



## PROGRAM

### 2016 ANNUAL SCIENTIFIC CONFERENCE

# Diving into the Dark: *Bridging Cosmological Theory and Observation*

18<sup>th</sup>-22<sup>nd</sup> July  
Cairns, QLD, Australia

#### SUNDAY 17 JULY 2016

Time	Item
5:00pm	Registration Desk Opens <i>Ballroom Foyer</i>
6:00pm	Welcome Drinks <i>Daintree Pool Deck</i>
	<b>Dinner</b> Delegates own choice Suggestions (or see conference app for local restaurant guide): <ul style="list-style-type: none"><li>• Salt House</li><li>• Perrottas at the Gallery</li><li>• Rattle n Hum</li><li>• Esplanade restaurants</li></ul>

## Diving into the Dark: Bridging Cosmological Theory and Observation

**MONDAY 18 JULY 2016**

Time	Item
6:30am	<i>Optional Activity</i> Walk – meet in hotel foyer at 6:25am
7:00am	<b>Breakfast (included in registration fee)</b> <i>Coco's Restaurant</i>
7:30am – 8:50am	<b>Registration Desk Open</b> <i>Ballroom Foyer</i>
<b>Welcome</b>	
9:00am	<b>Welcome/Acknowledgement of Country</b> Ballroom
9:05am – 9:15am	<b>Welcome and Conference Overview</b> Tamara Davis
<b>Session I: Cosmology: Review and Theory</b> <b>Session Chair: Tamara Davis</b>	
9:15am – 9:45am	Josh Frieman (Invited talk) <i>Title</i> (25 min presentation + 5 mins Q&A)
9:45am– 10:00am	Hayley Macpherson <i>Formation of Structures in the Universe: A Full General Relativist Treatment</i> (12 min presentation + 3 Min Q&A)
10:00am – 10:15am	Andrew Weztel <i>Reconciling Dwarf Galaxies with LCDM Cosmology</i> (12 min presentation + 3 min Q&A)
<b>10:15am – 11:00am</b>	<b>Morning Tea</b> <i>Ballroom Foyer</i>

## Diving into the Dark: Bridging Cosmological Theory and Observation

<b>Session II: Theoretical Ideas of Dark Energy</b> <b>Session Chair: David Parkinson</b>	
11:00am – 11:30am	Austin Joyce ( <i>Invited talk</i> ) <i>Exploring Beyond the Standard Cosmological Model</i> (25 min presentation + 5 min Q&A)
11:30am – 11:45am	Martin White <i>The Global and Modular BSM Inference Tool</i> (12 min presentation + 3 min Q&A)
11:45am – 12:00pm	Andrew Watts <i>Topological Properties of the Dark Matter Distribution in Alternative Cosmologies</i> (12 min presentation + 3 min Q&A)
12:00pm – 12:15pm	Hamish Clark <i>The Dark Matter Interpretation of the Gamma-ray Excess at the Galactic Centre</i> (12min presentation + 3 min Q&A)
12:15pm – 12:30pm	Kyler Kuehn <i>Current and Future Instruments Enabling Progress in Cosmology</i> (12 min presentation + 3 min Q&A)
<b>12:30pm – 1:30pm</b>	<b>Lunch</b> Ballroom Foyer
<b>1:30pm – 3:30pm</b>	<b>FREE TIME</b> <i>(includes afternoon tea from 3:15pm-3:30pm will be in Ballroom Foyer)</i>
<b>Session III: Simulations</b> <b>Session Chair: Chris Blake</b>	
3:30pm – 3:45pm	Luke Barnes <i>How the Cosmological Constant Ends Accretions</i> (12 min presentation + 3 min Q&A)
3:45pm – 4:00pm	Amandine le Brun <i>Simulating the Evolution of the Most Massive Galaxy Cluster Since Redshift 1</i> (12 min presentation + 3 min Q&A)
4:00pm – 4:15pm	Erik Tollerud <i>Local Dwarfs in HI, the Optical, and Simulations</i> (12 min presentation + 3 min Q&A)
4:15pm – 4:30pm	Nikolas Iwanus <i>Dark Matter Annihilation in N-Body Simulations</i> (12 min presentation + 3 min Q&A)

