

# Curriculum Vitae

## Tuyen Manh Pham, M.Sc.

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## Research interests

Cosmology	📖 Cosmic Inflation, Gauss-Bonnet Gravity, CMB Physics
Gravitational Physics	📖 Black Holes, Wormholes, and Gravitational Waves
Computer Science	📖 Machine Learning, Data Analysis

## Education

- 2020 – 2022    📖 **M.Sc. Physics, Graduate University of Science and Technology, Vietnam Academy of Science and Technology** in Theoretical and Mathematical Physics  
Major: Theoretical and Mathematical Physics ([diploma](#))  
GPA: 3.74/4 ([transcript](#))
- 2016 – 2020    📖 **B.Sc. Physics, VNU University of Science, Vietnam National University, Hanoi**  
Major: Theoretical and Mathematical Physics ([diploma](#))  
GPA: 3.62/4 ([transcript](#))



## Employment History

- 2020 – pres    📖 **Research Assistant**, Phenikaa Institute for Advanced Study, Phenikaa University  
Job Description: Studying and examining some cosmic inflation models in scalar-tensor theory focusing on the Bianchi type I spacetime, non-canonical scalar field, scalar-Gauss-Bonnet gravity, Starobinsky gravity, two-form field scenario, and investigating the stability issues as well as observational constraints of these models
- 2020 – 2022    📖 **Master Student**, Graduate University of Science and Technology, Vietnam Academy of Science and Technology  
Job Description: Study of the cosmic inflation in the k-Gauss-Bonnet model

## Research Publications

### Journal Articles

- 1 T. M. Pham, D. H. Nguyen, T. Q. Do, and W. F. Kao, “Stability investigations of de Sitter inflationary solutions in power-law extensions of the Starobinsky model,” *Eur. Phys. J. C*, vol. 84, no. 7, p. 729, 2024. [DOI: 10.1140/epjc/s10052-024-13083-z](#). arXiv: 2403.02623 [gr-qc].
- 2 T. M. Pham, D. H. Nguyen, T. Q. Do, and W. F. Kao, “Anisotropic power-law inflation for models of non-canonical scalar fields non-minimally coupled to a two-form field,” *Eur. Phys. J. C*, vol. 84, no. 1, p. 105, 2024. [DOI: 10.1140/epjc/s10052-024-12436-y](#). arXiv: 2309.02690 [gr-qc].
- 3 T. Q. Do, D. H. Nguyen, and T. M. Pham, “Stability investigations of isotropic and anisotropic exponential inflation in the Starobinsky–Bel–Robinson gravity,” *Int. J. Mod. Phys. D*, vol. 32, no. 13, p. 2350087, 2023. [DOI: 10.1142/S0218271823500876](#). arXiv: 2303.17283 [gr-qc].


- 4 H. D. Nguyen, M. T. Pham, D. T. Le, and Q. T. Do, "Anisotropic Constant-roll  $k$ -inflation Model," *Commun. in Phys.*, vol. 33, no. 1, p. 15, 2023.  DOI: [10.15625/0868-3166/17360](https://doi.org/10.15625/0868-3166/17360). arXiv: [2211.08032](https://arxiv.org/abs/2211.08032) [gr-qc].
- 5 D. H. Nguyen, T. M. Pham, and T. Q. Do, "Anisotropic constant-roll inflation for the Dirac–Born–Infeld model," *Eur. Phys. J. C*, vol. 81, no. 9, p. 839, 2021.  DOI: [10.1140/epjc/s10052-021-09652-1](https://doi.org/10.1140/epjc/s10052-021-09652-1). arXiv: [2107.14115](https://arxiv.org/abs/2107.14115) [gr-qc].

## Preprints


- 1 T. M. Pham, D. H. Nguyen, and T. Q. Do, "k-Gauss-Bonnet inflation," Jul. 2021. arXiv: [2107.05926](https://arxiv.org/abs/2107.05926) [gr-qc].

## Activities

### Advanced Summer School

- 09/07/2023 - 29/07/2023  Attendant in Advanced Summer School in Quantum Field Theory and Quantum Gravity (QFTQG2023)  
Place: ICISE, the International Center for Interdisciplinary Science and Education in Quy Nhon, Vietnam  
Link: <https://indico.in2p3.fr/event/28684/>


### Scientific talks

- 01/08/2022 - 04/08/2022  Title: *A novel k-Gauss-Bonnet power law inflation model*  
Even: 47th Vietnam Conference on Theoretical Physics (VCTP-47), Tuy Hoa  
Date: 01 - 04 August 2022 Tuy Hoa, Vietnam  
Link: <https://iop.vast.vn/vctp/47/>




### Short internship

- 26/07/2019 - 26/08/2019  2019 KAIX Summer Internship Program at Korea Advanced Institute of Science & Technology (KAIST), Daejeon, South Korea  
Best Presenter Award at the final presentation at KAIST.  
Link: [2019 KAIX summer internship program](#)

### Vietnam student olympiad physics



- 20/04/2019 - 20/05/2019  Participated in theoretical physics olympiad team HUS for Vietnam students  
Consolation prize at Vietnam Student Physics Olympiad in Theoretical Olympiad Team HUS

## Skills

- Languages  English (fluent), Vietnamese (mother tongue)  
Coding  Mathematica, Python, Maple,  $\text{\LaTeX}$ , ...  
Misc.  Academic research,  $\text{\LaTeX}$  typesetting, and publishing



## Miscellaneous Experience

### Awards and Achievements

- 2019  **Consolation prize**, Vietnam Student Physics Olympiad in Theoretical Olympiad Team HUS  
27/03/2019  **The 2nd Nguyen Hoang Phuong Award 2019**, VNU University of Science, Hanoi

## Miscellaneous Experience (continued)

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- 26/08/2019     **Best Presenter Award at the final presentation at KAIST**, Korea Advanced Institute of Science and Technology (KAIST), Daejeon
- 2017-2018     **BIDV Scholarship in 1st semester 2017-2018**, Hanoi

### Certification

- 2023     **Certificate of English Proficiency** by University of Languages and International Studies, VNU, Level 4 (B2)
- 2019     **Certificate for KAIX Summer Internship Program** at Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea
- 27/03/2019     **The 2nd Nguyen Hoang Phuong Award 2019**, VNU University of Science, Hanoi
- 2016 - 2020     **Certificates of merit** Awarded by VNU University of Science, Hanoi

## References

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**Cao H. Nam** 

Doctoral

Phenikaa Institute for Advanced Study, Phenikaa University,  
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**Phung Van Dong** 

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