

Prabesh Bista

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🌐 <https://prabeshbista.github.io/>

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Education

- 09/2021 – 11/2024  **M.Sc. Physics**
National Central University, Zhongli, Taiwan
Thesis: *Development of a non-collinear optical parametric amplifier for photoelectron spectroscopy*.
Advisor: [Dr. Cheng-Tien Chiang](#)
- 09/2015 – 09/2019  **B.Sc. Physics**
Tribhuvan University, Kathmandu, Nepal
Minor in *Mathematics*

Research Publications

Journal Articles




- 1 M. Singh, **P. Bista**, Y.-C. Lin, C.-N. Kuo, Y.-J. Chuang, M. Paleschke, C.-B. Huang, M.-C. Chung, C.-S. Lue, and C.-T. Chiang, “Valence band momentum imaging of NiTe₂ by two-photon photoemission momentum microscopy”, In preparation (2025).
- 2 T.-I. Yang, Y.-W. Huang, **P. Bista**, C.-F. Ding, J. Chen, C.-T. Chiang, and H.-C. Chang, “Photoluminescence of nitrogen-vacancy centers by ultraviolet one-and two-photon excitation of fluorescent nanodiamonds”, *The Journal of Physical Chemistry Letters* **13**, 11280–11287 (2022).

Conference Proceedings

- 1 M. Singh, **P. Bista**, Y.-C. Lin, C.-N. Kuo, C. S. Lue, and C.-T. Chiang, “[Angle-resolved photoemission spectroscopy and microscopy on bulk NiTe₂ using ultrafast tunable laser](#)”, in *Ultrafast science and technology spain* (2024).


Presentation

Poster

- 09/2023  [Thematic summer school](#) on 2D Materials in Roscoff, France
Title: *Non-collinear optical parametric amplifier for photoemission spectroscopy*
- 01/2023  Annual Meeting of the [Physical Society of Taiwan](#)
Title: *Development of an Infrared non-collinear optical parametric amplifier at sub-megahertz repetition rates*
- 11/2022  [IAMS Young Fellow](#) Research Presentation
Title: *Construction of an infrared by non-collinear optical parametric amplifier*

Experience

Research Experience

- 12/2024 – 05/2025  **Internship**
[Baykusheva Group](#), Institute of Science and Technology Austria
 - Built a non-degenerate parametric down-conversion setup using a nonlinear crystal.

Experience (continued)

- 09/2021 – 11/2024 **Master's Project**
Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan
- Constructed a non-collinear optical parametric amplifier from scratch.
 - Engaged in investigating the electronic structure of bulk NiTe₂ using ARPES.
- 08/2020 – 08/2021 **Research Assistant**
Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan
- Generated second and third harmonic signals in nonlinear optical experiments.
 - Developed LabVIEW program for THORLABS PM 100D powermeter.
 - Procured laboratory components and assisted in lab setup.
- 03/2020 – 07/2020 **Internship**
Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan
- Used Kelvin probe spectroscopy and Ambient-photoemission spectroscopy to determine the valence band of Pt and Ti-doped WS₂.

Mentorship

IAMS-IIP Internship

- 06 – 07/2023 **Marucheth Thongtheppairoj**
Undergrad student at Sirindhorn international institute of Technology (SIIT), Thailand

Honors and Awards

- 09/2021-08/2024 **TIGP Scholarship** awarded by [Academia Sinica](#), Taiwan, covering tuition fees and living expenses.
- 09/2018 **Travel Grant** provided by the [National Center for Physics](#), Pakistan to attend a workshop on Tracking Detector in High Energy Physics.

Skills

- Programming **Python, LabVIEW**
- Software **Microsoft Office, L^AT_EX, Origin, SOLIDWORKS, ImageJ**
- Optics **Beam-width measurement, second & third harmonic generation, white light generation, parametric amplification, pulse-width compression & measurement**
- Other **Basic in handling angle-resolved photoemission spectroscopy (ARPES)**

Activities and Outreach

- Attended the workshop on [Transport and Optics in Topological Systems](#) at the Institute of Physics, Academia Sinica, Taipei, Taiwan, on June 15 – 17, 2024.
- Participated in the summer school on [Advanced Physics of van der Waals Hetero-Structures](#) in Roscoff, France, from September 23 to October 1, 2023.
- Volunteered for [intercultural service](#) with a school in Taiwan through online engagement from September 5 to December 1, 2022.
- Participated in the online [FOCUS PEEM](#) workshop organized by FOCUS GmbH on June 16 – 17, 2021.
- Attended the Workshop on Space Weather and Upper Atmospheric Physics in Kathmandu, Nepal, from September 23 – 27, 2019.
- Participated in the workshop on [Tracking Detector in High Energy Physics](#) in Islamabad, Pakistan, from October 15 – 19, 2018.
- Organized the National Science Exhibition at Patan Multiple Campus, Lalitpur, Nepal, on February 18 – 19, 2018.