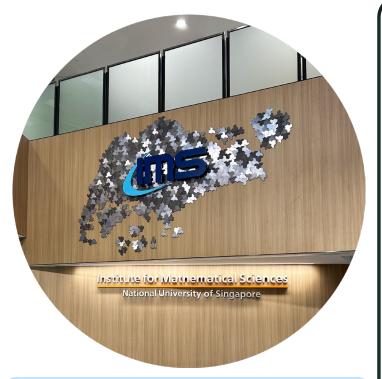
Mathematical Methods for the General Relativistic Two-body Problem

(11 Aug 2025–15 Aug 2025)





Organizing Committee

Alvin Chua National University of Singapore

Soichiro Isoyama National University of Singapore

Josh Mathews National University of Singapore

Scientific Committee

Leor Barack University of Southampton

Jonathan Gair Max Planck Institute for Gravitational Physics

Scott Hughes
Massachusetts Institute of Technology

Takahiro Tanaka Kyoto University, Japan

Venue

IMS Executive Seminar Room
Bock S17, Level 3
10 Lower Kent Ridge Rd Singapore 119076

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Monday, 11 August 2025		
Time	Title	Speaker
0920-0950	Registration	
0950-1000	Welcome Opening	Program Organizers
1000-1100	The Prospects and Challenges of Science with LISA EMRI Observations	Jonathan Gair Albert Einstein Institute, Germany
1100-1130	Coffee Break	
1130-1230	<u>Discussion Session</u> Scope & Aims	Soichiro Isoyama Josh Mathews National University of Singapore, Singapore
1230-1400	Lunch Break	
1400-1500	Memory and Hybridization for Connecting the Numerical and Analytical Two-body Problem	Leo Stein The University of Mississippi, USA
1500-1530	Tea Break	
1530–1630	Second-order Self-force: State of Play	Adam Pound University of Southampton, UK
1630-1730	Free Discussion	IMS Collaboration Space

Tuesday, 12 August 2025		
Time	Title	Speaker
0850-0900	Registration	
0900-1000	Analytical Modeling of Gravitational Waves : A Recent View on the post-Newtonian Framework	Laura Bernard Observatoire de Paris-PSL, France
1000-1100	Hybrid Post-Newtonian/Self-force inspiral and Transition-to-plunge Waveforms	Geoffrey Compere Université Libre de Bruxelles, Belgium
1100-1130	Coffee Break	
1130-1230	Discussion Session on Hybrid Model	Loic Honet Université Libre de Bruxelles, Belgium Benjamin Leather Albert Einstein Institute, Germany
1230-1400	Lunch Break	

Tuesday, 12 August 2025		
Time	Title	Speaker
1400-1500	Integrability of the Relativistic Two-body Problem	Vojtech Witzany Charles University in Prague, Czech Republic
1500-1530	Tea Break	
1530–1630	Fix the Frame, Resolve the Memory: The Bondi Sachs Gauge in Black Hole Perturbation Theory	Andrew Spiers University of Nottingham, UK
1630-1730	Discussion Session on Extended Body	Paul Ramond IMCCE, France

Wednesday, 13 August 2025		
Time	Title	Speaker
0850-0900	Registration	
0900-1000	Computational Advances in Self-force: Building a Bridge between Theory and Waveform Modeling	Zachary Nasipak University of Southampton, UK
1000-1100	The Hyperboloidal Framework in Black Hole Perturbation Theory	Rodrigo Panosso Macedo Niels Bohr Institute, Denmark
1100-1130	Group Photo and Coffee Break	
1130-1230	Free Discussion	IMS Collaboration Space
1230-1400	Lunch Reception at IMS	
1400-1430	LISA and the LISA Science Team	Anna Heffernan University of Balearic Islands, Spain
1430–1500	The DDPC and EMRI Waveform Modelling: Structure, Roles, and Roadmap	Phillip Lynch Albert Einstein Institute, USA
1500-1530	Tea Break	
1530-1730	Free Discussion	IMS Collaboration Space

Thursday, 14 August 2025		
Time	Title	Speaker
0850-0900	Registration	
0900-1000	Dynamical Tidal Resonances in EMRIs	Béatrice Bonga Radboud University, Netherlands
1000-1100	Probing Formation Channels of Extreme Mass-ratio Inspirals	Huan Yang Tsinghua University, China
1100-1130	Coffee Break	

Thursday, 14 August 2025		
Time	Title	Speaker
1130-1230	Why Matter Matters: Astrophysical Environments of EMRIs	Lisa Drummond California Institute of Technology, USA
1230-1400	Lunch Break	
1400-1500	Discussion Session on Astro	Zhen Pan Shanghai Jiao Tong University, China
1500-1530	Tea Break	
1530–1630	Putting the Hype in Hyperbolic Black Hole Scattering	Oliver Long Albert Einstein Institute, Germany
1630-1730	Metric Reconstruction on Kerr Spacetime in Lorenz Gauge	Sam Dolan The University of Sheffield, UK

Friday, 15 August 2025		
Time	Title	Speaker
0850-0900	Registration	
0900-1000	Fast EMRI Waveforms: Fast Waveform Generation for Asymmetric-mass Binaries	Christian Chapman-Bird University of Birmingham, UK
1000-1100	Building an Efficient EMRI Search Algorithm	Curt Cutler Jet Propulsion Laboratory, USA
1100-1130	Coffee Break	
1130–1230	Next Steps: Addressing the Potential for Systematic and Probabilistic Biases in EMRI Inference	Alexander Burke University of Glasgow, UK
1230-1400	Lunch Break	
1400-1500	Discussion Session on Data Analysis	Jonathan Thompson University of Southampton, UK
1500-1530	Tea Break	
1530-1630	Closing Discussion	