



**Vicente Estrada-Carpenter**  
**NASA FINESST Future Investigator**  
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## RESEARCH INTERESTS

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Astrophysics, Galaxy Evolution, Stellar Populations, Formation Histories, Quenching, Astrostatistics, Spectral Analysis

## EDUCATION

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| <b>PhD in Astronomy</b><br><i>Texas A&amp;M University</i><br>Thesis advisor: Casey Papovich     | 2018-2021 |
| <b>Masters in Astronomy</b><br><i>Texas A&amp;M University</i><br>Thesis advisor: Casey Papovich | 2015-2018 |
| <b>Bachelors of Science in Physics</b><br><i>Southwestern University</i><br>Magna Cum Laude      | 2011-2014 |

## RESEARCH EXPERIENCE

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- 2019–Present Stellar Populations and Formation Histories of Massive Galaxies at  $0.7 < z < 2.7$  from deep *Hubble Space Telescope* Grism Data, Using a combination of G102/G141 grism data from Hubble and photometric data from various telescopes, constrained the stellar populations and star-formation histories of a sample of  $\sim 1000$  massive galaxies in the CLEAR survey at  $0.7 < z < 2.7$  using the forward modeling technique described in Estrada-Carpenter et al. 2019 and non-parametric star-formation histories. These stellar populations allow for study on topics like the mass-stellar metallicity relationship, the link between morphology and formation history, and various timescales.
- 2015–2019 On the Evolution of Stellar Populations of Quiescent Galaxies at  $1.0 < z < 1.8$  from deep *Hubble Space Telescope* Grism Data, Using G102 data from Hubble, constrained the metallicity and age of massive quiescent galaxies in a redshift range of  $1.0 < z < 1.8$  using forward modeling and Bayesian statistics proving the viability of grism data constrain stellar population parameters.
- 2014 Spectrograph Project for King Creativity Award, Designed and constructed a small spectrograph to be used with the research telescope at Southwestern University.
- 2013 Capstone at Southwestern University, Observed 4 AGN in B and V, reduced data and analyzed light curves, contributed to Vazquez et al., 2015.
- 2013 REU program at LSU, Created an X-ray catalog of serendipitous sources found in XMM data from the Galactic Bulge Survey regions, classified objects within catalog.

## PUBLISHED PAPERS

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- Cleri, N, J. Trump, B. Backhaus, **V. Estrada-Carpenter**, et al., CLEAR: Paschen- $\beta$  Star Formation Rates and Dust Attenuation of Low Redshift Galaxies, *ApJ* *submitted*
- **Estrada-Carpenter, V.**, C. Papovich, I. Momcheva, G. Brammer, et al., CLEAR. II. Evidence for Early Formation of the Most Compact Quiescent Galaxies at High Redshift, *ApJ* 898, 2, 171, 2020, DOI: 10.3847/1538-4357/aba004
- **Estrada-Carpenter, V.**, C. Papovich, I. Momcheva, G. Brammer, et al., CLEAR. I. Ages and Metallicities of Quiescent Galaxies at  $1.0 < z < 1.8$  Derived from Deep Hubble Space Telescope Grism Data, *ApJ* 870, 2, 133, 2019, DOI: 10.3847/1538-4357/aaf22e
- Vazquez B., P. Galianni, M. Richmond, Michael; **V. Estrada-Carpenter**, et al., Spitzer Space Telescope Measurements of Dust Reverberation Lags in the Seyfert 1 Galaxy NGC 6418, *ApJ* 801, 2, 127, 2015, DOI: 10.1088/0004-637X/801/2/127

