

JHALNATH DHUNGEL (1992-04-20)

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A highly motivated and dynamic researcher with a proven ability to work independently and a clear vision for scientific innovation. My expertise and experience in Molecular Biology, Microbiology, and Drug Discovery position me as a valuable asset to any research environment. I am committed to advancing my career as a research and development scientist, contributing to groundbreaking discoveries in pharmaceutical sciences.

EXPERIENCE

Jan 2019 to Feb 2020 (Researcher)

Nepal Academy of Science and Technology, Khumaltar, Lalitpur, Nepal (www.nast.gov.np)

- Performed Master's thesis work entitled "Isolation and quantification of alkaloids from *Stephania glandulifera* Miers and their cytotoxicity study in LN-229 human brain glioblastoma cell line as well as molecular docking and ADMET study".

Aug 2020- Nov 2022 (Product Developer)

H Plant Pvt. Ltd., Bhaisepati-25, Lalitpur, Nepal

- Research and Development on Medicinal Aromatic Plants of Nepal; essential oils and vegetable oils.
- Operated a High-performance distillation system for the production of essential oils and their major chemical compounds.
- Developed Disinfectant solution (Hypochlorous acid solution) as a surface disinfectant during the COVID-19 outbreak.

Dec 2022-Ongoing (Founder, Managing Director, Head: Research and Development)

Nepomics Biotech Pvt. Ltd. Tarkeswor-05, Kathmandu (www.nepomicsbiotech.com.np)

- Organize workshops and webinars on Computer-aided Drug Design, among the first of their kind in Nepal.
- Lead online and offline programs on Bioinformatics.
- Introduced Natural mosquito repellent spray, Natural anti-hair loss oil, Natural pain reliever oil and Room freshener.
- Ongoing-Research on virtual screening of anticancer compounds from the medicinal plants of Nepal.

CORE QUALIFICATIONS

Molecular Biology techniques

Expert in Bacterial DNA and Plasmid extraction, Plant genomic DNA Extraction, Blood genomic DNA extraction, Conventional PCR, Primer designing, and Restriction digestion.

Immunological techniques

Experienced in operating SDS PAGE, ELISA, and Serological tests.

Microbiological techniques

Skilled in cultural techniques in Microbiology, Identification of microbes through molecular techniques, AST, and Microscopy.

Biochemistry

Bioassays; Antimicrobial assay, Antioxidant and Cytotoxicity assay (MTT and SRB).

Bioinformatics Techniques

Proficient in Visualization tools RASMOL, PYMOL, and SWISS-PDB Viewer, Sequence analyzing tools- CLUSTAL W, BLAST, and MEGA. Capable of Computational Drug Design; Molecular docking, Molecular dynamic simulation and *in silico* pharmacokinetic study (ADMET), Structure-Activity Relation (SAR). Competent in Python Programing language.

Analytical and Organic Chemistry

Competent in Preparative HPLC, Quantitative HPLC, Size-exclusion chromatography, Thin-laver chromatography, and High throughput distillation unit.

Experienced in tissue culture technique

Basic Computer

Skilled in Microsoft Word, Excel, and Power Point.

Graphics Design

Basic designing (Ink space and Canva)

EDUCATION

2020

Master of Science, Biotechnology, National College, Tribhuvan University, Khusibu, Kathmandu

- Dissertation in "Isolation and quantification of alkaloids from *Stephania glandulifera* Miers and their cytotoxicity study in LN-229 human brain glioblastoma cell line as well as molecular docking and ADMET study. "

2014

Bachelor of Science, Microbiology, Tri-Chandra Multiple Campus, Ghantaghar, Kathmandu

2010

Higher Secondary Education – Science, Canvas International College, Basundhara, Kathmandu

2008

S.L.C, Shree Janak Higher Secondary School, Illam

CONFERENCES/ WEBINARS/ COURSES ORGANIZED AND PARTICIPATED

2018

- **Participant:** Completion of 8 weeks' online course 'Research Writing in the Sciences' of the AuthorAid Program at INASP from 4th September to 2nd October 2018.
- **Organizer** - National Conference on Genetic Disease, 7-8th Dec, 2018, Nepal Academy, Kathmandu, Nepal.
- **Participant**- A Genetic Approach to blood disorders organized by Kathmandu Center for Genomics and Research Laboratory in association with Institute of South Asian Studies, South Asian University, New Delhi, India, 15th Sept, 2018, Durbarmarga, Kathmandu, Nepal.

2019

- **Participant-** A workshop on Computer-aided Drug design organized by the Center for Applied and allied Science Pvt. Ltd, 7th Feb, 2019, Research Centre for Applied Science and Technology, Tribhuvan University, Kirtipur, Nepal.
- **Organizer**-Tapping the socio-economic and the nutritional power of vegetables in the context of Nepal, 18-19th June, 2019, Nepal Academy of Science and Technology, Lalitpur, Nepal.

2020

- **Participant** - Webinars related to the COVID-19 pandemic and vaccine development.

2021

- **Organizer/Trainer-**Webinar on Computer aided drug design, Virtual event, 27th June, 2021,Nepomics Biotech.
- **Organizer/Trainer-** Workshop on Computer-aided drug design, Virtual event, 7- 13th August, 2021, Nepomics Biotech.

