

ANIRBAN BHATTACHARJEE

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Citizenship: India
Status: Non-Resident
Alien (H1B)

Positions Held

01/2016 – PRESENT | Assistant Professor – Sul Ross State University
01/2018 – PRESENT | Visiting Scientist – Presidency University, Kolkata, India
2014 – 2015 | Instructor – Sul Ross State University
2005 – 2006 | Junior journalist – Indian Express, Kolkata, India
2004 | Intern – Yokogawa Blue Star, Bangalore, India

Education

2015 | Ph.D – Physics (emphasis on Astronomy), University of Wyoming, advisor –
Dr. Michael S. Brotherton
Reverberation Mapping of Active Galactic Nuclei
2014 | M.S. – Physics (emphasis on Astronomy), University of Wyoming
2004 | Bachelors in Technology (emphasis on Electronics and Communication Engi-
neering) – Visvesvaraya Technological University, India

Teaching Experience

Sul Ross State University

- Fall 2017- present – Biophysical Mechanics (BIOL4305)
- Spring 2017- present – Geophysics (GEOL 4311/5304), offered as an elective to senior undergraduate and graduate Geology students.
- Fall 2016 - present – Introductory first semester algebra-based physics, lecture plus lab (PHYS 1301)
- Spring 2015 - present – Introductory second semester algebra-based physics, lecture (online and face to face) plus lab (PHYS 1302)
- Fall 2014 - present –Introductory stellar and galactic astronomy, –lecture plus lab (ASTR 1304)((online and face to face))
- Spring 2015 - present – Introductory solar system astronomy, lecture plus lab (ASTR 1303) (online and face to face)
- Fall 2015 - present – Introductory first semester calculus-based physics, lecture plus lab (PHYS 2325)
- Spring 2016 - present –Introductory second semester calculus-based physics, lecture plus lab (PHYS 2326)

University of Wyoming

- Summer 2011 – Instructor for introductory astronomy for non-majors, – lecture plus lab (ASTR 1050)
- Spring 2011 – Advanced lab modern physics (PHYS 3550) co-taught with Dr. Rudi Michalak
- Fall 2006 - Spring 2013 – Substitute lecturer for Engineering Physics (PHYS 1210 & PHYS 1220) discussion and lab TA for Engineering Physics (PHYS 1210 & PHYS 1220)

Grants, Fellowships, & Awards

2017	Sul Ross State University Faculty Research Enhancement Grant- \$4600
2016	Sul Ross State University Faculty Research Enhancement Grant- \$4300
2015	Sul Ross State University Faculty Research Enhancement Grant- \$4500
2012	AAS International Travel Grant- \$1500

Mentoring

Graduate Thesis Advisor (Sul Ross State University)

Shawna Graves (2019-present)

Graduate Thesis Committee Member (Sul Ross State University)

Thomas Stoddard (2018 - present)

Abraham Kamarra (2018- 2019)

Graduate Students(Presidency University, Kolkata, India)

Avinanda Chakraborty (2018 - present)

Undergraduate Students(Sul Ross State University)

Kathryn O'Bryant (2018-present, McNairs Scholar)

Miranda Gilbert (2017-present, McNairs Scholar)

Alondra Arce (2016-2017, McNairs Scholar)

Undergraduate Students (University of Wyoming)

Sam Nissim (2011-2013)

Mentored him throughout his Wyoming Nasa Space Grant.

Vikram Singh (2013-2014)

2012 Wyoming Summer REU Program

Michele Mason (UC Berkeley, California, presently in University of Wyoming)

Nicholas Erikson (The College of New Jersey, New Jersey)

Mara Johnson-Groh (Gustavus Adolphus College, Minnesota)

David Starcevich (North West College, Wyoming)

Caroline Roberts (Sewanee: The University of South, Tennessee, presently in Georgia State University)

Supervised and mentored five undergraduates visiting Wyoming as part of our Research Experience for Undergraduates program, working on reverberation mapping of AGN.

Observing Experience

Wyoming Infrared Observatory (WIRO), University of Wyoming - 2.3m telescope, 150+ nights, long slit spectroscopy, broad-band optical photometry

- 2011-2014 WIRO observer.

- Helped train new graduate/undergraduate/visiting observers on proper observing protocols

Red Buttes Observatory (RBO), University of Wyoming- 24", over 15 nights of broad band optical photometry

Giant Metrewave Radio Telescope (GMRT)-On site observing for 10 hours of dual-band continuum observations

RESEARCH

Publications

Chakraborty, A. and **Bhattacharjee, A.** 06/2020, 2020arXiv200403310C. Nuclear Activity in Galaxies Across Cosmic Time: Proceedings IAU Symposium No. 356, 2019 *Spectroscopic properties of radio-loud and radio-quiet quasars*

Bhattacharjee, A. et al *Reverberation Mapping Measurement of Four New Active Galactic Nuclei*, in prep.

