



NEWSLETTER

OF THE OPERATIONS RESEARCH SOCIETY OF SOUTH AFRICA

December 2022



In 2021 the Executive Committee (EC) of ORSSA decided to move from a quarterly newsletter to an online blog as the main vehicle for sharing news within the Society. The need for at least one annual highlights magazine remained and

we are proud to introduce the 2022 edition. The proud tradition of the ORSSA Newsletter continues. We hope that you enjoy looking back at year of joys and sorrows, highlights and memories with us.

FEATURES

From the President's Desk	2
The return of Society events	4
Rebranding of ORiON	5
In memoriam	6
ORSSA 2022 Conference	7
ORSSA 2022 reflections	9
ORSSA 2022 Awards	12
SACNASP enables students to attend ORSSA 2022	14
Hans Ittmann becomes IFORS Fellow	15
Sheetal Silal wins top NSTF award	16

Editor

Lieschen Venter

secretary@orssa.org.za

orssa.org.za

 @_ORSSA

 ORSocietySA

 ORSSA

 ORSSA

From the President's Desk

by David Clark

The start of 2022 found the Society in a unique position due to two factors. Firstly, COVID-19, which has created so much disruption, was finally coming under control. We faced the prospect of returning to normal. Normality, ironically, would prove to be somewhat different to what it once was, as the impact of changes to routines continues to linger in work, home, and education, not to mention the mental and economic well-being of many people.

Secondly, the Society also started 2022 under a new structure accepted at a Special General Meeting in July 2021. Running the Society is never easy at the best of times; establishing new procedures and communication structures in line with the revised constitution would be an additional challenge, but I can confidently say that each executive committee member played an outstanding role. The Society, having been guided through 2021 by Dave Evans, is now in an excellent position to start growing a more diverse OR community, supporting related disciplines, and expanding our value to all members, whether in academia or industry, a professional or a student.

Our strategy from the beginning of the year was to grow and diversify our membership across South Africa in academic departments and industries. Doing so requires the coordination of all the executive members, and we have been steadily building a network of contacts to work alongside.

The scope of OR also provides us with the opportunity to support Special Interest Groups, and we are privileged to have Prof. Kanshukan Rajaratnam as head of our Data Science SIG and Dr. Mesias Alfeus as head of Quantitative Finance SIG to start this journey of collaboration.

Specific goals of increasing student and industry participation in terms of numbers and diversity at the conference have only been the start of what we hope to keep building on.



It has never been a better time to increase awareness of OR and its methods. Buffers and reserves, both economically and physically, have been strained by numerous factors locally and abroad. The urgency of better decision-making processes and tools, combined with greater industry awareness due to the attention on AI and ML, has made the underlying principles of OR more vital and sort after than ever before.

The success of 2022 are possible only through the tireless work of the volunteers serving as Office Bearers on the Executive Committee (EC) of ORSSA. Firstly, thanks to the commitment and dedication of Lieschen Venter as the Secretary of the Society; a demanding role in which she provided much-needed stability in this transition period and brought a wealth of past knowledge, contacts, and administrative skill to keep things running as smoothly as possible.

Our treasurer Robert Bennetto has been able to build on the work done in 2021 to ensure that the Society remains financially secure. In addition, he has brought more attention to how to best use our financial assets to continue to expand and grow our ability to service the community and those who may not otherwise have the means to attend events and conferences. Regulatory conditions regarding tax and other governance requirements have been resolved, making it easier for businesses and parastatal members to join as corporate members.

Determining the status of members and establishing better ways of remaining in contact with them has fallen to Handre Williams this year as head of membership. Between Rob, Lieschen, and himself tracking member status is in a better position as we move to use Wix as the primary repository of data. Onboarding sessions have been initiated to help members understand how best to use the website, what they can do, and how they can contribute if they wish.

Jess Rees and Thloni Mhango have kept our events running smoothly and worked on marketing the Society, respectively. Both roles require more work than a single volunteer can be expected to perform, so we appeal to members who wish to assist them to reach out. Our familiarity with virtual platforms over the last two years of use has allowed us to make events available to all our members and, in many cases, allowed us to grow our collection of recorded sessions for public viewing on YouTube. A goal moving forward is to re-establish in-person events in as many places as possible, but we rely on the support of members willing to help. The current structure is designed to keep the admin of those that want to run events to a minimum but finding the correct incentivization to encourage people to host or propose hosting remains challenging.

