L. Y. Aaron Yung

Curriculum Vitae

Observational Cosmology Lab, Astrophysics Science Division
NASA Goddard Space Flight Center
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https://lyaaronyung.github.io/

Professional Appointments

NASA Postdoctoral Fellow **Oct 2020 – Present**
Astrophysics Science Division, Goddard Space Flight Center
Greenbelt, Maryland, United States
science advisor: Dr. Jonathan Gardner

Flatiron Guest Researcher **Sep 2016 – Sep 2020**
Center for Computational Astrophysics, Flatiron Institute
New York, New York, United States

Education

Rutgers University – New Jersey, United States
Ph.D. in Astrophysics **Class of 2020**
doctoral thesis advisor: prof. rachel somerville

University of San Francisco – California, United States
B.S. in Physics (with Honors) and Mathematics (with Honors) **Class of 2014**
double minor in Astronomy and Astrophysics, Summa Cum Laude

Scientific Interests

I am an expert in modelling the formation and evolution of galaxies and supermassive black holes in the early episodes of cosmic history, as well as their interplay with cosmic environment and subsequent impacts on the reionization of the intergalactic medium using semi-analytic methods. My work "Semi-analytic forecasts for the Universe" provided support for JWST sciences for years and is now supporting the development of future flagship missions, such as NASA's Roman, ESA's Euclid, and the Canadian CASTOR mission. I am an active member of many observation and theory collaborations, with the aim to help maximize synergies across flagship observatories for the search of the first galaxies and black holes using physics-based synthetic observations.

Awards & Honors

2023 STScI Giacconi Prize Postdoctoral Fellowship – Space Telescope Science Institute
– *fully independent fellowship awarded through a competitive selection process*

2020 NASA Postdoctoral Program (NPP) Fellowship – National Aeronautics and Space Administration
– *extremely selective fellowship in recognition of highly ranked academic and scientific achievement*

2021 Richard J. Plano Dissertation Prize – Department of Physics & Astronomy, Rutgers
– *given annually to a PhD graduate who wrote the best physics dissertation in the past year*

2014 Dr. Raymond Genolio Award – Department of Physics & Astronomy, USF
– *award to graduating senior who ranks highest in scholarship in the Department of Physics*

2012 Mike and Millie Lehmann Scholarship – Department of Mathematics, USF
– *award annually to the most outstanding student in the Department of Mathematics*

2012 Arthur Furst Undergraduate Scholarship – College of Arts & Sciences, USF
– *award to a science student who demonstrates outstanding ability and passion to pursue research*

Grants Awarded as PI

2021 *JWST* Cycle 1 – Constraining the Seeding and Growth of First Black Holes via Observable Signatures from the Early Universe (AR/Theory 2108)
– a total grant of $104,327 is awarded towards FY22-23 research and collaborator travel

2020 NPP Fellowship – Semi-analytic model for high-redshift multi-messenger surveys and multi-instrument synergy
– a toal grant of $208,024 is awarded towards FY20-22 research and travel

Selected Grants and Observing Time Awarded as Co-I

2023 *JWST* Cycle 2 – Breaking the z=10 barrier with MIRI: redshift confirmation and detection of rest-frame optical emission lines
PI: Jorge Zavala, 24.4 hours (GO 3703)

2022 *HST* Cycle 30 – Revealing the Nature of Five Potential Bright Galaxies at $z > 10$
PI: Gene Leung, 5 orbits (GO 17281)

2021 *JWST* Cycle 1 – take part in a total of **6 approved GO/AR Programs**, including
– Treasury programs GO 1837 (PI: James Dunlop, 194.7 hrs), GO 2079 (PI: Steven Finkelstein, 122.6 hrs)
– Spectroscopic programs GO 2123 (PI: Susan Kassin, 74.4 hrs), GO 2426 (PI: Micaela Bagley, 17.6 hrs)
– Theory program AR 2608 (PI: Anson D'Aloisio)
– Archival program AR 2687 (PI: Micaela Bagley)
– **totalling 401.6 (prime) / 191.5 (parallel) hours of observations**

2020 *JWST* ERS Program – The Cosmic Evolution Early Release Science (CEERS) Survey
PI: Steve Finkelstein, 63.2 hours (DD-ERS 1345)
– a grant of $9,361 is awarded towards critical theory support work

2019 *HST* Cycle 26 – Photometic Confirmation of the Brightest Known Galaxy Candidate at $z > 9$
PI: Steve Finkelstein, 2 orbits (GO 15697)

Selected External Collaborations

JWST Cosmic Evolution Early Release Science (CEERS) Survey Mar 2018 - Present
PI: Steve Finkelstein
Funded JWST Early Release Science program that surveys the high-redshift Universe. https://ceers.github.io
– **Key Project Architect**, **Catalog Architect**, and **Dataset Architect** for the CEERS program
– **Group Leader** of the Simulation Science Working Group
– **Group Leader** of the Junior Scientist Working Group
– major contributor to the pre-launch simulations and data products

The *Euclid* Consortium Jul 2022 - Present
An international collaboration in preparation for Euclid, an ESA medium class astronomy and astrophysics space mission aims at understanding why the expansion of the Universe. The team is officially selected by ESA and is responsible for the scientific capability of the mission, the data production, and of the scientific instruments.
– Member of the Euclid-US Rhodes Team
– Member of the Cosmological Simulation Science Working Group

The *CASTOR* Science Team Sept 2022 - Present

The Cosmological Advanced Survey Telescope for Optical and uv Research (CASTOR) is a proposed Canadian Space Agency (CSA) mission that would image the skies at ultraviolet (UV) and blue-optical wavelengths. The CASTOR Science Team is responsible for high-level science planning and optimization, including overall mission science requirements. https://www.castormission.org

– Contributor of the Galaxies and Cosmic Star Formation Working Group
– Contributor of the Active Galactic Nuclei and Supermassive Black Holes Working Group

Roman SPQR: Spectroscopic Probes of Quantitative Reionization Jul 2023 - Present

PI: James Rhoads

NASA-funded Roman Space Telescope Wide Field Science (WFS) Investigation Team with objectives focused on studying the Epoch of Reionization.

Simons Collaboration on Learning the Universe (LtU) Nov 2022 - Present

Director: Greg Bryan

This collaboration aims to investigate the machineries of Universe across various scales through a Bayesian forward modelling approach informed by the large collection of legacy surveys. See https://www.learning-the-universe.org

– Member of the Synthetic Observation Working Group

PRIMER: Public Release IMaging for Extragalactic Research Oct 2021 - Present

PI's: Jim Dunlop & Garth Illingworth

Selected JWST Cycle 1 major public GO/Treasury extragalactic survey program. Largest survey among all selected.

Ultraviolet Imaging of the CANDELS Fields (UVCANDELS) Apr 2021 - Present

PI: Harry Teplitz

The definitive extragalactic UV imaging of the four premier HST deep-wide survey fields.

