

Distant Galaxies from the Far South

11-15 December 2017, Bariloche, Argentina

The conference “Distant Galaxies from the Far South”, held in Bariloche Argentina on 11-15 December 2017, was one of the most important international meetings on high-redshift galaxies of that year, gathering about 90 participants from Europe, the US, Japan and Latin America. The conference was sponsored by the NOVA and the European Research Council.

This event has made possible taking top-level international Astronomy to a developing country, particularly to a region where this research field is only emerging. In addition to about 70 scientific presentations, this conference had two associated public talks, one given by Dr. Matt Greenhouse (NASA Goddard Space Flight Centre) and the other one given by the Prof. Karina Caputi (RUG). Each public talk gathered 100+ people in the audience.

Overall, this international conference was a major success both from the professional-level and outreach points of view.

For more information, see the conference website:

<https://www.astro.rug.nl/~galpatagonia/>

The final conference programme and a financial statement are attached below.

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Conference Programme

Monday 11 December:

- 9:00- 9:05 Conference Welcome (Karina Caputi)
9:05- 9:10 Welcome from the Argentinian Astronomical Society (Leonardo Pellizza)
9:10- 9:20 Important Logistic Information (Guillermo Abramson)

Reionisation & First Galaxies

Chair: Garth Illingworth

- 9:20- 9:50 **Rychard Bouwens** (review talk): *Observations of Galaxies at High Redshift*
9:50-10:10 **Michele Trenti** (keynote talk): *The brightest galaxies at cosmic dawn*
10:10-10:25 Steven Finkelstein: *Reionizing the Universe with Low Galaxy Escape Fractions*
10:25-11:00 **Coffee break**
11:00-11:15 María Emilia de Rossi: *Dust Emission from the First Galaxies*

The IGM at High Redshifts

- 11:15-11:35 **George Becker** (keynote talk): *The IGM-Galaxy Connection Near Reionization*
11:35-11:50 Elisa Boera: *Tracking down reionization using the high-z IGM thermal history*
11:50-12:05 Nicola Menci: *Constraints on the nature of Dark Matter from the abundance of galaxies in the Hubble Frontier Fields*
12:05-12:20 Anne Hutter: *Exploring 21cm - galaxy synergies*
12:20-14:30 **Lunch break**

AGN/QSO and their Role in Reionisation

Chair: Adriano Fontana

- 14:30-15:00 **Bram Venemans** (review talk): *The birth of giants: quasars and their host galaxies in the reionisation epoch*
15:00-15:15 Yoshiki Matsuoka: *Subaru wide-field survey for low-luminosity quasars in the reionization epoch*
15:15-15:30 Emanuele Giallongo: *AGNs in the CANDELS GOODS/EGS fields: looking for high-z ionizing sources*
15:30-15:45 Félix Mirabel: *Stellar black holes in cosmic reionization*
15:45-16:00 Vanesa Douna: *Reionization of the early Universe by electromagnetic cascades produced by microquasars*
16:00-16:30 **Coffee break**
16:30-16:50 **Xiaohui Fan** (keynote talk): *New Surveys of Reionization-era Quasars*

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Reionisation: Lessons from Low Redshifts

- 16:50-17:05 Mario Abadi: *The impact of cosmic reionization on the star formation history of nearby isolated dwarf galaxies*
- 17:05-17:20 Julio Navarro: *Cosmic reionization and the properties of dwarf galaxies*

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Tuesday 12 December:

Galaxy Evolution over the First Few Billion Years

Chair: Franz Bauer

- 9:00- 9:30 **Joop Schaye** (review talk): *Simulations of the early evolution of galaxies and the IGM*
9:30- 9:45 Robert Crain: *The regulation of galaxy growth by SNe- & AGN-driven outflows*
9:45-10:00 William Cowley: *The Galaxy-Halo connection for $2 < z < 6$ as revealed by the Spitzer Matching survey of the UltraVista ultra-deep Stripes (SMUVS)*
10:00-10:15 Lidia Tasca: *Galaxies caught in formation*
10:15-10:30 Gabriela Calistro-Rivera: *What sub-arcsec resolution mapping of the star-forming ISM at $z \sim 2 - 3$ can contribute to high- z SF studies*
- 10:30-11:00 **Coffee break**
- 11:00-11:30 **Renske Smit** (review talk): *Galaxy Evolution over the First Few Billion Years I*
11:30-11:45 Karina Caputi: *Star Formation in Galaxies at $z \sim 4 - 5$ from the SMUVS Survey*
11:45-12:00 Paulina Troncoso: *Evolution of scaling relations from $z = 10$ to $z = 6$ using Frontier Fields data and modelling*
12:00-12:15 Janine Pforr: *The VIMOS Ultra Deep Survey: The UV Luminosity Function and Lyman-alpha escape fraction up to $z \sim 5$*
12:15-12:30 Danilo Marchesini: *Massive Galaxies in the Early Universe and their Evolution into Today's Most Massive Galaxies*
- 12:30-14:45 **Lunch break**