Our office of external Liaisons, headed by Angela Rademeyer this year, is a new role to coordinate news and updates from external organizations.



Some members of the of the 2022 ORSSA EC are from left to right: Jess Rees (re-elected as Head of Events in 2023), Angela Rademeyer, and Thloni Mhango (re-elected as Head of Marketing in 2023).

Thanks to Angela for her persistence and time in establishing a new process to manage those representing us in different organizations. And a big thank you to all our representatives for their time and contribution.

Patrick Reynolds took the reigns as Head of Digital, another new role this year. The Society uses many digital services to support its administrative load. The move to WIX in 2021 continues to pay off this year by streamlining many functions that would previously require human intervention. Lessons are still being learned on how best to use the many options available. However, we hope to continue to build a robust digital capability to assist the running of a modern, efficient Society.

The journal has a new look and has been expertly managed by Elzanie Bothma and edited by Jaco Visagie.

They have done a fantastic job of keeping ORiON going and continue to suggest new ways to keep the publication relevant in an increasingly competitive space for authors and readers.

A big thanks to the UCT Statistical Sciences Department, the LOC for 2021 and especially to the LOC Chair, Leanne Scott. Conferences are challenging to organize, especially as we initially faced the uncertainty of the path that COVID would take at the beginning of 2022. It is also our first hybrid conference, emphasizing the importance of allowing as many people to attend and participate as possible. We look forward to Unisa hosting 2023 and wish them well in planning for the next conference in Gauteng.

To Dave Evans, who stepped in as President in 2021 and has acted as Vice-President of ORSSA for 2022 and the President of AFROS. All this while moving to the United States. Thank you for your advice, support, and dedication to the Society and the broader OR community.

Finally, to all those in the background who provide their time and advice, whether presenting to our members, reviewing papers, judging competitions, attending events, or posing questions and suggestions, we thank you for keeping the Society active. Its success ultimately lies with you.



Some elected members of the 2023 ORSSA EC are from left to right: Lieschen Venter (Secretary), Fanie Terblanche (Vice President), and David Clark (President).



More elected members of the 2023 ORSSA EC are from left to right: David Clark (President), Robert Bennetto (National Treasurer), and Handre Williams (Head of Member Relationships).

A promotional banner for the 52nd Annual ORSSA Conference. The background is a night-time cityscape of Johannesburg, with the Sandton Tower prominently lit up. The text is overlaid on the image in white. On the right side of the banner, there is a decorative graphic of diagonal blue and white stripes.

52nd Annual ORSSA Conference
10 to 13 September, 2023
Radisson Hotel & Convention Centre, Johannesburg
Visit orssa.org.za/conference to learn more

The return to in-person events

The end of pandemic lockdowns enabled members to meet in person again during 2022.

After more than two years of masks, restrictions at gatherings and parties, and meetings online, South African citizens could finally meet in person again from the end of June 2022.

Shoppers were able to see each other's faces, colleagues could smile across cubicles, and airport security would no longer have to ask people to lower their masks so they could scan their passports.

This welcome change enabled members of ORSSA to meet in person again at a variety of social events. Some members gathered in Sandton or Stellenbosch for a casual get-together of like-minded OR enthusiasts. There were drinks, snacks, and some relaxed games to lubricate the networking and conversation. Be sure to join the in-person gatherings planned for 2023. Visit orssa.org.za/events regularly for notice of upcoming events.

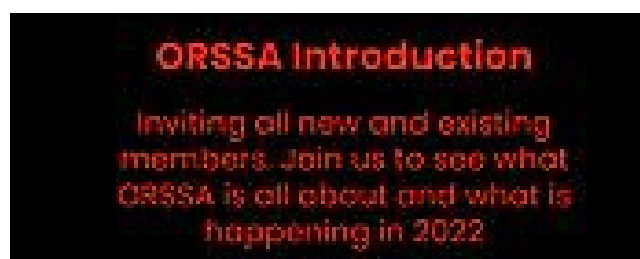


Members attending one of the Sandton socials were, from left to right, Dave Evans, Jess Rees, Clarise Poobalan, Jan Kruger, Luis De Sousa, and Robert Bennetto.

A rich library of webinars

Members from all geographic areas easily attend events together through regular webinars.

