Curriculum Vitae of Jasleen Matharu

CONTACT INFORMATION

Department of Physics & Astronomy
Texas A&M University
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Website

RESEARCH INTERESTS

Galaxy Evolution, Galaxy Clusters, High-Redshift Galaxies, Star Formation, Quenching, Galaxy Growth, Cosmic Reionisation

PROGRAMMING SKILLS

- Python
- LaTeX
- Some experience with IDL and Fortran.

EDUCATION

Institute of Astronomy, University of Cambridge, Cambridgeshire, UK

Ph.D., Astronomy, October 2015 - July 2019, *Awarded:* 30th November 2019

- Thesis Title: *A Study on Quenching and Galaxy Growth in* $z \sim 1$ *Clusters using HST WFC3 Grism Observations*
- Primary Supervisor: Dr Adam Muzzin
- Primary Supervisor (Cambridge): Prof Paul C. Hewett
- Secondary Supervisor (Cambridge): Dr Matthew Auger

University College London (UCL), Gower Street, London, UK

M.Sci., Astrophysics (First Class Honours), September 2011 - August 2015

- Masters Project: *Testing Cosmic Microwave Background Delensing*
- Primary Supervisor (nominal): Prof Hiranya Peiris
- Secondary Supervisor: Dr Aurélien Benoit-Lévy

RESEARCH EXPERIENCE

Department of Physics & Astronomy,
Texas A&M University
Supervisors: Prof. Casey Papovich & Prof. Robert Kennicutt

Postdoctoral Research Associate September 2019 - present

PUBLICATION STATISTICS

- Refereed first author publications: 1, total citations: 8
- Refereed total publications: 2, total citations: 14

REFEREED JOURNAL PUBLICATIONS

1. **Matharu, J.**, Muzzin, A., Brammer, G.B., van der Burg, R.F.J., Auger, M.W., Hewett, P.C., van der Wel, A., van Dokkum, P., Balogh, M., Chan, J.C.C., Demarco, R., Marchesini, D., Nelson, E.J., Noble, A.G., Wilson, G. and Yee, H.K.C. 2019, "HST/WFC3 grism observations of $z \sim 1$ clusters: The cluster versus field stellar mass–size relation and evidence for size growth of quiescent galaxies from minor mergers". Published in *Monthly Notices of the Royal Astronomical Society*, Volume 484, Issue 1, Pages 595–617.

2. Noble, A.G., Muzzin, A., McDonald, M., Rudnick, G., **Matharu, J.**, Cooper, M.C., Demarco, R., Lidman, C., Nantais, J., van Kampen, E., Webb, T.M.A., Wilson, G. and Yee, H.K.C. 2019, "Resolving CO(2-1) in $z \sim 1.6$ Gas-Rich Cluster Galaxies with ALMA: Rotating Molecular Gas Disks with Possible Signatures of Gas Stripping". Published in *The Astrophysical Journal*, Volume 870, Issue 2, article id. 56.

Papers in Preparation

1. **Matharu, J.**, Muzzin, A., Brammer, G.B., van der Burg, R.F.J., Auger, M.W., Hewett, P.C., van der Wel, A., van Dokkum, P., Chan, J.C.C., Demarco, R., Marchesini, D., Nelson, E.J., Noble, A.G. and Wilson, G. 2019, "HST/WFC3 grism observations of $z \sim 1$ clusters: poststarburst galaxies and evidence for evolution in the mass–size relation of quiescent galaxies from recently quenched galaxies". Submitted to *Monthly Notices of the Royal Astronomical Society*, arXiv: 1912.05551.

Presentations

- Extragalactic Lunch, *Understanding Environmental Quenching at High-redshift*, Mitchell Institute for Fundamental Physics and Astronomy, Texas A&M University, College Station, TX, USA. Oct 2019
- CLEAR Collaboration meeting, *The cluster vs. field stellar mass-size relation at $z \sim 1$: implications for galaxy size growth and quenching*, Space Telescope Science Institute, Baltimore, USA. Jun 2019
- Dunlap tea, *The cluster vs. field stellar mass-size relation at $z \sim 1$: implications for galaxy size growth with decreasing redshift*, Dunlap Institute for Astronomy & Astrophysics, University of Toronto, Canada. Oct 2018
- Lars Hernquist's group meeting, *The cluster vs. field stellar mass-size relation at $z \sim 1$: implications for galaxy size growth with decreasing redshift*, Harvard-Smithsonian Center for Astrophysics, Cambridge, USA. Oct 2018
- ITC Lunch, *The cluster vs. field stellar mass-size relation at $z \sim 1$: implications for galaxy size growth with decreasing redshift*, Institute for Theory and Computation, Harvard-Smithsonian Center for Astrophysics, Cambridge, USA. Oct 2018
- Lunch talk, *The cluster vs. field stellar mass-size relation at $z \sim 1$: implications for galaxy size growth with decreasing redshift*, Yale University, New Haven, USA. Oct 2018
- Lunch talk, *The cluster vs. field stellar mass-size relation at $z \sim 1$: implications for galaxy size growth with decreasing redshift*, Space Telescope Science Institute, Baltimore, USA. Oct 2018
- Lunch talk, *The cluster vs. field stellar mass-size relation at $z \sim 1$: implications for galaxy size growth with decreasing redshift*, University of Nottingham, Nottingham, UK. Sep 2018
- Lunch talk, *The cluster vs. field stellar mass-size relation at $z \sim 1$: implications for galaxy size growth with decreasing redshift*, Leiden Observatory, Leiden, Netherlands. Sep 2018
- Poster, *Galaxy Evolution & the Mass-Size Relation in $z \sim 1$ Clusters*, Galaxy Evolution Across Time, proceedings of a conference held in Paris, France. Jun 2017
- Seminar, *The shut down of star formation in galaxies at $z \sim 1$: obtaining direct evidence for its environmental dependence*, Institute of Astronomy, Cambridge, UK. Feb 2017

Observing Experience

Roque de los Muchachos Observatory, William Herschel Telescope (WHT)

- PAUCam, assisted Nina Hatch 5 nights

Awards

- Churchill College Travel Grant Award, Talks Tour to present PhD work, Nottingham (UK), Leiden (The Netherlands), Baltimore, New Haven and Cambridge (USA) and Toronto (Canada) Oct 2018

- Churchill College Travel Grant Award, Conference on Galaxy Evolution Across Time, Paris (France) May 2017
- Science and Technology Facilities Council (STFC) Quota Award to undertake research in Astrophysics at the Institute of Astronomy, Cambridge for up to 3.5 years Oct 2015

UNDERGRADUATE SUPERVISION

Maths IA Supervisor, Churchill College Academic year 2016–17

Weekly two-on-one and one-on-one teaching of undergraduate students in their first year mathematics course.

OUTREACH

Institute of Astronomy, University of Cambridge Jul 2018

- Gave two lectures on the topic of "Our Place in the Universe" and the workings of the the Northumberland Telescope to two groups of local and overseas students aged between 13 - 14 and 15 - 18.

Institute of Astronomy, University of Cambridge Mar 2016

- Organised an activity for the Cambridge Science Festival where by children can "build" a galaxy.