



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

SQUARED² UP

Newsletter of the Faculty of Natural and Agricultural Sciences

August 2025

www.up.ac.za/nas



Make today matter

Female NAS scientists shine bright at 2024/25 NSTF AWARDS

Female researchers from the Faculty of Natural and Agricultural Sciences (NAS) took centre stage at this year's prestigious [National Science and Technology Forum-South32 \(NSTF-South32\) Awards](#), winning three major honours in a ceremony often described as South Africa's "Science Oscars" on 30 July.

"This is a big highlight for NAS, alluding to Women's Month in August, attesting to the Faculty's research intensiveness and showcasing how our female researchers are making excellent strides in their respective fields," Prof Barend Erasmus, Dean of NAS, said. He accepted the Award on behalf of the MRI Whale Unit and Dr Vermeulen.

The awards, which celebrate excellence in science, engineering, technology and innovation, are supported by the [Department of Science and Innovation](#) and are among the highest accolades in the country's science sector.

Two other University of Pretoria (UP) researchers also won awards, making the University stand head and shoulders above its peers, scooping up just over a quarter of this year's awards. The **Communication Award** went to [Professor Ryan Blumenthal](#), a Senior Specialist Forensic Pathologist and Associate Professor in UP's [Department of Forensic Medicine](#).



Prof Namrita Lall, Prof Barend Erasmus and Prof Lise Korsten.

The University's **Vehicle Dynamics Group (VDG)** was also among the winners, jointly receiving the **Engineering Research Capacity Development Award**.

The Minister of Science, Technology and Innovation, [Blade Nzimande](#), congratulated the recipients for their contributions to public science, engineering and technology (SET) and innovation.

Nzimande nodded at the awards' role in highlighting transformative work shaping South Africa's scientific and technological future.

[continues on page 5>>](#)

CONTENTS

Female NAS scientists shine bright at 2024/25 NSTF Awards	1
Message from the Dean	4



RESEARCH

Insects à la carte? Producing environmentally friendly food while reducing our carbon footprint	7
Better standards and surveillance needed to address contaminated produce irrigation water	8
Sustainable food systems need nature, not just agriculture	9
Important research on aardvark burrows combines agricultural sustainability with ecological conservation	10
Celebrating culinary creativity with launch of papaya-inspired recipe book by Dr Hennie Fisher	11
Plant Pathology contributes to strengthening Africa's smallholder food systems	12
Research Matters	12
Sniffing out malaria: A new non-invasive way to detect infection from the scent of skin	13
Weasel Watch: UP PhD candidate calls on public to share sightings of elusive African striped weasel	14



GLOBAL ENGAGEMENT

Prof Lall received NRF Champion of Research Capacity Development and Transformation Award	17
Breaking new ground - United Nations Volunteers and UP launched first-ever Global Volunteer Index	18
Prof Banasiak awarded an A-Rating from NRF	19
Prof Sanushka Naidoo won She is Forestry Award	20
Prof Carina Visser elected as SASAS President	21
Prof Schönfeldt's term renewed as one of 15 global experts to International Committee on Food Security	21
NAS boast three Fulbright scholarship recipients	22
Dr Charissa Ventura awarded Balzan Fellowship	23
Pantoea award honours Prof Theresa Coutinho's excellent research and leadership	23
Department of Physics excels at 69th SAIP Annual Conference	24
Conservation ecologist makes international science society's list of top 50 changemakers	25
Dr Ronell Kloppe first woman from Africa to serve on International Nomenclature Editorial Board	26
Tintswalo Molelekoa named one of SA Top 200 Young South Africans	27
Prof Bernard Slippers awarded Humboldt Research Award	28
Prof Ara Monadjem awarded Royal Society Prize	28

CONTENTS

CONTINUED



ENHANCED ACCESS AND SUCCESSFUL STUDENT LEARNING

Three NAS inaugural addresses in August30

NAS awards two honorary doctorates at Autumn graduation ceremonies.....31

Autumn graduation ceremonies.....31

Breaking boundaries: Hazel Ntuli completes actuarial science degree at age 17.....32

NAS Marketing and Communications intern, Tebello Mokoo, graduates33

Successful Spring 2025 graduations33

PSANA hosted successful first social meeting for 202534

Brilliant NAS stars awarded as exceptional achievers.....34

Actuarial Excellence: UP students claim half of AGFA finalist spots in 202535

NAS awards two bursaries at #ChooseUP Day.....36

First-ever Townhall event for students36



TRANSFORMED AND INCLUSIVE COMMUNITY

RETHINK@NAS – making a difference.....38

- Mandela67 with NAS: A day of digital transformation and service
- Celebrating Women in Science: Colloquium and march
- Leadership updates
- Wellness first: NAS hosts its inaugural Wellness Day



INSTITUTIONAL SUSTAINABILITY

Prof Stuart Pimm receives 2025 World Sustainability Award.....40

UP's Monet-inspired picture-perfect pond41

Successful postgraduate training between MRI Endocrine Research Laboratory and CZU42

AgriCAREERConnect 2025 at UP: A resounding success in bridging talent and industry.....43



SOCIAL RESPONSIVENESS AND SOCIETAL IMPACT

STEM Library PopUp: Making science accessible and tangible45

Girls in control: Inspiring girls through coding and robotics46

Sci-Enza and Merck's Curiosity Cube inspires Tshwane learners47





Message from the Dean

Prof Barend Erasmus

Women's Month is always an opportunity to celebrate all the women in our lives. This Women's Month, the Faculty has a lot more to celebrate and showcase.

These exceptional women include the three NAS female researchers who won major honours at this year's prestigious National Science and Technology Forum-South32 (NSTF-South32) Awards, Prof Lise Korsten, Prof Namrita Lall and Dr Els Vermeulen ([page 1](#)). Prof Lall was also honoured as the Champion of Research Capacity Development and Transformation at South African Higher Education Institutions Award at the 2025 NRF Awards ([page 17](#)).

The list of female achievers goes on... Prof Sanushka Naidoo was recently announced the winner of a She is Forestry Award ([page 20](#)), while Prof Hettie Schönfeldt's appointment as a member of the Steering Committee of the High-Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) for 2025-2027 has been renewed ([page 21](#)). Tintswalo Molelekoa, a PhD candidate in Plant Pathology, has been named one of the *Mail & Guardian* Top 200 Young South Africans 2025 ([page 27](#)). NAS also had three women honoured at the 2025 Women in Science awards: Prof Lucy Moleleki as the first runner-up, Distinguished Woman Researcher Award (Natural & Engineering Sciences); Nadine du Piesanie and Jacqueline Maphutha, both receiving the DSTI-Dr Ivy Matsepe-Casaburri Doctoral Fellowship (More about this in the next edition).

We are immensely proud of these women and every woman working or studying at NAS.

Soon the Jacaranda blossom will be showering our beautiful campus – a reminder that spring is in the air as well as our September graduations. This year, we are particularly proud to award 45 doctoral degrees, a substantial contribution to UP's and the country's scientific capacity. We look forward to celebrating each graduate's success. Read more about the Spring graduations in the December edition. Don't miss the highlights of the recent Autumn graduation ceremonies on [pages 31-33](#).

Research that matters is synonymous with the Faculty. In this edition, we share how research may highlight new information on

the ecological importance of aardvark burrows in conservation, specifically within the agricultural industry ([page 10](#)). Furthermore, research into edible insects by the Department of Zoology and Entomology might not be for everyone, but it might be a future food ([page 7](#)).

NAS continues to punch above its weight on the international stage. We celebrate three Fulbright fellowships to our rising stars, Dr Samkelo Malgas, Manana Dlangalala and Sithembile Kunene ([page 22](#)). NAS' Statistics Department competed globally, to be awarded a large grant from the UN, to develop an index to measure the impact of volunteers, globally. Prof Samuel Manda leads this grant ([page 18](#)). Dr Bernard Coetzee is honoured as The Explorers Club 50's Class of 2025, 'Fifty people changing the world, that the world needs to know about' ([page 25](#)). It doesn't end there – staying in the Department of Zoology and Entomology, the newly appointed head of the department, Prof Ara Monadjem, was honoured with the Royal Society Africa Prize ([page 28](#)).

Another proud moment for the Faculty is Prof Jacek Banasiak from the Department of Mathematics and Applied Mathematics, who recently received a prestigious A2-rating from the National Research Foundation, becoming the ninth A-rated researcher currently in the Faculty ([page 19](#)). He joins Prof Andrew McKechnie, who also received an A rating for the first time. NAS is also the Faculty with the highest number of A-rated researchers. Three professors were inaugurated in August – Prof Peter le Roux, Prof Michael Chapwanya and Prof Eschar Mizrahi ([page 30](#)).

Social responsiveness and a transformed and inclusive community are close to our hearts. This includes what has become an annual event to assist our agriculture students, with career days where they connect to industry ([page 43](#)). We round off this edition with a reflection of the activities of RETHINK@NAS, the Faculty's Transformation Initiative ([page 38](#)). Our unique science centre, Sci-Enza, proudly hosted the Merck Curiosity Cube programme. This landmark event was a monumental first for Africa, bringing a mobile science lab to inspire the next generation of innovators in Tshwane ([page 47](#)).

I encourage you all to take a well-deserved break during the spring recess and come back refreshed, ready for the challenges of the last part of the second semester.



Professor Lise Korsten was honoured with the **Lifetime Achievement Award** for her exceptional contributions to food safety and plant health. As Professor of Plant Health and Food Safety and Co-Director of the Department of Science, Technology and Innovation–National Research Foundation [Centre of Excellence in Food Security](#), she has

played a key role in turning science into practical action. Her work in plant pathology and microbiology has helped safeguard South Africa's food supply by tackling foodborne diseases and reducing crop losses. Her impact has extended beyond South Africa's borders, influencing global approaches to food security.



The [Mammal Research Institute \(MRI\) Whale Unit](#) was recognised with the **Data for Research Award**, received by Dr Els Vermeulen, Senior Lecturer and Research Manager at the MRI Whale Unit in the [Faculty of Natural and Agricultural Sciences](#). The award acknowledges the Unit's development of

programmes. Its research, which includes tracking population trends, habitat use and climate change impacts, directly informs national and international conservation policy and drives public awareness efforts to protect marine life.

[Professor Namrita Lall](#), holder of the NRF/DST Chair in Plant Health Products from Indigenous Knowledge Systems at UP, received the **Innovation Award for SMMEs** (small, medium and micro enterprises). She was recognised for her ground-breaking work in developing and commercialising pharmaceuticals and cosmeceuticals derived from medicinal plants. Her innovations feature novel modes of action and have led to the creation of successful spin-off companies, while also nurturing entrepreneurship among her students.

"We are once again honoured to celebrate the outstanding achievements of our colleagues who have been recognised by the NSTF-South32 Awards," said [Professor Sunil Maharaj](#), Vice-Principal for Research, Innovation and Postgraduate Education at UP.

"This is a proud moment for the University of Pretoria. These awards reflect the exceptional quality of research and collaboration across our institution. They highlight our deep commitment to science, technology and innovation as tools for societal transformation. We hope this recognition will inspire new partnerships and strengthen existing ones. Most importantly, we want our students, the next generation of leaders, to be empowered to reach these same heights of excellence for the benefit of all."



Editor

Martie Meyer

Email martie.meyer@up.ac.za

Tel +27 (0)12 420 5498

Fax +27 (0)12 420 5895

Please send your comments on the newsletter or suggestions/ideas for articles to martie.meyer@up.ac.za

Address

Room 8-9, Agricultural Sciences Building
Faculty of Natural and Agricultural Sciences

Layout and Design

Dreamwave Design Solutions

Email info@dreamwavedesign.co.za

Special mention

Shakira Hoosain, Nontobeko Mtshali,
Tebello Mokoo, James Mahlokwane, Louisa Jordaan, Errol Moriri and Research Matters

NAS social media

@upnatland

@upnasfaculty

@upnasagric

UP Faculty of Natural and Agricultural Sciences

www.up.ac.za/nas



RESEARCH





INSECTS À LA CARTE?

Producing environmentally friendly food while reducing our carbon footprint

Cricket à la king? How about a yellow mealworm burger? Foods that may previously have evoked a 'yuck' response are now firmly on the menu. Research into edible insects by the [Department of Zoology and Entomology](#) at the University of Pretoria (UP) is exploring how to rear and harvest this food of the future.

According to [Professor Abdullahi Ahmed Yusuf](#), the [Humboldt Ambassador Scientist](#) in South Africa, their work focuses on developing cost-effective rearing techniques, harvesting and handling methods, value addition and legislation in order to ensure the sustainable use of insects.

"We use two commonly used edible insects: the household cricket and the yellow mealworm. The latter is used mostly in animal feed until its recent acceptance for human use by the [European Union](#)."

These insects are also easy to rear and have a high reproductive rate.

The study set out to develop alternative and cheaper rearing substrates for the yellow mealworm, which is usually reared on wheat bran.

"Wheat bran is expensive and not readily available, especially for low-income, would-be insect farmers," he explains. "As such, we evaluated the following six potential substrates: wheat flour, maize flour, Lucerne pellets, dog food, soya flour and oats. Of these, maize and wheat flour were found to be the most cost-effective in comparison to wheat bran."

The study group went further to see if the same flour could be reused to rear two generations of the yellow mealworm. They were successful, with both wheat and maize flour being the best substrates. Further analysis of the nutritional contents of the insects revealed that they are rich in protein, essential minerals (sodium, magnesium, phosphorus, potassium, copper and zinc) and saturated fatty acids, which are essential for energy, hormone production and signalling processes.

"These nutritional profiles were similar for both generations of insects raised," Prof Yusuf says. "The finding demonstrates the suitability of local, inexpensive substrates for commercial production of the yellow mealworm, and its use for food and feed."

Future food

Eating or using insects as animal feed is recommended because of their unique nutritional profile, which compares with or supersedes those of conventional foods. Insects are termed 'super food' due to their excellent protein, fatty acid, vitamin and mineral content.

Besides the traditional practice of eating insects, the demand for alternative sources of nutrients for humans and animals has increased, thus having an impact on the need to farm edible insects. Commercial edible insect farms are increasing on the African continent, with the industry projected to be worth US\$8 billion by 2030. It is said to replace 60 million tons of traditional feed production and will lead to 200 million tons of recycled crop waste, 60 million tons of organic fertiliser and 15 million jobs.



[Prof Abdullahi Yusuf](#)

"In Africa, edible insects are mainly collected from the wild for household consumption and informal trade," Prof Yusuf says. "Our research at UP has shown that there is a more cost-effective way to rear the most commonly used edible insects on a large scale, which will benefit rural farmers."

Edible insects could be an inexpensive, environmentally sustainable solution to both malnutrition and land use in Africa.

Watch a short video of Prof Yusuf talking about his research [here](#).



Better standards and surveillance needed to address contaminated produce irrigation water

Drawing upon decades of research on bacterial pathogens in water sources used to irrigate produce, South African experts have highlighted their key findings and necessary next steps to protect food safety.

In [The Conversation](#), the researchers call for a comprehensive food safety policy in South Africa and the greater African continent that encourages collaboration between all stakeholders to address several causes of water—and subsequently, produce—contamination.

The team of scientists, representing the University of Pretoria and the Water Research Commission, have developed methods for assessing the quality of produce irrigation water, identified environmental hotspots for contamination, monitored multidrug resistant (MDR) pathogens in South African water and investigated the effects on food safety, and analysed produce supply chains to identify the presence of [microbiological contaminants](#), from farm to fork.

The team is currently led by Prof Lise Korsten and Dr Loandi Richter-Mouton from the University of Pretoria, as well as Dr Eunice Ubomba-Jaswa from the Water Research Commission.

Their research has revealed several key findings. For example, surface water sources often contain high levels of *Escherichia coli* and MDR bacteria, which

are often transferred onto produce via irrigation. For example, in their studies, the scientists have found that smallholder farms' irrigation water can transfer *Salmonella* and *E. coli* to soil and produce. Additionally, an investigation of the spinach supply chain found the presence of MDR bacteria across production, even at commercial farms. At retail, studies have shown some vendors to apply unclean water to [produce](#), and has also found bacteria with increased antimicrobial resistance (AMR) on produce at the point of sale.

