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EDUCATION DETAILS:

PhD (Chemistry) 2025 - Rhodes University, Makhanda, South Africa
MSc (Chemistry) 2020 – University of Zululand, South Africa
BSch (Chemistry) 2017 – University of Zululand, South Africa
BSc (Chemistry and Biochemistry) 2016 – University of Zululand, South Africa

PUBLICATIONS:

1. S.T. Mkhondwane, V.S.R. Rajasekhar Pullabhotla, Highly selective pH-dependent ozonation of cyclohexane over Mn/ γ -Al₂O₃ catalysts at ambient reaction conditions, *Catalysts*, 9 (2019) 958.
2. S.T. Mkhondwane, V.S.R. Rajasekhar Pullabhotla, Ozone initiated pH dependent oxidation of cyclohexane over Fe supported SiO₂ and γ -Al₂O₃ catalysts, *Catalysis Today*,

Submitted.

3. Siphumelele Thandokwazi Mkhondwane, Refilwe Matshitse and Tebello Nyokong
Porphyrin-graphitic carbon nitride quantum dots decorated on titanium dioxide electrospun nanofibers for photocatalytic degradation of organic pollutants

Journal Of Coordination Chemistry (2022) 75 (15–16), 2150–2169

DOI: 10.1080/00958972.2022.2132153

<https://doi.org/10.1080/00958972.2022.2132153>

4. Siphumelele Thandokwazi Mkhondwane, Sithi Mgidlana, Yolande Ikala Openda, Lindokuhle Nene, Tebello Nyokong
Photosono catalytic behaviour of phthalocyanine when supported on electrospun nanofibers: The effect of radical initiators

Synthetic Metals 299 (2023) 117484 (1-12)

DOI: 10.1016/j.synthmet.2023.117484

<https://doi.org/10.1016/j.synthmet.2023.117484>

5. Siphumelele Thandokwazi Mkhondwane , Sithi Mgidlana , Tebello Nyokong
Asymmetric phthalocyanine-graphitic carbon nitride nanosheets conjugate on zinc oxide fibers for combined ultrasound and visible light driven degradation of Rhodamine 6G

Journal of Photochemistry & Photobiology, A: Chemistry 447 (2024) 115245 (1-12)

DOI: 10.1016/j.jphotochem.2023.115245

<https://doi.org/10.1016/j.jphotochem.2023.115245>

6. Siphumelele Thandokwazi Mkhondwane, Sithi Mgidlana, Yolande Openda, Nnamdi Nwahara, Tebello Nyokong

Phthalocyanine conjugated manganese ferrite nanoparticles embedded in TiO₂ fibers for photo-, sono- and photosono-catalytic degradation of Rhodamine 6G

Catalysis Today 432 (2024) 114644

DOI: 10.1016/j.cattod.2024.114644

<https://doi.org/10.1016/j.cattod.2024.114644>

7. Siphumelele Mkhondwane, Godfred Sebiawu, Sithi Mgidlana, Yolande Openda, Nnamdi Nwahara, John Mack, Tebello Nyokong

Photosono activation of peroxydisulfate using A₃B phthalocyanines supported on titanium dioxide nanofibers for degradation of Rhodamine 6G

Synthetic Metals 307 (2024) 117699 (1-16)

<https://doi.org/10.1016/j.synthmet.2024.117699>

8. Siphumelele Thandokwazi Mkhondwane , Tebello Nyokong

The use of phthalocyanines@g-C₃N₄ nanosheets conjugates supported on TiO₂ fibers for photosono-catalytic degradation of rhodamine 6G

Diamond & Related Materials 153 (2025) 112067

<https://doi.org/10.1016/j.diamond.2025.112067>

CONFERENCES/WORKSHOPS:

1. Oral presentation, **Faculty of Science and Agriculture symposium**, 2018, University of Zululand Science Centre.

2. Oral presentation, **CGPMB international conference on genometrics and proteometrics**, 2019, KZN, UMfolozi Casino.

3. Poster presentation, Catalysis Society of South Africa (CATSA), 2019, Cape Town, Langebaan, Club Mykonois.

**4. 12th International Conference on Porphyrins & Phthalocyanines (ICPP-12)
Madrid, Spain 10-15 July 2022**

Oral Presentation:

Siphumelele Mkhondwane, Refilwe Martshitse and Tebello Nyokong

TiO₂ electrospun nanofibers decorated with conjugates of porphyrin with graphitic carbon nitride quantum dots for photodegradation of organic pollutants.

5. 11th Nanosciences Young Researchers' Symposium (NYRS – 2023)

Nelson Mandela University, 7 Sept 2023

Poster Presentation

S Mkhondwane, S Mgidlana, T Nyokong

Zinc oxide nanofibers decorated with graphitic carbon nitride nanosheets-phthalocyanine conjugate for combined ultrasound and visible light degradation of organic pollutants.

(3rd place – PhD Poster Presentation)