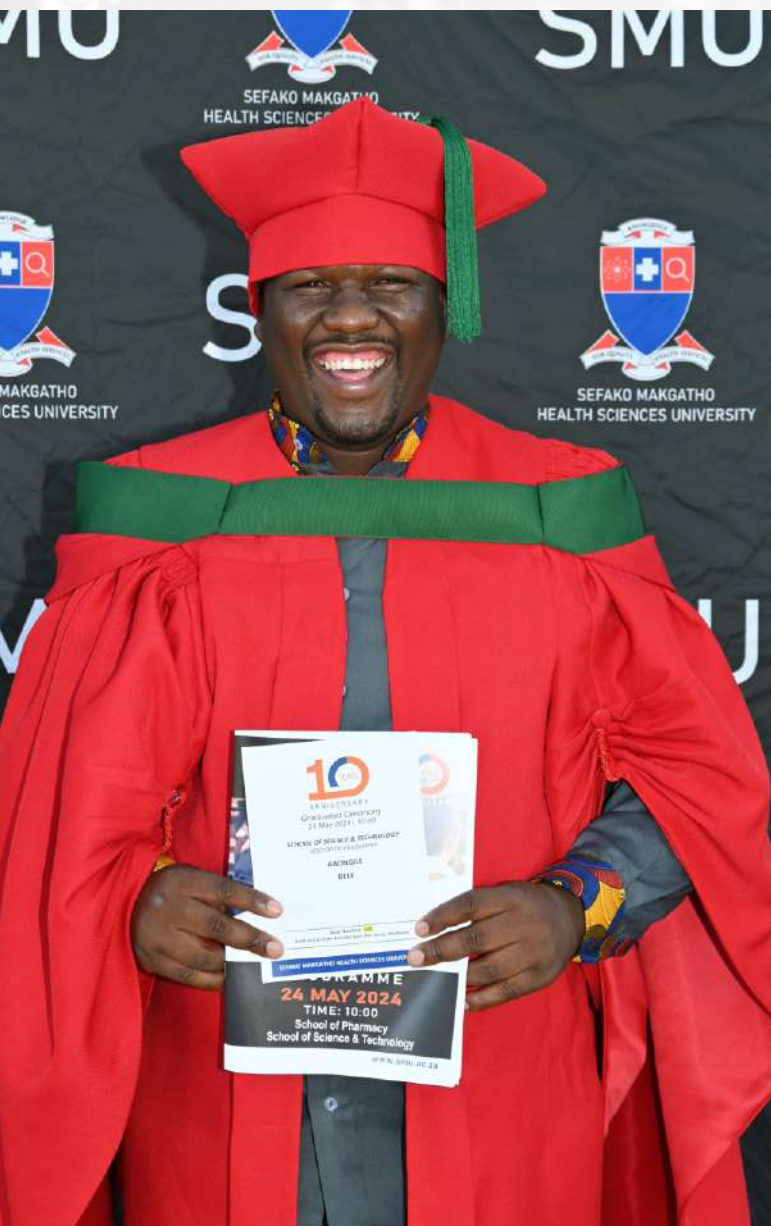


# Newsflash!

Issued: 24 May 2024

## From a delivery boy to a PhD graduate:

*Dr Abongile Bele's story of perseverance*



**D**r. Abongile Bele was born on 14th April 1996. He grew up in the rural town of Bizana, Eastern Cape. He is the son of Ngangelizwe Howard and the late Nosipho Gladness Bele. He is number nine in a family of 12 children. However, all those who were born after him passed away at an early age due to malnutrition. He also had a brother who was poisoned at the age of two. He lived with both his parents who were not working. Hence, from the age of 13 he had to find a weekend job so that he could assist his parents and finance his tuition. He did all this because he and his siblings would always wait for January for their results report due to tuition fee non-payment.

“

He worked as a delivery boy (for furniture and hardware materials) until his second year at the university. As he reflected on his upbringing, he stated that “I grew up in a family where we did not know where our next meal would come from. The only time we would eat rice was during the Christmas holidays when my sister would buy 10 kg of rice. Our home had two rooms, a single flat and a rondavel. We all slept in the same room. These conditions drove my commitment to education where I always believed I would get redemption”.

[www.smu.ac.za](http://www.smu.ac.za) | #WeAreSMU

SEFAKO MAKGATHO  
HEALTH SCIENCES UNIVERSITY





Dr. Bele is now married and is blessed with two kids (a boy and a girl). Dr. Abongile Bele has just graduated with his PhD in Physics at the age of 28, is also a Lecturer in the Physics department. His journey and contribution to the field of physics is truly remarkable.

His passion for science and mathematics was evident from a young age. He excelled in his studies throughout his primary and secondary education at Ezizityaneni JSS and Chief Dumile SSS, respectively. He was admitted to the University of Limpopo, Medunsa Campus in 2013, where he pursued a Bachelor of Science in Majoring in Maths and Physics.

At SMU, Dr. Bele quickly distinguished himself as a dedicated student. His Honours research focused on the Mechanics of free-falling bodies, which laid the foundation for his future academic pursuits. After graduating with honours, he enrolled for the Master's program at SMU, where he specialised in Condensed matter Physics focusing on semiconductor diodes fabrication.

Dr. Bele's doctoral research at SMU has been groundbreaking. Under the supervision of Prof. Motloung (CUT), Dr Mhlongo (SMU) and Prof Koao (UFS), he focused on the development of mixed-phase nanophosphor materials (Materials Science). His thesis, is titled, "The impact of the rare earth ions doping on the structure and optical properties of the  $\text{CaAl}_2\text{O}_4/\text{MgAl}_2\text{O}_4/\text{BaAl}_2\text{O}_4$  mixed phases phosphors prepared by sol-gel method."

It presents a new understanding of the synthesis of these oxide mixed-phases nanophosphor materials using the sol-gel approach. These materials were activated or doped with various foreign ions ( $\text{Sm}^{3+}$ ,  $\text{Gd}^{3+}$ ,  $\text{Eu}^{3+}$ ,  $\text{Tb}^{3+}$ , and  $\text{Er}^{3+}$ ). His investigation proposed the physics behind the observed emission colours associated with these materials. He demonstrated that the emission colours and energy bandgap can be tuned, which is essential for practical applications such as the fabrication of light-emitting devices such as LEDs.

His research work has been presented at national and international physics conferences. He has two articles published in DHET-accredited international peer-reviewed journals. Additionally, one manuscript

is currently under review and two manuscripts are under preparation for possible publication.

Beyond his research, Dr. Bele has shown a commitment to mentoring undergraduate and supervising postgraduate students, inspiring the next generation of physicists. He has also been actively involved in outreach programs aimed at increasing interest in STEM fields among young students, particularly at his village in Bizana, Eastern Cape.

I hope that my story will inspire boys and girls from our villages and townships to aspire to become academic achievers, Dr Bele concludes.

