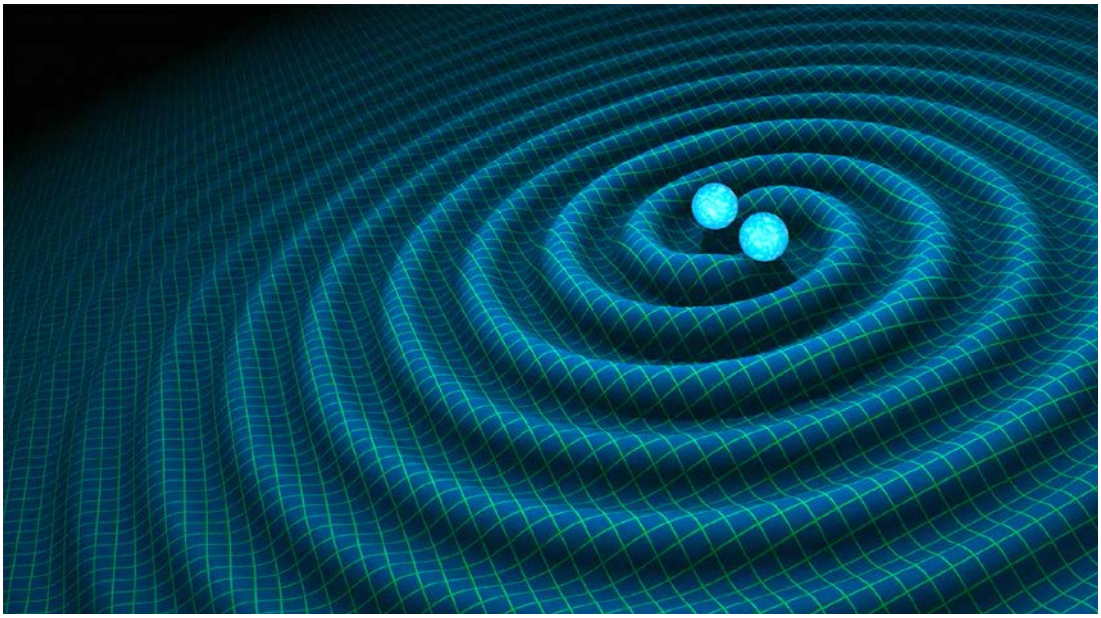
The Tenth Harvard-Smithsonian Conference on Theoretical Astrophysics

Scientific Program



Credit: R. Hurt/Caltech-JPL

Gravitational Wave Astrophysics

Sponsored by Raymond and Beverly Sackler and Irwin Shapiro

Monday, May 7th through Wednesday, May 9th, 2018

Sheraton Commander Hotel, 16 Garden Street, Cambridge, MA

Hosted by the Institute for Theory and Computation, Harvard University

http://www.cfa.harvard.edu/events/2018/sackler/

All talks are 30 minutes (25+5)

Sessions held in the George Washington Ballroom; Coffee Breaks held in the adjacent Terrace Room

Monday, 9:00AM-5:00PM

9:00-9:05AM
Charles Alcock and Avi Loeb: Welcome

Session 1: Detectors and Techniques

Session Chair: Vicky Kalogera
9:05-10:30AM
Lisa Barsotti: Status of LIGO and Virgo towards O3
Matt Evans: Future ground-based detectors
Karsten Danzmann: Gravitational wave astronomy from space: LISA and its pathfinder

10:30-11:00AM ***Coffee Break***

11:00-11:30AM
Maura McLaughlin: Pulsar Timing Arrays: Current Status and Future Prospects

Session 2: Data analysis + parameter estimation + Model Selection

Session Chair: Jim Moran
11:30AM-12:30PM
Alessandra Buonanno: The Next Theoretical Challenges for Gravitational-Wave Observations
Duncan Brown: Template-based search techniques

12:30-2:00PM ***Lunch Break***

2:00-3:00PM
MariaAlessandra Papa: Continuous source search techniques
Neil Cornish: Gravitational wave parameter estimation

3:00-3:30PM ***Coffee Break***

3:30-4:00PM
Will Farr: Model Selection

Session 3: Source populations

Session Chair: Ramesh Narayan
4:00-5:00PM
Ilya Mandel: Formation of merging black holes through isolated binary evolution via the common envelope phase
Selma de Mink: Black hole binary formation – field (non-common envelope)

Tuesday, 9:00AM-5:30PM

Session 3: Source populations, cont'd

Session Chair: Ramesh Narayan
9:00-10:30AM
Fred Rasio: Black Hole Binary Formation through Stellar Dynamics in Globular Clusters
Smadar Naoz: Black Hole Binary Formation through Stellar Dynamics in Galactic Nuclei
Deirdre Shoemaker: Black hole binary - simulations

10:30-11:00AM ***Coffee Break***

Session Chair: Josh Grindlay
11:00AM-12:30PM
Daniel Holz: Some recent results in GW astrophysics
Stephan Rosswog: Neutron star mergers as cosmic factories of heavy elements
Monica Colpi: LISA black hole coalescences: on clock?

12:30-2:00PM ***Lunch Break***

2:00-3:30PM
Stan Woosley: The stellar mass black hole birth function
Adam Burrows: Core-collapse supernova explosions and their gravitational wave signatures
Marta Volonteri: Gravitational waves as probes of massive black hole evolution

Session 4: Results from LIGO O1/O2

3:30-4:00PM ***Coffee Break***

Session Chair: Irwin Shapiro
4:00-5:30PM
Ben Farr: BBH detections in O1/O2
Bangalore Sathyaprakash: A "no-hair" test for binary black holes
Paolo Pani: Testing the nature of compact objects with gravitational waves

Wednesday, 9:00AM-12:30PM

Session 5: Electromagnetic counterparts + follow-up

Session Chair: Edo Berger
9:00-11:00AM
Wen-fai Fong: Short-duration gamma-ray bursts in the era of GW discovery
Brian Metzger: Kilonova emission from a binary neutron star merger
Raffaella Margutti: Radio and X-ray counterparts to BNS mergers
Bence Kocsis: EM counterparts for LISA sources

11:00-11:30AM ***Coffee Break***

11:30AM-12:30PM

Panel on EM follow-up
Marcelle Soares-Santos, Mansi Kasliwal, Stephen Smartt, Philip Cowperthwaite, Lindy Blackburn

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12:30PM **End of Conference**

Wednesday, 6:30-10:00PM

(6:30PM) in the Mount Vernon Room
Reception

(7:00PM)
Banquet Dinner in the George Washington Ballroom

(8:30PM)
After-Dinner Talk by Rai Weiss with introductory remarks by Avi Loeb

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