



NEWSLETTER

OF THE OPERATIONS RESEARCH SOCIETY OF SOUTH AFRICA

December 2021

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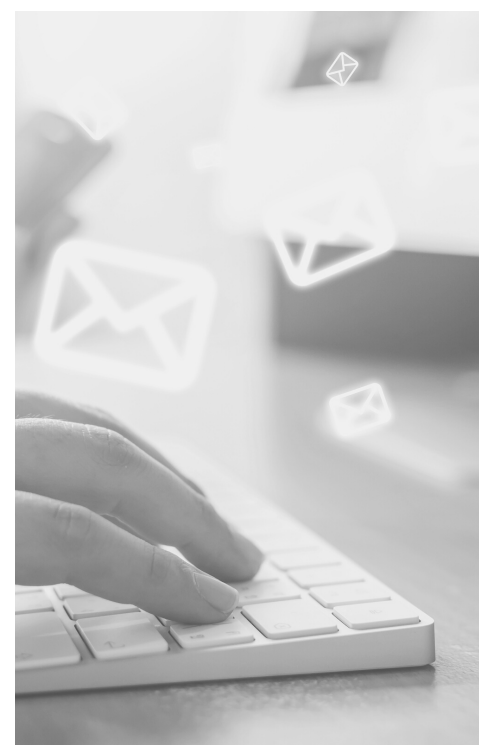
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In 2021 the Executive Committee (EC) of ORSSA made the decision to move from a quarterly newsletter to an online blog as the main vehicle for sharing news within the Society. The need for at least one annual highlights booklet remained and

we are proud to introduce the 2021 highlights magazine of ORSSA. The proud tradition of the ORSSA Newsletter continues. We hope that you enjoy looking back at a challenging but reimagined old year with us.





From the President's Desk

by Dave Evans

What an interesting year to summarise! With your indulgence, I'll start in October 2020, as that was when our then president and vice president both resigned. At that point, we essentially had not had a treasurer for three years, so I dived in, elected myself acting treasurer, and with enormous help from Lieschen Venter, our secretary, started sorting things out. Many of you will not be aware that without Lieschen, there would probably no longer be an ORSSA – the vote of thanks we owe her is enormous.

At that point, no membership fee invoicing had been done for 2020, and I have my doubts as to how much was done for 2019. That also meant our membership records were also a mess. With the assistance of Stratfin, our financial consultants, we did the 2020 invoicing and started on the financials. Once completed, these showed the Society had made a loss of R162 000 in 2019 and a further R33 000 in 2020.

"A leader is best when people barely know he exists, when his work is done, his aim fulfilled, they will say: we did it ourselves." – Lao Tzu



At a very belated annual general meeting at the end of 2020, I was elected president for 2021, with David Clarke as vice president, so incoming president for 2022, and John Snyder as treasurer. We owe a huge thank you to John for the job he has done on bringing everything up to date on that side, this past year. The POPI Act came into effect in mid 2021, so we also had some work to do to get set up to be compliant with that.

Covid has continued to wreak havoc, and sadly, our national conference, held jointly with AFROS – the African Federation of OR Societies, of which ORSSA is a founder member – had to be a virtual one. Full marks to Marius Smuts and the Vaal Triangle team, who did an outstanding job – it was a great conference, with participants from all round the world. Our thanks also to AFROS for their very significant contribution.

The Society's chapter structure was wobbling by 2021. As several large overseas OR societies no longer have chapters, and we have demonstrated the viability of virtual events in ORSSA over the past year or two – through force of Covid circumstances – a proposal was put forward to do away with our chapters. This was debated at a special general meeting in July this year. It was passed almost unanimously, and the changes necessary to put the new structure in place were adopted at this year's annual general meeting. So, from 1st January 2022, we will no longer have chapters. A new Executive committee structure also comes into effect on that date to run the new structure of ORSSA. Thanks again are due to the chapter committee members for the on-line events such as Meet-Ups and webinars which they have held very successfully over the year.

At the same time, a rebranding has been done, with ORSSA now having a new logo, (thanks to Linke Potgieter for all the work she did on that) and corresponding updates to things like the website. The latter has largely been done by Patrick Reynolds and Lieschen Venter and they both deserve huge thanks for the enormous amount of work they put into that. To go with this, we have also moved to on-line newsletters/blogs on the website. The document that this is part of will be our new annual summary of the year's events.