## Diving into the Dark: Bridging Cosmological Theory and Observation

4:30pm – 4:45pm	Short break
<b>Session IV: Simulations and Theory</b> <b>Session Chair: Anaïs Möeller</b>	
4:45pm – 5:00pm	Eromanga Adermann <i>Unveiling the Signatures of Alternative Cosmologies</i> (12 min presentation + 3 min Q&A)
5:00pm – 5:15pm	Caroline Caldwell <i>Velocity Dispersions of Groups: An Alternative Method of Estimating Cosmological Parameters</i> (12 min presentation + 3 min Q&A)
5:15pm – 5:30pm	Steven Murray <i>A Simple Halo Mass Function Distribution</i> (12 min presentation + 3 min Q&A)
<b>6:30pm</b>	<b>Dinner</b> <i>Delegates Own Choice</i> <i>(see conference app for local restaurant guide)</i>

## Diving into the Dark: Bridging Cosmological Theory and Observation

**TUESDAY 19 JULY 2016**

Time	Item
6:30am	<i>Optional Activity</i> <i>Pilates – Esplanade Lagoon Deck</i> <i>Please meet in Hotel Foyer at 6:15am</i>
7:00am	<b>Breakfast</b> <i>Coco's Restaurant</i>
8:55am – 9:00am	<b>Announcements</b>
<b>Session V: Cosmic Microwave Background, ISW, SZE</b> <b>Session Chair: Ed Macaulay</b>	
9:00am – 9:30am	Douglas Scott ( <i>Invited talk</i> ) <i>Microwave Background Constraints</i> (25 min presentation + 5 min Q&A)
9:30am – 9:45am	David Parkinson <i>Cosmology from the EMU Survey</i> (12 min presentation + 3 min Q&A)
9:45am – 10:00am	Raffaella Capasso <i>Dynamical Analysis of SPT-Selected Galaxy Clusters</i> (12 min presentation + 3 min Q&A)
10:00am – 10:15am	Jessica Muir <i>Integrated Sachs-Wolfe Map Reconstruction with Galaxy Surveys</i> (12 min presentation + 3 min Q&A)
10:15am – 10:30am	Graziano Rossi <i>Neutrino and Dark Radiation Bounds from the Latest Cosmological Probes</i> (12 min presentation + 3 min Q&A)
<b>10:30am – 11:00am</b>	<b>Morning Tea</b> <i>Ballroom Foyer</i>
<b>11:00am – 12:30pm</b>	<b>Un-Conference Session</b> <i>(will be posted on noticeboard)</i>
<b>12:30pm – 1:30pm</b>	<b>Lunch</b> <i>Ballroom Foyer</i>
1:30pm – 3:30pm	<b>FREE TIME</b> <i>(includes afternoon tea from 3:15pm – 3:30pm Ballroom Foyer)</i>

## Diving into the Dark: Bridging Cosmological Theory and Observation

Session VI: Supernova Cosmology Session Chair: Ixandra Achitouv	
3:30pm – 4:00pm	Dan Scolnic ( <i>Invited talk</i> ) <i>Recent Measurements of <math>W</math> and <math>H_0</math></i> (25 min presentation + 5 min Q&A)
4:00pm – 4:15pm	Anais Möeller <i>Photometric Classification of Type Ia Supernovae in SNLS with Supervised Learning</i> (12 min presentation + 3 min Q&A)
4:15pm – 4:30pm	Brad Tucker <i>6-Year Results from ESSENCE</i> (12 min presentation + 3 min Q&A)
4:30pm – 4:45pm	Young-Lo Kim <i>The Dependence of Type Ia Supernova Luminosity on Star Formation Rate of Host Galaxies from a Sample Without the Local-Global Environmental Bias</i> (12 min presentation + 3 min Q&A)
4:45pm – 5:00pm	Syed Uddin <i>Host Galaxy Effects in Supernova Cosmology</i> (12 min presentation + 3 min Q&A)
<b>5:00pm – 5:15pm</b>	<b>Short break</b>
Session VII: Supernova Cosmology (continued) Session Chair: Laura Wolz	
5:15pm – 5:30pm	Mathew Smith <i>The Dark Energy Survey Supernova Program: The First Three Years</i> (12 min presentation + 3 Min Q&A)
5:30pm – 5:45pm	Chris Lidman <i>OzDES Reaches the Half Way Mark</i> (12 min presentation + 3 Min Q&A)
5:45pm – 6:00pm	Bonnie Zhang <i>Constraining the Cosmic Distance Scale with Type Ia Supernovae</i> (12 min presentation + 3 min Q&A)
6:00pm – 6:15pm	Ed Macaulay <i>Measuring <math>\Sigma_8</math> with Supernovae</i> (12 min presentation + 3 min Q&A)
<b>7:00pm</b>	<b>Dinner</b> <i>Delegates Own Choice</i> (see conference app for local restaurant guide)

