DINESH GHIMIRE (he/him)
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EDUCATION

- **Ph.D in Plant Breeding and Genetics** August 2023 – Dec 2027 (Expected)
  Cornell University, Ithaca, NY
  GPA: 4.082
- **Master of Science in Biotechnology (MS)** January 2021 – May 2023
  West Virginia State University (WVSU), West Virginia, USA
  GPA: 4.00
- **Bachelor of Science in Agriculture (B.Sc. Ag)** 2015-2019
  Tribhuvan University, IAAS, Paklihawa Campus, Nepal
  College topper (Highest % scorer), WES Score 3.88

WORK & RESEARCH EXPERIENCES

1. Graduate Research Assistant, Cornell University August 2023 – Present

- Projects:
  - In my first project, I am working on utilizing remote sensing data (phenomics) combined with ground truth data and genomic data to test the effectiveness of phenomic data and spatial models in predictive breeding. This work uses both private and public sector dataset provided by BASF (Canola, Cotton, Soybean), and New Mexico State University (Alfalfa).
  - In my second project, I am working on integrating multi-omics data into a Hierarchical Bayesian framework to model non-linear growth in Alfalfa and Maize.
  - In my third project, I am planning to extend this framework and modeling approaches to other programmable plants (Maize and Tomato) in CROPPS (Center for Research on Programmable Plant Systems).
- Supervised by Dr. Kelly Robbins

2. Graduate Research Assistant, WVSU May 2021- May 2023

- MS Thesis: Accelerating the Improvement of Vintage Tomato Varieties with Multiple Pest Resistances and Evaluating Reproductive Barriers Encountered.
  - My first project focused on breeding heirloom/vintage tomato varieties for multiple pest resistance utilizing marker assisted selection and backcrossing. (Varieties are in the release process)
  - My second project addressed the reproductive barrier issues that we encountered during breeding process. I performed pollen staining, in-vitro and in-vivo pollen tube growth studies to investigate the issues (Results are not published yet).
- Supervised by Dr. Barbara E. Liedl

3. Graduate Teaching Assistant, WVSU Jan 2021 – May 2021

- Fundamentals of Biology (BIOL 120) and Cell Biology laboratories (BIOL 385): My responsibilities were giving short lecture on the lab's background, explaining protocols, and working along with the students to perform the lab experiments. I was also involved in grading the labs, assignments, and essays.
- Supervised by Dr. Timothy Ruhnke and Dr. Katherine Harper

4. **Research Assistant, National Maize Research Program (NMRP), Nepal** July 2020 –Dec 2020

- I assisted in field research by working on field layout, crossing lines, evaluation and characterization of hybrid varieties, etc.
- Supervised by Technical Officer Mr. Damodar Gautam, Rampur, Chitwan, Nepal

5. **Agriculture Field Officer, Creation of Innovative Society (CIS), Nepal** Dec. 2019 – June 2020

- USAID funded Project on "Increasing Community Capacity for Climate Adaptation and Fisheries Co-Management". My responsibilities included promoting climate smart practices among rural villages of Mahendranagar, Nepal. I was involved in managing seedling production, tunnel tomato production, integrated aquaculture practices and pointed gourd (*Trichosanthes dioica*) farming (famous in that region).
- Supervised by Ms. Rosna Thapa (Program Coordinator)

6. **Undergraduate Research, IAAS, Tribhuvan University** January 2019- August 2019

- UG Thesis/Project: Study on variability, correlation and path coefficient analysis of yield attributing traits in 6 genotypes of lentil (Lens culinaris) at IAAS, Paklihawa, Nepal.
- Supervised by Asst. Prof. Ganga Ram Kohar, Tribhuvan University.

7. **Research Assistant, Lumbini Seed Company, Nepal** Feb. 2016 – April 2019

- I was involved in planning and performing nucleus seed production, maintenance breeding, and varietal selection of different crops. Usually, the seed company receives several varieties from CIMMYT, ICRISAT, and IRRI which we evaluate in comparison to the prevalent varieties in the market before recommending to the farmers.
- Supervised by Asst. Prof. Ganga Ram Kohar, Tribhuvan University.

