



[http://kicp-workshops.uchicago.edu/GMT\\_2013/](http://kicp-workshops.uchicago.edu/GMT_2013/)

## **MEETING PROGRAM**

The Kavli Institute for Cosmological Physics (KICP) at the University of Chicago and GMTO are planning a joint workshop to be held in Chicago on June 10-12, 2013. The goal of the conference is to examine the role of galaxies as probes of cosmology, both today and in the future as large galaxy surveys and the next generation of large telescopes, in space and on the ground, come into being. We will bring together theorists and observers to discuss contemporary problems in cosmology and galaxy evolution as well as the opportunities offered by a new generation of facilities and surveys.

The conference will be organized into five half-day sessions. Keynote speakers will provide an overview of the state of theory and observation in each subfield. Contributed lectures will delve into the details of front-line research issues. The first session will review relevant surveys and facilities, including the GMT, large imaging surveys such as the Dark Energy Survey, LSST, and Euclid among others, and upcoming missions, such as the James Webb Space Telescope. This will be followed by sessions on First-Light and Reionization of the Universe, Galaxy Formation and Assembly, Intergalactic and Circumgalactic Gas, and Galaxies & the Intergalactic medium as probes of Dark Matter and Dark Energy. The conference will be held in downtown Chicago at the University of Chicago's Gleacher Center. A gala conference banquet will be held at the Adler Planetarium looking out on to Lake Michigan.

## Scientific Organizing Committee

**Arjun Dey**  
National Optical Astronomy Observatory

**Josh Frieman**  
Fermilab/U. Chicago

**Karl Gebhardt**  
University of Texas

**Karl Glazebrook**  
Swinburne University

**Richard Kron**  
University of Chicago

**Paulina Lira**  
Universidad de Chile

**Casey Papovich**  
Texas A&M

**Changbom Park**  
Korea Institute for Advanced Study

**Alexandre Refregier**  
ETH Zurich, Institute for Astronomy

**Alicia Soderberg**  
Harvard-Smithsonian Center for Astrophysics, Institute for Theory and Computation

**Risa Wechsler**  
Stanford University

**David Weinberg**  
Ohio State University

**MEETING PROGRAM**

June 10-12, 2013 @ University of Chicago's Gleacher Center, Downtown Chicago

**Monday - June 10, 2013****SESSION 1: NEXT GENERATION FACILITIES & SURVEYS**

- 8:30 AM - 8:40 AM **Michael S Turner**, KICP, University of Chicago  
*Welcome from KICP*
- 8:40 AM - 8:55 AM **Wendy L Freedman**, Carnegie Observatories  
*Welcome from GMTO*
- 8:55 AM - 9:00 AM **Richard G. Kron**, University of Chicago  
*Logistics*
- 9:00 AM - 9:30 AM **Patrick J McCarthy**, GMTO  
*Status of the Giant Magellan Telescope Project*
- 9:30 AM - 10:00 AM **Josh Frieman**, Fermilab/U. Chicago  
*Imaging Surveys*
- 10:00 AM - 10:30 AM **Nikhil Padmanabhan**, Yale University  
*The Next Generation Spectroscopy Surveys*
- 10:30 AM - 11:00 AM *COFFEE BREAK*
- 11:00 AM - 11:30 AM **Alan Dressler**, Carnegie Observatories  
*Studying galaxy evolution with GMT plus other powerful new facilities*
- 11:30 AM - 12:00 PM **Jonathan P. Gardner**, NASA's Goddard Space Flight Center  
*Status of the James Webb Space Telescope Project*
- 12:00 PM - 2:00 PM *LUNCH BREAK*
- SESSION 2: FIRST LIGHT & REIONIZATION**
- 2:00 PM - 2:30 PM **Gordon J Stacey**, Cornell University  
*The CCAT Telescope*
- 2:30 PM - 3:00 PM **Nick Gnedin**, Fermilab  
*First Light and Reionization*
- 3:00 PM - 3:30 PM **Marc Postman**, Space Telescope Science Institute  
*High Redshift Galaxies in CLASH*
- 3:30 PM - 4:00 PM *COFFEE BREAK*
- 4:00 PM - 4:30 PM **James S Dunlop**, University of Edinburgh  
*Observational Studies of First Light and Reionization*
- 4:30 PM - 4:50 PM **Haojing Yan**, University of Missouri-Columbia  
*The Most Luminous Galaxies at  $z > 7$  from the Recent HST Surveys*
- 4:50 PM - 5:10 PM **Steven Finkelstein**, University of Texas at Austin  
*Spectroscopy in the Distant Universe*
- 5:10 PM - 5:30 PM **Ke-Jung Chen**, University of Minnesota  
*Energetic Supernovae from the Cosmic Dawn*