Mukherjee, S.; **Bhattacharjee, A.** ; Chatterjee, S. ;Newman, J. A.; and Yan, R. *X-ray Surface Brightness Profiles of Optically Selected Active Galactic Nuclei: Comparison with X-Ray AGN*. 2019, ApJ,872, 35M

De Rosa, G.; Fausnaugh, M. M.; Grier, C. J.; Peterson, B. M.; Denney, K. D.; Horne, Keith; Bentz, M. C.; Cioi, S.; Dalla Bonta', E.; Joner, M. D.; Kaspi, S.; Kochanek, C. S.; Pogge, R. W.; Sergeev, S. G.; Vestergaard, M.; Adams, S. M.; Antognini, J.; Araya Salvo, C.; Armstrong, E.; Bae, J.; Barth, A. J.; Beatty, T. G.; **Bhattacharjee, A.** : and 79 co-authors. 2018, arXiv:1807.04784 *Velocity-resolved reverberation mapping of five bright Seyfert 1 galaxies*

Fausnaugh, M. M.; Starkey, D. A.; Horne, Keith; Kochanek, C. S.; Peterson, B. M.; Bentz, M. C.; Denney, K. D.; Grier, C. J.; Grupe, D.; Pogge, R. W.; De Rosa, G.; Adams, S. M.; Barth, A. J.; Beatty, Thomas G.; **Bhattacharjee, A.** ; and 57 co-authors. 2018, ApJ, 854, 107F *Continuum Reverberation Mapping of the Accretion Disks in Two Seyfert 1 Galaxies*

Fausnaugh, M. M.; Grier, C. J.; Bentz, M. C.; Denney, K. D.; De Rosa, G.; Peterson, B. M.; Kochanek, C. S.; Pogge, R. W.; Adams, S. M.; Barth, A. J.; Beatty, Thomas G.; **Bhattacharjee, A.** ; and 59 coauthors. 2017yCat, 18400097F *VizieR Online Data Catalog: Optical reverberation mapping campaign of 5 AGNs (Fausnaugh+, 2017)*

Fausnaugh, M. M.; Grier, C. J.; Bentz, M. C.; Denney, K. D.; De Rosa, G.; Peterson, B. M.; Kochanek, C. S.; Pogge, R. W.; Adams, S. M.; Barth, A. J.; Beatty, Thomas G.;

Bhattacharjee, A. ; and 59 coauthors. 2017, ApJ, 840, 97F *Reverberation Mapping of Optical Emission Lines in Five Active Galaxies*

Kobulnicky, Henry A.; Kiminki, Daniel C.; Lundquist, Michael J.; Burke, Jamison; Chapman, James; Keller, Erica; Lester, Kathryn; Rolen, Emily K.; Topel, Eric; **Bhattacharjee, A.** ; and 5 coauthors. 2014, ApJS, 213, 34K. *Toward Complete Statistics of Massive Binary Stars: Penultimate Results from the Cygnus OB2 Radial Velocity Survey.*

Kobulnicky, H. A.; Kiminki, D. C.; Lundquist, M. J.; Burke, J.; Chapman, J.; Keller, E.; Lester, K.; Rolen, E. K.; Topel, E.; **Bhattacharjee, A.** ; Smullen, R. A.; Vargas Alvarez, C. A.; Runnoe, J. C.; Dale, D. A.; Brotherton, M. M. 2014yCat..22130034K *VizieR Online Data Catalog: Velocities of Cygnus OB2 massive binaries (Kobulnicky+, 2014).*

Kobulnicky, Henry A.; Lundquist, Michael J.; **Bhattacharjee, A.** ; Kerton, C. R. 2011, AJ, 143, 71 *IRAS 03063+5735: A Bowshock Nebula Powered by an Early B Star.*

Conference Publications and Posters

Bhattacharjee, A. and Chakraborty, A. 2020, 236, AAS. *Spectroscopic Properties Of High Velocity MgII and H-Beta Emission Lines of Radio Loud And Radio Quiet Quasars*

Bhattacharjee, A. , Gilbert, Miranda; Brotherton, Michael S. 2018, 232, AAS, 23232203B *Investigating the Fraction of Radio-Loud Quasars with High Velocity Broad Emission Lines*

Bhattacharjee, A. et al; 2016, 228, AAS, 22831412B *Black Hole Mass Measurement of Two Radio-Loud Active Galactic Nuclei.*

Bhattacharjee, A. et al; 2016, Great Lake Quasar Symposium *Reverberation Mapping Measurement of Two Radio-Loud Active Galactic Nuclei*

