

Morné van Wyk

Github: github.com/mornevwyk
Website: www.mornevwyk.github.io

Email: morn.vanwyk@gmail.com
Mobile: +27-078-389-1493

EDUCATION

- **PhD Biochemistry (ongoing)** Cape Town, South Africa
University of Stellenbosch
March 2019 - Present
Research project: The effect of ATP on the calcium oscillations and synchronisation of β -pancreatic cells in a microfluidic environment.
- **MSc Biochemistry - cum laude** Cape Town, South Africa
University of Stellenbosch
January 2017 - March 2019
*Research project: The effect of adenylate kinase on the glycolytic oscillations of *Saccharomyces cerevisiae**
- **BSc Hons (Biochemistry)** Cape Town, South Africa
University of Stellenbosch
January 2016 - December 2016
Courses: Antimicrobial proteins, Practical biochemistry, Systems biology, Cytochrome P450, Steroid hormones, Research project
- **BSc (Molecular Biology and Biotechnology)** Cape Town, South Africa
University of Stellenbosch
January 2013 - December 2015
Majors: Biochemistry, Microbiology

PERSONAL SUMMARY

- Morné is a meticulous and analytical Researcher with 6 years of educational and lab experience in biochemistry and systems biology. He is an adaptive team player with in-depth knowledge of data collection, data analysis, problem-solving and strong programming skills. He is currently finishing his PhD in biochemistry.

SKILLS SUMMARY

- Molecular biology techniques: qualitative and quantitative enzymatic assays, fluorescence microscopy, spectrophotometry, gel electrophoresis, western blotting, cell culture (bacterial, fungal, mammalian), size-exclusion chromatography, DNA extraction and amplification, cloning.
- Enzyme characterization (kinetic), kinetic model construction and fitting, metabolic control analysis and mechanistic model construction of metabolic pathways.
- Coding: Mathematica®, C#, Python, LaTeX
- Scientific research planning, experimental design, execution, reporting and presenting.
- Data collection, organization, qualitative and quantitative data analysis using Mathematica and Python.
- Fast learner with a keenness for continued learning, teamwork and strong communication skills both verbal and written

EXPERIENCE

- **PhD Student of Biochemistry** - 03/2019 - current
Stellenbosch - Cape Town, South Africa
 - Worked with supervisors to coordinate research into the calcium oscillations of pancreatic beta cells.
 - Performed quantitative microscopy, micro-fluidic device modelling and manufacturing, mathematical modelling of metabolism and calcium oscillations and documented findings.
 - Cultured and maintained mammalian cell cultures for experimentation and research.
 - Performed statistical, qualitative and quantitative analysis on collected data using Mathematica®.
 - Compiled data in reports and other documents using LaTeX.
 - Reviewed technical and professional publications such as research articles and scientific journals to stay current on recent literature and make more strategic research decisions.
 - Learned new laboratory techniques and applied expertise in carrying out experiments
 - Supervised and mentored junior researchers
- **MSc Student of Biochemistry** - 01/2017 - 03/2019
Stellenbosch - Cape Town, South Africa
 - Performed NADH-linked enzyme assays using spectrophotometry and modeled the results using Mathematica®
 - Cultured yeast for experiments and research.
 - Gathered and arranged research data, highlighting results for presentations.
 - Demonstrated strong writing and presentation skills in writing and defending of Master's thesis
 - Attended seminars and symposiums to improve overall knowledge and understanding.
 - Performed statistical, qualitative and quantitative analysis of data using Mathematica®.
- **Biochemistry Tutor** - 01/2017 - current
Stellenbosch - Cape Town, South Africa
 - Collaborated with students to complete homework assignments, identify lagging skills and correct weaknesses.
 - Planned lessons for allotted time to strengthen weak subjects and build skills.
 - Provided one-on-one and small group instruction to students falling behind in biochemistry skills.

PUBLICATIONS

- van Wyk, Morne. *The Effect of Adenylate Kinase on the Glycolytic Oscillations of Saccharomyces Cerevisiae*. Stellenbosch: Stellenbosch University, 2019.