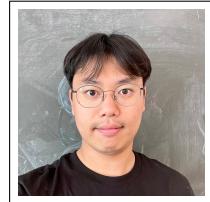


Dhong Yeon Cheong

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May 17, 2024
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Education

- 2019.3– **M.S./Ph.D. Integrated Program**, *Department of Physics*, Yonsei University, Seoul, Republic of Korea.
(Compulsory military duty, Technical Research Personnel : 2022.3.1 - 2025.6.19 (scheduled))
- 2015.3– **B.S.**, *Department of Physics*, Yonsei University, Seoul, Republic of Korea.
- 2019.2

Research Publications [[Inspire-HEP](#)]

1. D. Y. Cheong, S. C. Park, Chang Sub Shin, "Effective Theory Approach for Axion Wormholes", [\[arXiv:2310.11260\]](#)
2. G. Cacciapaglia, D. Y. Cheong, A. Deandrea, W. Isnard, S. C. Park, "Composite Hybrid Inflation : Dilaton and Waterfall Pions", [JCAP 10 \(2023\) 063](#), [\[arXiv:2307.01852\]](#)
3. D. Y. Cheong, K. Hamaguchi, Y. Kanazawa, S. M. Lee, N. Nagata, S. C. Park, "Axion Quality Problem and Non-Minimal Gravitational Coupling in the Palatini Formulation", [Phys. Rev. D 108, 015007](#), [\[arXiv:2210.11330\]](#)
4. K. Ban, D. Y. Cheong, H. Okada, H. Otsuka, J. C. Park, S. C. Park, "Phenomenological implications on a hidden sector from the Festina Lente bound", [PTEP 2023 \(2023\) 1, 013B04](#), [\[arXiv:2206.00890\]](#)
5. D. Y. Cheong, K. Kohri, and S. C. Park, "The Inflaton that Could : Primordial Black Holes and Second Order Gravitational Waves from Tachyonic Instability induced in Higgs- R^2 Inflation", [JCAP 10 \(2022\) 015](#), [\[arXiv:2205.14813\]](#)
6. S. M. Lee, D. Y. Cheong, S. C. Hyun, S. C. Park, and M. Seo "Festina-Lente Bound on Higgs Vacuum Structure and Inflation", [JHEP 02 \(2022\) 100](#), [\[arXiv:2111.04010\]](#)
7. D. Y. Cheong, S. M. Lee, and S. C. Park, "Reheating in Models with Nonminimal Coupling in metric and Palatini formalisms", [JCAP 02 \(2022\) 02, 029](#), [\[arXiv:2111.00825\]](#)
8. D. Y. Cheong, S. M. Lee, and S. C. Park, "Progress in Higgs inflation", [J. Korean Phys. Soc. \(2021\), \(Invited Review\)](#), [\[arXiv:2103.00177\]](#)
9. D. Y. Cheong, H. M. Lee, and S. C. Park, "Beyond the Starobinsky model for inflation", [Phys.Lett.B 805 \(2020\) 13545](#), [\[arXiv:2002.07981\]](#)
10. D. Y. Cheong, S. M. Lee, and S. C. Park, "Primordial Black Holes in Higgs- R^2 Inflation as a whole dark matter", [JCAP 01 \(2021\) 032](#), [\[arXiv:1912.12032\]](#)
11. D. Y. Cheong, S. M. Lee, and S. C. Park, "Higgs Inflation and the Refined dS Conjecture", [Phys. Lett. B789 \(2019\) 336-340](#), [\[arXiv:1811.03622\]](#)

Research Experience

2023.7 - **Visitor**, CERN Theoretical Physics Department, Geneva, Switzerland.

2024.1

2021.9 - **Visiting Research Assistant**, KIAS, Seoul, Republic of Korea.

2022.2

Research Interest

General Early Universe Cosmology, Dark Matter, BSM Physics.