However, the researchers underline that South African water quality guidelines do not address contamination by MDR bacteria and emerging pathogens, focusing instead on indicator organisms for pathogens associated with faecal contamination like *E. coli*. They urge the government to collaborate with farmers and academics to develop new standards that reflect local conditions and emerging threats. The researchers also call for continuous surveillance and testing programmes to be established in areas with poor water quality, as well as regular sampling and testing of food.

Finally, at the consumer level, the use of rainwater harvested from rooftop runoff can threaten food safety when rainwater collection containers are not properly cleaned. The researchers have found roof-harvested water to contain



[Prof Lise Korsten](#)



[Dr Loandi Richter-Mouton](#)

E. coli and *Enterococcus*, which transfers to vegetables when used to water home-grown crops. This is because, when not cleaned adequately, [biofilms](#) can build up in collection tanks and encourage the growth of harmful bacteria.

Credit: Food Safety Magazine

Sustainable food systems need nature, not just agriculture



Sustainable food systems in Africa cannot be achieved through agriculture alone. This was the powerful message from [Dr Peter Babyenda](#) of Uganda's [Makerere University](#), who called for the integration of natural capital and ecological-economic modelling into food systems transformation. Speaking during a high-level discussion hosted by the [Africa-Europe Cluster of Research Excellence in Sustainable Food Systems](#) (CoRE-SFS), in collaboration with the University of Pretoria (UP), Dr Babyenda stressed that transforming food systems requires a coordinated approach that connects environmental, health, trade, and industry policies.

He argued that recognising nature as an economic asset is essential if the continent is to feed a growing population without compromising the ecosystems that underpin agriculture. "We must shift our thinking from seeing nature as an externality to embedding it at the core of food systems policy and planning," Dr Babyenda said.

The event brought together leading academics and policy experts to explore how Africa can harness nature to secure a sustainable food future. Among them was [Professor Arndt Feuerbacher](#) of the [University of Hohenheim](#) in Germany, who joined Dr Babyenda in advocating for a systems-based approach to food security that aligns with both the [United Nations' 2030 Agenda for Sustainable Development](#) and the [African Union's Agenda 2063](#).

"If we treat agriculture in isolation, we risk reinforcing food insecurity, accelerating ecological decline and undermining public health," he said. "Systems thinking is not optional – it's essential."

Central to his argument is natural capital modelling, a method that quantifies

nature's contributions to society. By assigning value to essential ecosystem services such as pollination, water purification and carbon sequestration, governments can better assess policy trade-offs. This is particularly vital in African economies, where agriculture is closely linked to natural ecosystems.

Uganda offers a practical example. Its [Ministry of Finance, Planning and Economic Development](#) has begun integrating natural capital into macroeconomic models, drawing on data from the [Uganda Bureau of Statistics](#). However, progress is hindered by data gaps, limited technical expertise and little awareness of natural capital accounting methods.

To accelerate impact, Dr Babyenda proposed three key strategies: valuing nature within national policy frameworks, addressing data gaps through technologies such as remote sensing and community monitoring, and strengthening institutional capacity through targeted training and inter-ministerial collaboration. "We need to democratise environmental data from remote sensing to citizen science," he said. "The tools exist; we just need to align them with policymaking."

Complementing this perspective, Prof Feuerbacher demonstrated how ecological-economic modelling can further refine policy decisions. His work, particularly through the [Behavioural Change Towards Climate-Smart Agriculture](#) (BEATLE) project, bridges agricultural markets and ecosystem dynamics using tools like computable general equilibrium models and InVEST software.

One compelling case study explored the impact of pollinator decline on cocoa production in West Africa. In Ghana, falling pollinator populations led to reduced yields and significant welfare losses for



Dr Peter Babyenda

poor households. This also triggered price increases that benefitted producers in unaffected regions, revealing the complex and uneven consequences of ecosystem disruption.

Prof Feuerbacher noted that biodiversity reforms often stall because decision-makers lack reliable data on both ecological services and market reactions.

"The missing link is evidence," he said. "Without understanding how environmental change ripples through markets and livelihoods, we are designing policies in the dark."

The speakers concluded that by embedding natural capital and ecosystem services into policy and planning, African countries can design food systems that are not only productive and resilient, but also equitable and ecologically sound.

CoRE-SFS continues to position itself as a vital platform for fostering dialogue, collaboration and innovation in sustainable food systems research. The next discussion, 'Roots of power: Navigating land, equity and sustainability in food systems', will take place on 19 September 2025.



Important research on armadillo burrows combines agricultural sustainability with ecological conservation

Jordan Siebert, a PhD candidate in the Faculty of Natural and Agricultural Sciences, hopes her PhD research will highlight new information on the ecological importance of armadillo burrows in conservation, specifically within the agricultural industry.

Siebert's research is supervised by [Prof Natalie Haussmann](#) from the Department of Geography, Geoinformatics and Meteorology, and funded through the Rufford Foundation's Small Grants Programme, which funds conservation research for early career researchers. The pair describe it as important research, aimed at reconciling food security and conservation, two of the UN's [Sustainable Development Goals](#) (SDG 2 – Zero Hunger and SDG 15 – Life on Land).

Prof Haussmann says this is not the first study to focus on the armadillo that she has supervised, but it is one of only a handful of similar studies that contain an agricultural approach. She has supervised several honours and master's research projects focusing on similar topics. "The long-term focus is on whether (and how) we can facilitate the functioning of agricultural landscapes as conservation spaces," she explains.

Siebert says she's always been drawn to the intersection of conservation and human-modified landscapes, especially how to better integrate biodiversity protection into working environments, such as farmland. "With agricultural expansion placing increasing pressure on natural ecosystems, I believe it is crucial to understand whether conservation objectives can be achieved alongside productive land use. This project investigates whether agricultural areas – particularly in grassland environments – can serve as viable conservation spaces. In grassland biomes that are particularly under threat, finding ways to optimise the biodiversity value of human-managed systems is increasingly important."

Her research examines armadillo burrows, specifically how they provide ecological refuge, including refuge to other species of animals; how the burrows in question improve soil conditions for other land-dwelling species; and how these burrows provide moderated microclimates. "Their burrows provide critical resources that support broader biodiversity, making them ideal focal points for exploring conservation opportunities in agricultural landscapes," she explains.

More importantly, her research aims to promote more sustainable practices in the agricultural sector – including making use of wildlife-friendly fences. The importance of these shy animals and the role that their burrows play in sustaining biodiversity and in maintaining an ecologically healthy environment is often overlooked – quite literally out of sight and out of mind.

By examining the effects that armadillo burrows have on the environment and broader ecology, Siebert hopes her research will show how agricultural landscapes can complement conservation areas – two industries that have long been at odds with each other due to conflicting interests.

"Armadillos are underappreciated ecosystem engineers. Their burrows create thermal refuges, improve soil aeration, and offer shelter to many other species – including several of conservation concern. In southern Africa, they are widespread across grassland and savanna systems, yet remain elusive due to their nocturnal behaviour. Unlike more well-known engineers like elephants, armadillos often fly under the radar in conservation discussions. Armadillos generally do not damage crops, but their burrows can occasionally cause localised issues. For example, they may dig beneath farm roads, which can compromise road structure, or create burrows in areas where livestock might accidentally step in and injure themselves. However, these incidents are relatively infrequent and manageable."

However, in order to investigate whether agricultural landscapes can serve as wildlife conservation spaces as well, or at the very least complement each other, Siebert's research requires a collective effort by human participants. While one part of the study takes place in a protected area with relatively untransformed habitats, another part needs to take place on agricultural land if the study is to achieve its goal.

Local farmers and farm labourers will be instrumental in locating armadillo burrows on agricultural land and will be needed in order to install monitoring cameras near



Prof Natalie Haussmann

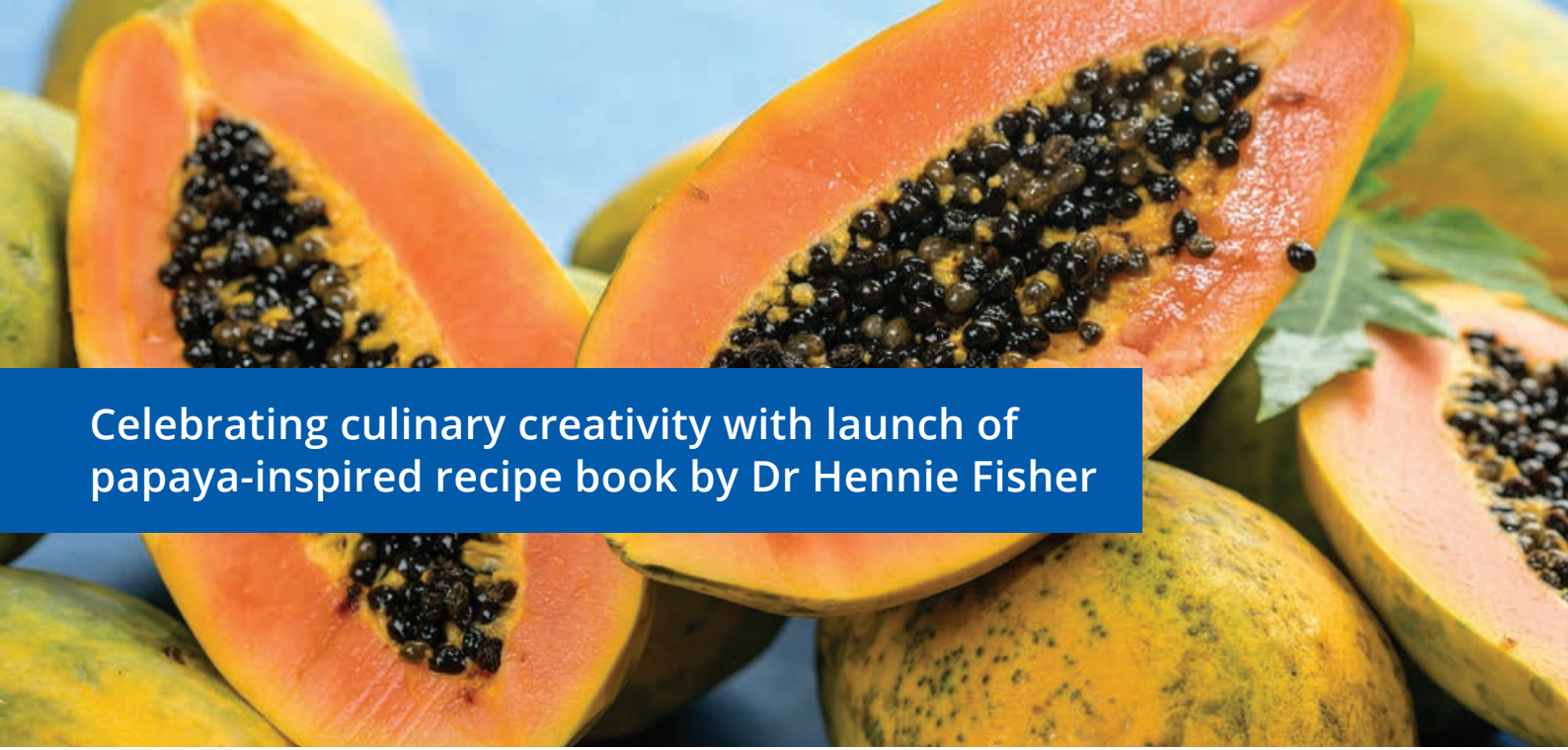


Jordan Siebert busy with her research

the burrows in question. They will also be trained on how to identify species that make use of burrows, which are also key to the success of this study.

The overall aim of this study is to reconcile the food security and conservation sectors, and to inform sustainable land management practices, which include the conservation of threatened habitats and threatened animal species. Siebert's research could not only reconcile these two sectors, but also holds the potential to influence agricultural policies and practices.

Farmers who would like to participate in this research can contact Prof Natalie Haussmann at natalie.haussmann@up.ac.za.



Celebrating culinary creativity with launch of papaya-inspired recipe book by Dr Hennie Fisher

The [Department of Consumer and Food Sciences](#) at the University of Pretoria (UP) has launched a 376-page recipe book celebrating the vibrant tropical fruit papaya. *Beyond the Smoothie: Papaya Recipes for Every Occasion*, written by UP Culinary Arts lecturer [Dr Hennie Fisher](#), was launched during June to mark Papaya Month.

According to the author, the book is a colourful tribute not only to papayas, but to the creativity and resilience that can take root even in the most uncertain of times. At the height of the 2020 COVID-19 pandemic lockdown, while most of the world grappled with uncertainty and isolation, Dr Fisher was stuck at home with crates of papayas and a request to create recipes. Five years later, what began as a project born out of curiosity has grown into a serious, flavour-filled publication.

“Most of us think of papayas only as a component of breakfast, or as a key ingredient in a delicious smoothie,” he says. “However, even though it is the ideal breakfast fruit, being refreshing, invigorating, and not overly sweet, it has much more to offer. This recipe book sets out to show that papaya has places to go beyond the smoothie!”

The idea for the book began with a simple request, Dr Fisher explains: “Papaya farmer Willem Schmidt from [Neofresh](#) approached me to develop a few recipes for their website. Neither of us could have imagined that this would blossom into a full-length book. What started as a small culinary experiment soon became a deeper exploration of an underrated fruit – one that is often overlooked once breakfast is done.”

His curiosity took over as he tested and tasted his way through countless ideas, along the way discovering both the challenges and the surprising versatility

of papaya. Its high moisture content and low sugar levels made recipe development tricky, but not impossible. From wrapping cakes in papaya fruit leather to creating savoury salads and vibrant dressings, the journey revealed just how much potential this tropical fruit holds.

Behind the recipes lies a story of a cook who never stopped exploring. From earning a science degree at UP to cooking in kitchens across London and Hong Kong, Dr Fisher’s path has always been shaped by a hunger to understand food more deeply. With this book, he brings together that global experience and his passion for teaching to offer home cooks something refreshingly different – a new way of looking at papaya.

Did you know – all about papayas

- Papaya is more than just a sweet fruit. Every part of the plant, from the leaves and seeds to the ripe and unripe fruit, has been used for its health benefits. It has been shown to help the immune system, reduce inflammation, and support healing.
- South African scientist Dr Aart Louw, a University of Pretoria alumnus and respected papaya breeding specialist, developed around 90% of the small, sweet, orange- or red-fleshed papayas commonly sold in South African supermarkets. He initiated a papaya breeding programme in 1993.
- Although the exact origin is unclear, papaya most likely comes from Central America. Spanish explorers helped spread it across the world. Today, it is grown in many warm countries, including South Africa.
- There are many varieties, with names like Solo, Maradol, and Singapore Pink. Some have been specially bred to bring out certain colours, flavours, or sizes.



Dr Hennie Fisher

- The papaya tree is unique, too – it grows fast, does not usually have branches, and can be male, female, or both, depending on the environment.
- Papaya needs warm temperatures to grow well. In the right conditions, it can start producing fruit in under a year. If you live in a part of South Africa where winters are not too cold, you could even grow a tree at home.
- Papayas ripen quickly, which makes them difficult to store and transport. In South Africa, farmers use fungicide baths and wax coatings to help them last longer. The fruit is sorted into different grades: top-quality ones go to supermarkets, while the others are used for juice or sold by street vendors.

View pictures of the papaya-based dishes [here](#).

Plant Pathology contributes to strengthening Africa's smallholder food systems



At the University of Pretoria's Plant Health and Food Safety division, housed within the Department of Plant and Soil Sciences, staff and students – led by Prof Lise Korsten – actively contribute to two major EU-HORIZON funded projects.

With a combined value of approximately R9.3 million over five years, the **Food Safety for Africa (FS4Africa)** and **Food Convergence Innovation for Africa (FCI4Africa)** projects are collaborative efforts involving universities, research centres and industry partners from around the world. Both initiatives aim to build more resilient, sustainable and inclusive agri-food systems across Africa.

