Ben Forrest

Department of Physics & Astronomy, University of California Riverside 900 University Avenue, Riverside, CA 92521 http://www.astroforrest.com/ benjamif@ucr.edu

Research Interests

Galaxy formation and evolution, massive galaxies, quenching processes, SED fitting

Educati	on Dh D. Dhuaiga		More 2019
	Toyog A & M University		Way 2018
	Department of Dhysics and Astron	0.000	
	Advisory Dr. Kim Vy Tron	omy	
	Advisor: Dr. Kim-vy fran		
	M.S., Physics		May 2016
	Texas A&M University		·
	Department of Physics and Astron	omy	
	Advisor: Dr. Kim-Vy Tran		
	v		
	B.S., Astrophysics, Summa Cum Laude		
	Rutgers, The State University of New Jersey		
	Department of Physics and Astron	omy	
	Advisor: Dr. Andrew Baker		
Awards			
	Heep Graduate Fellowship, Hagler	\$30,000	2017 - 2018
	Institute for Advanced Stud	ly	
	Departmental Travel Grants,	2,800 over 3 years	2015 - 2017
	Texas A&M University		
	Doctoral Merit Fellowship,	64,000 over 4 years	2012 - 2016
	Texas A&M University		
	Michael Tranghese Postgraduate	\$5,000	2012
	Leadership Award, Big East		
	Conference		
	Presidential Scholarship,	\$82,000 over 4 years	2008 - 2012
	Rutgers University		
Position	IS		
	Postdoctoral Scholar	University of California, Riverside	2018-
	Research Assistant	Texas A&M University	2015 - 2018
	Teaching Assistant	Texas A&M University	2013 - 2017
	Research Assistant	Rutgers University	2011 - 2012

A Sample of Presentations

– Workshops				
- workshops Emission Line Colovies with MOS: from	Kayli Instituto for Cosmolo	$M_{\rm W} = 18.92 \ Oot = 2017$		
cosmic noon to reionization	Cambridge UK	gy, 10-22 Oct. 2017		
Spectral Diagnostics to Explore the Cosmic Dawn with JWST	STScI, Baltimore, MD	31 July-2 Aug. 2017		
Deconstructing Galaxies at Cosmic Noon	Lorentz Center, Leiden, Netherlands	1-5 Aug. 2016		
- Conferences				
Keck Science Meeting	Various	2019, 2020		
American Astronomical Society Winter Meeting	Various	2016, 2017, 2018		
Bash Symposium	Austin, TX	2015		
Texas A&M Astronomy Symposium	College Station, TX	2013-2017		
- Seminars	-			
University of California, Riverside	Riverside, CA	14 Nov. 2018		
The Australian National University	Canberra, ACT, AUS	29 March 2018		
University of Sydney	Sydney, NSW, AUS	26 March 2018		
University of Melbourne	Melbourne, VIC, AUS	21 March 2018		
University of New South Wales	Sydney, NSW, AUS	19 March 2018		
Teaching & Mentoring				
UCR Physics 215 - Substitute Lecturer		Winter 2020		
REU Introduction to Python Day		2018		
Mentored research projects for undergraduates (4)	1	2015-2018		
Graduate Level Astronomy Software Sessions		2016-2017		
(GLASS) Coordinator				
TAMU Astronomy 101 - Substitute Lecturer		Spring 2017		
TAMU Astronomy 102 - Instructor of Record (11	TAMU Astronomy 102 - Instructor of Record (11 sections)			
TAMU Astronomy 111 - Lab Instructor (4 section	$\mathbf{s})$	Fall 2015 - Spring 2016		
Computing (Astronomy specific tools)				
Fluent: Python, TeX, Microsoft Office (EAzY, FAST, FAST++, MAGMA, slinefit)				
Experience with: IDL, R, bash, html (Galfit, Pros	pector, Source Extractor)			
Professional Development				
Institute for Scientist & Engineer Educators:		2017		
Professional Development Program				
Symposium for Faculty, Staff, Graduate Students	Symposium for Faculty, Staff, Graduate Students and Postdocs			
In the Sciences: Insight and Strategies for Profe Personal Well Being and Getting Along with O	In the Sciences: Insight and Strategies for Professional Success, Personal Well Being and Getting Along with Others			
Texas A&M Department of Physics & Astronomy	2014			
Professional Development in Teaching Series				
Outreach & Service				
BBC and CBC Interviews on Massive Quiescent C	2020			
Journal Referee: Galaxies	2019			
Public Star Parties		2012-2017		
Texas A&M Physics and Astronomy Festival		2012-2018		
Texas Astronomy Undergraduate Research Sympo	2015			

Publications

Up to date publications can be viewed on Google Scholar. An occasionally updated list is below.

