

Charting the Metallicity Evolution History of the Universe

Catania, Museo Diocesano, 19-23 September 2022

Monday 19 September

Gas-phase metallicity evolution

9:00	R. Sanders (INV)	The cosmic evolution of galaxy gas-phase metallicity: progress, challenges, and a bright future
9:30	M. Curti (HIGH)	A 'KLEVER' view on the metallicity properties of high-redshift galaxies
10:00	C. Hayden-Pawson	The KLEVER survey: Insights into galaxy evolution using the N/O ratio
10:20	C. Papovich	The Evolution of Gas-Phase Metallicity and Ionization from Hubble/ Spectroscopy
10:40	Coffee	
11:10	M. Revalski	Measuring the Mass-Metallicity Relation of Low Mass Galaxies at Redshifts 1-2
	B. James	Exploring Star-formation & Inhomogeneity in Pristine Environments: IFU studies of metal-poor dwarf galaxies
11:30		
11:50	M. Mingozzi	Exploring UV diagnostics of the interstellar medium in local high-z analogs
12:10	A. Schaefer	Exploring the local scaling relations for N/O with MaNGA
12:30	LUNCH (self-catered)	
14:20	K. Kreckel	A PHANGS view towards abundance variations across nearby galaxies
14:40	F. Belfiore	The ionisation sources of diffuse ionised gas (DIG) in local galaxies
15:00	P. Torrey (INV)	An overview of the cosmic evolution of gas-phase metallicity in the IllustrisTNG Simulation Suite
15:30	P. Tissera	Metallicity gradients as fingerprints of galaxy evolution
15:50	E. Curtis-Lake	Tracing metallicities in obscured AGN over cosmic time with BEAGLE-AGN
16:10	Coffee	
	D. Ibrahim	The evolution of mass-metallicity relation with various supernova feedback in cosmological simulations
16:40		
17:00	A. Marconi	A new approach to photoionization modelling: towards percent accuracy in reproducing observed emission lines and the physical properties of the ionised medium
17:20	E. Skillman	The End of the Instantaneous Recycling Approximation for Oxygen
17:40	K. Grasha	The Chemical Evolution of Spiral Galaxies from Start of Cosmic Dawn to Today
18:00	Discussion	
18:40	END of the day	

Tuesday 20 September

Stellar metallicity evolution

9:00	M. Kriek (INV)	The Cosmic Evolution of Stellar Metallicity
9:30	A. Gallazzi (HIGH)	The evolution of stellar metallicities at intermediate redshift from deep spectroscopic surveys
10:00	K. Glazebrook	Stellar chemical abundances in stars in $z > 1$ galaxies
10:20	K. Bundy	The Impact of Halo-Driven Assembly on the Enrichment of Spatially-Resolved Stellar Populations
10:40	Coffee	
11:20	T. Nanayakkara	The mysterious case of Iron in XMPs
	A. Beverage	The Chemical Enrichment and Assembly Histories of Massive Quiescent Galaxies over Cosmic Time with JWST and Keck
11:40		
12:00	A. Carnall	The stellar metallicities of massive galaxies at cosmic noon
12:20	F. Cullen	Iron and oxygen abundances in star-forming galaxies at $z=3.5$
12:40	LUNCH (self-catered)	
14:30	M. Chruslinska	Birth metallicity of stars over the cosmic history
14:50	L. Jones	Open SESAME: Stellar Metallicities Revealed from Integrated-light UV Spectroscopy
	D. Kashino	The stellar mass versus stellar metallicity relation at cosmic noon and implications for the evolution of the [O/Fe] abundance ratio
15:10		
15:30	F. Matteucci (INV)	Chemical evolution models
16:00	Coffee	
	C. Byrne	The Dependence of Synthetic Spectra on Alpha-Enhancement in Young, Binary Stellar Populations
16:40		
17:00	F. Fontanot	The evolution of the mass-metallicity relations in the GAEA Semi-Analytic model
17:20	S. Belli	Understanding Stellar Chemical Abundances at Cosmic Noon
17:40	A. Parul	Imprints of bursty star formation on the abundance patterns in FIRE-2 Milky Way-like galaxies
18:00	Discussion	
18:40	END of the day	
20:00	Social Dinner	Ristorante Acqualavica

