

Himal Shrestha

PHD STUDENT

La Trobe University

✉ H.Shrestha@latrobe.edu.au | 🏠 himal2007.netlify.app | ☎ 0000-0002-4470-4830 | 📷 himal2007 | 🌐 himal-shrestha

I am a PhD student in Bioinformatics at La Trobe University studying the transmission of a parasitic disease called River Blindness. I utilize different computational and mathematical approaches to integrate genomic, environmental and epidemiological data to predict, prevent and eliminate infectious and non-infectious diseases.

Education

PhD in Bioinformatics

LA TROBE UNIVERSITY

Melbourne, Australia

2019-2022(expected)

Master of Biotechnology and Bioinformatics

LA TROBE UNIVERSITY

Melbourne, Australia

2017-2019

Bachelor of Science in Human Biology

KATHMANDU UNIVERSITY

Dhulikhel, Nepal

2012-2016

Skills

COMPUTATIONAL SKILLS

- Programming languages: R, Python, MATLAB, Bash, Julia, javascript and C
- GIS softwares: Earth Engine, QGIS
- Markup and version control: LaTeX, Markdown, RMarkdown, CSV, JSON, YAML, Git, VSCode
- Bioinformatics databases: NCBI, UniProt, EMBL-EBI, DDBJ, Wormbase and Vectorbase
- Miscellaneous: High Performance Computing Clusters, SPSS, Origin, Microsoft packages

WET LAB SKILLS

- Samples: Clinical (blood, sputum, urine), microbiological (bacteria, fungus) and molecular samples (protein, RNA, plasmid and DNA)
- Molecular techniques: DNA and plasmid extraction, Gel Electrophoresis, SDS PAGE, ELISA, Cloning with restriction endonuclease, Primer Design for PCR, Protein separation with IMAC

ORGANIZATIONAL AND COMMUNICATION SKILLS

- Active committee member: PAM-HDR, COMBINE-AU, COMBINE annual symposium-2021
- Initiated undergraduate student club, One Class One Community (OCOC) with approximately 200 members
- Verbal communication: presentations in seminar, conferences, teaching and co-host of a podcast, Science ka Kura
- Written communication: journal articles, thesis, newsletters at PAM-HDR and report writing

Employment

Casual academic

LA TROBE UNIVERSITY

Melbourne, Australia

Feb, 2020-Ongoing

- BIO5INF (Bioinformatics), BIO1MGC (Molecules, Genes and Cells), BIO1EEB (Ecology, Evolution and Biodiversity)

La Trobe Outreach Demonstrator

LA TROBE UNIVERSITY

Melbourne, Australia

Jan, 2020

- Bytesize Bioinformatics

Research assistant

LA TROBE UNIVERSITY

Melbourne, Australia

Jul-Aug, 2019

- Performed analysis of embryogram and skin snip data of female *Onchocerca volvulus* parasite

Research grants

Co-investigator/Sub-awardee

UNICEF/UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES (TDR/WHO)

(US\$108,000)

2021-2022

- Population genetic tools for onchocerciasis control programmes to determine transmission zones.

Publications

JOURNAL PUBLICATIONS (PEER REVIEWED)

- **Shrestha H**, McCulloch K, Hedtke SM, Grant WN. Geospatial modeling of pre-intervention nodule prevalence of *Onchocerca volvulus* in Ethiopia as an aid to onchocerciasis elimination. Cotton J, editor. PLoS Negl Trop Dis. 2022 Jul 18;16(7):e0010620.
- Gyawali P, Tamrakar D, Shrestha A, **Shrestha H**, Karmacharya S, Bhattarai S, et al. Consumer acceptance and preference for brown rice—A mixed method qualitative study from Nepal. Food Sci Nutr. 2022 Mar 4;fsn3.2803.
- Gyawali P, **Shrestha H**, Pant V, Risal P, Gautam S. C-reactive Protein to Albumin Ratio among Patients Admitted to Intensive Care Unit of a Tertiary Care Hospital: A Descriptive Crosssectional Study. J Nepal Med Assoc. 2021 Dec 11;59(244):1247-51.
- R Shrestha, DP Subedi, S Adhikari, A Maharjan, **H Shrestha**, GR Pandey (2017). Experimental Study of Atmospheric Pressure Argon Plasma Jet-Induced Strand Breakage in Large DNA Molecules, Plasma Medicine, vol. 7, no. 1. doi:10.1615/PlasmaMed.2017019986
- J Shrestha Manandhar, R Shrestha, N Basnet, P Silwal, **H Shrestha**, A Risal, D Kunwar (2017). Study of Adherence Pattern of Antidepressants in Patients with Depression, Kathmandu University Medical Journal (KUMJ), vol. 15, no. 57, pp: 3-9. PMID: 29446354
- JTM Shrestha, **H Shrestha**, M Prajapati, A Karkee, A Maharjan (2017). Adverse Effects of Oral Hypoglycemic Agents and Adherence to them among Patients with Type 2 Diabetes Mellitus in Nepal, Journal of Lumbini Medical College, vol. 5, no. 1, pp. 34-40. doi:10.22502/jlmc.v5i1.126