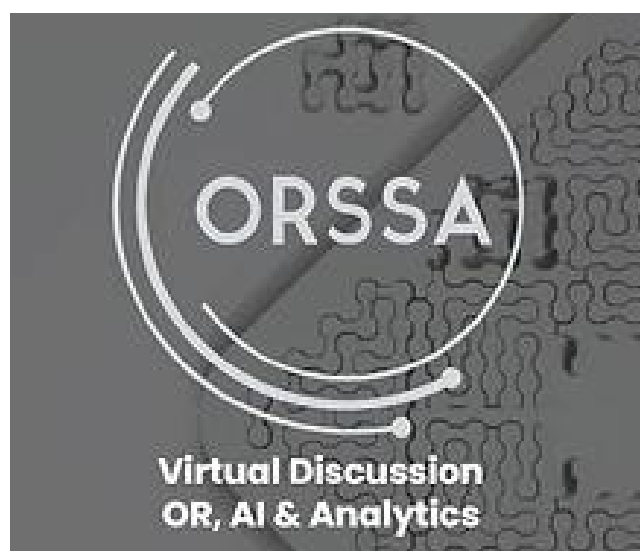
The webinars held in 2022 covered two main areas of subject matter: technical talks relating to specific OR applications, and talks covering the inner workings of ORSSA. All webinars were held over Zoom. Regular webinars will continue in 2023. Look out for email invitations or visit orssa.org.za/events to register.



**Hey Google,
what's new in AI?**
an Ada Lovelace Day webinar



with Dr Susara
van den Heever
- Google Cloud



Rebranding of ORiON

by Elzanie Bothma

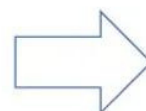
Following in the footsteps of ORSSA, the editorial board of ORiON decided to give the journal a new and modern look that aligns with the ORSSA rebranding of 2021.

The design mainly incorporates hues of blue and incorporates the ORSSA brand's primary red as a pop of color. The color blue boosts one's ability to think creatively; affirming the notion that blue is the color of innovation. The combination of black, white, red, and blue also makes up the majority of colors used in technology logos. While blue evokes reliability and competence, red communicates excitement and brings attention to an innovative nature.

The brief for the logo was data science leveraged for sky-thinking. The full-color logo is set to hues of blue that serves as a color palette for the journal as well. There are also black and white versions of the logo (to be used on dark backgrounds). The logo has a complementary style to that of the ORSSA rebrand. The design team maintained the circular movement for consistency and ease of brand integration. The use of the red dot for the "i" creates a visual link to the ORSSA brand while graphic elements depict data science and innovative thinking. It is a strong icon that works well as a standalone as well as a design element for the cover design.

The inspiration for the cover is a journal rooted in Africa with innovation across borders. The background is in ORiON's primary dark blue tone and design elements include a data-science network imprinted on the Africa map. The Africa map centered on the front page only leaves ample space on the back cover for volume-specific text with a banner on the front cover allocated for volume details.

The clean design for the cover is aligned to the ORSSA brand refresh. It's timeless with an injection of energy. Using the actual logo for design elements and color palette works towards establishing a strong and easily-recognized brand. Many thanks to Lenke Kühn, the graphic designer employed for this project, for a beautiful product.





Remembering Giel Hattingh (1940–2022)

By Hennie Kruger and Jan van Vuuren

It is with great sadness that we learned of the passing of Giel Hattingh on 5 November 2022 at the age of 82 years.

Johannes Michiel Hattingh was born in Parys (Free State) on 16 May 1940. He matriculated in Parys at the tender age of 15. The following year (1956) he enrolled for further studies at the Potchefstroom University for Christian Higher Education (currently North-West University). After the death of his father during his first year at university, however, the young Giel had to leave university and start working.

He worked at Sasol for a couple of years and then resumed his studies at the PU for CHE where he ob-

tained the following degrees: BSc in Mathematics and Statistics (1962); Hons BSc in Mathematics (1963); MSc in Statistics (1965) and a doctorate (DSc) in Statistics and Operations Research (1971). His doctoral thesis was titled Contributions to the theory of linear and quadratic programming with a few applications.

Giel started lecturing at his alma mater in 1966 but after obtaining his doctorate, he and his wife Antoinette, whom he married in 1967, left for the United States where he worked for IBM at the TJ Watson Research Centre in Yorktown Heights, NY. Prior to working for IBM, he also spent nine months doing post-doctoral research at Stanford University where he studied under the famous George Dantzig. He returned to South Africa and the PU for CHE in 1974 and was promoted to full professor in 1976. He was then transferred in 1976, together with two other full-time academic staff members, to Vanderbijlpark to lay the early academic foundations for what would become the Vaaltriangle Campus of the university. In 1981, he returned to Potchefstroom and was appointed as the Director of Computer Services, a position he held until 1984. From 1985 to 1989, he was the Chief Director of Planning and Information. Giel returned to academia in 1990 and was appointed as chairman of the Department of Computer Science and Information Systems. He held this position until his formal retirement in 1998. After his retirement he remained a staff member at NWU on a contractual basis until 2012. During this time, he acted as the head of The Telkom Centre of Excellence as well as the Head of the Research Subprogramme on Computer Science, Informatics and Operations Research.

