

SAZERAC SIPS

## Early Galaxy Formation Near and Far

--- Preparing for a Long Journey with JWST ---

<http://sazerac-conference.org/SIPS2122/2.html>

November 29 - December 3, 2021

at Zoom, Slack, and YouTube

Invited Talk: 25 min (20 min talk + 5 min Q&A)

Contributed Talk: 15 min (10 min talk + 5 min Q&A)

Poster Lightning Talk: 1 min (~1 min talk + speaker change)

\*\*\* Time in UTC \*\*\*

----- Monday Nov. 29 -----

13:00 Welcome

*Session 1--- Local Dwarf Galaxies*

[Session 1a] Chair: Masami Ouchi (co-chair: Anita Zanella)

**13:05 Ricardo Amorín** (Universidad de La Serena) - Probing early galaxy evolution through detailed observational studies of low-redshift extreme emission-line dwarf galaxies [Invited Talk]

**13:30 Kristen McQuinn** (Rutgers University) - The Properties and Evolutionary Pathways of Extremely Metal-Poor Galaxies

**13:45 Yuki Isobe** (University of Tokyo) - Excessively high Fe/O in extremely metal-poor galaxies suggestive of hypernovae and/or pair-instability supernovae

**14:00** Lightning Talks: **Nimisha Kumari** (STScI), **Ryan Rickards Vaught** (UCSD), **Alejandro Lumbreras-Calle** (CEFCA), **Catherine Witherspoon** (Wisconsin), **Denis Leahy** (Calgary), **Christopher Snapp-Kolas** (UCR)

**14:10 Break, Interaction, and Posters**

[Session 1b] Chair: Michael Maseda (co-chair: Masami Ouchi)

**14:30 Peter Senchyna** (Carnegie Observatories) - Towards a detailed picture of the massive star populations in metal-poor CIV emitters in the local Universe

**14:45 Sabrina Stierwalt** (Occidental College) - Star Cluster Populations in Interacting Dwarf Galaxies

**15:00 Sophia Flury** (University of Massachusetts) - New Constraints on Lyman Continuum Escape Diagnostics with the LzLCS

**15:15 Alberto Saldana-Lopez** (University of Geneva) - Unveiling the ISM properties of low-z Lyman Continuum emitters

**15:30 Rohan Naidu** (Harvard University) - Solving Reionization with Resolved Lyman Alpha: The Physics of Ionizing Photon Escape Revealed by the X-SHOOTER Lyman-alpha Survey at  $z=2$

**15:45 Break, Interaction, and Posters**

**16:05 Adjourn:** One can continue discussion in the breakout rooms

----- **Tuesday Nov. 30** -----

[Session 1c] Chair: Daniel Schaerer (co-chair: Anita Zanella)

**13:00 Yumi Choi** (STScI) - Probing the Sources of Reionization: First Measurement of the Escape Fraction of Ionizing Photons in Dwarf Galaxies Fainter than  $M_{\text{uv}} = -16$

**13:15 Grace Telford** (Rutgers University) - Extremely Metal-Poor O Stars in Nearby Galaxies as Analogs of Ionizing Photon Producers in the Early Universe

**13:30 Matthew Hayes** (Stockholm University) - Spectral shapes of the Lyman alpha emission from galaxies: The influence of nebular conditions on emergent line profiles

**13:45 Xinfeng Xu** (Johns Hopkins University) - Tracing Lyman Alpha and Lyman Continuum Escape in Galaxies by MgII Emission Lines

**14:00** Lightning Talks: **Taysun Kimm** (Yonsei), **Patty Bolan** (UCD), **Anthony Taylor** (Wisconsin), **Santosh Harish** (ASU), **Asuka Igarashi** (Tsukuba)

**14:10 Break, Interaction, and Posters**

[Session 1d] Chair: Crystal Martin (co-chair: Daniel Schaerer)

**14:30 Yuri Izotov** (National Academy of Sciences of Ukraine) - Local compact star-forming galaxies as analogs of high-redshift galaxies

**14:45 Yuichi Harikane** (University of Tokyo) - Early Galaxy Formation probed with the Most Extreme Line Emitters at  $z \sim 0.8$

**15:00 Kristan Boyett** (U. Melbourne/U. Oxford) - The [OIII] equivalent width distribution at  $z \sim 2$ : The redshift evolution of the extreme emission line galaxies abundance

**15:15 Mattia Sirressi** (Stockholm University) - Haro 11: a local window on the star-formation in the young Universe

**15:30 Yi Xu** (University of Tokyo) - Outflows of Low-Mass Galaxies with  $M^* = 10^4 - 10^7 M_{\text{sun}}$ : Unexpectedly Weak Feedback?

**15:45 Break, Interaction, and Posters**

**16:05 Adjourn:** One can continue discussion in the breakout rooms

----- Wednesday Dec. 1 -----

[Session 1e] Chair: Anita Zanella (co-chair: Irene Shivaiei)

**13:00 Andrea Ferrara** (Scuola Normale Superiore) - The Interstellar Medium of High Redshift Galaxies [Invited Talk]

**13:25 Joohyun Lee** (UT Austin) - Dark Matter Deficient Dwarf Galaxies and Their Member Star Clusters Form Simultaneously during High-velocity Galaxy Collisions at High-redshift

**13:40 Lise Ramambason** (CEA/AIM) - Inferring the escape fractions of ionizing photons from HII regions in the Dwarf Galaxy Survey

