Dr. Amit Fenn — Computational Biologist

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Core Competencies

Big-Data analysis: Meta-analysis, SLURM, Flux, Snakemake and Nextflow pipelines, Containerisation

Bio-Statistical Methods: Disease subtyping, mechanistic molecular interpretations, differential expression analysis, co-expression analysis, Comparative cross species transcriptomic analysis, Pangenome analysis, Metagenomics

Programming: Python (6+ years), R (7+ years), statistical modeling, data visualization, reproducible research, Sys-admin

Bioinformatic Tool Dev: Benchmarking, Web server DevOps, Git maintainer for team based projects

Leadership: Course development, business operations, volunteer management, international collaborations

Professional Experience

TUM School of Life Sciences — **Munich, Germany**
Postdoctoral Researcher — *Feb 2024–Present*
Computational Plant Biology Group - Supervisor: Prof. Dr. Nadia Kamal

- **Lead multi-site genomic studies** with international research partners across Europe and North America
- **Supervise students** (B.Sc./M.Sc. levels) on analytical projects and research development
- **Develop and maintain** analytical pipelines for large-scale cross species, transcriptomics data processing

Helmholtz Munich — **Munich, Germany**
Postdoctoral Researcher — *Jan 2023–Jan 2024*
Genomics and AI for One-Health Lab

- **Analyzed time-series data** to track microbial community changes and identify ecological patterns
- **Co-supervised Ph.D. student** on statistical methods development for ecological data analysis
- **Served as Lab IT representative**, managing computational infrastructure and quality control protocols
- **Co-authored manuscript** on biomonitoring applications published in bioRxiv (2023)

Technical University of Munich — **Munich, Germany**
Ph.D. Researcher — *Oct 2019–Nov 2022*
Project: Towards Reproducibility in Alternative Splicing Analysis - Supervisor: Prof. Dr. Markus List

- **Analyzed and managed RNA-seq data** from cardiac disease patients with access control protocols and quality assurance to identify disease biomarkers and therapeutic targets
- **Performed meta-analysis** across multiple clinical studies (3 RNA-Seq studies focusing on Dilated Cardiomyopathies)
- **Conducted case-control analysis** to identify disease-associated patterns in human cardiac cohorts
- **Developed DICAST platform** for benchmarking 20+ analytical methods for robust splice detection
- **Supervised 7 students** on clinical data analysis projects including internships and thesis projects
- **Presented research** at 2 international conferences on clinical bioinformatics (ISMB, ECCB)

Omegametrix GmbH — **Planegg, Germany**
Student Researcher — *Nov 2018–Feb 2019*

Education

Technical University of Munich — **Munich, Germany**
Ph.D. in Bioinformatics — *2019–2022*
Focus: **Statistical analysis of human cardiac disease using clinical RNA-seq data**

Ludwig-Maximilians University — **Munich, Germany**
M.Sc. in Biology — *2017–2019*
Specialization: Cell Biology & Biochemistry

Bangalore University — **Bangalore, India**
M.Sc. in Molecular Biology — *2013–2015*

Selected Publications (1 First Author, 7 Co-author publications)

2024: Avni R, Kamal N, [...], **Fenn A**, [...] et al. A pangenome and pantranscriptome of hexaploid oat. *bioRxiv* (preprint). https://www.biorxiv.org/content/10.1101/2024.10.23.619697v1

2023: Reska T, Pozdniakova S, [...], **Fenn A**, [...], Urban L. Air monitoring by nanopore sequencing. *bioRxiv*, https://www.biorxiv.org/content/10.1101/2023.12.19.572325v1?versioned=true

2023: **Fenn A**, Tsoy O, Faro T, et al. Alternative splicing analysis benchmark with DICAST. *NAR Genomics and Bioinformatics*, 5(2). DOI: 10.1093/nargab/lqad044

2023: Hackl LM, [...], **Fenn A**, [...] et al. Alternative splicing impacts microRNA regulation within coding regions. *NAR Genomics and Bioinformatics*, 5(3). DOI: 10.1093/nargab/lqad081

2023: Lio CT, Grabert G, Louadi Z, **Fenn A**, et al. Systematic analysis of alternative splicing in time course data using Spycone. *Bioinformatics*, 39(1). DOI: 10.1093/bioinformatics/btac846

2021: Manz Q, Tsoy O, **Fenn A**, et al. ASimulatoR: Splice-aware RNA-Seq data simulation. *Bioinformatics*. DOI: 10.1093/bioinformatics/btab142

2021: **Fenn A**, et al. Multi-Omics Analysis in a Network Context. *Systems Medicine*. DOI: 10.1016/b978-0-12-801238-3.11647-2

2021: Louadi Z, [...], **Fenn A**, et al. Functional enrichment of alternative splicing events with NEASE reveals insights into tissue identity and diseases. *Genome Biology*, 22:327. DOI: 10.1186/s13059-021-02538-1

Leadership & Teaching

Course Development: **"Computational Data Analysis and Bioinformatics"** - Self-designed course taught at TUM (2024-present)

Student Supervision: **Successfully mentored 15+ students** at bachelor and master levels on data analysis projects and career development

Professional Development

Dr. Fenn's **Germany**
CEO *Mar 2016–May 2017*
- **Led business operations** for retail brand of organic spice extracts using supercritical fluid extraction
- **Developed product portfolio** and managed supply chain operations

The Youth Development Program **Bangalore, India**
Founding Member *Jul 2014–Jul 2015*
- **Co-founded NGO** for social change and organized workshops for community development **Managed 150+ volunteers**

Additional Qualifications

Languages: **English (Native), German (B1), Hindi (Fluent), Malayalam (Native)**

Work Authorization: **EU residence permit**; eligible for remote work arrangements

References

Prof. Dr. Nadia Kamal: **Professor**, TUM School of Life Sciences, Technical University of Munich
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Prof. Dr. Markus List: **Professor** , TUM School of Life Sciences, Technical University of Munich
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