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## WORKSHOP PROGRAM



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Kavli Institute for Cosmological Physics (KICP) is hosting a workshop "Theoretical Advances in Particle Cosmology" this fall on the University of Chicago campus. The workshop will bring together theorists with common interests in early universe cosmology and high energy particle physics.

Topics:

- \* Dark Matter
- \* Phase transitions and cosmological relics
- \* Inflation, Gravity, & HEP

## Organizing Committee

**Wayne Hu**  
University of Chicago

**Rocky Kolb**  
University of Chicago

**Andrew Long**  
Kavli Institute for Cosmological Physics

**Lian-Tao Wang**  
University of Chicago

## Invited Speakers

**Mark Hertzberg**  
Tufts University

**Kurt Hinterbichler**  
Case Western Reserve University

**Anson Hook**  
Institute for Advanced Study

**Lam Hui**  
Columbia University

**Austin Joyce**  
Columbia University

**Kohei Kamada**  
Arizona State University

**Takeshi Kobayashi**  
SISSA

**Jonathan Kozczuk**  
University of Massachusetts

**Gordon Krnjaic**  
Fermilab

**Tongyan Lin**  
University of California, Berkeley

**Alberto Nicolis**  
Columbia University

**Marco Peloso**  
University of Minnesota

**Matthew Reece**  
Harvard University

**Leonardo Senatore**  
Stanford University

**Yuhsin Tsai**  
U. Maryland

**Carlos Wagner**  
University of Chicago

**Hai-Bo Yu**  
University of California, Riverside

**Kathryn Zurek**  
University of California, Berkeley

**Thursday - October 13, 2016**

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9:00 AM - 10:00 AM	Shuttle: Hotel to KICP
10:00 AM - 10:30 AM	Breakfast
10:30 AM - 11:15 AM	<b>Gordon Krnjaic</b> , Fermilab <i>Discovering or falsifying light thermal dark matter</i>
11:15 AM - 12:00 PM	<b>Tongyan Lin</b> , University of California, Berkeley <i>Exploring the low mass frontier in dark matter direct detection</i>
12:00 PM - 2:00 PM	Lunch Informal Discussion of $H_0$ and $\sigma_8$ Problems w/ Dan Scolnic, Jason Henning, & Andrey Kravtsov
12:15 PM - 12:30 PM	<b>Daniel Scolnic</b> , KICP <i>Lunch Discussion -- <math>H_0</math> and SNe</i>
12:30 PM - 12:45 PM	<b>Jason Henning</b> , KICP <i>Lunch Discussion -- <math>H_0</math> and CMB</i>
12:45 PM - 1:00 PM	<b>Andrey Kravtsov</b> , KICP <i>Lunch Discussion -- <math>\sigma_8</math></i>
2:00 PM - 2:45 PM	<b>Marco Peloso</b> , University of Minnesota <i>Field excitation during inflation, and violation of the standard relation between <math>r</math> and the scale of inflation</i>
2:45 PM - 3:30 PM	<b>Kathryn Zurek</b> , University of California, Berkeley <i>Higgs vacuum instability during inflation and the survival of the universe</i>
3:30 PM - 4:00 PM	Coffee break
4:00 PM - 4:45 PM	<b>Hai-Bo Yu</b> , University of California, Riverside <i>The Self-Interacting Dark Matter Paradigm</i>
4:45 PM - 5:30 PM	<b>Carlos Wagner</b> , University of Chicago <i>Blind Spots in Direct Dark Matter Detection Searches</i>
5:30 PM - 7:00 PM	Reception
7:00 PM - 8:00 PM	Shuttle: KICP to Hotel

**Friday - October 14, 2016**

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9:00 AM - 10:00 AM	Shuttle: Hotel to KICP
10:00 AM - 10:15 AM	Breakfast
10:15 AM - 11:00 AM	<b>Kurt Hinterbichler</b> , Case Western Reserve University <i>Partially Massless Higher-Spin Gauge Theory</i>
11:00 AM - 11:45 AM	<b>Austin Joyce</b> , Columbia University <i>Inflation in Flatland</i>
12:00 PM - 1:00 PM	<b>KICP FRIDAY LUNCH SEMINAR</b>
12:00 PM - 1:00 PM	<b>Yuhsin Tsai</b> , U. Maryland <i>Partially Acoustic Dark Matter, Interacting Dark Radiation, and Large Scale Structure</i>
1:00 PM - 2:00 PM	Lunch
2:00 PM - 2:45 PM	<b>Lam Hui</b> , Columbia University <i>Symmetries in Large Scale Structure</i>
2:45 PM - 3:30 PM	<b>Leonardo Senatore</b> , Stanford University <i>Inhomogenous Anisotropic Cosmology: how inflation starts in an inhomogeneous universe</i>
3:30 PM - 4:00 PM	Coffee break
4:00 PM - 4:45 PM	<b>Matthew Reece</b> , Harvard University <i>Weak Gravity Conjecture</i>
4:45 PM - 5:30 PM	<b>Jonathan Kozaczuk</b> , University of Massachusetts <i>Detecting Gravitational Waves from Cosmological Phase Transitions</i>
5:30 PM - 6:00 PM	Coffee & Snacks
6:00 PM - 7:00 PM	Shuttle: KICP to Hotel

**Saturday - October 15, 2016**

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9:00 AM - 10:00 AM	Shuttle: Hotel to KICP
10:00 AM - 10:30 AM	Breakfast
10:30 AM - 11:15 AM	<b>Anson Hook</b> , Institute for Advanced Study <i>Baryogenesis with Minimal CP Violation</i>
11:15 AM - 12:00 PM	<b>Alberto Nicolis</b> , Columbia University <i>More possibilities for tensor modes in solid inflation</i>
12:00 PM - 2:00 PM	Lunch
2:00 PM - 2:45 PM	<b>Takeshi Kobayashi</b> , SISSA <i>Primordial Magnetic Fields from Inflation and Beyond</i>
2:45 PM - 3:30 PM	<b>Kohei Kamada</b> , Arizona State University <i>Intergalactic Magnetic Fields as the Origin of the Baryon Asymmetry of the Universe</i>
3:30 PM - 4:00 PM	Coffee break
4:00 PM - 4:45 PM	<b>Mark Hertzberg</b> , Tufts University <i>Aspects of Gravitation</i>