THIJMEN WEIJGERTZE

THIRD YEAR LIFESCIENCES STUDENT

TOP 5 SKILLS

- Reliable
- Driven
- Polite
- Understanding
- Communicative

PERSONALIA

Adress
Sartrestate 24
6716SE, Ede
Netherlands

Date of Birth
- 27-01-2003

Contact
- 0630477492
- thijmen.weijgertze@student.hu.nl

Links
- Data Science portfolio
- GitHub
- LinkedIn

WORK EXPERIENCE

Iddink Nederland, Ede:
Year: Summer 2019 & 2020
Timespan: 5 to 6 week (36 hours per week)

DRIVING LICENCE

Type B

HOBBIES

- Piano
- Spending time with friends in weekends (activities like: swimming, GeoCaching & soccer)
- Photography (on vacation)
- Observing plant and ditch water monsters under a microscope
- Free time code projects

ABOUT ME

Since a young age biology has fascinated me. I continued this passion by studying 'Life Sciences' at the HU. During this study I specialized in Biomolecular Research and followed two data science courses as my minor. In the future I hope to contribute to fundamental laboratory research and possibly combine it with data science.

DEGREE

HAVO-degree, Marnix College Ede
Sep 2015 – Mei 2020
- Curriculum: "Nature & Technology" and "Nature & Health"

Bachelor Biology and Medical laboratory research (Life Sciences), HU University of Applied Sciences Utrecht
September 2020 – ~Juli 2025

- Specialised in:	Biomolecular Research (BMR)
- Minor in:	Data Science
- Propaedeutic average:	7.73

PRACTICAL SKILLS

Lab
Molecular cloning, calcium phosphate transfection, RNA/DNA isolation, cDNA synthesis, (q)PCR, Sonication, Cell culture, SDS-page, Western blot, ELISA, Agarose gel electrophoresis, Paper electrophoresis, Äktaprime, TLC & SEC chromatography, Differential centrifugation, Spectrophotometry, light dark & fluorescent microscopy, safe microbiological techniques, C. elegans

Data Science
R, Rmarkdown, Rbookdown, Rpackage, Git/github, Bash*, SQL*, Machine Learning*, frequentist statistics, Reproducible research, RNAseq pipeline in R, Antibiotic resistance pipeline in Bash**, Metagenomics pipeline in R, Data Science portfolio
* Basic knowledge
** Minor project

THEORETICAL KNOWLEDGE

Theoretical knowledge within the subjects:
- Molecular biology
- Tumor cell biology
- Genetics
- Data science
- Advanced lab tools (incl: FACS, NGS, proteomics, MS)
- Experimental Design & Cell Culture
- Immunology
- Cellular Biochemistry
- Biotechnology
- Pharmacology
- Haematology
- Physiological Regulation systems

PROJECT INFO

Data Science
Result planning: 9.2
Result product: 8.0
Result presentation/GitHub: 7.8
Group: 3 students
Study year: 3

Biomolecular Research
Result project proposal: 6.5
Result practical work: 8.0
Result presentation: 6.6
Group: 2 students
Study year: 3

Pharmaceuticals
Result: 8.5
Group: 8 students
Study year: 2

Microbiology
Result report: 8.0
Result assessment: 8.1
Group: 8 students
Study year: 2

Genes and Proteins
Result: 9.0
Group: 8 students
Extra: chairperson
Study year: 2

MAIN PHASE PROJECTS

Project Data Science (minor)
The Data Science project involved creating a pipeline commissioned by the RIVM. The pipeline consisted of a combination of tools: fastq-dump, fastqc, trimagalore, unicycler, plasmidEC, gplas2 and abricate, Using these tools the pipeline was capable of taking SRA codes with Illumina data (short read) from a bacterial sample as input. After which it outputs the antibiotic resistance genes in plasmids. Throughout this project we also worked on: version control of R packages, creating a vignette and working with a GitHub workflow.

Project Biomolecular Research (specialisation)
During this project, an attempt was made to produce HPO lyase. The HPO lyase gene had been isolated from cucumber in a previous project and inserted into *Escherichia coli* using cloning techniques. The bacterial suspension was scaled up to 80 mL and induced with IPTG. After which the protein was isolated through a combination of sonication, centrifugation and ÄKTAprime. The concentration was measured using spectrophotometry. Lastly a new gene was also isolated from self-planted garden cress through RNA isolation, cDNA synthesis and a two-step PCR process.

Project Pharmaceuticals
The aim of this project was researching the effect of a reduced mucus layer (using N-acetylcysteine) on the susceptibility to an S. typhimurium infection. This involved cultivating *C. elegans* on a N-acetlycysteine-containing medium, infecting the nematodes at the L4 stage and measuring the infection using a combination of qPCR and Kve/CFU determination. Additionally, an attempt was made to stain the mucus layer in *C. elegans*. Using PAS staining. The protocols and observations from the PAS staining were documented for further research. Unfortunately, the conclusion could not be confirmed due to a lack of results.

Project Microbiology
The aim of the microbiology project was determining whether patient X had an influenza A (H1N1) lung infection and possibly a bacterial co-infection. The influenza A (H1N1) infection was examined using a combination of cDNA synthesis and Real-time PCR techniques. The bacterial infection was studied through determination and disk diffusion tests on sputum and urine cultures. The final product included a literature review and resulted in the identification of a group of G streptococcus / staphylococcus epidermidis infections.

Project Genes and Proteins
The aim of this project was to design a functional pAcGFP-IL-8 DNA construct for investigating IL-8 gene expression. IL-8 inserts were isolated from plasmids and inserted into pAcGFP1 vectors. Techniques like molecular cloning SDS-PAGE, western blot, agarose gel electrophoresis and fluorescence microscopy were used to create and test the construct. The final product included a literature review and a functional pAcGFP1-IL8p DNA construct.