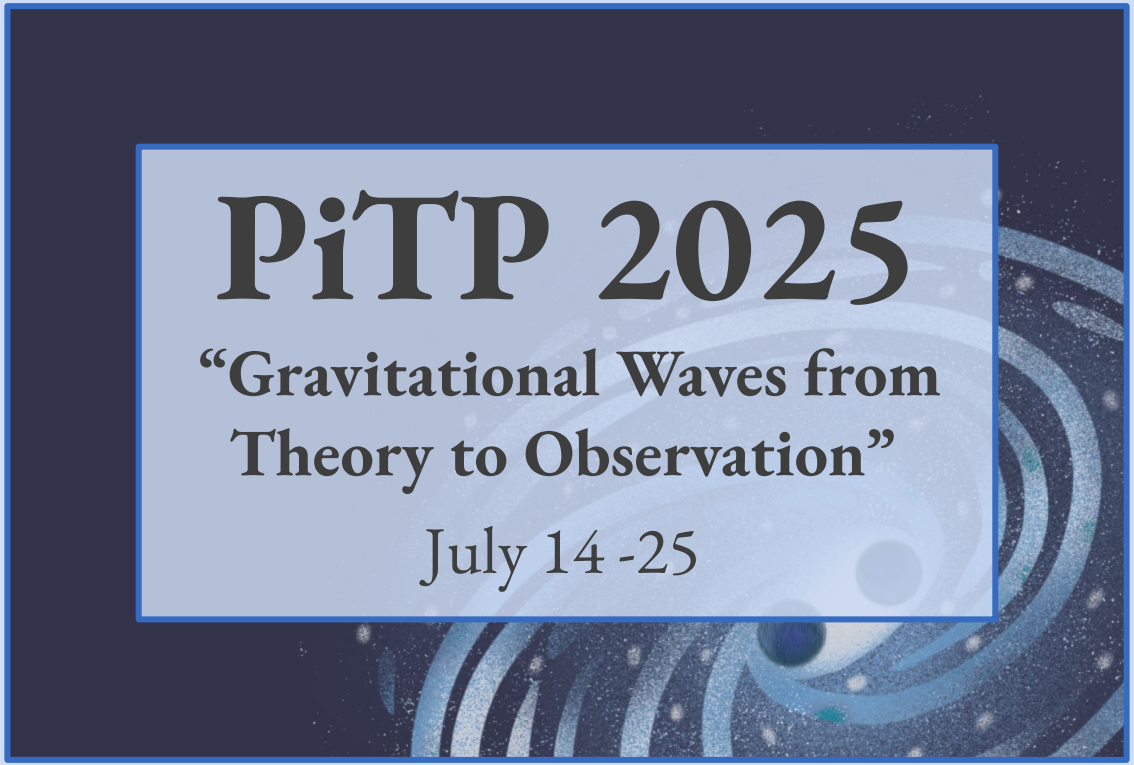

PiTP 2025
"Gravitational Waves from Theory to Observation"
July 14 -25

Welcome!