Giel became a member of ORSSA in 1970 and was elected Fellow of the society in 2005. He played a seminal role in introducing OR at the PU for CHE as he was the first to present courses in linear and non-linear programming in 1966 at the Vaaltriangle Campus.

His academic contributions, especially in the field of OR, were monumental. He supervised a large number of master's and doctoral students, and published extensively on a variety of topics related to decision support systems and mathematical programming. He was also involved in collaborative research with various institutions in Germany and the United States, and conducted various international study tours. Together with his students, he also regularly attended both national and international conferences.

Prof Giel, as he was generally known in Potchefstroom, will be sadly missed by the OR community. He was a warm, modest and compassionate person who never hesitated to extend a helping hand to anyone who needed it - sometimes at his own expense. His work ethic was a shining example to all who knew him. Not only was he a first-rate academic, but also a wise mentor who could be called upon to assist many a student and staff member gently, but firmly, in almost any situation. He is survived by his wife, Antoinette, two children, Karien and Christiaan, as well as his grandchildren. We extend our sincere condolences to his family.



"Most problems can be thought of as the realisation that you have a goals or goals where you cannot achieve infinite satisfaction. OR is the science where you model these objectives and constraints first before you solve the problem" - Giel Hattigh

ORSSA 2022

by Leanne Scott

by Howard Jensen Boyle

The 51st Annual Conference of the Operations Research Society of South Africa (ORSSA) was the Society's first attempt at a hybrid conference to accommodate both online and in-person delegates. A record 117 delegates were registered with 17 attending online. This is one of the best registration totals in the history of the Society with approximately 40 delegates being non-members. This is a good reflection of marketing efforts and growing interest in the Society. The presence of delegates from corporate giants such as Shoprite, Transnet, and Discovery, as well as the academic friend of the Society, Unisa was especially exciting.

The conference was organized under the watchful eye of the Department of Statistical Sciences at UCT and led by the LOC chair Leanne Scott. The programme featured three acclaimed keynote speakers; prof Helena Ramalhinho from Universitat Pompeu Fabra (Barcelona), prof Lisa Scholten from TU Delft and (our own) prof Sara Grobbelaar from Stellenbosch University. The breadth and depth of experience they collectively brought especially emphasised the transdisciplinarity amongst our OR community.

The programme also offered two pre-conference tutorials. The first was presented by prof Ramalhinho (on *Iterated local search : Applications and extensions*) and Prof Fanie Terblanche (on *Solving real world optimisation problems with mixedinteger LP technology*). Our grateful thanks to each of our tutorial and keynote speakers for their willingness to give of their time and their expertise so generously.

Apart from an impressive line-up of conference papers the programmed included opportunities for delegates to mingle and socialise. The social programme kicked off with a welcome breakfast at registration on the first day of the conference; time to re-connect over coffee and a continental breakfast on the rooftop venue of the conference centre. At the end of the first day there were informal drinks and snacks at Mitchell's Scottish Ale House (an old favourite watering hole of Capetonians, in walking distance of the conference venue). This year's gala event was in the form of a cocktail evening on the rooftop terrace of the Conference Centre, at which the top practitioners during the National Student Competition Medal ceremony, the recognition award ceremony, and the Tom Rozwadowski Medal ceremony were acknowledged.

The Society gives particular thanks to Theo Stewart for compiling the conference schedule, to Ian Durbach for compiling the conference programme, to Neil Watson as Treasurer and to Beverley King for bookings and liaison. And last, but not definitely not least, a huge thank you to Lieschen Venter, without whose organisational know-ledge and super-efficient, super helpful and all round wonderful support, nothing would happen!

A big thank you to all our sponsors for your generous support: UCT Statistical Sciences, UNISA Decision Science, Elytica, Discovery Limited, SACNASP, BMI at NWU, SU Industrial Engineering, SA System Dynamics Chapter and SU School for Decision Science.



