

# KITP Conference: Storming the Gravitational Wave Frontier

(Apr 19-22, 2022)

Coordinators: Alessandra Buonanno, Donal O'Connell, Ira Rothstein, Mikhail Solon, and Aaron Zimmerman

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## Tuesday, Apr 19, 2022

8:50am Lars Bildsten (KITP)	<a href="#">Welcome[Video][CC]</a>
9:00am Christopher Berry (Glasgow U)	<a href="#">The status of gravitational-wave astronomy[Slides][Video][CC]</a>
9:45am Teja Nerella (UCSB)	<a href="#">Looking for mergers in gravitational wave data: results, lessons, and future outlook[Slides][Video][CC]</a>
10:30am	<b>Morning Break</b>
11:00am Philippe Landry (CITA)	<a href="#">Neutron star binaries: mergers, matter and modeling[Slides][Video][CC]</a>
11:45am Ilya Mandel (Monash)	<a href="#">Things I don't know about gravitational-wave astrophysics (but would like to learn)[Video][CC]</a>
12:30pm	<b>Lunch Break</b>
2:00pm Stefano Foffa (Geneva)	<a href="#">Radiative contributions to conservative binary dynamics[Slides][Video][CC]</a>
2:45pm Claudia de Rham (Imperial College)	<a href="#">Causality Constraints on the EFT of gravity around Black Holes[Slides][Video][CC]</a>
3:30pm	<b>Afternoon Break</b>
4:00pm Jan Steinhoff (AEI)	<a href="#">Gravitational waveforms for compact binaries[Slides][Video][CC]</a>
4:45pm Julio Parra Martinez (Caltech)	<a href="#">Collider methods for gravitational physics: status and challenges ahead[Video][CC]</a>
5:30pm	<b>SHUTTLE TO BWSCI</b>

## Wednesday, Apr 20, 2022

9:00am Gabriele Veneziano (CERN)	<a href="#">Lessons from the ultra-relativistic frontier[Slides][Video][CC]</a>
9:45am Harvey Reall (Cambridge)	<a href="#">Well-posed formulation of some gravitational effective field theories[Slides][Video][CC]</a>
10:30am	<b>Morning Break</b>
11:00am Geoffrey Lovelace (Cal State Fullerton)	<a href="#">Numerical relativity for next-generation gravitational-wave observatories[Slides][Video][CC]</a>
11:45am William East (Perimeter Inst.)	<a href="#">Predicting New Physics for Gravitational Wave Astronomy[Slides][Video][CC]</a>
12:30pm	<b>Lunch Break</b>
2:00pm Carlo Heissenberg (Uppsala U)	<a href="#">The Eikonal Exponentiation and Soft Theorems[Slides][Video][CC]</a>
2:45pm Nathan Moynihan (Edinburgh U)	<a href="#">How uncertainty clarifies observables from amplitudes[Video][CC]</a>
3:30pm	<b>Afternoon Break</b>
4:00pm Bangalore Sathyaprakash (Penn State)	<a href="#">Probing the Universe with Cosmic Explorer[Video][CC]</a>
4:45pm Hsin Yu Chen (MIT)	<a href="#">Gravitational-wave standard sirens with electromagnetic counterparts[Video][CC]</a>
5:30pm	<b>RECEPTION</b>
6:00pm	<b>SPECIAL EVENTS DINNER</b>
8:00pm	<b>SHUTTLE TO BWSCI</b>

## Thursday, Apr 21, 2022

- 9:00am Barry Wardell (UC Dublin) [Gravitational waveforms for compact binaries from second-order self-force theory\[Video\]\[CC\]](#)
- 9:45am Rafael Porto (DESY) [Bootstrapping the relativistic 2-body problem: From \(post-\)Newton to \(post-\) Minkowski through Feynman\[Video\]\[CC\]](#)
- 10:30am **Morning Break**
- 11:00am Emanuele Berti (Johns Hopkins) [Black hole spectroscopy\[Video\]\[CC\]](#)
- 11:45am Elisa Maggio (AEI) [Probing new physics at the horizon of black holes with gravitational waves\[Slides\]\[Video\]\[CC\]](#)
- 12:30pm **Lunch Break**
- 2:00pm Callum Jones (UCLA) [From Scattering Amplitudes to N-Body Potentials\[Video\]\[CC\]](#)
- 2:45pm Gustav Mogull (AEI) [SUSY in the Sky with Gravitons\[Video\]\[CC\]](#)
- 3:30pm **Afternoon Break**
- 4:00pm Chia-Hsien Shen (UCSD) [Solving Dissipative Dynamics from Poincare Invariance and Soft theorems\[Slides\]\[Video\]\[CC\]](#)
- 4:45pm Lionel Mason (Oxford) [Explicit gravity amplitudes on self-dual backgrounds\[Slides\]\[Video\]\[CC\]](#)
- 5:30pm **RECEPTION**
- 6:00pm **SPECIAL EVENTS DINNER**
- 8:00pm **SHUTTLE TO BWSCI**

## Friday, Apr 22, 2022

- 9:00am Sam Gralla (Arizona) [Scattering scoots in gravity and electromagnetism\[Video\]](#)
- 9:45am Justin Vines (AEI) [Scattering gravitational waves off spinning black holes\[Slides\]\[Video\]\[CC\]](#)
- 10:30am **Morning Break**
- 11:00am Alfredo Guevara (Harvard) [Twistor Amplitudes\[Video\]\[CC\]](#)
- 11:45am Michèle Levi (QMUL) [What is Love? New Physics at the State of the Art with Spins\[Video\]\[CC\]](#)
- 12:30pm **Lunch Break**
- 2:00pm **CONFERENCE ENDS- SHUTTLE BACK TO BWSCI \*Also available to SB Airport and SB Airbus Goleta location (See Registration Desk BEFORE FRIDAY to sign up.)**

#2022-04-22 ajg