

Raphaela Pensch

CANCER GENOMICS PHD STUDENT

Uppsala, Sweden

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Education

PhD Cancer Genomics

UPPSALA UNIVERSITY, DEPARTMENT OF MEDICAL BIOCHEMISTRY AND MICROBIOLOGY (IMBIM)

- **Supervisors:** Prof. Kerstin Lindblad-Toh (main), Prof. Karin Forsberg Nilsson
- **Swedish Bioinformatics Advisory Program, 2022-2023**

Uppsala, Sweden

10/2021 - present

MSc Bioinformatics

UPPSALA UNIVERSITY

- **GPA:** 5.0/5.0
- **Thesis supervisor:** Prof. Kerstin Lindblad-Toh

Uppsala, Sweden

09/2019 - 06/2021

BSc Food Science and Biotechnology

BOKU UNIVERSITY

- **Exchange semester** at the University of Galway, Ireland
- **Thesis supervisors:** Dr. Elsa Arcalis, Prof. Eva Stöger

Vienna, Austria

09/2015 - 05/2019

Experience

Lindblad-Toh lab, Uppsala University

PHD STUDENT

- Computational method development to identify non-coding driver mutations
- Identification of non-coding drivers in WGS of brain cancers, osteosarcoma, and a pan-cancer cohort
- Validation of glioblastoma cell lines as models to study non-coding mutations using matched tumor and cell line WGS
- Comparative cancer genomic analysis of canine and human osteosarcoma
- WGS of matched canine osteosarcoma primary tumors and metastases to study metastatic progression

Uppsala, Sweden

10/2021 - present

Lindblad-Toh lab, Uppsala University

RESEARCH ASSISTANT

- Evolutionary dynamics of glioblastoma cells in culture using tumor and matched cell line WGS

Uppsala, Sweden

07/2021 - 09/2021

Lindblad-Toh lab, Uppsala University

MASTER'S DEGREE PROJECT

- Characterization of non-coding constraint mutations in human osteosarcoma

Uppsala, Sweden

11/2020 - 06/2021

Ellegren lab, Uppsala University

RESEARCH INTERN

- Natural selection in closely related *Ficedula* flycatcher species

Uppsala, Sweden

09/2020 - 10/2020

Himmelbauer lab, BOKU University

RESEARCH INTERN

- *De novo* assembly of the sugar beet genome using PacBio HiFi reads

Vienna, Austria

07/2020 - 08/2020

Center for Health and Bioresources, AIT Austrian Institute of Technology

SUMMER INTERN

- Screening of soil microorganisms for biocontrol properties

Tulln, Austria

08/2018 - 10/2018

Stoeger lab, BOKU University

BACHELOR'S DEGREE PROJECT

- Transmission electron, fluorescence and light microscopy to characterize extracellular vesicles in maize

Vienna, Austria

06/2018 - 07/2018

Publications

Sugar beet long-read reference assembly of genotype KWS2320

NAR GENOMICS AND BIOINFORMATICS (2025)

J. Dohm, T. Holzweber, [R. Pensch](#), H. Himmelbauer

Genetics of canine cancer: a guide for the veterinary oncologist

VETERINARY ONCOLOGY (2025)

M.L. Arendt, A.D. van der Heiden, [R. Pensch](#), K. Lindblad-Toh

Characterization of the genomic landscape of canine diffuse large B-cell lymphoma reveals recurrent H3K27M mutations linked to progression-free survival

SCIENTIFIC REPORTS (2025)

A.D. van der Heiden, [R. Pensch](#), S. Agger, H.L. Gardner, W. Hendricks, V. Zismann, S. Wong, N. Briones, B. Turner, K. Forsberg-Nilsson, C. London, K. Lindblad-Toh, M.L. Arendt

Using evolutionary constraint to define novel candidate driver genes in medulloblastoma

PNAS (2023)

A. Roy, S. Sakthikumar, S.V. Kozyrev, J. Nordin, [R. Pensch](#), S. Mäkeläinen, M. Pettersson, Zoonomia Consortium, E.K. Karlsson, Kerstin Lindblad-Toh, K. Forsberg-Nilsson

Honors & Awards

AWARDS

2024 **Best Talk Award by the scientific organizing committee**, International Conference of Canine and Feline Genetics and Genomics

GRANTS

2025 **Travel grant**, The Swedish Cancer Society

2025 **Travel grant**, Department of Medical Biochemistry and Microbiology, Uppsala University

2023 **Travel grant**, SciLifeLab and EMBL

2023 **Travel grant**, EMBL Corporate Partnership Programme

CONFERENCE TALKS

2025 **CSH Biology of Genomes**, Oral presentation

2024 **International Conference of Canine and Feline Genetics and Genomics**, Oral presentation

2024 **PhenoTarget symposium**, Oral presentation

2023 **EMBL Cancer Genomics Conference**, Flash talk

2022 **Brain Tumor Meeting Berlin**, Oral presentation

Extracurricular activities

Swedish Bioinformatics Workshop 2024

CONFERENCE ORGANIZING COMMITTEE MEMBER

- Two-day conference and workshops for 200 on-site participants

[Uppsala, Sweden](#)

01/2024 - 11/2024

IMBIM Equal Opportunities Group

PHD STUDENT REPRESENTATIVE

- Point of contact and advocate for equality, inclusion, and anti-discrimination

[Uppsala, Sweden](#)

01/2023 - 10/2025

IMBIM PhD student association

CHAIR OF THE BOARD

- Previous roles: vice-chair (2023), treasurer (2022)
- Representation of PhD students at the department level
- Networking events and career seminars for up to 50 participants

[Uppsala, Sweden](#)

09/2022 - 10/2025

Teaching

Genome Analysis

MSC BIOINFORMATICS PROGRAM

- Guest lecture on cancer genome analysis

Uppsala University

05/2024 - present

Medical Cell Biology

MEDICINE PROGRAM

- Teaching assistant (wet lab)

Uppsala University

01/2024 - present

Comparative Genomics for Biomedicine

MSC MEDICAL RESEARCH PROGRAM

- Teaching assistant

Uppsala University

09/2022 - present

Bioinformatics

MSC MEDICAL RESEARCH PROGRAM

- Teaching assistant, project supervisor

Uppsala University

01/2022 - present

Skills

Languages	German (Native), English (Fluent), French (Intermediate), Swedish (Beginner)
Programming	Python, Bash, R, SQL
Tools	Linux/Unix, SLURM, Git, GitHub, Conda, Snakemake