

Akanksha Hada

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PROFILE

Immunologist-in-training with expertise in **primary T cell isolation, cell culture, and functional assays**. Experienced in studying **T cell activation and function** using primary lymphocytes, such as peripheral T cells and tissue-resident intestinal intraepithelial T lymphocytes (T-IELs). Skilled in applying **flow cytometry, molecular techniques, and cell-based assays** to uncover immune mechanisms. Recognized for quick learning, collaborative mindset, teamwork, and leadership in academic and research environments.

EDUCATION

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- Ph.D. (Animal Sciences), University of Maryland, Department of Animal and Avian Sciences, College Park, Maryland (August 2021 - Expected May 2026)
 - Grad Cumulative GPA: 3.921 / 4.0.
 - B.V.Sc. & AH., Agriculture and Forestry University, Rampur, Chitwan, Nepal (October 2013 - October 2018)
 - GPA: 3.68 / 4.0.

RESEARCH SKILLS & TECHNIQUES

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- **Flow Cytometry:**
 - Multicolor FACS, cell sorting, data analysis (FlowJo).
 - **Cell Isolation and Culture:**
 - Isolate and culture primary immune cells, including peripheral T cells and intestinal intraepithelial T lymphocytes (T-IELs) from cattle and mice.
 - Culture and maintain established cell lines such as C2BBel (intestinal epithelia), B16-OVA (melanoma), and NIH 3T3 (fibroblast).
 - **Cell Therapy Techniques:**
 - Ex-vivo T cell activation studies evaluated using immune modulation assays, including phenotyping, cytokine profiling, cell proliferation assays, and co-culture systems.
 - **Molecular Techniques:**
 - RNA isolation, cDNA synthesis, RT-PCR, qPCR, and antibody staining.
 - **Software Proficiency:**
 - Flowjo, GraphPad Prism, Ingenuity Pathway Analysis, SnapGene, and AlphaFold.
 - BioRender, Adobe Illustrator and Procreate for scientific imaging and visualization.
 - Microsoft Word, PowerPoint, and Excel for documentation, presentation, and data analysis.

PUBLICATIONS

- Hada, A., & Xiao, Z. (2025). T Cell Responses to Influenza Infections in Cattle. *Viruses*, 17(8), 1116. <https://doi.org/10.3390/v17081116>
- Hada, A., & Xiao, Z. (2025). Ligands for Intestinal Intraepithelial T Lymphocytes in Health and Disease. *Pathogens*, 14(2), 109. <https://doi.org/10.3390/pathogens14020109>
- Hada, A., Li, L., Kandel, A., Jin, Y., & Xiao, Z. (2023). Characterization of Bovine Intraepithelial T Lymphocytes in the Gut. *Pathogens*, 12(9), 1173. <https://doi.org/10.3390/pathogens12091173>
- Kandel, A., Hada, A., & Xiao, Z. (2022). Are CD45RO⁺ and CD45RA⁻ genuine markers for bovine memory T cells? *Animal Diseases*, 2(1). <https://doi.org/10.1186/s44149-022-00057-5>
- Kandel, A., Li, L., Hada, A., & Xiao, Z. (2022). Differential Expression of CD45RO and CD45RA in Bovine T Cells. *Cells*, 11(11). <https://doi.org/10.3390/cells11111844>

SCHOLARLY PRESENTATIONS

- **Oral presentation** on the topic "Activation of Bovine Intraepithelial T Lymphocytes in the Gut" at the ANSC 38th Annual Symposium, University of Maryland, College Park, 2025.
- **Oral presentation** on the topic "Characterization of Bovine Intraepithelial T Lymphocytes in the Gut" at the ANSC 37th Annual Symposium, University of Maryland, College Park, 2024.
- **Oral presentation** on the topic "Understanding Cattle Gut Immunity: A Study of Intraepithelial T Lymphocytes" at the 4th NAPA Biennial International Scientific Conference, Baltimore, Maryland, 2024.
- **Oral presentation** on the topic "Characterization of Bovine Intraepithelial T Lymphocytes in the Gut" at the Conference of Research Workers in Animal Disease (CRWAD), Marriott Downtown Magnificent Mile, Chicago, 2024.
- **Poster presentation** on the topic "Characterization of Bovine Intraepithelial T Lymphocytes in the Gut" at the AGNR Cornerstone Event 2023, University of Maryland, College Park, Maryland.
- **Poster presentation** on the topic "Exploring the Crucial Role of $\gamma\delta$ T Cells in Gastrointestinal Mucosal Immunity: Insights from the Cattle Model" at the ANSC 36th Annual Symposium, University of Maryland, College Park, 2023.
- **Oral presentation** on the topic "A Journey to Effective Vaccines in Cattle through Immunology" at the Dean's Global Leadership Council Lunch Meeting 2022, Marriott Hotel, College Park, Maryland.
- **Poster presentation** on the topic "Bovine $\gamma\delta$ T Cells in Gastrointestinal Mucosa" at the ANSC 35th Annual Symposium, University of Maryland, College Park, 2022.