Next Generation Deep Extragalactic Exploratory Public (NGDEEP) Survey Mar 2020 - Present

PI's: Steve Finkelstein, Casey Papovich, & Nor Pirzkal

Selected JWST Cycle 1 major public GO/Treasury extragalactic survey program. Deepest survey among all selected.

Experiment for Cryogenic Large-Aperture Intensity Mapping (EXCLAIM) Feb 2019 - Present

PI: Eric Switzer

NASA-funded line intensity mapping survey for CO and CII line emission from $z = 0 - 3.5$ *galaxies.* (link)

The Isolated and Quenched (IQ) Collaboratory Sep 2017 - Present

PI: Tjitske Starkenburg

The IQ Collaboratory aims to bridge the gap between simulations and observations of star-forming and quiescent galaxies to better characterize internal quenching processes. See https://iqcollaboratory.github.io

Roman Space Telescope Cosmic Dawn Science Investigation Team Jun 2019 - Nov 2021

PI: James Rhoads

NASA-funded Roman Space Telescope Science Investigation Team (SIT) with objectives focused on studying the epoch of "Cosmic Dawn".

Undergraduate ALFALFA Team Aug 2012 - May 2014

The NSF-funded UAT is a consortium of 19 institutions engaging in an undergraduate research under the Arecibo Legacy Fast ALFA (ALFALFA) project, which aims to detect neutral hydrogen in the local universe by utilizing the Arecibo L-band Feed Array (ALFA) at the Arecibo Observatory.

Professional Service

Since 2022	Panellist for astrophysics grant proposal review – various programs funded by NASA
Since 2021	Subject Matter Expert for JWST – NASA/STScI Webb Communication Team
Since 2021	Referee for peer-reviewed journals – including *A&A*, *AJ*, *ApJ*, *ApJS*, *MNRAS (MJ/Letters)*
Since 2022	Junior Member – International Astronomical Union (IAU)
Since 2019	Member – American Astronomical Society (AAS)
2021 - Present	Deputy Chair – Galaxies Science Interest Group, NASA's Cosmic Origins Program
2015 - 2016	President – Graduate Student Organization, Rutgers
2013 - 2014	President – USF Astronomy Club
2013 - 2014	Chapter Officer – Mathematics Honor Society (IIME), USF
2012 - 2013	Vice President – USF Astronomy Club

Additional Training & Qualifications

2022	NASA ROSES Proposal Writing Workshop – NASA/JPL, supported by NASA Science Mission Directorate
2022	NASA Mission Concept Development Workshop – NASA/GSFC, New Opportunities Office
2021	"Share the Science" Media Training – Alan Alda Center for Communicating Science, nominated by GSFC OCOMM
2021	Machine Learning × Physics/Astronomy – Center for Computational Astrophysics, Flatiron Institute
2016	Certificate of Training in Physics Mentorship – Department of Physics & Astronomy, Rutgers
2014	Certificate of Training in Physics Teaching – Department of Physics & Astronomy, Rutgers

Teaching Appointments

2014 - 2016	Graduate Teaching Assistant – Department of Physics & Astronomy, Rutgers
2012 - 2014	Teaching Assistant – Department of Mathematics, USF
2011 - 2014	Teaching Assistant – Department of Physics & Astronomy, USF
2011 - 2013	Observation Assistant for Astronomy – Department of Physics & Astronomy, USF

Other Skills & Background

Scientific Programming:	`Python` (Primary), `C++`, `FORTRAN`, LaTeX, `IDL`, `MATLAB`, `Mathematica`
Language Proficiency:	English (Fluent), Mandarin (Fluent), French (Basic), Japanese (Basic)
Nationality:	Citizen of the United States, British National (Overseas)

Notable Invited Lectures

Jan 18, 2023 – New Brunswick, New Jersey – *Richard J. Plano Dissertation Prize Lecture*
- *topic: Paving the Way for Future Space Telescopes with Theory and Simulations* (link)
- physics colloquium at the Rutgers Physics Department for the Plano Prize in 2021

Dec 8, 2022 – Houston, Texas –
Keynote address at the Society of HPC Professionals Annual Technology Meeting
- *topic: HPC and the James Webb Space Telescope*
- industry-facing conference for the high performance computing community (link)
- invited presentation reviewing the state-of-the-art HPC applications in the field of astronomy (link)

Nov 15, 2022 – New York, New York – *Guest Lecture at Columbia University*
- *topic: James Webb Space Telescope – a new frontier in distant universe exploration*
- covering the JWST mission and the controversy related to the discovery of extreme-redshift galaxies
- invited special-topic lecture for the graduate-level *Galaxies* course (GR6003) in Fall 2022

Jul 18, 2022 – Oeiras, Portugal – *Distinguished Guest Lecture at the International Space University*
- *topic: First Light Observations from the James Webb Space Telescope* (link)
- public lecture took place during ISU's flagship, professional Space Studies Program (SSP2022)
- SSP2022 is sponsored by Portugal Space and Instituto Superior Técnico (Técnico Lisboa)
- ISU is sponsored by NASA, ESA and other government, academic, industry, and private entities

Conference Contributed Talks

"Are ultra-high-redshift galaxies at $z > 10$ surprising in the context of standard galaxy formation models?"
Aug 7–11, 2023 – Santa Cruz, California – 2023 Santa Cruz Galaxy Workshop *(invited)*

"Guiding future deep-wide Roman surveys with galaxy formation physics we learn from JWST"
Jun 20–23, 2023 – Baltimore, Maryland – Roman Science Inspired by Emerging JWST Results
(doi:10.5281/zenodo.8117664)

"What have we learned from JWST and what do we do next?"
May 30– Jun 2, 2023 – New York, New York – CCA Fake Light Workshop

"Are the ultra-high-redshift galaxies surprising in the context of standard galaxy formation models?"
May 8–10, 2023 – Austin, Texas – CEERS Collaboration Meeting

"Interpretation of JWST galaxies and predictions for wide-field survey telescopes" – Contributed Talk
"Yields from large-area, HST-resolution Galaxy Surveys in the Unresolved regime" – Roman Splinter Session
"Building a 'Science Gaps' Plan for the Next Great Observatories" – Stars & Galaxies SIGs Splinter Session
"Paving the way for Big Eyes with Theory and Simulations" – NASA's Hyperwall Exhibition Talk
"The Galaxies Science Interest Group (Galaxies SIG)" – Cosmic Origins Program Splinter Session

Chambliss poster award judge

Jan 8–12, 2023 – Seattle, Washington – the 241stAAS Meeting

"Semi-analytic forecasts for JWST: Paving the way to the deep universe with theory and simulations"
Nov 14–16, 2022 – Virtual – 2022 NPP Symposium, Oak Ridge Associated Universities *(invited)*

"Beyond semi-analytic forecasts, what physics are we going to learn from JWST observations?"
Aug 15–19, 2022 – Santa Cruz, California – 2022 Santa Cruz Galaxy Workshop *(invited)*

