Behnam Darvish (CV)

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Education and Employment

Project Scientist: University of California, Riverside	2022-present
Postdoctoral Scholar: California Institute of Technology	2015-2022
Teaching/Research Assistant: University of California, Riverside	2009-2015
Teaching Assistant: Sharif University of Technology, Tehran, Iran	2006-2009
PhD: University of California Riverside – Astronomy	2015
MSc: Sharif University of Technology, Tehran, Iran – Physics	2009
BSc: Iran University of Science and Technology, Tehran, Iran – Physics	2006

Research Interests

Extragalactic astronomy, galaxy formation and evolution, effect of cosmic web and local environment on galaxy evolution, large-scale structure of the universe, nature and properties of emission-line galaxies at moderate and high redshifts, star formation and mass assembly in galaxies

Awards

Robert T. Poe Memorial Scholarship Award for Outstanding PhD Graduate (2015)
UC Riverside Graduate Student Fellowship Award (2015)
American Astronomical Society Rodger Doxsey award (2015)
Continuing Teaching Assistant Excellence Award – UC Riverside (2014)
Outstanding Teaching Award – UC Riverside (2010)
UC Riverside Chancellors Graduate Student Fellowship Award (2009)

Membership/Panels

Frequent reviewer for the ApJ, MNRAS, A&A, and PASJ journals
Hubble Space Telescope panel member (Cycle 27)
Proposal reviewer for the Canada-France-Hawaii Telescope (CFHT)
Member of the Hubble Space Telescope COSMOS collaboration (since 2012)
Member of the Hubble Space Telescope BUFFALO collaboration (since 2017)
Member of the Hubble Space Telescope UVCANDELS collaboration (since 2018)
Full member of the American Astronomical Society (2016-present)
Junior member of the American Astronomical Society (2013-2015)

Press Release

Cosmic Environments and Their Influence in Star Formation (2017)
Distant galaxies glow bright in oxygen (2016)
Study Explains Why Galaxies Stop Creating Stars (2016)
Best Observational Evidence of First Generation Stars in the Universe (2015)

It's Filamentary: How Galaxies Evolve in the Cosmic Web (2014)
Radio interview: The Academic Minute, WAMC Northeast Public Radio (2016)

Teaching Experience

6 years of teaching undergraduate courses and labs at UC, Riverside (2009-2015) and 3 years of teaching at Sharif University of Technology, Iran (2006-2009) as a teaching assistant. These include a variety of physics and astronomy courses and labs covering topics, such as classical mechanics, electromagnetism, optics, thermodynamics, modern physics, acoustics, general astronomy, etc. I also helped set up two undergraduate labs at UC, Riverside (Summer 2014).

Mentorship Experience

Summer Students
High School: Blake Bergstrom, Ian Kumar, Corey Lunsford, Armeen Mobasher, Undergraduate: Daniel Diaz (UCR)

(Co-)Supervision of Students
Graduate: Nima Chartab Soltani (UCR), Luidhy Santana da Silva (Federal University of Rio de Janeiro), Ana Paulino-Afonso (University of Lisbon)

Publications

Google Scholar link to my publications:
https://scholar.google.com/citations?user=JI9ISmwAAAAJ&hl=en

All papers (as of May 2021, based-on ADS statistics):
number of papers: **42**, citations: **1611**, h-index: **22**, average citations: **38.4**

First-author papers (as of Dec. 2021, based-on ADS statistics):
number of papers: **8**, citations: **439**, h-index: **8**, average citations: **54.9**

First-author Publications

• Spectroscopic Confirmation of a Coma Cluster Progenitor at z ~ 2.2
o **Darvish B.**, Scoville N. Z., et al. 2020, ApJ, 892, 8 (ADS **citation: 14**)

• Similar Scaling Relations for the Gas Content of Galaxies across Environments to z ~ 3.5
o **Darvish B.**, Scoville N. Z., et al. 2018, ApJ, 860, 111 (ADS **citation: 23**)

• Quenching or Bursting: the Role of Stellar Mass, Environment, and Specific Star Formation Rate to z ~ 1
o **Darvish B.**, Martin D. C., et al. 2018, ApJ, 853, 155 (ADS **citation: 16**)

