

St. Elmo Wilken

stelmo@umail.ucsb.edu

+1 805 403 2464

6510 El Colegio road, Santa Barbara, California, 93106

Education

Current

2015- Ph. D., chemical engineering, University of California, Santa Barbara

Topic: Developing predictive models of non-model organisms to enable the rational design of consortia for sustainable bio-processing applications

Past

2015 M. Eng., control engineering, University of Pretoria

2014 B. Sc. Hons., applied mathematics, University of Pretoria

2013 B. Eng. Hons., control engineering, University of Pretoria

2012 B. Eng., chemical engineering, University of Pretoria

Awards and recognition

2014 South African mathematical society's award for the best honours student at the University of Pretoria

2014 Allan Gray academic achiever award

2012 Chemical engineering departmental award for the best research project

2010 Golden Key member

2008 Dux scholar at St. John's College

Development

Academic

- 2017 Conference poster presenter at the American Chemical Society biotechnology division: *Coarse grained model development of fungal enzymatic lignocellulosic biomass degradation*
- 2015 Master's thesis: *The development of computationally efficient stochastic dynamical model control systems within the context of dynamic Bayesian networks*
- 2014 Conference paper at the 24th European symposium on computer aided process engineering: *Eigenvector analysis for the ranking of control loop importance*
- 2014 Honours research project: *The analysis and numerical solution of a systems of partial differential equations modeling an unsteady non-isothermal tubular reactor using finite elements*
- 2012 Conference presenter South African Council for Automation and Control: *Eigenvector analysis for the ranking of control loop importance*

Practical

- 2013 Modeled and built a small distillation column. Also implemented model predictive control on this column.
- 2011 Modeled a quasi-Acheson type reactor at Sublime Technologies.
- 2010 Contributed to the concept design of a uranium conversion plant at the Nuclear Energy Company of South Africa.

Personal

- 2017 Mentoring an undergraduate student in the characterization of gut fungal enzymatic activity
- 2012 Advanced SCUBA license
- 2008 Nationally ranked swimmer