

KAVLI INSTITUTE FOR THEORETICAL PHYSICS
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**KITP Conference: Molecules and dust as fuel to
star formation**

(Jun 21-24, 2016)

Coordinators: Chris Carilli, Andrea Ferrara, and Jonathan Tan
Scientific Advisors: Paola Caselli, Masami Ouchi, and Raffaella Schneider

Tuesday, Jun 21, 2016

Molecular Gas in Galaxies, Chair: Andrea Ferrara (SNS Pisa)

8:50am	John Berlinsky (KITP)	Welcome
9:00am	Alberto Bolatto (U Maryland)	Gone with the wind: Can starburst-driven molecular winds quench star formation? An in-depth look at NGC253
9:45am	Dominik Riechers (Cornell U)	The Intricate Role of Cold Gas and Dust in Galaxy Evolution at Early Cosmic Epochs
10:30am	Morning Break	
11:00am	Serena Viti (UCL)	The effects of the initial gas conditions on the properties of the GMC in galaxies
11:45am	Cecilia Ceccarelli (Joseph-Fourier U)	Measuring the cosmic rays flux by observing galactic and extragalactic molecules
12:30pm	Lunch Break	

Diffuse Interstellar Medium in Galaxies, Chair: Raffaella Schneider (INAF)

2:00pm	Mark Wolfire (U Maryland)	Observational and theoretical review of the multiphase ISM
2:45pm	Sukanya Chakrabarti (Rochester Inst.)	The Outer HI disks of spirals in the local volume & beyond
3:30pm	Afternoon Break	

4:00pm Andrew Blain (U Leicester) Extreme WISE galaxies
 4:45pm Nick Gnedin (FERMILAB) Modeling ISM physics in
 cosmological simulations

6:00pm **SPECIAL EVENTS DINNER**

8:00pm **SHUTTLE TO BWSCI**

Wednesday, Jun 22, 2016

Diffuse Interstellar Medium in Galaxies, Chair: Andrey Kravtsov (U of Chicago)

9:00am Simona Gallerani (SNS) Unveiling the nature of $z \sim 6$
 galaxies through [CII] emission
 studies

9:45am Ilse de Looze (UCL) Fine-structure line diagnostics
 of the SFR and ISM conditions

10:30am **Morning Break**

11:00am Evan Scannapieco (Arizona State U) Cold Gas in Galaxy Outflows
 11:45am Amiel Sternberg (Tel Aviv) HI-to-H₂ Transitions in galaxy
 star-forming regions

12:30pm Evan Skillman (U of Minnesota) Star formation at low
 metallicity

1:15pm **Lunch Break**

2:00pm **FREE AFTERNOON -- SHUTTLE AVAILABLE TO BWSCI**

Thursday, Jun 23, 2016

Star Formation through Cosmic Times, Chair: Masami Ouchi (The UTokyo)

9:00am Naoki Yoshida (U of Tokyo) The role of heavy elements in
 early star-forming gas clouds

9:45am Fred Adams (U of Michigan) Ionization processes in star
 formation and young stellar
 objects

10:30am **Morning Break + POSTER SESSION**

11:00am Len Cowie (U of Hawaii) Leaving star formation in the dust

11:45am Raffaella Schneider (INAF) First stars and dust

1:00pm **Lunch Break**

Feedback processes, Chair: Jonathan Tan (U of Florida)

2:00pm Mark Krumholz (UCSC) Mass transport and star formation fueling in galaxy disks

2:45pm Andrey Kravtsov (U of Chicago) Non-universal star formation efficiency in turbulent interstellar medium

3:30pm **Afternoon Break**

4:00pm Takashi Hosokawa (U of Tokyo) Formation of massive population III stars under radiative feedback

4:45pm Masami Ouchi (U of Tokyo) Evolution of high-z star-forming galaxies

5:30pm **RECEPTION**

6:00pm **SPECIAL EVENTS DINNER**

8:00pm **SHUTTLE TO BWSCI**

Friday, Jun 24, 2016

Future Instruments and Challenges

9:00am Christine Chen (STScI Baltimore)
Janice Lee (STScI Baltimore) Getting Ready for JWST: Science Opportunities and Challenges

9:45am Crystal Martin (UCSB) Feedback challenges and upcoming opportunities for progress

10:30am **Morning Break**

11:45am Hans Zinnecker (Sofia Science Center) SOFIA's instrumentation and associated star formation science

12:30pm Andrea Ferrara (SNS Pisa)

Discussion session

12:30pm Jonathan Tan (U of Florida)

Discussion session

1:15pm

Lunch Break

2:30pm **CONFERENCE END SHUTTLE TO BWSCI*Also available to SB Airport and SB Airbus, Goleta location (See Registration Desk before Friday to sign up.)**