

Timetable Learning the high-redshift Universe

February 2 - 4, 2022

Coffee breaks will be held on the [SAZERAC GatherTown](#)

Day 1 (February 2)

UTC	Speaker	Title
15:00–15:10	Login, “Hi, how are you?”, “I am muted?”	
15:10–15:25	Welcome	
15:25–15:55	Introduction by Charlotte Mason <i>“Constraining reionization from observations of galaxies”</i>	
15:55–16:00	Buffer/Break	
Session 1		
16:00–16:15	L.Y. Aaron Yung	<i>Paving the way for JWST and Roman with Theory and Simulations</i>
16:15–16:30	Vladan Markov	<i>Constraining the ISM properties of high-z galaxies using carbon lines and statistical model</i>
16:30–16:45	Nashwan Sabti	<i>GALLUMI: A Galaxy Luminosity Function Pipeline for Cosmology and Astrophysics</i>
16:45–17:00	Lena Lenz	<i>Automated methods to find the most distant quasars</i>
17:00-17:15	Coffee Break	
Session 2		
17:15–17:30	Romain Meyer	<i>Learning (from) quasar spectra with VAEs</i>
17:30–17:45	Rodrigo Carvajal	<i>High-redshift Radio Galaxies candidates prediction with ensemble Machine Learning</i>
17:45–18:00	Intae Jung	<i>Predicting Lyman-alpha Emission from Reionization-Era Galaxies with a Supervised Machine Learning</i>
18:00–18:15	Chris Byrohl	<i>Decoding LAE spectra and Lyman-alpha halos</i>
18:15–18:30	Benne Holwerda	<i>Probabilistic selection of high-redshift candidate galaxies from imaging</i>
18:30-18:40	Final words	

Day 2 (February 3)

UTC	Speaker	Title
15:55–16:00	Login, “Hi, how are you?”, “I am muted?”	
16:00–16:05	Welcome	
16:05–16:35	Introduction by Francisco Villaescusa-Navarro <i>“The role of simulations and machine learning in astrophysics”</i>	
16:35–16:40	Buffer/Break	
Session 1		
16:40–16:55	Mosima Masipa	<i>Accelerating reionization simulations and deriving optimal summary statistics with autoencoders</i>
16:55–17:10	Chris Lovell	<i>Testing hydro simulations in a new regime by learning the galaxy-halo relationship at high-z</i>
17:10–17:25	Kyungjin Ahn	<i>Probing the Early History of Reionization by Cosmic-Variance Limited CMB Experiments</i>
17:25–17:40	Flash Talks	
17:40–18:00	Coffee Break	
Session 2		
18:00–18:15	Steffen Neusch	<i>Inferring Astrophysics and Dark Matter Properties from 21cm Tomography using Deep Learning</i>
18:15–18:30	Ming-Feng Ho	<i>Multi-Fidelity Emulation for Cosmological Simulations</i>
18:30–18:45	Barun Maity	<i>Efficient Modelling of Cosmic Reionization using SCRIPT</i>
18:45–19:00	Atrideb Chatterjee	<i>CosmoReionMC: A parameter estimation package using Reionization and Cosmic dawn observations</i>
19:00–19:15	Thomas Binnie	<i>Improving Bayesian analyses of the EoR and how the 21cm line can probe preliminary structure growth</i>
19.15–19.25	Final words	

Day 3 (February 4)

UTC	Speaker	Title
03:55–04:00	Login, “Hi, how are you?”, “I am muted?”	
04:00–04:05	Welcome	
04:05–04:35	Introduction by Cathryn Trott <i>“Extracting information from Murchison Widefield Array EoR data”</i>	
04:35–04:40	Buffer/Break	
Session 1		
04:40–04:55	Shingo Tanigawa	<i>Photometric Redshift Estimation via Machine Learning from Simulations</i>
04:55–05:10	Kana Moriwaki	<i>Deep learning for line de-confusion in large-scale line intensity maps</i>
05:10–05:25	Nicha Leethochawalit	<i>Completeness Correction methods and Biases in UV Luminosity Function determinations</i>
05:25–05:40	Xiaosheng Zhao	<i>Simulation-Based Inference of Reionization Parameters From 3D Tomographic 21 cm Lightcone Images</i>
05:40–05:55	Yuan-Sen Ting	<i>A new approach to observational cosmology using the scattering transform</i>
05:55–06:10	Coffee Break	
Session 2		
06:10–06:25	Miftahul Hilmi	<i>Contamination of $z \sim 8$ Lyman Break Galaxies in the Hubble Data: Correlation with $z \sim 2$ Balmer Break Galaxies</i>
06:25–06:40	Ilya Khrykin	<i>The first measurement of the quasar lifetime distribution</i>
06:40–06:55	Yihao Zhou	<i>Understanding the Impact of Semi-Numeric Reionization Models when using CNNs</i>
06:55–07:10	Balu Sreedhar	<i>Monte Carlo augmentation applied to N-body simulations for semi-analytic modelling</i>
07:10–07:25	Shifan Zuo	<i>Interferometer Array Map Deconvolution with Neural Networks</i>
07:25–07:35	Final words	

Day 3 (February 4)

UTC	Speaker	Title
15:55–16:00	Login, “Hi, how are you?”, “I am muted?”	
Session 3		
16:00–16:15	Ivan Nikolić	<i>Inferring reionization and galaxy properties from the patchy kinetic Sunyaev-Zel'dovich signal</i>
16:15–16:30	Florent Mertens	<i>ML-enhanced foreground mitigation methods for 21-cm experiments</i>
16:30–16:45	Saba Etezad Razavi	<i>Constraining IGM's temperature fluctuations between redshift 3 and 4 using XQ100</i>
16:45–17:00	Christian Hellum Bye	<i>Very Accurate 21-cm Global Signal Emulation with 21cmVAE</i>
17:00–17:15	Coffee Break	
Session 4		
17:15–17:30	Sudipta Sikder	<i>Machine learning to decipher the astrophysical processes at cosmic dawn</i>
17:30–17:45	Harry Thomas Jones Bevens	<i>GLOBALEMU: A novel and robust approach for emulating the sky-averaged 21-cm signal from the cosmic dawn and epoch of reionisation</i>
17:45–18:15	Discussion	
18:15–18:30	Final words	