PUBLICATIONS, ABSTRACTS AND POSTER PRESENTATIONS (* 1st author)

- **Ghimire, D**.*, Coulibaly, I., De Vos, D., Baert, J., and Robbins, K.R. 2025. UAV based Remote Sensing for Spatial Modeling and Sparse Phenotyping in Crop Fields. **Poster (#109)** Presented at NAPB Annual Meeting, Kona, Hawaii. Abstract. Page 114. https://napbannualmeeting.org/wp-content/uploads/2025/05/NAPB_2025_Booklet_Digital_VF2.pdf

- **Ghimire, D**.*, Bacher, H.*, Mosher, S.*, Twohey III, R.J., Studer, A.J., Robbins, K.R., and Gore, M.A. 2024. Enhancing Predictive Accuracy of Key Agronomic Traits Using a Hierarchical Bayesian Approach Integrating Omics Data. **Poster** Presented at the CROPPS Annual Meeting, Tucson, Arizona.

- Thapa, R., Kunze, K., **Ghimire, D**., Hansen, J., Pierce, C., Moore, V., Ray, I., Wickes-Do, L., Morales, N., Sabadin, F., Santantonio, N., Gore, M.A., Robbins, K.R. 2024. Remote Sensing for Estimating Genetic Parameters of Biomass Accumulation in Alfalfa. [Conference "NAAIC, Trifolium, & Grass Breeders" Presentation], Pasco, Washington. Page1. https://www.naaic.org/Meetings/National/2024meeting/29-Moore.pdf
- Russell. L*, **Ghimire. D**, Agosto. F, Chotai. M, Kunze. K, Thapa. R, and Robbins. K.R. 2024. Modeling Alfalfa Growth using Remote Sensing Data [**Poster** presentation] BTI, Ithaca, NY
- **Ghimire. D*,** Chotai. M, and Robbins. K.R. 2023. A Hierarchical Bayesian Approach to Genomic Prediction Using Crop Growth Models [**Poster** presentation] CROPPS, Urbana-Champaign, IL
- **Ghimire. D***, K. Chhetri, Payne. D and Liedl. B.E. 2023. Roadblocks to improving tomato vintage varieties. [**Poster** presentation] PAG 30, San Diego, CA
- Chhetri. K, **Ghimire. D**, Payne.D, and Liedl. B. E. 2023. Would the Real "Cherokee Purple" Please Stand Up?: Challenges in Using Vintage Varieties [**Poster**] PAG 30, San Diego, CA
- **Ghimire. D***, Gautam.S, Payne.D, and Liedl. B. E. 2022. Investigating Floral and Pollen Traits as Possible Barriers to Fruit and Seed Production in Improving Vintage Tomato Varieties. [**Oral** presentation] ASHS, Chicago, IL
- Chhetri. K, **Ghimire. D**, Gautam.S, Payne.D, and Liedl. B. E. 2022. Challenges in Selecting a Seed Source to Use for Improving Vintage Tomato Varieties. [**Oral** presentation] ASHS, Chicago, IL
- **Ghimire. D***, Gautam.S, Payne.D, and Liedl. B. E. 2022. Accelerating the Improvement of Vintage Tomato Varieties with Multiple Pest Resistances and Evaluating Reproductive Barriers Encountered. [**Poster** presentation] NAPB, Des Moines, IA.
- **Ghimire, D.*,** Gurung, A., Kunwar, S., Paudel, A., Poudel, R. P., & Kohar, G. R. (2020). Variability, Correlation and Path Coefficient Analysis for Agro-Morphological Traits in Lentil (*Lens culinaris*) Genotypes. *Syrian Journal of Agriculture Research*, *7*(3), 480-489. (Link)
- **Book chapter: Ghimire, D***., & Poudel, P. B. (2017). Mathematics. In *A Complete Preparation Book GEMS* (2nd ed., Vol. 1, p. 290). HAVS, Nepal.