"Paving the way for JWST and Roman with Theory and Simulations" – Contributed Research Talk
"Paving the way for Big Eyes with Theory and Simulations" – NASA's Hyperwall Exhibition Talk
"Quantifying Reionization with Roman" – Roman Space Telescope Galaxy Evolution Splinter Session

Session Chair for the Star Formation session; Chambliss poster award judge

Jun 12–16, 2022 – Pasadena, California – the 240thAAS Meeting

"Semi-analytic forecasts for JWST: mock lightcones and data release"
Mar 14–18, 2022 – Sesto, Italy – The Growth of Galaxies in the Early Universe – VII *(invited)*

"Paving the way for JWST and Roman with Theory and Simulations"
Feb 2–4, 2022 – Virtual – SAZERAC SIP: Learning the High-Redshift Universe

"Lightcones for Roman Space Telescope & Simulated Observations"
Nov 15–19, 2021 – Virtual – Roman Science Investigation Team Community Briefing

"Semi-analytic forecasts: uncovering galaxy formation at high redshift with JWST and Beyond"
Jul 6–9, 2020 – Virtual – Summer All Zoom Epoch of Reionization Astronomy Conference (SAZERAC)

"Semi-analytic forecasts: uncovering galaxy formation at high redshift with JWST and Beyond"
Jan 4–8, 2020 – Honolulu, Hawai'i – the 235$^{\rm th}$AAS Meeting – dissertation talk

"Semi-analytic forecasts: high-redshift galaxy demographics and implications for reionization"
Jan 21–25, 2019 – Sesto, Italy – The Growth of Galaxies in the Early Universe – V *(invited)*

"Semi-analytic forecasts: uncovering galaxy formation with joint constraints from wide and deep surveys"
Aug 30–31, 2018 – Princeton, New Jersey – Workshop on *WFIRST*/LSST Deep Fields

"Semi-analytic forecasts: uncovering galaxy formation with joint constraints from wide and deep surveys"
Jul 23–27, 2018 – Noordwijk, Netherlands – ESA-ESTEC *JWST*/Euclid Synergy Conference

"Galaxy Formation in the Epoch of Reionization with SAM: Predictions for Upcoming JWST Observations"
Feb 4–10, 2018 – Aspen, Colorado – Aspen Winter Conference on Astrophysics: Cosmic Dawn

"Galaxy Formation at Extreme Redshifts: Semi-analytic Predictions and Challenges for Observations"
Jun 12–16, 2017 – Paris, France – Galaxy Evolution Across Time (doi:10.5281/zenodo.809702)

"UV Luminosity Functions at $z > 6$ predicted by Semi-analytic Models and implications for Reionization"
Jun 20–24, 2016 – Paris, France – the 32$^{\rm nd}$ Institut d'Astrophysique de Paris Colloquium

Conference Posters

"Are the ultrahigh-redshift galaxies surprising in the context of standard galaxy formation models?"
Jun 12–16, 2023 – Cambridge, Massachusetts – the First Light conference at MIT

"Semi-Analytic Forecasts for JWST: Uncovering galaxy formation with joint constraints from deep surveys & reionization"
Aug 5–9, 2019 – Santa Cruz, California – 2019 Santa Cruz Galaxy Workshop

"Semi-Analytic Forecasts for JWST: Uncovering galaxy formation with joint constraints from deep surveys & reionization"
Jun 24–28, 2019 – Paris, France –
CosmoGold IAP 2019: The golden age of cosmology from Planck to Euclid

"Semi-Analytic Forecasts for JWST: Uncovering early galaxy evolution in the ALMA and JWST era"
Jun 3–9, 2019 – Viana do Castelo, Portugal –
IAU Symposium 352: Uncovering early galaxy evolution in the ALMA and JWST era

"Evolution of physical properties & scaling relations for high-redshift galaxies"
Jul 15–20, 2018 – Kingston, Ontario, Canada –
The Physics of Galaxy Scaling Relations and the Nature of Dark Matter

"Semi-analytic forecasts for JWST Trilogy"
Jun 18–22, 2018 – Strasbourg, France – Rise and Shine: Galaxies in the Epoch of Reionization

"Constraints on First-Stars Models From Observations of Local Low-Mass Dwarf Galaxies and Galactic Metal-Poor Halo Stars"
Jan 5–9, 2014 – Washington D.C., United States – the 223$^{\rm rd}$AAS Meeting – Poster #246.54

Selected External Talks

Apr 4, 2023 – Montréal, Quebec – McGill Space Institute, Astro Seminar (*invited*)

Mar 10, 2023 – Pasadena, California – Carnegie Observatories, Lunch Talk (*invited, virtual*)

Mar 6, 2023 – Cambridge, Massachusetts – MIT Kavli Institute, Monday Afternoon Talk (*invited, virtual*)

Feb 16, 2023 – New York, New York – Flatiron Institute, CCA Lunch Seminar (*invited*)
Nov 18, 2022 – Greenbelt, Maryland – GSFC Sciences and Exploration Directorate, Director's Seminar
Nov 7, 2022 – Tucson, Arizona – University of Arizona, Steward / NOIRLab Galaxy Group Talk
Nov 2, 2022 – College Park, Maryland – UMD Center for Theory and Computation (CTC) Seminar
Oct 28, 2022 – Cambridge, Massachusetts – Harvard-Smithsonian *CfA*, Hernquist's Galaxy Group Meeting
Oct 20, 2022 – *Euclid* Early Career Researchers Workshop, program by the *Euclid Consortium* (*virtual*)
Oct 12, 2022 – New Haven, Connecticut – Yale University, Galaxy Lunch Talk
Sep 26, 2022 – Toronto, Ontario – Dunlap institute, University of Toronto, Astro Tea (*virtual)*
Jul 21, 2022 – Roman Virtual Lecture Series, jointly hosted by JPL, IPAC, GSFC, and STScI *(virtual)*
May 31, 2022 – Victoria, B.C. – NRC of Canada's Herzberg Research Centre Colloquium (*invited, virtual)*
Apr 28, 2022 – Austin, Texas – University of Texas at Austin, Cosmos Seminar (*invited)*
Mar 31, 2022 – New York, New York – Flatiron Institute, CCA Lunch Seminar (*invited)*
Feb 24, 2022 – Baltimore, Maryland – JWebbinar for the JWST community, hosted by STScI (*virtual)*
Dec 9, 2021 – Baltimore, Maryland – Joint STScI–JHU Galaxies and AGN Seminar *(invited, virtual)*
Oct 14, 2021 – New York, New York – Columbia University, Astro Seminar *(invited)*
Mar 11, 2021 – Greenbelt, Maryland – GSFC Sciences and Exploration Directorate, Director's Seminar
Feb 1, 2021 – Santa Cruz, California – UC Santa Cruz, CGI Seminar *(invited, virtual)*
Jul 16, 2020 – Sussex, England – University of Sussex, Astro Seminar *(invited, virtual)*
Mar 2, 2020 – New York, New York – *WFIRST* Science Jamboree II, *WFIRST* Science Community Meeting
Feb 7, 2020 – Toledo, Ohio – University of Toledo, Astro Seminar
Nov 7, 2019 – Oxford, England – University of Oxford, Galaxy Evolution Seminar
Nov 5, 2019 – Copenhagen, Denmark – Dark Cosmology Centre, Niel Bohr Institute
Nov 1, 2019 – Leiden, Netherlands – Lorentz Center, Leiden galaxy workshop
Sep 17, 2019 – Cambridge, Massachusetts – Harvard-Smithsonian *CfA*, Galaxies & Cosmology Seminar
Sep 4, 2019 – New Haven, Connecticut – Yale University, Galaxy Journal Club
Jul 30, 2019 – Greenbelt, Maryland – *WFIRST* Science Jamboree, *WFIRST* Science Community Meeting
Jun 21, 2019 – New York, New York – *Origins Space Telescope* Community Science Meeting
Feb 15, 2019 – Baltimore, Maryland – Space Telescope Science Institute, Galaxy Seminar
Nov 8, 2018 – San Francisco, California – University of San Francisco, Physics Colloquium
Oct 16, 2017 – Cape Town, South Africa – MPA-UWC Bilateral Workshop
Oct 12, 2017 – Heidelberg, Germany – Max-Planck-Institut für Astronomie, Galaxy Coffee

