

PHU-HUY NGUYEN

Hanoi, Vietnam

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Research Interest

Cosmology, Large-Scale Structure, CMB, Extragalactic Astrophysics

Education

University of Rome "Tor Vergata"

Erasmus Mundus Joint Master Program in Astrophysics and Space Science (MASS)

Sep. 2025 – Current

Rome, Italy

Track: *Gravitation and Cosmology*

Scholarship: Full tuition fee + stipend

University of Science and Technology of Hanoi

Master 1 in SPACE: Earth Observation, Astrophysics, and Satellite Technology

Oct. 2024 – Sep. 2025

Hanoi, Vietnam

GPA: 16.13/20 (3.52/4) - 1st rank

Thesis: 17.8/20

University of Science and Technology of Hanoi

Bachelor in Space Science and Satellite Technology, Minor in Astrophysics

Sep. 2021 – Aug. 2024

Hanoi, Vietnam

GPA: 16.22/20 (3.54/4) - 4th rank

Thesis: 18.2/20

Research Experience

Robust inference of cosmological extra-galactic dipoles:

checking for contamination with multiwavelength observations | *Bachelor Internship*

Apr. 2024 - Current

Supervisor: Dr. Calum Murray, Dr. Cyrille Rosset (Astroparticle and Cosmology Laboratory (APC))

- Investigated the isotropy and homogeneity of the universe and Solar System's acceleration by robustly measuring the dipole in the proper motion of quasars with simulation-based inference.
- Addressed the systematic biases and contamination, and employed multiwavelength observations to improve the accuracy.

Physical properties of an early Universe galaxy observed by the James Webb Space Telescope | *Master 1 Internship*

Jun. 2025 - Sep. 2025

Supervisor: Dr. Pham Tuan Anh (Vietnam National Space Center (VNSC))

- Investigated the morphology and physical properties of a galaxy at redshift $z = 6.11$
- Discovered that this is a multi-clumps low-mass starburst galaxy

Impacts of Supermassive Black Hole Feedback on Galaxy Formation | *Group Project*

Oct. 2023 - Feb. 2024

Supervisor: Dr. Nhut Truong (NASA)

- Explored the effects of SMBH feedback on baryonic components of present galaxies based on analyzing simulated data from the IllustrisTNG simulation.
- Examined the relationship between SMBH and galaxies' properties.

The First Cosmological Turbulence | *ASIAA Summer Student Program*

Jun. 2023 - Oct. 2023

Supervisor: Dr. Ke-Jung Chen (Academia Sinica Institute of Astronomy and Astrophysics (ASIAA))

- Studied the effects of primordial turbulence on the formation of the first structure using simulations.
- Utilized the ENZO code to simulate the early universe.

Internship/Conference/Workshop/Camp

Rencontres du Vietnam: Cosmology 2025

Aug. 2025

Speaker

ICISE, Quy Nhon, Vietnam

- Talk: Cosmology with Quasar Proper Motions: Constraining Anisotropic Expansion of the Universe

The 2025 SAGI Astrophysics Workshop

May. 2025

Speaker

ICISE, Quy Nhon, Vietnam

- Talk: Probing our Peculiar Acceleration using Quasars' Proper Motion Observation

A Future Space Mission With Very High Precision Astrometry

Sept. 2024

Participant

Institute d'Astrophysique de Paris, Paris, France

SAGI 2nd Workshop on Dust Polarimetry and Applications in Astrophysics

Nov. 2023

Participant

ICISE, Quy Nhon, Vietnam

Honors & Awards

Erasmus Mundus Joint Master Scholarship

May. 2025

USTH Merit Scholarship

2022-2024

University of Science and Technology of Hanoi

USTH Internship Scholarship

Nov. 2023

University of Science and Technology of Hanoi

Rector's Certificate for students with outstanding achievement

Dec. 2022

University of Science and Technology of Hanoi

Second Prize in National Student Physics Olympiad

Oct. 2022

Technical Skills

Languages: Python, C, Matlab, ROOT

Technologies/Frameworks: Linux, High-performance computing, Parallel Computing

Others: LaTeX

Languages Skills

Vietnamese: Native

English: C1

French: A2

Extracurricular

Training for USTH National Student Physics Olympiad team

Oct. 2023 – Nov. 2024

Coach

University of Science and Technology of Hanoi

- Conducted comprehensive physics review sessions for students preparing for the competition.
- Designed mock exams to evaluate and improve students readiness for the competition.

USTH SpaceTalk

Sep 2022 – Sep. 2023

Organizing committee

University of Science and Technology of Hanoi

- SpaceTalk is a monthly seminar given by experts in the field of Astrophysics, Remote Sensing, and Satellite Technology at the University of Science and Technology of Hanoi

References

Dr. Calum Murray, CEA-Saclay/Université Paris Saclay: calum.murray@cea.fr

Dr. Pham Tuan Anh, VNSC: ptanh@vnsc.org.vn

Dr. Ke-Jung (Ken) Chen, ASIAA: kjchen@asiaa.sinica.edu.tw