## **Timetable Learning the high-redshift Universe February 2 - 4, 2022**

Day 1 (February 2)

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

Day 2 (February 3)

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

Day 3 (February 4)

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| **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  *“Extracting information from Murchison Widefield Array EoR data”* | |
| 04:35–04:40 | Buffer/Break | |
| **Session 1** | | |
| 04:40–04:55 | Shingo Tanigawa | *Photometric Redshift Estimation via Machine Learning from Simulations* |
| 04:55–05:10 | Kana ​​Moriwaki | *Deep learning for line de-confusion in large-scale line intensity maps* |
| 05:10–05:25 | Nicha Leethochawalit | *Completeness Correction methods and Biases in UV Luminosity Function determinations* |
| 05:25–05:40 | Xiaosheng Zhao | *Simulation-Based Inference of Reionization Parameters From 3D Tomographic 21 cm Lightcone Images* |
| 05:40–05:55 | Yuan-Sen Ting | *A new approach to observational cosmology using the scattering transform* |
| 05:55-06:10 | Coffee Break | |
| **Session 2** | | |
| 06:10–06:25 | Miftahul Hilmi | *Contamination of z~8 Lyman Break Galaxies in the Hubble Data: Correlation with z~2 Balmer Break Galaxies* |
| 06:25–06:40 | Ilya Khrykin | *The first measurement of the quasar lifetime distribution* |
| 06:40–06:55 | Yihao Zhou | *Understanding the Impact of Semi-Numeric Reionization Models when using CNNs* |
| 06:55–07:10 | Balu Sreedhar | *Monte Carlo augmentation applied to N-body simulations for semi-analytic modelling* |
| 07:10–07:25 | Shifan Zuo | *tbc* |
| 07:25-07:35 | Final words | |

Day 3 (February 4)

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