Conferences & Workshops Organized

Aspen Summer Workshop 2023 – "Revealing the Detailed Astrophysics of Early Galaxies with *JWST*"
- *three-week workshop at the Aspen Center for Physics from Aug 20 – Sept 10, 2023*
- *served as workshop co-organizer with Allison Strom, Michael Maseda, and Risa Wechsler*
- *the workshop is selected through a competitive proposing process*

"The Fake Light™ Workshop" – CCA workshop on synthetic observations for *JWST*
- *four-day workshop hosted by the Center for Computational Astrophysics from May 30 – Jun 2, 2023*
- *served as workshop co-organizer with Chris Hayward, Rachel Cochrane, and Matt Orr*
- *this workshop aims to foster timely discussions between the observation and simulation communities*

SAZERAC SIP – "Models and Simulations of High-Redshift Galaxies"
- *Virtual conference in the midst of the COVID pandemic from Oct 27 – 28, 2021*
- *served as Chair of the SOC, conference talk priorities given to junior scientists*
- *this conference is part of a long line of topic-focused, all-zoom mini conference series*

Joint CCA/STScI Workshop on "Epoch of Reionization and Early Galaxy Evolution with *JWST*"
- *served as one of the five main organizers for the two-part conference series*
- *Part I at the Space Telescope Science Institute (STScI), Baltimore, MD on Apr 20, 2018*
- *Part II at the Center for Computational Astrophysics (CCA), New York, NY on Jun 1, 2018*

SKA Pathfinders HI Science Coordination Committee (PHISCC) Workshop
- *took place at Rutgers University, Mar 16 – 18, 2015* (served as LOC)

Selected Public Outreach Activities

NASA Exhibition at the American Astronomical Society (AAS) Meetings
- staffing booths in the exhibition halls at the 240th (Pasadena, CA) and 241st (Seattle, WA) AAS meetings
- engaging and sharing the excitement of *Roman Space Telescope* with attendees and students of diverse interest

NASA's Webb Instruments Q&A – *official public engagement event on Twitter and Instagram*
- as part of a celebration of Asian American and Pacific Islanders (AAPI) Heritage Month – *May 11-13, 2022*
- interact with a worldwide audience on Webb and its instruments as JWST subject matter expert

Mar 2021 – Aug 2022 Main host for the popular weekly science series on the social platform *"Clubhouse"*
- I run the *"Astronomy &Astrophysics"* club that attracted 29.4k+ members since March 2021 (link, recordings)
- in collaboration with *NASA's Chief Scientist Jim Green*, *Heidi Hammel*, and many experts
- weekly events include an *"Astro Newsroom"* and a topical room *"Ask An Astronomer – $[A^3]$"*
- typical rooms reach hundreds of listeners, with a peak of 1.6k for our room on Black Holes
- special-topic rooms feature guest experts, notable guests include *John Mather* on COBE and JWST

Jul 11, 2023 – Greenbelt, Maryland – STScI Interns Visit to GSFC – *Clean Room and I&T Area Tour*
Jun 20, 2023 – Astronomy on Tap Baltimore – *Staring Deep into the Abyss with Big Space Telescopes* (link)
May 22, 2023 – Astronomy on Tap D.C. – *What do we see when we stare into the abyss with JWST?* (link)
Apr 13, 2023 – Greenbelt, Maryland – U.S. Air Force Visit to GSFC – *Roman Space Telescope Tour*
Jan 8, 2022 – YouTube Live Stream – Launch Pad Astronomy – *Webb Final Deployment Live!* (link)
Nov 14, 2021 – Arlington, Virginia – David M. Brown Planetarium – *JWST Community Event* (link)
Oct 28, 2021 – Annapolis, Maryland – Cafe Scientifique – *JWST Community Event* (link)

Mar 5, 2020 – Washington D.C. – United States Capitol – *Campaign to Save WFIRST*
- advocate for WFRIST and solicit Congress to restore the mission to the Federal Budget
- took part in the joint Princeton/Rutgers delegation with David Spergel and Blakesley Burkhart (link)

Selected Press & Media Appearances

Further Together the ORAU Podcast – *"Episode 117: Telling the story of the universe, a conversation with NASA NPP Fellow Aaron Yung"*
- podcast interview on my theory work with *JWST* and personal stories – *Jul 5, 2023*
- part of a podcast series *Further Together* by Oak Ridge Associated Universities (ORAU)

NASA Featured Article – *"How NASA's Roman Space Telescope Will Rewind the Universe"*
- featured article highlighting the contribution of computational models to Roman programs – *Mar 1, 2023*
- tumblr post *"Caution: Universe Work Ahead"* also featured results and graphics from this work – *May 10, 2023*

Flatiron Institute Featured Article – *"Seeing the Early Universe Through a Simulation"*
– featured article highlighting the contribution of computational models to JWST survey programs – *Oct 19, 2022*

Omni Television Cantonese Service (Canada-based nation-wide broadcasting company)
– *JWST* media inquiry during live news broadcast interview, multiple appearances in 2022
– invited commentary on the Webb mission and Webb's first images as subject matter expert

Voice of America (VOA) Mandarin Service (U.S.-based broadcasting company)
– *JWST* media inquiry during live news broadcast interview, multiple appearances from 2021 to 2022
– invited commentary on *JWST*'s launch, deployment, and first images as subject matter expert

Press Release – *"One of the Universe's Earliest Galaxies Revealed in Widest View Yet of Cosmos"*
– following the discovery of the extremely distant "Maisie's Galaxy" found in the CEERS survey – *Aug 4, 2022*
– joint press release by Flatiron Institute, UT Austin, etc. on Finkelstein et al. 2022

Press Release – *"Scientists Have Spotted the Farthest Galaxy Ever"*
– following the discovery of extremely distant galaxy candidates HD-1 and HD-2 – *Apr 7, 2022*
– joint press release by Univ. of Tokyo ICRR, Harvard–Smithsonian CfA, etc. on Harikane et al. 2022
– news articles and commentary featured in NY Times, Reuters, The Daily Beast, Cosmos Magazine, etc.