The poster for the 51st Annual ORSSA Conference features a dark blue background with a white and red circular graphic on the left containing the text '51st'. To the right, the text 'ANNUAL ORSSA CONFERENCE' is displayed in white and red. Below this, the conference details are listed: 'Conference dates: 12th to 14th September, 2022', 'Venue: Protea Hotel at Cape Town's Waterfront Breakwater Lodge', and 'Address: Portswood Road, Victoria and Alfred Waterfront, Cape Town, 8001'. The 'Our Hosts' section includes logos for the University of Cape Town and Statistical Sciences. Two links are provided: 'https://www.orssa.org.za/event-details/orssa-2022-3' for event details and 'https://www.orssa.org.za/conference' for more information. A large circular image on the right shows a waterfront scene with buildings and boats. At the bottom, a red button with white text says 'RSVP NOW'.

51st

ANNUAL ORSSA CONFERENCE

Conference dates: 12th to 14th September, 2022
Venue: Protea Hotel at Cape Town's Waterfront Breakwater Lodge
Address: Portswood Road, Victoria and Alfred Waterfront, Cape Town, 8001

Our Hosts:

UNIVERSITY OF CAPE TOWN
Statistical Sciences

Links to the event details pages:
<https://www.orssa.org.za/event-details/orssa-2022-3>
Information about the conference:
<https://www.orssa.org.za/conference>

RSVP NOW



More pictures from the event is available at orssa.org.za/photos

OVERVIEW OF ORSSA 2022



by Gavin le Roux

This year's Annual Conference of the Operations Research Society of South Africa, hosted by UCT's Department of Statistical Sciences, was held in the heart of Cape Town. Split between two venues, UCT's Graduate School of Business and their Academic Conference Centre, we were treated with magnificent views of the V&A Waterfront in the southeast and the city's skyline with Table Mountain as its backdrop in the southwest.

We were welcomed to the conference on the Monday morning (12 September 2022) with a breakfast of croissants, a selection of cheeses and meats and a variety of fruit and yogurt. With our stomachs full, the conference kicked off with a plenary session about transdisciplinary OR to improve decision-making in the water sector, addressed by Dr Lisa Scholten from TU Delft in the Netherlands.

There were 6 parallel sessions for the remainder of the Monday which included presentations from the National Student Competition finalists. Congratulations to Alexander Flemming and Fuzail Dawood who have consequently won the Theodor Stewart and Gerhard Geldenhuys Medals, respectively.

Since my research interests lie in the field of the use of

metaheuristics to solve combinatorial optimisation problems, I was especially intrigued by the talks from Alexia van Wyk, Bowen Heinrich and Greg Harmse in the first parallel session. They covered topics such as the minimum colour cut problem, the concave knapsack problem and a vehicle routing problem with time windows. The effects of COVID-19 on South Africa's education system were also hot topics during the conference, particularly seen in the presentations by Dr Lieschen Venter, Dr Annette van der Merwe, Khwezi Kunene and Theresa Viljoen. Other great presentations from the first day that should not have been missed included predicting movements in financial markets by Kyle Harrison, designing a more efficient interactive voice response system by Marno du Plessis and the evaluation of the production flow in a yogurt factory by Annelie Wessels, covering a diverse range of subjects.

Once the first day of sessions were wrapped up, we headed to Mitchell's Scottish Ale House in the V&A Waterfront (a 5-minute walk from the conference venues) where we were treated with two complementary drinks each and several platters sponsored by Stellenbosch University's Department of Industrial Engineering.

The second day started with a plenary session by Prof Helena Ramalhinho from Pompeu Fabra

University in Barcelona, Spain. She gave a compelling speech about optimisation methodologies, models, algorithms and tools applied to NPOs and NGOs in the health, social and environmental sectors. The parallel sessions for the day included data science and learning, decision support systems, inference and statistics and health management. Some of the talks that grabbed my attention were machine learning in online environments by Robert Bennetto and lessons learnt from neurochemistry as a framework for information transfer by Rupert Spann.

Once the AGM has concluded and everyone headed back to their hotels and Airbnbs to get ready for the evening, we met at the Conference Centre Rooftop Terrace for the gala cocktail event which is always a highlight of ORSSA conferences. Unfortunately, we were only served starters (mainly small beef tacos and bowls of shredded duck) with a hint of music in the background, but the beer and wine kept our spirits up.