**13:55 Hiroya Umeda** (University of Tokyo) - Ionizing Spectrum Shapes of Extremely Metal-Poor Galaxies: Uncovering the Origins of Strong HeII

**14:10 Break, Interaction, and Posters**

[Session 1f] Chair: Irene Shivaiei (co-chair: Kimihiko Nakajima)

**14:30 Matilde Mingozzi** (STScI) - UV ISM diagnostics in local high- $z$  analogues with CLASSY

**14:45 Suzanne Madden** (CEA, Saclay) - The ISM properties of Local Universe Low Metallicity Dwarf Galaxies

**15:00 Luwenjia Zhou** (Nanjing University) - Extremely weak CO emission in IZw 18

**15:15 Vianney Lebouteiller** (CNRS/AIM, CEA/Irfu/DAP, Paris-Saclay) - Paris-Multi-phase/multi-sector ISM modeling techniques for unresolved galaxies: inferring the influence of compact objects in dwarf galaxies

**15:30 Mahtab Gholami** (IPM) - INT-Monitoring Survey: Star formation history of the Local group starburst galaxy IC 10

**15:45 Break, Interaction, and Posters**

**16:05 Adjourn:** One can continue discussion in the breakout rooms

----- **Thursday Dec. 2** -----

*Session 2 --- High-z Dwarf Galaxies and Their Connections with Low-z Dwarf Galaxies*

[Session 2a] Chair: Anita Zanella (co-chair: Kimihiko Nakajima)

**13:00 Uros Mestric** (INAF-OAS) - High redshift galaxies under the microscope: 120 strongly lensed low-mass star-forming clumps at  $2 < z < 6.2$

**13:15 Floriane Leclercq** (University of Texas at Austin) - A first panoramic MUSE view of the metal-enriched intragroup medium of five low-mass galaxies at  $z=1.3$

**13:30 Adélaïde Claeysens** (Stockholm University/ Centre de Recherche Astrophysique de Lyon) - The Lensed Lyman-Alpha MUSE Arcs Sample (LLAMAS) : Characterisation of the CGM properties for high redshift faint galaxies

**13:45 Joris Witstok** (University of Cambridge) - Assessing the sources of reionization: a spectroscopic case study of a  $30 \times$  lensed galaxy at  $z \sim 5$  with  $\text{Ly } \alpha$ , C IV, Mg II, and [Ne III]

**14:00** Lightning Talks: **Mario Llerena** (La Serena), **Karla Ziboney Arellano Cordova** (UT Austin), **Reza Hamrahi Asmarood** (Kharazmi), **Nicholas Martis** (NRC Herzberg/St. Mary's Univ.), **Nial Tanvir** (Leicester), **James Trussler** (Manchester)

**14:10 Break, Interaction, and Posters**

[Session 2b] Chair: Kimihiko Nakajima (co-chair: Michael Maseda)

**14:30 Aayush Saxena** (University College London) - Understanding the ionising photon production and escape from galaxies using rest-UV emission

**14:45 Pratik Gandhi** (University of California Davis) - Characterising the Near-Far Probe of Reionisation using FIRE Simulations

**15:00 Taehwa Yoo** (Yonsei University) - On the origin of low escape fractions of ionizing radiation from massive star-forming galaxies at high redshift

**15:15 Harley Katz** (University of Oxford) - Are Green Peas and Blueberries Truly Analogues of  $z > 6$  Galaxies? Implications for Emission Line Diagnostics of LyC Escape, SFR, and Metallicity

**15:30 Break, Interaction, and Posters**

**15:50 Adjourn:** One can continue discussion in the breakout rooms

----- Friday Dec. 3 -----

*Session 3 --- Prospects for JWST and Forthcoming Facilities*

[Session 3a] Chair: Masami Ouchi (co-chair: Daniel Schaerer)

**12:30 Yuxiang Qin** (University of Melbourne) - Hunting Lyman-alpha emitters during the Epoch of Reionization

**12:45 Eros Vanzella** (INAF - OAS) - High redshift galaxies under the microscope: waiting for JWST and extreme AO facilities

**13:00 Kartheik Iyer** (University of Toronto) - A Tale of Starbursts and Quenching: Star Formation Stochasticity in High-z Dwarf Galaxies with Hubble, James Webb and CANUCS

**13:15 Chris Richardson** (Elon University) - Mid-IR and Optical Emission Line Diagnostics for Simultaneous IMBH and Stellar Excitation in Dwarf Galaxies

**13:30 Break, Interaction, and Posters**

[Session 3b] Chair: Michael Maseda (co-chair: Irene Shivaiei)

**13:50 Viola Gelli** (Università degli Studi di Firenze) - Dwarf satellites of high-z Lyman Break Galaxies: a free lunch for JWST

**14:05 Prerak Garg** (University of Florida) - Modeling nebular line emission in cosmological galaxy formation simulations: Calibrating new strong-line metallicity diagnostics for high redshift galaxies in the era

**14:20 Pratika Dayal** (University of Groningen) - Early galaxy formation and its large-scale effects

**14:35 Emma Curtis-Lake** (University of Hertfordshire) - Pushing to the dwarf regime from cosmic noon to the Epoch of Reionisation with JWST: presenting JADES the joint NIRCam + NIRSpect GTO survey

**14:50 Micaela Bagley** (UT Austin) - Constraining Feedback Mechanisms in galaxies with NGDEEP

**15:05 Summary Talk (Crystal Martin & Daniel Schaerer)**

**15:25 Break, Interaction, and Posters**

**15:45 Adjourn:** One can continue discussion in the breakout rooms