So – an eventful year in more ways than one! I think the Society's back on track again now, and my thanks go to the Executive Committee members and chapter committees for getting us back on the rails.



Some members newly elected to the 2022 ORSSA Executive Committee. From left to right: David Clark, Handre Williams, Jess Rees, Dave Evans, Robert Bennetto.

2022, and probably a year or two after that, will also require quite a lot of work, as we adopt to the new structure and Exco roles to make sure that we meet members' needs, particularly in this ongoing Covid environment. The 2022 National Conference is being organized by Western Cape members at UCT – let's hope it can be face to face again and we can renew the social acquaintanceship that has been missing from the past two.

ORSSA 2022
11 - 14 September 2022
proudly brought to you by the University of Cape Town

A fresh start

A new face and structure for ORSSA

On Thursday, July 29th, 2021, ORSSA held what was probably the first Special General Meeting in our fifty year history. It was held online, on Zoom, and attended by 35 members, indicating the level of interest in what was a very significant motion being proposed. For a Special General Meeting, a quorum is the members present, so the meeting was duly constituted.

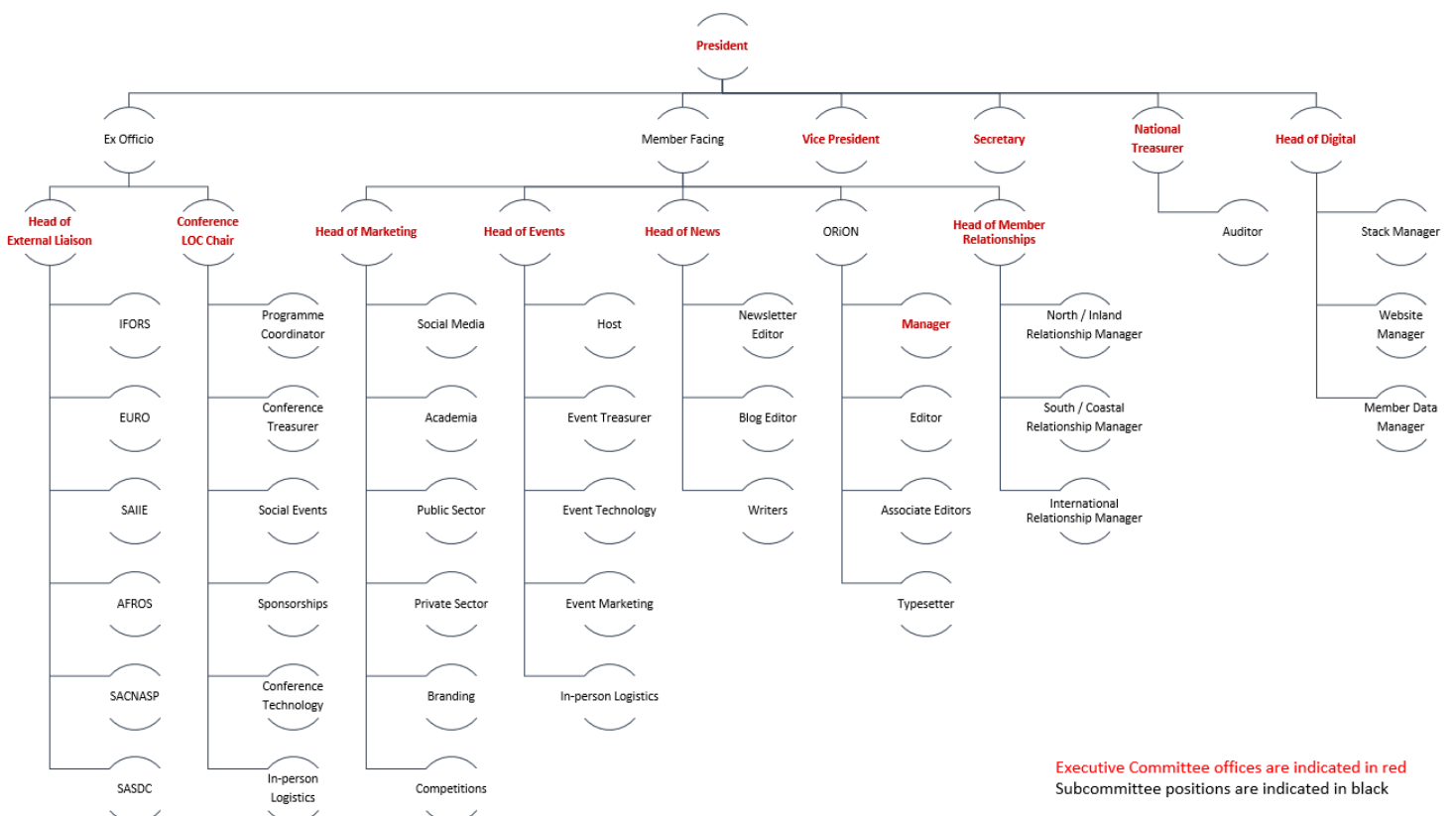
The motion was that the Society do away with geographical chapters, and adopt a structure for the Executive Committee (EC) with fewer members: 12, down from the current 23. Membership Relationship and Event management roles will replace the chapters. This new approach will allow the Society to more readily address the virtual requirements of a digital, post-pandemic world. Regional face to face activities will resume as soon as the lockdown level allows this.