To make up for the shortage of food during the gala, it

felt as if we had lunch twice the following day. The chicken in blue cheese sauce was a winner! The last day's two parallel sessions (typically referred to as the graveyard shift after a long night of celebrating) comprised interesting topics such as infodemiological analysis of social media and mental health by Kurt Marais, examination timetabling at UCT using tabu search by Ebrahim Steenkamp and two thought-provoking talks by Philip Prinsloo and Samantha Downing on the Eldana saccharina Walker population which damages crops in the South African sugarcane industry. The conference ended off with a plenary session led by Prof Sara Grobbelaar from Stellenbosch University, covering systems thinking and the dynamics of innovation.

All in all, this has been a memorable and entertaining conference! It was refreshing seeing everyone in person again after two years of virtual conferences. If you have missed this year's conference, be sure to attend next year's conference in Pretoria which will be organised by UNISA.

REFLECTIONS FROM INDUSTRY

by Arno Botha

I had the pleasure of attending the 2022 ORSSA-conference in Cape Town, as a senior delegate from FirstRand Bank and as industry-based academic. The diversity of presented topics was refreshing and thoroughly engaging -- from finance up to the environment. I also found the quality of presentations, especially those from postgraduate students, to be of a particularly high quality. The sheer breadth of Operations Research as a field is quite exciting and I look forward to pursuing its application, particularly in optimising the many decisions within quantitative finance and credit risk management, e.g., write-off timing decisions. Put differently, the ORSSA-conference has left me truly inspired and hungering for more. I shall definitely attend again!





by Samantha Downing

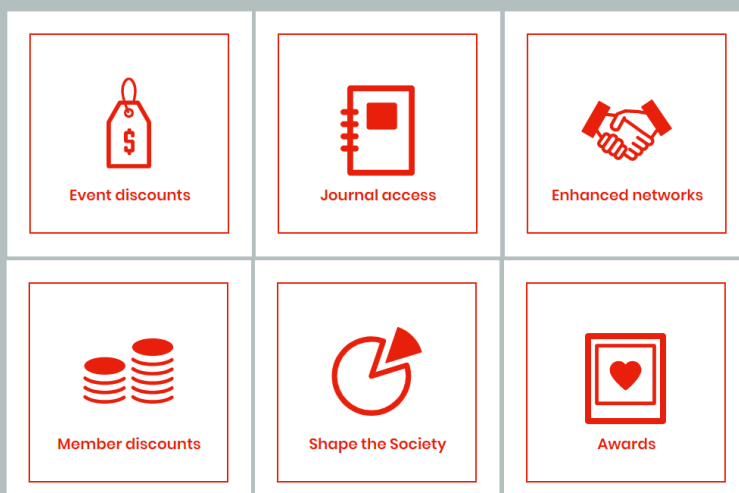
This year was my first time attending the ORSSA Conference. For a while before the time I was quite intimidated by sharing the space, ideas and a platform with some of the brightest minds in our discipline. And now, looking back on the experience, I am so grateful to have had this opportunity to expand my understanding and appreciation of Operations Research and its applications. There was truly something to be gained by everyone, from all backgrounds and at every skill level. I found the plenary sessions very insightful, and these included talks from Dr. Lisa Scholten on Transdisciplinary OR to improve decision-making in the water sector, from Prof. Helena Ramalhindo on Optimisation for Social Good, and from Prof. Sara Grobbelaar on systems

thinking and the dynamics of innovation. In general, the talks ranged from soft OR techniques to modelling techniques to OR for social good and to optimisation methods.

A key aspect of the conference was the coming together of professionals from various industries and with diverse skill sets who could enrich each other's ways of thinking. The attendees had an openness to meet new people and participate in challenging discussions both during and after the conference. It was an honour to interact with experts in their respective fields and encouraging to see the increasing interaction between industry and academia. I definitely recommend attending the 2023 ORSSA Conference to anyone involved in Operations Research!

Give the gift of ORSSA this festive season

Still looking for a year-end gift for that special analytical someone? Give them the gift of ORSSA membership! Visit orssa.org.za/membership today to find out more.



ORSSA Awards 2022

The annual ORSSA Awards were once again conferred at the Awards Ceremony during the 2022 Conference.