NASA's Early Career Scientist Spotlights
– featured article showcasing the early career scientists working at NASA Goddard – *Jul 20, 2022*

NASA's Gravity Assist Podcast – *Season 5, Episode 22: "Using Webb to Trace Galactic Histories"*
– podcast interview on my theory work with *JWST* and personal stories – *Mar 4, 2022*
– part of a long series of *Gravity Assist* podcast series, hosted by the then NASA Chief Scientist Jim Green

NASA's Official Webb Blog – *"To Find the First Galaxies, Webb Pays Attention to Detail and Theory"*
– blog post featuring results from the *Semi-analytic forecasts for JWST* project – *Feb 24, 2022*

The Independent – *"NASA simulation of the universe will guide future Webb telescope observations"*
– news article featuring results from the *Semi-analytic forecasts for JWST* project – *Feb 25, 2022*

USF Featured News Article – *"To Infinity and Beyond"*
– alumni story reporting on my scientific journey and my role with *JWST* – *Oct 20, 2021*

Various commentaries featured in Scientific American, IFLScience, the Daily Beast

Publication Summary

76 papers published in or submitted to peer-review journals since 2018, with a total of 1900+ citations and an h-index of 25. Of these, I am the lead author of 8 papers with 350+ citations.

Full publication records are available in ADS library, ORCID profile, and Google Scholar

Main Author Publications

[1] **Yung L.Y.A.**, Somerville R. S., Finkelstein S. L., Popping G., Davé R., 2019a, *Semi-analytic forecasts for JWST – I. UV luminosity functions at* $z = 4{-}10$, MNRAS 483, 2983 (arXiv:1803.09761)

[2] **Yung L.Y.A.**, Somerville R. S., Popping G., Finkelstein S. L., Ferguson H. C., Davé R., 2019b, *Semi-analytic forecasts for JWST – II. Physical properties and scaling relations for galaxies at* $z = 4 - 10$, MNRAS 490, 2855 (arXiv:1901.05964)

[3] **Yung L.Y.A.**, Somerville R. S., Popping G., Finkelstein S. L., 2020a, *Semi-analytic forecasts for JWST – III. Intrinsic production rate of Lyman-continuum radiation*, MNRAS 494, 1002 (arXiv:1910.11345)

[4] **Yung L.Y.A.**, Somerville R. S., Finkelstein S. L., Popping G., Davé R., Venkatesan A., Behroozi P., Ferguson H. C., 2020b, *Semi-analytic forecasts for JWST – IV. Implications for cosmic reionization and LyC escape fraction*, MNRAS 496, 4574 (arXiv:2001.08751)

[5] **Yung L.Y.A.**, Somerville R. S., Finkelstein S. L., Hirschmann M., Davé R., Popping G., Gardner J. P., Venkatesan A., 2021, *Semi-analytic forecasts for JWST – V. AGN luminosity functions and helium reionization at* $z = 2 - 7$, MNRAS 508, 2706 (arXiv:2109.13241)

[6] **Yung L.Y.A.**, Somerville R. S., Ferguson H. C., Finkelstein S. L., Gardner J. P., Davé R., Bagley M., Popping G., Behroozi P., 2022, *Semi-analytic forecasts for JWST – VI. Simulated lightcones and galaxy clustering predictions*, MNRAS 515, 5416 (arXiv:2206.13521)

[7] **Yung L.Y.A.**, Somerville R. S., Finkelstein S. L., Behroozi P., Davé R., Ferguson H. C., Gardner J. P., Popping G. et al., 2023, *Semi-analytic forecasts for Roman – the beginning of a new era of deep-wide galaxy surveys*, MNRAS 519, 1578 (arXiv:2210.04902)

[8] **Yung L.Y.A.**, Somerville R. S. Finkelstein S. L., Wilkins S. M., Gardner, J. P., 2023b, *Are the ultra-high-redshift galaxies at* $z > 10$ *surprising in the context of standard galaxy formation models?*, submitted to MNRAS (arXiv:2304.04348)

[–] **Yung L.Y.A.**, Somerville R. S. et al., 2023c, *The GUREFT simulations: Dark matter halo merger and assembly histories at ultrahigh redshift*, in preparation

[–] **Yung L.Y.A.**, Hirschmann M., Somerville R. S. et al., 2023d, *Nebular emission from high-redshift galaxies in semi-analytic models*, in preparation

*** Publications [1] – [7] constitute the *"Semi-analytic forecasts of the Universe"* paper series. See the project homepage for an overview of this work and visit Flathub to access the data products.

Co-author Publications

– Published –

[1] Jones, Michael G.; Papastergis, Emmanouil; Pandya, Viraj; ... ... include **Yung, L.Y.A.** 2018, *The contribution of HI-bearing ultra-diffuse galaxies to the cosmic number density of galaxies*, A&A 614, A21 (arXiv:1712.01855)

[2] Stevans, Matthew L.; Finkelstein, Steven L.; Wold, Isak; ... ... include **Yung, L.Y.A.** 2018, *Bridging Star-Forming Galaxy and AGN Ultraviolet Luminosity Functions at* $z = 4$ *with the SHELA Wide-Field Survey*, ApJ 863, 63 (arXiv:1806.05187)

[3] Popping, Gergö; Pillepich, Annalisa; Somerville, Rachel S.; ... ... include **Yung, L.Y.A.** 2019, *The ALMA Spectroscopic Survey of the Hubble Ultra Deep Field: putting the H2 content of galaxies and of the Universe in a theoretical context with IllustrisTNG and the Santa Cruz SAM*, ApJ 882, 137 (arXiv:1903.09158)

[4] Walter, Fabian; Carilli, Chris; Neeleman, Marcel; ... ... include **Yung, L.Y.A.** 2020, *The Evolution of the Baryons Associated with Galaxies Averaged over Cosmic Time and Space*, ApJ 902, 111 (arXiv:2009.11126)

[5] Behroozi, Peter; Conroy, Charlie; Wechsler, Risa H.; ... ... include **Yung, L.Y.A.** 2020, *The Universe at* $z > 10$*: Predictions for JWST from the* UniverseMachine *DR1*, MNRAS 499, 5702 (arXiv:2007.04988)

[6] Yang, Guang; Papovich, Casey.; Bagley, Micaela B.; ... ... include **Yung, L.Y.A.** 2021, *JWST/MIRI Simulated Imaging: Insights into Obscured Star-Formation and AGN for Distant Galaxies in Deep Surveys*, ApJ 908, 144 (arXiv:2011.08192)

[7] Somerville, Rachel S.; Olsen, Charlotte; **Yung, L.Y.A.**; Pacific, Camilla et al. 2021, *Mock Light-cones and Theory Friendly Catalogs for the CANDELS Survey*, MNRAS 502, 4858 (arXiv:2102.00108)

