The Princeton Center for Theoretical Science is dedicated to exploring the frontiers of theory in the natural sciences. Its purpose is to promote interaction among theorists and seed new directions in research, especially in areas cutting across traditional disciplinary boundaries.

The Center is home to a corps of Center Postdoctoral Fellows, chosen from nominations made by senior theoretical scientists around the world. A group of senior Faculty Fellows, chosen from science and engineering departments across the campus, are responsible for guiding the Center. Center activities include focused topical programs chosen from proposals by Princeton faculty across the natural sciences. The Center is located on the fourth floor of Jadwin Hall, in the heart of the campus “science neighborhood”. The Center hopes to become the focus for innovation and cross-fertilization in theoretical natural science at Princeton and is celebrating its tenth anniversary in 2016.

Faculty Fellows
Paul Steinhardt, Director
Igor Klebanov, Associate Director
Andrei Bernevig
Curtis Callan
Pablo Debenedetti
Eve Ostriker
Howard Stone
Herman Verlinde
Ned Wingreen

Center Postdoctoral Fellows
Barry Bradlyn 2015-2018
Jennifer Cano 2015-2018
Anna Frishman 2016-2019
Anna Ijjas 2014-2017
Bruno Le Floch 2015-2018
Daniel Lecoanet 2016-2019
Zhiyuan Li 2015-2108
Mark Mezei 2014-2017
David Pinner 2014-2017
Pierre Ronceray 2016-2019
Curt von Keyserlingk 2014-2017
Yaojun Zhang 2015-2018

To find out more about Center Postdoctoral Fellowships and Programs see:
http://pcts.princeton.edu/pcts

“CSI: Princeton -- A Definitive Investigation of the Core-Collapse Supernova Cassiopeia A”

April 17-19, 2017
Jadwin Hall, Fourth Floor, Room 407
PCTS Seminar Room

Workshop Organizers
Adam Burrows (Princeton); Dan Milisavljevic (Harvard-Smithsonian Center for Astrophysics); Nathan Smith (University of Arizona); Armin Rest (Space Telescope Science Institute); Daniel Patnaude (Smithsonian Astrophysical Observatory)
“CSI: Princeton -- A Definitive Investigation of the Core-Collapse Supernova Cassiopeia A”

Monday, April 17, 2017

8:45 Coffee/check in

8:55-9:00am Welcoming address: PCTS/Adam Burrows

9:00-9:15am Why are we here? Dan Milisavljevic

9:15-10:00 Historical perspective: Robert Kirshner

10:00-11:00 Morphology: Robert Fesen

11:00-11:30 Coffee Break

11:30-12:30 PANEL DISCUSSION
The asymmetries and geometry of Cas A's bulk ejecta
Tracey DeLaney, Armin Rest, Brian Grefenstette, Laura Lopez, Dan Milisavljevic

12:30-2:00 Lunch at PCTS, Jadwin Hall, Fourth Floor

2:00-3:00 Light echoes: Armin Rest

3:00-4:00 X-ray point source: Bettina Posselt

4:00-4:30 Coffee break

4:30 PANEL DISCUSSION
What is the nature of Cas A’s Jets?
Robert Fesen, Jacco Vink, Charles Kilpatrick, Martin Laming, Dany Page

5:45 pm Evening Reception at PCTS immediately following the conclusion of the Panel Discussion

Tuesday, April 18, 2017

9:00-10:00 Nucleosynthesis: Carla Frohlich

10:00-11:00 Dust: Ilse de Looze

11:00-11:30 Coffee Break

Tuesday, April 18, 2017 (cont.)

11:30-12:30 PANEL DISCUSSION
The mass, kinetic energy, and chemical composition of Cas A
Martin Laming, Jack Hughes, Jeonghee Rho, Chris Fryer, John Raymond, Bon-Chul Koo

12:30-2:00 Lunch at PCTS, Jadwin Hall, Fourth Floor

2:00-3:00 Evolution before core collapse: Alex Heger

3:00-4:00 Evolution after core collapse: Jacco Vink

4:00-4:30 Coffee break

4:30 PANEL DISCUSSION
Explosion models of Cas A
Adam Burrows, Chris Fryer, Annop Wongwathanarat, Shigehiro Nagataki, Salvatore Orlando

6:30 pm Dinner at Triumph Brewery, 138 Nassau Street, Princeton, NJ 609-924-7855

Wednesday, April 19, 2017

9:00-10:00 Progenitor system: Stephen Smartt

10:00-11:00 Connections to extragalactic supernovae: Maria Drout

11:00-11:30 Coffee Break

11:30-12:30 PANEL DISCUSSION
Does Cas A host a surviving companion star?
Ken Nomoto, Selma de Mink, Wolfgang Kerzendorf, Schuyler Van Dyk, Stephen Smartt, Federica Bianco

12:30-2:00 Lunch at PCTS, Jadwin Hall, Fourth Floor

2:00-3:00 Connections to other supernova remnants: Dan Patnaude

3:00-4:00 Analog systems: Nathan Smith

4:00-4:30 Coffee break

4:30 PANEL DISCUSSION and conclusion
The Whole Picture
Roger Chevalier, Claes Fransson, Robert Fesen