Organizers

Maya Fishbach

Tejaswi Venumadhav Nerella

Frans Pretorius

Barak Zackay

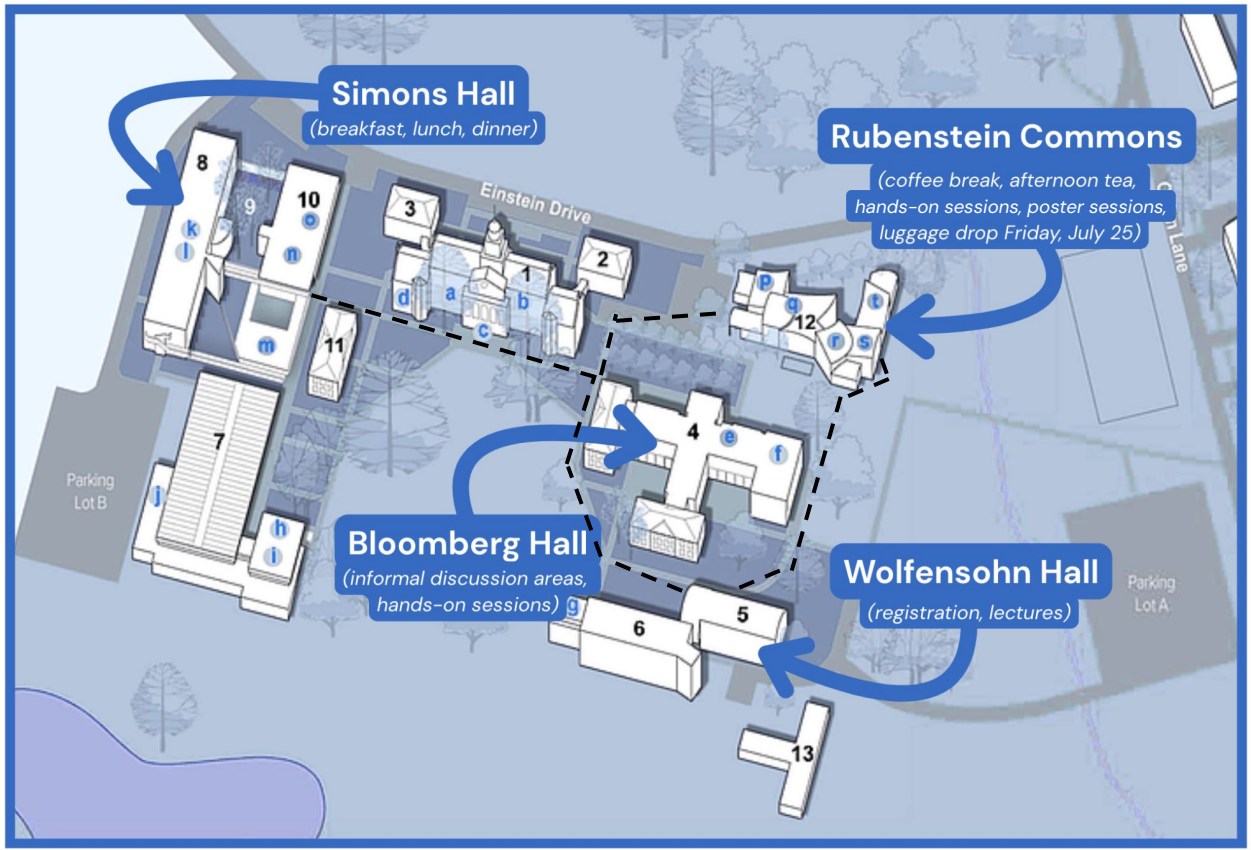
Matias Zaldarriaga

Academic Staff

Amanda Cenker, Lisa Fleischer, Michelle Sage, Audrey Smerkanich, Emily Smerkanich

If you have any questions, please email: pitp@ias.edu

IAS Campus Map



PiTP 2025 Schedule

- **The PiTP 2025 schedule is available on the PiTP website and will be updated as necessary**

- **A daily schedule, event posters, and reminders will be posted on the bulletin board in the lobby of Wolfensohn Hall**

PiTP 2025 website:

www.ias.edu/pitp

PiTP 2025 Schedule - Week 1

Time:	Monday, July 14th	Tuesday, July 15th	Wednesday, July 16th	Thursday, July 17th	Friday, July 18th
8:30 – 9:30 am	**Breakfast** (Simons Hall) **Registration** (Wolfensohn Hall)	**Breakfast** (Simons Hall)	**Breakfast** (Simons Hall)	**Breakfast** (Simons Hall)	**Breakfast** (Simons Hall)
9:15 – 9:30 am	**Welcome and Introduction**				
9:30 – 10:45 am	"GW overview of basic theory and sources" Zaldarriaga	"GW - detection - theory" Zackay	"Parameter inference of gravitational wave sources II" Nerella	"GW - detection - in practice" Zackay	"Approaches to waveform modelling" Schmidt
10:45 – 11:30 am	**Coffee Break** (Rubenstein Commons)	**Coffee Break** (Rubenstein Commons)	**Coffee Break** (Rubenstein Commons)	**Coffee Break** (Rubenstein Commons)	**Coffee Break** (Rubenstein Commons)
11:30 am – 12:45 pm	"The stochastic GW background and PTAs" Allen	"The stochastic GW background and PTAs" Allen	"The stochastic GW background and PTAs" Allen	"The stochastic GW background and PTAs" Allen	"GW - detection – signal consistency tests" Zackay
1:00 – 2:00 pm	**Lunch** (Simons Hall)	**Lunch** (Simons Hall)	**Lunch** (Simons Hall)	**Lunch** (Simons Hall)	**Lunch** (Simons Hall)
2:00 - 3:15 pm	"Approaches to waveform modelling" Schmidt	"GW overview of basic theory and sources" Zaldarriaga	"GW overview of basic theory and sources" Zaldarriaga	"Approaches to waveform modelling" Schmidt	"Hands on exercises with gravitational wave parameter inference" Nerella
3:15 – 4:00 pm	**Afternoon Tea** (Rubenstein Commons)	**Afternoon Tea** (Rubenstein Commons)	**Afternoon Tea** (Rubenstein Commons)	**Afternoon Tea** (Rubenstein Commons)	**Afternoon Tea** (Rubenstein Commons)
4:00 – 5:15 pm	"Parameter inference of gravitational wave sources I" Nerella	**Poster Session 1** (Rubenstein Commons Meeting Room 5)	**Hands-On Sessions**	**Hands-On Sessions**	**Hands-On Sessions**
5:30 – 7:00 pm	**Welcome Dinner** (Simons Hall)	**Dinner** (Simons Hall)	**Dinner** (Simons Hall)	**Dinner** (Simons Hall)	**Dinner** (Simons Hall)

