



Program ESOz-2020 “The build-up of galaxies through multiple tracers and facilities”

Dates: 17th to 22nd of February 2020

Venue: University Club, University of Western Australia, Perth

Monday 17th

Session: Instruments and surveys

Chair: Aaron Robotham (mic helper Madeleine McKenzie)

8:45 - 8:55 - Welcome

8:55 - 9:15 - *Invited Speaker:* Tessa Vernstrom “The MWA and Extragalactic Science”

9:15 - 9:35 - Carlos De Breuck on behalf of Magda Arnaboldi “ESO Public surveys”

9:35 - 9:55 - Aidan Hotan “ASKAP surveys and plans”

09:55 - 10:10 - Suzy Ramsay “Prospects for understanding the build-up of galaxies with ESO's instrumentation and telescopes”

10:10 - 10:25 - Francois Rigaut “MAVIS status update”

10:25 - 10:55 - Coffee Break

Chair: Nick Seymour (mic helper Madeleine McKenzie)

10:55 - 11:10 - Luke Davies “4MOST status update”

11:10 - 11:25 - Betsey Adams “The Apertif Surveys: The First Six Months”

11:25 - 11:40 - Jonghwan Rhee “ASKAP HI deep survey (DINGO)”

11:40 - 12:00 - Highlight: Karen Lee-Waddell “Galaxy evolution - The HI perspective”

12:00 - 12:15 - Edward Taylor “The Taipan Galaxy Survey and prospects for a 4MOST Hemispheric Survey”

12:15 - 12:30 - Erwin de Blok “MeerKAT and the low column density universe: first MHONGOOSE commissioning results”

12:30 - 13:30 - Lunch

Session: The baryon cycle in our own Galactic neighbourhood and nearby galaxies

Chair: Elaine Sadler (mic helper Matthew Wilkinson)

13:30 - 14:00 - *Review Talk*: Naomi McClure-Griffiths "Think Global, Act Local: Atomic Hydrogen in the Milky Way & Magellanic Clouds"

14:00 - 14:15 - Tom Oosterloo "The discovery of a twinkling radio source with Apertif: extreme scintillation from turbulent plasma in the direct solar neighbourhood"

14:15 - 14:30 - Katie Jameson "The cold neutral and molecular gas in the Small Magellanic Cloud"

14:30 - 14:45 - Stephanie Monty "Disentangling the accretion history of the Milky Way using chemodynamics: coupling high resolution spectroscopy with Gaia DR2"

14:45 - 15:00 - Kathryn Grasha "The Most Massive Stars do the Most Damage: Improving Stellar and Photoionized Models in Nearby HII Regions"

15:00 - 15:30 - Coffee break

Chair: Claudia Lagos (mic helper Matthew Wilkinson)

15:30 - 16:00 - *Review Talk*: Clare Worley "Unravelling galaxy formation from the stellar populations of the Milky Way"

16:00 - 16:20 - *Highlight talk*: Ortwin Gerhard (remotely) "Distribution of dark matter and baryons in the centre of the Milky-Way"

16:20 - 16:35 - Azadeh Fattahi "Build up of the Milky Way's stellar halo"

16:35 - 16:50 - Kristine Spekkens "Predicting the Resolved Wallaby Velocity Function"

16:50 - 17:05 - Helga Denes "Exploring galaxy evolution in the M101 group with Apertif"

17:05 - 18:00 - Reception at University Club

Tuesday 18th

Session: Galaxy Evolution I

Chair: Nick Seymour (mic helper Philippa Patterson)

9:00 - 9:30 - *Review*: Simon Driver "A panchromatic view of the Universe"

9:30 - 9:45 - Daniel Prole "Probing the nature of large LSB galaxies using large sky surveys"

9:45 - 10:00 - Elmo Tempel: "The Cosmic Ballet: spin alignment of galaxies and haloes in the cosmic web"

10:00 - 10:15 - Jessica Thorne "Using the SED-fitting code ProSpect to trace star formation in DEVILS"

10:15 - 10:30 - Nandini Sahu "New (Morphological Type)-dependent Black Hole Scaling Relations Linked to Physical Formation Processes"