## Diving into the Dark: Bridging Cosmological Theory and Observation

### WEDNESDAY

Time	Item
6:30am	<i>Optional Activity</i> <i>Yoga - Esplanade Lagoon Deck</i> <i>Please meet in Hotel Foyer at 6:15am</i>
7:00am	Breakfast <i>Coco's Restaurant</i>
8:55am – 9:00am	<b>Announcements</b>
<b>Session VIII: Peculiar Velocity</b> <b>Session Chair: Dragan Huterer</b>	
9:00am – 9:30am	Chris Blake ( <i>Invited talk</i> ) <i>What Can Peculiar Velocities do for Cosmology</i> (25 min presentation + 5 min Q&A)
9:30am – 9:45am	Caitlin Adams <i>Testing Modified Gravity Beyond Cosmic Variance Limit</i> (12 min presentation + 3 min Q&A)
9:45am – 10:00am	Krzysztof Bolejko <i>Anisotropy of the Hubble Flow</i> (12 min presentation + 3 min Q&A)
10:00am – 10:15am	Jounghun Lee <i>The Constant Growth Rate of the Bound-Zone Peculiar Velocity Profile</i> (12 min presentation + 3 min Q&A)
10:15am – 11:00am	<b>Morning Tea</b> <i>Ballroom Foyer</i>
<b>Session IX: Peculiar Velocity (continued)</b> <b>Session Chair: Mathew Smith</b>	
11:00am – 11:30am	Mike Hudson <i>Cosmology from the Comparison of Large-Scale Structure and Peculiar Velocity in the Nearby Universe</i> (25 min presentation + 5 min Q&A)

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11:30am – 11:50am	Lister Staveley-Smith <i>Cosmic Flows: 2MTF and Future Surveys</i> (15 min presentation & 5 min Q&A)
11:50am - 12:05pm	Per Anderson <i>Cosmology with Peculiar Velocities: Observational Effects</i> (12 min presentation + 3 min Q&A)
<b>12:05pm – 1:30pm</b>	<b>Lunch</b> Ballroom Foyer
2:00pm	<b>Free Afternoon</b> Green Island, Great Barrier Reef Tour – from 12:30pm until 5:00pm Optional Activity – Additional Cost
<b>7:00pm</b>	<b>Public Lecture:</b> Venue: Cock and Bull Hotel, 6 Grove St, Cairns North <b>Speakers:</b> - Andrew Walsh - <i>Beer in Space: Complex molecules in space and can we make beer out of them?</i> - Geraint Lewis - <i>Why are we here? The fine-tuning of the universe for life</i> - Cara Battersby - <i>The Wild West of Star Formation</i>



## Diving into the Dark: Bridging Cosmological Theory and Observation

**THURSDAY 21 JULY 2016**

Time	Item
6:30am	<i>Optional Activity</i> <i>Box Fit – Fogarty Park</i> <i>Please meet in Hotel Foyer at 6:15am</i>
7:00am	<b>Breakfast</b> <i>Coco's Restaurant</i>
8:55am – 9:00am	<b>Announcements</b>
<b>Session X: Weak Lensing</b> <b>Session Chair: Rita Tojeiro</b>	
9:00am – 9:30am	Konrad Kuijken (Invited talk) <i>KiDS and Cosmology</i> (25 min presentation + 5 min Q&A)
9:30am – 9:45am	Margot Brouwer <i>Galaxy Halo Masses in the Cosmic Web</i> (12 min presentation + 3 min Q&A)
9:45am – 10:00am	Andrej Dvornik <i>Detecting Assembly Bias Using Galaxy-Galaxy Lensing with the KiDS and GAMA Survey</i> (12 min presentation + 3 min Q&A)
10:00am – 10:15am	Andrina Nicola <i>A Joint Analysis of the CMB, Galaxy Clusters and Weak Lensing</i> (12 min presentation + 3 min Q&A)
10:15am – 10:30am	Massimo Viola <i>The Kilo Degree Survey: Cosmic Shear Results from 450 Square Degree</i> (12 min presentation + 3 min Q&A)
<b>10:30am – 11:00am</b>	<b>Morning Tea</b> <i>Ballroom Foyer</i>
<b>Session XI: Weak Lensing (continued)</b> <b>Session Chair: Lister Staveley-Smith</b>	
11:00am – 11:15am	Claudio Bruderer <i>Monte Carlo Control Loops Weak Lensing Measurements Applied to DES Data</i> (12 min presentation + 3 min Q&A)
11:15am – 11:30am	Ami Choi <i>Cosmology with the RCS Lensing Survey</i> (12 min presentation + 3 min Q&A)

