
_____ April 11 – June 29, 2023

_____ Prof. Xiaoqin Zou Laboratory, Dalton Cardiovascular Research Centre, University of Missouri – Columbia

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 - Xiaoqin Zou: xzou@missouri.edu
 - Luke Zondagh: lzondagh@uwc.ac.za

Luke Zondagh conducted a research visit to Prof. Xiaoqin Zou's laboratory for approximately 2.5 months during the first semester of 2023. The purpose of his visit was to identify novel small molecules targeting two known Alzheimer's Disease (AD) targets, GSK-3 and SIRT-1. Prof. Xiaoqin Zou and her team possess extensive experience in identifying therapeutic small molecules and peptides through diverse computational techniques. During his visit, Luke employed computational and biological methods to identify potential anti-AD agents. Additionally, the visit played a pivotal role in strengthening the collaboration between Prof. Joubert's and Prof. Zou's laboratories, while also contributing to the development of the research collaborator hub involving Prof. Samuel Egieyeh and Dr. Erika Kapp.

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1. Identify anti-AD agents targeting GSK-3 and SIRT-1 using computational and biological techniques.
 2. Strengthen collaboration between Prof. Joubert's and Prof. Zou's laboratories.
 3. Acquire and share advanced computational techniques with Prof. Joubert, Prof. Egieyeh, and Dr. Kapp upon returning to UWC.

During his approximately 2.5-month research visit at MU - Columbia, Luke conducted structure-based and template-based virtual high throughput screening. Subsequently, he employed cheminformatic techniques to evaluate compounds' potential activity against the two AD targets. The identified compounds were procured and sent to React on Biology, USA, for in vitro evaluation. Luke conducted

Furthermore, two compounds exhibited activity against SIRT-



First Day at Dalton Cardiovascular Center. Left to right Dr. Liming Qui, Prof. Xiaoqin Zou, Dr. Xianjin Xu, Mr. Luke Zondag, Dr. Rui Duan.





