GAP Biosciences 2020 Winners

Leader & team members	Institution	Technology summary	Prize
Prof Tahir Pillay Dr Bettina Chale-Matsau Mr Reggie Govender	MicroMab Diagnostics / UP	MicroMab is developing Rapid protein antigen tests for SARS-CoV2. A rapid, cheap test strip/kit for SARS-CoV2 using nanobodies, a special type of antibody produced in bacteria and used to detect viral proteins. This technology will result in several rapid tests (minutes for result) for diagnosis during acute infection and for diagnosis of carrier states based on viral protein antigen detection.	**1st Prize**
Prof Celia Abolnik, Dr Martha M. O'Kennedy	Antigenica /CSIR	Antigenica produces animal vaccines that are more cost-effective and provide protection superior to any other product currently on the market. To achieve this we use tobacco plants to manufacture virus-like particle (VLP) vaccines that induce robust protective immune responses in animals.	**2nd Prize**
Dr Hanli de Beer, Ms Doret Kruger	Innovation Highway / NWU	Innovation Highway offers a pre-cooked carbo-protein combo, LeguPro, with higher nutritional value compared to commercial pasta such as spaghetti and macaroni, and 2min noodles. It is affordable and requires shorter preparation time. This new pasta variety is a high protein, high carbohydrate, gluten-free food product that is affordable for low-income consumers. The instant noodle option offers a healthier higher protein alternative to current foodstuffs and improved taste.	**3rd Prize**

Mr Constant Beckerling Mr Anlo Micheal Van Wyk	AgriSmart Engineering / Wits	AgriSmart working towards a fully automated intelligent hydroponic system for Cannabis cultivation. The technology pertains to a modular grow facility, designed specifically for cannabis cultivation. It is a fully automated electromechanical growing environment. The plants are grown in an ebb and flood hydroponic system wherein temperature, electrical conductivity, pH and total dissolved solids are monitored in real-time. Additionally, ambient room temperature, humidity and supplemental CO_2 are monitored and controlled. Quantum sensors enable monitoring of the daily light integral. Ultrasonic distance sensors fixed to the grow lights calculate the distance to the plant canopy such that the supplemental photon flux density may be optimized. The facility is fully IoT integrated.	**Special Recognition (SR)**

GAP ICT 2020 WINNERS

Prize Position Number	Comapany name	Name	Surname	Age	Gender	Race
1	Teambix	Remmone	Modisakeng		Male	African
2	Wardworx	Peta-Anne	Browne		Female	White
3	REDEMA Engineering	Boitumelo	Ramatsetse		Male	African

4	DigiTicket	Tshepang	Peme		Male	African
5 (Special Recognition)	Energy Efficiency	Nkanyiso	Madlala	34	Male	African

GAP GREEN 2020 WINNERS

	First Name	Last Name	Partners	Company Name	Cell Phone Number	Email Address	Project Title (One only)
1st	Ashwel	Ndlala	Prof Phatu Mashela; Ms Dineo Raphasha; Ms Lungile Mlotshwa	University of Limpopo in collaboration with EcoHarness Pty Ltd	076) 205-9531	ashwell.ndhlala@ul.ac.za	Development of a simple water purifying gadget made of Moringa oleifera seeds as the active beads.

2nd	Templeson	Nkambule	Nokuthenjwa Maphumulo; Thembi Mbele; Nokukhanyo Mabaso; Thandeka Nhlamunda; Junie Motaung; Lindiwe Skhosana	Oluchi Cooperation	(072) 583-7377	templesonnkambule@gmail.com	Insect Farming
3rd	Kgomotso	Maiphetlho	Sabrina Khoosal ; Prof Luke Chimuka; Dr Heidi Richards	PIMECO	(071) 154-8250	887508@students.wits.ac.za	Passive sampling device based on a polymer inclusion membrane (PIM) for metal ions and pharmaceuticals monitoring in environmental water samples
4th	Kgaugelo	Modise	Prof. Khumbulani Mpofu; Dr. Olukorede Adenuga ; Mr. Thobelani Mathenjwa	MI-Energy	079 570 7555/ 064 579 7236	mienergy16@gmail.com , kgaugelo@mienergy.co.za	Energy Efficiency (EE) Monitoring device for Industry 4.0