2022

- **Organizer-** Webinar on *Insilico* mutational analysis of BHLHA9 gene causing Polydactyly,Virtual event, 2nd Feb, 2022, Nepomics Biotech.
- **Speaker-** The 1st Online International Scientific-Practical Interdisciplinary conference, Topic: "Isolation of alkaloids from *Stephania glandulifera* Miers and their cytotoxicity study in LN-229 human brain glioblastoma cell line as well as molecular docking and ADMET study'' Research direction- Drug Discovery, 27th May, 2022, Tbilisi Humanitarian Teaching University, Georgia.
- **Organizer/Trainer-** Basic Bioinformatics course for Computer aided drug design, Virtual event, 24th June, 2022. Nepomics Biotech.
- **Speaker-** Ninth National Conference on Science and Technology, Topic: Anticancer Activity of Alkaloids isolated from *Stephania glandulifera* Miers, 26-28th June, 2022, Nepal Academy of Science and Technology, Lalitpur, Nepal.

- **Organizer-** Webinar on "Multifaceted Biofuel production from microalgae, 7th Nov, 2022, Nepomics Biotech.

2023

- **Organizer/Trainer-**Virtual Internship on Computer-aided drug design, 24th March-24th April, 2023,Nepomics Biotech.
- **Speaker-**Panelist on the discussion (Challenges and Opportunities: Biotechnology in Nepal, National Biotechnology Conference 2023, 13th May, 2023, Kathmandu University, Dhulikhel, Nepal.

2024

- **Organizer-** Webinar on Intellectual Property Rights (IPR): Empowering Minds, ProtectingCreations, 2nd June, 2024. Nepomics Biotech.
- **Organizer/Trainer-** Virtual Workshop on Python for Drug Design, 6th July, 2024, Nepomics Biotech.
- **Guest Speaker-** "BioBrain Wiseacre" event, organized by the HWIC Biotech Innovators Club, 31st August, 2024. Himalayan White House International College, Kathmandu, Nepal.
- **Organizer/Trainer-**Virtual Internship on Computer-aided drug design, 7th Sept -7th Oct, 2024,Nepomics Biotech.
- **Supervisor**-Thesis, Bachelor of Science, Microbiology, The Women University Multan, Pakistan. Topic: "Investigating the CFTR Gene and its Role in Cystic Fibrosis: Gene Annotation, Multiple Sequence Alignment, and Phylogenetic Analysis''. Oct 2024.

2025

- **Organizer/Trainer-**Virtual Workshop on Scientific Writing, 1st Feb, 2025, Nepomics Biotech.
- **Organizer/Trainer-**Virtual Internship on Computer-aided drug design, 6th Batch, 15th Feb -15th April, 2025,Nepomics Biotech.
- **Organizer/Trainer-**Virtual Internship on Computer-aided drug design, 7th Batch, 1st May-5th June, 2025, Nepomics Biotech.
- **Participant-** Academia- Industry Interaction Program organized by the Department of Biotechnology, School of Science, Kathmandu University, Kavre, May 23, 2025, Dees Boutique Hotel, Koteshwor, Kathmandu.
- **Organizer/Trainer-**Webinar on Unlocking the Therapeutic Potential of Natural Alkaloids for Alzheimer's via CADD, 27th July, 2025, Nepomics Biotech.

PUBLICATIONS

- Dhungel, J., Marasini, B. P., Manandhar, E., Rathnayaka, R. K., Samarakoon, S.R., Shyaula S.L. (2023). Cytotoxic Activity of Alkaloids Isolated from *Stephania glandulifera* Miers. Journal of Biologically Active Products from Nature 13 (2), 118-128. https:// doi.org/10.1080/22311866.2023.2224283.

- Dhungel, J., Shyaula, S. L., Faizan, M., Rathnayaka, R. K., & Agrawal, M. (2025). Computer-aided drug design approach for alkaloids isolated from *Stephania glandulifera* Miers as potential acetylcholinesterase inhibitors. Journal of Biomolecular Structure and Dynamics, 1–14. https://doi.org/10.1080/07391102.2025.2474054

- Dhungel, J., & Shyaula, S. L. (2025). HPLC Quantification, Antibacterial and Antioxidant Activity of Alkaloids from *Stephania glandulifera* Miers. Journal of Institute of Science and Technology, 30(2), 75–81. https://doi.org/10.3126/jist.v30i2.61714

- Dhungel, J., (2025, February 13). The science behind human metapneumovirus (hMPV): Molecular insights and evolutionary adaptations. Dhungel Jhalnath [Blog]. Available at:
    i. Personal website: https://dhungeljhalnath.com.np
    ii. Company website: https://www.nepomicsbiotech.com.np

REFERENCES

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Dr. Bishnu P. Marasini

Senior Research Associates

Nepal Health Research Council (NHRC)

Kathmandu, Nepal

Former Head of Department

National College, Nayabazar, Kathmandu

E-mail: dr.bishnu@nhrc.gov.np/bishnu.marasini@gmail.com