

GAGANDEEP S. ANAND

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EDUCATION

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|---|-----------------------|
| Institute for Astronomy, University of Hawaii PhD in Astronomy Thesis: Tip of the Red Giant Branch Distances to Nearby Galaxies Advisor: Professor R. Brent Tully | <i>Expected- 2021</i> |
| Institute for Astronomy, University of Hawaii M.S. in Astronomy | <i>December 2018</i> |
| Boston University M.A. in Astronomy | <i>May 2017</i> |
| Vassar College A.B. in Astronomy & Physics, Minor in Mathematics | <i>May 2015</i> |

RESEARCH POSITIONS

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| Graduate Research Assistant, University of Hawaii | Aug. 2017 – Present |
| Visiting Graduate Research Fellow, IPAC/Caltech | Feb. 2020 – July 2020 |
| Visiting Scholar, W.M. Keck Observatory | July 2017 – Aug. 2017 |
| Graduate Researcher, Boston University | July 2015 – May 2017 |
| Summer Researcher, Colby College | May 2014 – Aug. 2014 |
| Observatory Assistant, Vassar College | Sept. 2011 - May 2015 |

HONORS/AWARDS

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| George and Mona Elmore Award for Research in Astronomy | ARCS Foundation, 2020 |
| IPAC/Caltech Visting Graduate Fellowship | IPAC/Caltech, 2020 |
| Keck Visiting Scholar | Keck Observatory, 2017 |
| Departmental Honors in Astronomy | Vassar College, 2015 |
| Internship Grant Award | Vassar College, 2014 |
| Vera Rubin Fund for Students in Physics & Astronomy | Vassar College, 2014 |

COMPUTATIONAL SKILLS

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| Operating Systems | Windows, MacOS/OS X, UNIX/Linux |
| Computer Languages | IDL, L ^A T _E X, Python |
| Astronomical Software | CIAO, DOLPHOT, DrizzlePac, DS9, GALFIT, IRAF, XSPEC |
| Miscellaneous Software/Tools | Git, Lightroom, Photoshop |

PUBLICATION SUMMARY

[NASA/ADS Link to All Publications](#)
12 Refereed Publications (5 as first author)
3 Papers Under Review
75+ Citations (50+ as first author)

MEDIA COVERAGE

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| Hubble Captures Cosmic Cinnamon Bun | NASA/Hubble, 2020 |
| Cosmic Cinnamon Bun | ESA/Hubble, 2020 |
| Hubble Catches a Cosmic Cascade | NASA/Hubble, 2020 |
| A Waterfall of Stars | ESA/Hubble, 2020 |
| ARCS Scholar Awards | University of Hawaii, 2020 |
| Hubble Views a Galaxy on the ‘Dark Side’ | NASA/Hubble, 2020 |
| Dark Matter Surplus | ESA/Hubble, 2020 |
| Galaxy Clusters Offer Clues to Dark Matter and Dark Energy | Boston University, 2017 |

PROFESSIONAL MEMBERSHIPS

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| American Astronomical Society | Junior Member, September 2016–Present |
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PROFESSIONAL SERVICE

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| Referee | Astrophysical Journal (2+ papers), July 2018–Present |
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TEACHING EXPERIENCE

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| Department of Astronomy <i>Teaching Fellow</i> | Sept. 2015 –May 2017 <i>Boston University</i> |
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- Astronomy 203- Principles of Astronomy II (Spring 2017)
- Astronomy 109- Cosmology (Fall 2015/Fall 2016)
- Astronomy 105- Alien Worlds (Spring 2016)

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| Department of Physics & Astronomy <i>Astronomy Academic Intern</i> | Sept. 2014 –May 2015 <i>Vassar College</i> |
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- Astronomy 105- Stars, Galaxies, & Cosmology (Spring 2015)
- Astronomy 101- Solar System Astronomy (Fall 2014)

FIRST AUTHOR PUBLICATIONS

The Extragalactic Distance Database: Color-Magnitude Diagrams and Tip of the Red Giant Branch Distances

Anand, G. S., Rizzi, L., Tully, R. B., et al. In Preparation for AJ

Abell 623: Home to a Merger Induced Wide-Angle Tail Radio Source?