Specific Inflation, Primordial Black Holes & Gravitational Waves, Axions, Ultralight Dark Matter

Awards and Scholarships

KPS Award (장려상), Korean Physical Society Fall 2023 .

CERN-CKC Graduate Student Fellowship 2023, Full support, 6 month visit at CERN TH.

Best Poster Award, "Yonsei HEP-COSMO recent research outputs ", Yonsei University Department of Physics Research Output Presentation Fall 2022 .

Outstanding Presentation Award, "Gravitational Waves and PBHs from Tachyonic Instability in Higgs- R^2 Inflation", KPS 2022 Spring Meeting.

Best Poster Award, "Criticality and Primordial Black Holes in Higgs- R^2 Inflation", Yonsei University Department of Physics Research Output Presentation Fall 2019.

Best Poster Award, "Criticality and Primordial Black Holes in Higgs- R^2 Inflation", 25th International Summer Institute on Phenomenology of Elementary Particles and Cosmology (SI2019).

Ph.D. Scholarship, Full scholarship for coursework, Yonsei University.

Service

2023- **Referee**, Journal of High Energy Physics .

Talks at Conferences & Workshops

2024.1.16 - **Workshop on Dark Universe**, Yeosu, Republic of Korea.

1.19 Oral presentation on "An Effective Approach for Axion Wormholes"

2024.1.9 - **Dark Matter as a Portal to New Physics 2024**, APCTP, Republic of Korea.

1.12 Invited Speaker , Oral presentation on "PBHS and GWs in Higgs- R^2 Inflation"

2023.11.9 **CosKASI ECR Seminar**, Online, Republic of Korea.

Invited Student Talk , Oral presentation on "Inflation and the Standard Model : Higgs- R^2 Inflation Framework"

2023.10.17 - **OKC@15**, Stockholm, Sweden.

10.19 Speaker , Oral presentation on "Primordial Black Holes and Gravitational Waves in Higgs- R^2 Inflation"

2023.9.26 - **DESY Theory Workshop 2023**, Hamburg, Germany.

9.29 Speaker , Oral presentation on "An Effective Approach for Axion Wormholes"

2023.6.12 - **PPC 2023: XVI International Conference on Interactions between Particle Physics**

and Cosmology, Daejeon, Republic of Korea.

Speaker , Oral presentation on "Composite Dilaton Inflation"