Publications

First Author

1. The Massive Ancient Galaxies At z > 3 NEar-infrared (MAGAZ3NE) Survey: Confirmation of Extremely Rapid Star-Formation and Quenching Timescales for Massive Galaxies in the Early Universe

The Astrophysical Journal, accepted.

Ben Forrest, Z. Cemile Marsan, Marianna Annunziatella, and 15 additional authors.

- An Extremely Massive Quiescent Galaxy at z = 3.493: Evidence of Insufficiently Rapid Quenching Mechanisms in Theoretical Models The Astrophysical Journal Letters, Volume 890, Issue 1, article id. L1, 8 pp. (2020).
 Ben Forrest, Marianna Annunziatella, Gillian Wilson, and 17 additional authors.
- ZFOURGE: Using Composite Spectral Energy Distributions to Characterize Galaxy Populations at 1 < z < 4 The Astrophysical Journal, Volume 863, Issue 2, article id. 131, 25 pp. (2018).
 Ben Forrest, Kim-Vy H. Tran, Adam Broussard, and 11 additional authors.
- Discovery of Extreme [O III]+Hβ Emitting Galaxies Tracing an Overdensity at z ~ 3.5 in CDF-South
 The Astrophysical Journal Letters, Volume 838, Issue 1, article id. L12, 6 pp. (2017).

Ben Forrest, Kim-Vy H. Tran, Adam Broussard, and 12 additional authors.

UV to IR Luminosities and Dust Attenuation Determined from ~4000 K-Selected Galaxies at 1 < z < 3 in the ZFOURGE Survey
The Astrophysical Journal Letters, Volume 818, Issue 2, article id. L26, 6 pp. (2016).
Ben Forrest, Kim-Vy H. Tran, Adam R. Tomczak, and 22 additional authors.

Co-Author

- The GOGREEN and GCLASS Surveys: First Data Release Monthly Notices of the Royal Astronomical Society, accepted.
 Michael L. Balogh, Remco F. J. van der Burg, Adam Muzzin and 44 additional authors, including Ben Forrest.
- The Hα star formation main sequence in cluster and field galaxies at z ~ 1.6 Monthly Notices of the Royal Astronomical Society, accepted. Julie Nantais, Gillian Wilson, Adam Muzzin, and 16 additional authors, including Ben Forrest.
- The GOGREEN survey: post-infall environmental quenching fails to predict the observed age difference between quiescent field and cluster galaxies at z > 1 Monthly Notices of the Royal Astronomical Society, Volume 498, Issue 4, p.5317-5342 (2020). Kristi Webb, Michael L. Balogh, Joel Leja, and 29 additional authors, including Ben Forrest.
- MOSEL: Strong [OIII] 5007 Å Emitting Galaxies at 3 < z < 4 from the ZFOURGE Survey The Astrophysical Journal, Volume 898, Issue 1, id.45 (2020). Kim-Vy H. Tran, Ben Forrest, Leo Y. Alcorn, and 13 additional authors.
- 5. The GOGREEN Survey: A deep stellar mass function of cluster galaxies at 1.0 < z < 1.4 and the complex nature of satellite quenching

Astronomy & Astrophysics, Volume 638, id. A112 (2020).

Remco F. J. van der Burg, Gregory Rudnick, Michael L. Balogh, and 28 additional authors, including **Ben Forrest**.

