



<http://kicp-workshops.uchicago.edu/DESpec2012/>

## **WORKSHOP PROGRAM**



<http://kicp.uchicago.edu/>



<http://www.fnal.gov/>



<http://www.uchicago.edu/>

The Kavli Institute for Cosmological Physics (KICP) at the University of Chicago will host The Dark Energy Spectrometer workshop on May 30-31 to discuss DESpec, a conceptual next generation dark energy project to enable massive spectroscopic surveys in the southern hemisphere. It would naturally synergize with the Dark Energy Survey (DES), which will start taking data later this year, and with LSST in the longer term. The goal of this meeting is to review past and present work on DESpec and to make plans for how to proceed. We will briefly review the current state of the instrument design and then identify the next steps in the project, including describing the R&D necessary to proceed with theory, survey strategy, and instrument definition. The goal of the workshop will be to begin to assemble the DESpec team, define the project's mission statement, and plan how to proceed in the coming year.

## Organizing Committee

**Darren DePoy**  
Texas A&M University

**H. Thomas Diehl**  
Fermilab

**Brenna Flaugher**  
Fermilab

**Joshua Frieman**  
University of Chicago/KICP

**Michael Gladders**  
University of Chicago/KICP

**Craig Hogan**  
U. Chicago/Fermilab

**Stephen Kent**  
Fermilab

**Richard Kron**  
University of Chicago/KICP

**Ofer Lahav**  
University College London

**Jennifer Marshall**  
Texas A&M University

May 30, 2012

## INTRODUCTION

9:00 AM - 9:30 AM      **Craig Hogan**, U. Chicago/Fermilab  
*DESPEC in the landscape of large spectroscopic surveys*

## OVERALL SCIENCE SESSION

*Moderator: Jennifer Marshall*

9:30 AM - 10:00 AM      **Ofer Lahav**, University College London  
*DESPEC science: prospects and challenges*

10:00 AM - 10:20 AM      **Daniel Thomas**, Institute of Cosmology and Gravitation, University of  
Portsmouth  
*Remote talk: Non-DE science with DESPEC*

10:20 AM - 10:40 AM      **Darren L. DePoy**, Texas A&M University  
*Instrument design of DESPEC as informed by DESPEC science*

10:40 AM - 11:00 AM      *BREAK*

## PHOTO-Z CALIBRATION SESSION

*Moderator: Steve Kent*

11:00 AM - 11:20 AM      **Jeffrey A Newman**, U. Pittsburgh / Pitt-PACC  
*Photometric Redshift Calibration with Wide-Area Surveys*

11:20 AM - 11:35 AM      **Huan Lin**, Fermilab  
*Photometric Redshifts, DES, and DESPEC*

11:35 AM - 11:50 AM      **Jennifer Helsby**, Kavli Institute for Cosmological Physics, University of  
Chicago  
*Photometric Redshifts, DES, and DESPEC*

11:50 AM - 12:10 PM      **Carlos Cunha**, Kavli Institute for Particle Astrophysics and Cosmology,  
Stanford University  
*N-body-spectro-photometric simulations for DES and DESPEC*

12:10 PM - 1:30 PM      *LUNCH*

**SAME SKY SESSION**

*Moderators: Josh Frieman, Ofer Lahav*

1:30 PM - 2:00 PM

**David Weinberg**, Ohio State University  
*Why Joint Imaging and Spectroscopic Surveys are Good*

2:00 PM - 2:30 PM

**Francisco J Castander**, ICE, IEEC/CSIC, Barcelona  
*DESPEC Science: Cross-correlation of spectroscopic and photometric surveys*

2:30 PM - 3:00 PM

**Yanchuan Cai**, Durham University  
*Combining photo-z and spec-z surveys: Constraint on linear growth*

3:00 PM - 3:30 PM

*BREAK*

3:30 PM - 4:00 PM

**Donnacha Kirk**, Imperial College London  
*DES/DESPEC WGL & RSDs on the same sky*

4:00 PM - 4:30 PM

**Molly Swanson**, Harvard CfA  
*Probing Dark Energy with Weak Lensing and Redshift Space Distortions*

4:30 PM - 5:30 PM

*DISCUSSION*

May 31, 2012

**OTHER SURVEYS SESSION**

*Moderator: Darren DePoy*

9:00 AM - 9:30 AM

**Bob Nichol**, ICG Portsmouth  
*Remote talk: The latest from BOSS and eBOSS*

9:30 AM - 9:50 AM

**Michael A Strauss**, Princeton University  
*Sumire and LSST*

9:50 AM - 10:10 AM

**Aaron Roodman**, KIPAC, SLAC National Accelerator Laboratory  
*BigBOSS*

10:10 AM - 10:40 AM

*BREAK*

**SURVEY STRATEGY SESSION**

*Moderator: Rich Kron*

10:40 AM - 11:20 AM

**Stephanie Jouvel**, ICE/CSIC  
*Target Selection for DESpec: Mocks, Strategy and Future Steps*

11:20 AM - 11:40 AM

**Richard G. Kron**, University of Chicago/KICP  
*Allocating fibers to other classes of sources*

11:40 AM - 12:00 PM

*DISCUSSION*

12:00 PM - 1:30 PM

*LUNCH*

**HARDWARE SESSION**

*Moderator: Brenna Flaugher*

1:30 PM - 1:50 PM

**H. Thomas Diehl**, Fermilab  
*DESpec overview*

**FIBER POSITIONERS SESSION**

1:50 PM - 2:10 PM

**Will Saunders**, Australian Astronomical Observatory  
*Mohawk - a 4000-fiber positioner for DESpec*

2:10 PM - 2:30 PM	<b>Michael Seiffert</b> , Jet Propulsion Laboratory <i>The Subaru Prime Focus Spectrograph (PFS)</i>
2:30 PM - 2:50 PM	<b>Jeremy R Allington-Smith</b> , Durham University <i>Fibre systems for cosmology</i>
2:50 PM - 3:10 PM	<i>BREAK</i>
	<b>OPTICAL DESIGN/ADC SESSION</b> <i>Moderator: Tom Diehl</i>
3:10 PM - 3:30 PM	<b>Stephen M Kent</b> , Fermilab <i>DESpec optical design overview</i>
3:30 PM - 3:50 PM	<b>David Brooks</b> , University College London <i>Design and Manufacture of the Optics</i>
3:50 PM - 4:10 PM	<i>DISCUSSION</i>
	<b>SPECTROGRAPH DESIGN SESSION</b>
4:10 PM - 4:30 PM	<b>Jennifer L Marshall</b> , Texas A&M University <i>The DESpec spectrographs as an evolution of VIRUS</i>
4:30 PM - 4:50 PM	<b>Will Saunders</b> , Australian Astronomical Observatory <i>A fast new reflective design for fiber-fed spectrographs</i>
4:50 PM - 5:30 PM	<i>DISCUSSION</i>
5:30 PM	<i>CLOSING</i>