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From the Office of the HOD

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Dear Alumni and Friends

I am pleased to introduce our 1st Alumni Newsletter. Your involvement is important for the growth and development of the Department of Computer Science and Informatics as well as the University of the Free State. We hope that our Newsletter will keep you informed and engaged.

Even though 2020 was a challenging year for all, I am sure that we, as Kovies, navigated it with grace and courage, and growing aspirations for the future. In our department we are using the lessons that we learned to better plan for the future and are engaged in continuous programme improvement.

Early in 2020 we established an Industry Advisory Board with the Department of Mathematics and Applied Mathematics, and the Department of Mathematical Statistics and Actuarial Science. The Advisory Board includes representatives from industry and alumni of the department and the university.

Important questions are constantly under discussion – such as what the post COVID-19 curriculum should look like, and what digital skills our students should have to take them into the 4IR paradigm. To address some of these questions, we introduced a new degree in Data Sciences and a new honours degree in Computer Information Systems (BCIS). Our research focus areas have been expanded to include Natural Language Processing (as part of Data Science), Blockchain Technology, Wireless Communication Systems and Internet of Things (IoT).

We are excited about the promises that the future holds in terms of our new degrees, expanding research fields and continuous collaboration with our Advisory Board and Alumni.

Thank you for your support – please continue to recommend students, family and friends to our department.

Prof Eduan Kotzé, Head of Department

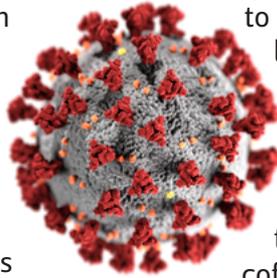
“Your involvement is important for the growth and development of the Department of Computer Science and Informatics as well as the University of the Free State”

Looking back on 2020

The year was a challenging one for the University as an academic institution, but also for our department. The Corona-virus pandemic caught everyone off-guard. During the first semester, lecturers suddenly had to start teaching online and students had to adapt to attending online lectures. During the second semester, the department followed a blended learning approach combining face-to-face and online teaching.

The University supported staff and students in various ways to cope with the challenges. Staff and students were able to access UFS websites such as Blackboard and Self-Service, among others, without using personal data. The UFS also provided regularly updated information on COVID-19 and the measures that had been implemented to make it as safe as possible for the essential workers to return to campus.

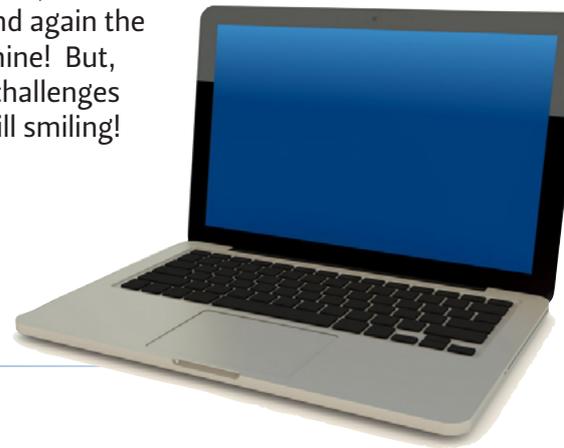
Our staff members walked the extra mile to assist approximately 150 students studying programming, because students cannot complete programming modules without a proper device. The Department acquired 15 laptops with the necessary computer software, and



couriered to vulnerable students on a loan agreement, so that they could complete their studies online. Despite logistical challenges, the project was successfully completed.

Students who did not have access to the internet or a device to complete their studies, were invited to campus for a two-week block session in order for them to complete their modules. With the return of students to campus, the lecture halls and the computer labs had to be prepared to meet the necessary social distancing requirements.

We had to adapt to work from home and we missed our colleagues, the coffee machine, the interaction, tearoom talks – and again the coffee machine! But, despite all the challenges everybody is still smiling!



Staff Changes

Prof Paul Kogeda joined our department on the Bloemfontein Campus in 2019, from Tshwane University of Technology. He holds a Master of Computer Applications (MCA) from Dr Babasaheb Ambedkar Marathwada University, Aurangabad, India, and a PhD in Computer Science from the University of the Western Cape

In 2020 we welcomed **Dr Pakiso Khomokhoana** to our Bloemfontein Campus. Having previously obtained his MSc in Computer Information Systems (with distinction) at the UFS, he completed his PhD in 2020 with a thesis titled 'Source code comprehension: Decoding the cognitive challenges of novice programmers'. His research interests lie in the field of computer science education.

In 2021 **Thabiso Raleteng** joined our department as a technical assistant at the South Campus.

Prof Pieter Blignaut's term as Head of Department (HoD) ended during 2018, and Prof Eduan Kotzé served as acting HoD, before being appointed as the HoD in 2019. Although retired, Prof Blignaut still lectures second-year students, and is still actively involved in research – particularly in eye-tracking research, one of the Department's

primary research focus areas. He is currently assisting the Department of Agricultural Economics, who purchased a number of eye-trackers as part of a research project on using eye-tracking technology for red meat marketing.



