ISAAP Steering Committee

PISA Advanced School on Gravitational Waves

Theory, data analysis and detectors



Angelo Ricciardone

University of Pisa - INFN Pisa

First-edition proposal

23 October 2026

Purpose and first-edition aim

Integrated scientific training

Connect **gravitational-wave theory** with **data analysis** and **detector technologies**, drawing on Pisa's research community.

First-Edition: Ground-based interferometers

LIGO / **Virgo** / KAGRA
Einstein Telescope and Cosmic Explorer

Next-Edition: Space-based Detectors

LISA

50

maximum participants

PhD students, master students, plus scientists seeking advanced GW skills

Teaching programme and faculty

24 lecture hours across three subject areas

Subject	Scientific coverage	Lecture hours	Lecturers
Theory	Astrophysics/cosmology/fundamental physics	10	2
Data analysis	Gravitational-wave data analysis methods	8	1
Detectors	Current and future ground-based interferometers	6	1
Total	**Proposed lecture allocation**	**24**	**4**

Local PhD students and postdocs support practical sessions.
Saturday morning includes final team-project presentations.

Delivery and participant costs

Dates

June 2027
September 2027
January 2028

Draft delivery

Monday to Friday
09:00–13:00 and 14:00–18:30
with breaks

Friday afternoon: Team project presentations

Saturday morning
Prize+feedback and discussion

~€100

proposed attendance fee

Coffee breaks included

Participants cover meals, travel and accommodation

Other info

1	**Organizing Institutes:**	Department of Physics “E. Fermi”, Scuola Normale Superiore, INFN - Pisa
2	**Economic Support from**	INFN, FDFP, University of Pisa, PRIN
3	**Sponsorship**	University of Pisa, ISAAP?
4	**Venue**	Museum of Physics Instruments, University of Pisa
5	**Connections**	Pisa International Airport - Florence Airport

Preliminary Calendar

Day	09:00–11:00	11:00–13:00	14:00–16:00	16:30–18:30
Monday	GW theory	GW detectors	Data analysis methods	Hands-on (T/DA/D)
Tuesday	GW theory	GW detectors		Hands-on (T/DA/D)
Wednesday	GW theory	Data analysis methods	Data analysis methods	Hands-on (T/DA/D)
Thursday	GW theory		Data analysis methods	Hands-on (T/DA/D)
Friday	GW theory	GW detectors		Team project presentations
Saturday	Prize+Extended Q&A and discussion	**Virgo visit**	**Virgo visit**	