

GAGANDEEP S. ANAND

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EDUCATION

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

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

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

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)
5 Papers Under Review
80+ Citations (50+ as first author)

MEDIA COVERAGE

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

OUTREACH ACTIVITIES

ESA/Hubble Picture of the Week Series	2019–Present
Institute for Astronomy, Misc. Outreach Activities	2017–Present
Boston University Astronomy Open Nights	2015–2017
Vassar College Astronomy Open Nights	2011–2015

PROFESSIONAL MEMBERSHIPS

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

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

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)

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., 2021, [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 PHANGS-HST Survey: Physics at High Angular resolution in Nearby Galaxies with the Hubble Space Telescope

Lee, Janice C., Whitmore, Bradley C., Thilker, David A., Deger, Sinan, Larson, Kirsten L., Ubeda, Leonardo, **Anand, G. S.**, [10 authors], White, R. L., [36 authors], [Submitted to ApJS](#)

The Cepheid Distance to the Narrow-Line Seyfert 1 Galaxy NGC 4051

Yuan, W., Macri, L., Peterson, B. M., Riess, A. G., Fausnaugh, M. M., Hoffman, S. L., **Anand, G. S.**, [11 authors], [Submitted to ApJ](#)

The Distance and Mass of the NGC 253 Galaxy Group

Karachentsev, I. D., Tully, R. B., **Anand, G. S.**, Rizzi, L., Shaya, E. J., [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., Holoiu, 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], 2021, [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., 2020, [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