

Personal details and date of CV

Date: January 2, 2025

Pokharel Kisun, ORCID: 0000-0002-4924-946X

Degrees

08.12.2020, PhD, Genetics, University of Helsinki, Finland

01.12.2012, MSc, Bioinformatics, University of Turku, Finland

06.12.2008, BSc, Applied Biotechnology, Sikkim Manipal University of Health, Medical and Technological Sciences, Gangtok, Sikkim, India

Current employment

01.01.2015 to present: Senior Scientist (Stage III), Natural Resources Institute Finland (Luke), Jokioinen, Finland

Previous work experience

09.2013 – 06.2017: Guest Researcher, University of Eastern Finland, Kuopio, Finland

01.06.2013 – 30.06.2013: Exchange Researcher, Swedish University of Agricultural Sciences, Uppsala, Sweden

01.11.2012 – 31.12.2014: Researcher, MTT Agrifood Research Finland, Jokioinen, Finland

03.2012 – 10.2012: Project Researcher, Department of Biochemistry and Food Chemistry, University of Turku, Turku, Finland

09.2011 – 02.2012: Research Assistant, Institute of Biotechnology, University of Helsinki, Helsinki, Finland.

03.2011 – 08.2011: Research Assistant, Department of Biochemistry and Food Chemistry, University of Turku, Turku, Finland.

Research funding and grants

01.2025 – 12.2025: Strategic funding by Natural Resources institute Finland, Luke. Amount of funding: €100,000. Research title: Decoding polyploidy genomics to enhance breeding of European whitefish and Oat.

08.2009 – 04.2010: EURECA (Erasmus Mundus External Cooperation Window project) Mobility Grant provided by Malardalen University, Sweden to study master's degree programme in Bioinformatics at University of Turku. Total funding: €18,000.

01.2013 – 12.2013: PhD grant provided by Jenny and Antti Wihuri Foundation. Total amount: €22,000. PhD project: Molecular and quantum mechanical studies of membrane-integral pyrophosphatases.

11.01.2019: Thesis finalizing grant by Niemi Foundation. Total amount: €6,000. PhD project: Functional fertility genomics in sheep. Applicant: Kisun Pokharel

Research output

Relevant Publications:

Total number of publications: 22

Kellosalo, J., Kajander, T., Kogan, K., **Pokharel, K.**, Goldman A. The structure and catalytic cycle of a sodium-pumping pyrophosphatase. *Science* 2012; **337**: 473–476. doi: 10.1126/science.1222505

Pokharel, K., Peippo, J., Honkatukia, M., Seppälä, A., Rautiainen, J., Ghanem, N., Hamama, T-H., Crowe, MA., Andersson, M., Li, M-H., and Kantanen J. (2018). Integrated ovarian mRNA and miRNA transcriptome profiling characterizes the genetic basis of prolificacy traits in sheep (*Ovis aries*). *BMC Genomics* 19. doi: 10.1186/s12864-017-4400-4

Pokharel, K., Weldenegodguad, M., Popov, R., Honkatukia, M., Huuki, H., Lindeberg, H., Peippo, J., Reilas, T., Zarovnyaev, S., and Kantanen, J. (2019). Whole blood transcriptome analysis reveals footprints of cattle adaptation to sub-arctic conditions. *Animal Genetics* 50, 217–227. doi: 10.1111/age.12783

Pokharel, K., Peippo, J., Li, M.-H., and Kantanen, J. (2020a). Identification and characterization of miRNAs during early pregnancy in domestic sheep. *Animal Genetics* 51, 833–836. doi: 10.1111/age.12992

Pokharel, K., Weldenegodguad, M., Dudeck, S., Honkatukia, M., Lindeberg, H., Mazzullo, N., Paasivaara, A., Peippo, J., Soppela, P., Stammler, F., and Kantanen, J. (2023). Whole-genome sequencing provides novel insights into the evolutionary history and genetic adaptation of reindeer populations in northern Eurasia. *Sci Rep* 13, 23019. doi: 10.1038/s41598-023-50253-7

Ruvinskiy, D., Amaral, A., Weldenegodguad, M., Ammosov, I., Honkatukia, M., Lindeberg, H., Peippo, J., Popov, R., Soppela, P., Stammler, F., Uimari, P., Ginja, C., Kantanen, J., and **Pokharel, K.** (2024). Adipose gene expression profiles in Northern Finncattle, Mirandesa cattle, Yakutian cattle and commercial Holstein cattle. *Scientific Reports* 14, 22216. doi: 10.1038/s41598-024-73023-5

Strandén, I., Kantanen, J., Russo, I-RM., Orozco-terWengel, P., Bruford, MW., and Climgen Consortium. Genomic selection strategies for breeding adaptation and production in dairy cattle under climate change. *Heredity* 2019; **123**: 307–317.

Research supervision and leadership experience

Supervisor of doctoral researchers: Principal supervisor for 2 doctoral researchers in the Doctoral programme in sustainable use of natural resources. University of Helsinki, Finland

Co-supervisor for one doctoral researcher in the Doctoral programme in sustainable use of natural resources, University of Helsinki, Finland

Foreign Supervisor for one doctoral researcher at Kazakh National Agrarian Research University, Kazakhstan

Supervisor of master's theses: Principal supervisor of one master's student in the Faculty of Agriculture and Forestry, University of Helsinki, Finland

Co-supervisor for one master's student in the Department of Environmental and Biological Sciences, University of Eastern Finland, Finland

Provided bioinformatics training to postdoc Dr. Yang Ji and PhD researcher Xiaoju Hu in 2016. Dr. Ji was visiting for six months and Xiaoju Hu was visiting for one year.

Teaching merits

Pedagogical training:

University Pedagogy Studies: Becoming a Higher Education Teacher (2 ECTS) and Digital and interactive teaching and learning (3 ECTS), Open University of Turku. Turku, Finland.

Teaching experience:

Introduction to Bioinformatics (3 ECTS) and Introduction to Structural Bioinformatics (4 ECTS) at

University of Turku
Introduction to statistics (5 ECTS), University of Eastern Finland

Awards and honours

08.2012: Best poster award: 21st Annual Biocity Symposium, Turku, Finland

Other key academic merits, such as**Invited talks:**

22.08.2024: Sequencing and assembly of Finnsheep genome. 36th InterNorden meeting, Vaasa, Finland

06.01.2024: Sequencing and assembly of Finnsheep genome. The 4th World Congress on Sheep, Beijing, China, 2024

06.05.2021: Genome sequence and comparative analysis of reindeer (*Rangifer tarandus*) in Northern Eurasia. North American Caribous Workshop (NACW2021), Online

Other

Since 01.01.2024 - Member, Early Career Committee, Natural Resources Institute Finland (Luke)

Memberships (current): FAANG (Functional Annotation of Animal Genomes) project, EU-LI-Phe (European Network on Livestock Phenomics) COST Action,