[8] Dickey, Claire M.; Starkenburg, Tjitske K.; Geha, Marla; ... ... include **Yung, L.Y.A.** 2021, *IQ Collaboratory II: The Quiescent Fraction of Isolated Galaxies Across Simulations and Observations*, ApJ 915, 53 (arXiv:2010.01132)

[9] Switzer, Eric R.; Ade, Peter A. R.; Anderson, Christopher J.; ... ... include **Yung, L.Y.A.** 2021, *Experiment for Cryogenic Large-Aperture Intensity Mapping: Instrument design*, Journal of Astronomical Telescopes, Instruments, and Systems 7(4), 044004 (doi: 10.1117/1.JATIS.7.4.044004)

[10] Stevans, Matthew L.; Finkelstein, Steven; ... ... include **Yung, L.Y.A.** 2021, *The NEWFIRM HETDEX Survey: Photometric Catalog and the Quiescent Fraction of Massive Galaxies at $z = 3 - 5$ over 17.5 deg^2 in the SHELA Field*, ApJ 921, 58 (arXiv:2103.14690)

[11] Hahn, ChangHoon; Starkenburg, Tjitske K.; Angles-Alcazar, Daniel; ... ... include **Yung, L.Y.A.** 2022, *IQ Collaboratory III: The Empirical Dust Attenuation Framework – Taking Hydrodynamical Simulations with a Grain of Dust*, ApJ 926, 122 (arXiv:2106.09741)

[12] Tacchella, Sandro; Finkelstein, Steven L.; ... ... include **Yung, L.Y.A.** 2022, *On the Stellar Populations of Galaxies at z=9–11: the Quest of Measuring Star-Formation Histories to Elucidate the First Galaxies*, ApJ 927, 170 (arXiv:2111.05351)

[13] Finkelstein, Steven L.; Bagley, Micaela; Song, Mimi; ... ... include **Yung, L.Y.A.** 2022, *A Census of the Bright z=8.5–11 Universe with the Hubble and Spitzer Space Telescopes in the CANDELS Fields*, ApJ 928, 52 (arXiv:2106.13813)

[14] Harikane, Yuichi; Inoue, Akio K.; Mawatari, Ken; ... ... include **Yung, L.Y.A.** 2022, *A Search for H-band Dropout Lyman Break Galaxies at $z \sim 12 - 16$*, ApJ 929, 1 (arXiv:2112.09141)

[15] Kakos, James; Primack, Joel R.; Rodríguez-Puebla, Aldo; ... ... include **Yung, L.Y.A.** 2022, *Galaxy Correlation Function and Local Density from Photometric Redshifts Using the Stochastic Order Redshift Technique (SORT)*, MNRAS 514, 1867 (arXiv:2201.05258)

[16] Gabrielpillai, Austen; Somerville, Rachel S.; Genel, Shy; ... ... include **Yung, L.Y.A.** 2022, *Galaxy Formation in the Santa Cruz semi-analytic model compared with IllustrisTNG – I. Galaxy scaling relations, dispersions, and residuals at $z = 0$*, MNRAS 517, 6091 (arXiv:2111.03077)

[17] Finkelstein, Steven L.; Bagley, Micaela B.; Arrabel Haro, Pablo; ... ... include **Yung, L.Y.A.** 2022, *A Long Time Ago in a Galaxy Far, Far Away: A Candidate $z \sim 12$ Galaxy in Early JWST CEERS Imaging*, ApJL 940, L55 (arXiv:2207.12474)

[18] Snyder, Gregory F.; Peña, Theodore; **Yung, L.Y.A.**; Rose, Caitlin et al. 2023, *Mock galaxy surveys for HST and JWST from the IllustrisTNG simulations*, MNRAS 518, 6318 (arXiv:2211.09677)

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[21] García-Argumáne, Ángela; Pérez-González, Pablo G.; Gil de Paz, Armando; ... ... include **Yung, L.Y.A.** 2023, *Probing the earliest phases in the formation of massive galaxies with simulated HST+JWST imaging data from Illustris*, ApJ 944, 3 (arXiv:2207.14062)

[22] Guo, Yuchen; Jogee, Shardha; Finkelstein, Steven L.; ... ... include **Yung, L.Y.A.** 2023, *First Look at $z > 1$ Bars in the Rest-Frame Near-IR with JWST CEERS Imaging*, ApJL 945, L10 (arXiv:2210.08658)

[23] Trump, Jonathan R.; Arrabel-Haro, Pablo; Simons, Raymond C.; ... ... include **Yung, L.Y.A.** 2023, *The Physical Conditions of Emission-Line Galaxies at Cosmic Dawn from JWST/NIRSpec Spectroscopy in the SMACS 0723 Early Release Observations*, ApJ 945, 35 (arXiv:2207.12388)

[24] Bagley, Micaela B.; Finkelstein, Steven L.; Koekemoer, Anton M.; ... ... include **Yung, L.Y.A.** 2023, *CEERS Epoch 1 NIRCam Imaging: Reduction Methods and Simulations Enabling Early JWST Science Results*, ApJL 946, L12 (arXiv:2211.02495)

[25] Finkelstein, Steven L.; Bagley, Micaela B.; Ferguson, Henry C.; ... ... include **Yung, L.Y.A.** 2023, *CEERS Key Paper. I. An Early Look into the First 500 Myr of Galaxy Formation with JWST*, ApJL 946, L13 (arXiv:2211.05792)

[26] Kocevski, Dale D.; Barro, Gillermo; McGrath, Elizabeth J.; ... ... include **Yung, L.Y.A.** 2023, *CEERS Key Paper. II. A First Look at the Resolved Host Properties of AGN at $3 < z < 5$ with JWST*, ApJL 946, L14 (arXiv:2208.14480)

[27] Kartaltepe, Jeyhan S.; Rose, Caitlin; Vanderhoof, Brittany N.; ... ... include **Yung, L.Y.A.** 2023, *CEERS Key Paper. III. The Diversity of Galaxy Structure and Morphology at $z = 3?9$ with JWST*, ApJL 946, L15 (arXiv:2210.14713)

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[29] Costantin, Luca; Pérez-González, Pablo G.; Vega-Ferrero, Jesus; ... ... include **Yung, L.Y.A.** 2023, *Expectations of the Size Evolution of Massive Galaxies at $3 \leq z \leq 6$ from the TNG50 Simulation: The CEERS/JWST View*, ApJ 946, 71 (arXiv:2208.00007)

[30] Pullen, Anthony R.; Breysse, Patrick C.; Oxholm, Trevor; ... ... include **Yung, L.Y.A.** 2023, *Extragalactic Science with the Experiment for Cryogenic Large-Aperture Intensity Mapping*, MNRAS 521, 6124 (arXiv:2209.02497)

[31] Kuschel, Maxwell; Scarlata, Claudia; Mehta, Vihang; ... ... include **Yung, L.Y.A.** 2023, *Investigating the Dominant Environmental Quenching Process in UVCANDELS/COSMOS Groups*, ApJ 947, 17 (arXiv:2205.12169)

