Gesesew Reta Habtie

Debre Berhan University P.O. Box 445, Debre Berhan, Ethiopia
gesesewreta@dbu.edu.et . meetgesese@gmail.com +251-91010-1828

Employment

2024 – **Assi. Prof.** Department of Physics, Debre Berhan University, DB, Ethiopia.
2016 – 2019 **Lecturer.** Department of Physics, Debre Berhan University, DB, Ethiopia.
2012 – 2016 **Lecturer.** Department of Physics, Bulehora University, BH, Ethiopia.

Education

2025 **Ph.D. University of Calcutta, India.** in Astrophysics.
Thesis title: *Study of Novae.*

2015 **M.Sc. University of Ghana, Ghana.** in Mathematical Science.
Thesis title: *The Stationary State of Magnetic field Near the Sun.*

2011 **M.Sc. Dilla University, Ethiopia.** in Physics.
Thesis title: *Radiation Therapy.*

2009 **B.Ed. Debre Berhan University, Ethiopia.** in Physics.
Thesis title: *Attitude of Students Towards Physics.*

Skills

Proposals & Observations — I have successfully submitted and been allotted over 80 hours of observation time on the 2 m Himalayan Chandra Telescope (HCT). During this period, I observed various types of novae—including dwarf and symbiotic novae—using the **HFOSC** (Gr7&8; *BVRI* filters), **TIRSPEC** (*JHK* filters), and **HESP** (R = 30,000) instruments.

Data Reduction — IRAF, PyRAF, Python, Astropy.

Programing Languages — Python, Fortran, awk, and Shell scripting.

Modelling — Cloudy, Shape, fityk, and PyCloudy.

Operating System — Linux, Mac, and MS. Window.

Typesetting tools — Latex, MS Office (word & excel), html.

Languages — Amharic (**Native**), English (**Fluent**), and Ge'ez (**Intermediate**).

Talks

Oct. 2025 — 11^{th} Meeting of BAWG, 2025, Brazil (Virtual).

Dec. 2024 — College of Natural and Computational Sciences Seminar, 2024, Debre Berhan University, Ethiopia.

June 2024 — Symbiotic stars, weird novae, and related embarrassing binaries conference, Charles University, Prague.

Feb. 2024 — SNBNCBS Bose fest, SNBNCBS, Kolkata, India.

Jan. 2023 — 42^{nd} annual meeting of the Astronomical Society of India, IISc, Bengaluru, India.

Mar. 2022 — 40^{th} annual meeting of the Astronomical Society of India, IIT Roorkee, Roorkee, India.

Workshops and Summer School attended

Oct. 2025	Virtual Observatory Workshop on BAWG 2025, Sao Paulo, Brazil.
Apr. 2025	20^{th} General Assembly of ESSS, Addis Ababa, Ethiopia.
Aug. 2024	32^{nd} IAU General Assembly, Cape Town, South Africa.
Jan. 2024	4^{th} Meeting on Star Formation Star Formation Studies in India, SNBNCBS, Kolkata, India.
Jan. 2023	UV-Optical-IR Astronomy in India: Prospects of the next decade, IISc, Bengaluru, India.
Mar. 2018	40^{th} International School for Young Astronomers, Cairo university, Egypt.
June 2015	Computing in Applied Mathematics (CAMS) workshop, AIMS Ghana, Ghana.

Awards

2025	Selected for the C2F Postdoctoral Fellowship (offer not taken).
2019	Selected for the TWAS-Bose Ph.D. Fellowship.
2017	Awarded second prize in NASA's CCMC Student Research Contest.
2014	Selected for the AIMS Ghana M.Sc. Fellowship.

Teaching

2025 –	Space Science. Debre Berhan University, DB, Ethiopia.
2024 – 2025	General Physics. Debre Berhan University, DB, Ethiopia.
2016 – 2019	Introduction to Astronomy, Stellar Physics, Nuclear Physics, Electrodynamics, Mechanics and Heat, Electromagnetism, and Modern Physics. Debre Berhan University, DB, Ethiopia.
2012 – 2014	Mathematical Methods of Physics, Medical Physics, Radiaton Physics, Mechanics and Heat, Electromagnetism, and Modern Physics. Bule Hora University, BH, Ethiopia.