CONFERENCE ABSTRACTS

- **H Shrestha**, K McCulloch, SM Hedtke, WN Grant (2021). Geospatial modeling of the baseline *Onchocerca volvulus* nodule prevalence in Ethiopia as an aid to elimination. Poster presentation at ASTMH 2022 Annual Meeting, Seattle Convention Center, United States, 30 Oct - 3 Nov, 2022.
- **H Shrestha**, SM Hedtke, RH Chisholm, WN Grant (2021). Landscape genetics and persistence of Onchocerciasis transmission in Ghana. Lightning talk at ComBio22, Melbourne Convention and Exhibition Centre (MCEC), 27-30 Sep, 2022.
- **H Shrestha**, SM Hedtke, K McCulloch, WN Grant (2021). Landscape genetics to determine factors for ongoing transmission of onchocerciasis in the transition region of Ghana. Oral presentation (15 mins) at COMBINE Student Symposium (Virtual), Nov 22, 2021.
- **H Shrestha**, K McCulloch, SM Hedtke, SM Feleke, WN Grant (2021). Geospatial analysis of pre-intervention prevalence of onchocerciasis in Ethiopia. Australian Society of Parasitology Online Conference (Virtual). Jun 23-25, 2021.
- **H Shrestha**, K McCulloch, SM Hedtke, WN Grant (2021). Geospatial mapping of onchocerciasis prevalence in Ethiopia. Spatial and Temporal Statistics Symposium (STSS), University of Wollongong (Virtual), February 17-19, 2021.
- **H Shrestha**, SM Hedtke, K McCulloch, WN Grant (2020). Identifying spatial patterns of onchocerciasis transmission using landscape analysis. Science bite talk at PAM Research Symposium 2020 held online on December 10 and 11, 2020.
- WN Grant, SM Hedtke, K McCulloch, S Wanji, **H Shrestha** (2020). Elucidating ivermectin's action on reproduction of adult female *Onchocerca volvulus* from embryogram data: the basis for the embryostatic phenotype and sub-optimal response. Anthelmintics: Discovery to Resistance IV, Los Angeles, California, February 3-7, 2020
- **H Shrestha** (2019). Elucidating ivermectin's action on reproduction of adult female *Onchocerca volvulus* from embryogram data: the basis for the embryostatic phenotype. PRISM2 Annual Conference, Woodward Conference Centre, Carlton, Victoria, November 12-13, 2019.
- W Grant, S Hedtke, S Wanji, **H Shrestha** (2019). Ivermectin and fertility in nematodes. The second Australian *C. elegans* Symposium (ACES, 2019), Queensland Brain Institute, The University of Queensland, Brisbane, Queensland, October 23-25, 2019.
- **H Shrestha**, SM Hedtke, K McCulloch, S Wanji, WN Grant (2019). Effect of ivermectin treatment on adult female *Onchocerca volvulus* from embryogram data: evidence for periodicity of reproduction and the basis for the embryostatic phenotype. Oral presentation (15 mins) at annual meeting of Australian Society for Parasitology, Adelaide Convention Centre, South Australia, July 8-11, 2019.

Trainings and workshops attended

Awards

ASTMH annual meeting travel award

AMERICAN SOCIETY OF TROPICAL MEDICINE & HYGIENE

Seattle, Washington, United States

2022

SABE HDR student research support award

LA TROBE UNIVERSITY

Melbourne, Australia

2022

The Jenny Graves Prize for best student short presentation

GENETICS SOCIETY OF AUSTRALASIA

ComBio22, Melbourne, Australia

2022

LTU Postgraduate Research Scholarship (LTUPRS)

LA TROBE UNIVERSITY

Melbourne, Australia

2019-Ongoing

Australian Society of Parasitologists (ASP) student travel grant

AUSTRALIAN SOCIETY OF PARASITOLOGY

Adelaide, Australia

2019

Pro Vice Chancellor's Commendation 2018

LA TROBE UNIVERSITY

Melbourne, Australia

2019-Ongoing

Diversity Scholarship: Technical Deep Learning Workshop

BRANESHOP

Melbourne, Australia

2019