Wednesday 21 September

Metals and dust in early galaxies

9:00	Yuichi Harikane (INV)	Observations of Metal Enrichment and ISM Properties in Early Galaxies
9:30	I. Shivalai (HIGH)	First constraints on the properties of dust grains as a function of gas metallicity at Cosmic Noon
10:00	S. Carniani (HIGH)	Evidence for large-scale metal enrichment due to AGN feedback
10:30	Coffee	
11:10	M. Killi	[OIII] 52um, [NII] 122um at $z > 7$; Novel Metallicity Constraint in the Reionization Epoch
11:30	L. Sommovigo	The unexpected guest: dust in EoR galaxies
11:50	A. Saccardi	Chemical signatures of the first stars in high-redshift gaseous absorbers
12:10	S. Vergani	Probing chemical enrichment at high-redshift with LGRBs: dissecting a galaxy at $z=6.3$
12:30	Flash Talks	
12:50	LUNCH (self-catered)	

14:00	Social Activity	Excursion - soft trekking on Mount Etna
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Thursday	22 September	
	Metals and dust in early galaxies (cont.)	
9:00	J. Wistok	Assessing the sources of reionization: a spectroscopic case study of a 30× lensed galaxy at $z \sim 5$ with Ly α , C IV, Mg II, and [Ne III]
9:20	A. De Cia	The chemical enrichment of the neutral ISM throughout cosmic time
9:40	F. Bian	Gas-Phase Metallicity Measurements in High-Redshift Galaxies in the JWST Era
	V. Markov	Characterizing the ISM properties of high-redshift galaxies using observations of carbon lines and models
10:00		
10:20	Coffee	
11:00	R. Schneider (INV)	Blue or red? Charting the assembly of the first galaxies
11:30	R. Yates	Constraining galaxy evolution by combining the cosmic metal density, SFR density, and dust mass density of the Universe
11:50	H. Katz	Metallicity diagnostics in high-redshift galaxies enriched by Pop III and Pop II stars
	Y. Sugahara	Bridging Optical and Far-Infrared Emission-Line Diagrams of Galaxies from Local to the Epoch of Reionization
12:10		
12:50	L. Vallini	High [O III]/[C II] surface brightness ratios trace metal enriched starburst galaxies
12:50	LUNCH (self-catered)	
14:30	Qi Li	Modeling dust mass and grain-size distributions evolution across cosmic time
14:50	A. Pallottini	Unveiling the Interstellar Medium of galaxies in the Epoch of Reionization.
15:10	Discussion	
15:50	Coffee	
	The circumgalactic medium	
16:20	T. Looser	Investigating young metal-poor stellar populations with full spectral fitting
16:40	C. Peroux (INV)	The Cosmic Baryon & Metal Cycles
17:10	A. Cameron (HIGH)	How many metals do galaxies lose to outflows? New constraints from the DUVET survey
17:40	N. Lehner	The evolution of the metallicity of the IGM/Galaxy interface over the last 12 billion years
18:00	V. D'Odorico	The quest for metals in the IGM/CGM from the epoch of Reionization to cosmic noon
18:20	S. Weng	Connecting galaxy and HI absorber metallicities in the CGM
18:40	END of the day	
19:00	Roberto Maiolino	Public talk (in Italian)
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Friday	23 September	
	The circumgalactic medium (cont.)	
9:00	R. Szakas	The VISTA/4MOST 4HI-Q Survey: A Machine Learning Approach
9:20	F. Mernier	An X-ray view of chemical enrichment in galaxy groups and clusters
9:40	K. McQuinn	GLOW: Galaxies Losing Oxygen via Winds
10:00	R. Davies	XQR-30: Probing the Enrichment of the CGM by Outflows at $z > 5.3$
10:20	Coffee	
11:00	M. Peebles (INV)	Metals in galaxies and the CGM: a retrospective, insights from the FOGGIE simulations, and a look to the future
	R. Augustin	The metal distribution in circum-galactic gas structures: combining IFU observations with high resolution simulations
11:30		
11:50	Discussion	
12:30	A. Ferrara	Concluding Remarks
13:00	End of the conference	