

NANO4YOUTH

Shingirayi Zengeni

University of Zimbabwe &
ADRIC
Zimbabwe



She is a Nano-pharmaceutics professional both by qualification and experience. Apart from her recent completion of an MPhil in Nano-medicine focusing on nano-pharmaceutical optimization of topical treatments for skin malignancy, she has been a co-researcher in numerous Nano-pharmaceutical drug development programs and projects and has supervised dozens of undergraduate students doing related researches. Apart from Nano pharmaceuticals Shingirayi has also studied applied chemistry and has gained experience in industrial manufacturing and laboratory instrumental and classical analysis working for Zimphos. Currently Shingirayi is a post graduate research fellow in the faculty of Health Sciences at University of Zimbabwe and is a key formulation development resource person for ADRIC. Her research interests mostly center on Nano-optimization of indigenous medicines for potential use in Neglected tropical diseases.

Marco Orecchioni

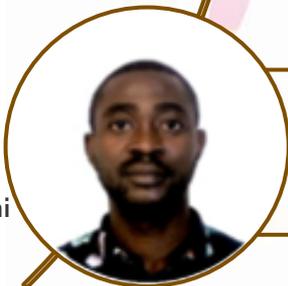
La Jolla Institute for Immunology
California, USA



He obtained his bachelor degree in Biology and his master degree in Medical Biotechnology at the University of Sassari in Italy. He completed his Ph.D. in 2017 studying the biological activity of different nanomaterials, analyzing their molecular interaction with the immune system with a focus on the monocyte/macrophage population. In his studies, he proposed a new integrative analytical pipeline encompassing genomic and single-cell characterization of the impact of graphene on immune cell activation using mass cytometry and whole transcriptomic analysis. He highlighted specific cell-based immune-modulatory properties of graphene- materials based on their chemical/physical characteristics. Since 2017, he is a postdoctoral fellow at La Jolla Institute for Immunology in San Diego, California, in which he is continuously exploring new 2D nanomaterials immunomodulatory potential and studying the molecular pathways involved in the activation of innate immune cells in several autoimmune diseases like atherosclerosis. To support his studies, he received the American Heart Association Postdoctoral Fellowship and further independent funding in the form of a SPARK award from the La Jolla Institute for Immunology, and the Conrad Prebys Foundation award.

Obisesan Oluwafemi

North-West University
South Africa



He is a doctoral candidate at the North-West University (NWU), South Africa with experience in medical laboratory science from Ladoké Akintola University of Technology, Nigeria. He received his MSc in Biology (Medical virology) in 2018. He holds keen interest in the field of medical virology and nanotechnology. He is also a tutor and a graduate assistant at NWU. His current research interest is the application of nanotechnology in the treatment of viral diseases.

Caroline Tyavambiza
University of Western Cape
& Cape Peninsula
University of Technology
South Africa



Caroline Tyavambiza is a research affiliate at the University of the Western Cape and a PhD candidate at Cape Peninsula University of Technology. She holds an MSc and a BHSc degree in Biomedical technology (CPUT). Her research area is in green nanotechnology and drug discovery. Her specific research interest is on the synthesis of biogenic nanomaterials using plants and the investigation of their biological applications.

Tapiwa E. Manyarara
University of Zimbabwe
Zimbabwe



Is a pharmacist who has generated research and academic interest for the study of Nanotechnology as an undergraduate at the Pharmaceutical Technology Department in Harare Institute of Technology (HIT) and department of Pharmacy and Pharmaceutical Sciences at the University of Zimbabwe. His main areas of specialty are formulation technology, clinical product development and pharmaceutical nanotechnology. Mr Manyarara is a member of the Pharmaceutical Society of Zimbabwe, Standards Association of Zimbabwe technical committee on cosmetics, Pharmacist's Council of Zimbabwe and former patron of the HIT Pharmacy Students Association. He currently holds a Bachelor of Pharmacy Honours (2009) and MPhil in Pharmaceutics and Nanomedicine with the University of Zimbabwe(2018) and a short training course certificate in TB, HIV/AIDS, and Malaria molecular genomics (2015) from BRTI/Stanford University initiative. He has published scientific work on the subject of the application of nanotechnology for improved HIV pharmacotherapy, and supervised ten research projects at undergraduate level that involve Pharmaceutical Nanotechnology from students from both local universities (Harare Institute of Technology and University of Zimbabwe). The research work was presented at local and regional conferences including the African Materials Research Symposium held in Botswana 11-14 December 2017 and the Pharmacist's Council of Zimbabwe (PCZ) National Conference Programme 26- 29 March 2015. Mr. Manyarara was also a key member of the committee at the Harare Institute of Technology (2012 – 2015) that designed two Nanopharmacy course programme taught at undergraduate level and taught both courses during the same period. Currently he lectures in nanotechnology courses at postgraduate level (Masters in Applied Pharmaceutics) at the department of Pharmacy and Pharmaceutical Sciences at the University of Zimbabwe.

