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# Ahead of his TIME? Professor Tulio de Oliveira's second nomination as one of the world's 100 most influential individuals, and he is far from done

An *h*-index of 81, affiliations with several top global research institutes, more than 300 publications in esteemed journals and over 20 years of studying viral outbreaks. One might think that accolades like these would automatically bump you up the ranks of *TIME Magazine's* list of the 100 most influential people globally. Sure, they will no doubt help along the way, but, according to Professor Tulio de Oliveira, it's in the *small* things. Think consistency, resilience, a robust core research team, and, viruses. Prof. de Oliveira, a leading genomics and bioinformatics scientist, has been nominated for the second time by *TIME Magazine*; first in the 2022 TIME100 list of the world's most influential people, and again in 2024 in its inaugural TIME100 Health list. I had the privilege of meeting one-on-one with Prof. de Oliveira (albeit online) to talk about his nominations and what they mean in the grander scheme of things.

It all started when, as a young boy, his curiosity in the wonders of nature was sparked by his love for outdoor activities like snorkelling. At the age of 10 he started coding, which would turn out to be the inception of his career as a bioinformaticist. He started studying molecular biology in Brazil and completed his studies in South Africa with a PhD in bioinformatics. To economise on time and efforts, he models any novel research he would pursue on existing models that have been well established for research in other infectious diseases and outbreak investigations. This approach stood him in good stead when the COVID-19 pandemic hit, and his outstanding research led to his first *TIME Magazine* nomination. In 2020, Prof. de Oliveira headed the group that discovered the Beta variant of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), the virus responsible for causing COVID-19. Also, in 2021, he and his team confirmed the emergence of yet another SARS-CoV-2 variant that was later called Omicron. Although the world decided to impose travel restrictions on South Africa with this discovery, the swift detection of these variants was a testament to the extensive infrastructure and unmatched investment of human capital and financial resources that have gone into infectious diseases research in South Africa, in particular for HIV and tuberculosis (TB) research, that could be repurposed for the investigation of emerging diseases and outbreaks.

Many laypeople were astounded at, and somewhat suspicious of, the speed at which thousands of samples were collected, sequenced and analysed to track the evolution of the rampant SARS-CoV-2 virus. But for Prof. de Oliveira and his team, it was just another day in the laboratory: leveraging the systems and networks in place for HIV and TB, and pivoting for the COVID-19 response. He described how focal the intersection between the private hospital network and diagnostic arena in South Africa was during the COVID-19 pandemic. A strong team at ground level, comprising scientists, doctors, nurses and other supporting staff, ensured a coordinated response to a new threat. This very organised network is what helped South Africa to promptly identify and track the ever-changing virus in a seemingly chaotic healthcare landscape. South Africa's response to the COVID-19 pandemic might not have been perfect, but the pooling of public and private health resources, combined with the knowledge and skills of leading international researchers like Prof. de Oliveira, ensured a relatively smooth transition to the other side of the pandemic.

I was curious as to why a world-renowned scientist like Prof. de Oliveira chose to do his research in South Africa. His answer was quick and is simple: "Why not? We conduct the highest level of science in Africa, and our researchers are unapologetic and don't find excuses for what we can't do (yet). We make do." The firm serenity with which he spoke these words was reminiscent of the David Diop poem "...that is your Africa springing up anew... springing up patiently, obstinately..." His career recognition is affording him the opportunity to do a lot more than before, to train more African scientists and to conduct more research that is relevant to Africa. It helps improve his laboratory's competitiveness and they can therefore apply for more and larger external grants. For example, their funding has in turn allowed them to fund several large fellowships to help with capacity building, with more than one researcher supported to attend teaching and training workshops. Better funding also ultimately means a more direct response at the site where the outbreak is occurring: ensuring the availability of reagents and redirecting resources to where they are needed most. When the COVID-19 pandemic started fading, he launched an ambitious new project called the Climate Amplified Diseases and Epidemics (CLIMADE) consortium in collaboration with the Wellcome Sanger Institute. CLIMADE is the first global consortium that is led by researchers from the Southern Hemisphere to help fight a multitude of diseases that are aggravated by climate change, such as the Zika virus and cholera. The three leads of CLIMADE are from Australia, Brazil and South Africa, with the high-income nation of Australia providing pivotal support in CLIMADE's mission and vision. The approach of CLIMADE is holistic and entails capacity building in different countries, with additional support for testing and reacting locally to any imminent threat.

Prof. de Oliveira happily acknowledges that his illustrious career is supported by strong teams, and learning to work in teams is something he cannot emphasise enough. He advises young researchers like MSc and PhD students to participate in a variety of research projects wherever possible. To ensure he has a strong team that will increase the likelihood of success of any project and minimise problems, he looks for good mentors, judges a scientist by output and not personality, gives more attention to high performers, does not incentivise bad behaviour and has a core



team of 5–10 people. Some of the specific lessons he has learned in his career include: (1) going down the hierarchy and respecting the people who do the grunt work, such as people in the diagnostic laboratory – these are the people who are in the thick of it and you might learn more from them than elsewhere; (2) understanding the science, and as the director, having to do things you do not like or do the things others do not want to do; (3) hiring someone better than you, as this might free up your time for things you actually like to do – it is a team effort after all; (4) learning from your critics, asking yourself whether their comments and critique are true or not – to discern between work and personality; and (5) accepting that research is a game of persistence – he once went through 23 consecutive grant application rejections, but this gave him the opportunity to recycle and build upon them for better ideas and money.

“When the work pressure doubles, double up on everything else in your life, including your mental health.” As a Zen Buddhist, he applies this logic to the amount of sleep he gets, family time, hiking and meditation. He underscores that this is not a luxury, but a necessity.

I conclude by thanking Prof. de Oliveira for availing himself for the interview (and for the personal mentoring session), and leave you with his words: “Remember that health is about people’s livelihoods.”



Professor Tulio de Oliveira