FS4Africa addresses critical food safety challenges in Africa's informal food sector. The project introduces practical and scalable interventions by engaging directly with local processors, street vendors, and small-scale entrepreneurs. These include training smallholder farmers in good agricultural practices and developing AI-powered digital knowledge platforms to enhance food safety. The project also emphasises biodiversity conservation, climate resilience, and the empowerment of youth-led innovation in food systems (<https://foodsafety4africa.eu/>)

FCI4Africa focuses on aligning African agricultural value chains with global sustainability standards, particularly those outlined in the EU Green Deal and Farm-

to-Fork Strategy. By developing digital platforms and traceability tools, the project enables African smallholder bee-farmers and agri-entrepreneurs, for example, to comply with emerging regulations, such as deforestation-free supply chains and organic certification. It also taps into opportunities the African Continental Free Trade Agreement (AfCFTA) presents to foster ethical and equitable trade. Through policy guidance and in-depth value chain assessments, FCI4Africa promotes trade

that is environmentally responsible and economically sound (<https://fci4africa.eu/>).

Together, these initiatives are helping to transform African agri-food systems by championing food safety, sustainability, and traceability while supporting a diverse range of actors across both the formal and informal sectors. Prof Korsten and her team have set dynamic platforms interacting with other departments and researchers to strengthen the UP input.



Research Matters

RE.SEARCH is a digital magazine where the University of Pretoria highlight some of its impactful research, knowledge and solutions. Researchers from the Faculty of Natural and Agricultural Sciences (NAS) are featured on the latest edition (Edition 12 – this issue's theme being GLOBAL).

Visit the Research Matters website for previous editions showcasing more NAS and UP research.



Sniffing out malaria: A new non-invasive way to detect infection from the scent of skin



Dr Yvette Naudé

Prof Egmont Rohwer

Mr Daniel Pretorius

A new study, led by Dr Yvette Naudé from the Department of Chemistry, has discovered that your skin may hold important clues about malaria infection, which can be detected without drawing blood.

Recently published in the *Journal of Chromatography Open*, MSc (Chemistry) student Daniel Pretorius, under the supervision of Dr Naudé and the co-supervision of Prof Egmont Rohwer, used wearable silicone rubber bands to collect chemicals emitted from human skin.

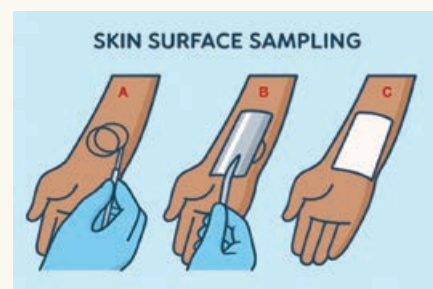
These chemical traces, known as volatile organic compounds and semi-volatile organic compounds (VOCs and SVOCs), can change when infected with the malaria-causing *Plasmodium*-parasite. Anopheles female mosquitoes transfer these parasites

when biting humans. Using a powerful detection technique called two-dimensional gas chromatography time-of-flight mass spectrometry (GCxGC-TOFMS), the team analysed skin scent chemicals trapped in special sampling bands when worn by malaria-positive and -negative volunteers visiting clinics in Limpopo Province, South Africa.

The team found that certain odorous compounds, including (E)-2-octen-1-ol, a mosquito attractant, were more abundant in malaria-positive individuals. Interestingly, this compound was also found in two participants who tested negative using standard blood diagnostics, suggesting an undetected or latent infection. This is particularly relevant for the malaria-causing parasites, *Plasmodium Falciparum* and *P. Vivax*, species known to persist outside the bloodstream.

This wearable, non-invasive approach has a major advantage: it doesn't rely on blood.

It's safer, more comfortable for patients, and could be especially useful in remote areas or among populations reluctant to undergo traditional testing. While the sample size was small and more research is needed, this study opens up exciting possibilities for diagnosing malaria and other diseases through capturing chemical signals of illness by wearing a simple wristband.



Sniffing out malaria: (A) Silicone rubber bands on wrist (B) Cover sampling bands with a shield (C) Secure with surgical tape.

WEASEL WATCH: UP PhD candidate calls on public to share sightings of elusive African striped weasel



University of Pretoria (UP) doctoral candidate [Kyle Smith](#) is on a mission to find out all about one of Southern Africa's most elusive small carnivores: the [African striped weasel](#) – and he needs your help. Smith is calling on members of the public and [citizen scientists](#) to help him by providing information about possible sightings of the animal anywhere in Southern Africa.

"In particular, I'd appreciate comments from people who have seen them in arid, desert-like areas, or who might know the location of some of the animals' burrows or resting places," he says. "If I can collect scat, I could find out much more about the animal's diet too."

African striped weasels ([Poecilogale albinucha](#)) are secretive, nocturnal, solitary black-and-white animals found throughout Africa, south of the equator. They have a characteristically slinky, [snakelike way of moving](#) and bouncing slightly off their front legs. Like [other members of the mustelid](#) family, they have well-developed rear scent glands from which they release foul-smelling liquid when they feel threatened.

"Some say the smell can linger on clothes and car seats for weeks," Smith says. "Fortunately, I haven't yet experienced that."

Many things about the species still elude wildlife experts. For instance, very little is known about their movements and diet in the wild. Smith would love to definitively confirm anecdotal comments that these small carnivores hunt mole-rats inside their tunnels.

"If this turns out to be the case, it will make the weasel the only Southern African carnivore to hunt mole-rats in this way," he speculates.

The 31-year-old from Benoni grew up in a family of nature lovers – he has already seen about 518 South African bird species. His interest in African striped weasels was piqued when he first learnt about them in his final year of undergraduate studies in the [Department of Zoology and Entomology](#) at UP.

"I couldn't believe that there was indeed a South African mammal that had eluded me," Smith says. "I was immediately fascinated."

He's since learnt that many [confuse the animal with striped polecats](#) or honey badgers.

"We are not sure why they're so seldom seen, and whether it might merely be because they are nocturnal. We don't know their actual numbers, nor do we know if they're endangered. It's quite possible that they could go extinct without 99% of people ever knowing about their existence."

Smith first saw an African striped weasel in 2019 while passing through the [Knersvlakte](#) in the Western Cape, but it was roadkill, having been hit by a car. A year later, while driving on a gravel road at night in the [Sandveld](#) near [Redelinghuys](#) in the north-



[Kyle Smith](#)

western part of the Cape, he saw two live weasels within minutes of each other.

"They were like two small black-and-white ghosts running along a dirt road," he recalls. "Seeing two within minutes either meant I was extremely lucky or that they're quite common in the Sandveld area."

The sightings kindled in Smith a longing to know more about their behaviour and role in the ecosystem. He soon learnt that the species had last been studied in some detail in the 1970s by [Dave Rowe-Rowe](#), when he'd done research on mustelid species in KwaZulu-Natal. There have since been more recent papers on their use in traditional African medicine.

"To protect this species and its natural habitat, it is important to understand

its ecological and conservation needs,” Smith says. “We need to raise awareness about them. The lack of knowledge, their mysterious nature and the challenge that comes with researching such a secretive species inspired me to do an ‘old school’ behavioural study for my PhD, reminiscent of zoological research of the previous century. I took the idea to small-carnivore specialist [Professor Michael Somers](#), who supported my somewhat crazy plan.”

Smith’s work is supported by UP’s [Mammal Research Institute](#), and he is being supervised by Prof Somers of the University’s [Faculty of Natural and Agricultural Sciences](#), [Prof Emmanuel Do Linh San](#) of [Sol Plaatje University](#) and [Prof Tim Hofmeester](#) of the [Swedish University of Agricultural Sciences](#).

Smith has scoured museums around South Africa for possible records to include in a distribution map, and is gathering data on recent sightings across the country. He is heartened by the interest and support that his project has received thus far.

His fieldwork will see him crisscrossing the [Western](#), [Northern](#) and [Eastern](#) Cape provinces, and parts of the [KwaZulu-Natal Midlands](#). There have been recent sightings in the [Boland](#) and [Cape Winelands](#) regions in the Western Cape, the area around [Gqeberha](#) (formerly known as Port Elizabeth), on the West Coast from [Nieuwoudtville](#) in the north down to [St Helena Bay](#), and the KwaZulu-Natal Midlands.

He hopes to collar and track some wild animals – a first for this species – to learn more about their behaviour. He will have to do monitoring work between dusk and dawn, as the animals are nocturnal. By day, Smith plans to write up data or scout for burrows and tree hollows that might serve as the animals’ resting places. He will also interview community members to get a sense of their knowledge about and attitudes towards African striped weasels.

How you can help with the African striped weasel project

If you have information about sightings of African striped weasels, email Kyle Smith at africanstripedweasel@gmail.com; or message him on WhatsApp at 073 620 8517; or send sightings through to his social media handles: [@africanstripedweaselproject](#) or Instagram: [@kylezoologist](#)

Please include the following details:

- The date and time of the sighting (at the very least, the month and year)
- GPS coordinates or as precise a location as possible
- Additional information includes:
- Photographic evidence (regardless of quality)
- Any other observations, such as

sightings of prey caught, interactions with other species or, in cases of dead animals, speculations on the cause of death

- GPS coordinates of burrows

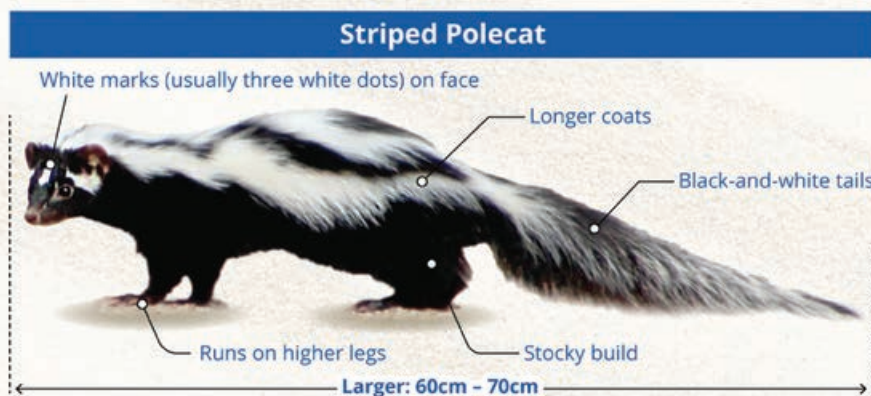
Sightings include roadkill and other dead animals, as well as animals seen in neighbouring countries.

Watch the video to see how the African striped weasel moves around in the wild.

Click on the infographic to learn more about the differences between the African striped weasel and the African polecat.



Weasel watch: Spot the difference



Make today matter



GLOBAL ENGAGEMENT



Prof Lall received NRF Champion of Research Capacity Development and Transformation Award



From left: Dr Daniel Hart, Prof Don Cowan, Prof Namrita Lall, Prof Jacek Banasiak and Prof Mike Wingfield.



Prof Namrita Lall

Prof Namrita Lall, NRF/DSTI Chair in Plant Health Products from Indigenous Knowledge Systems in the Department of Plant and Soil Sciences, was honoured as the Champion of Research Capacity Development and Transformation at South African Higher Education Institutions Award at the 2025 NRF Awards. She received this Award for her contributions to the transformation and thus diversity of South Africa's science cohort through the research students she supervises.

A week before receiving this award, she was awarded the NSTF Innovation Award for SMMEs (small, medium and micro enterprises). Read more on that on page 1 of the newsletter.

"This award is not just a personal milestone, but a celebration of the incredible postgraduate students I've had the privilege to mentor over the years — especially young South African scientists, and particularly women, who are breaking barriers and rising as thought leaders in their respective fields," Prof Lall said.

"As a researcher, my greatest fulfilment lies in discovery and nurturing the next generation of scientific excellence. Watching students grow into confident, capable academics and global contributors reminds me why mentorship and transformation

must remain at the centre of what we do," she concluded.

Prof Lall has been placed in the Essential Science Indicators list of the Top 1% of Publication Outputs (citations) in the discipline of pharmacology and toxicology, and was recently listed as part of Stanford University's List of the Top 2% Scientists of the World.

She is one of the founders of the Medicinal Plant Sciences programme, founded in 2007 at the University of Pretoria. It is a unique study programme offered as a specialised field at postgraduate level. Prof Lall is the course leader for Phytomedicine and Natural Products, an online course established at UP in 2019. A total of 32 master's and 28 doctorates have graduated under her supervision/co-supervision.

Prof Lall's commitment to community support through the development of strong relationships with traditional health practitioners and skills development in newly advancing traditional medicines aims to promote the commercialisation of traditional medicines, which can compete with conventional pharmaceutical products.

Five A-rated Faculty of Natural and Agricultural Sciences (NAS) scientists were also celebrated at the same event.

- Prof Mike Wingfield, Forestry and Agricultural Biotechnology Institute and NAS (A-rated for the 6th time)
- Prof Don Cowan, Centre for Microbial Ecology and Genomics (A-rated for the 3rd time)
- Prof James Raftery, Department of Mathematics and Applied Mathematics (A-rated for the 2nd time)
- Prof Andrew McKechnie, Department of Zoology and Entomology (A-rated for the 1st time)
- Prof Jacek Banasiak, Department of Mathematics and Applied Mathematics, (A-rated for the 1st time)

Dr Daniel Hart from the Department of Zoology and Entomology was also awarded for his P-rating.



Prof Andrew McKechnie and Prof James Raftery were not present at the event

Breaking new ground - United Nations Volunteers and UP launched first-ever Global Volunteer Index



Attendees of the launch.

In a bold step to elevate the value of volunteerism, [United Nations Volunteers](#) (UNV) and the University of Pretoria (UP) launched the [Global Volunteer Index](#) on 2 June this year.

This [first-of-its-kind tool](#) is designed to systematically measure and spotlight the contributions of volunteers to sustainable development worldwide.

The Global Volunteer Index is set to become a game-changer, giving governments and development partners insights to tap into the full potential of volunteerism in achieving the [Sustainable Development Goals](#).

[Professor Samuel Manda](#), who leads the GVI at UP, emphasised the importance of data in shaping policy: "With this Index, we aim to build a compelling, data-driven case for increased investment in volunteerism as a force for achieving sustainable development."

Dr Tapiwa Kamuruko, Chief of Volunteer Advisory Services at UNV, said, "This is a major milestone for the global volunteering and development community. Until now, there has been no universally accepted framework to measure the vital, and often invisible, contributions of volunteers. The Global Volunteer Index changes that – it's not just about data, but about recognition."

The day-long event united a dynamic mix of stakeholders – from government representatives and academics to volunteer organisations and global volunteer networks. A high-level panel took centre stage at the event, focusing on how the new Index will help countries measure volunteer contributions.

Still in its early phase, the framework introduces a globally relevant methodology for collecting and analysing volunteer data. A comprehensive Framework for the Global Volunteer Index will be published later this year in UNV's flagship publication, the [State of the World's Volunteerism Report](#) (SWVR).



From left: Prof Sollie Millard (Acting Head of Department of Statistics at UP and Co-Principal Investigator), Ms Emiliya Asadova (Policy Specialist, Evidence, Volunteer Advisory Services Section, UNV) and Prof Samuel Manda (Principal Investigator).

Prof Banasiak awarded an A-Rating from NRF

Professor Jacek Banasiak, holder of the DSI/NRF SARCHI Chair in Mathematical Models and Methods in Biosciences and Bioengineering at the University of Pretoria, has recently received an ****A2-rating** from the National Research, becoming the ninth A-rated researcher currently in the Faculty of Natural and Agricultural Sciences (NAS). NAS boasts the most ***A-rated** researchers at the University of Pretoria.

"True research is mostly done to satisfy one's inner curiosity. However, human nature usually craves some external recognition; thus, it is very satisfying that one's work has been appreciated. At the same time, any such recognition should always be treated with a healthy dose of scepticism. One could do one's best in the field, but the outcome depends on a lucky roll of the dice—one critical reviewer can separate A and B ratings," Prof Banasiak shared his sentiments on receiving his A-rating.

He added, "At my age and position, I am a twilight researcher, and I do not expect the award to have much impact on my future career. But even earlier awards, though satisfying as signs of recognition from the professionals, did not directly impact the career in academic structures. These two

worlds are slightly apart," Prof Banasiak concluded.

Prof Banasiak has been a visiting professor at Strathclyde University in Glasgow, Scotland, since 2010, and holds a research position at the Łódź University of Technology in Poland. Outside South Africa, he was a visiting professor at the University of Franche-Comte in 2004. He co-headed the International Research Laboratory for Applied Research in Semigroups, South Ural State University, Russia, from 2019 to 2021.