The current complement of staff in the Department of Computer Science and Informatics is:



BLOEMFONTEIN CAMPUS

- 13 Lecturers
- 1 Departmental Manager
- 2 Technical Assistants
- 3 Assistant Officers



QWAQWA CAMPUS

- 7 Lecturers
- 1 Technical Assistant
- 2 Assistant Officers



SOUTH CAMPUS

- 1 Lecturer
- 1 Technical Assistant
- 1 Assistant Officer

Engaging with the community through the ITSL

The Department is proud of its ongoing community project – the Information Technology Service Learning (ITSL) Project. Our second-year students present computer literacy training to Mangaung and Botshabelo community members. This com-



puter literacy training includes MS Word and MS Excel training in the form of accredited structured short learning programmes. The ITSL project is organised and presented annually by Mr Rouxan Fouché, assisted by three community partners, namely the Mangaung Concerned Residents organisation, the South African Red Cross Society, and the Love Life Youth Development organisation

In 2018 and 2019, 350 individuals from the Mangaung community attended and completed the ITSL Project at the UFS campus. The Mangaung Concerned Residents reported that a number of attendees, with their newly acquired computer literacy skills and qualifications, had been able to find employment as administrative personnel. The skills they acquired have also enabled community members to start their own businesses in which they can now electronically keep track of all their information and make use of electronic marketing.

In 2020 the ITSL project could not be presented in its usual format due to the inaccessibility of the UFS computer laboratories due to the COVID-19 lockdown restrictions. After discussions with our community partners, the ITSL project was undertaken in Botshabelo, with the assistance of the Love Life Youth Development Centre, who provided the venue and a facilitator.

Students enrolled for the service-learning module at the UFS produced computer literacy training videos and assignments that were shared with the facilitator at the Botshabelo Love Life Youth Centre on a weekly basis. The facilitator provided

onsite support in the participants' mother tongue and provided feedback for improvement of the training on a weekly basis. The contact sessions were offered from Monday to Friday every week to allow for social distancing in the venue and ran over 11 weeks in the second semester of 2020.

One hundred members of the Botshabelo community completed both the MS Word and MS Excel short learning programmes and received accredited certificates from the Department of Computer Science and Informatics during the graduation ceremony in February 2021.

The importance of computer literacy and its impact on the successful application for employment is often overlooked. It is interesting to note that interested members from the community range in age from individuals who have recently left school to individuals who are well on their way to retirement. This service-learning module has had a very positive impact on the community and will be extended to further increase the impact we have on the computer literacy level of our surrounding community.

Rouxan Fouché

Industry Advisory Board

Nine companies are represented on the Computer and Mathematical Sciences Industry Advisory Board, which also provides support to the Department of Mathematics and Applied Mathematics, and the Department of Mathematical Statistics and Actuarial Science. The first meeting of the Advisory Board was held on 24 February 2020. This was an introductory meeting during which industry and the UFS departments could clarify the roles they play and the benefits to be gained from working together.

The second Advisory Board meeting was held on 2 October 2020. For this meeting, industry members were asked to prepare presentations on two questions – namely what the post-COVID-19 curriculum should look like, and the digital skills that they think students need to take them into the Fourth Industrial Revolution (4IR) paradigm. The presentations were excellent and the Department will package the presentations and suggestions into a single model. The model will be presented at the next Advisory Board meeting to prioritise the suggestions. After this meeting, a departmental colloquium will be held at which we will take an in-depth look at our curriculum to determine what we can implement and change for 2022.

We thank our board members for their continued support and valuable input.

Suzette Opperman

Project building blocks for youngsters

Daniël Wium, a lecturer at the Department of Computer Science and Informatics, and Albert Dreyer, a second-year student in Engineering Sciences at the UFS, visited the Willem Postma Primary School on 17 September 2020 to tell learners more about the department's Python Project.

This project involves lessons in Lego-robotics for younger, less-experienced learners, and lessons in Python, a computer programming language, for older learners. Albert Dreyer had the pupils enthralled with videos of what Lego-robots can do.

Learners in the two programmes are also prepared for two competitions presented annually by Computer Olympiad, a project of the institute of IT Professionals in South Africa. The first event is the talent search competition in which all students can participate. The second event is the programming Olympiad for students who have already learned Python skills.

Under normal circumstances, these classes are offered on the UFS Bloemfontein Campus on Friday afternoons, but the classes had to be temporarily suspended due to the COVID-19 restrictions. However, despite the restriction, the learners were able to participate in the 2020 national talent search and performed very well. Of the



Daniël Wium, Etienne Le Rich (Grade 7), Ruben van Jaarsveldt (Grade 4), Jessica Labuschagne (Grade 4) and Albert Dreyer
Photo credit: Lientjie Mentz, Bloemnuus

ten participants from the Python project, two received bronze certificates (top 50%), one a silver certificate (top 21%) and five gold certificates (top 7%). One learner, Nabeel Seedat, achieved a full score – one of only three learners out of 1793 in the Grade 8 and 9 section who managed to do so.

