



RHODES UNIVERSITY, GRAHAMSTOWN, SOUTH AFRICA

STUDENT INFORMATION



MS MAFLATSE LEDWABA (DOCTORAL STUDENT)

STUDENT NO: 20L9432

SUPERVISOR: PROF JOHN MACK AND DISTINGUISHED PROFESSOR TEBELLO NYOKONG

CONTACT DETAILS:

Rhodes University
Institute for Nanotechnology Innovation
P O Box 94
Makhanda (Grahamstown) 6140, South Africa
Email: 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>
3. N. Bridged Magaela, Mahlatse M. Ledwaba, Nonkululeko Malomane, John Mack, Tebello Nyokonga and Muthumuni Managa
Photodynamic inactivation of *Staphylococcus aureus* and *Escherichia coli* with free-base and indium(III) 5,10,15,20-tetrakis(4-pyridyl) porphyrin adsorbed onto single-walled carbon nanotubes
Journal of Porphyrins and Phthalocyanines 28 (2024) 260–271
DOI: 10.1142/S1088424624500202
<https://doi.org/10.1142/S1088424624500202>

CONFERENCES/WORKSHOPS:

11th 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