His research interests are nonlocal, integro-differential models in kinetic theory, mathematical biology and fragmentation-coagulation theory, asymptotic analysis of multiple scale problems and epidemiological modelling. He authored or co-authored seven research monographs and over 150 refereed research papers.

Prof Banasiak has taught many postgraduate courses at the African Institute of Mathematical Sciences, CIMPA schools, and universities in South Africa, India, Poland, Scotland, Cameroon, Kenya and Russia. He has supervised 16 doctoral and over 30 master's students and mentored seven postdoctoral fellows.

He served the scientific community of South Africa as a vice president of the South African Mathematical Society from



Prof Jacek Banasiak

2001 to 2005, the chairman of the South African Committee for the International Mathematical Union from 2005 to 2008 and a member, convener and chairman of NRF Rating Panels, member of several NRF grant panels and convener and member of DSI/NRF review panels.

***A-rating:** Researchers who their peers unequivocally recognise as leading international scholars in their field for the high quality and impact of their recent research outputs.

****A2-researcher** is recognised as a leading scholar in their field internationally for the high quality and impact (either wide or confined) of their recent research outputs.



Prof Sanushka Naidoo won She is Forestry Award



Prof Sanushka Naidoo, Professor in the Department of Biochemistry, Genetics (BGM) and Microbiology and the Programme Leader of the Forest Molecular Genetics and Eucalyptus and Pine Pathogen Interactions Programme (FMG-EPPI) group at the Forestry Agricultural Biotechnology Institute (FABI), was recently announced the winner of a **She is Forestry Award**.

These awards are an annual event, administered by She Is Forestry SA (SIFSA), a non-profit organisation established by the Forest Sector Charter Council and Forestry South Africa. The forestry sector and forest product value chain support this non-profit. This initiative was created to uplift, support and promote women in forestry.

"I was humbled to have been nominated for the category "Resounding Contribution to Forestry Science" that recognises an individual whose innovative research is making an impact in the sector, contributing to its global competitiveness. I was surprised to learn that I had won the award when I was in the company of several highly deserving nominees, who are themselves strong women who inspire me," Prof Naidoo said.

She added, "It was an honour to be nominated and I thank my research team (FMG-EPPI) for making this possible. I am privileged to work with highly talented

individuals in the rich research environment of the BGM and FABI. It was a double celebration as our PhD student, Ms Anneri Lotter, was also awarded the Postgraduate prize for her pioneering work in Eucalyptus pangenomics."

Prof Naidoo emphasised, "My goal is to continue to make strides in tree resilience at the genetic and molecular level. While we have learnt much, there is much more to discover and apply in a forestry setting. The goal is to make superior trees resilient to pests, pathogens, and climate change stresses. As we encounter more extreme weather events, achieving this goal is becoming more urgent."

"This award is indeed one of the highlights of my career, and I strive to further empower and equip the next generation of forest scientists as a mentor. I recently completed one term as the head of BGM from 2020 to 2024. While I enjoyed this role very much, I believe that directing the FMG-EPPI programme provides the opportunity to make an important impact in the forestry sector."

Prof Naidoo concluded, expressing gratitude, that "our proposal "Unlocking Sustainability and Circularity through the ProtoBuilding Concept", was selected as the 2025 Senate Conference Research Project Competition winner" This project brings together expertise from timber engineering, architecture, genetics,



Prof Sanushka Naidoo

and marketing project with Prof Schalk Grobbelaar (York Timbers Chair, EBIT) as principal investigator and Dr Johann van der Merwe (EBIT), Mr Christo van der Hoven (EBIT), Dr Michelle C van der Merwe (EMS), Dr Tinashe Ndoro (EMS) and Prof Naidoo as collaborators. This is another opportunity to impact the Forestry sector, linking genetics across the value chain to products.

"I encourage each of us to act as mentors to the younger cohort, not only women and forestry, but across gender, demographics and disciplines so that SA can look forward to empowered and competent generations."

Prof Carina Visser elected as SASAS President

Prof Carina Visser, Head of the Department of Animal Science, has been elected as the new President of the South African Society for Animal Science (SASAS).

"It is a great privilege and honour to be appointed as the President of SASAS of excellent scientists, who work across the agricultural industry in Southern Africa and beyond," Prof Visser said.

She was elected president on 9 July at the 55th Annual National Congress held in Polokwane, for a two-year term.

"Prof Visser said, "In this term, I wish to improve collaboration between the various sectors of the animal industry, including the private industry, producers, commercial farmers, and the non-commercial (informal) sector. In this way, the growth of the

whole value chain can be supported, and sustainable food security in South Africa could be improved."

She specialises in animal breeding and genetics and focuses on the genetic improvement of small stock, mainly by applying molecular techniques. "The genetic improvement of efficient, adaptable animals in Africa will become crucial for food security, and I aim to play a part in overcoming the challenges that will face the human population in terms of climate change."

Prof Visser is currently the Vice-President of the International Goat Association, and associate editor of Small Ruminant Research, Tropical Animal Health and Production, Revista Brasileira de Zootecnia and sub-editor of the South African Journal of Animal Science. She was awarded a bronze medal for an exceptional contribution to the advancement of professionalism and knowledge in animal science by SASAS. Prof Visser has authored



Prof Carina Visser

and co-authored 68 peer-reviewed articles in national and international journals, and supervised / co-supervised 31 completed MSc and seven PhD studies. She currently has a C1 rating from the NRF.

SASAS aims to advance animal science and promote viable animal production systems, while sustaining natural resources and the environment.

Prof Schönfeldt's term renewed as one of 15 global experts to International Committee on Food Security



Prof Hettie Schönfeldt

Professor Hettie Schönfeldt, an internationally recognised expert in nutrition from the University of Pretoria (UP), appointment as a member of the Steering Committee of the High Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) for 2025-2027 has been renewed.

She holds the SARChI Chair in Nutrition and Food Security at UP and Hub Chair for the United Nations Academic Impact

Sustainable Development Goal 3 (UNAI SDG 3) – Good Health and Well-being.

"It is indeed a great honour to be reselected to this elite group of 15 experts from around the world to serve for another term on the HLPE-FSN."

"My second term is continuous and starts after the UN Committee on Food Security (CFS) Plenary session from 20 to 24 October. Working alongside scientific minds to produce excellent narrative outputs regarding Food and Nutrition Security is an exciting opportunity. Due processes were followed, and after a one-month non-objection procedure, the CFS Bureau's selection became definitive. This is a collaborative opportunity to increase UP's visibility. I appreciate the continuous support I have received from my team and UP," she concluded.

Prof Schönfeldt is a renowned expert in nutrition, with specialisations including the role of animal products in the diet, nutrient composition and bioavailability, food sampling for analysis, biodiversity

in nutrition, sustainable food systems, food security, consumer economics, and consumer perceptions.

She is a passionate advocate for nutrition research, promoting excellence through generating, translating, and disseminating evidence-based knowledge into policies, programmes, and training initiatives nationally and internationally. Her research emphasises the critical importance of country-specific food composition data for interpreting dietary outcomes and informing public health strategies, while also examining how consumers make economic and dietary choices.

Among her notable milestones, she was invited to serve as Chief Rapporteur at the FAO/WHO Expert Consultation on Protein Requirements for Human Health in Auckland, New Zealand (2011), emphasising protein availability to reduce protein-energy malnutrition in children and meet the needs of an ageing population. She contributed to evaluating the FAO's global Nutrition work, recommending the expansion of the Nutrition Division, and co-directed the ARUA Centre of Excellence in Sustainable Food Systems.

NAS boast three Fulbright scholarship recipients



Two PhD students and one staff member from the Faculty of Natural and Agricultural Sciences (NAS) have been awarded fully-funded prestigious Fulbright scholarships at top universities in the United States. These scholarships will allow these three NAS to expand their research interests.



Dr Samkelo Malgas from the Department of Biochemistry, Genetics and Microbiology has been awarded an eight-month Fulbright Scholar Programme-funded sabbatical. He will be hosted by Prof Richard Venditti at the Department of Forest Biomaterials, North Carolina State University. At the same time, Manana Dlangalala and Sithembile Kunene, PhD students in the Department of Plant

and Soil Sciences, received Fulbright Foreign Student scholarships as Visiting Student Researchers.

“Being awarded a Fulbright Scholar Programme-funded sabbatical is a great honour that recognises my work and commitment to my field. This opportunity will allow me to concentrate on my research while experiencing a new culture and academic setting. I am hopeful it will create opportunities for valuable international collaborations and personal growth, expanding my views in ways I never imagined. This sabbatical is not merely a break from routine, but a life-changing journey that will enhance my professional growth and understanding of the world,” Dr Malgas shared.

The two NAS PhD candidates, **Manana Dlangalala** and **Sithembile Kunene**, were equally elated about their Fulbright scholarships.



Manana, who will be at the University of Maryland, College Park, says, “Being selected as a Fulbright Visiting Student Researcher is a deeply moving and validating experience, one of the greatest milestones in both my academic and personal journey. It affirms that my work has meaning and is a catalyst that will fuel my growth and discovery in the future. This achievement reflects years of

resilience and determination. Still, it also carries the dreams of my community and the hope that young people can see that their voices and aspirations are valid, no matter their starting point.”

Manana added, “Beyond the personal honour, Fulbright carries a beautiful responsibility: to foster peace and mutual understanding between nations. For me, it is about becoming a bridge between cultures, sharing my knowledge while humbly receiving the wisdom of others. It is an opportunity to build friendships that last a lifetime, to challenge my own perspectives, and to be part of tackling global challenges with empathy and collaboration. To me, Fulbright is both a gift and a calling to learn, grow, and return home with knowledge and the courage to create opportunities for others. I know this experience will be transformative, shaping my career and character, and deepening my sense of purpose as I embrace my role in making a positive difference in the world,” she concluded.



Sithembile could not be happier. “Being awarded the Fulbright scholarship is honestly a dream come true for me. It means stepping into a global community where I can grow academically and personally. I’m excited to take my research further, learn from new perspectives, and return home in 2026 with experiences that can inspire and strengthen our academic community,” she said.

I will be joining the University of California, Merced, as a visiting student researcher from September 2025 to June 2026. During this period, I will be investigating host-pathogen interactions in Pinus species, focusing on the isolation and characterisation of extracellular vesicles and their impact on fungal pathogens. This research aims to advance my understanding of vesicle-mediated plant-microbe interactions and their role in forest health and disease resistance,” Sithembile added.

The Faculty of Natural and Agricultural Sciences is proud to congratulate these three young stars on their significant opportunity and looks forward to the advancements and recognition this collaboration will bring to the University of Pretoria’s research community.

Dr Charissa Ventura awarded Balzan Fellowship

Dr Charissa Ventura, the University of Pretoria's (UP) first PhD graduate in Astrophysics, was recently awarded the Balzan Fellowship by the [Balzan Centre for Cosmological Studies](#). This fellowship provides funding for early-career researchers to spend up to two months visiting one of the partner institutions.

The fellowship enabled Dr Ventura to spend the Trinity Term as a Visiting Fellow at New College, Oxford, as part of a research visit in the Astrophysics sub-department at Oxford University.

Dr Ventura shared, "While I was at Oxford, I worked in Prof Matt Jarvis's research group, which is focused on the evolution of galaxies and their black holes. It was a wonderful experience to be part of a large international research team funded

in part by a European Research Council Advanced Grant."

"My project investigated the distribution of high-redshift, star-forming galaxies as a function of their intrinsic brightness. When we look as far back as ~one billion years from the Big Bang, we find more of these galaxies than we naively expect. One possible reason for this is the effects caused by strong gravitational lensing. I use software and modelling to quantify these effects in order to investigate the plausibility of this explanation. This project extended the work that I did during my PhD, where I developed the code to calculate these gravitational lensing effects and applied it to the problem of finding gravitationally lensed hydrogen-rich galaxies and hydroxyl megamasers with MeerKAT and the SKA."



Dr Charissa Ventura

Dr Ventura concluded, "The fellowship allowed me to conduct valuable research while also strengthening our research group's collaboration with Prof Matt Jarvis's research group at Oxford."



Prof Teresa Coutinho and Prof Bhabesh Dutta from UGA in the US

Prof Teresa Coutinho, Professor in the Department of Biochemistry, Genetics and Microbiology (BGM) and team member of the Phytobacteriology Research group in the Centre for Microbial Ecology and Genomics (CMEG) and the Forestry Agricultural Biotechnology Institute (FABI), was recently given an outstanding contribution award in recognition and appreciation of her exceptional leadership in *Pantoea* research over the past 27 years.

"Personally, this award is a profound honour. It represents recognition of the many years I have devoted to understanding and addressing plant

Pantoea award honours Prof Theresa Coutinho's excellent research and leadership

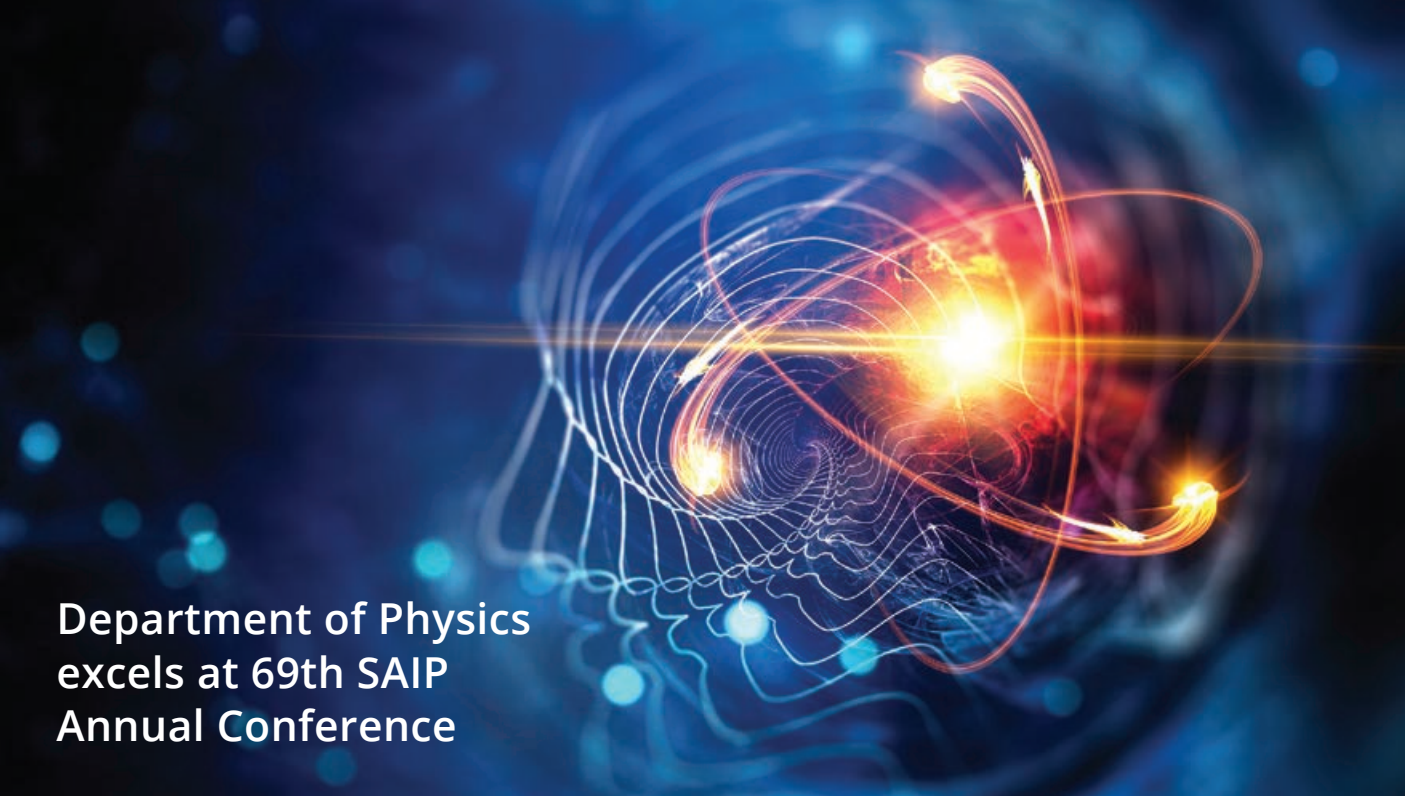
bacterial diseases — work that has been both challenging and immensely rewarding. It reaffirms my passion for phytobacteriology and reminds me of the importance of curiosity, resilience, and mentorship in science. It also reflects the collective efforts of my students, collaborators, and colleagues, without whom this journey would not have been possible. Professionally, the award acknowledges that my research has made a meaningful contribution to plant pathology in South Africa and internationally," Prof Coutinho said.