## PRESENTATIONS

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- Roman2020, Poster presentation, Virtual, 2020
- Guest Speaker, University of Texas Austin - ExGal/Cosmology Seminar, Oral presentation, Virtual, 2020
- Guest Speaker, Princeton - Galread Seminar, Oral presentation, Virtual, 2020
- Guest Speaker, STSCI - Galaxies Journal Club, Oral presentation, Virtual, 2020
- Guest Speaker, CFA - HiGEM meeting, Oral presentation, Virtual, 2020
- SAZERAC, Poster presentation, Virtual, 2020
- CEERS Team Meeting, Oral presentation, Montgomery TX 2020
- AAS meeting #235, Oral presentation, Honolulu Hi, 2020
- The Art of Measuring Galaxy Physical Properties, Oral presentation, INAF, Milan, Italy, 2019
- Frank N. Bash Symposium 2019 - New Horizons in Astronomy, Poster presentation, University of Texas, Austin TX, 2019
- GMT Community Science Meeting, Poster presentation, Carlsbad Ca, 2019
- Guest Speaker at the Cosmic Dawn Center, Oral presentation, University of Copenhagen, Copenhagen, Denmark, 2019
- CLEAR Team Meeting, Oral presentation, STSCI, Baltimore MD, 2019
- Workshop on Astronomy and Statistics, Oral presentation, Texas A&M University, College Station TX, 2019
- Extremely Big Eyes on the Early Universe, Oral presentation, University of California Los Angeles, Los Angeles CA, 2019
- AAS meeting #233, Oral presentation, Seattle Wa, 2019
- CLEAR Team Meeting, Oral presentation, Montgomery TX 2018
- CANDELS Team Meeting, Oral presentation, University of Massachusetts, Amherst MA, 2018
- CEERS Team Meeting, Oral presentation, Montgomery TX 2018

- Plumbing Star Formation Rates in the Era of JWST, Oral presentation, Texas A&M University, College Station TX, 2017
- Frank N. Bash Symposium 2017 - New Horizons in Astronomy, Poster presentation, University of Texas, Austin TX, 2017
- Chemical Evolution of the Universe, Poster presentation, Tarrytown NY, 2017
- CANDELS Team Meeting, Oral presentation, UC Santa Cruz, Santa Cruz CA, 2017
- AAS meeting #299, Poster presentation, Grapevine TX, 2017
- ZFOURGE Collaboration meeting, Oral presentation, Montgomery TX 2016
- ZFOURGE Collaboration meeting, Oral presentation, Montgomery TX 2015
- AAS meeting #223, Poster presentation, Washington DC, 2014
- Texas Section APS meeting, Poster presentation, University of Texas at Brownsville, Brownsville TX, 2013
- Frank N. Bash Symposium, Poster presentation, University of Texas, Austin TX, 2013

## HONORS AND AWARDS

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- 2019 Named a NASA FINESST Future Investigator, NASA
- 2018 Hagler Institute for Advanced Study HEEP Graduate Fellowship, Texas A&M University
- 2015 Diversity Fellowship, Texas A&M University
- 2014 Excellence in Physics Award, Southwestern University
- 2014 Recipient of the King Creativity Grant, Southwestern University
- 2013 Feagin Scholarship, for excellence in physics, Southwestern University
- 2013 Physics Club President, Southwestern University
- 2013 Best undergraduate poster presentation, Texas Section APS meeting
- 2013 Recipient of the King Creativity Grant, Southwestern University
- 2012 Recipient of the King Creativity Grant, Southwestern University

## SKILLS

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- Programming Experience: Python, R, IDL, C++,  $\LaTeX$ , Mathematica, MatLab
- Experience with High Performance Computing Clusters, including using SLURM
- 2018 Summer School in Informatics for Astronomers I: One week course at Penn State designed as an overview of informatics.
- 2017 Summer School in Statistics for Astronomers XIII: One week course at Penn State designed as an overview of modern statistical practices and programs in reference to astronomy.

## OUTREACH

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- Undergrad mentoring, 2018–Present, Worked with multiple undergrads at Texas A&M on several projects including: trying to de-blend  $H\alpha$  and NII emission in grism data, building a website for the CLEAR collaboration, measuring color gradients in compact galaxies, searching for signatures of star-formation caused by galaxies interactions in grism  $H\alpha$  maps, comparing the stellar populations of field and cluster galaxies with deep HST grism data
- MAGIC mentor, Texas A&M University, Graduate student mentoring program, 2019-2020
- Houston Astronomical Society, Galaxy Evolution in the Infrared, Public Talk, 2020
- Astronomy on Tap BCS #20, Art-stronomy, Public Talk, 2019
- Astronomy on Tap BCS #13, How to Kill a Galaxy, Public Talk, 2019
- Astronomy on Tap BCS #3, Searching for Signals of Life, Public Talk 2018