PiTP 2025 Schedule - Week 2

Time:	Monday, July 21st	Tuesday, July 22nd	Wednesday, July 23rd	Thursday, July 24th	Friday, July 25th
8:30 – 9:30 am	**Breakfast** (Simons Hall)	**Breakfast** (Simons Hall)	**Breakfast** (Simons Hall)	**Breakfast** (Simons Hall)	**Breakfast** (Simons Hall)
9:30 – 10:45 am	"Introduction to low-frequency GW astronomy (overview)" Mingarelli	"Numerical relativity, assessing the non-linear regime of gravity and the merger of compact objects in particular" Lehner	"The LISA Global Fit - or how to listen to 10,000 conversations at the same time" Cornish	"The Gravitational Wave Signatures of Core-Collapse Supernova Explosions" Burrows	"Astrophysical Implications of Gravitational Waves from the Stellar Graveyard" Fishbach
10:45 – 11:30 am	**Coffee Break** (Rubenstein Commons)	**Coffee Break** (Rubenstein Commons)	**Coffee Break** (Rubenstein Commons)	**Coffee Break** (Rubenstein Commons)	**Coffee Break** (Rubenstein Commons)
11:30 am – 12:45 pm	"Connecting Electro-magnetic and gravitational-wave probes of supermassive black hole demographics" Greene	"Gravitational wave detection in space - the LISA mission" Cornish	"Overlap reduction functions: derivation of the Hellings and Downs curve, and beyond" Mingarelli	"Astrophysical Implications of Gravitational Waves from the Stellar Graveyard" Fishbach	"Numerical relativity, assessing the non-linear regime of gravity and the merger of compact objects in particular" Lehner
1:00 – 2:00 pm	**Lunch** (Simons Hall)	**Lunch** (Simons Hall)	**Lunch** (Simons Hall)	**Lunch** (Simons Hall)	**Lunch** (Simons Hall)
2:00 - 3:15 pm	"Gravitational Wave Parameter Estimation" Cornish	"Astrophysical Implications of Gravitational Waves from the Stellar Graveyard" Fishbach	"Numerical relativity, assessing the non-linear regime of gravity and the merger of compact objects in particular" Lehner	"The characteristic strain: gravitational wave astrophysics from the cosmic merger history of supermassive black holes" Mingarelli	**End of Program**
3:15 – 4:00 pm	**Afternoon Tea** (Rubenstein Commons)	**Afternoon Tea** (Rubenstein Commons)	**Afternoon Tea** (Rubenstein Commons)	**Afternoon Tea** (Rubenstein Commons)	
4:00 – 5:15 pm	**Hands-On Sessions**	**Poster Session 2** (Rubenstein Commons Meeting Room 5)	**Hands-On Sessions**	**Hands-On Sessions**	
5:30 – 7:00 pm	**Welcome Dinner** (Simons Hall)	**Dinner** (Simons Hall)	**Pool/Pizza Party** (97 Olden Lane) *(5:30 – 8:30 pm)*	**Dinner** (Simons Hall)	

Poster Sessions

- **Tuesdays, July 15th & July 22nd: 4:00 - 5:15 pm in Rubenstein Commons Meeting Room 5**

- **Posters will be hung in Rubenstein Commons Meeting Room 5 during the official sessions through the coffee break on the following day (Wednesday)**

- **Posters will then be available for further viewing at any time in Bloomberg Hall (location TBD) until Fridays, July 18th (Session 1) or July 25th (Session 2)**

Informal Discussion Areas

- Bloomberg Hall common room (1st floor)
- Bloomberg Hall lecture hall, (1st floor)
- Bloomberg Hall astrophysics library (2nd floor)
- Bloomberg Hall physics library (2nd floor)
- Pumble Channel (you should have received the link through email)

Welcome Dinner

Monday, July 14th

5:30 - 7:00 pm

Simons Hall

Archival Display

Wednesday, July 16th

&

Thursday, July 17th

3:30 - 4:30 pm

Participation is limited to 30 persons per session and registration is required. Please sign up at the information desk in Wolfensohn Hall by end of day Tuesday, July 15th

Pool & Pizza Party!

Wednesday, July 23rd

5:30 - 8:30 pm

Director's Home (97 Olden Lane)

Pizza, Ice Cream, Swimming, Lawn Games

Additional Information

- **Hands-On Sessions** — information TBA
- **Group Photo** — Wednesday, July 23rd
  time TBA, location TBA
- **Daily Reminders** — reminders and updates will be posted at the top of the PiTP webpage

Please Wear Your Name Badge

Name badges will be required for all meals!

Breakfast: 8:30 - 9:30 am

Lunch: 1:00 - 2:00 pm*

Dinner: 5:30 - 7:00 pm

Daily lunch menus are available here: https://www.ias.edu/dining/lunch

**Please note that while lunch ends at 2:00 pm, the servery line will only be open from 1:00 - 1:30 pm*

Health Information

- **IAS COVID Information —** https://www.ias.edu/human-resources/covid-19-procedure

- **Weather Advisories —** https://www.weather.gov/

Image: New Jersey Department of Health (February 2022)

- **Lyme Disease Information —** https://www.princetonnj.gov/299/Lyme-Disease