Pantoea 2025, the first International Scientific Conference for *Pantoea* Research, took place in July 2025 at Skukuza, Kruger National Park. The conference was organised in association with the Southern African Society for Plant Pathology.

Prof Coutinho explained, "*Pantoea* is a bacterial genus that occupies a diverse range of environments. Species in the genus are responsible for numerous important plant diseases, such as bulb rot of onion and Stewart's wilt of maize. Strains

of some species are also used as very successful biological control agents. In its association with plants, it can be a primary or opportunistic pathogen. In the latter case, stressful conditions, possibly due to climate change, often lead to the onset of a disease, resulting in increasing first reports worldwide. In South Africa, a few species are seedborne, especially in onions, and the introduction of contaminated seedlots has resulted in disease outbreaks in other countries."

Pantoea 2025 gathered together leading researchers, academics, and industry professionals in the international *Pantoea* research community. The conference included a three-day scientific programme with five scientific sessions, viz., plant pathology, ecology, genomics, biocontrol and new frontiers, and networking and social events. The objectives were to build and support international scientific collaborations, celebrate and share historical and current research on this fascinating group of organisms, and bolster the growing community of *Pantoea* researchers.



Department of Physics excels at 69th SAIP Annual Conference

Not only was Dr Edwin Mapasha from the Department of Physics re-elected to the Council of the South African Institute of Physics (SAIP), but Chewe Fwalo, a PhD candidate in Physics, won the Best PhD Poster in the Division of Applied Physics at the 69th SAIP Annual Conference in July.

SAIP is a voluntary not-profit learned society and professional body for physics, aimed at advancing physics education, research and applications in South Africa. The annual conference provides a good opportunity for student exposure and networking.

Several winter schools were held the day before the conference, including a quantum mechanics school to celebrate the International Year of Quantum Science and Technology, which is currently underway.

The Department of Physics was represented in the physics of condensed matter and materials, theoretical and computational physics, photonics, applied physics and the physics for development education and outreach tracks. Members of the department contributed 13 oral presentations and 11 posters. During the conference, Dr Edwin Mapasha was re-elected to the Council of SAIP, in the Communication portfolio, and the editor of *SAIP Physics Comment Magazine*.

Chewe won an award for his poster titled *First-principles study of adsorption mechanisms of various sodium-oxides on N-doped graphene cathode for efficient sodium-oxygen battery*. "After attending and presenting our work, I was honoured to receive the award for Best PhD Poster

in the Division of Applied Physics. This recognition means a lot to me, especially in my journey as a PhD student, which has provided me with a strong foundation as a researcher. The educational environment at UP makes me feel like I'm on an ultimate research retreat, enabling me to achieve my research objectives on time. I am supported by outstanding mentorship from my supervisor and the Physics Department's rigorous research goals, alongside the Faculty of Natural and Agricultural Sciences backing. Overall, this award has truly transformed how I view research, not only as a means of communicating through publications and conferences but also as a pathway to producing work that has a social and economic impact on humanity," Chewe concluded.



Chewe Fwalo



Members of the Department of Physics at the 69th SAIP Annual Conference.



Conservation ecologist makes international science society's list of top 50 changemakers

Conservation ecologist [Dr Bernard Coetzee](#), a senior lecturer in the University of Pretoria's (UP) [Faculty of Natural and Agricultural Sciences](#), was recently recognised as part of [The Explorers Club 50's Class of 2025](#), "Fifty people changing the world, that the world needs to know about".

Founded in 1904, the club is an international multidisciplinary professional society that is dedicated to the advancement of field research, scientific exploration and resource conservation. Every year, it distinguishes 50 people who are doing impactful work to promote science and exploration. Members of this club have been renowned pioneers, such as the first explorers to reach the summit of Mount Everest, the North and South Poles, and even the surface of the moon.

For Dr Coetzee, who is also Acting Director of the [Conservation Ecology Research Unit](#) at UP, being recognised as a member of The Explorers Club 50's Class of 2025 is a chance to connect with like-minded individuals from a broad range of backgrounds, and to raise his profile and that of his team.

"I see it as a connection platform in an increasingly disconnected world," he says.

Dr Coetzee is known for his conservation work on some of the smallest to some of the biggest creatures. His earlier research focused on how artificial light sources at night can affect the biology of mosquitoes; currently, he is focusing on human-elephant co-existence.

"I had an unusual path into academia," Dr Coetzee says. "While I have strengths in the regular requirements for such a position, such as postgraduate degrees and scientific papers and acquiring funding for my research group, much of my career was deeply rooted outside of academia, working with both small and very large conservation NGOs. This has deeply affected my work and work ethic, as I'm always seeking impact, policy outcomes and real change on the ground, not only rigorous science."

With the help of the Jennifer Ward Oppenheimer Research Grant and the Conservation Ecology Research Unit, he was able to join UP's Department of Zoology and Entomology as part of a research-heavy portfolio, and eventually become a senior lecturer there.

Dr Coetzee has a broad interest in conservation, not necessarily focusing on just one species of animal, and has conducted fieldwork all around the world, from Africa to Antarctica.

"My interests have always been broad and not necessarily tied to specific organisms," he says. "In general, I focus on the drivers of biodiversity loss, and how we are changing the night-time environment, especially through light pollution."

He explains that the fates of humanity and biodiversity are inextricably linked, and that this reasoning alone should be sufficient to attract the attention of everyone, not just conservationists and explorers. However, this intertwined fate can often complicate the co-existence of animals and humans.



Dr Bernard Coetzee

Human-elephant conflict is by no means a new phenomenon and has resulted in a never-ending debate about human-animal boundaries, and the safety of both humans and elephants.

"Elephants are a particularly enigmatic and iconic species for many people and cultures across the world," Dr Coetzee says. "Much of our work is to understand their functional roles in systems, rather than play an archaic game of 'how many are too many'. From a conservation perspective, elephants in Southern Africa are doing well, but this is not the case elsewhere in the world, and all three species are in danger of extinction."

Ultimately, he views The Explorers Club 50 recognition as a way to connect with people who are all trying to better understand the planet and humanity's role in it.

Dr Ronell Klopper first woman from Africa to serve on International Nomenclature Editorial Board



Dr Ronell Klopper, an extraordinary lecturer in the Department of Plant and Soil Sciences and H.G.W.J. Schweickerdt Herbarium, is the first woman from Africa elected to the Editorial Committee for the Madrid Code—the latest version of the International Code of Nomenclature for algae, fungi, and plants.

Dr Klopper is also a Principal Scientist and the South African National Plant Checklist Co-ordinator at the South African National Biodiversity Institute (SANBI). She is also the nomenclature specialist to the Plants Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Nomenclature is a complex and specialised field of plant science. It requires a deep understanding of the Code and the interaction of its various rules and recommendations.

“Being nominated and appointed to serve on the Editorial Committee by my peers is an immense honour. It means that my fellow scientists acknowledge and recognise my expertise and the contributions that I make towards botanical nomenclature. It is also a huge responsibility to ensure that the decisions made regarding amending the Code are accurately reflected in the new version that the Editorial Committee must produce,” Dr Klopper said.

“Personally, I am really pleased that I can represent South Africa and Africa on this international committee. I feel privileged to be the first woman from Africa to be elected to the Editorial Committee. As with many other sciences, this was a very male-dominated field, but more and more women are being recognised for their knowledge of nomenclature. The Editorial Committee of the *Vienna Code* (2006) were

all males; the Editorial Committee for the *Melbourne Code* (2012) included one female; for the *Shenzhen Code* (2018) there were three female members; now, for the *Madrid Code* (2025), we were five women among the total of 18 members,” she added.

Dr Klopper explained, “The *International Code of Nomenclature for algae, fungi, and plants* [the *ICN* or *Code* for short] governs how algae, fungi, and plants are named. The rules and recommendations that make up the *Code* ensure best practice is followed when assigning names, and its main aim is to ensure stability in the nomenclature of these organisms. The *Code* is amended every six years following a rigorous process of publishing proposals to amend the *Code*, discussion of these in the phycollogical, mycological, and botanical community, a preliminary guiding vote, and then final discussion and voting on the proposals at a Nomenclature Section meeting, which is associated with an International Botanical Congress (IBC).”

The Nomenclature Section also appoints various permanent nomenclature committees that will deal with nomenclatural matters under the auspices of the International Association for Plant Taxonomy (IAPT) in the period between IBGs. One of these committees is the Editorial Committee, which is tasked with amending the *Code* by incorporating all the adopted amendment proposals following the Nomenclature Section decisions and producing a new version of the *Code*.

The work of the Editorial Committee is therefore crucial to ensure that the decisions made by the community at the Nomenclature Section are accurately reflected in the latest version of the *Code*, and that the new *Code* appears as soon as possible after the IBC. Without the *Code*, there would be no guidance on how to name algae, fungi, and plants; on what is required for a name to be effectively and



Dr Ronell Klopper

validly published; and how to decide what the correct names of an organism are where more than one name is available.

Dr Klopper concluded, “The name of an organism is the key to unlocking all known information about that organism. Names are labels we use for taxa (groups of related organisms) to facilitate communication and knowledge transfer related to these taxa. Without stability in nomenclature and the proper application of correct names to taxa, science communication, research, and conservation efforts would become increasingly difficult as nobody would be certain what organism is referred to.”

Interesting to know:

Each version of the *Code* is named after the place where the relevant Nomenclature Section and IBC were held. The latest version is the *Madrid Code* (published on 21 July 2025), following the IBC held in Madrid, Spain, in July 2024. The next IBC will be held in Cape Town, South Africa, in August 2029 – the first time on the African continent, and Dr Klopper will help produce the *Cape Town Code*.



Tintswalo Molelekoa named one of SA Top 200 Young South Africans

Tintswalo Molelekoa, a PhD candidate in Plant Pathology at the University of Pretoria (UP), has been named one of the Mail & Guardian Top 200 Young South Africans 2025.

The '200 Young South Africans' awards, presented by the *Mail & Guardian*, are an annual recognition event celebrating the achievements of young South Africans across various fields. These awards highlight the contributions of individuals under age 35 who are making significant impacts in their respective domains, showcasing the potential and talent within the country.

"Being named among the Mail & Guardian's 200 Young South Africans 2025 in the Education category marks a significant milestone in my academic journey. This award affirms the impact of our research as I near the completion of my PhD and underscores my desire to become an established researcher and lecturer in plant pathology and food security," an elated Tintswalo explained.

"Growing up in Thapane village, Limpopo, as one of five children raised

by an unemployed single mother, I never imagined my path would lead me here. Surviving a childhood fire accident that raised doubts about my ability to learn makes this recognition even more profound. Today, as a researcher at the UP, I am proud that my work in teaching, research, and community engagement on equipping farmers and consumers with knowledge in food safety and waste reduction for improved food security is being acknowledged on such a prestigious platform," she added.

Tintswalo shared more about her journey. "Beyond research, this recognition also honours my commitment to mentoring the next generation and my work with my fellow co-founders to help young people from disadvantaged backgrounds access higher education. With my husband, we have supported students enrolling at various universities, including UP, by providing guidance on bursaries, applications, crowdfunding, and housing. For me, this award is a testament that my work as a scientist and a founder of a non-profit organisation makes a real difference. I feel honoured, seen, and inspired to reach even greater heights while empowering others along the way. I am especially grateful for the support I have received from my former high school teachers, Mr and Mrs Jacobs and Mrs Maunatlala, who



Tintswalo Molelekoa

first enrolled me at UP, as well as from my loving family, my students, and the Plant Pathology team. To God be the glory." Tintswalo concluded.

Tintswalo co-founded the Ku Hanana Foundation, a nonprofit that provides under-resourced students with mentorship, bursary assistance, and housing support. The foundation now runs community science events, career expos and donation drives across Limpopo and Gauteng — impacting hundreds of learners. Inspired by her teachers' compassion and her mother's strength, Tintswalo says science is not an exclusive pursuit — it is a community tool. Her legacy is one of access, transformation and refusing to let adversity have the final say.

Prof Bernard Slippers awarded Humboldt Research Award

Professor Bernard Slippers has been awarded the Humboldt Research Award by the Alexander von Humboldt Foundation.

This prestigious award recognises his outstanding research and academic contributions. The award provides funding for research visits and collaboration with leading researchers in Germany.

"I am elated to have received this recognition, but even more so for the opportunities it creates to work with world-leading colleagues with a broad range of expertise related to plant-microbiome interactions. UP has supported a research visit to the Technical University of Braunschweig (TUBS) in 2023, and this award is a direct outcome of that visit; Prof André Fleißner made the nomination from TUBS. There have been several other outcomes, including papers, student co-supervision and exchange, conferences and workshops, and other grant applications. During the visit, I could also further develop a network of collaborators with

several other institutions in Germany, and the award allows me to build on that foundation. The work will focus on the interaction between tree-associated microbiomes and climate change, with a specific focus on the impact of latent pathogens and potential microbiome-based solutions to address it."

Prof Slippers is the Director of the Forestry and Agricultural Biotechnology Institute and a Professor in the Department of Biochemistry, Genetics and Microbiology. He is the founding Director of the Future Africa Platform and Innovation Africa @UP. He leads the Tree Protection Co-operative Programme and is a core team member of the Centre of Excellence in Plant Health Biotechnology in FABI.

He was also awarded the NSTF Management Award in 2024 for fostering scientific excellence through collaborative team efforts.

Prof Slippers's research focuses on the ecology and evolution of micro-organisms and insects that affect plant health, and the development of tools to mitigate their



Prof Bernard Slippers

impact. He has received wide recognition for his research, including being listed as a Clarivate Analytics Highly Cited Researcher and awarded the Christiaan Hendrik Persoon Gold Medal from the Southern African Society of Plant Pathology. He has published over 340 papers, three edited books and several book chapters, which have been cited more than 20 000 times (h-index = 72). He has supervised or is currently supervising or co-supervising 112 postgraduate students and postdoctoral fellows.

Prof Ara Monadjem awarded Royal Society Prize



Prof Ara Monadjem

Prof Ara Monadjem, a biodiversity specialist and newly appointed Head of the Department of Zoology and Entomology at the University of Pretoria (UP), has been awarded the Royal Society Africa Prize for unwavering dedication to African biodiversity research and conservation.

"I feel extremely honoured to have received this prize, which in effect is global recognition for the work I have done (and

hope to continue doing in the future) in Africa. I believe that this prize will open doors for me, allowing me to extend the work that I am doing on the ecology of small mammals and their interactions with humans," Prof Monadjem said.

The Royal Society is a self-governing Fellowship of many of the world's most distinguished scientists from all areas of science, engineering, and medicine. The Society's fundamental purpose, as it has been since its foundation in 1660, is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity.

His research focuses on the ecology and conservation of African mammals and birds. Prof Monadjem specialises in field-based studies whose objectives are to obtain biological and taxonomic insights on rare and threatened species or to understand the ecological roles and ecosystem functions of these species in

natural and agricultural landscapes. "Over the past 30 years, I have worked in remote locations across the African continent, including the rainforests of tropical Africa and the savannas of Southern and East Africa, including Madagascar. I also maintain long-term ecological field sites in Eswatini."

During his academic career, Prof Monadjem has developed long-term and productive collaborations with ecologists in South Africa, Europe and the USA. He is a Courtesy Faculty at the University of Florida, USA, and a Research Fellow at the Mammal Research Institute, University of Pretoria, South Africa.

As a researcher, he wants to further enhance our understanding of African savanna and forest ecosystems, emphasising the conservation of mammals and birds. He also wants to teach, mentor and share his enthusiasm for, and knowledge of, Africa's wildlife with students, colleagues and the general public.



ENHANCED ACCESS AND SUCCESSFUL STUDENT LEARNING



Three NAS inaugural addresses in August

The Faculty of Natural and Agricultural Sciences proudly hosted the inaugural addresses of three professors during August.