10:30 - 11:00 - Coffee Break

Chair: Tayyaba Zafar (mic helper Philippa Patterson)

- 11:00 - 11:15 - Andrew Hopkins "Measuring the stellar initial mass function"
11:15 - 11:30 - Pavel Kroupa "The systematically IMF and some consequences"
11:30 - 11:45 - Thomas Davison "Measuring Ex-situ Populations in Galaxies"
11:45 - 12:00 - Brent Groves "Tracing star formation (and not) on resolved galactic scales"
12:00 - 12:15 - Francesco Belfiore "Chemical enrichment in local disc galaxies"
12:15 - 12:25 - *Poster Sparklers:*
 12:15 - 12:18 - Héctor Salas "Dust attenuation in NGC7793"
 12:18 - 12:21 - Hong Soo Park "Faint Dwarf Galaxy Survey of Nearby Groups Based on the KMTNet Supernova Program"

12:25 - 13:30 - Lunch

Chair: Aaron Robotham (mic helper Jess Thorne)

- 13:30 - 14:00 - *Review:* Joop Schaye "Simulating galaxy populations"
14:00 - 14:15 - Adam Stevens "The evolution of galaxies' multi-phase gas reservoirs by environment"
14:15 - 14:30 - Angel Lopez-Sanchez "Hi-KIDS: The HI KOALA IFS dwarf galaxy survey"
14:30 - 14:45 - Garima Chauhan "How HI populates haloes: Simulations vs Observations"
14:45 - 15:00 - Simon Weng "An HI-selected galaxy group at redshift $z=0.45$ "

15:00 - 15:30 - Coffee break

Chair: Carlos De Breuck (mic helper Jess Thorne)

- 15:30 - 15:45 - Antonio Porras-Valverde "What role does stellar mass and halo mass play in determining galaxy quenching and morphological transformations for Dark Sage and IllustrisTNG galaxies?"
15:45 - 16:00 - Mojtaba Raouf "Galaxies in different group relaxedness state"
16:00 - 16:15 - Matías Andrés Bravo Santa Cruz "From luminosity functions to colour distributions: tackling the next challenge in cosmological simulations"
16:15 - 16:30 - Alessandro Sonnenfeld "The dark side of quiescent galaxies: secondary correlations between halo mass and galaxy properties at fixed stellar mass"
16:30 - 16:45 - Rain Kipper "Modelling of stochastic processes governing galaxy evolution"
16:45 - 17:00 - Camila Correa "Galaxy morphology and the stellar-halo mass relation"

Wednesday 19th

Session: Transients

Chair: Aaron Robotham (mic helper Madeleine McKenzie)

9:00 - 9:30 - *Review:* J.P. Macquart "FRBs as probes of cosmic baryons"

9:30 - 9:45 - Stuart Ryder "VLT observations of the host galaxies of Fast Radio Bursts"

9:45 - 10:00 - Adam Batten "The Intergalactic Dispersion Measure in the EAGLE simulations"

10:00 - 10:15 - Tayyaba Zafar "Dust, its composition and evolution in the Universe"

10:15 - 10:30 - Maryam Arabsalmani "Neutral gas around massive star explosions, the beacons of star formation through cosmic time"

10:30 - 11:00 - Coffee Break

Session: CGM and IGM

Chair: Tayyaba Zafar (mic helper Madeleine McKenzie)

11:00 - 11:30 - *Review:* Celine Peroux "Cosmic Evolution of Baryons and Metals"

11:30 - 11:45 - Elaine Sadler "Neutral hydrogen in the distant Universe"

11:45 - 12:00 - Glenn Kacprzak "Tracing outflows and accretion using OVI absorption"

12:00 - 12:15 - Bronwyn Reichardt Chu "Mapping Outflows and the CGM in Starbursting Disk Galaxies"

12:15 - 12:30 - Carlos De Breuck "Quiescent carbon in the CGM of high redshift radio galaxies"

12:30 - 12:45 - Miao Li (remote) "How Do Supernovae-driven Galactic Outflows Shape the Multiphase Circumgalactic Medium?"