Daniël and Albert hope to resume the Lego-robotic classes as soon as possible in 2021, and we wish them every success with this valuable initiative!

Celebrating Departmental highlights

Despite all the challenges during the recent past, we are proud to celebrate some highlights.



PhD conferred upon
Fani Radebe, Lecturer on the
Qwaqwa Campus



PhD conferred upon
Pakiso Khomokhoana, Lecturer
on the Bloemfontein Campus



Ruth Wario, Senior Lecturer on
the Qwaqwa Campus, received a
C3 NRF-rating



Paul Kogeda, from the
Bloemfontein Campus, received
a C2 NRF-rating



Eduan Kotzé,
Head of Department,
was promoted to
Associate Professor



Liezel Nel (Bloemfontein Campus)
winner of the 2020 UFS Excellence in Learning and
Teaching award in the category: Research in Teaching
and Learning, and promoted to Associate Professor



Lizette de Wet
(Bloemfontein Campus)
was promoted to
Associate Professor

In Memorium

Prof Theunis Herman Christiaan (Theuns) Smith

1 March 1948 – 23 March 2018

The Department of Computer Science and Informatics was saddened to learn of the passing of Prof Theuns Smith, the former Head of Department (1980 – 1983)

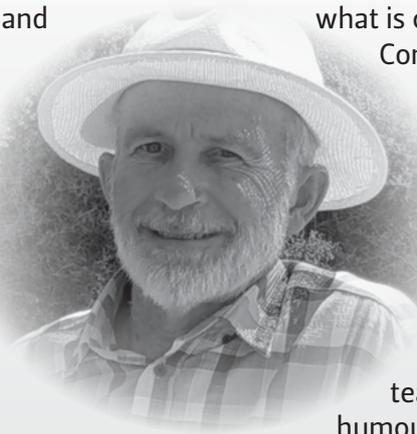
Theuns, as he was known, received a bachelors and honours degree from the UFS and decided to continue with a master's degree in 1970 at the Rand Afrikaans University in Johannesburg, because they had a computer.

In 1972 he was awarded a Fulbright Scholarship to attend the Graduate School of Industrial Administration at Carnegie-Mellon University in Pittsburgh, USA, where he received his PhD in 1975.

Smith had a keen interest in the application of advanced analytical methods in order to solve complex decision-making problems as stated in his dissertation "New Assignment and Spanning Tree Relaxation Methods for solving the Traveling Salesman and Quadratic Assignment Problems".

Smith was involved at both RAU and UNISA before the UFS extended unto him the opportunity to assist founding a new Computer Science Department in 1978.

In 1983 Smith returned to RAU, later named the University of Johannesburg, to continue his career at



what is currently known as the Academy of Computer Science and Software Engineering.

Throughout his career he, with great vigour, took on the academic conference podium where he enjoyed presenting his own papers as well as co-presenting with some of his students.

Theuns enjoyed interacting and teaching his students. His dry sense of humour, adventurousness, reliability and integrity appealed to many. Throughout his life he remained an avid hiker and was involved in leading several hiking expeditions all over the world from where he also gained much rapport with the participants of these trips.

Upon being diagnosed with Parkinson's disease in 2006, he retired and relocated to the Cape to be closer to their children and grandchildren. The first few years after diagnosis, he was blessed with only partial immobility and still managed to enjoy the mountains he so adored. He loved being part of each of his grandchildren's' lives.

On 23 March 2018 he passed away after a fatal fall, while holidaying in the Tsitsikamma Coast.

Text and photo provided by Mrs Estelle Smith, wife of the late Prof Theuns Smith



2021

Voices from the Free State

News from the UFS Alumni Office

The UFS Alumni Office recently announced the launch of the Voices from the Free State podcast series. François van Schalkwyk and Keenan Carelse (UFS alumni leading the United Kingdom Alumni Chapter – the hub of a developing UFS international programme) have put their voices together to create and co-host the new podcast series.

Episode one was released on 1 February 2021, featuring Likeleli Monyamane, founder of Inspire Innovation Business Consultants.

Episode two was released on 1 March 2021, featuring Bertus Jacobs, Chief Technology Officer of IoT.nxt.

Episode three was released on 5 April 2021, featuring Jamba Isaac Ulengo, a South African rugby union player who proudly joined his team in bringing home a gold medal at the 2013 World Games.

Listen to the Podcasts at:

<https://www.ufs.ac.za/alumni/alumni-home/alumni-news/alumni-podcasts>

For further information regarding the podcast series, or to propose other alumni guests, please email alumnipodcast@ufs.ac.za.

Please update your information on the Alumni website at www.ufs.ac.za/alumni

Click on the [Keep in touch tab](#) and then [Update your details](#)



○ Our mission is
To maintain a lifelong relationship with our Alumni
To facilitate the contributions of our Alumni to the advancement and success of the Department

○ Let's stay connected

Tell us your story – where you are and what you're doing
Share your updated email address to receive the latest news
Make suggestions of what to include in the Newsletter
You can send an email at any time to Mrs Suretha de Klerk at deklerks@ufs.ac.za

○ How you can help



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