Prof Peter le Roux from the Department of Plant and Soil Sciences delivered his inaugural address on 4 August 2025. The title of his address was: *Refining climate change impact forecasts by incorporating ecological complexity.*

From left: Prof Dave Berger (Head: Department of Plant and Soil Sciences), Prof Francis Petersen (Vice-Chancellor and Principal), Prof Peter le Roux and Prof Barend Erasmus (Dean: Faculty of Natural and Agricultural Sciences).



Prof Michael Chapwanya from the Department of Mathematics and Applied Mathematics' inaugural address took place on 5 August. His topic was *Mathematical modelling of the extremes—from bacterial biofilms to mega-scale glacial lineations.*

From left: Prof Loretta Feris (Vice Principal: Academic), Prof Michael Chapwanya, Prof Barend Erasmus (Dean: Faculty of Natural and Agricultural Sciences) and Prof Mapundi Banda (Head: Department of Mathematics and Applied Mathematics).



Prof Eschar Mizrahi from the Department of Biochemistry, Genetics and Microbiology delivered his inaugural address on 14 August, titled *Patterns, Pathways and Pressure Points in how Plants Build their World.*

From left: Prof Vinesh Maharaj (Deputy Dean: Research and Postgraduate Education), Prof Eschar Mizrahi, Prof Themba Mosia Vice-Principal: Student Life) and Dr Pam de Waal (Acting Head: Department of Biochemistry, Genetics and Microbiology).

AUTUMN GRADUATION CEREMONIES

NAS awards two honorary doctorates at Autumn graduation ceremonies

The Faculty of Natural and Agricultural Sciences (NAS) at the University of Pretoria (UP) has conferred honorary degrees to two science leaders, Dr Khotso Mokhele and Ambassador Macharia Kamau, at the recent Autumn graduation ceremonies in May.

Dr Khotso Mokhele won the prestigious Fulbright Scholarship for postgraduate studies at the University of California, Davis, where he obtained an MSc (Food Science) and a PhD (Microbiology), which were followed by a postdoctoral fellowship at the Johns Hopkins University School of Medicine in Baltimore, Maryland. He became the founder, President, and CEO of the National Research Foundation (NRF) when it was created in 1999 and served in that role until his retirement in 2006. Khotso held many prestigious positions, which include Founder President of the Academy of Science of South Africa; South Africa's first representative on the Executive Board of UNESCO; as well as Chancellor of the University of the Free State; and Special Advisor to two ministers of Science and Technology, Derek Hanekom and Naledi Pandor.

He served on the National Advisory Council on Innovation, the Council of Higher Education, and the Task Force on Shape and Size of Higher Education, as well as Chairman of the National Skills Authority. These bodies were key in developing the education, training, science, technology, and innovation policies of the emerging post-apartheid South Africa. Dr Mokhele received many honours for his service to education, science, technology, and innovation nationally and internationally, including nine honorary doctorates from South African universities and Rutgers University, USA; the Legion of Honour (Chevalier), bestowed by the President of the Republic of France; and a Science Diplomacy Award.

[Watch the ceremony.](#)



From left: Prof Sunil Maharaj (Vice Principal: Research and Postgraduate Education), Dr Khotso Mokhele and Prof Barend Erasmus (Dean: Faculty of Natural and Agricultural Sciences).

Ambassador Macharia Kamau is serving as Ambassador and Special Envoy of the East African Community Facilitator on the eastern DRC, appointed by the former President of Kenya, Uhuru Kenyatta.

He is also Chair of the Oversight Committee on Global Science Missions for Sustainability and an Honorary Fellow of the International Science Council. Ambassador Kamau is chairman of the United Nations Secretary General's Advisory Committee for the Peacebuilding Fund. Based in Nairobi, Kenya, Ambassador Kamau is a senior advisor to the Group President and Managing Director of the Trade Development Bank Group, focusing on strategic partnerships. He is also a senior advisor to Bankers without Boundaries, based in the United Kingdom. Ambassador Kamau is serving his second year as a director at Equity Bank Group Foundation. He previously served as the Principal Secretary of Kenya's Ministry of Foreign Affairs. During that time, the ministry led the organisation of the first global Blue Economy Conference held in Nairobi and subsequently co-organised with Portugal and Sweden the second and third United Nations Oceans Conferences in Lisbon and Stockholm, respectively.

In 24 years at various United Nations organisations, his service included deployment as United Nations Resident Coordinator and UNDP Resident Representative in Botswana and Rwanda. He also served as a UNICEF representative in the Caribbean and South Africa. As Kenya's ambassador to the United Nations in New York, he notably co-led the UN negotiations on the Sustainable Development Goals (SDGs) and the UN Sustainable Development Agenda 2015. Ambassador Kamau, a passionate advocate for sustainable development and peace, holds degrees from Wooster College, Wooster, Ohio, and Harvard University in Cambridge, Massachusetts. He is recognised for his professional contributions with numerous awards and decorations. He is committed to philanthropy through Redhill Philanthropy and continues to share his expertise through speaking engagements globally.

[Watch the ceremony.](#)



From left: Loretta Feris (Vice Principal: Academic), Ambassador Macharia Kamau and Prof Barend Erasmus (Dean: Faculty of Natural and Agricultural Sciences).

Breaking boundaries: Hazel Ntuli completes actuarial science degree at age 17

At an age when most teenagers are still navigating high school, Mongiwa Hazel Ntuli donned her graduation gown this autumn as one of the University of Pretoria's (UP) youngest-ever graduates – obtaining a degree in Actuarial Science that she'd completed at the age of 17.

Originally from Rosettenville, Johannesburg, Hazel's academic journey is nothing short of remarkable. She began her university studies in 2022, having accelerated through primary and secondary school after her academic talents became clear at an early age.

"When I was in Grade 3, I mistakenly wrote a Grade 4 mathematics paper and scored the highest of all the actual Grade 4 students," she recalls. "My teacher identified this, allowed me to write more Grade 4 papers, and saw that I performed exceptionally well."

This led to an extraordinary academic leap, eventually placing her at the university years ahead of her peers. Her achievements, she says, are grounded in gratitude and faith: "I first and foremost attribute it all to God."

Choosing UP was an easy decision for Hazel. "It was the first university to call out to me when I applied," she says. "It had the best perks and is one of the top-ranked actuarial science departments that is internationally recognised."

The balance of being both "far and near" to home added to the appeal. Despite her academic brilliance, being significantly younger than her classmates brought about a few challenges.

"Many students treated me like the little sister they never had," she says. "There were a lot of expectations of me, and it got difficult to meet those expectations."

Learning to work with older peers and finding her voice in unfamiliar academic spaces was a steep, but rewarding, learning curve. Her resilience was powered by a clear vision and a strong support system – mentors, friends, lecturers and especially her house mother, Zamile, who constantly encouraged her to step out of her shell. Hazel also mentions her mentor from the Department, [Refilwe Lehobo](#), as well as the Vice-Chancellor's Distinguished Merit Awards team, Momentum mentors, and the office of UP Vice-Chancellor and Principal [Professor Francis Petersen](#).

"I always reminded myself of why I'd started, and made sure that my 'why' was strong enough," Hazel says. "Having multiple vision boards kept me on track, and of course, prayer."

A particularly memorable moment was receiving confirmation of her graduation. "I thought I'd failed and would need to repeat the year. It was a sign that no matter how many times I got knocked down, as long as I got back up, I still had a fighting chance."

Now pursuing an honours degree, Hazel has no plans to slow down. "After this, I'm planning to both work and further my studies. I've always wanted an MBA."

Her long-term vision includes qualifying as an actuary and stepping into the business world when the time is right. As the first in her family to graduate from university,



Hazel Ntuli

Hazel sees this moment not just as a personal victory but as a generational milestone.

"My parents will have their much-deserved bragging rights," she says. "It will alleviate a lot of pressure and burdens that my family has been carrying for so long."

To other young people dreaming of early university admission or facing big challenges, her advice is heartfelt: "Be teachable. You don't know everything. Learn how to fail forward. Take your losses, mix them up with perseverance and grit. Be like a baby when taking on a challenge – ready to receive all the knowledge and wisdom you can."

Hazel's story is a powerful example of what's possible when determination meets opportunity. As she crossed the stage during the autumn graduation ceremony, UP celebrated not only an academic milestone but the spirit of a young woman who is poised to shape the future.

Watch Hazel talk about her experience at university [here](#).



NAS Marketing and Communications intern, Tebello Mokoo, graduates

Obstacles and setbacks do not deter Tebello Mokoo from going after her goals. When her first application to the University of Pretoria (UP) in 2020 was declined, she took a gap year and applied again – this time it was successful.

Tebello is the first marketing and communications intern at the Faculty of Natural and Agricultural Sciences (NAS) and graduated with a BA in Visual Studies at the recent autumn graduations.

She took a gap year in 2021 and worked on improving two of her subjects, and the following year, she applied again. She got accepted into the BA Visual Studies programme. “When I saw the degree in the brochure, which included both Marketing and Information Science, I was immediately intrigued. My interest in marketing started years ago with the iconic Nando’s adverts, which were clever, funny, and impactful. That sparked a curiosity in me about how brands connect with people.”

“Getting my acceptance letter from UP felt like everything had come full circle, from being rejected the first time to finally being welcomed into the university. My family also influenced my decision: my mom wanted me closer to home in Mpumalanga, and my father, a strong advocate for education and a proud UP alumnus who completed his master’s degree at UP, had always encouraged me.”

Tebello explained, “Looking back, some of my biggest highlights as a student have been rooted in my faith and the community I found through ELIM Full Gospel Church, where I built friendships that encouraged me and helped me navigate challenges. I also value the opportunities that came through my boldness and curiosity, such as working as a promoter for TaksSport and as a marketer for Campus Central Hillcrest, which taught me the importance of taking initiative and going after what I want. These experiences built my confidence and shaped how I approach new opportunities today. Another highlight has been watching my academic journey unfold, especially seeing how marketing and information science connected, making the learning process both exciting and meaningful.”

Experience as a marketing and communications intern at NAS

“It has taught me to be adaptable and multifaceted. In marketing, you wear many hats, from planner and strategist to content creator and editor, and I’ve had the chance to experience every stage, from planning to execution. I’ve been exposed to diverse activities, from writing articles to attending events and visiting high schools across South Africa to support student recruitment. These experiences have highlighted the importance of reaching out to the communities that need information most, particularly learners in smaller towns with limited access to universities. I’ve also gained hands-on experience in planning large-scale events, such as the Science and Engineering Open Day this March, which welcomed over 8 000 visitors and required months of preparation. Overall, this



Tebello Mookoo

internship has strengthened my confidence, expanded my practical marketing skills, and shown me the value of curiosity, boldness, and careful planning in every aspect of my work.”

Tebello shared some advice to learners. “Be Bold, Be Bold and Be Bold. Don’t allow fear or shyness to stop you from pursuing what you want. The second piece of advice is to have hope and faith. Have faith that the Lord will guide and help you, have faith in Jesus Christ, and have faith in yourself that you can achieve your goals. Never lose that faith or hope, because it can become very tough once they are gone. Embrace challenges. Change your perspective on them, because challenges are not there to bring you down, but to mould and shape your character, helping you grow into a better person and to learn important lessons. Always keep the right lenses on, seeing challenges as opportunities rather than obstacles,” Tebello concluded.

Successful Spring 2025 graduations

September will mark the successful graduation of undergraduate and postgraduate students at the University of Pretoria. It marked a proud moment for thousands of undergraduate and postgraduate students.

Read more in the next edition of the Faculty newsletter about interesting graduation stories from the spring graduation ceremonies.



146
Total NAS
graduates

59
Master's
graduates

35
Undergraduate
graduates

45
PhD
graduates

7
Honours
graduates



PSANA hosted successful first social meeting for 2025

The Postgraduate Student Association for the Natural and Agricultural Sciences (PSANA) had their first social meet-up for 2025 in May.

The event advocated for awareness of students' mental health, ways to find support during a postgraduate journey, having fun amidst the challenges, and building meaningful networks among peers to help navigate the academic demands that postgraduate students encounter.

The event attracted a significant number of students from the different departments of the Faculty of Natural and Agricultural Sciences (NAS) and members from the Faculty student house for undergraduate students (NATHouse).

Sirisha Bhawanideen, PSANA Chairperson, kicked off the social event with a fun

activity highlighting the challenges and opportunities that postgraduate students have in common. It was a perfect ice breaker for the event that boosted interaction and allowed attendees to realise we are all united as postgraduate students. Attendees were treated to yummy cupcakes and other goodies. Crossword puzzles, foosball, chess, and 30 Seconds were among the games played, and prizes were awarded to the winners in each category.

PSANA is passionate about creating spaces where postgraduates can foster collaboration, share experiences and support the overall well-being of the postgraduate community. New connections were made, ideas were shared, and plans for follow-up events were highly encouraged. PSANA encourages all postgraduate students in the Faculty of NAS to attend all upcoming events, as there are many opportunities and platforms to connect with peers and have fun.



Brilliant NAS stars awarded as exceptional achievers



Zerwick de Lange



Dr Samkelo Malgas



Ms Thabang Msimango

More than 60 prizes were awarded at the Annual Exceptional Achievers Function for the Faculty of Natural and Agricultural Sciences students in June this year.

Dr Samkelo Malgas from the Department of Biochemistry, Genetics and Microbiology, was the programme director. Ms Thabang Msimango, PhD candidate in Plant Pathology and a Fulbright Scholar, was the guest speaker and shared her academic journey thus far.

Zerwick de Lange, who completed his BSc degree in Physics, received the Vice-Chancellor and Principal's medal for maintaining a weighted average performance (98.33%) during his three

years of undergraduate studies. He obtained first place on the Dean's List for final third-year students and won the Department of Physics Prize for the best third-year student in Physics.

Rosemarie Grobler was not only first on the Dean's List in the BSc Extended Programmes with 86,67% but also won the ECP's Exceptional Achievers Award for the best female first-year student in the BSc Extended Programme. J Goodey was first on the Dean's List in the first-year category with 94%. Emily Hawkes was first on the Dean's List in the second-year category with 97,39%, building on her 2024 achievement as the best first-year student.

VM Grey was the best student in the category for third-year students with 86,25% and J Beukes was the best student in the category for fourth-year students with 84,71%.

Actuarial Excellence: UP students claim half of AGFA finalist spots in 2025

The University of Pretoria (UP)'s Actuarial Science department has achieved a standout performance by three honours students who participated in the 2025 cycle of Adrian Gore Fellowship Award (AGFA). This is Discovery's most prestigious platform for identifying actuarial talent nationally.

During this year's cohort, three of the national finalists were from the University of Pretoria. These students are namely, Anagha Krishnannair (selected as the overall AGFA Fellowship recipient), Maqhawe Hooхло, and Shival Sookay.

"It is no small feat that our students made up half of the finalists," says Prof Conrad Beyers, Head of the Department of Actuarial Science.

This is not a numbers game, but a reflection of sustained excellence. The AGFA process is fiercely competitive, and for UP students to dominate the shortlist like this says something about the calibre of our actuarial teaching, our mentorship, and our students' readiness to lead."

The top honours students came from four leading institutions, UP, the University of Cape Town, the University of Witwatersrand and Stellenbosch University. A notable outcome is how UP contributed half of the top finalists.

This year, five UP honours students were submitted for consideration in the AGFA process. The candidates were selected through a demanding internal process conducted by the Department, which takes into account the intellectual and psychological intensity of the AGFA national evaluation.

"We treat the AGFA nominations seriously," says Prof Beyers. "Students know that being put forward potentially involves major career implications."

After joining the AGFA process, candidates face a rigorous national process at Discovery that includes cognitive and psychometric assessments, unprepared presentations to senior Discovery executives, and individual evaluation under pressure.

The Fellowship is awarded to a single student, but the process itself offers significant long-term benefits to all strong performers. **This year's winner was Anagha Krishnannair from UP.**

"Being part of the AGFA process and working alongside such brilliant students was a humbling experience where everyone brought something unique to the table. This experience really shaped how I approach complex problems under pressure. More than anything, the experience confirmed my passion for using my knowledge to do work that has purpose and real-world relevance." Krishnannair reflects.

When asked how she set herself apart, she says, "I wasn't focused on standing out. I simply tried to approach each challenge thoughtfully, while staying true to my way of thinking. I think what helped me was



Anagha Krishnannair (centre)



University of Pretoria's actuarial science students at the AGFA event

being able to link the technical side with a broader understanding of what the problem meant, beyond just numbers."

