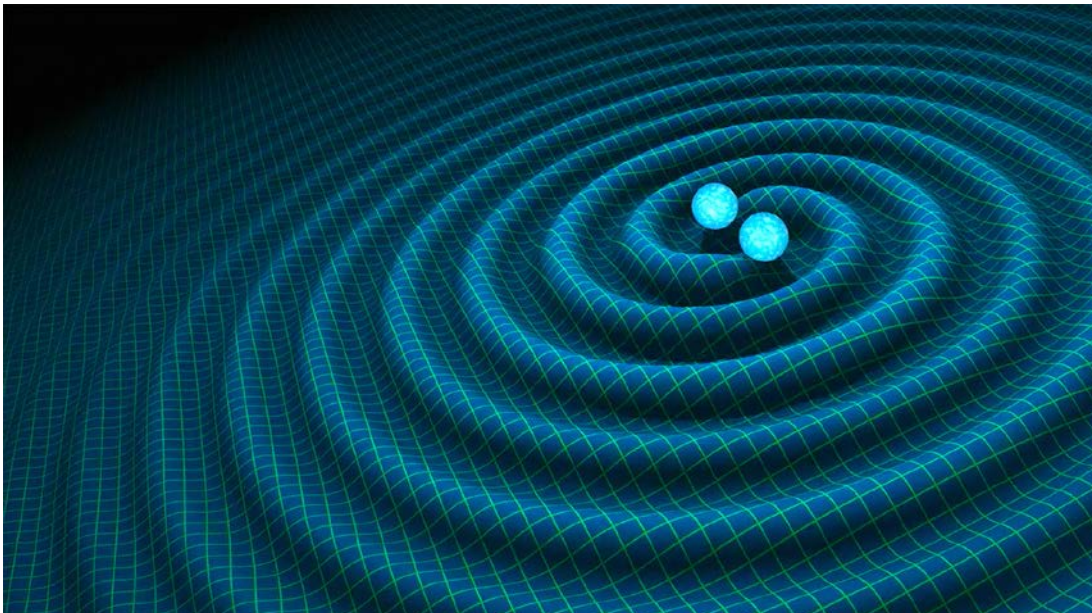




**The Tenth Harvard-Smithsonian  
Conference  
on Theoretical Astrophysics**



## 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: TBD*

9:05-10:30AM

**Lisa Barsotti:** Current status of LIGO / Virgo

**Matt Evans:** Future ground-based detectors

**Karsten Danzmann:** LISA

10:30-11:00AM      *Coffee Break*

11:00-12:30PM

**Maura McLaughlin:** PTA

### Session 2: Data analysis + parameter estimation + Model Selection

**Alessandra Buonanno:** Numerical / analytical relativity

**Duncan Brown:** Template-based search techniques

12:30-2:00PM      *Lunch Break*

*Session Chair: TBD*

2:00-3:00PM

**MariaAlessandra Papa:** Continuous source search techniques

**Neil Cornish:** Parameter estimation (methods review)

3:00-3:30PM      *Coffee Break*

3:30-5:00PM

**Will Farr:** Model Selection

### Session 3: Source populations

**Ilya Mandel:** Black hole binary formation – field (common envelope)

**Selma de Mink:** Black hole binary formation – field (non-common envelope)

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## Tuesday, 9:00AM-5:30PM

### Session 3: Source populations, cont'd

*Session Chair:TBD*

9:00-10:30AM

**Fred Rasio:** Black hole binary formation – dynamical

**Smadar Naoz:** Black hole binary formation – galactic nuclei

**Deirdre Shoemaker:** Black hole binary - simulations

10:30-11:00AM      *Coffee Break*

11:00AM-12:30PM

**Dan Holz:** Neutron star binary - source population

**Stephan Rosswog:** Neutron star binary - simulations

**Monica Colpi:** SMBH binaries

12:30-2:00PM      *Lunch Break*

*Session Chair:TBD*

2:00-3:30PM

**Stan Woosley:** Outcomes of core-collapse supernovae

**Adam Burrows:** GW from core-collapse supernovae

**Marta Volonteri:** Cosmic Evolution of Black Hole Mergers and the Stochastic Gravitational  
Wave Background

### Session 4: Results from O2/O2

3:30-4:00PM      *Coffee Break*

4:00-5:30PM

**Ben Farr:** BBH detections in O1/O2

**Bangalore Sathyaprakash:** Tests of GR

**Paolo Pani:** Alternative theories of gravity

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**Wednesday, 9:00AM-12:30PM**

## Session 5: Electromagnetic counterparts + follow-up

*Session Chair: Edo Berger*

9:00-11:00 AM

**Wen-fai Fong:** Short GRBs

**Brian Metzger:** Kilonova models

**Raffaella Margutti:** Radio/X-ray counterparts

**Bence Kocsis:** EM counterparts for LISA sources

11:00-11:30AM      *Coffee Break*

11:30-12:30PM

### **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**

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## **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

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