

Resume

Name: Bishma Karki
Place of Birth (City and Country): Damak, Nepal
Date of Birth (Year-Month-day): 1979-05-21
Sex: Male
Marital Status: Married
Permanente Residential Address: Mahadevasthan Koteshower,
Shrinkhalla Galli ward No:-32
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Academic Qualifications:

- (a) *Level:* Doctor of Philosophy (Ph.D.)
Institution: Central Department of Physics, Tribhuvan University, Kirtipur
Year: 2014-2020
Title of Ph.D. thesis: “Zinc Oxide, Titanium dioxide, black phosphorus, Silver(Ag), gold (Au), and bimetallic layer-based surface Plasmon biosensor for numerical analysis in Thin Films.”
- (b) *Level:* Master of Science (Physics) first class with Distinction.
Institution: University of Pune, Ganeshkhind, Pune-411007
Year: 2007-2009
- (c) *Level:* Bachelor’s Degree-Physics (Tribhuvan University)
Institution: National Multiple College, Bakhundole, Lalitpur, Nepal
Year: 2002-2005
- (d) *Level:* 10+2 Science (HSEB)
Institution: Himalayan White House Int. H. S School, Kathmandu, Nepal
Year: 2000-2002
- (d) *Level:* SLC (Government of Nepal)
Institution: Home Land Service MA VI, Lainchaur, Kathmandu, Nepal
Year: 1990-1999

Work Experiences

- (April 25, 2009 to January 1, 2013) Damak Multiple Campus Damak, Jhapa Lecturer for B.sc and +2 levels
- (07/ 07/ 2009 to 01/0 1/ 2013) Damak Model Higher Secondary School, Damak, Jhapa Lecturer +2 level (Physics)
- (02/01/2013 to 01/02/2018) National Research Council Nepal, Kathmandu, Senior Researcher
- (01/02/2018 to till now) National Research Council Nepal, Kathmandu, Executive chairman.
- 01/06/2009 to January 1, 2013 Part time Lecturer on radiology Department of Physics on Life-line Hospital Damak Jhapa as Well as Founder Member.
- 01/03/2019 visiting Lecturer on Department of Physics, Tri-Chandra multiple Campus Ghanta Ghar Kathmandu.

Seminar and presentation:

- Paper presentation at Kathmandu University Nepal on Managing Load Shedding: A Solar Energy Way on 11 & 12 Dec 2011
- Seminar attended in Russia at Moscow State University and got training on Biodiversity and other on 13 September – 16 October 2012
- Paper presentation in Conference in Oxford University, United Kingdom High Energy Physics on 20 to 25 Jan 2013.
- Paper presentation in Conference in University Exeter, United Kingdom Renewable Energy on 5 to 8 March 2013.
- Paper presentation in Conference in University of Queensland, Brisbane, Australia Carbon emission on 10 to 12 Jun 2013
- Paper presentation in Conference in Monash University, Melbourne, Australia High Energy Physics on 15 to 21 September 2013
- Paper presentation in Conference in Cambridge University, United Kingdom Physics of Sustainability on 11 to 13 December 2014
- Paper presentation in Conference in Pierre and Marie Curie University France, Paris structural and electronic properties of condensed matter on 20 to 22 December 2014
- Visit UN Conference in Bonn Germany Climate Change on 1 to 12 Jun 2015

- UNCBD conference Mexico Climate Change on 1 to 12 may 2017
- European Advanced Materials Congress Characterization of Au: ZnO thin films and their use in photoelectrocatalytic degradation of Methylene blue (MB) Stockholm, Sweden during 23rd – 25th August 2016.
- 63rd Congress of Indian Society of theoretical and applied Mechanics (ISTAM-2018) Charge Carrier Dynamics of Liquid Semiconductor Interfaces School of Engineering, Dayananda Sagar University, Bangalore, India on 20 to 23 December 2018.
- Participated in PhD workshop on Intent writing for Education and Health on 9th May 2020 organized by International Institute of Health Science.
- Participated in webinar workshop conducted on the Operational Management of Educational Institutes on 30th May 2020 organized by International Institute of Health Science.

Publication:

- Thin Solid Films and Nanomaterials for Solar Energy Conversion an Energy Saving Applications Published in UGC Grants commission Nepal
- Spectroscopic characterization of laser ablation brass plasma Published in UGC Grants commission Nepal Booklet, Damak, Multiple Campus, Nepal.
- Fabrication of Au: ZnO thin films by a solution-assisted route for application in photoelectrocatalytic degradation of methylene blue (MB) VBRI Press Advanced Materials Proceedings 2017, 2(9), 575-580.
- Characterization of Ag: ZnO Thin Film and Their Use in Photoelectrocatalytic degradation of Methylene blue (MB) IOST, Tribhuvan University JIST, 22 (2): 1-9 (2018).
- Water Purification from Organic Pollutants using a Photo-Oxidation, Research Journal of Applied Sciences, 14, 6, 192-197 (2019).
- Theoretical study of surface behavior of liquid semiconductor. International Journal of Research and Analytical Reviews, 6, 2, 642-650, (2019).
- Feasibility of Nitrate Removal using Hydroxylamine Hydrochloride from Sundarijal River Water through a Laboratory Scale, International Journal of Recent Technology and Engineering, 9, 6, 127-131, (2021).