Career opportunities and long-term value

Over the past several years, multiple UP students have secured employment at Discovery after participating in AGFA, even if they were not selected as the final Fellowship recipient.

"The AGFA process is a powerful professional signal," Prof Beyers explains. "Our students are seen, assessed, and remembered by senior leaders at one of the country's most competitive employers. If you deliver in that environment, it tends to have consequences."

Beyers emphasised that participation in AGFA is more than just an accolade; it is a foot in the door to a high-impact career.

"We are proud of Anagha's win, but just as proud of Maqhawe and Shival for securing their place in the top six. This reflects the depth of talent in the cohort and the department's continued focus on developing graduates who are ready for professional impact."

NAS awards two bursaries at #ChooseUP Day

The Faculty of Natural and Agricultural Sciences (NAS) awarded two bursaries to the value of R20 000 each to two Grade 12 learners at the #ChooseUP Day to study at NAS in 2026.

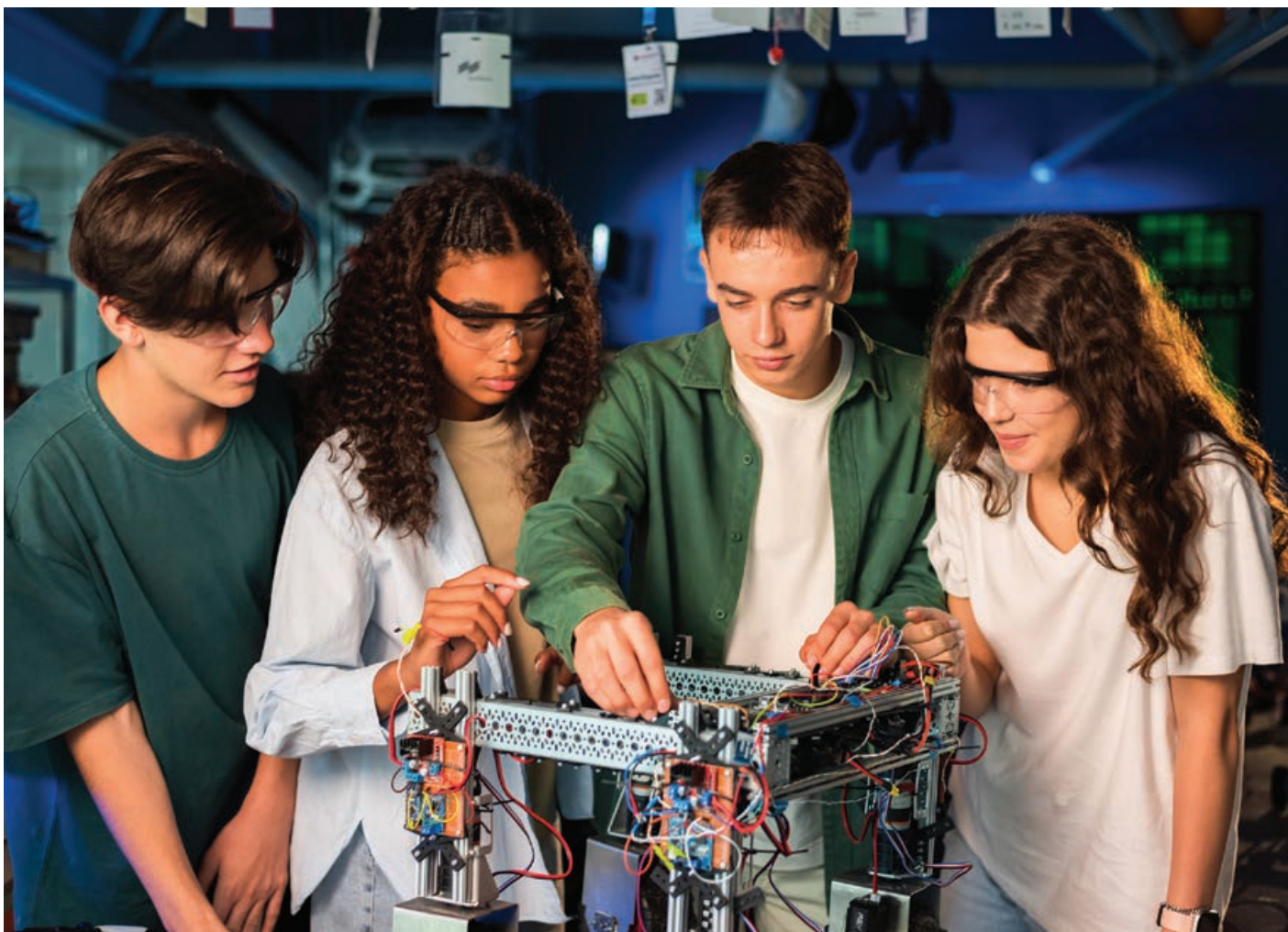


From left: Kendra van de Linde, Xolile Kunene (Head: Student Administration), Prof Barend Erasmus (Dean of NAS), Gabrielle Vermeulen and Prof Paulette Bloomer (Deputy Dean: Teaching and Learning).



First-ever Townhall event for students

The Faculty of Natural and Agricultural Sciences (NAS) held the first-ever in-person Townhall for students. Postgraduate and undergraduate students had the opportunity to raise issues and get direct feedback from the Dean and two Deputy Deans. This is intended to be an ongoing event to constantly build and foster the relationship between staff and students in NAS. In the photo is the Dean, Prof Barend Erasmus, with some students attending Townhall.





TRANSFORMED AND INCLUSIVE COMMUNITY



RETHINK@NAS – making a difference

Mandela67 with NAS: A day of digital transformation and service

On Mandela Day 2025, RETHINK@NAS brought the NAS community together under the theme *Mandela67withNAS*, combining reflection, innovation, and service.

The Teaching and Learning Subcommittee hosted a stimulating session on digital transformation, ethics, and AI in education. Speakers reminded us that real transformation is about people, systems, and access, not just technology. Other conversations explored education as a tool for change and how service is being reframed, moving from physical action to systemic and digital contributions.

The day also featured the first Speed Mentoring session, which paired eleven mentors and mentees for quick but impactful conversations. With just 6.7 minutes each, participants exchanged insights on research, academia, and life. The energy in the room showed how powerful brief connections can be when guided by openness and curiosity.

Outreach formed a central part of the day. Staff and students engaged with the Gifting Tree, pledging time or donating food, clothing, books, and other essentials. All clothing was passed on to the FLY@UP thrift shop and food donations supported the SNAPP student community. The initiative collected 87 food items, six toiletry items, and 91 clothing and essential items, ranging from blankets and baby clothes to books.

The momentum carried through to the Food Pack-a-Thon on 30 July, where staff and students came together to pack food parcels for needy students. It was a potent reminder of how collective action can create immediate impact.



Celebrating Women in Science: Colloquium and march

August is dedicated to highlighting the role of women in STEM across the NAS community.

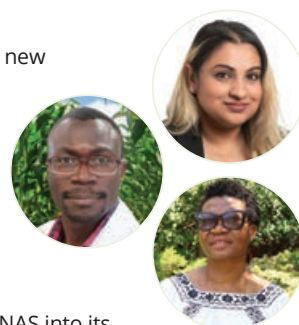
The second Women in Science Colloquium featured Professor Lise Korsten, Co-Director of the DST-NRF Centre of Excellence in Food Security. Prof Korsten is a highly rated NRF researcher and recipient of the NSTF Lifetime Achievement Award, recognised for her outstanding contributions to food safety and plant health. She shared her academic journey, reflected on breaking barriers as a woman in science, and offered insights on lessons learned along the way.

Later in the month, the Culture Subcommittee will host the second annual Women in Science march, celebrating the achievements of women scientists and reinforcing the importance of inclusivity in STEM.

Leadership updates

RETHINK@NAS is pleased to welcome new subcommittee chairs:

- Dr Jarishma Gokul as Chairperson of the Wellness Subcommittee
- Dr David Nsibo as Chairperson of the Culture Subcommittee
- Dr Thobela Nkukwana as Chairperson of the Research Subcommittee



Their leadership will guide RETHINK@NAS into its next chapter of growth and transformation.

Get involved

Transformation begins with participation. Staff and students who would like to play a role in shaping change at RETHINK@NAS are invited to join by completing the [sign-up form](#).

Wellness first: NAS hosts its inaugural Wellness Day

On 31 July, the Wellness Subcommittee hosted its first Wellness Day, putting staff wellbeing at the centre.

The event created a space for colleagues to step away from their usual routines and participate in activities to refresh body and mind. Staff painted, practised Pilates, attended mindfulness talks, and explored drop-in wellness spaces. Team games encouraged collaboration, while a unique water tasting experience linked mineralogy to health, surprisingly.

Interactive science exhibits by Sci-Enza and SEMLI added another dimension to the day. By the end, participants left recharged and more connected to one another.





INSTITUTIONAL SUSTAINABILITY



Prof Stuart Pimm receives 2025 World Sustainability Award

Professor Stuart Pimm, a world-renowned conservation scholar and an extraordinary professor in the [Conservation Ecology Research Unit](#) (CERU) in the [Department of Zoology and Entomology](#) at the University of Pretoria (UP), was recently awarded the 2025 World Sustainability Award as recognition of his contribution to sustainability and development.

"I'm deeply honoured to receive the 2025 World Sustainability Award; this means a great deal to me and reflects the importance of continued efforts in advancing sustainability and sustainable development," said Prof Pimm, who is also the Doris Duke Distinguished Professor of Conservation Ecology at the Nicholas School of the Environment at [Duke University](#) in the US. "In particular, it celebrates a quarter of a century of effort during which I've been privileged to participate in working with colleagues at CERU to help manage Africa's protected areas. The challenges of conserving wildlife while countries develop and their human populations increase are considerable. I'm fortunate to have such excellent colleagues to work on these issues."

This award will be presented at the MDPI's Sustainability Foundation's ceremony in October as part of the [11th World Sustainability Forum](#) in Barcelona, Spain.

UP's Faculty of Natural and Agricultural Sciences awarded Prof Pimm an honorary doctorate in 2024 for his outstanding contribution to conservation biology. He studies why species become extinct, the rate of extinction and the global patterns of habitat loss, among other areas.

Prof Pimm has published almost 400 peer-reviewed scientific papers in leading journals, including Science, Nature and the Proceedings of the National Academy of Sciences. He has also published six books, including *The Balance of Nature?* (1991) and *The World According to Pimm, a Scientist Audits the Earth* (2001).

His academic career began in 1971 at Oxford University in the UK, where he obtained an honours degree. He received a PhD from New Mexico State University in the US, in 1974. After that, Prof Pimm held academic positions at several US-based institutions before finally taking up his current position at Duke University in 2002.

Through his NGO, Saving Nature, which he founded in 2007, Prof Pimm combines his theoretical understanding of large-scale patterns of biodiversity loss with the implementation of practical conservation solutions, engaging with policymakers, managers, the public and the media to prevent biodiversity loss.

Saving Nature's mission is to rescue endangered habitats and vulnerable communities from environmental destruction. This is done by targeting the most biologically rich and threatened places on Earth. The NGO has projects in Brazil's Atlantic Forest, Colombia's Western Andes Mountains, the Ecuadorian Amazon, Tanzania's Eastern Arc Mountains and Sumatra's Leuser Ecosystem.

"For each of these projects, Saving Nature partners with well-established local conservation groups that purchase, restore and manage protected areas,"



Professor Stuart Pimm

Prof Erasmus, Dean of UP's Faculty of Natural and Agricultural Sciences, explained. "Moreover, through his academic efforts and the efforts of Saving Nature, Prof Pimm has generated leading research, which he has integrated into community outreach conservation programmes in several countries across four continents."

In addition to his contributions through Saving Nature and his academic work, Prof Pimm has testified on several occasions before US congressional committees on the Endangered Species Act. He has also led numerous congressional briefings and routinely engages with US politicians on biodiversity loss, deforestation and climate change.

His engagements within the political and policy spheres go beyond the US. Prof Pimm has also advised the South African government on elephant management and is engaging with practitioners who manage protected areas in China.



UP's Monet-inspired picture-perfect pond



In a secluded corner of the University of Pretoria (UP) Hatfield Campus lies a gem that brought the paintings by Claude Monet, the French Impressionist known for his dreamlike depictions of light and nature, to life, literally. The campus' lily pond, which was built in 1960, has since been a place of tranquillity and a source of inspiration for budding painters and sketch artists.

However, the history behind this pond runs far deeper than a mere quiet space (even though the pond is literally a dedicated quiet zone). An interview with [Mr Jason Sampson](#), Head: Botanical Gardens at the [Manie van der Schijff Botanical Garden](#), provided the following insights into the pond's history.

'It's better to ask for forgiveness than permission'

"Legend has it that renowned botanist, Prof Hermanus (Manie) van der Schijff – who built the pond and after whom UP's Manie van der Schijff Botanical Garden on the Hatfield Campus is named – took a somewhat unorthodox approach to creating the lily pond. After approaching the UP Rectorate with a proposal to build a pond outside his office and being denied permission every time, Prof Van der Schijff took matters into his own hands. Plans were drawn up to construct a square pond that could hold several species of water lilies, and eager students dug up an area large enough in which to construct the pond during the December recess of 1960, however, it was never constructed in a square shape, deviating from the formal plans," Jason Sampson states. Thus, the lily pond is almost 65 years old.

Sampson continues to explain that "the pond's appearance was inspired by Claude Monet's famous series of lily pond paintings

featuring a Japanese bridge and a variety of hybrid lilies with pink, yellow, and white flowers. Up to 30 species of water lilies were cultivated for Monet, and the pond currently holds an estimated 13 of those varieties, four of which were confirmed as featuring in Monet's paintings. Another species of waterlily is housed in the pond that was thought to be extinct in the late 1900s, until one specimen was rediscovered in a remote pond overseas. However, these aren't the only special species of water lily to have been housed in the pond. The original square design was also created to house the Giant Water Lily, *Victoria amazonica*. However, being suited to more tropical climates, these giants never reached adulthood and were thus removed from the pond. What makes the *Victoria amazonica* so impressive is the sheer size of the lily pads, reaching up to three metres when fully grown, and they are strong enough to support the weight of a child."

However, after approximately 50 years of existence, the pond was in dire need of repairs, leading to extensive renovations being done. It started to crack, and with no established ecosystem or water pump in place, algae began to grow unchecked, and it no longer held much water.

Bringing the pond back to life

In 2011, the complete renovation of the pond commenced. "The bridge over the pond was replaced with a sleeker and aesthetically pleasing version," Sampson said. "The new and improved pond was to have a water pump and an established ecosystem, thus leading to the pond being rebuilt using a wetland ecosystem-based design. The new pond was lined with 1.5mm thick rubber lining, which is as close to no leakages as you can get."

Sampson explained that the novelty of this lining also lies in its simple repair. "If a leak

does occur, all one needs is a bicycle repair kit to repair the leak."

The lilies in the pond are currently all planted in their own individual planter boxes to prevent any one species of lily from taking over the entire pond, and an established ecosystem has sprung up in and around the pond. The pond contains tilapia and Rocky Mountain Minnows, provides a habitat for two toad species, and is home to the African Clawed Frog, more commonly known as the platanna.

In 2021, a large-scale pond cleanup was initiated, including the repotting of the water lilies housed in the pond, and the bridge over the pond was repainted in 2025. Annual maintenance of the pond takes place every spring.

Why the pond matters

"While it is a well-known fact that UP has two museums on its Hatfield Campus, one could argue that the lily pond also serves as a living museum that recreates and preserves a similar scene to the one Monet drew inspiration from and is thus a living artwork. It is also an oasis for wildlife that would otherwise not have a habitat in the concrete jungle, which is the city where UP is located," Sampson said.

Thus, by serving as a quiet zone where visitors can unwind their minds, the pond's existence links to [SDG 3 – Good Health and Well-being](#) (by facilitating well-being for its visitors), [SDG 14 – Life Below Water](#) (by providing shelter to the aquatic African Clawed Frog, the tilapia, and the minnows that it houses), and [SDG 15 – Life on Land](#) (by providing a habitat for the two toad species that live near the pond). "It creates a sustainable green space in the heart of the city and provides a space for agricultural conservation," Sampson concluded.