FELLOWSHIPS, AWARDS, AND GRANTS

- **Ann G. Wylie Dissertation Fellowship** for Spring 2026, from the Graduate School at the University of Maryland (UMD).
- **AAVI 1st Place Oral Presentation**, awarded by the American Association of Veterinary Immunologists (AAVI) at the Conference of Research Workers in Animal Disease (CRWAD), 2024.

- **Graduate Student Summer Research Fellowship** for Summer 2024, from the Graduate School at the University of Maryland (UMD).
- **Conference of Research Workers in Animal Disease (CRWAD) Student Travel Grants**, 2023.
- **Jacob K. Goldhaber Travel Grants**, 2023, provided by the Graduate School at the University of Maryland (UMD).
- **Outstanding Graduate Assistant Award**, 2022, from the Graduate School at the University of Maryland (UMD).
- **Dean's Fellowship**, 2021-2022, from the Graduate School, UMD.

MENTORSHIP EXPERIENCE

- **Graduate Student Mentor**, Xiao Lab, University of Maryland, 2024
 - Supervising and training a graduate student.
- **Graduate Student Mentor**, Xiao Lab, University of Maryland, 2022
 - Supervised and trained an undergraduate student, focusing on immunology lab techniques.

LEADERSHIP EXPERIENCE

- **President**, Animal Sciences Graduate Student Association (ASGSA), 2024-2025, Department of Animal and Avian Sciences, University of Maryland, College Park, USA.
- **Organization Administrator**, Nepali Graduate Students Association (NGSA), 2024, University of Maryland, College Park, USA.
- **GJAAS Editorial Assistant**, Association of Nepalese Agricultural Professionals of Americas (NAPA), 2024, USA.
- **Member**, ANSC Diversity, Equity, Inclusion & Respect (DEIR) ad hoc committee, University of Maryland, College Park, USA.
- **Volunteer**, Association of Nepalese Agricultural Professionals of Americas (NAPA), Communications Committee, 2024, USA.
- **General Member**, American Association of Veterinary Immunologists (AAVI), USA.
- **General Member**, Society for Mucosal Immunology, USA.
- **General Member**, Poultry Science Association (PSA), USA.
- **Coordinator**, Cultural program, Association of Nepalese Agricultural Professionals of Americas (NAPA), 4th NAPA Biennial International Scientific Conference, 2024, Baltimore, Maryland, USA.

TEACHING EXPERIENCE

- **Graduate Teaching Assistant**, ANSC103: Principles of Animal Science Laboratory Fall 2025, University of Maryland, College Park.
- **Graduate Teaching Assistant**, ANSC103: Principles of Animal Science Laboratory Fall 2024, University of Maryland, College Park.

- **Graduate Teaching Assistant**, ANSC103: Principles of Animal Science Laboratory Fall 2023, University of Maryland, College Park.
- **Graduate Teaching Assistant**, ANSC103: Principles of Animal Science Laboratory Fall 2022, University of Maryland, College Park.
- **Graduate Teaching Assistant**, ANSC103: Principles of Animal Science Laboratory Spring 2022, University of Maryland, College Park.

INVITED TALKS

- **Guest lecturer**, Cross-cultural Anthrozoology, Canisius University, Buffalo, New York, 2024.
- **Guest Speaker**, ANSC Career Night, University of Maryland, College Park, 2025.

CAREER HISTORY

- Lecturer, Nepal Polytechnic Institute, Chitwan, Nepal (May 2021 – July 2021)
- Technical Sales Executive, New Hope Agro Business Private Limited, Chitwan, Nepal (March 2019 - July 2021)
- Technical Veterinary Officer, Annapurna Veterinary Centre, Banepa, Nepal (September 2018 - March 2019)
- Assistant Veterinary Surgeon, Animal Nepal, Animal Birth Control Program, Lumbini, Nepal (July 2018 - August 2019)
- Intern, Central Veterinary Hospital, Tripureshwor, Nepal (February 2018 - August 2018)

REFERENCE

- Dr. Zhengguo Xiao (xiao0028@umd.edu)