12:45 - 13:00 - Matthias Steinmetz "Reconstructing the formation history of the MW with RAVE/APOGEE"

13:00 - 14:00 - Lunch

Free afternoon:

Organized Social Activities:

- (1) Swan River Cruise (participants to pay)
- (2) Bicycle Tour around the Swan River

Thursday 20th

Session: Galaxy Evolution II

Chair: Carlos De Breuck (mic helper Katy Proctor)

9:00 - 9:30 - *Review:* Matt Jarvis "Galaxy populations across time and wavelength"

9:30 - 9:45 - Imogen Whittam "The interplay between star-formation and AGN activity with the MIGHTEE survey"

9:45 - 10:00 - Benjamin Quici "Mapping out the dying phase of radio-loud AGN"
10:00 - 10:15 - Nick Seymour "Evolution of the Low Frequency Radio-loud AGN Population"
10:15 - 10:30 - Kathryn Ross "Unexpected Spectral Variability of Peaked Spectrum Radio Galaxies at Low Frequencies"

10:30 - 11:00 - Coffee Break

Chair: Aaron Robotham (mic helper Katy Proctor)

11:00 - 11:20 - Highlight Talk: Helmut Dannerbauer "Impact of environment on molecular gas reservoirs probed in distant cluster and field galaxies"
11:20 - 11:35 - Amanda Wilber "Searching for diffuse radio emission in merging galaxy clusters with LOFAR and ASKAP"
11:35 - 11:50 - Anishya Harshan "Environmental effects on star formation histories at $z \sim 2$ using Prospector"
11:50 - 12:05 - Edo Ibar "The molecular gas and dust content in 'typical' star-forming galaxies at $z = 1.46$ & 2.23 as revealed by ALMA"
12:05 - 12:20 - Malgorzata Siudek "Different evolutionary paths of VIPERS galaxies at $z \sim 1$ "
12:20 - 12:35 - Sabine Bellstedt "Star formation histories of galaxy populations using the SED-fitting code ProSpect"

12:35 - 13:35 - Lunch

Chair: Elaine Sadler (mic helper Matthew Wilkinson)

13:35 - 14:05 - *Review*: Daniel Ceverino "Simulations at the Dwarf Scale: From Violent Dwarfs at Cosmic Dawn and Cosmic Noon to Quiet Discs today"
14:05 - 14:20 - Martin Zwaan "Surveying the Universe with ALMACAL"
14:20 - 14:35 - Aleksandra Hamanowicz "ALMACAL view on molecular content of galaxies"
14:35 - 14:50 - Anne Klitsch "Exploiting the largest ALMA survey (ALMACAL) to study the evolution of gas and dust"
14:50 - 15:00 - *Poster Sparklers*:
14:50 - 14:53 - Hasti Nateghi "CGM Kinematics"
14:53 - 14:56 - Suei-Hei (Dexter) Hon "Where are the red nuggets? Massive compact spheroids across time"
14:56 - 14:59 - Wei Jeat (Jack) Hon "Large scale Active Galactic Nuclei monitoring for Changing Looks"

15:00 - 15:30 - Coffee break

Chair: Claudia Lagos (mic helper Matthew Wilkinson)

15:30 - 15:45 - Matthieu Schaller “The EAGLE-XL simulations: A new tool to study the galaxy population through time”
15:45 - 16:00 - Liyualem Ambachew Tilahun “Stellar Populations and Star Formation of Clumps in Gas-Rich, Turbulent Galaxies”
16:00 - 16:15 - Mirko Curti (remote) “A “KLEVER” probe of the ISM in high redshift galaxies with multi-band KMOS observations”
16:15 - 16:30 - Marianne Girard “Molecular gas kinematics in turbulent, gas-rich galaxies”
16:30 - 16:45 - Elisabete da Cunha “The dust properties of galaxies at the peak of cosmic star formation rate with ALMA”
16:45 - 17:00 - Hosein Hashemi “The Emergence of Bulges and Disks in the Universe”

