

# Curriculum Vitae

**Tuyen Manh Pham, M.Sc.**

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## Research interests

<b>Cosmology</b>	📖 Cosmic inflation, Cosmic no-hair conjecture, scalar-tensor gravity, Gauss-Bonnet gravity, CMB physics
Gravitational physics	📖 Black holes, wormholes, and gravitational waves
Computer Science	📖 Machine Learning, Data Analysis

## Education

2020 – 2022	📖 <b>M.Sc. Physics, Graduate University of Science and Technology, Vietnam Academy of Science and Technology</b> in Theoretical and Mathematical Physics Major: Theoretical and Mathematical Physics ( <a href="#">diploma</a> ) Thesis title: <i>Study of the cosmic inflation in the k-Gauss-Bonnet model</i> Advisor: Dr. Tuan Q. Do GPA: 3.74/4 ( <a href="#">transcript</a> )
2016 – 2020	📖 <b>B.Sc. Physics, VNU University of Science, Vietnam National University, Hanoi</b> Major: Theoretical and Mathematical Physics ( <a href="#">diploma</a> ) Thesis title: <i>The eikonal approximation for high energy scattering problem in quantum mechanics</i> Advisor: Prof. Nguyen Xuan Han GPA: 3.62/4 ( <a href="#">transcript</a> )




## Employment History

2020 – pres	📖 <b>Research Assistant</b> , 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	📖 <b>Master Student</b> , 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, “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].
- 2 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].


- 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](https://doi.org/10.1142/S0218271823500876). arXiv: [2303.17283](https://arxiv.org/abs/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

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|-----------|---|
| Languages |  Strong reading, writing, and speaking competencies in English, Vietnamese |
| Coding    |  Mathematica, Python, Maple, $\text{\LaTeX}$ , ...                         |
| Misc.     |  Academic research, training, $\text{\LaTeX}$ typesetting, and publishing  |

## Miscellaneous Experience

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### Awards and Achievements

- 2019      **Consolation prize**, Vietnam Student Physics Olympiad in Theoretical Olympiad Team HUS
- 27/03/2019      **The 5th Nguyen Hoang Phuong Award 2019**, VNU University of Science, Hanoi
- 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)
- 2022      **Certificate of English Proficiency** by Thai Nguyen University, 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 5th 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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### Tuan Q. Do

Associate Professor  
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Hanoi, Vietnam.  
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