- 2023.1.16 - **2023 Winter-I NRF-JSPS Workshop in particle physics, cosmology, and gravitation**,
 1.18 Sapporo, Japan.
 Invited Speaker , Oral presentation on "PBHs, GWs, and the Standard Model: Higgs- R^2 Inflation Framework "
- 2022.12.12 - **100+7 GR & Beyond: Inflation**, Jeju, Republic of Korea.
 12.16 Invited Speaker , Oral presentation on "PBHs, GWs, and the Standard Model: PBHs & GWs in Higgs- R^2 Inflation "
- 2022.12.07 - **IBS-PNU Joint Workshop on Particle Physics and Cosmology**, Busan, Republic of
 12.10 Korea.
 Speaker, Oral presentation on "Primordial Black Holes and Gravitational Waves from the Tachyonic Instability in Higgs- R^2 Inflation"
- 2022.11.14 - **Korea-Japan Workshop on Dark Energy (9th edition)**, Yonsei University, Seoul,
 11.18 Republic of Korea.
 Speaker, Oral presentation on "Primordial Black Holes and Gravitational Waves from the Tachyonic Instability in Higgs- R^2 Inflation"
- 2022.10.21 - **Workshop on Physics of Dark Cosmos**, Busan , Republic of Korea.
 10.23 Speaker, Oral presentation on "Primordial Black Holes and Gravitational Waves from the Tachyonic Instability in Higgs- R^2 Inflation"
- 2022.10.19 - **KPS 2022 Fall Meeting**, Busan , Republic of Korea.
 10.21 Speaker, Oral presentation on "Axion Quality Problem and Non-Minimal Gravitational Coupling in the Palatini Formulation"
- 2022.6.20 - **LIO International Conference and France-Korea STAR Workshop on "Fundamental Forces from Colliders to Gravitational Waves"**, IP2I, Lyon , France.
 6.24 Speaker, Oral presentation on "Tachyonic Production of GWs in Higgs-R2 Inflation"
- 2022.4.20 - **KPS 2022 Spring Meeting**, Online , Republic of Korea.
 4.22 Speaker, Oral presentation on "Gravitational Waves and PBHs from Tachyonic Instability in Higgs- R^2 Inflation"
- 2022.3.19 - **Asia-Pacific School and Workshop on Gravitation and Cosmology 2022**, Online ,
 3.22 Taiwan.
 Speaker, Oral presentation on "Primordial Black Holes and GWs in Higgs- R^2 Inflation"
- 2021.11.26 - **Workshop on Particle Physics and Cosmology 2021**, Jeju, Republic of Korea.
 11.28 Speaker, Oral presentation on "Primordial Black Holes and Gravitational Waves in Higgs- R^2 Inflation"
- 2021.8.2 - **Asia-Pacific Workshop on Particle Physics and Cosmology 2021**, Online , Republic
 8.6 of Korea.
 Speaker, Oral presentation on "Filling the Gap : (Perturbative) Reheating in Higgs- R^2 Inflation"
- 2020.11.23 - **Online JGRG workshop 2020**, Online , Japan.
 11.27 Speaker, Oral presentation on "Primordial Black Holes as Dark Matter in Higgs- R^2 Inflation"
- 2020.9.20 - **LIO international conference on Composite connections of Higgs, Dark Matter and Neutrinos**, Online, France.
 9.25 Speaker, Oral presentation on "Primordial Black Holes in Higgs- R^2 Inflation"
- 2020.7.13 - **KPS 2020 Spring Meeting**, Online, Republic of Korea.
 7.15 Speaker, Oral presentation on "Beyond the Starobinsky Model for Inflation",
- 2019.8.18 - **25th International Summer Institute on Phenomenology of Elementary Particles and Cosmology (SI2019)**, Gangneung, Republic of Korea.
 8.23 Poster presentation on "Criticality and Primordial Black Holes in Higgs-R2 Inflation".
- 2019.4.24 - **KPS 2019 Spring Meeting**, Daejeon, Republic of Korea.
 4.26 Speaker, Oral presentation on the "Higgs Inflation and the Refined dS Conjecture".

- 2019.2.21 - **The 2nd KMI School (KMI School 2019)**, Nagoya, Japan.
2.23 Poster presentation on the "Higgs Inflation and the Refined dS Conjecture".

Other Conferences, Workshops & Schools

- 2022.7.4 - **QUC Summer School on “A.I. in High Energy Physics”**, *KIAS*, Republic of Korea.
7.15 Participant, topics covered including scattering amplitudes, EFT and machine learning
- 2020.1.7 - **2020 GGI Lectures on the Theory of Fundamental Interactions**, *Galileo Galilei Institute for Theoretical Physics, Florence*, Italy.
1.24 Participant
- 2019.7.22 - **IBS Summer School on Cosmology & Particle Physics**, *Daejeon*, Republic of Korea.
7.26 Participant.
- 2019.1.14 - **Saga - Yonsei Joint Workshop XV**, *Seoul*, Republic of Korea.
1.18 Participant.
- 2018.7.23 - **IBS Summer School on Cosmology & Particle Physics**, *Daejeon*, Republic of Korea.
7.27 Participant.
- 2018.7.4 - **ICHEP 2018 Seoul**, *Seoul*, Republic of Korea.
7.11 Participant.

Language

Korean - First language, Native proficiency
English - Second language, Native proficiency

Reference

- Seong Chan Park**, *Department of Physics*, Yonsei University, Seoul, 03722, Republic of Korea.
sc.park@yonsei.ac.kr
- Nicholas L. Rodd**, *Theory Group*, Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA.
nrodd@lbl.gov