Bhattacharjee, A. , Chatterjee, S., Newman, J. A.; Aird, J.; Cooper, M.; Jeltema, T.; Laird, E.; Monetro-Dorta, A.; Myers, A. D.; Nandra, K.; Willmer, C.; Yan, R. 2014, 223rd AAS meeting *Diffuse X-Ray Emission in Active and Normal Galaxies in the Extended Groth Strip.*

Fifty Years of Quasars, A Symposium in Honor of Marteen Schimdt, 2013 September, Caltech. *Diffuse X-ray Emission in AGNs and Galaxies.*

Kobulnicky, Henry A.; Alexander, M. J.; Lundquist, M. J.; Long, G. R.; Smullen, R.; **Bhattacharjee, A.** ; Vargas Alvarez, C. 2013, AAS, 22114202K *Updating the Census of Massive Binaries in Cygnus OB2.*

Mason, Michelle; Erickson, N.; Roberts, C. A.; Johnson-Groh, M.; Starceвич, D.; Niles Nissim, S.; **Bhattacharjee, A.** ; Brotherton, M. S.; Dale, D. A.; Kobulnicky, H. A. 2013, AAS, 22133921M *Reverberation Mapping of Radio-Loud Active Galactic Nuclei.*

Galactic Nuclei and their Connection with Stars and the Environment. 2012 October, Brazil. *Continuum measurements of Radio-Loud Active Galactic Nuclei.*

Smullen, Rachel; Kobulnicky, H.; Kiminki, D.; Runnoe, J.; Long, G.; Wood, E.; Ewing,

I.; Vargas-Alvarez, C.; Alexander, M.; **Bhattacharjee, A.** . 2012, AAS, 21915333S *New Massive Binaries in the Cygnus OB2 Association.*

Ganguly, Rajib; Bourjaily, M.; Munsell, J.; Brotherton, M. S.; **Bhattacharjee, A.** .; Runnoe, J.; Charlton, J. C.; Eracleous, M. 2011, AAS, 2171420 *Toward a Prescription for Feedback from Quasar Outflows.*

Talks

Measuring Masses of SuperMassive Blackhole, Presidency University, Kolkata, India. June 2018.

Life and Where to Find it: Life on Earth and Potential Life in the Solar System and Beyond. Nerd Night, Alpine, Texas, Jan 2018.

How Massive Are the Biggest Black Holes in the Universe, University of Michigan-Flint June 2016.

Reverberation Mapping of Four New Active Galactic Nuclei , Laramie, University of Wyoming August 2015.

Reverberation Mapping of Radio-Loud Active Galactic Nuclei, 221st AAS Meeting, Washington D.C., January 2014

Measurement of Masses of Super Massive Black Holes, National Institute of Technology, Sikkim, India, October 2013, (*invited*)

Computers & Programming

- Linux/Macintosh OS X /Windows operating system (proficient)
- LaTeX (proficient)
- IDL (proficient)
- IRAF (proficient)
- PERL (working knowledge)
- CIAO (Chandra Interactive Analysis of Observations) (working knowledge)
- C, C++ (working knowledge)
- Python (proficient)
- Microsoft Office (Word, PowerPoint, Excel) (proficient)

Languages

- Bengali (Mother Tongue)
- English (Proficient)

- Hindi (Proficient)
- French (Working)
- Kannada (Working)

Media

April 2018-present. Co-host of the show *Science Knights in the Morning* on Big Bend Radio, Alpine ((KVLV 1240AM) at Saturday 10 am CST.
2000 listeners approximately. <https://www.facebook.com/ScienceKnightsintheMorning/>

Outreach

- Organizing Planetarium shows for local schools in Alpine, Marfa, and Fort Davis.
- Judge and Volunteer for the Wyoming State Science Fair, 2011,2012,2013.
- Volunteer for WIRO Open House night

Service

Sul Ross State University

- Honors Council Committee 2016-present
- Library and Information Technologies Council 2015-present
- Faculty Hiring Committee 2014-2016.
- Planetarium Recommission in-charge
- Research Council 2017-present

Community Service

- Big Bend Nerd Night 2018
- Served as an expert witness for the defense in a murder trial in the local area

External Committees

- Judge for Precision-Physics Symposium 2018, Presidency University, India.
- Chamblis Judge American Astronomical Society 2017.

Memberships

- American Astronomical Society
- American Physics Society
- American Association of Physics Teachers

References

Primary Teaching and Mentoring References

Michael Brotherton
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University of Wyoming
Laramie, WY 82071
mbrother@uwyo.edu
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Crystal Graham
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Primary Research References

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Additional References (available on request)

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