

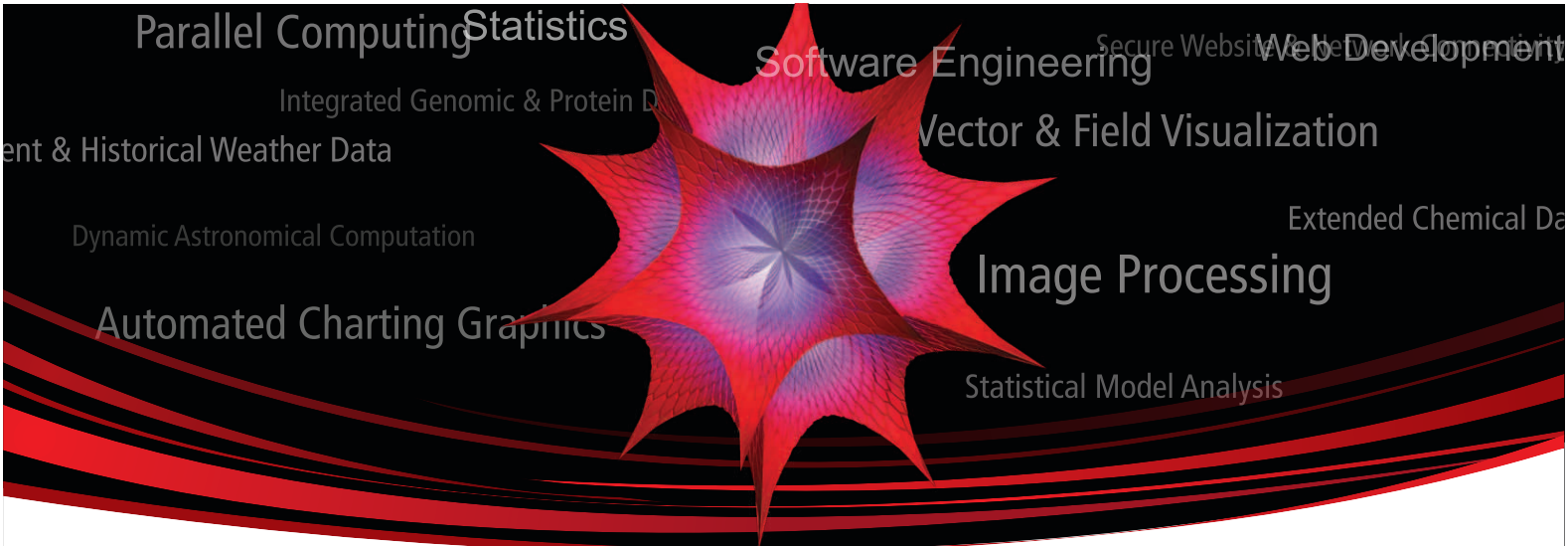


Newsletter

Operations Research Society of South Africa
Operasionele Navorsingsvereniging van Suid-Afrika



