



<http://kicp-workshops.uchicago.edu/NonGaussian2012/>

## **WORKSHOP MATERIALS**

The Kavli Institute for Cosmological Physics (KICP) at the University of Chicago will host Non-Gaussianity Hub workshop on April 19-21, 2012. We plan to bring together theorists and data analysts in this 3-day workshop on non-Gaussianity to consolidate the recent progress and discuss future efforts. We expect attendance by about 30 worldwide leaders in the field of non-Gaussianity.

## Organizing Committee

**Peter Adshead**

Kavli Institute for Cosmological Physics

**Scott Dodelson**

KICP/Fermilab

**Dragan Huterer**

University of Michigan

## List of Participants

1. Peter Adshead Kavli Institute for Cosmological Physics
2. Adam Becker University of Michigan
3. Matthew Becker Kavli Institute for Cosmological Physics
4. Laura Book Caltech
5. David Burke Stanford University
6. Thomas Crawford Kavli Institute for Cosmological Physics
7. Martin Crocche IEEC Barcelona
8. Carlos Cunha Stanford University
9. Neal Dalal University of Illinois
10. Scott Dodelson KICP/Fermilab
11. Olivier Dore JPL/Caltech
12. Cora Dvorkin IAS
13. Tim Eifler Ohio State University
14. Wenjuan Fang University of Michigan
15. Joshua Frieman Kavli Institute for Cosmological Physics
16. Juan Garcia-Bellido Universidad Autonoma Madrid
17. Enrique Gaztanaga IEEC Barcelona
18. Tommaso Giannantonio LMU University Munich
19. Wayne Hu Kavli Institute for Cosmological Physics
20. Dragan Huterer University of Michigan
21. Donghui Jeong Johns Hopkins University
22. Elisabeth Krause Caltech
23. Andrey Kravtsov Kavli Institute for Cosmological Physics
24. Marilena LoVerde IAS
25. Michael Mortonson Ohio State University
26. Sohyun Park Fermi National Accelerator Laboratory
27. Youngsoo Park Kavli Institute for Cosmological Physics
28. Will Percival Portsmouth University
29. Ashley Ross Portsmouth University
30. Roman Scoccimarro NYU
31. Sarah Shandera Penn State University
32. Michael Turner Kavli Institute for Cosmological Physics
33. Risa Wechsler Stanford University
34. Heidi Wu University of Michigan
35. Mark Wyman University of Chicago

## Workshop Program

April 19-21, 2012 @ LASR conference room

### April 19, 2012

#### MORNING SESSION

- 9:30 AM - 9:40 AM **Dragan Huterer**, University of Michigan  
Welcome: goals and topics for the meeting
- 9:40 AM - 10:10 AM *RISA WECHSLER, MATTHEW BECKER AND MARTIN CROCCE*  
*A few words about the simulations*
- 10:10 AM - 12:30 PM *PRESENT RESULTS FROM ANALYSIS OF SIMS*
- 12:30 PM - 2:00 PM *LUNCH*

#### AFTERNOON SESSION

- 2:00 PM - 2:30 PM **Marilena LoVerde**, IAS  
Overview of NG models
- 2:30 PM - 4:30 PM *BREAKOUT SESSIONS: ~ 3 GROUPS WORK ON ANALYSIS*
- 4:30 PM - 5:30 PM *DISCUSSION OF SYSTEMATICS*
- 6:00 PM *DINNER*  
Cedars Mediterranean Kitchen

### April 20, 2012

#### MORNING SESSION

- 9:30 AM - 9:50 AM **Carlos Cunha**, Stanford University  
Systematics: photo-z and spec-z
- 9:50 AM - 10:10 AM **Ashley Ross**, Portsmouth University  
Systematics: experience from BOSS
- 10:10 AM - 12:00 PM *BREAKOUT SESSIONS: WORK ON INCORPORATING SYSTEMATICS*
- 12:00 PM - 1:00 PM **Will Percival**, Portsmouth University  
First results from galaxy clustering in the BOSS survey
- 1:00 PM - 2:00 PM *LUNCH*

#### AFTERNOON SESSION

- 2:00 PM - 3:00 PM *BREAKOUT SESSIONS: WORK ON INCORPORATING SYSTEMATICS*
- 3:00 PM - 3:30 PM **Peter Adshead**, Kavli Institute for Cosmological Physics  
Aspects of NG effect on the LSS
- 3:30 PM - 5:00 PM *BREAKOUT SESSIONS: ~ 3 GROUPS WORK ON ANALYSIS*
- 5:00 PM - 5:30 PM *DISCUSSION*

**April 21, 2012**

**MORNING SESSION**

- 9:30 AM - 10:00 AM      **Tommaso Giannantonio**, LMU University Munich  
Constraining NG with current LSS and ISW data and outlook for the DES
- 10:00 AM - 10:30 AM      **Roman Scoccimarro**, NYU  
Bias, Gaussian and non-Gaussian, local and non-local
- 10:30 AM                      *DISCUSSION OF FUTURE WORK: THEORY + ANALYSIS, LSS+CMB*

**Simulations to Discuss**

Come to the workshop with your constraint on  $f_{NL}$  not worrying about systematics or uncertainties in the other cosmological parameters and work on the analysis of simulations:

- \* How would the systematics enter?
- \* What about inflationary input?
- \* Model -> observables?

**Simulation 1**

Acknowledgments: Thanks to Michael Busha, Matt Becker, Brandon Erickson, Andrey Kravtsov, Gus Evrard, Risa Wechsler and others who made this possible.

**DATA:** <http://logrus.uchicago.edu/~beckermr/nongauss/>

**Simulation 2**

Acknowledgments: Thanks to Martin Crocce, Francisco Castander, Pablo Fosalba, Enrique Gaztanaga, and the MICE team.

**DATA:** <http://segre.ieec.uab.es/crocce/DES/PNGworkshop/>

## Workshop Talks

1. **Peter Adshead**, Kavli Institute for Cosmological Physics  
*Aspects of NG effect on the LSS*  
  
April 20, 2012 (3:00 PM - 3:30 PM)
2. **Carlos Cunha**, Stanford University  
*Systematics: photo-z and spec-z*  
  
April 20, 2012 (9:30 AM - 9:50 AM)
3. **Tommaso Giannantonio**, LMU University Munich  
*Constraining NG with current LSS and ISW data and outlook for the DES*  
  
April 21, 2012 (9:30 AM - 10:00 AM)
4. **Dragan Huterer**, University of Michigan  
*Welcome: goals and topics for the meeting*  
  
April 19, 2012 (9:30 AM - 9:40 AM)
5. **Marilena LoVerde**, IAS  
*Overview of NG models*  
  
April 19, 2012 (2:00 PM - 2:30 PM)
6. **Will Percival**, Portsmouth University  
*First results from galaxy clustering in the BOSS survey*  
  
April 20, 2012 (12:00 PM - 1:00 PM)
7. **Ashley Ross**, Portsmouth University  
*Systematics: experience from BOSS*  
  
April 20, 2012 (9:50 AM - 10:10 AM)
8. **Roman Scoccimarro**, NYU  
*Bias, Gaussian and non-Gaussian, local and non-local*  
  
April 21, 2012 (10:00 AM - 10:30 AM)