Conference Dinner: 18:30 Matilda Bay Restaurant

Friday 21st

Session: From the Early Universe and the Epoch of Reionisation to the Universe’s middle ages

Chair: Elaine Sadler (mic helper Philippa Patterson)

9:00 - 9:30 - *Review*: Cath Trott “Measuring the re-ionisation signal”
9:30 - 9:45 - Piyush Sharda “How do high redshift galaxies sustain higher star formation rates?”
9:45 - 10:00 - Nathan Adams “The rest-frame UV luminosity function at $z\sim 4$: a significant contribution of AGN to the bright-end of the galaxy population”
10:00 - 10:15 - Themiya Nanayakkara “Local Universe as a benchmark to stellar populations in the epoch of reionisation”
10:15 - 10:30 - Andrew Battisti “MAGPHYS+photo-z: Constraining the Physical Properties of Galaxies with Unknown Redshifts”

10:30 - 11:00 - Coffee Break

Chair: Nick Seymour (mic helper Philippa Patterson)

11:00 - 11:15 - Rychard Bouwens “Probing the Most Massive ISM reservoirs in the early universe with the REBELS ALMA large program”
11:15 - 11:30 - Antonios Katsianis “The evolution of the simulated and observed SFRs of galaxies in the Past 13 billion years”
11:30 - 11:45 - Anshu Gupta “MOSEL Survey: Growth of Massive Galaxies at $2 < z < 4$ using Kinematics and IllustrisTNG Simulation”
11:45 - 12:00 - Francesca Rizzo “Discovery of a dynamically cold, but highly star-forming, rotating disk galaxy at redshift 4.2”
12:00 - 12:15 - Christian Wolf “Ultraluminous quasars at high redshift”
12:15 - 12:30 - Guillaume Drouart “The GLEAMing of the first supermassive black holes”

12:30 - 13:30 - Lunch

Chair: Tayyaba Zafar (mic helper Jess Thorne)

13:30 - 13:45 - Rosa Gonzalez-Delgado (Remotely) "J-PAS: A survey for galaxy evolution studies"

13:45 - 14:00 - *Poster Sparklers:*

13:45 - 13:48 - Katy Proctor "Optimising Semi-Analytic Models of Galaxy Formation"

13:48 - 15:51 - Roger Mbonga Mayala "Conformally Flat Perturbations for FLRW Universes"

14:00 - 14:15 - Claudia Lagos "The panchromatic emission of galaxies in cosmological galaxy formation simulations"

14:15 - 14:30 - Ruby Wright "The physics of gas accretion onto halos and galaxies: insight from cosmological simulations"

14:30 - 14:45 - Charles Takalana "Simulated differential observations: Probing the DA and EoR with the Sunyaev-Zel'dovich"

14:45 - 15:00 - Marta Spinelli "The atomic Hydrogen content of the post-reionization Universe"

15:00 - 15:15 - Jess Broderick "New searches for high-redshift radio galaxies using the MWA GLEAM survey"

15:15 - 15:30 - Rohit Kondapally (remotely) "Cosmic evolution of radio loud AGN in LOFAR deep fields"

15:30 - 16:10 - Coffee break

16:10 - 16:30 - Conference Summary and closing remarks (Aaron Robotham & Claudia Lagos)

List of Posters

P1 - Hasti Nateghi "CGM Kinematics"

P2 - Suei-Hei (Dexter) Hon "Where are the red nuggets? Massive compact spheroids across time"

P3 - Roger Mbonga Mayala "Conformally Flat Perturbations for FLRW Universes"

P4 - Wei Jeat (Jack) Hon "Large scale Active Galactic Nuclei monitoring for Changing Looks"

P5 - Dhruv Bisaria "Non-circular flows in HighMass galaxies in a test of the late accretion hypothesis"

P6 - Hong Soo Park "Faint Dwarf Galaxy Survey of Nearby Groups Based on the KMTNet Supernova Program"

P7 - Héctor Salas "Dust attenuation in NGC7793"

P8 - Katy Proctor "Optimising Semi-Analytic Models of Galaxy Formation"