[32] Papovich, Casey; Cole, Justin W.; Yang, Guang; ... ... include **Yung, L.Y.A.** 2023, *CEERS Key Paper. V. Galaxies at $4 < z < 9$ are Bluer than They Appear – Characterizing Galaxy Stellar Populations from Rest-Frame ~ 1 micron Imaging*, ApJL 949, L18 (arXiv:2301.00027)

[33] Fujimoto, Seiji; Arrabal Haro, Pablo; Dickinson, Mark; ... ... include **Yung, L.Y.A.** 2023, *CEERS Spectroscopic Confirmation of NIRCam-selected $z \gtrsim 8$ Galaxy Candidates with JWST/NIRSpec: Initial Characterization of Their Properties*, ApJL 949, L25 (arXiv:2301.09482)

[34] Shen, Lu; Papovich, Casey; Yang, Guang; ... ... include **Yung, L.Y.A.** 2023, *CEERS: Spatially Resolved UV and Mid-Infrared Star Formation in Galaxies at 0.2 < z < 2.5: The Picture from the Hubble and James Webb Space Telescopes*, ApJ 950, 7 (arXiv:2301.05727)

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[36] Chworowsky, Katherine; Finkelstein, Steven L.; Spilker, Justin S.; ... ... include **Yung, L.Y.A.** 2023, *ALMA 1.1mm Observations of a Conservative Sample of High Redshift Massive Quiescent Galaxies in SHELA*, ApJ 951, 49 (arXiv:2305.06309)

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[40] Cleri, Nikko J.; Olivier, Grace M.; Hutchison, Taylor A.; ... ... include **Yung, L.Y.A.** 2023, *Using [Ne V]/[Ne III] to Understand the Nature of Extreme-Ionization Galaxies*, ApJ 953, 10 (arXiv:2301.07745)

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[41] Perez, Lucia A.; Genel, Shy; Villaescusa-Navarro, Francisco; ... ... include **Yung, L.Y.A.** 2022, *Constraining cosmology with machine learning and galaxy clustering: the CAMELS–SAM suite*, accepted for publication in ApJ (arXiv:2204.02408)

[42] Coogan, Rosemary T.; Emanuele, Daddi; Le Bail, A.; ... ... include **Yung, L.Y.A.** 2023, *A* $z = 1.85$ *galaxy group in CEERS: evolved, dustless, massive Intra-Halo Light and a Brightest Group Galaxy in the making*, accepted for publication in A&A (arXiv:2302.08960)

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[44] Euclid Collaboration: Gabarra, L.; Mancini, C.; Rodriguez-Munoz, L.; ... ... include **Yung, L.Y.A.** 2023, *Euclid preparation. XXXI. Performance assessment of the NISP Red-Grism through spectroscopic simulations for the Wide and Deep surveys*, accepted for publication in A&A (arXiv:2302.09372)

[45] Gómez-Guijarro, Carlos; Magnelli, Benjamin; Elbaz, David; ... ... include **Yung, L.Y.A.** 2023, *JWST CEERS probes the role of stellar mass and morphology in obscuring galaxies*, accepted for publication in A&A (arXiv:2304.08517)

[46] Kocevski, Dale D.; Onoue, Masafusa; Inayoshi, Kohei; ... ... include **Yung, L.Y.A.** 2023, *Hidden Little Monsters: Spectroscopic Identification of Low-Mass, Broad-Line AGN at* $z > 5$ *with CEERS*, accepted for publication in ApJ (arXiv:2302.00012)

[47] Larson, Rebecca L.; Finkelstein, Steven L.; Kocevski, Dale D.; ... ... include **Yung, L.Y.A.** 2023, *A CEERS Discovery of an Accreting Supermassive Black Hole 570 Myr after the Big Bang: Identifying a Progenitor of Massive $z > 6$ Quasars*, accepted for publication in ApJ (arXiv:2303.08918)

[48] Fujimoto, Seiji; Finkelstein, Steven L.; Burgarella, Denis; ... ... include **Yung, L.Y.A.** 2022, *ALMA FIR View of Ultra High-redshift Galaxy Candidates at $\sim$ 11–17: Blue Monsters or Low-z Red Interlopers?*, accepted for publication in ApJ (arXiv:2211.03896)

[49] Martin, Alec; Guo, Yicheng; Wang, Xin; ... ... include **Yung, L.Y.A.** 2023, *UV-Bright Star-Forming Clumps and Their Host Galaxies in UVCANDELS at $0.5 \leq z \leq 1$*, accepted for publication in ApJ (arXiv:2308.00041)

– Submitted –

[50] Larson, Rebecca L.; Hutchison, Taylor A.; Bagley, Micaela B.; ... ... include **Yung, L.Y.A.** 2022, *Spectral templates optimal for selecting galaxies at $z > 8$ with JWST*, submitted to ApJ (arXiv:2211.10035)

[51] Wang, Xin; Taplitz, Harry I.; Smith, Brent M.; ... ... include **Yung, L.Y.A.** 2023, *The Lyman Continuum Escape Fraction of Star-forming Galaxies at $z \gtrsim 2.4$ from UVCANDELS*, submitted to ApJ on 1/1/2023

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[53] Bagley, Micaela B.; Pirzkal, Nor; Finkelstein, Steven L.; ... ... include **Yung, L.Y.A.** 2023, *The Next Generation Deep Extragalactic Exploratory Public (NGDEEP) Survey*, submitted to ApJ (arXiv:2302.05466)

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[56] Akins, Hollis B.; Casey, Caitlin M.; Allen, Natalie; ... ... include **Yung, L.Y.A.** 2023, *Two massive, compact, and dust-obscured candidate $z \sim 8$ galaxies discovered by JWST*, submitted to ApJ (arXiv:2304.12347)

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[58] Long, Arianna S.; Antwi-Danso, Jacqueline; Lambrides, Erini; ... ... include **Yung, L.Y.A.** 2023, *Efficient NIRCam Selection of Quiescent Galaxies at $3 < z < 6$*, submitted to ApJ (arXiv:2305.04662)

[59] Barro, Guillermo; Pérez-González, Pablo G.; Kocevski, Dale D.; ... ... include **Yung, L.Y.A.** 2023, *Extremely red galaxies at $z = 5$ - 9 with MIRI and NIRSpec: dusty galaxies or obscured AGNs?*, submitted to ApJ (arXiv:2305.14418)

[60] Magnelli, Benjamin; Gómez-Guijarro, Carlos; Elbaz, David; ... ... include **Yung, L.Y.A.** 2023, *CEERS: MIRI deciphers the spatial distribution of dust-obscured star formation in galaxies at $0.1 < z < 2.5$*, submitted to A&A (arXiv:2305.19331)

[61] Kirkpatrick, Allison; Yang, Guang; Troiani, Greg; ... ... include **Yung, L.Y.A.** 2023, *CEERS Key Paper VII: JWST/MIRI Reveals a Faint Population of Galaxies at Cosmic Noon Unseen by Spitzer*, submitted to ApJ on 6/9/2023