October 2012
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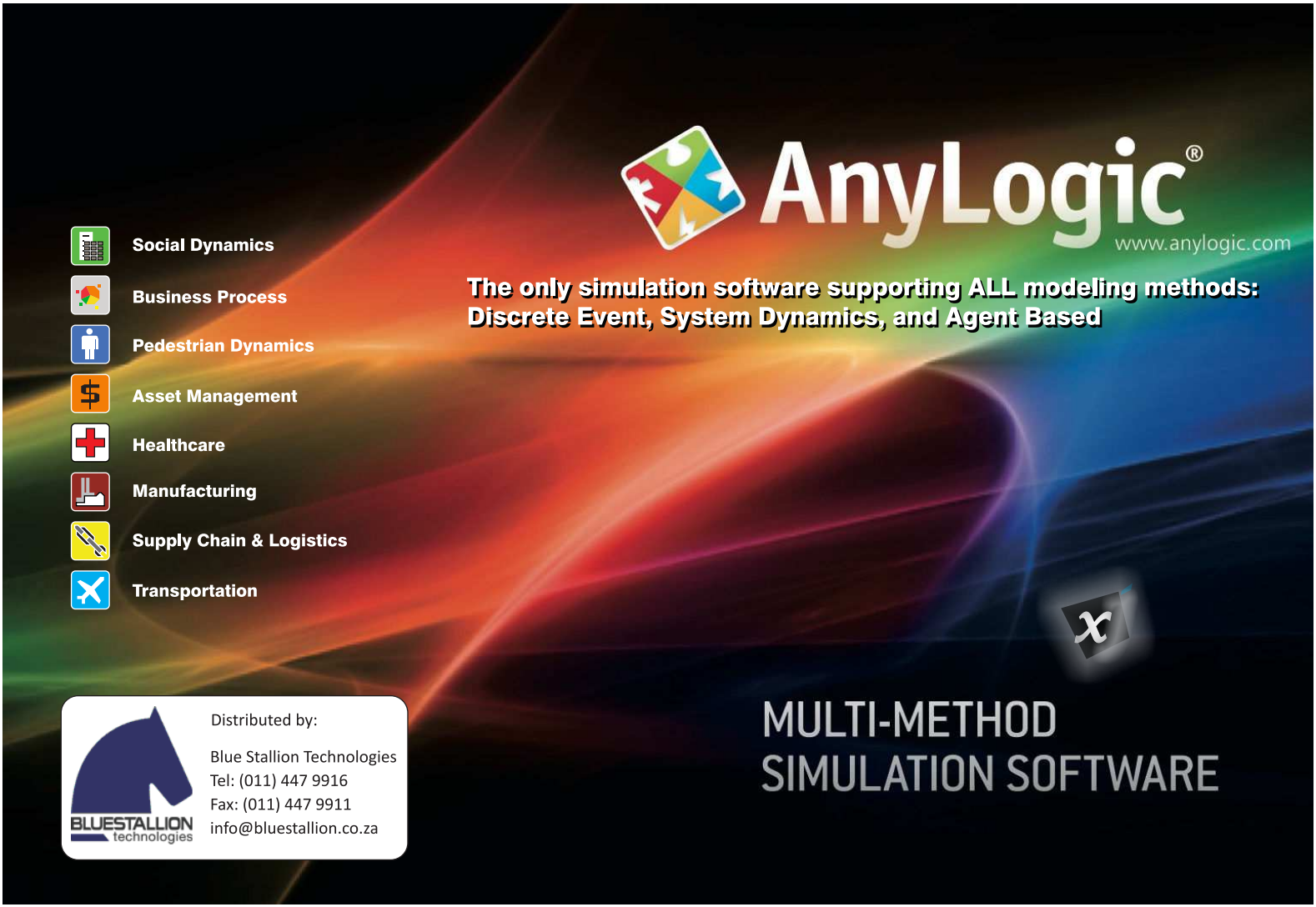
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FROM THE EDITOR

Contactable at: 14854937@sun.ac.za



Mark Einhorn

Greetings to all you fellow ORSSA members! I hope that this Newsletter finds you all well! It really was good to see familiar faces, as well as some new ones, at the recently passed 41st Annual ORSSA conference.

As is customary, the October edition of the Newsletter is dedicated to the Conference, and hopefully serves to provide some insight into the happenings at the Conference for those of you who could not attend as well as allowing those of you who did manage to make it to relive all the interesting and fun filled moments (and perhaps for those of you who partied into the wee hours after the banquet, it will help you remember some of the happenings©).

The issue starts with a word from our President reflecting on the conference. I was able to once again persuade Jacques du Toit (a PhD student at Stellenbosch University) to share his views on the Conference with us in this edition's feature article, which I have no doubt will thoroughly entertain you (his conference recollections have always been an ORSSA Newsletter favourite of mine). I have included a collage of photos taken at the conference as a centre-spread, so have fun trying to spot yourself in some of them if you were there!

The main article is followed by the citations of the various awards that were bestowed at the Conference banquet as well as recognition of the students who won awards in various categories.

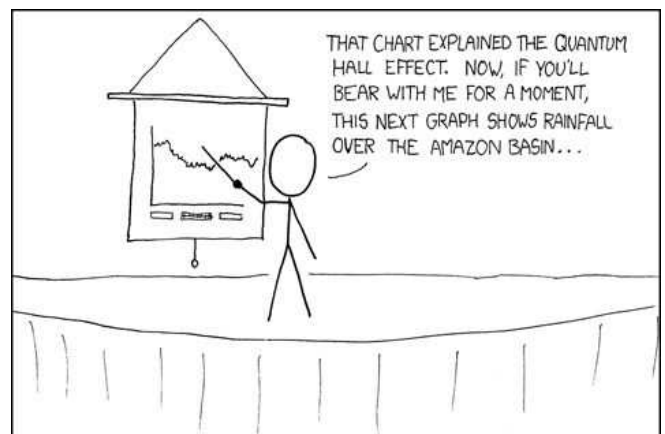
I would like to take this opportunity to personally congratulate all the winners on their awards, as well as the local organising committee on putting together a truly memorable conference. Thank you very much!