There was considerable positive discussion about several aspects, and several additional ideas noted. When a vote was taken, the new structure was

approved by 27 votes to 2.

The new structure requires some alterations to the Constitution, which was tabled and approved at the AGM in September. One of the reasons for this change is that we have increasingly struggled to fill the posts in our chapter committees in recent years, and doing away with them removes the need for their secretaries, meetings, minutes, etc. On the other hand, the new structure below does have a lot of other, 'non-EC' positions. The current chapter chairman activity, for instance, is likely to become a regional event host type of role.

Anyone who is interested in finding out more about the opportunities to support the Society by serving in any of these positions is invited to contact the president, vice president or secretary. The Executive Committee will obviously be grateful for all the support we can get, to get the new structure up and running effectively as quickly as possible.





Rebranding of ORSSA

by Linke Potgieter

A new logo for ORSSA was revealed at the AGM in September 2021. The journey to a renewed brand identity for ORSSA started in July 2019, and reached a significant milestone when the executive committee approved a new logo, designed by Lenka Kuhn, for the society in July 2021. The new logo replaces the old 'ONR' logo that has been in use since the 1970s.

In this new digital age where visual communication has become so important amongst the younger generation, rebranding an old image can be powerful. With different subject fields and related societies becoming more intertwined, especially in this new data science era, a new unique brand for ORSSA may help with staying professional, relevant and noticed.

Our new logo is modern, simplistic, bold. It is a logo without a fixed colour (one of the latest trends in contemporary design), used in combination with a rich, vibrant and symbolic colour pallet as background colours that captures the warmth, vibrancy and diversity of South Africa. It is a creative expression of where we came from, where we are now and where we see ourselves going. The logo succeeds in striking a fine balance between a society with a rich heritage, and a society progressing into the future. The new logo also contains the full acronym, ORSSA, making the society more recognisable, than the original 'ONR' logo, and utilise a spiral network, to connect with the analytical skillset of ORSSA's members.

The new ORSSA colour pallet too is bold and vibrant, yet retains simplicity. As the colour red is one of the most recognisable, distinctive brand assets of ORSSA, it has been retained as ORSSA's primary colour. In addition, the colours dark charcoal, navy, and light silver have been introduced as softer, more welcoming and timeless replacements for the original black and white primary colours.

In memoriam

Remembering the members we lost during 2021.

The Society was distraught by the loss of three members during 2021.

Gerhard J Rudolph, who died in Pretoria on 15 January 2021, played a huge role in the early years of the Society and was instrumental in introducing Operations Research at UNISA in 1968. His full obituary is available on the **blog**.

Hendrik Isak David du Plessis, a former president of ORSSA, died on 2 June at the age of 86 in Eversdal, Durbanville. He is survived by his wife and four children. In 1976 he became the seventh president of ORSSA. Previously he had been the second chairperson of the Western Cape Branch of ORSSA. His full obituary is available on the **blog**.

Sumarié Koetsier (née Meintjes) passed away at the age of 32. Sumarié became a member of the Pretoria Chapter Executive Committee in 2015 as Additional Member and later as Secretary. She was elected as Chapter Chair from 2017 to 2018. She was also the Chairperson of the Local Organising Committee for the 2018 ORSSA conference where she did an excellent job. Her full obituary is available on the **blog**.