Successful postgraduate training between MRI Endocrine Research Laboratory and CZU



Recently, two members of the University of Pretoria (UP)'s Mammal Research Institute (UP MRI) Endocrine Research Laboratory of the Mammal Research Institute (MRI) visited the Department of Animal Science and Food Processing at the Czech University of Life Sciences Prague (CZU), Czech Republic, as part of the Erasmus+ program.

According to Dr Nicole Hagenah-Shrader (Lab Manager of the Endocrine Research Laboratory of the Mammal Research Institute, UP), "This program is run by the European Union, which promotes education, training, youth, and sport across Europe and with international partners. It aims to enhance the skills of students and teaching staff in, for example, higher education institutions through training periods, while it also fosters collaboration and intercultural exchange. For the training periods, teaching staff and students participate in mobilities between participating institutions."

Within the framework of the Erasmus+ program, Dr Hagenah-Shrader and Prof André Ganswindt, Director of the MRI, visited colleagues from the CZU Animal Physiology and Behaviour Research Team during April and May. These two staff mobilities aimed to assist in initiating and optimising enzyme immunoassay techniques for hormone quantification in the newly established endocrine laboratory of the Department of Animal Sciences at CZU. In addition, Dr Hagenah-Shrader aim to develop collaborative projects with staff and postgraduate students at CZU in the field of wildlife endocrinology further.

During their visit, CZU postgraduate students were trained in various laboratory work areas, including sample preparation, laboratory setup, hormone quantification, and data analysis and interpretation. Specifically, they learned about sample receiving, labelling, and long-term storage. Further, a logical workplace flow was set up, and assistance with ordering required laboratory equipment and reagents, including respective safety measures, was provided. Students learned how to extract steroid hormones from various sample matrices and received training on making related solutions and other pre-prepared reagents required for conducting enzyme immunoassays. Knowledge on good and safe laboratory practices was also shared.

Finally, the postgraduates were taught how to quantify steroid hormone concentrations via enzyme immunoassay techniques to evaluate reproductive function and responses to stressors in wildlife and domestic animal species. Subsequently, students also received training in raw data processing, analysis, and interpretation. Hopefully, this mobility will increase the research activities involving postgraduate student exchange between the CZU and the MRI and help expand the network of institutions conducting wildlife endocrinology research.

Both staff of the sending institution and staff and students of the receiving institution felt these two mobilities were a rewarding experience and a great success, with many goals being achieved during the visit. As a result, we are already looking forward to continuing the collaboration and future mobilities between these two institutes within the framework of the Erasmus+ program.



Teaching students how to aliquot Standards for ELISAs



After work, fun with colleagues and students

AgriCAREERConnect 2025 at UP:

A resounding success in bridging talent and industry

On 12 August, the University of Pretoria (UP)'s Sanlam Auditorium and Conference Centre came alive with energy, curiosity, and opportunity as over 450 students gathered for AgriCAREERConnect (ACC) 2025, the flagship career event hosted in partnership with Agrijob and the Faculty of Natural and Agricultural Sciences (NAS).

Since its revival in 2019, ACC has become a cornerstone initiative connecting students with the agri-food industry. After a brief pivot to online formats during the pandemic, the event returned to its full in-person format in 2024, and this year's edition was bigger and more impactful than ever.

Two sessions, one purpose

The day was split into two dynamic sessions, with 200-250 students attending the respective sessions, engaging 12 leading companies across the agricultural value chain. Panel discussions featured 14 industry representatives, who shared insights on career paths in input supply, production, agribusiness, logistics, trade, and food innovation. With a heightened focus on interdisciplinary integration, students and postgraduates from NAS and other faculties, such as engineering and commerce, participated. Industry participants included the Shoprite group (Freshmark), Rijk Zwaan SA, Koppert SA, Citrus Academy, RussellStone Group, AGT Foods, Tunnel Tomatoes, Fresh Produce Exporters' Forum, Fruit SA, Nile.ag, Simply Garlic – all companies committed to building future talent pipelines.

The event was skilfully led by Rimbilana Shingange, Senior Lecturer and PhD candidate in UP's Department of Animal Science, whose vibrant moderation kept conversations flowing and participants engaged throughout.

Student voices and industry wisdom

Students actively participated, asking thoughtful questions about industry expectations, skill requirements, and the realities of transitioning from university to the workplace. The panellists responded with honesty and encouragement, offering practical advice and personal reflections.

One of the many resonant voices was Jordan Chaya, a final-year student and Skills Development Liaison for CAEBA, who shared her reflections on LinkedIn:

"After yesterday's AgriCAREERConnect UP, I am more certain than ever they are overlooking one of the most dynamic industries of our time... Remaining curious and humble is how we keep growing in the lecture halls and future workplaces."

Her takeaways—curiosity, communication, critical thinking, and the value of hard and soft skills—echoed the core messages of the day.

A growing legacy of impact

ACC @ UP is more than just a career fair; it's a strategic response to the gap between graduate skills and industry needs. By creating direct dialogue between students and employers, the event helps build future talent pipelines and ensures graduates are better prepared for the evolving demands of the agri-food sector.

"The success of ACC 2025 reflects the strength of our partnership with the University of Pretoria and the commitment of Agrijob to shaping future careers in agriculture," said Ms Majella van der Arend, Operational Manager at Agrijob. "It's inspiring to see students engage so deeply and companies invest in the next generation of talent."

Mrs Marianne van der Laarse, Managing Director of Agrijob, added: "The real value for students lies in receiving insights directly from companies, straight from the horse's mouth. At the same time, companies benefit by hearing directly from students: how they think, what concerns them, and what matters most to them. These events also provide companies with valuable opportunities to identify promising talent, engage directly with students, and extend invitations for holiday work, bursary applications, internships, or entry-level positions."

As an UP alumna, Ms Van der Laarse has maintained strong ties with the institution and began organising agri-food career events at UP in 2011. In recent years, Agrijob has introduced a more focused format through AgriCAREERConnect, designed to facilitate meaningful engagement between students and industry professionals.

Looking ahead

The 2025 edition clearly showed how important it is for universities and industry to work together, and how events like ACC can inspire students, provide valuable information, and create meaningful connections.

For more information or to get involved in future events, visit www.agrijob.co.za.





SOCIAL RESPONSIVENESS AND SOCIETAL IMPACT



STEM Library PopUp: Making science accessible and tangible



Sci-Enza is reaching new places through its latest Library PopUp programme.

Partnering with City of Tshwane Libraries and the Australian Volunteers Program, they are bringing STEAM (Science Technology Engineering Art and Mathematics) out into the community. The Library PopUp is a space that invites people to come as they are.'

Uniquely crafted with something for everyone. It provides a place for all people to come and explore. Designed as a multi-generational learning environment, the PopUp brings people of all ages to learn together. Allowing families to learn together.

Over 200 people have participated in this hands-on experience, engaging with

science in familiar spaces within their own communities. A total of eleven libraries have hosted the Sci-Enza STEAM PopUP across all seven Tshwane regions since July.

The centralisation of science centres in cities means those on the city fringes and regional areas miss out on these engaging resources. The Library PopUp fills this gap by dispersing interactive learning experiences to the 65% who live outside of formal urban areas in Gauteng.

"Because all people should feel like they belong in science!" said Shona Wharton, an Australian Volunteer at Sci-Enza on the Australian Volunteers Program.

Over 75% of participants said they would attend a STEAM PopUp weekly. Libraries and community centres throughout the City of Tshwane have started joining the waiting list to host the Library PopUp in

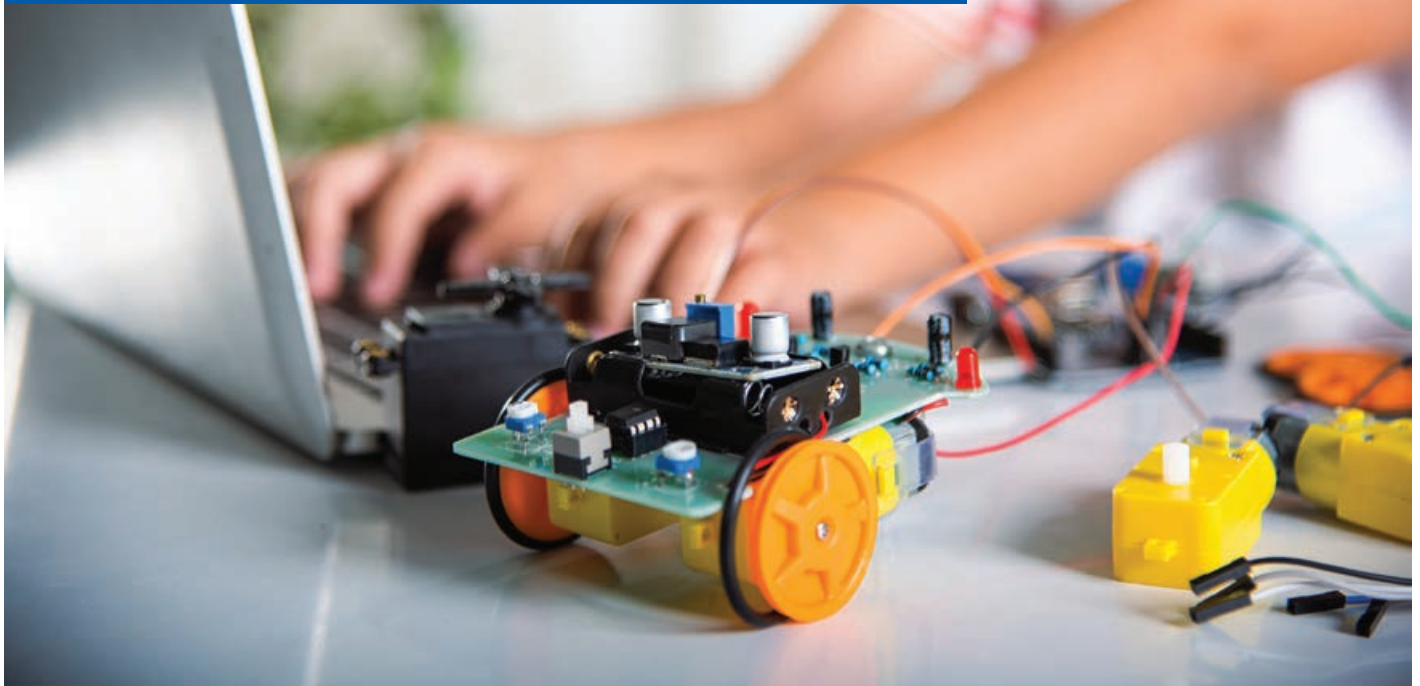
2026. You are invited to support this project and join Sci-Enza and the City of Tshwane to bring engaging STEAM learning into the community.

Facilitated by Sci-Enza science communicators, they bring practical skills and knowledge of a range of science disciplines. Having designed, prototyped, and built all the exhibits on display, the Sci-Enza team add in-depth knowledge of the scientific concepts on display.

These exhibits will soon be on display at Sci-Enza, the University of Pretoria's very own science centre. Admission is free for all members of the public. You can find Sci-Enza located on the Hatfield campus, next to the Prospect Street entrance, open from Monday to Friday 08:00 – 16:00. Visitors are encouraged to confirm their visit. Contact details can be found on their website at www.up.ac.za/sci-enza.



GIRLS IN CONTROL: Inspiring girls through coding and robotics



Sci-Enza buzzed with excitement as it hosted the Girls in Control workshop on 5 August – an initiative run by the University of Zululand through Professor Syamala Krishnannair and sponsored by the South African Council for Automation and Control (SACAC). The event welcomed learners from Paratus Primary School, giving the young girls a powerful opportunity to explore the world of automation and control through coding and robotics in a hands-on and inspiring way.

The workshop created a space for motivation and mentorship. To set the tone for the day, Prof Krishnannair delivered an overview of control engineering, highlighting young women's role in shaping the future. Followed by a motivational talk from Marcelle Saffy, a control engineer at Mintek, who shared her personal journey in control engineering, encouraging the girls to see themselves as future innovators.

The programme offered a rich blend of learning and fun. Learners dived into a Scratch workshop, discovering how simple coding blocks can create animations and games. This was followed by a robotics workshop, where learners brought a machine, specifically a spy robot, to life, testing their problem-solving skills and creativity. To top it off, the girls enjoyed a coding and robotics science show, which sparked wonder and curiosity while showing how coding concepts connect in the world of technology.

Workshops like Girls in Control are more than just science sessions — they create exposure to different careers in automation, but they are also confidence-building experiences, designed to show young girls that they belong in spaces of innovation, problem-solving, and leadership. The day's smiles, questions, and teamwork revealed a powerful truth. If we continue to provide the tools and encouragement, the next generation of girls could be ready to participate in the future of technology and lead it. Thank you to our generous departments, Junior Tukkie (JT), Veterinary Sciences and the Economic Management Sciences for contributing to the young girls' gift bags.



Sci-Enza and Merck's Curiosity Cube inspires Tshwane learners



A lasting impact and a look to the future

A world of scientific wonder and artificial intelligence came to the University of Pretoria (UP) from this July, as Sci-Enza, UP's interactive science centre, proudly hosted the Merck Curiosity Cube programme. This landmark event was a monumental first for Africa, bringing a mobile science lab to inspire the next generation of innovators in Tshwane.

This initiative was a powerful collaboration driven by a shared commitment to promote STEM education and community engagement. It was a collective effort involving various UP departments, Tshwane South District from the Department of Basic Education, and the Merck Group, a global leader in science and technology based in Germany. The programme's mission was to provide a transformative, hands-on learning experience.

The programme's reach was extensive, welcoming over 1 000 learners and teachers from 17 Tshwane schools and over 100 public members and allowing them to envision themselves as future scientists and innovators. In addition to school visits, the Curiosity Cube also opened to the public for a special free event, allowing families and young science enthusiasts to dive into the fundamentals of Artificial Intelligence.

The Curiosity Cube was a marvel of modern design: a solar-powered, handicap-

accessible mobile lab. Its focus on AI was perfectly aligned with the Grade 4 to 7 curriculum, fostering critical 21st-century skills like logical thinking and problem-solving. Participants engaged in hands-on experiments, including:

- Exploring AI-generated images versus real photos.
- Discovering how brains and AI learn in similar ways.
- Modelling how AI uses pattern recognition to operate self-driving cars.

The enthusiastic feedback from participating educators best captured the programme's success. Teachers from schools like Laerskool Silverton, Arcadia Primary, and Jopie Fourie Primary School shared their appreciation, highlighting the positive impact on their learners and their own experience. They praised the well-organised sessions, the "sweet and friendly" facilitators, and the crucial transportation provision, making the experience accessible for many.

One teacher from Arcadia Primary School expressed their gratitude, stating, "Thank you so much to the staff of Sci-Enza, Merck and the District for this great opportunity and for arranging transportation to and from the venue. The learners and educators had a fantastic time and enjoyed this experience!"

This overwhelmingly positive response reinforces the value of such collaborations and their power to inspire. The project

exposed learners to cutting-edge technology and demonstrated the scientific community's welcoming and engaging nature.

The success of the Curiosity Cube programme is a powerful example of Sci-Enza's enduring mission to make science accessible to all. The centre, located on the Hatfield Campus, is a permanent hub for scientific discovery.

The success of the local event was made possible by dedicated volunteers, including postgraduate students from the departments of Biochemistry, Genetics, Microbiology (BGM), and Chemistry, along with other enthusiastic facilitators. Sci-Enza extends its sincere gratitude to all who contributed their time and expertise to make the sessions both engaging and educational for the participants.

Sci-Enza's commitment is showcased by its impressive array of offerings. The centre is home to over 200 science-related displays, including a captivating camera obscura that offers an all-round view of the area. While general entry is free, facilitated school and science show programmes are available for a fee, supporting the centre's continued efforts to provide high-quality educational experiences. Initiatives like the Curiosity Cube and Sci-Enza's ongoing community partnerships are a testament to the centre's dedication to bringing the wonders of science out of the lab and into the lives of everyone.



University of Pretoria

Private Bag X20, Hatfield, 0028, South Africa

Tel +27 (0)12 420 3111

www.up.ac.za



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Make today matter