

KAVLI INSTITUTE FOR THEORETICAL PHYSICS
www.kitp.ucsb.edu

**KITP Conference: Tensions between the Early and
the Late Universe**

(Jul 15-17, 2019)

Coordinators: Adam Riess, Tommaso Treu, and Licia Verde

Monday, Jul 15, 2019

Introducing the Tension, Chair: Dan Holz (U. Chicago)

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| 8:50am | Lars Bildsten (KITP Director) | Welcome |
| 9:00am | Adam Riess (STSCI) | Local H0 from SH0ES |
| 9:45am | Lloyd Knox (UC Davis) | Sounds Discordant |
| 10:30am | | Morning Break |
| 11:00am | Tommaso Treu (UCLA) | Time delay cosmography and the Hubble constant tension |
| 11:45am | Graeme Addison (JHU) | Cosmic Microwave Background, Baryonic Acoustic Oscillations and Tensions |
| 12:30pm | | Lunch Break |

Early Universe, Chair: Lloyd Knox (UC Davis)

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| 2:00pm | Silvia Galli (IAP-UPMC) | The view from Planck |
| 2:45pm | Kimmy Wu (U. Chicago) | The View from the South Pole Telescope |
| 3:30pm | | Afternoon Break |
| 4:00pm | Eric Aver (Gonzaga U) | Helium Abundance and Omega _B |
| 4:30pm | Vivian Poulin (LUPM, CNRS) | Early Dark Energy |
| 5:00pm | Andras Kovacs (IAC) | More out of less: an excess integrated Sachs-Wolfe signal from supervoids mapped out by the Dark Energy Survey |
| 5:30pm | | SHUTTLE TO BWSCI |

Tuesday, Jul 16, 2019**Late Universe I, Chair: Tamara Davis (Queensland)**

- 9:00am Licia Verde (ICC U Barcelona) Chronometers
 9:45am Dan Scolnic (U. Chicago) Type Ia Supernovae
 10:30am **Morning Break**
- 11:00am In Sung Jang (AIP) Tip of the red giant branch
 11:30am Mark Reid (CfA) H₀: NGC 4258 and the Megamaser
 Cosmology Project
 12:00pm Hendrick Hildebrandt Weak Lensing and Tensions in LCDM
 (Ruhr-Uni. Bochum)
 12:30pm **Lunch Break**
- 12:30pm Maggie Sherriffs (KITP) Announcement: Follow on Program
Early Meets Late I, Chair: Mark Reid (CfA)
- 2:00pm Tamara Davis (U Queensland) Baryonic Acoustic Oscillations
 2:45pm Wendy Freedman (U. Chicago) The Carnegie Chicago Hubble
 Program
 3:30pm **Afternoon Break**
- 4:00pm Lucas Macri (Texas A&M) Cepheids and other Stellar Pops
 4:30pm John Blakeslee (Gemini Obs.) Surface Brightness Fluctuations and
 H₀
 5:00pm Nabia Aghanim (IAS Orsay) Clusters and Tensions
 5:30pm **RECEPTION-KITP Courtyard**
- 6:00pm **SPECIAL EVENTS DINNER-KITP Courtyard**
- 8:00pm **SHUTTLE TO BWSCI**

Wednesday, Jul 17, 2019**Late Universe II, Chair: Wendy Freedman (U. Chicago)**

- 9:00am Daniel Holz (U. Chicago) Standard Sirens and H₀
 9:45am Patricia Whitelock (Cape Town) Miras

10:30am

Morning Break

11:00am Anthony Brown (Leiden Obs.)

Gaia I

11:30am Stefano Casertano (STSCI)

Gaia and HST Parallax

12:00pm Victor Chan (U of Toronto)

A Probabilistic Measurement of the Gaia DR2 Zero Point Parallax, and its Impact on the Hubble Constant

12:30pm

Lunch Break**Early Meets Late II, Chair: Silvia Galli (IAP-UPMC)**

2:00pm Grzegorz Pietrzynski (CMAK-PAN)

The LMC and Detached Eclipsing Binaries

2:30pm Dillon Brout (U of Penn)

The view from the Dark Energy Survey

3:00pm Steve Rodney (South Carolina)

Turning Gravitationally Lensed Supernovae into Cosmological Tools

3:30pm

Afternoon Break

4:00pm Anojar Shajib (UCLA)

Towards a 1% Hubble constant measurement with time delay cosmography

4:30pm David Jones (UCSC)

The Role of Type Ia Supernova Host Galaxies in Understanding the Hubble Tension

5:00pm Francis-Yan Cyr-Racine (Harvard)

Rock 'n' Roll, Jazzy, and Classical Solutions to the Hubble Tension

5:30pm **CONFERENCE END SHUTTLE TO BWSCI *Also available to SB Airport and SB Airbus, Goleta location. (See Registration Desk BEFORE Wednesday to sign up.)**