GAP Medical 2020 Winners

Leader & Team members	Institution	Technology summary	Prize
Prof Marcia Mkansi, Prof Nagitta Oluka	UNISA	Mobile health technology that increases accessibility and availability of anti-malaria drugs, artemisinin-based combination therapies drugs (ACTs). The innovation uses data obtained from a three years' research project to advance a theoretical supply chain coordination of artemisinin-based combination therapies (ACTs) into a practical mobile application tool or software for use by general hospitals in Sub-Saharan Africa and other developing economies with coordination and technological challenges. The software will manage, monitor and improve the availability of ACTs.	**1st Prize**
Prof Leenta Grobler, Dr Henri-Jean Marais, Mr Hannes Malan,	Med-E-Hive / NWU	Med-E-Hive provides low- cost, digital remote condition monitoring and measurement system enabling remote care support. The most recent being a condition monitoring and measurement system for ventilators regardless of the make and model unified on a web-based dashboard. This system will reduce mortality rates and improve care by deploying skilled ICU staff optimally and lead to a reduction in cost.	**2nd Prize**
Dr Cornelius Ssemakalu, Ms Blanche Lee Shong, Mr Mark johnson	Iraka Biotech	Iraka Biotech works on a novel technology capable of producing high-quality vaccines comprising inactivated whole-cell bacteria called Photonics Inactivation Device The technology is a photonics production unit capable of servicing of the animal vaccine industry including autogenous, bacterial and viral vaccines for the poultry, husbandry, companion animals, porcine and aquatic animals.	**3rd Prize**

GAP TOWNSHIP ECONOMY 2020 WINNERS

Position	First Name	Last Name	Company Name	Innovation summary

1st Place	Joseph	Ntuli	Mamntlane Phyto Pharmaceuticals & Nutritional Supplements	**Elderberry and Pelargonium Cough Syrups** - These cough syrups are free from alcohol and are plant based, used medicinally for various health conditions, including cough, flu, cold and diabetes. Elderberry have antiviral and antiflammarory properties. Pelargorium sidoides is also medicinal and has anti-enfective properties as it prevents bacteria from adhering to cells, helping fight viruses and stimulates the immune system
2nd Place	Raymond Tsheole	Masombuka	Kgosi Gape Holidings Pty Ltd.	**ESWLDS** – This is known as Early Sewerage and Water Level Detector System (ESWLDS). It detects sewage blockage early enough due to a detecting system that will nofify municipalites before spollage occurs,flooding community streets and yards. Sewerage pipes are situated 1.5m, with 3 meters deepest, under the ground,meaning when pips are blocked, communities and municipalities are unaware of a hazard brewing 3m below. ESWLDS uses a 3- alert levels, namely primary,secondary and hazard level. Once Ultrasonic Level Sensor detects that sewerage has reached a height of 20cm from floor or 81L,it triggers a primary alert signal notifying municipality of a blocked pipe, putting . sewerage and manhole problems in the hands of municipalities by providing access to point of blockage, providing communitieswith sewerage-free streets and neighborhoods
3rd Place	Dineo	Mashia	Enza Isibawo	**BOM –** This is a Broiler Operations Management App that will assist Broiler farmers with documenting their production performance by monitoring and documenting broiler feed, inventory, sales, costing, income statement record, feed calculator, calendar & advertising platform
4th Place	Seipati	Kobe	Botee Financial Seervices	**Pharmaship-** Pharmaship is an App that bridges the gap between the access to medical Health due to restricted working hours of pharmacies and clinics and limited access to emotional support and counselling, when urgently needed. The APP captures medicinal, contraception, medical conditions, religion,financial, recreational drugs use, emotional needs and design a drug profile that of a patient. Prescription is delivered to patient at their doorstep, when needed the most. The APP also offers offer medical, emotional and pharmaceutical advice 24/7 on a mobile device.