• Cosmic Web of Galaxies in the COSMOS Field: Public Catalog and Different Quenching for Centrals and Satellites
o **Darvish B.**, et al. 2017, ApJ, 837, 16 (ADS **citation: 64**)

• The Effects of the Local Environment and Stellar Mass on Galaxy Quenching to z ~ 3
o **Darvish B.**, et al 2016, ApJ, 825, 113 (ADS **citation: 119**)

• Spectroscopic Study of Star-forming Galaxies in Filaments and the Field at z ~ 0.5: Evidence for Environmental Dependence of Electron Density
o **Darvish B.**, et al 2015, ApJ, 814, 84 (ADS **citation: 47**)

• A Comparative Study of Density Field Estimation for Galaxies: New Insights into the Evolution of Galaxies with Environment in COSMOS out to z ~ 3
o **Darvish B.**, et al. 2015, ApJ, 805, 121 (ADS **citation: 77**)

• Cosmic Web and Star Formation Activity in Galaxies at z ~ 1
o **Darvish B.**, et al. 2014, ApJ, 796, 51 (ADS **citation: 79**)

Other Publications

• Evidence for Gas-phase Metal Deficiency in Massive Protocluster Galaxies at z ~2.2
o Sattari Z., Mobasher B., Chartab N., **Darvish B.**, et al. 2021, ApJ, 910, 57S

• Dependence of the IRX-β Dust Attenuation Relation on Metallicity and Environment
o Shivaei I., **Darvish B.**, et al. 2021, ApJL, 903L, 28S

• Effects of Stellar Feedback on Stellar and Gas Kinematics of Star-forming Galaxies at $0.6 < z < 1.0$
o Pelliccia D., Mobasher B., **Darvish B.**, et al. 2020, ApJL, 896L, 26P

• Bridging between the Integrated and Resolved Main Sequence of Star Formation
o Hemmati S.,..., **Darvish B.**, et al. 2020, ApJL, 896L, 17H

• The BUFFALO HST Survey
o Steinhardt C.,..., **Darvish B.**, et al. 2020, ApJS, 247, 64

• Resolved Lyman-alpha properties of a luminous Lyman-break galaxy in a large ionised bubble at z = 6.53
o Matthee J.,..., **Darvish B.**, et al. 2020, MNRAS, 492, 1778

• Large-scale Structures in the CANDELS Fields: The Role of the Environment in Star Formation Activity

o Chartab N., Mobasher B., **Darvish B.**, et al. 2020, ApJ, 890, 7C

• The Role of Environment in Galaxy Evolution in the SERVS Survey. I. Density Maps and Cluster Candidates
o Krefting N.,..., **Darvish B.**, et al. 2020, ApJ, 889, 185

• VIS3COS: III. Environmental effects on [OII], Hδ, and D4000 and their consequence for the star formation histories at z ~ 0.8
o Paulino-Afonso A., Sobral D., **Darvish B.**, et al. 2020, A&A, 633, 70

• VIS3COS: II. Nature and Nurture in Galaxy Structure and Morphology
o Paulino-Afonso A., Sobral D., **Darvish B.**, et al. 2019, A&A, 630, 57

• Stellar Mass Growth of Brightest Cluster Galaxy Progenitors in COSMOS since z ~ 3
o Cooke K. C., Kartaltepe J., Tyler K. D., **Darvish B.**, et al. 2019, ApJ, 881, 150

• Brinigng Manifold Learning and Dimensionality Reduction to SED Fitters
o Hemmati S.,..., **Darvish B.**, et al 2019, ApJL, 881L, 14H

• The Molecular Gas Reservoirs of z ~ 2 Galaxies: A Comparison of CO(1-0) and Dust-based Molecular Gas Masses
o Kaasinen M.,..., **Darvish B.**, et al. 2019, ApJ, 880, 15K

• On the nature and physical conditions of the luminous Lyα emitter CR7 and its rest-frame UV components
o Sobral D.,..., **Darvish B.**, 2019, MNRAS, 482, 2422

• The Keck Cosmic Web Imager Integral Field Spectrograph
o Morrissey, Patrick,..., **Darvish B.**, et al. 2018, ApJ, 864, 93

