



<http://kicp-workshops.uchicago.edu/inflation2014/>

## WORKSHOP PROGRAM

The Kavli Institute for Cosmological Physics (KICP) at the University of Chicago is hosting a workshop this summer on inflationary theory. The goal is to gather a small group of researchers working in inflationary cosmology for several days of informal presentations and discussion relating to the status of theories of the inflationary universe. Topics of particular focus are model building, challenges for inflationary theories, connections to fundamental physics, and prospects for refining our understanding with future datasets. This meeting is a satellite conference of COSMO 2014. The meeting will be complementary to the COSMO conference in that it will be small, informal, and relatively narrow in scope.

## Invited Speakers

**Raphael Bousso**

University of California, Berkeley

**Richard Easther**

University of Auckland

**Rich Holman**

Carnegie Mellon

**Will Kinney**

SUNY, Buffalo

**Eugene Lim**

King's College London

**Hiranya Peiris**

University College London

**Paul Steinhardt**

Princeton University

**Robert Brandenberger**

McGill University

**Raphael Flauger**

Institute for Advanced Study

**Anna Ijjas**

Princeton University

**Matt Kleban**

New York University

**Emil Martinec**

University of Chicago

**Leonardo Senatore**

Stanford University

**Mark Trodden**

University of Pennsylvania

**Cora Dvorkin**

Institute for Advanced Study

**Daniel Green**

CITA

**Justin Khoury**

University of Pennsylvania

**Albion Lawrence**

Brandeis University

**Liam McAllister**

Cornell University

**Eva Silverstein**

Stanford University

## Organizing Committee

**Peter Adshead**

University of Illinois at Urbana  
Champaign

**Marilena LoVerde**

University of Chicago

**Wayne Hu**

University of Chicago

**Emil Martinec**

University of Chicago

**Austin Joyce**

University of Chicago

**WORKSHOP PROGRAM**

August 22-24, 2014 @ University of Chicago

**Friday - August 22, 2014**

9:00 AM - 9:10 AM

Welcome

**MORNING SESSION***Chair: Marilena LoVerde*

9:10 AM - 9:35 AM

Eva Silverstein, Stanford University  
*Systematics of Axion Monodromy*

9:45 AM - 10:10 AM

Albion Lawrence, Brandeis University  
*The effective field theory of axion monodromy*

10:20 AM - 11:00 AM

Coffee break

11:00 AM - 11:25 AM

Raphael Flauger, Institute for Advanced Study  
*Toward an Understanding of Foreground Emission in the BICEP2 Region*

11:35 AM - 12:00 PM

Cora Dvorkin, Institute for Advanced Study  
*Probing fundamental physics with CMB B-modes*

12:10 PM - 2:10 PM

LUNCH

**AFTERNOON SESSION***Chair: Wayne Hu*

2:10 PM - 2:35 PM

Eugene Lim, King's College London  
*Quantifying quantum vs classical correlations in the primordial perturbations*

2:45 PM - 3:10 PM

Richard Easther, University of Auckland  
*Multifield Inflation -- Consequences and Possibilities*

3:20 PM - 4:00 PM

Coffee break

4:00 PM - 4:25 PM

Paul Steinhardt, Princeton University  
*TBA*

4:35 PM - 5:00 PM

Anna Ijjas, Princeton University  
*Primordial perturbations around non-inflationary backgrounds*

5:10 PM - 7:00 PM

Welcome Reception

**Saturday - August 23, 2014****MORNING SESSION***Chair: Emil Martinec*

- 10:00 AM - 10:25 AM      Liam McAllister, Cornell University  
*Axion Alignment Mechanisms for Large-Field Inflation*
- 10:35 AM - 11:00 AM      Matt Kleban, New York University  
*Superplanckian Field Ranges*
- 11:10 AM - 11:50 AM      Coffee break
- 11:50 AM - 12:15 PM      Daniel Green, CITA  
*Disorder in the Early Universe*
- 12:25 PM - 12:50 PM      Rich Holman, Carnegie Mellon  
*EFT Beyond the Horizon: Stochastic Inflation and how Primordial Fluctuations go Classical*
- 1:00 PM - 3:00 PM      Lunch

**AFTERNOON SESSION***Chair: Peter Adshead*

- 3:00 PM - 3:25 PM      Raphael Bousso, University of California, Berkeley  
*Why Now, and Why Comparable: A Multiverse Explanation of the Dark Matter-Baryon Coincidence*
- 3:35 PM - 4:00 PM      Hiranya Peiris, University College London  
*Constraints on primordial non-Gaussianity from 800,000 photometric quasars*
- 4:10 PM - 4:50 PM      Coffee Break
- 4:50 PM - 5:15 PM      Robert Brandenberger, McGill University  
*Challenges for Inflationary Cosmology*
- 5:25 PM - 5:50 PM      Justin Khoury, University of Pennsylvania  
*Ward Identities in Cosmology*

**Sunday - August 24, 2014**

**MORNING SESSION**

*Chair: Austin Joyce*

- 10:00 AM - 10:25 AM      Leonardo Senatore, Stanford University  
*The Effective Field Theory of Large Scale Structures: how to find more modes to probe Inflation*
- 10:35 AM - 11:00 AM      Emil J. Martinec, University of Chicago  
*Quantum gravity and inflation -- lessons from 2d toy models*
- 11:10 AM - 11:50 AM      Coffee Break
- 11:50 AM - 12:15 PM      Will Kinney, SUNY, Buffalo  
*BICEP, Inflation, and Alternatives to Inflation*
- 12:25 PM - 12:50 PM      Mark Trodden, University of Pennsylvania  
*Holographic Cosmology Beyond Inflation*
- 1:00 PM - 1:10 PM      Closing