

Prabesh Bista

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🌐 <https://prabeshbista.github.io/>

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”, Applied Physics Letters **128**, 031601 (2026).
- 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).

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

10/2025 – Present

■ Internship

Sunko Group, Institute of Science and Technology Austria

- Building and aligning an optical setup for time-resolved magneto-optical Kerr effect (TR-MOKE).

12/2024 – 05/2025

■ Internship

Baykusheva Group, Institute of Science and Technology Austria

- Built a non-degenerate parametric down-conversion (PDC) setup using a non-linear crystal.
- Developed a LabVIEW control and data-acquisition program for an Ophir power meter.
- Characterized beam-pointing stability.

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 a LabVIEW program for a Thorlabs PM100D power meter.
- Procured laboratory components and assisted with laboratory 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 maximum of Pt- and Ti-doped WS₂.

Work Experience

05/2016 – 11/2019

■ **Physics Lab Assistant (full-time)**

Sagarmatha Engineering College, Lalitpur, Nepal

- Trained and guided students in laboratory experiments.
- Troubleshoot and maintained laboratory equipment to ensure reliable operation.

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.

11/2018

■ **Outstanding Administrative Staff Award** presented by the Student Welfare Society of Sagarmatha Engineering College.

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 profiling, second- and third-harmonic generation, white-light continuum generation, optical parametric amplification, pulse-width compression and characterization

Other

■ Hands-on experience with 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 (June 15–17, 2024).
- Participated in the summer school on Advanced Physics of van der Waals Hetero-Structures in Roscoff, France (September 23–October 1, 2023).
- Volunteered in an intercultural service program, supporting a school in Taiwan through online engagement (September 5–December 1, 2022).
- Participated in the online FOCUS PEEM workshop organized by FOCUS GmbH (June 16–17, 2021).

Activities and Outreach (continued)

- █ Attended the Workshop on Space Weather and Upper Atmospheric Physics in Kathmandu, Nepal (September 23–27, 2019).
- █ Participated in the workshop on [Tracking Detector in High Energy Physics](#) in Islamabad, Pakistan (October 15–19, 2018).
- █ Organized the National Science Exhibition at Patan Multiple Campus, Lalitpur, Nepal (February 18–19, 2018).