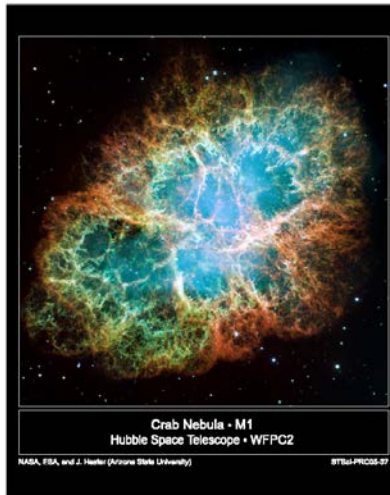




**The Ninth Harvard-Smithsonian  
Conference  
on Theoretical Astrophysics**



## Scientific Program



## The Transient Sky

Sponsored by Raymond and Beverly Sackler and Irwin Shapiro

**Monday, May 16 through Thursday, May 19, 2016**

Sheraton Commander Hotel, 16 Garden Street, Cambridge, MA

*Hosted by the Institute for Theory and Computation, Harvard University*

*<http://www.cfa.harvard.edu/events/2016/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-5:30PM

9:00-9:05AM

**Charles Alcock and Avi Loeb:** Welcome – [Video](#)

### Session 1: Gamma-Ray Bursts

*Session Chair: Edo Berger*

9:05-10:30AM

**Re'em Sari:** Long Duration GRBs – [Video](#) - [Slides](#)

**Wen-fai Fong:** Short Duration GRBs – [Video](#) - [Slides](#)

**S. Bradley Cenko:** Dirty Fireballs – [Video](#) - [Slides](#)

10:30-11:00AM

*Coffee Break*

11:00-12:30PM

**Jens Hjorth:** The GRB-Supernova Connection – [Video](#) - [Slides](#)

**Nial Tanvir:** High Redshift GRBs – [Video](#) - [Slides](#)

**Andrew MacFadyen:** Numerical Simulations – [Video](#) - [Slides](#)

12:30-2:00PM

*Lunch Break*

### Session 2: Core-Collapse Supernovae

*Session Chair: Jonathan Grindlay*

2:00-3:30PM

**Adam Burrows:** Core-Collapse Mechanisms – [Video](#) - [Slides](#)

**Maryam Modjaz:** Optical observations – [Video](#) - [Slides](#)

**Selma de Mink:** Progenitors – [Video](#) - [Slides](#)

3:30-4:00PM

*Coffee Break*

4:00-5:30PM

**Nathan Smith:** Mass Loss – [Video](#) - [Slides](#)

**Avishay Gal-Yam:** Flash Spectroscopy – [Video](#) - [Slides](#)

**Raffaella Margutti:** Non-Thermal Emission – [Video](#)

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**Tuesday, 9:00AM-6:00PM**

**Session 3: Type Ia Supernovae**

*Session Chair: Dan Milisavljevic*

9:00-10:30AM

**Robert Kirshner:** Overview of Type Ia Supernovae – [Video](#) - [Slides](#)

**Ryan Foley:** Progenitors – [Video](#) - [Slides](#)

**Wolfgang Hillebrandt:** Explosion Mechanisms – [Video](#) - [Slides](#)

10:30-11:00AM      *Coffee Break*

11:00AM-12:00PM

**Dan Maoz:** Delay-time Distribution – [Video](#) - [Slides](#)

**Alicia Soderberg:** Non-Thermal Emission – [Video](#)

12:00-12:30PM

**Panel Discussion:** Singles, Doubles or Triples? – [Video](#) - [Slides](#)

**Doron Kushnir, Yi Cao, Saurabh Jha and Armin Rest**

12:30-2:00PM      *Lunch Break*

**Session 4: Fast Radio Bursts & Super-Luminous Supernovae**

*Session Chair: Peter Williams*

2:00-3:30PM

**Sarah Burke-Spolaor:** Overview of FRBs – [Video](#) - [Slides](#)

**Vicky Kaspi:** Repeating FRBs and Future Surveys – [Video](#) - [Slides](#)

**Jonathan Katz:** Theory of FRBs – [Video](#) - [Slides](#)

3:30-4:00PM      *Coffee Break*

4:00-6:00PM

**Robert Quimby:** Type I and II SLSNe – [Video](#)

**Ragnhild Lunnan:** Host Galaxies of Type I and II SLSNe – [Video](#) - [Slides](#)

**Dan Kasen:** SLSN Models – [Video](#) - [Slides](#)

**Stan Woosley:** Pair-Instability Supernovae – [Video](#) - [Slides](#)

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

### Session 5: Exotic Transients

*Session Chair: Charles Alcock*

9:00-10:30 AM

**Elizabeth Lovegrove:** Black Hole Formation in Stellar Collapse – [Video](#) - [Slides](#)

**Ken Shen:** Ia Supernovae – [Video](#) - [Slides](#)

**Maria Drout:** Fast Optical Transients – [Video](#) - [Slides](#)

10:30-11:00AM      *Coffee Break*

11:00-12:30PM

**James Guillochon:** Theory of Tidal Disruption Events – [Video](#) - [Slides](#)

**Suvi Gezari:** Observations of Tidal Disruption Events – [Video](#) - [Slides](#)

**Ashley Zauderer:** Jets in Tidal Disruption Events – [Video](#) - [Slides](#)

12:30PM-2:30PM      *Lunch Break*

### Session 6: EM/GW

*Session Chair: Mansi Kasliwal*

2:30-3:00PM

**Brian Metzger:** EM counterparts – [Video](#)

3:00-3:30PM      *Coffee Break*

3:30-5:30PM

**Neil Gehrels:** The Future of High-energy Missions – [Video](#) - [Slides](#)

**Enrico Ramirez-Ruiz:** r-Process Nucleosynthesis – [Video](#)

**Vicky Kalogera:** The LIGO Discovery and Astrophysics of Binary Black-Hole Mergers – [Video](#) - [Slides](#)

**Bernhard Mueller:** GWs from Core-Collapse SNe – [Video](#) - [Slides](#)

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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 Shri Kulkarni with introductory remarks by Avi Loeb and Dale Frail

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## Thursday, 9:00AM-1:00PM

**Session 6 cont'd : EM/GW**

*Session Chair: Mansi Kasliwal*

9:00-10:00AM

**Zoltan Haiman:** Theory of Supermassive Black Hole Mergers – [Video](#) - [Slides](#)

**Alberto Sesana:** GW / Astro of Binaries – [Video](#) - [Slides](#)

10:00-10:30AM

*Coffee Break*

**Session 7 : Wide Field Surveys**

*Session Chair: Avi Loeb*

10:30-11:30AM

**David Kaplan:** High-frequency Radio Surveys – [Video](#) - [Slides](#)

**Gregg Hallinan:** Low-frequency Radio Surveys – [Video](#)

11:30AM-1:00PM

**Panel Discussion: Optical Surveys** – [Video](#) - [Slides](#)

**Eric Bellm:** ZTF

**Ryan Chornock:** Pan-STARRS

**George Djorgovski:** CRTS

**Masao Sako:** DES

**Ben Shappee:** ASAS-SN

**Armin Rest:** ATLAS

**Masaomi Tanaka:** HyperSuprimeCam on Subaru

1:00PM

**End of Conference**

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