AWARDS, SCHOLARSHIPS AND FELLOWSHIP

- **Travel Grant** from National Association of Plant Breeders (NAPB) (USD 1,000) 2025
- **Travel Grant** from Cornell University for supporting travel to NAPB (USD 1,300) 2025
- **Travel Grant** for Conference on Water, Climate, and Food Security, Texas (USD 3,000) 2023
- National Association of Plant Breeders (NAPB) **Borlaug** Scholar 2022
- **Travel Grant** NAPB Annual Meeting (USD 2,000) 2022
- Book scholarship, WVSU (USD 200) Spring 2022
- Dr. Ida Kramer Scholarship, WVSU (USD 700) Spring 2022

- Erasmus Mundus Plant Breeding Scholar (Declined) 2021
- Golden Jubilee Scholarship from the Government of India (USD 1,000) 2015-2016
- B.Sc. Academic Merit Scholarship, Tribhuvan University, Nepal (USD 5,000) 2015-2019
- Mahatma Gandhi Scholarship from the Government of India (USD 500) 2013-2014

SKILLS

Plant Breeding & Genetics

- **Quantitative Genetics & Statistical Modeling:** Frequentist statistics, Bayesian Statistics, Crop Growth Modeling
- **Phenotyping & Imaging:** Remote sensing including Unmanned Aerial Vehicle (UAV) and LiDAR, Flower, Pollen & Fruit Imaging, In Vivo & In Vitro Pollen Analysis
- **Molecular Breeding Techniques:** Marker-Assisted Selection (MAS), PCR, DNA & RNA Extraction, Gel Electrophoresis, Library Preparation
- **Breeding Techniques:** Making Crosses, Experimental designs, Pollination & Hybridization

Related to Computational & Data Analysis

- **Programming & Statistical Tools:** R/RStudio, Python, SPSS, JMP
- **Data & Image Analysis:** Pix4D, ImageBreed, Tomato Analyzer
- **Bioinformatics & Open-Source Tools:** Bio-Linux, Terminal
- **Research & Citation Management:** Zotero, Mendeley, EndNote
- **Version Control & Reproducibility:** GitHub, Jupyter Notebook
- **Productivity Tools:** MS Office (Word, Excel, PowerPoint)

Languages

- **Spoken & Written:** Nepali, English, Hindi

PROFESSIONAL INVOLVEMENTS

Peer Review Activities: Reviewer for

- **Agronomy** Journal
- International Journal of Plant & Soil Science
- Journal of Experimental Agriculture International
- Journal of Scientific Research and Reports
- Journal of Advances in Biology & Biotechnology
- Asian Journal of Biotechnology and Genetic Engineering

Professional Memberships

- National Association of Plant Breeders (NAPB) 2022 - Present
- Plant Breeding and Genetics Society of Nepal (PBaGSoN) 2023 - Present
- Nepalese Agricultural Professionals of Americas (NAPA) 2024 - Present
- Minorities in Agriculture, Natural Resources & Related Sciences (**MANRRS**), Cornell Chapter Fundraising Chair 2024- Present
- American Society for Horticultural Science (ASHS) Student Member 2022–2023

Leadership and Committee Roles

- President of "Synapsis" - A Plant Breeding Student Organization at Cornell 2025 - Present
- Graduate & Professional Student Assembly (GPSA), Cornell Voting Member and Communication officer 2023 - 2025

- NAPA Student Committee Member 2024 - Present
- SYNAPSIS (Plant Breeding Student Organizations) Historian/Professional Development/International Student Committee 2024- 2025
- GPSA Diversity & Inclusion Student Committee Member 2023 – 2024