Anand, G. S., Blanton, E. L., et al., In Preparation for ApJ

Distances to PHANGS Galaxies: New Tip of the Red Giant Branch Measurements and Adopted Distances

Anand, G. S., Lee, J., Van Dyk, S., et al., 2020, [MNRAS](#)

Peculiar Velocities of Galaxies Just Beyond the Local Group

Anand, G. S., Tully, R. B., Rizzi, L., Shaya, E., & Karachentsev, I. D., 2019, [ApJ](#)

The Distance and Motion of the Maffei Group

Anand, G. S., Tully, R. B., Rizzi, L., & Karachentsev, I. D., 2019, [ApJL](#)

A Robust Tip of the Red Giant Branch Distance to the Fireworks Galaxy (NGC 6946)

Anand, G. S., Rizzi, L., & Tully, R. B., 2018, [AJ](#)

The Distance to the Galaxy Coma P

Anand, G. S., Tully, R. B., Karachentsev, I. D., Makarov, D. I., Makarova, L.; Rizzi, L.; Shaya, E. J., 2018, [ApJL](#)

CO-AUTHOR PUBLICATIONS

The Distance and Mass of the NGC 253 Galaxy Group

Karachentsev, I. D., Tully, R. B.; **Anand, G. S.**; Rizzi, L., Shaya, E. J., 2020, *Submitted to AJ*

PHANGS-ALMA Data Processing and Pipeline

Leroy, A., Hughes, A., Liu, D., [16 authors], **Anand, G. S.**, [47 authors], *Submitted to ApJ*

SN2019yvq Does Not Conform to SN Ia Explosion Models

Tucker, M. A., Ashall, C., Shappee, B. J., Vallely, P. J., Kochanek, C. S., Huber, M. E., **Anand, G. S.**, Keane, J. V., Hsiao, E. Y., Holoiien, T. W. S., [Submitted to ApJ](#)

The Electron-capture Origin of Supernova 2018zd

Hiramatsu, D., Howell, D. A., Van Dyk, S. D., [19 authors], **Anand, G. S.**, [7 authors], [Nature Astronomy](#)

The Properties of Dwarf Spheroidal Galaxies in the Cen A Group: Stellar Populations, Internal Dynamics, and a Heart-Shaped H α Ring?

Müller, O., Fahrion, K., Rejkuba, M., Hilker, M., Lelli, F., Lutz, K., Pawlowski, M. S., Coccato, L., **Anand, G. S.**, & Jerjen, H., [A&A](#)

Distance and Mass of the M104 (Sombrero) Group

Karachentsev, I. D., Makarova, L. N., Tully, R. B.; **Anand, G. S.**; Rizzi, L., Shaya, E. J., 2020, [A&A](#)

KKH 22, The First Dwarf Spheroidal Satellite of IC 342

Karachentsev, I. D., Makarova, L. N., Tully, R. B.; **Anand, G. S.**; Rizzi, L., Shaya, E. J., Afanasiev, V. L., 2020, [A&A](#)

Cosmicflows-4: The Calibration of Optical and Infrared Tully-Fisher Relations

Kourkchi, E.; Tully, R. B., **Anand, G. S.**, Courtois, H. M., Dupuy, A., Neill, J. D., Rizzi, L., Seibert, M., 2020, [ApJ](#)

Does Gravity Fall Down? Evidence for Gravitational-wave Deflection along the Line of Sight to GW170817

Rubin, D., Szapudi, I., Shappee, B. J., **Anand, G. S.**, 2020, [ApJL](#)

The High-Redshift Clusters Occupied by Bent Radio AGN (COBRA) Survey

Paterno-Mahler, R., Blanton, E. L., Ashby, M. L. N., Brodwin, M., Wing, J. D., Decker, B., Golden-Marx, E., & **Anand, G. S.**, 2017, [ApJ](#)

TALKS

PHANGS-HST: New Tip of the Red Giant Branch Distances

IPAC Colloquium- July 2020

Tip of the Red Giant Branch Distances to Nearby Galaxies

Caltech Tea Talk- June 2020

Visiting Scholars Talk, W.M. Keck Observatory- August 2017

Peculiar Velocities of Galaxies Just Beyond the Local Group

Constrained Local Universe Simulations 2019 Meeting, University of Lyon- September 2019

Exploring the Structural Evolution of Massive Quiescent Galaxies

Keck Northeast Astronomy Consortium- November 2014

Colby Undergraduate Summer Research Retreat- July 2014

Observations and Analysis of Orbital Period Changes in Contact Binaries

Keck Northeast Astronomy Consortium- October 2013

CONFERENCE POSTERS

PHANGS-HST: New Tip of the Red Giant Branch Distances

236th Meeting of the American Astronomical Society- June 2020

The Extragalactic Distance Database: Color-Magnitude Diagrams and Tip of the Red Giant Branch Distances

235th Meeting of the American Astronomical Society- January 2020

Tip of the Red Giant Branch Distances to Nearby Galaxies

Stars: Birth and Death, GMT Community Science Meeting- September 2018

The 21st Century HR Diagram, Space Telescope Science Institute- April 2018

Chandra Observation of the WAT Radio Source/ICM Interaction in Abell 623

229th Meeting of the American Astronomical Society- January 2017

Chandra Science for the Next Decade, Harvard-Smithsonian Center for Astrophysics- August 2016

Observations and Analysis of Orbital Period Changes in Contact Binaries

Vassar Undergraduate Research Summer Institute- July 2013