[62] Leung, Gene C. K.; Bagley, Micaela B.; Finkelstein, Steven L.; ... ... include **Yung, L.Y.A.** 2023, *NGDEEP Epoch 1: The Faint-End of the Luminosity Function at $z \sim 9$–12 from Ultra-Deep JWST Imaging*, submitted to ApJ (arXiv:2306.06244)

[63] Calabrò, Antonello; Pentericci, Laura; Feltre, Anna; ... ... include **Yung, L.Y.A.** 2023, *Near-infrared emission line diagnostics for AGN from the local Universe to $z \sim 3$*, submitted to A&A (arXiv:2306.08605)

[64] Urbano Stawinski, Stephanie M.; Cooper, Michael C.; Finkelstein, Steven L.; ... ... include **Yung, L.Y.A.** 2023, *Deeper than DEEP: A Spectroscopic Survey of z>3 Lyman-α Emitters in the Extended Groth Strip*, submitted to MNRAS (arXiv:2307.04782)

[65] Le Bail, Aurélien; Daddi, Emanuele; Elbaz, David ; ... ... include **Yung, L.Y.A.** 2023, *JWST/CEERS Sheds Light on Dusty Star-Forming Galaxies: Forming Bulges, Lopsidedness and Outside-In Quenching at Cosmic Noon*, submitted to A&A (arXiv:2307.07599)

[66] Backhaus, Bren E.; Trump, Jonathan R.; Pirzkal, Nor; ... ... include **Yung, L.Y.A.** 2023, *CEERS Key Paper VII: Emission Line Ratios from NIRSpec and NIRCam Wide-Field Slitless Spectroscopy at $z > 2$*, submitted to ApJ (arXiv:2307.09503)

[67] Yang, Guang; Papovich, Casey; Bagley, Micaela B.; ... ... include **Yung, L.Y.A.** 2023, *CEERS MIRI Imaging: Data Reduction and Quality Assessment*, submitted to ApJ (arXiv:2307.14509)

[68] Nguyen, Tri; Modi, Chirag; Yung, **Yung, L.Y.A.**; Rachel S. Somerville 2023, *FLORAH: A generative model for halo assembly histories*, submitted to MNRAS on 8/4/2023

copies of all pre-arXiv'ed papers are available upon request

Conference Proceedings / White Papers / Non-refereed

[1] Harikane, Yuichi et al. (include **Yung, L.Y.A.**) 2021, *Roman Cosmic Dawn Survey*, NASA/Goddard's call for Roman Early-Definition Astrophysics Survey Concept

[2] Koekemoer, Anton et al. (include **Yung, L.Y.A.**) 2021, *Roman Ultra Deep Field*, NASA/Goddard's call for Roman Early-Definition Astrophysics Survey Concept

[3] Malhotra, Sangeeta et al. (include **Yung, L.Y.A.**) 2021, *Deep Slitless Spectroscopy with Roman*, NASA/Goddard's call for Roman Early-Definition Astrophysics Survey Concept

[4] Papovich, Casey et al. (include **Yung, L.Y.A.**) 2021, *Roman Multi-Tiered Surveys (Roman-MTS) for Extragalactic Science*, NASA/Goddard's call for Roman Early-Definition Astrophysics Survey Concept

[5] Essinger-Hileman, Thomas; Oxholm, Trevor; Siebert, Gage; ... ... include **Yung, L.Y.A.** 2022, *EXCLAIM: The EXperiment for Cryogenic Large-Aperture Intensity Mapping*, Proceedings of the SPIE, Volume 12190, Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy (doi:10.1117/12.2630054)

[6] Ferguson, Henry et al. (include **Yung, L.Y.A.**) 2023, *Figures of Merit for Roman Studies of Galaxy Evolution with Lookback Time*, NASA/Goddard's call for Roman Core Community Survey White Paper

[7] Harikane, Yuichi et al. (include **Yung, L.Y.A.**) 2023, *Studying the Cosmic Dawn at z>10 with Roman*, NASA/Goddard's call for Roman Core Community Survey White Paper

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[9] Thilker, David et al. (include **Yung, L.Y.A.**) 2023, *Optimizing Science Return with Synergy Between Roman?s Core Community Surveys and the High-Resolution, UV-Optical CASTOR Mission*, NASA/Goddard's call for Roman Core Community Survey White Paper

[10] **Yung, L. Y. Aaron** et al. 2023, *A set of multi-tiered "Wedding Cake" deep fields for galaxy evolution leveraging the HLWAS infrastructure*, NASA/Goddard's call for Roman Core Community Survey White Paper

Student Mentorship

Tri Nguyen – Flatiron CCA Pre-Doctoral Program Aug 2022 - Present

- PhD Physics Student at Massachusetts Institute of Technology at the time of mentorship
- mentorship shared with rachel somerville (Flatiron/CCA) and Chirag Modi (Flatiron/CCM)

Derek Zapata – ngVLA Community Studies Round 5 (funded by NRAO) Jun 2022 - Present

- PhD Physics Student at Rutgers University at the time of mentorship
- mentorship shared with Andrew Baker (Rutgers) and rachel somerville (Flatiron/CCA)

Nicole Taylor – NASA Summer Internship Program Jun 2021 - Aug 2021

- MS Chemistry Student at Rensselaer Polytechnic Institute at the time of mentorship
- mentorship shared with James Rhoads (NASA/GSFC)

References

Dr. Jonathan P. Gardner

- *Deputy Senior Project Scientist for the James Webb Space Telescope*
- *Research Astrophysicist at the Observational Cosmology Lab of the Astrophysics Science Division*
- *Long-term collaborator on JWST theory support work and other observing teams*
- *Science Advisor for the NASA Postdoctoral Fellowship at NASA/GSFC*

Dr. Rachel S. Somerville

- *Group leader of the Galaxy Formation Group at the CCA of the Flatiron Institute in New York City*
- *Long-term collaborator on semi-analytic model development and related science*
- *Doctoral Thesis Advisor at Rutgers University during my PhD*

Prof. Steven L. Finkelstein

- *Associate Professor at the University of Texas at Austin*
- *PI of the JWST CEERS and NGDEEP Teams and Co-I of the Roman Cosmic Dawn SIT*
- *Main collaborator for the Semi-analytic forecasts work series*
- *Long-term collaborator on JWST, HST, ALMA, Keck observing programs*

Dr. James L. Green

- *Senior Advisor to the Office of the Chief Scientist at NASA Headquarters*
- *NASA Chief Scientist (2018 to 2022), Director of the Planetary Science Division (2006 to 2018)*
- *Long-term collaborator on numerous outreach events on planetary science and space exploration*

Prof. Romeel Davé

- *Chair of Physics at the University of Edinburgh*
- *Main collaborator for the Semi-analytic forecasts work series*
- *Long-term collaborator on projects related to cosmic reionization and 21-cm mapping*