That's all from me for now! Cheers all and enjoy the read!

Features

Page

FROM THE EDITOR	1
FROM THE PRESIDENT'S DESK	2
THE 41 ST ANNUAL CONFERENCE OF ORSSA	4
PHOTO COLLAGE	6
ORSSA CATEGORY I AWARD: LIBERO PAUL FATTI	9
ORSSA CATEGORY I AWARD: THEODOR JOHN STEWART	10
ORSSA CATEGORY II AWARD: WESSEL JOHANNES PIENAAR	11
ORSSA CATEGORY III AWARD: CORNELIUS JACOBUS FOURIE	12
TOM ROZWADOWSKI MEDAL: 2012	13



IF YOU KEEP SAYING "BEAR WITH ME FOR A MOMENT", PEOPLE TAKE A WHILE TO FIGURE OUT THAT YOU'RE JUST SHOWING THEM RANDOM SLIDES.

www.xkcd.com

FROM THE PRESIDENT'S DESK

by Jan van Vuuren (vuuren@sun.ac.za)

ORSSA President



Jan van Vuuren

As I write this column, the 41st Annual ORSSA Conference held at the Aloe Ridge Hotel last month is still fresh in our memories. And what a memorable conference it was! The conference opened, after the onsite registration, with a welcome reception in the form of a cocktail function overlooking the lovely gorge of the

Buffelsdrift River during which it was good to see so many active ORSSA members. It was also heartening to see so many student delegates and delegates from industry.

The conference proper started on the Monday morning with a plenary lecture entitled *Spatial problems in managing land for habitat and fire* by the conference keynote speaker, John Hearne, from the Royal Melbourne Institute of Technology in Australia. Thereafter the programme continued in the form of four parallel sessions of contributed talks for the rest of the day. The mid-conference plenary lecture, entitled *The Sasol group energy linear programming model*, was delivered by Patrick Veldhuizen, from Sasol, on the morning of the second day of the conference. The 2012 AGM was also held on the Tuesday, as was a very enjoyable banquet.

The conference closed on the Wednesday at lunch time after a number of contributed papers in parallel streams as well as a closing plenary lecture entitled *Conservation and the commercial utilisation of wildlife*, again by John Hearne. I shall not dwell further on the nature of the conference programme, as Jacques du Toit has contributed a very nice article on the conference, which may be found on page 4 of this issue. A number of lovely conference photographs are available online at www.orssa.org.za → *Archive* → *Photo Album* → *2012 Conference Photographs*.

The conference was memorable for a number of reasons, which I would like to outline below. First of all, the beautiful setting and surrounding wildlife contributed to an ideal conference breakaway location. The catering and the social aspects of the programme were also superb (even when one keeps in mind the high standards that ORSSA has maintained in this regard for decades). Need I say anything more about a pontoon trip designed to simulate disaster, troops of

baboons attempting to participate in our tea breaks, the zebra that attended the *Executive Committee* (EC) meeting, the temporary abduction of the 2012 Tom Rozwadowski medal by a group of rival students, and some rather wild (in fact, trouser tearing!) conference banquet dancing until 04:00 the following morning?

But the conference was also memorable because of the impressive individual achievements that we recognized and celebrated at Aloe Ridge. The 2012 Tom Rozwadowski medal was awarded to Ian Durbach (University of Cape Town) for a paper entitled *Modelling household responses to energy efficiency interventions via system dynamics & survey data*, which appeared in ORION. The illustrious Hall of Fame of this premier ORSSA award is available online in its entirety at www.orssa.org.za → *Awards* → *Tom Rozwadowski Medal* → *Hall of Fame*. Category I recognition awards were also presented to Paul Fatti (University of the Witwatersrand) and Theo Stewart (University of Cape Town) for outstanding contributions to ORSSA and to the profession of *Operations Research* (OR) by retired members of the Society over a long period of time. Moreover, a Category II recognition award was bestowed on Wessel Pienaar (Stellenbosch University) for his considerable efforts to establish one of the largest tertiary OR groupings in South Africa within the Department of Logistics at Stellenbosch University. Finally a Category III recognition award was presented to Neels Fourie (Stellenbosch University) for his role in the promotion of OR in the undergraduate curriculum within the Department of Industrial Engineering at Stellenbosch University over many years. More details about these awards and their respective halls of fame may be found online at www.orssa.org.za → *Awards* → *Recognition Awards*. Congratulations to Ian, Paul, Theo, Wessel and Neels!

