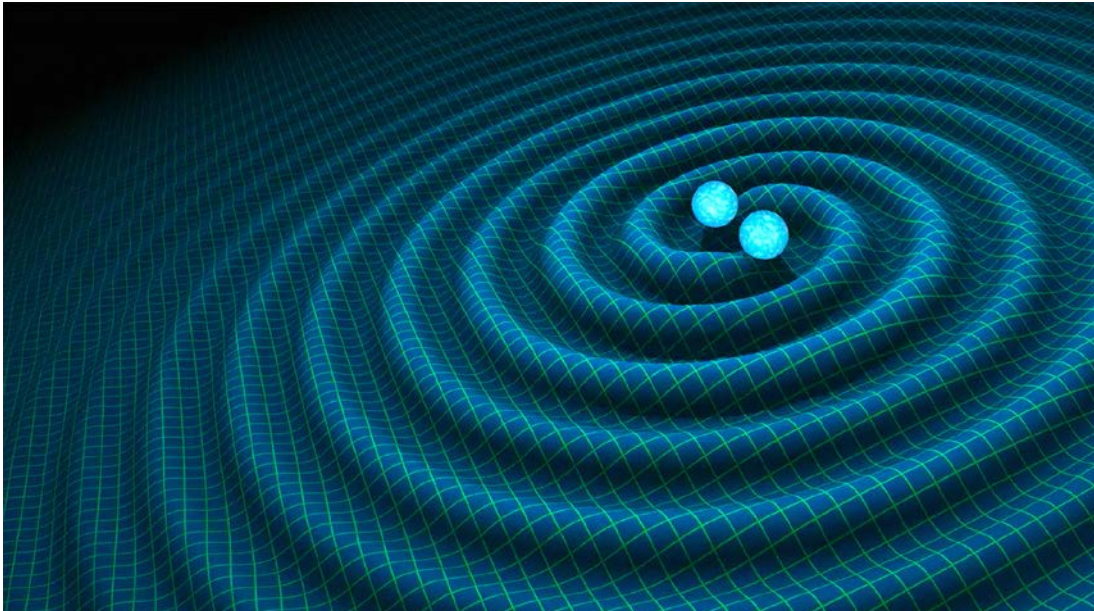




The Tenth Harvard-Smithsonian
Conference
on Theoretical Astrophysics



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: LISA

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

Dan Holz: Neutron star binary - source population

Stephan Rosswog: Neutron star mergers as cosmic factories of heavy elements

Monica Colpi: SMBH binaries

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

2:00-3:30PM

Stan Woosley: The stellar mass black hole birth function

Adam Burrows: Gravitational wave astronomy from space: LISA and its pathfinder

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 GRBs

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

12:30PM **End of Conference**

Wednesday, 6:30-10:00PM

(6:30PM)

Reception

(7:00PM)

Banquet Dinner in the Mount Vernon Ballroom

(8:30PM)

After-Dinner Talk by Rai Weiss with introductory remarks by Avi Loeb
