

CURRICULUM VITAE

PRAVIN SHARMA

Ph.D. Candidate

Department of Applied Science,

William & Mary, VA, USA

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Education

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| 2021 – Present | PhD in Lasers and Optics , Department of Applied Science, William & Mary, VA, USA
PhD proposal: Laser induced nucleation and manipulation of Spin textures in 2D-Magnet Van-Der-Waals Heterostructures
Advisor: Prof. Gunter Luepke |
| 2016 – 2019 | M.Sc. Physics , Department of Physics, Savitribai Phule Pune University, Pune, India
Thesis topic: Study of SnO ₂ coated Au Nanocrystals with varying core size.
Advisor: Prof. Shailaja Mahamuni |
| 2010 - 2013 | B. Sc Physics , Amrit Campus, Tribhuvan University
Lainchaur, Kathmandu, Nepal |

Research Interest

Ultrafast Magnetization Dynamics, Spintronics, Ultrafast Spectroscopy, 2D magnetic materials, Magnetization Switching techniques, Advanced Materials Characterization, Lasers.

Teaching Experience

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| 2021 – 2023 | Graduate Teaching Assistant , Department of Physics, William & Mary, VA, USA <ul style="list-style-type: none">• Courses:<ul style="list-style-type: none">- Physics 101H (honors class), Physics 102H (honors class).- Physics 101L and 102L (Lab Assistant).• Responsibilities:<ul style="list-style-type: none">- Assist Professors with conducting and monitoring classroom activities.- Grade assignments, essays, and exams for undergraduate students.- Help students with one-on-one with questions regarding course content and take problem sessions in class. |
| 2019 – 2021 | Senior Science Teacher , Texas International School, Kathmandu, Nepal <ul style="list-style-type: none">• Conducted science exhibition at high school level regularly. |

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- Taught AP level Physics courses to high school students which includes Mechanics, Thermodynamics, Optics, Sound, Electromagnetism, Modern Physics, and Waves.
- 2014 – 2016 **Science Teacher**, Texas International School, Kathmandu, Nepal.
- Conducted active participation of students in several workshops and exhibitions.

- 2013 – 2014 **Mathematics Tutor**, The Spangle Boarding High School, Kathmandu, Nepal
- Had provided students better ways to intake mathematics conceptually.

Research Experience

- 2022 – Present **Research Assistant**, Department of Applied Science, William & Mary, VA, USA
- Use micromagnetic and atomistic modeling to understand the magnetization dynamics of different magnetic materials.
 - Guide undergraduate students about the experiment and lab policies.
 - Work collaboratively within the university and with outside institutions and universities also.
 - Develop the setup for high-vacuum condensed matter physics research.
 - Maintenance of the femtosecond lasers and their components.

- 2018 – 2019 **MSc Project**, Department of Physics, SPPU, Pune, India
- Successfully synthesized core-shells of Gold (Au) Nanocrystals with and without coating of Tin oxide (SnO₂).
 - Usage of different characterization techniques during the MSc project.

- 2015 – 2021 **Research Associate**, Brainycube Research Organization
Chabahil, Kathmandu
- Roles:
- Research Design, Practical demonstration of projects, guiding students in projects leading them in representing in National and International Events.
 - Had lead Nepal Team in 5th Asia Pacific Conference for Young Scientists (APCYS) and won 2 silver and 6 bronze medals.
 - Conducted workshop regarding the future aspects of research and its necessity in country.

Experimental Skills

- Magneto-optical Kerr Effect (MOKE)
- UV-Vis Spectrometer
- X-Ray Diffraction
- Raman Spectrometer
- Scanning Electron Microscope
- Field Emission Scanning Electron Microscope
- Origin software
- LaTeX
- Python
- MATLAB
- MS Office (Excel, Word, PowerPoint)

Workshops and Conferences

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| March 2024 | - 2024 Graduate & Honors Research Symposium, “Atomistic Investigation of Ultrafast Demagnetization of Permalloy Films with Varying Laser Fluence”, William & Mary, VA, USA |
| February 2018 | - 24 th Raman Memorial Conference, “Unraveling Physics of Advanced Materials”, Department of Physics, SPPU, Pune, India |
| December 2018 | - “3 rd International Conference on Advances in Materials Science”, Raje Ramrao Mahavidyalaya, Jath, Sangli, India |

References

Prof. Gunter Luepke, Ph.D.

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Prof. Shreekrishna D. Sartale, Ph.D.

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