**Tuesday - June 11, 2013****SESSION 3: GALAXY ASSEMBLY & EVOLUTION**

- 8:30 AM - 9:00 AM **Rachel Somerville**, Rutgers University  
*Insights and Puzzles in Galaxy Formation*
- 9:00 AM - 9:30 AM **Henry C. Ferguson**, Space Telescope Science Institute  
*An Empirical View of Galaxy Evolution*
- 9:30 AM - 10:00 AM **Eric Bell**, University of Michigan  
*TBD*
- 10:00 AM - 10:20 AM **Casey Papovich**, Texas A&M  
*The Assembly of Andromeda and Milky-Way-type galaxies, prospects for GMT*
- 10:20 AM - 10:40 AM *COFFEE BREAK*
- 10:40 AM - 11:00 AM **Michael J Pierce**, University of Wyoming  
*Quantifying the Assembly History of Galaxies with GMT*
- 11:00 AM - 11:20 AM **Ilsang Yoon**, George Mason University  
*Bayesian Inference of Galaxy Structure in the Era of Large Surveys*
- 11:20 AM - 11:40 AM **Ryan F. Quadri**, Carnegie Observatories  
*The Buildup of the Red Sequence with Cosmic Time*
- 11:40 AM - 12:00 PM **Stefi Baum**, RIT  
*Keeping the Embers Burning - Star Formation Amidst AGN Feedback in Clusters*
- 12:00 PM - 2:00 PM *LUNCH BREAK*

**SESSION 4: INTERGALACTIC & CIRCUMGALACTIC MATTER**

- 2:00 PM - 2:30 PM **Juna Kollmeier**, Carnegie Observatories  
*Gas, Galaxy formation, and the GMT*
- 2:30 PM - 3:00 PM **Hsiao-Wen Chen**, University of Chicago  
*Interstellar Medium in Distant Galaxies*
- 3:00 PM - 3:20 PM **Robert A Simcoe**, MIT  
*The Role of GMT for Studies of Intergalactic Matter in the Early Universe*
- 3:20 PM - 3:50 PM **Isak Wold**, University of Wisconsin  
*Evolution of Ly $\alpha$  Emitting Galaxies: Insights From a Flux-Limited GALEX Sample at  $z \sim 1$*
- 3:50 PM - 4:20 PM *COFFEE BREAK*
- 4:20 PM - 4:40 PM **Debopam Som**, University of South Carolina  
*Magellan Spectroscopy of Sub-Damped Lyman-alpha QSO Absorbers at  $2 < z < 3$*
- 4:40 PM - 5:00 PM **Varsha P. Kulkarni**, University of South Carolina  
*Metals and Stars in Quasar Absorber Galaxies*
- 5:00 PM - 5:20 PM **Jeffrey A Newman**, University of Pittsburgh  
*Photometric Redshift Calibration with Extremely Large Telescopes*
- 6:30 PM *DINNER AT THE ADLER PLANETARIUM*  
6:30 PM - 7:30 PM *Hors d'oeuvres Reception*  
7:00 PM - 7:30 PM *Presentation: 'Cosmic Wonder'*  
7:30 PM - *Seated Dinner, Dessert and after dinner remarks immediately following dinner*

**Wednesday - June 12, 2013****SESSION 5: GALAXIES & FUNDAMENTAL PHYSICS**

- 8:30 AM - 9:00 AM **Risa Wechsler**, Stanford University  
*Probing the Dark Universe with Galaxies*
- 9:00 AM - 9:30 AM **Mike D Gladders**, Chicago  
*Cluster Lenses*
- 9:30 AM - 9:50 AM **Maxim Eingorn**, North Carolina Central University  
*Gravitational potentials and dynamics of galaxies against the cosmological background*
- 9:50 AM - 10:10 AM **Andrey Kravtsov**, University of Chicago  
*Size-virial relation of galaxies and its evolution*
- 10:10 AM - 10:30 AM **Rogier A. Windhorst**, Arizona State University  
*Galaxy Assembly and AGN Growth with the Hubble WFC3 and with JWST*
- 10:30 AM - 11:00 AM *COFFEE BREAK*
- 11:00 AM - 11:30 AM **Marla Geha**, Yale University  
*Ultra-Faint Dwarf Galaxies*
- 11:30 AM - 11:50 AM **Matthew G Walker**, Harvard-Smithsonian Center for Astrophysics  
*Galactic Dynamics and the Nature of Dark Matter*
- 11:50 AM - 12:10 PM **Andreas J Korn**, Department of Physics and Astronomy, Uppsala University, Sweden  
*Observing BBN: trouble in precision-cosmology paradise?*
- 12:10 PM - 2:00 PM *LUNCH BREAK*

**SESSION 5: GALAXIES & FUNDAMENTAL PHYSICS (CONTINUED)**

- 2:00 PM - 2:20 PM **Chris E Lidman**, Australian Astronomical Observatory  
*Constraining dark energy with the rest-frame near-IR Type Ia supernovae Hubble diagram*
- 2:20 PM - 2:50 PM **Jian-Min Wang**, Institute of High Energy Physics, Chinese Academy of Sciences  
*Super-Eddington accreting massive black holes as long-lived cosmological standards*
- 2:50 PM - 3:10 PM **Branislav Vlahovic**, North Carolina Central University  
*Is inflation really necessary in a closed Universe?*
- 3:10 PM - 3:30 PM **Albert Stebbins**, Fermilab  
*What Can You Learn From Redshift Drift?*
- 3:30 PM - 4:00 PM **Nicholas B Suntzeff**, Texas A&M University  
*Conference Summary*