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## Sasol-NRF Collaborative Research Grant Communique

13 December 2021

Dear Designated Authority

### ***ANNOUNCEMENT OF SUCCESSFUL APPLICATIONS FOR THE SASOL-NRF UNIVERSITY COLLABORATIVE RESEARCH GRANTS, 2022***

The National Research Foundation (NRF) and Sasol are pleased to announce that the assessment of applications to be funded through the Sasol-NRF Collaborative Research Grant resulted in 26 applications being approved for funding for 2022 to 2025. The summary of successful applications from your institution is included below.

#### **Please Note:**

- The names that appear in the tables have been **successful** to receive an award for 2022 to 2025, provided they meet the minimum requirements according to the Framework Document and Conditions of Grant.
- An Award Letter and Conditions of Grant stipulating the details of the award, will be shared with all successful applicants by Wednesday, 15 December 2021.
- All signed and completed documentation must be forwarded to the NRF *via* the University Research Office.
- Funds will only be released once the completed documentation has been received by the NRF.
- Awards not taken up within (6) weeks after awarding will be automatically cancelled, unless otherwise approved by the NRF.
- Feedback to unsuccessful candidates will be provided in due course.
- Kindly inform each successful researcher included in the list below from your institution.

**The NRF and Sasol congratulate all 2022 Awardees.**

### Successful Applicants for the Sasol-NRF Collaborative Research Grant

| Title | Name            | Surname        | Institution                             | Short Title  |
|-------|-----------------|----------------|---|--|
| Prof  | Zenixole        | Tshentu        | Nelson Mandela University               | Towards sustainable and green liquid fuel production (TSA-GLFP)  |
| Prof  | Kenneth Richard | Uren           | North West University                   | Energy-based health monitoring and control of large-scale industrial systems   |
| Dr    | Anzel           | Falch          | North West University                   | Novel nanostructured electrocatalysts for efficient alkaline water splitting   |
| Dr    | Ashmore         | Mawire         | North West University (Mafikeng Campus) | Development of low cost standalone solar cookers with thermal energy storage for decentralized communities   |
| Prof  | Tobi            | Louw           | Stellenbosch University                 | Adaptive probabilistic prediction of aerobic biological reactor performance for advanced wastewater treatment  |
| Prof  | Craig           | McGregor       | Stellenbosch University                 | Design and performance testing of a structured thermal packing for thermal energy storage applications   |
| Prof  | Jaap            | Hoffmann       | Stellenbosch University                 | Solarized Cu-Cl cycle for green H <sub>2</sub> production  |
| Prof  | André           | Burger         | Stellenbosch University                 | Integration of desalination systems in green hydrogen production plants at the West Coast of South Africa  |
| Prof  | Sampson         | Mamphweli      | Stellenbosch University                 | Pipeline Biogas as a route to distributed production of sustainable carbon in Southern Africa  |
| Prof  | Sophie          | von der Heyden | Stellenbosch University                 | Upscaling blue carbon capacity through seagrass restoration  |
| Dr    | Katye           | Altieri        | University of Cape Town                 | Tracing NH <sub>3</sub> and NO <sub>x</sub> sources using stable isotopes and quantifying their contribution to PM <sub>2.5</sub> and PM <sub>10</sub> |
| Prof  | Michael         | Claeys         | University of Cape Town                 | Modified iron-based catalysts for CO <sub>2</sub> valorisation   |
| Prof  | Eric            | van Steen      | University of Cape Town                 | CO <sub>2</sub> hydrogenation over base metal catalysts alloyed with PGM metals: role of alloying agent  |
| Prof  | Pieter          | Rousseau       | University of Cape Town                 | Application of physics informed neural networks for modelling a biomass boiler using Supercritical CO <sub>2</sub>                                     |
| Prof  | Anwar           | Jardine        | University of Cape Town                 | Valorisation of biomass waste  |

| Title | Name              | Surname     | Institution                     | Short Title  |
|-------|-------------------|-------------|---------------------------------|--|
| Prof  | Kapil             | Moothi      | University of Johannesburg      | Optimization and performance evaluation of cellulose nano-crystalline adsorbent in a packed-bed column for removal of sulphur organic compound in South African refinery product (e.g. gasoline)   |
| Prof  | Tien-Chien        | Jen         | University of Johannesburg      | Development of an innovative nanoporous MoS <sub>2</sub> based hybrid composite membrane for water treatment using atomic layer deposition and simulation  |
| Prof  | David             | Lokhat      | University of KwaZulu-Natal     | Highly-dispersed nickel-based catalysts for dry reforming of methane in a direct-irradiated solar powered system   |
| Prof  | Rebecca           | Garland     | University of Pretoria          | Quantifying the tropospheric column concentrations and emissions of air pollutants and their trends over the Industrial highveld   |
| Dr    | James             | Fox         | University of South Africa      | Gasification of Waste Plastics   |
| Prof  | Edward Ndumiso    | Nxumalo     | University of South Africa      | Photocatalytic carbon nanotube-based nanofillers and their subsequent use in the development to a solar-driven membrane system   |
| Dr    | Shohreh           | Azizi       | University of South Africa      | Microbial desalination cell coupled with reverse osmosis for cost effective and efficient desalination   |
| Dr    | Juanita           | van Wyk     | University of the Witwatersrand | Developing new transition metal catalysts for the coupling of carbon dioxide with epoxides   |
| Prof  | Kenneth Ikechukwu | Ozoemena    | University of the Witwatersrand | Development of Robust and Low-Cost High Energy Rechargeable Zinc-Air Batteries   |
| Prof  | Samson Oluwaseyi  | Bada        | University of the Witwatersrand | Viability of Sasol coal and by-product waste (including coal, coal discards, all forms of ash and filter cake) as a source of critical raw materials, with a specific focus on rare earth elements |
| Prof  | Neerish           | Revaprasadu | University of Zululand          | Functional Nanomaterials for Energy Applications   |