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11:30am – 11:45am	Joseph Clampitt <i>Lensing Measurements of Halo Ellipticity and Voids in SDSS</i> (12 min presentation + 3 min Q&A)
11:45am - 12:00pm	Poster Sparklers (2 mins and 1 slide each)
<b>12:00pm – 2:00pm</b>	<b>Lunch</b> Ballroom Foyer
<b>Session XII: Lensing Specific and/or Non-Standard Gravity Simulations</b> <b>Session Chair: Mike Hudson</b>	
2:00pm – 2:30pm	Hans Winther ( <i>Invited talk</i> ) <i>Simulations of Structure Formation in Gravity Theories Beyond General Relativity</i> (25 min presentation + 5 min Q&A)
2:30pm – 2:45pm	Adam Amara <i>Through the Dark Gravitational Lenses</i> (12 min presentation + 3 min Q&A)
2:45pm – 3:00pm	Geraint Lewis <i>Cold vs Warm: Gravitation Lensing as a Probe of Dark Matter</i> (12 min presentation + 3 min Q&A)
3:00pm – 3:15pm	Dragan Huterer <i>Banana split: geometry versus growth and the role of LSS</i> (12 min presentation + 3 min Q&A)
<b>3:15pm – 3:45pm</b>	<b>Afternoon Tea</b> Ballroom Foyer
<b>3:45pm – 5:30pm</b>	<b>Un-Conference Session</b> (content to be posted on notice board)
<b>6:30pm</b>	<b>Conference Dinner</b> Daintree Pool Deck

## Diving into the Dark: Bridging Cosmological Theory and Observation

**FRIDAY 22 JULY 2016**

Time	Item
7:30am	<i>Optional Activity</i> <i>Walk – please meet in Hotel Foyer at 7:25am</i>
7:00am	<b>Breakfast</b> <i>Coco's Restaurant</i>
9:00am – 9:55am	<b>Un-Conference Session</b> <i>(content to be posted on notice board)</i>
9:55am – 10:00am	<b>Announcements</b>
<b>Session XIII: Large Scale Structures</b> <b>Session Chair: Brad Tucker</b>	
10:00am – 10:30am	Rita Tojeiro ( <i>Invited talk</i> ) <i>Review of Large Scale Structures as a Cosmological Probe</i> (25 min presentation + 5 min Q&A)
10:30am – 10:45am	Ixandra Achitouv <i>Improving Reconstruction of the Baryon Acoustic peak: the Effect of Local Environment</i> (12 min presentation + 3 min Q&A)
10:45am – 11:00am	Laura Wolz <i>Going Beyond Cosmology: Hydrogen Measurements using Intensity Mapping Cross-Correlations</i> (12 min presentation + 3 min Q&A)
11:00am – 11:30am	<b>Morning Tea</b> <i>Ballroom Foyer</i>
<b>Session XIV: Dark Matter</b> <b>Session Chair: Luke Barnes</b>	
11:30am – 12:00pm	Tracey Slater ( <i>Invited talk</i> ) <i>Title</i> (25min presentation + 5 min Q&A)
12:00pm – 12:15pm	Tesla Jeltema <i>Clusters of Galaxies in the Dark Energy Survey</i> (12 min presentation + 3 min Q&A)
12:15pm – 1:30pm	<b>Lunch</b> <i>Ballroom Foyer</i>

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Session XV: Cosmic Microwave Background Session Chair: Krzysztof Bolejko	
1:30am – 1:45pm	Branislav Vlahovic <i>Uniformity of Cosmic Microwave Background as a Non-Inflationary Geometrical Effect</i> (12 min presentation + 3 min Q&A)
1:45pm – 2:00pm	Christian Reichardt <i>New Measurements of CMB Polarisation from SPTpol</i> (12 min presentation + 3 min Q&A)
2:00pm - 2:15pm	Alessandro Rettura <i>Mass-Richness Relations for X-ray and SZE Selected Clusters at <math>0.4 &lt; z &lt; 2</math></i> (12 min presentation + 3 min Q&A)
2:15pm – 2:30pm	Alex Saro <i>Optically Selected Object from DES Science Verification Data and their SPT-SZE Signature</i> (12 min presentation + 3 min Q&A)
2:30pm – 3:00pm	Conference Summary Tamara Davis
<b>3:00pm</b>	<b>CLOSE</b>