



# Elijá Friedrich-Ulrich

BSc Medical & Pharmaceutical Biotechnology · IMC KREMS, Austria

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## Summary

Final-year BSc Medical & Pharmaceutical Biotechnology student at IMC KREMS, focused on adaptive laboratory evolution, bioprocess experimentation, and data-driven microbial research with industry collaboration.

## Experience

### Scientific Staff – EcoCoat Project

Apr 2026 – present

IMC KREMS University of Applied Sciences · KREMS AN DER DONAU, AUSTRIA

- Designed and ran 21 morbidostat ALE experiments (Replifactory) with E. coli 498, up to 70% industrial reaction water.
- Built Python pipelines (pandas, NumPy, Matplotlib) to process the time-series data and track OD600 adaptation.
- Setting up Microtox ecotoxicity bioassays (Aliivibrio fischeri, in progress).
- Industry collaboration with Kansai Helios (Austria & Slovenia) on the EcoCoat FFG-funded research project.
- Set up and structured the group's eLabFTW electronic lab notebook, consolidating a Microsoft Teams import by merging 59 file-level experiments into grouped experiments and resources.
- Presented research results to Kansai Helios R&D in Slovenia and other academic and industrial partners.

### Project Intern – EcoCoat Project

Sep 2025 – Mar 2026

IMC KREMS University of Applied Sciences · KREMS AN DER DONAU, AUSTRIA

- Used adaptive laboratory evolution (ALE) to engineer E. coli that can grow on industrial reaction water from Kansai Helios Austria GmbH as a carbon source.
- Designed and ran evolution experiments, monitored adaptation gains, and analyzed carbon utilization and toxicity to support more sustainable bioprocessing.

### Food Server

May 2023 – Oct 2023

Mang Hermenegild Heurigerschank · Weißenkirchen in der Wachau, Austria

- Part-time front-of-house work in a busy Heuriger – fast service and a lot of teamwork.

### Veterinary Assistant

2020 - 2023

Praxisgemeinschaft Steindl & Kraft · Lower Austria, Austria

- Assisted with clinical procedures, diagnostics, animal handling, and daily practice operations.

## Education

### BSc Medical & Pharmaceutical Biotechnology

2023 - 2026

IMC KREMS University of Applied Sciences · KREMS AN DER DONAU, AUSTRIA

- Bachelor thesis: Adaptive Laboratory Evolution of E. coli 498 to toxic paint and resin residues in industrial reaction water.

### Advanced High School Program – Life Sciences

2019 - 2023

Mary Ward Privatgymnasium · KREMS AN DER DONAU, AUSTRIA

- Secondary education with a Life Sciences focus.

## Projects

## Next Horizon Society – Co-Founder

2025 - present

Next Horizon Society

- Co-founded a community platform for evidence-based content on health, sustainability, and personal growth.
- Responsible for long-form writing, editorial planning, and recurring newsletter publication.

## SKYDOK – Creative Pre-Incubator

2024

IMC Krems University of Applied Sciences · Krems an der Donau, Austria

- Developed drone startup concept through an intensive pre-incubator program.
- Completed workshops on business development, sales strategy, and HR fundamentals.

## Skills

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### Laboratory

Adaptive laboratory evolution (ALE) • Morbidostat / Replifactory • Microbial cultivation & fermentation • Aseptic technique • Microtox ecotoxicity bioassay (in progress)

### Bioprocess

Bioreactor operation • Design of experiments (DOE) • Dose-response characterization

### Data & Programming

Python (pandas, NumPy, Matplotlib) • JMP • Excel • Time-series analysis

### Bioinformatics

Sequence analysis • Pathway analysis (developing)

### Tools & Software

Notion • Zotero • Git / GitHub • Cursor

### Professional & Soft Skills

Project management • Business development • Sales strategy • Communication • Analytical thinking • Critical thinking  
• Workload prioritization

## Languages

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### Languages

German (native) • English (fluent)