

Advancing Pulsar Science in the Era of Modern Interferometers

Detailed Programme

18 – 22 May 2026 · Lorentz Center@Omega, Leiden

Organisers: Aditya Parthasarathy, Pikky Atri, Hao Ding, Nataliya Porayko, Tim Sprenger

Day 1 Monday 18 May

Opening Day — Setting the Scene

10:00 – 10:25	25 min	Welcome & Workshop Overview Lorentz Centre introduction (15 min) + workshop goals (Aditya Parthasarathy & Hao Ding, 10 min)
10:25 – 11:00	35 min	[Social] Introductory Science Sparklers — Session A ~30 participants: short ~1-minute introductions
11:00 – 12:00	60 min	[Keynote 1] PTA / GW Science <i>The first inroads into the low-frequency gravitational-wave spectrum: Results and Challenges</i> Michael Keith (40 min talk + 20 min Q&A)
12:00 – 13:30	90 min	<i>Lunch</i>
13:30 – 14:30	60 min	[Keynote 2] ISM Propagation <i>The interstellar medium in space and time: current state-of-the-art in scintillometry and imaging techniques</i> Stella Ocker (40 min + 20 min Q&A)
14:30 – 15:00	30 min	<i>Coffee break</i>
15:00 – 16:00	60 min	[Keynote 3] VLBI Astrometry <i>Precision astrometry on compact objects with VLBI and avenues for advancements</i> Adam Deller (40 min + 20 min Q&A)
16:00 – 16:30	30 min	<i>Coffee break</i>
16:30 – 17:00	30 min	[Social] Introductory Science Sparklers — Session B ~25 participants
17:00 onward	—	[Social] Welcome Reception

Day 2 Tuesday 19 May

PTA: Challenges & Solutions

Moderators: Rutger van Haasteren, Caterina Tiburzi, Matthew Miles, James Cordes

Trainers: Kathrin Grunthal, Aurelien Chalumeau, Sara Manzini

10:00 – 10:40	40 min	[Keynote 1] PTA Foreground Signals <i>Pulsar Timing Array Foreground Signals: Origins, Models, and Consequences for Gravitational-Wave Astronomy</i> Daniel Reardon (30 min + 10 min Q&A)
10:40 – 11:05	25 min	[Discussion] Group Discussion A
11:05 – 11:45	40 min	[Keynote 2] Continuous Waves with PTAs <i>Continuous waves from supermassive black hole binaries: facing the challenge of detection and localisation</i> Niccolò Veronesi (30 min + 10 min Q&A)
11:45 – 12:00	15 min	[Discussion] Group Discussion B
12:00 – 13:30	90 min	<i>Lunch</i>
13:30 – 14:15	45 min	[Interactive] PTA Tutorial Session
14:15 – 14:35	20 min	Breakout Overview & Team Assignment
14:35 – 14:55	20 min	<i>Coffee break</i>
14:55 – 15:10	15 min	Breakout Setup Teams settle, assign roles, review topic cards
15:10 – 16:20	70 min	[Breakout] PTA Breakout Sessions 8 teams of 6–7: one PTA challenge + actionable solution
16:20 – 16:40	20 min	<i>Coffee break + teams finalise output</i>
16:40 – 17:20	40 min	[Discussion] Breakout Outcomes Moderator synthesis (10 min) + 8 × 3 min team pitches + wrap (6 min)
17:20 – 18:00	40 min	[Discussion] PTA Plenary All participants: shortlisted topics

Day 3 Wednesday 20 May

ISM: Challenges & Solutions

Moderators: Dylan Jow, Jacob Turner, Marten van Kerkwijk

Trainers: Atharva Kulkarni, Nina Gusinskaia, Daniel Baker

10:00 – 10:40	40 min	[Keynote 1] Pulsar Scintillometry <i>Advances in pulsar scintillometry techniques</i> Robert Main (30 min + 10 min Q&A)
10:40 – 11:05	25 min	[Discussion] Group Discussion A
11:05 – 11:45	40 min	[Keynote 2] VLBI Astrometry of Scintillation Screens <i>High-resolution VLBI astrometry of pulsar scintillation screens</i> Ashley Stock (30 min + 10 min Q&A)
11:45 – 12:00	15 min	[Discussion] Group Discussion B
12:00 – 13:30	90 min	<i>Lunch</i>
13:30 – 14:15	45 min	[Interactive] ISM Tutorial Session
14:15 – 14:35	20 min	Breakout Overview & Team Assignment
14:35 – 14:55	20 min	<i>Coffee break</i>
14:55 – 15:10	15 min	Breakout Setup Teams settle, assign roles, review topic cards
15:10 – 16:20	70 min	[Breakout] ISM Breakout Sessions 8 teams of 6–7: one ISM challenge + actionable solution
16:20 – 16:40	20 min	<i>Coffee break + teams finalise output</i>
16:40 – 17:20	40 min	[Discussion] Breakout Outcomes Moderator synthesis + team pitches
17:20 – 18:00	40 min	[Discussion] ISM Plenary All participants: shortlisted topics

Day 4 Thursday 21 May

VLBI: Challenges & Solutions

Moderators: John McKean, Robert Wharton, Silke Britzen

Trainers: Shami Chatterjee, Florian Eppel

10:00 – 10:40	40 min	[Keynote 1] VLBI Keynote Andreas Brunthaler (30 min + 10 min Q&A)
10:40 – 11:05	25 min	[Discussion] Group Discussion A
11:05 – 11:45	40 min	[Keynote 2] The MSPSRpi2 Project <i>A large-scale astrometric project for millisecond pulsars</i> Bailee Wolfe (remote) (30 min + 10 min Q&A)
11:45 – 12:00	15 min	[Discussion] Group Discussion B
12:00 – 13:30	90 min	<i>Lunch</i>
13:30 – 14:15	45 min	[Interactive] VLBI Tutorial Session
14:15 – 14:35	20 min	Breakout Overview & Team Assignment
14:35 – 14:55	20 min	<i>Coffee break</i>
14:55 – 15:10	15 min	Breakout Setup Teams settle, assign roles, review topic cards
15:10 – 16:20	70 min	[Breakout] VLBI Breakout Sessions 8 teams of 6–7: one VLBI challenge + actionable solution
16:20 – 16:40	20 min	<i>Coffee break + teams finalise output</i>
16:40 – 17:20	40 min	[Discussion] Breakout Outcomes Moderator synthesis + team pitches
17:20 – 18:00	40 min	[Discussion] VLBI Plenary All participants: shortlisted topics

Day 5 Friday 22 May

Synthesis & Roadmap

10:00 – 12:00	120 min	[Working] Consolidation Sessions Collaboratively draft actionable research plans, grant proposals, and observing strategies based on the week's discussions.
12:00 – 13:30	90 min	<i>Lunch</i>
13:30 – 15:00	90 min	[Discussion] Roadmap & Next Steps Culminating in a community roadmap document to guide future collaborative efforts across PTA, ISM, and VLBI communities.

Day 5 schedule is preliminary and will be adjusted to accommodate participants who may need to travel.