

# Prabesh Bista

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🌐 <https://prabeshbista.github.io/>

## Education

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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

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### 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 NiTe<sub>2</sub> 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

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### 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

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### 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)

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- 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  $\text{NiTe}_2$  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  $\text{WS}_2$ .


## 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




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### IAMS-IIP Internship

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





## Honors and Awards

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- 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

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|-------------|---|
| Programming |  Python, LabVIEW   |
| Software    |  Microsoft Office, $\text{\LaTeX}$ , 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

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-  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)

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- 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).