Nhlanhla Maluleke
Nabio Consulting (Pty)
Ltd
South Africa



Is an ambassador of Nabio Consulting (Pty) Ltd. He has graduated with a BSC degree majoring in Microbiology and Biochemistry. During the course of his occupation at Nabio Consulting Pty Ltd, he has participated in the science talk show with Munghana Ionene FM, which is part of the move to push forward science engagement in native languages. He has participated in the famelab competition, winning the regional heat. He received a certificate from NanoCare, of Advanced short course in nanomedicine. He has also participated in international science engagements with the university of Barcelona and the Swiss Nanoscience Institute.

Lucia Maschio
University of Padua
Italy



Is a 25 years old attending her thesis internship for a master's degree in Medical Biotechnologies (University of Padua) in the Laboratory of Professor Lucia Gemma Delogu. The aim of her final degree project is to evaluate the impact of 2D MXenes on cells of the immune system, namely their safety and their ability to activate/suppress the immune cells, exploiting the "immunity-by-design" concept. As a pilot study, her thesis aims at dissecting the interaction of MXenes on human and mice immune cells. In her BSc in Biomedical Laboratory Techniques (University of Padua), she studied the role of macrophage polarization on the inflammatory response induced by pathogenic crystals. The results of the Bachelor thesis were published in *Reumatology* (Oxford) (Paola Galozzi, Lucia Maschio, Samuela Carraro, Anna Scanu, Monica Facco, Francesca Oliviero, M2 macrophages as resolvers of crystal-induced inflammation, *Rheumatology*, 2021).

Daniel M. Shadrack
St. John's University of Tanzania,
Dodoma, Tanzania



Daniel M Shadrack is a trained chemist, he holds a PhD in Computational Molecular Biophysics/Biophysical Chemistry jointly by the International Centre for Theoretical Physics (ICTP), Trieste, Italy and the Nelson Mandela African Institution of Science and Technology (NMAIST), Arusha, Tanzania. He received his BSc Ed (Chemistry/Biology) at St John's University of Tanzania, and MSc Chemistry at the University of Dar es Salaam, Tanzania. Daniel is a self motivated young researcher whose research interests is on the use of computational methods such as molecular dynamics, metadynamics, free energy methods and molecular docking to understand biomolecular process towards drug design. He has published several articles in peer-reviewed SCI/E journals/web of science. Over the past four years, Daniel has acted the role as the Director and co-organizer of the Biophysics schools in Africa, of which the school has trained over 90 young scientists across the continent. Daniel has established a number of network and research contacts across the world, the active network and collaborations are from Italy, Canada, South Africa, Kenya, Cameroon, Malawi and Ghana. Daniel is a Co-PI of three research projects, two projects in COVID-19 and one on malaria. Both of these projects involves the use of different computational and experimental techniques to identify small molecules as potential drugs. Currently, Daniel is supervising 1 M.Sc student, 1 PhD student and is also mentoring other two PhD students (in computational chemistry/biophysics) who joined his research group from his collaborator. Daniel is also an official reviewers of the internal journals: *Journal of Molecular Graphics and Modeling* (Elsevier), *RSC advances* (Royal society of Chemistry), *Frontiers in Drug Discovery*. He is also a reviewers papers published in *Biochemistry and Biophysics reports* and *Scientific African* (Elsevier). He has attended and give talks to many international conferences on the area of biophysics. More recently, due to COVID-19 pandemic, Daniel in collaboration with his colleagues in the African Physical Society (AfPS) is coordinating the soft matter Biophysics Slacks channels, where scientists have journal clubs.

Akash Patel
Los Angeles
USA



Is a 15 year old rising junior in a high school based in Los Angeles. He has the passion for medicine and how it can be improved with technology, specifically nanotechnology, leading him to develop projects in the wound healing and optical fields. He is always on the lookout for ways to challenge and improve himself, attempting to improve his intellectual skillset. He is also an avid debater and athlete, running on his school's track team and competing in Jiu-Jitsu.