Chair: Lidia Tasca

- 14:45-15:15 **Olivier Le Fèvre** (review talk): *Galaxy Evolution over the First Few Billion Years II*
15:15-15:30 Adam Muzzin: *The Evolution of Massive Galaxies from $0 < z < 5$*
15:30-15:45 Christina Williams: *The formation of quenched galaxies in the first few billion years*
15:45-16:00 Adriano Fontana: *Chasing massive quiescent galaxies at $z > 3$*
- 16:00-16:30 **Coffee break**
- 16:30-16:50 **Kentaro Nagamine** (keynote talk): *Galaxy Evolution over the First Few Billion Years III*
16:50-17:05 Christopher Conselice: *Refining our Understanding of the Merger and Baryonic Assembly of Galaxies*
17:05-17:20 Allison Man: *Evidence for positive AGN feedback and rapid quenching through gas depletion*
17:20-17:35 Flora Stanley: *The mean SFRs of unobscured QSOs at $0.2 < z < 2.5$*
17:35-18:00 **Kristian Finlator** (review talk): *Metal Absorbers and Their Hosts at Cosmic Dawn*
- 19:00-20:00 **Matt Greenhouse** (public talk at BEC): *The James Webb Space Telescope*

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Wednesday 13 December:

Galaxy Evolution from Lensing Studies

Chair: Lise Christensen

- 9:00- 9:30 **Marusa Bradac** (review talk): *Reionisation and First Galaxies*
- 9:30- 9:45 Brett Salmon: *RELICS: Evidence for a Rapid Evolution at the Highest Redshifts*
- 9:45-10:00 Hakim Atek: *The Extreme Faint-end of the UV Luminosity Function at $z \sim 7$ with the Frontier Fields Clusters*
- 10:00-10:15 Gabriel Bartosch Caminha: *Using gravitational telescopes to probe the faint and distant Universe*
- 10:15-10:30 Jorge González: *The ALMA Frontier Fields Survey: Description and first results*
- 10:30-10:45 Matthew Bayliss: *The Definitive Spectral Atlas of Star-forming Galaxies at Cosmic Noon*
- 10:45-10:50 Franz Bauer (short talk): *MUSE observations of LAEs in the Frontier Fields*
- 10:50-11:20 **Coffee break**
- 11:30 **Buses depart to Puerto Pañuelo (for lake tour)**
- Afternoon **Free** - Optional lake tour to Victoria Island & Myrtle-Tree Forest

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Thursday 14 December:

The Dusty Universe from Intermediate to High Redshifts

Chair: Karín Menéndez-Delmestre

- 9:00- 9:30 **Alexandra Pope** (review talk): *The Significance of Dust in Galaxies in the Young Universe*
9:30- 9:45 Kotaro Kohno: *Quest for dusty high-z star-forming galaxies based on unbiased ALMA deep surveys*
9:45-10:00 Takumi Izumi: *SHELLQs-ALMA: submm properties of galaxies hosting less-luminous quasars at $z > 6$*
- 10:00-10:15 Franz Bauer: *Bright ALMA Survey of SMGs in the CDF-S*
10:15-10:30 Paolo Cassata: *Probing the molecular gas content of normal star-forming galaxies at $3 < z < 3.5$ with ALMA*
- 10:30-11:00 **Coffee break**
- 11:00-11:20 **Kirsten Knudsen** (keynote talk): *The presence of dust in the early Universe*
11:20-11:35 Hideki Umehata: *ALMA deep survey in a proto-cluster field*
11:35-11:50 Benny Trakhtenbrot: *ALMA Reveals the Host Galaxies and Close Companions of Fast growing, High-redshift, Supermassive Black Holes*
- 11:50-12:05 Soh Ikarashi: *ALMA studies of a relation between mm-wave sizes and AGN in SMGs*
12:05-12:20 Rodrigo Carvajal: *Stacking in the ALMA Frontier Fields*
- 12:20-14:30 **Lunch break**
- 14:30-14:45 Gergő Popping: *Modeling the dust content of galaxies in the early Universe*

