



## RHODES UNIVERSITY, GRAHAMSTOWN, SOUTH AFRICA

### STUDENT INFORMATION



**MS MAHLATSE LEDWABA (DOCTORAL STUDENT)**

**STUDENT NO: 20L9432**

**SUPERVISOR: PROF JOHN MACK AND DISTINGUISHED PROFESSOR TEBELLO NYOKONG**

#### **CONTACT DETAILS:**

Rhodes University  
Institute for Nanotechnology Innovation  
C/O Department of Chemistry  
P O Box 94  
Makhanda (Grahamstown) 6140, South Africa  
Email: [mahlatseledwaba17@gmail.com](mailto:mahlatseledwaba17@gmail.com)

#### **EDUCATION DETAILS:**

PhD (Chemistry) current - Rhodes University, Makhanda, South Africa  
MSc (Chemistry) 2023 – Rhodes University, Makhanda, South Africa  
BSc Honours (Chemistry) 2020 – Rhodes University, Makhanda, South Africa  
BSc 2019 - North West University, South Africa

#### **RESEARCH TITLE/PROJECT:**

Sn(IV) chlorin and bacteriochlorin complexes conjugated to graphene quantum dots for use as photosensitizer in PDT and PACT

#### **PUBLICATIONS:**

1. MM Ledwaba, NB Magaela, KS Ndlovu, J Mack, T Nyokong, M Managa  
Photophysical and *in vitro* photoinactivation of *Escherichia coli* using cationic 5,10,15,20-tetra(pyridin-3-yl) porphyrin and Zn(II) derivative conjugated to graphene quantum dots

**Photodiagnosis and Photodynamic Therapy 40 (2022) 103127 (1-12)**

DOI: 10.1016/j.pdpdt.2022.103127

<https://doi.org/10.1016/j.pdpdt.2022.103127>

2. Chenming Chan, Jia Li, Jianwei Wu, Youchun Zi, Zhaoli Xue, Mahlatse Ledwaba,  
John Mack, Tebello Nyokong

An imidazole-based fluorescent probe for the Mercury(II) Ion with rapid  
response *in vitro*

**Dyes and Pigments 213 (2023) 111172 (1-8)**

DOI: 10.1016/j.dyepig.2023.111172

<https://doi.org/10.1016/j.dyepig.2023.111172>

#### **CONFERENCES/WORKSHOPS:**

**11<sup>th</sup> Nanosciences Young Researchers' Symposium (NYRS – 2023)**

Nelson Mandela University, 7 Sept 2023

Poster Presentation

**MM Ledwaba**, BN Magaela, KS Ndlovu, M Managa, J Mack, T Nyokong

Porphyrins and their Analogues as Photosensitiser Dyes