GERHARD GELDENHUYS MEDAL FOR THE BEST FOURTH YEAR PROJECT

Fuzail Dawood

supervised by Prof JH van Vuuren
Stellenbosch University

Modelling control strategies for the
invasive tree species *Prosopis* in the
Northern Cape

THEODOR STEWART MEDAL FOR THE BEST MASTERS THESIS

Alexander Flemming

supervised by Prof JH van Vuuren
Stellenbosch University

A framework for modelling spatio-
temporal competition and spread of
invasive biological species



TOM ROZWADOWSKI MEDAL

Christa Searle & Jan H van Vuuren

Modelling forced migration, A framework for
conflict-induced forced migration modelling
according to an agent-based approach



SACNASP enables young operations researchers to attend ORSSA 2022



Beneficiaries of the SACNASP Development Package sponsorship for ORSSA 2022. From left to right, Sha-abaa Slamang, Melvin Kisten, and Mahlatse Mashao

The sponsorship prospectus for the ORSSA 2022 conference included a new Development Package sponsorship opportunity. Development and reach of operations research in Africa is an important component of ORSSA. This package aimed to support promising up-and-coming students from different universities by sponsoring their attendance, travel and lodgings for the conference.

The Local Organising Committee for ORSSA 2022 was very excited to accept the offer from the South African Council for Natural Scientific Professions (SACNASP) to buy one of these packages. Their sponsorship enabled Sha-abaa Slamang, Melvin Kisten, and Mahlatse Mashao to attend as student delegates.

Mahlatse Mashao is enrolled for a BSc(Hons) in Mathematical and Computer Science at the Department of Statistics and Operations Research, University of Limpopo.

She is based in Phalaborwa and her research interests include advanced linear programming, statistical quality control, and applied linear regression.

"I started studying operations research last year. I did not have any understanding about it," Mahlatse writes. "As time went by, I started falling in love with operations research. I had a different career guide in my mind, but after operations research, I chose it as a career. I am the best candidate for this because I feel that I can contribute more to the society and learn more about operations research. I am also a co-founder of UL-SOSS(UL-Statistics and Operations Research Student's Society) I need to learn more from people who have experience in leading structures. I believe that I will be able to change the perspective that students have on operations research. In my two years of operations research, our class never reached 50 Students. Students don't know anything about it and I'm hoping to change that in University of Limpopo. I am also a student leader in the school of Mathematics and Computer Science, I have the potential capabilities of learning new things and I am a teachable person."

Melvin Kisten is enrolled for a BSc(Hons) Computer Science at the Department Computer Science and Information Technology, Sol Plaatje University. He is based in Kimberley and his research interests include applying association-based machine learning to build a student engagement algorithm.

"My research area is in the domain of computer science which is focused on learning analytics," he writes. "Most of the work done in learning analytics has gone through the first three phases of the learning analytics life cycle: descriptive, diagnostic and predictive. There is very little work done fourth phase: prescriptive phase."

Thus, my research work proposes to assist students in making decisions which will increase the chances of their success. I am grateful to have had the opportunity to participate at the conference and this will spice my quest for knowledge as I progress in my career endeavor."

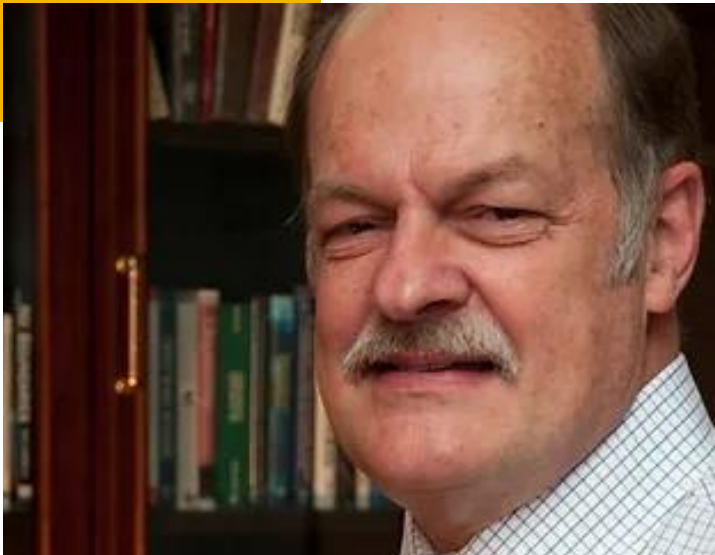
Sha-abaan Slamang is enrolled for MCom Quantitative Management at the Department of Logistics, Stellenbosch University. He is based in Malmesbury and his research interests include data analytics, data visualization and simulation models for analysis of education systems. "I have decided to pursue my master's in Quantitative Management where my research would be focused on education policy development," he writes. "My research is to understand the impact of various factors on the different socioeconomic groups, what disparities are present, and what interventions could be established to increase the opportunities for higher learning for diverse student success. This conference provided with an opportunity to broaden my knowledge, and gain new perspectives."