Spectroscopy from Intermediate to High Redshifts

Chair: Kotaro Kohno

- 14:45-15:05 **Anne Verhamme** (keynote talk): *Escape of Lyman alpha and Lyman continuum from galaxies*
15:05-15:20 Stéphane de Barros: *Cosmic reionization and JWST: emission line diagnostics to identify Lyman continuum emitters (and estimate their escape fraction)*
- 15:20-15:35 Naveen Reddy: *Key Results on the Dust Attenuation Curve, Equivalent Width Distributions, and Ionizing Escape Fractions from Rest-UV/Optical Spectra of High-Redshift Galaxies*
- 15:35-15:50 Lucía Guaita: *The role of HI distribution and kinematics on the escape of Ly α photons in star-forming galaxies*
15:50-16:05 Lise Christensen: *The evolution of metals and hydrogen masses at $z > 5$*
- 16:05-16:35 **Coffee break**
- 16:35-16:55 **Nicolas Laporte** (keynote talk): *Unveiling the nature and properties of the first galaxies using NIR- and ALMA- spectroscopy*
16:55-17:10 Michael Maseda: *CIII] Emitters in the MUSE UDF Survey*
17:10-17:25 Andra Stroe: *Insights into the high redshift Universe from cosmic noon studies of CIII] and CIV*
17:25-17:40 Gonzalo Díaz: *Galaxy-Absorber pairs at $z > 4.7$ with MUSE*
17:40-17:55 Robert Bassett: *Lyman Continuum galaxies: MOSFIRE observations*

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- 19:30 **Buses depart to Restaurant El Patacón**
- 20:00-22:45 Conference Dinner at Restaurant El Patacón
- 22:45 **Buses return to Hotel NH Edelweiss**

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Friday 15 December:

Paving the Way for JWST and Other New Telescopes

Chair: Karina Caputi

- 9:30- 10:00 **Garth Illingworth** (highlight talk): *Open Questions and the Impact of Future Facilities*
10:00-10:15 George Rieke: *A JWST/MIRI Program in the HUDF and on Searching for AGNs in ULIRGs*
10:15-10:30 Baerbel Koribalski: *The Australian SKA Pathfinder (ASKAP): Update and Early Science*
- 10:30-11:00 **Coffee break**
- 11:00-11:30 **Marcia Rieke** (highlight talk): *Deep Surveys with JWST: Answering Galaxy Evolution Puzzles*
11:30-11:45 Luis Colina: *Mid-IR spectroscopy of distant galaxies with MIRI/JWST*
11:45-12:00 Laura Bisigello: *Recovering galaxy properties of high-z galaxies with JWST photometry*
12:00-12:15 Norbert Pirzkal: *Sharpening Our View of Star Formation in Distant Galaxies using Slitless Spectroscopy*
12:15-12:30 Jaime Forero-Romero: *Boosting the Ly α line in Pop III Galaxies from Stochastic IMF Sampling*
- 12:30-14:30 **Lunch break**
- 14:30-14:45 Mimi Song: *Probing galaxy evolution with galaxy stellar mass functions over cosmic time*
14:45-15:00 Iary Davidzon: *Latest Spitzer observations: a pathfinder for Euclid, WFIRST, and JWST*
15:00-15:15 Karín Menéndez-Delmestre: *The Large Latin American Millimeter Array (LLAMA): status, timeline and science prospects*
15:15-15:30 Sofia Cora: *MultiDark-SAG galaxy catalog*
- 15:30-16:00 **Coffee break**

Discussion Panel: Key Science Questions for the Next Decade

- 16:00-17:00 **Panel Members:** Garth Illingworth, Julio Navarro, Alexandra Pope, George Rieke, Marcia Rieke.
- 17:00-17:10 Conference Summary - End of Conference