References

1. **Dr. Ramkrishna Das,** *SNBNCBS, JD Block, Sector III, Salt Lake, 700106, Kolkata, India.*
   Email: ramkrishna.das@bose.res.in
2. **Dr. Elias Aydi,** *Texas Tech University, Box 41051, Lubbock, TX, 79409-1051, USA.*
   Email: eaydi@ttu.edu
3. **Prof. N. M. Ashok,** *PRL, Navrangpura, Ahmedabad 380 009, Gujarat, India.*
   Email: ashoknagarhalli@gmail.com
4. **Dr. Tilaye Taddesse,** *NASA-Johnson Space Centre, B45, Houston, TX 77058, USA.*
   Email: tilaye.t.asfaw@nasa.gov
5. **Dr. Tapas Baug,** *SNBNCBS, JD Block, Sector III, Salt Lake, 700106, Kolkata, India.*
   Email: tapasbaug@bose.res.in

Research Publications

Journal Articles (Peer reviewed, under review & non reviewed)

1. E. Aydi and et al, "Multiple outflows and delayed ejections revealed by early imaging of novae," *Nat. Astron.*, 2025, (**Accepted**, participated as a contributing author).
2. G. R. **Habtie** and R. Das, "Optical spectroscopy and temporal evolution of the nova v1405 cas," *ApJ*, 2025, (**Under review**).
3. G. R. **Habtie** and R. Das, "Spectroscopic study of the quiescent stages in between the 2006 and 2021 outbursts of RS Ophiuchi," *MNRAS*, vol. 537, no. 2, pp. 2046–2060, Feb. 2025. DOI: 10.1093/mnras/staf119. arXiv: 2402.03234 [astro-ph.SR].
4. G. R. **Habtie**, R. Das, and R. Pandey, "T CrB on the Verge of an Outburst: H alpha Profile Evolution and Accretion Activity," *The Astronomer's Telegram*, vol. 17041, p. 1, Feb. 2025, (**Non-Peer-Reviewed**).
5. G. R. **Habtie** and R. Das, "He II Emission Line Became the Most Intense Line in the Optical Spectrum of Nova V1405 Cas," *The Astronomer's Telegram*, vol. 16496, p. 1, Mar. 2024, (**Non-Peer-Reviewed**).
6. G. R. **Habtie** and R. Das, "Optical Photometry and Spectroscopy of Nova Sco 2024 (V1723 Sco)," *The Astronomer's Telegram*, vol. 16454, p. 1, Feb. 2024, (**Non-Peer-Reviewed**).
7. G. R. **Habtie**, R. Das, R. Pandey, N. M. Ashok, and P. A. Dubovsky, "Correction to: Study of the fastest classical nova, V1674 Her: photoionization and morpho-kinemetic model analysis," *MNRAS*, vol. 529, no. 2, pp. 917–917, Apr. 2024. DOI: 10.1093/mnras/stae617.
8. G. R. **Habtie**, R. Das, R. Pandey, N. M. Ashok, and P. A. Dubovsky, "Study of the fastest classical nova, V1674 Her: photoionization and morpho-kinemetic model analysis," *MNRAS*, vol. 527, no. 1, pp. 1405–1423, Jan. 2024. DOI: 10.1093/mnras/stad3295. arXiv: 2310.16619 [astro-ph.SR].
9. R. Pandey, G. R. **Habtie**, R. Bandyopadhyay, R. Das, F. Teyssier, and J. Guarro Fló, "Study of 2021 outburst of the recurrent nova RS Ophiuchi: Photoionization and morphokinematic modelling," *MNRAS*, vol. 515, no. 3, pp. 4655–4668, Sep. 2022. DOI: 10.1093/mnras/stac2079.

Proceedings

1. G. R. **Habtie**, R. Das, R. Pandey, N. M. Ashok, and P. A. Dubovsky, "Study of the fastest classical nova, V1674 Her: Photoionization and Morpho-kinemetic model analysis," in *42nd meeting of the Astronomical Society of India (ASI)*, vol. 42, Jan. 2024, O51, O51.
2. G. R. **Habtie** and T. del Rio Gaztelurrutia, "The Stationary State of Magnetic Field Near the Sun," in *Solar Heliospheric and INterplanetary Environment (SHINE 2017)*, Jul. 2017, 170, p. 170.