

Krzysztof Jurdziński

Curriculum Vitae

Education

- 2022-2027 **KTH Royal Institute of Technology, PhD in Biotechnology.**
In progress
Thesis supervisor: Anders Andersson
Prospective thesis title: Microbial ecology and evolution across salinity barriers and gradients.
- 2020-2022 **Karolinska Institutet, Stockholm University, and KTH, Joined MSc Programme in Molecular Techniques in Life Science.**
Thesis supervisor: Anders Andersson
Thesis title: Molecular evolution of bacteria transitioning to a new environment: Comparative analyses of metagenome-assembled genomes from marine, brackish and freshwater environments.
- 2017-2020 **Jagiellonian University, BSc in Biochemistry.**
Thesis supervisor: Aleksander Grabiec
Thesis title: Epigenetic DNA modifications in the pathogenesis of periodontitis: cellular mechanisms and regulation of the inflammatory response

First author publications

- May 2023 **Large-scale phylogenomics of aquatic bacteria reveal molecular mechanisms for adaptation to salinity,** *Science Advances*.
- Nov 2020 **Epigenetic regulation of inflammation in periodontitis: cellular mechanisms and therapeutic potential,** *Clinical Epigenetics*, BMC.

Interests

Microbiology, ecology, evolution, genetics/genomics, mathematical modelling, bioinformatics, biostatistics

Other research experience

Nov 2020 - **Student assistant**, *Department of Cell and Molecular Biology*, Karolinska Institutet.

Participated in a high-throughput compound screening project coordinated by Gert-Jan Hendriks in Rickard Sandberg's lab. Highly involved in automation. Participated in adjusting parts of NASC-seq and Smart-seq protocols for the project. Programmed robots (MGI-SPX960, Opentrons OT-2) to perform the protocols, using respective Python APIs.

Jun 2019 - **Amgen Scholars Programme**, *Department of Microbiology, Tumor and Cell Biology*, Karolinska Institutet.

Project under supervision of Veronika Krmeska and co-supervision of Antonio Rothfuchs. The title of the project was "Effect of Vaccinia virus and mycobacteria on dendritic cell migration to draining lymph node". Used methods included RNA isolation from mice tissue, qPCR, FACS, immunostaining and confocal fluorescent microscopy. Presented the results orally, in form of a poster and a report. The program ended with symposium at the University of Cambridge.

Jul 2017 - **Volunteer**, *Department of Molecular Microbiology*, University of Wrocław.

Aug 2017

A mini-project under supervision of Marcin Wolański. Obtained strains of Streptomyces bacteria which allow monitoring of chosen gene promoters activity using luciferase reporter genes. Verified functionality of bacterial constructs. Used methods included PCR, electrophoresis, SDS-Page, Western Blot and EMSA.

Awards & Scholarships

2021 Karolinska Institutet Scholarship *Scholarship holder*

Financial support linked to Research Assistant position in Sandberg Lab

2020 Bachelor's Degree in Biochemistry *Award of Distinction*

Grade point average: 4.86 (scale: 2.0 – 5.0)

2017 - 2019 Rector's scholarship for the best students *3x Laureate*

2017 "Matura na 100 procent" Project *Finalist*

One of the 65 overall best scores in the standardized national high school exams.

2017 XLVI Polish Biology Olympiad *Laureate*

2017 LXIII Polish Chemistry Olympiad *Finalist*

2016 XLV Polish Biology Olympiad *Science Project with Distinction*

Extracurricular activities

Oct 2023 - **Treasurer**, *KTH Students for Sustainability*.

Oct 2024 In Progress

Mar 2023 - **Vice-Chairperson**, *KTH Students for Sustainability*.

Oct 2023

Mar 2022 - **President**, *KTH Students for Sustainability*.

Mar 2023

Led the organization, organizing communication, collaboration, a series of open lectures on sustainability-related topics outside of curricula, university participation in youth climate strikes, and other events. Took different other board positions afterward (see above).

Oct 2018 - **Active member**, *Scientific Association of Biochemistry Students “N.Zyme”*.

Jul 2020

Co-organized “Science Corner”, a series of lectures by professional researchers on their work and related scientific topics. Co-initiated and co-organized the Association’s journal club. Co-organized laboratory workshops for high-school students. Actively participated in journal club and “Science Corner” meetings.