If you would like to sponsor students to attend the next ORSSA conference, contact the Society Secretary today for a copy of the latest sponsorship prospectus!



IFORS Fellow 2022 inductee

HANS ITTMANN



by Dave Evans

Hans was the link between ORSSA and IFORS for many years, and has contributed much in both directions, contributing many articles for the IFORS Newsletter, (of which he was the first editor) and other publications, in addition to bringing IFORS information, contacts, speakers and activities to us. ORSSA hosted the IFORS triennial conference in South Africa in 2008, in which Hans played a major role, chairing the local organizing committee.

He has been active in OR in Africa over many years, playing a major role in an international conference on OR in developing countries hosted by ORSSA in the Kruger Park in South Africa many years ago, and establishing and participating in international OR workshops at several venues in Africa over the years. He continues to participate in African and other international conferences – activities he has been involved in for many years, and provides substantial encouragement to OR practitioners on the continent – both established and up and coming ones.

He was involved in the establishment of the the African Federation of Operations Research Societies (AFROS) in 2016 and has been an active non-voting member of the Executive Committee ever since. He is a highly valued contributor, playing a major role in liaising amongst the many member entities in AFROS, and assisting new

IFORS Fellowship

The IFORS Administrative Committee approved the establishment of the IFORS Fellows Award in 2020. Twenty very high profile individuals received the award in 2020, with a further six in 2021 and seven in 2022, one of whom is our own Hans Ittmann. The Award recognises a distinguished individual's contribution to international operational research and its communities.

chapters and working groups in establishing themselves with for example, the correct structures, constitutions, and activities.

Hans has spoken about his work at conferences in Africa, for example, in Algeria in 2015, and to African societies such as ORPA in 2014. He has carefully documented the spread of OR throughout Africa, presented his findings at the first AFROS conference in Tunisia in 2018 and published a paper on the subject for ORION.

His contributions to OR in South Africa, Africa and IFORS over the past forty and more years fully justify his election to an IFORS Fellowship and ORSSA is honoured to be able to congratulate him on this outstanding award.



2020/2021 TW Kambule-NSTF Emerging Researcher

SHEETAL SILAL



by Kerry Haggard

The winner of the 2020/2021 TW Kambule-NSTF Emerging Researcher Award is professor Sheetal Silal, Associate Professor of the Department of Statistical Sciences, University of Cape Town (UCT); and Director: Modelling and Simulation Hub, Africa, Faculty of Science, UCT; and Honorary Visiting Research Fellow: Oxford University, UK. She received the Award for her contribution through combining knowledge from biology, clinical medicine, public health and economics to develop mathematical disease models to help shape health policy and improve the health of the people.

There has never been greater potential for infectious diseases to spread than right now. Prof Silal's previous body of work using mathematical modelling to create and support strategies dealing with malaria, TB, HIV, syphilis and pertussis provided the perfect backdrop for her work over the last 18 months in modelling the spread and management of Covid-19.

As Associate Professor in the Department of Statistical Sciences and Director of the Modelling and Simulation Hub, Africa (MASHA), in the Faculty of Science at the University of Cape Town, and Honorary Visiting Research

Fellow at Oxford University, prof Silal explains that the application of mathematical disease modelling goes beyond theoretical mathematics

"It combines knowledge from biology, clinical medicine, public health and economics to develop models to assist decision-makers with controlling disease," she says. "The Covid-19 pandemic highlighted the importance of these models in supporting government policy, from advising on the number of hospital beds required to projecting mortality. Mathematical modelling is fast becoming an invaluable tool in shaping health policy and saving lives."

Prof Silal founded MASHA in 2017, to co-ordinate her modelling research activities, and to facilitate networking and training among African modellers. In 2018, prof Silal and MASHA were asked by the National Department of Health to partner with the Malaria Elimination Initiative (MEI), the San Francisco Global Health Group and the Clinton Health Access Initiative (CHAI). They had to develop an investment case to estimate the cost of eliminating malaria in South Africa, and to generate economic evidence highlighting the benefits of doing so.

MASHA was also asked to support the Department of Health's response to the Covid-19 pandemic through the development of mathematical models, and is a member of the South African Covid-19 Modelling Consortium, a group of experts that provides technical support to decision-makers responding to the pandemic.