ORSSAxAFROS 2021

by Marius Smuts

by Howard Jensen Boyle

The 50th Annual Conference of the Operations Research Society of South Africa (ORSSA) in collaboration with AFROS (the African Federation of Operations Research Societies) kicked off in an online mode on Sunday, 12 September 2021 with a tutorial on Integrated Analytics presented by Prof Fanie Terblance, managing director of Elytica.

The rest of the conference programme commenced on Monday 13 September 2021 and concluded on Wednesday 15 September 2021 and contained a diverse set of session talks which stimulated a wide range of interests and led to fruitful discussions around the virtual tables. The presentations tied in with the conference theme “Analytics for sustainability” and the importance and presence of Operations Research (OR) was clear in the fields of Energy, Logistics, Health care and Finance to name only a few.

There were four distinguished keynote speakers that spoke during the plenary sessions, namely:

- Prof Gerda Claeskens from the research group OR & Statistics and the Leuven Statistical Research Center at KU Leuven in Belgium.
- Prof Roelof Coetzer from the Department of Statistics at the North-West University.
- Prof Laura Albert from the David Gustafson Department Chair of Industrial & Systems Engineering at the University of Wisconsin-Madison.
- Prof Hatem Masri, a professor of business analytics and dean of the college of business administration at the university of Bahrain, Kingdom of Bahrain and also the president of AFROS.

In addition to the keynote speakers, there was also a special INFORMS session in which the following invited speakers gave presentations:

- Emma Gibson, a PhD candidate at the MIT Operations Research Center
- Prof Elise Miller-Hooks, Professor & Hazel Chair in Infrastructure Engineering at the George Mason University.
- Dr Jorge Samayoa, the CEO of SciLambda.net, a company dedicated to providing Data Science consulting services and also the director of the Operations Research Institute at Galileo University.

A special general talk was given by Kim Rozwadowski Triegaardt on Tuesday 14 September 2021. Kim is the niece of Tom Rozwadowski and gave personal insight into the man behind the medal at the prizegiving ceremony.



Clearly, this was a special conference with many aspects to it and it is appropriate to shed some light on this event by giving some conference statistics:

- There were a total of 93 presentations comprising
 - 81 presentations spread across 3 parallel sessions
 - 4 keynote speakers, 3 invited speakers and 1 special speaker, and
 - There were 4 student competition presentations.
- The total number of delegates attending was just shy of 150.
- There were delegates from more than 15 countries and.
- The duration of the event was more than 25 hours online.

A conference like this, would not have been possible without the continuous support of all the sponsors:

- Blue Stallion Technologies
- Spatial Edge
- The Department of Statistical Sciences at the University of Cape Town (UCT)
- The Department of Industrial Engineering at Stellenbosch University (SU)
- The North-West University (NWU)
- The NWU Centre for BMI
- The NWU Department of Statistics
- The NWU Pure and Applied analytics
- The NWU School for Industrial Engineering

We were thankful that even amidst the global pandemic we had this opportunity to be able to engage with our peers in meaningful discussions on practical and theoretical aspects of our discipline, foster new partnerships in research collaboration, and even make a few new virtual friends along the way. We sincerely hope that it was a memorable online conference experience! Usually one would say travel safe, but for now stay safe and stay at home.



ORSSA Awards 2021

The annual ORSSA Awards were once again conferred at the Awards Ceremony during the 2021 Conference.



GERHARD GELDENHUYS MEDAL FOR THE BEST FOURTH YEAR PROJECT

Aaron Shuttleworth
supervised by Prof JH van Vuuren
Stellenbosch University

Vehicle routing decision support for
a local retailer

THEODOR STEWART MEDAL FOR THE BEST MASTERS THESIS

Kit Searle
supervised by Prof JH van Vuuren
Stellenbosch University

A mathematical model for
sustainable harvesting of a
theoretical biological species



TOM ROZWADOWSKI MEDAL

**AM Heyns, W Du Plessis, KM Curtin,
M Kosch & Ghough**

Decision support for the selection of
optimal tower sitelocations for
early-warning wildfire detection
systems in SouthAfrica





HONORARY LIFE MEMBERSHIP

Dave Evans

for his exemplary service to OR and to the Society spanning over four decades

Give the gift of ORSSA this festive season

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Awards