Global and Outreach Engagement

- Global Youth **Ambassador**, *Their News Their World* 2018–2021
- Exchange **Coordinator**, *Amnesty International Paklihawa Network* 2017–2018
- ICT Coordinator, *YES-Agriculture*, Nepal 2017–2018
- Public Relations Coordinator, ***Amnesty** International Paklihawa Network* 2016–2017
- Board Member, *National Youth Council, Paklihawa* 2018–2020

MENTORSHIP EXPERIENCE

- Ankai Jin (REU Summer Student, Research Mentee, Cornell University) Summer 2025
- Leland Russell (REU Summer Student, Research Mentee, Cornell University) Summer 2024
- Connor Lafo (REU Summer Student, Social Mentee, Cornell University) Summer 2024
- Kamal Chhetri (MS Student, WVSU) 2021-2023
- William Reid (Undergraduate Student, WVSU) 2023
- Pierce Reesman (Undergraduate Student, WVSU) 2021-2022
- Kyrstal Moles & Angel Barker (High School Summer Student, WVSU) Summer 2022
- Santosh Joshi (Technical officer, CIS, Nepal) 2020
- Deepa Dhami, Nirmala Joshi (High School Summer Students, CIS, Nepal) 2020
- Lalit B. Chhetri (Undergraduate student, Lumbini Seed Company, Nepal) 2018-2019

CO-CURRICULAR PARTICIPATION

- **Synapsis workshop on "The Way to My First Job' led by the NAPB Commercial Plant Breeding Committee** **2025**

  The session was focused for graduate students and postdocs to provide valuable guidance on navigating the hiring process in the private sector. Expert speakers included Klaus Koehler (Corteva), Chibwe Chungu (Syngenta), Samantha McConaughy (Bayer), Liana Nice (Corteva))
- **Panelist for Twin Cities Discussion** **2024**

  Represented cultural ties between mayors and cities of Pokhara, Nepal, and Ithaca, USA to promote culture, tourism and business between these two twin cities
- **CyVerse's 10 weeks virtual workshop on "Foundational Open Science Skills"** **2023**

  I learnt how to using open-source tools, organize data, manage lab and research work through GitHub and personal websites (github.io), and collaborate with colleagues across institutional boundaries and reserach domain.

- **Student member of the Planning committee and a moderator for the "Conference on Water, Climate, and Food Security" organized by PVAMU and Texas A&M, Texas 2023**
  I was involved from the beginning in planning the conference which included creating a checklist of tasks and evaluating their completion. I was also actively involved in providing student's perspectives on various events, food, and performances throughout the conference.
- **Moderator and oral presenter at ASHS "Vegetable Breeding" session 2022**
  I moderated the session where I had to ensure smooth transitions between speakers, make sure each speaker present within the time limit and engage the audience in discussion. I also gave my first ever oral research talk at the session.
- **Workshop "SNPs to Stories", Alliance for Science, Cornell, Tuskegee, FFAR 2022**
  The workshop focused on how to communicate science among non-science audiences and make a meaningful impact of your work.
- **Training on 'IPM Program for Small Farmers", Caritas, Nepal 2017**
  This hands-on training involved planting Okra and evaluated the performance of various organic pesticide treatments over six months.
- **Participated in 'Nepal Climate Convergence, Kathmandu, Nepal 2018**
  We involved actively on summarizing climate change impacts in Nepal and globally, discussing strategies to mitigate those impacts, and identifying topics to be raised at the United Nations Climate Change Conference (COP) from Nepal.
- **Organized and participated in 'Lumbini Climate Convergence', Nepal 2017**
  I, along with a team of climate enthusiasts, invited speakers and national climate activists to discuss and provide hands-on training on climate smart practices and sustainable development in Nepal. I was responsible for inviting speakers, managing participants through applications, and coordinating logistics, including lodging, fooding, transportation and other arrangements.
- **Participated in 'Asia-Pacific Peace and Development Service Alliance, Lalitpur, Nepal 2016**
  This was my first international meeting, where I learned about global peace and development issues. We also volunteered for a Bagmati river cleaning project as part of the event which was a great experience for me.

REFEREES

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