- Temperature of Electron Inside and Outside of Atom, Technology Reports of Kansai University, 63, 3, 7484-7492, (2021).
- Effect of Centrifugal Term Approximation on Short Range Potential, International Journal of Theoretical and Mathematical Physics 11(2):71-76, (2021).
- Study of UV Index above Dang, Pokhara and Kathmandu Valley from 2009 to 2020, Journal of Materials and Environmental Science 12(05):715-727.
- Variation of mass and time conversion of rest into a non-rest visible photon or vice-versa Journal of Physics Conference Series 1963(1):012117.
- Strength of Yukawa Potential for Elementary Masses Less than Meson Mass Journal of Physics Conference Series 1963(1):012116.
- Sensitivity Enhancement of Surface Plasmon Resonance Biosensor with 2-D Franckeite Nanosheets. Plasmonics (2021) <https://doi.org/10.1007/s11468-021-01495-6>
- Analysis of all-optical priority encoder using plasmonics waveguide Journal of Computational Electronics 20, 1884–1890 (2021).
- Discover Water Study the optical properties of drinking water supply by KUKL and KVWSIP in Kathmandu Valley Discover Water 1, 6, (2021).
- An Approach to Improve the Water Quality on Industrial Effluent by Phytoremediation with Water Hyacinth (Eichhornia Crassipes) EAI Endorsed Transactions on Bioengineering and Bioinformatics EAI <https://doi.org/10.4108/eai.12-10-2021.17125>.
- Comparative study of Boron Oxides Crystal with different sources X-ray production sources (Cu, Ag, Mo, and Fe) Materials Letters X <https://doi.org/10.1016/j.mlblux.2021.100110>.
- Sensitivity enhancement of surface plasmon resonance sensor using 2D material barium titanate and black phosphorus over the bimetallic layer of Au, Ag, and Cu Optics Communications <https://doi.org/10.1016/j.optcom.2021.127616>.
- Zinc sulfide, silicon dioxide, and black phosphorus based ultra-sensitive surface plasmon biosensor Optical and Quantum Electronics 54(2):107 <https://doi.org/10.1007/s11082-021-03480-z>.
- Indium Phosphide and Black Phosphorus Employed Surface Plasmon Resonance Sensor for Formalin Detection: Numerical Analysis Optical Engineering 61(1):017101 <https://doi.org/10.1117/1.OE.61.1.017101>.

- The Concentration of Molecular Nitrogen, Oxygen, Argon and Helium above Dang, Pokhara and Kathmandu Valley, 2020 Journal of Materials and Environmental Science 12(11):1504-1515.
- Optical properties of Transparent Liquid: Water, Oils, and Honey Journal of Materials and Environmental Science 12(12): 1524-1537.
- Titanium dioxide, black phosphorus and bimetallic layer-based surface plasmon biosensor for formalin detection: numerical analysis. Opt Quant Electron 54, 451 (2022). <https://doi.org/10.1007/s11082-022-03875-6>.
- Advances in Surface Plasmon Resonance-Based Biosensor Technologies for Cancer Cell Detection International Journal of Optics 2022:10 <https://doi.org/10.1155/2022/1476254>.
- Hemoglobin detection in blood samples using a graphene-based Surface plasmon resonance biosensor Optik - International Journal for Light and Electron Optics 270(1-3):169947 <https://doi.org/10.1016/j.ijleo.2022.169947>.
- Sensitivity enhancement of refractive index-based surface plasmon resonance sensor for glucose detection Optical and Quantum Electronics 54(595):2022 <https://doi.org/10.1007/s11082-022-04004-z>.
- Validity of Nikiforov-Uvarov method for relativistic energy of Dirac equations with central potential Validity of Nikiforov-Uvarov Method for Relativistic Energy of Dirac Equations with Central Potential [AIP Conference Proceedings](https://doi.org/10.1063/5.0078353) 2454:40007 <https://doi.org/10.1063/5.0078353>.
- Advancements in MXene-Polymer Nanocomposites in Energy Storage and Biomedical Applications Polymers (Basel) 2022 Aug 22; 14(16):3433. <https://doi.org/10.3390/polym14163433>.
- PtSe₂ and black phosphorus employed for sensitivity improvement in the surface plasmon resonance sensor. J Comput Electron (2022). <https://doi.org/10.1007/s10825-022-01975-w>
- Energy Eigenvalue and Thermodynamic Properties of q-deformed Hulthen Potential. BIBECHANA, 19(1-2), 165–169. <https://doi.org/10.3126/bibechana.v19i1-2.46416>
- Study of Differential Cross-Section and S-Matrix Using Volkov Function and Taylor Series Expansion for Elastic Scattering. *Open Journal of Microphysics*, 12, 105-117. doi: <https://doi.org/10.4236/ojm.2022.124006>.

- Study of the Differential Cross-Section in Inelastic Scattering in Presence of Weak Laser Field. AIP Conference Proceedings 2457(1):50012.
doi: <http://dx.doi.org/10.1063/5.0118359>.
- Black Phosphorous and Cytop Nanofilms Based Long-Range SPR Sensor with Enhanced Quality Factor. Journal of Sensors

Editor Board:

Editor-in-Chief

Indian Journal of Advanced Physics

Editorial Board Member

Blue Eyes Intelligence Engineering and Sciences Publication

Editorial Board Member

Lattice Science Publication

Journal of Current Engineering and Technology

UN Observer: UNFCCC, UNCCD, UNEP, IPBES, EU Business and Biodiversity Platform, UN/CEFACT Forum, OWSD

Research Guidance: Ph.D.: - 02

BSc:-20

M.Sc.: -10

Training:

- Research Methodology training from Damak Campus.
- Red Cross Training by Red cross society and member, Damak Branch, Nepal

Other Skills

- Knowledge of research methodologies
- Data and information collection
- Writing and presenting reports
- Good knowledge in LaTeX and MATLAB software
- Sound Knowledge about Wind Energy Generator