• Does black-hole growth depend on the cosmic environment?
o Yang G., Brandt W. N., **Darvish B.**, et al. 2018, MNRAS, 480, 1022

• VIS3COS: I. survey overview and the role of environment and stellar mass on star formation
o Paulino-Afonso A., Sobral D., **Darvish B.**, et al. 2018, A&A, 620, 186

• The Clustering of Hβ+[OIII] and [OII] Emitters Since z ~ 5: Dependencies with Line Luminosity and Stellar Mass
o Khostovan A.,..., **Darvish B.**, et al. 2018, MNRAS, 478, 2999

• The nature of luminous Lyα emitters at z ~ 2-3: maximal dust-poor starbursts and highly ionizing AGN
o Sobral D., Matthee J., **Darvish B.**, et al. 2018, MNRAS, 477, 2817

• Spectroscopic Properties of Luminous Lyα Emitters at z ≈ 6-7 and Comparison to the Lyman-break Population
o Matthee J., Sobral D., **Darvish B.**, et al. 2017, MNRAS, 472, 772

• Bootes-HiZELS: an Optical to Near-Infrared Survey of Emission-line Galaxies at z=0.4-4.7
o Matthee J.,..., **Darvish B** et al. 2017, MNRAS, 471, 629

• ALMA reveals metals yet no dust within multiple components in CR7
o Matthee J.,..., **Darvish B.**, et al. 2017, ApJ, 851, 145

• Quenching or Bursting: Star Formation Acceleration--A New Methodology for Tracing Galaxy Evolution
o Martin D. C., Goncalves T., **Darvish B.**, et al. 2017, ApJ, 842, 20

• The Bright and Dark Sides of High-redshift Starburst Galaxies from Herschel and Subaru Observations
o Puglisis A.,..., **Darvish B.**, et al. 2017, ApJL, 838L, 18

• Evolution of Interstellar Medium, Star Formation, and Accretion at High Redshift
o Scoville N. Z.,..., **Darvish B.**, et al. 2017, ApJ, 837, 150

• CANDELS Multi-wavelength Catalogs: Source Identification and Photometry in the CANDELS COSMOS Survey Field
o Nayyeri H.,..., **Darvish B.**, et al. 2017, ApJS, 228, 7

• The Nature of Hβ+[OIII] and [OII] Emitters to z ~ 5 with HiZELS: Stellar Mass Functions and the volution of EW
o Khostovan A.,..., **Darvish B.**, et al. 2016, MNRAS, 463, 2363

• HELP*: Star Formation as a Function of Galaxy Environment with Herschel
o Duivenvoorden S., Oliver S., Buat V., **Darvish B.**, et al. 2016, MNRAS, 462, 277

• Large-scale Structure around a z=2.1 Cluster
o Hung C.,..., **Darvish B.**, et al 2016, ApJ, 826, 130

• The Nature of Hα Star-forming Galaxies at z ~ 0.4 in and around Cl 0939+4713: the Environment Matters
o Sobral D., Stroe A., Koyama Y., **Darvish B.**, et al 2016, MNRAS, 458, 3443

• A Correlation between Lyα Spectral Line Profile and Rest-frame UV Morphology
o U V., Hemmati S., **Darvish B.**, et al 2015, ApJ, 815, 57

• Nebular and Stellar Dust Extinction Across the Disk of Emission-line Galaxies on Kiloparsec Scales
o Hemmati S., Mobasher B., **Darvish B.**, et al 2015, ApJ, 814, 46

• Evidence for PopIII-like Stellar Populations in the Most Luminous Lyman-α Emitters at the Epoch of Reionization: Spectroscopic Confirmation
o Sobral D., Matthee J., **Darvish B.**, et al 2015, ApJ, 808, 139

• Identification of the Brightest Lyα Emitters at z = 6.6: Implications for the Evolution of the Luminosity Function in the Reionization Era
o Matthee J.,..., **Darvish B.**, et al. 2015, MNRAS, 451, 400

• Evolution of Galaxies and Their Environments at z=0.1-3 in COSMOS
o Scoville N.,…, **Sarvestani B. D.**, et al. 2013, ApJS, 206, 3