

# GAGANDEEP S. ANAND

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## EDUCATION

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

## RESEARCH POSITIONS

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

## HONORS/AWARDS

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

## COMPUTATIONAL SKILLS

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<b>Operating Systems</b>	Windows, MacOS/OS X, UNIX/Linux
<b>Computer Languages</b>	IDL, L <sup>A</sup> T <sub>E</sub> X, Python
<b>Astronomical Software</b>	CIAO, DOLPHOT, DrizzlePac, DS9, GALFIT, IRAF, XSPEC
<b>Miscellaneous Software/Tools</b>	Git, Lightroom, Photoshop

## PUBLICATION SUMMARY

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

## OUTREACH ACTIVITIES

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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

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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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<b>Department of Astronomy</b> <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)

<b>Department of Physics &amp; Astronomy</b> <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

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**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

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### 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*

### SN2019yvv 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 $\alpha$ 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

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**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**

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**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