- MOSEL Survey: Tracking the Growth of Massive Galaxies at 2 < z < 4 Using Kinematics and the IllustrisTNG Simulation The Astrophysical Journal, Volume 893, Issue 1, article id. 23 (2020). Anshu Gupta, Kim-Vy Tran, Jonathan Cohn, and 13 additional authors, including Ben Forrest.
- The GOGREEN survey: the environmental dependence of the star-forming galaxy main sequence at 1.0 < z < 1.5 Monthly Notices of the Royal Astronomical Society, Volume 493, Issue 4, p.5987-6000 (2020). Lyndsay J. Old, Michael L. Balogh, Remco F. J. van der Burg, and 26 additional authors, including **Ben Forrest**.
- 8. A Tale of Two Clusters: An Analysis of Gas-Phase Metallicity and Nebular Gas Conditions in Proto-cluster Galaxies at z ~ 2 The Astrophysical Journal, Volume 883, Issue 2, article id. 153 (2019). Leo Y. Alcorn, Anshu Gupta, Kim-Vy Tran, and 12 additional authors, including Ben Forrest.
- 9. The Rest-frame H-band Luminosity Function of Red-sequence Galaxies in Clusters at 1.0 < z < 1.3 The Astrophysical Journal, Volume 880, Issue 2, article id. 119 (2019). Jeffrey C. C. Chan, Gillian Wilson, Gregory Rudnick, and 22 additional authors, including Ben Forrest.
- ZFOURGE: Extreme 5007Å Emission may be a Common Early-Lifetime Phase for Star-Forming Galaxies at z > 2.5 The Astrophysical Journal, Volume 869, Issue 2, article id. 141, 8 pp. (2018). Jonathan H. Cohn, Joel Leja, Kim-Vy H. Tran, Ben Forrest and 11 additional authors.
- A Low Lyman Continuum Escape Fraction of < 10% for Extreme [OIII] Emitters in an Overdensity at z~ 3.5 Monthly Notices of the Royal Astronomical Society, Volume 478, Issue 1, p.791-799 (2018). Rohan P. Naidu, Ben Forrest, Pascal A. Oesch, and 2 additional authors.
- ZFIRE: 3D Modeling of Rotation, Dispersion, and Angular Momentum of Star-Forming Galaxies at z 2 The Astrophysical Journal, Volume 858, Issue 1, article id. 47, 18 pp. (2018). Leo Alcorn, Kim-Vy Tran, Karl Glazebrook, and 10 additional authors, including Ben Forrest.
- The Effects of Environment on the Evolution of the Galaxy Stellar Mass Function The Astrophysical Journal, Volume 854, Issue 1, article id. 30, 14 pp. (2018). Casey Papovich, Lalitwadee Kawinwanichakij, Ryan F. Quadri, and 8 additional authors, including Ben Forrest.
- 14. Decoupled Black Hole Accretion and Quenching: The Relationship Between BHAR, SFR, and Quenching in Milky Way and Andromeda-mass Progenitors Since z = 2.5

Monthly Notices of the Royal Astronomical Society, Volume 473, Issue 3, p.3710-3716 (2018) M. J. Cowley, L. R. Spitler, R. F. Quadri, and 13 additional authors, including **B. Forrest**.

15. Effect of Local Environment and Stellar Mass on Galaxy Quenching and Morphology at 0.5 < z < 2.0

The Astrophysical Journal, Volume 847, Issue 2, article id. 134, 21 pp. (2017) Lalitwadee Kawinwanichakij, Casey Papovich, Ryan F. Quadri, and 20 additional authors, including **Ben Forrest**.

- 16. The FourStar Galaxy Evolution Survey (ZFOURGE): Ultraviolet to Far-Infrared Catalogs, Medium-Bandwidth Photometric Redshifts with Improved Accuracy, Stellar Masses, and Confirmation of Quiescent Galaxies to z ~ 3.5 The Astrophysical Journal, Volume 830, Issue 1, article id. 51S, 34 pp. (2016) Caroline M.S. Straatman, Lee R. Spitler, Ryan F. Quadri, and 26 additional authors, including Ben Forrest.
- Spatial Correlation Between Dust and Hα Emission in Dwarf Irregular Galaxies The Astrophysical Journal, Volume 825, Issue 1, article id. 34, 11 pp. (2016) Jimmy, Kim-Vy Tran, Amélie Saintonge, and 5 additional authors, including Ben Forrest.