



A Synopsis of Public Universities Involved in Multi-disciplinary Research

*(to be consulted in conjunction with the detailed **Research Report**, also attached)*

Medical Research (just a few examples picked):

- The screening of selected medicinal plants against the Severe Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Bacterial Respiratory Pathogens (SMU in collaboration with UNIVEN and WSU);
- Genomic characterisation of the COVID-19 novel human-pathogenic coronavirus isolated from patients in different sites of Limpopo, Gauteng and Eastern Cape Provinces, South Africa (SMU)
- COVID-19 triage by cough sound analysis (SU)
- A randomised trial of the Bacillus Calmette-Guérin vaccination (BCG) reduce morbidity and mortality in health care workers exposed to SARS-CoV-2 by enhancing non-specific immune responses (SU)
- Antibodies research for improved diagnostics (UCT, UFS)
- Interactions between SARS Cov-2, HIV-1 and TB infections (UCT)
- Influence of age and parental health status on susceptibility/immunity to SARS-CoV-2 (UCT)
- Study on different rapid test methods (UP)
- Clinical ethical challenges in the COVID-19 crisis in South Africa (WITS)
- Social dimensions of COVID-19 in South Africa: A neglected element of the treatment plan (WITS)
- Vaccine development research (UCT, WITS)

Medical Engineering and ICT Research:

- Exploring the use of reverse engineering in the production of new ventilators (CUT)
- Exploring the use of reverse engineering in manufacturing components for the Nuffield (non-invasive, mechanical) ventilator (Nelson Mandela University in collaboration with WSU)
- Exploring Capric triglyceride as an antiviral barrier cream (Nelson Mandela University)
- Customising and developing smart digital solutions to assist with the tracing, tracking and capturing of data of COVID-19 positive patients (Nelson Mandela University)
- Diagnostic markers (NWU)

Big data and Statistical Research:

- Analysis of Epidemiological Data to Inform Strategic Planning and Targeted Interventions – Artificial Intelligence based system and Info-epidemiological big data analytics capacity (DUT)
- Use of Drones and Internet of Things to Support Data Collection, Monitoring and Evaluation (DUT)
- Mathematical epidemiological modelling (Nelson Mandela University, RU, SU, UCT, UJ, UKZN, UP, WITS)

Socio-economic, Public Policy and Other Research:

- Development of an Audit Tool for Covid-19 Readiness (SMU in partnership with TUT and Wits, in collaboration with other experts)
- Online learning responses to COVID-19 by the 26 public universities in South Africa (UKZN)
- COVID-related problems experienced by health workers as well as community members (e.g. lack of access to water) (UKZN).
- Researching remote court hearings, using videoconferencing or similar electronic technology that obviates physical presence in the courtroom, in civil cases (UKZN)
- The Impacts of the Coronavirus (COVID-19) Pandemic on Tourism and Sport (UKZN)
- Humanities Curriculum in the Time of COVID-19 (UKZN)
- Issues of Decolonisation and Africanisation in Southern African Contexts (UKZN)
- The Church and the Coronavirus (COVID-19) (UKZN)
- Rurality, Education and the Coronavirus (COVID-19) Pandemic (UKZN)
- Public Policy Responses in the Time of Pandemic (UKZN)
- Effects of the national lockdown on South Africa's economy (WITS)
- 'Netiquette' amidst crisis: Critical Discourse Analysis of posts on a trade union WhatsApp group following presidential announcement of a 21-day COVID-19 national lockdown (WSU)

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