This year also saw the very rare elevation of three Fellows of the Society to Honorary Life Membership status, the highest honour our Society can bestow, namely to Paul Fatti, Hans Ittmann and Theo Stewart. My congratulations go to them, as do my thanks for all that they have done for ORSSA and OR over a period of nearly forty years! The full list of honorary members of ORSSA may be found in Table 1 or online at www.orssa.org.za → *Awards* → *Honorary Life Members*.

Our students also excelled and were duly awarded at the conference. This year's National Student Competition was won jointly by Annaliza Moodley (University of Kwazulu-Natal) for a year project entitled *Portfolio selection with heuristic optimization* and Alex Smit (Stellenbosch University) for a year project entitled *The problem of till staff duty scheduling at retail outlets*. Congratulations to Annaliza and Alex on having produced projects of exceptionally high quality. More

Table 1: Honorary Life Members of ORSSA

Current Honorary Life Members	Former Honorary Life members
1. Paul Fatti (born 1944) – Elevated 2012 2. Hans Ittmann (born 1949) – Elevated 2012 3. Theodor Stewart (born 1943) – Elevated 2012 4. Gerhard Geldenhuys (born 1937) – Elevated 1999 5. Jos Grobbelaar (born 1939) – Elevated 1999 6. David Masterson (born 1939) – Elevated 1994 7. Gerhard Rudolph (born 1937) – Elevated 1990	1. Herbert Sichel (1915-1995) – Elevated 1986 2. Pat Rivett (1925-2005) – Elevated 1985

details about the ORSSA National Student Competition may be found online at www.orssa.org.za → Awards → Student Competitions. In addition, Francois Fagan (Stellenbosch University) won the prize for best paper presentation by a masters student at ORSSA 2012, and Angela Rademeyer (University of the Witwatersrand) won the prize for best paper presentation by a doctoral student at our annual conference. Congratulations to Francois and Angela!

The conference was also memorable for a number of exciting initiatives announced by the EC at the conference and approved at our AGM. These initiatives include:

- The introduction of a new elected portfolio on the EC, namely that of *Marketing Manager*. Dave Evans has been elected to this portfolio for 2013, and will be spearheading various endeavours by the Society related to marketing our profession.
- The introduction of a new type of recognition award, namely *Category IV: To a young and upcoming member for excellence in practicing OR*.
- The introduction of medals for the two categories (*honours / 4th year category* and *masters category*) of our National Student Competition from 2013 onwards.
- Planned sponsorship to allow two finalists per category of our National Student Competition to attend our annual conference and present their work in an exciting special competition session from 2013 onwards.
- The introduction of a new corporate membership package (including benefits such as two individual memberships annually with additional individual memberships available on a rotation basis at discount, copies of four issues of the newsletter and two issues of ORiON annually, discount for advertisements placed in the newsletter, free exposure of the member company logo on the ORSSA website, and free exhibition space at the annual conference) aimed at attracting new corporate members from 2013 onwards.

Looking back at our eventful annual conference this year, I am inspired by the vibrancy of our Society. I am encouraged by the increased number of student members presenting papers and by the increased level of industry participation at our conferences – this year alone we welcomed delegates from no fewer than thirteen industry partners: Armscor, Blue Stallion, CSIR, DBSA, Eskom, FNB, Necca, OPSI Systems, RTT Medical, Sasol, Transnet, Vodacom and *XTranda*. I was also impressed by the depth and range of the contributed paper topics at the conference.

Let me conclude by thanking every ORSSA member who attended the conference, presented a paper and/or helped organise the conference, for making our 41st Annual Conference such a success! In particular, let me thank the *Local Organising Committee* (LOC) of the conference for their superb and extremely time consuming job of organising the conference so well. The LOC members were: Winnie Pelser (Chair), Louis Dannhauser (Vice Chair), Wilna Bean, Brahm Bothma, Ian Campbell, John Dean, Dave Evans, Elias Munapo, Derek Saunderson, Nadia Viljoen and Elias Willemse.

Our 42nd Annual Conference will be held at the Protea Hotel Technopark in Stellenbosch during the period 15-18 September 2013. Please diarise the event and join us then for another productive and enjoyable meeting in the beautiful Cape Winelands (more details at www.orssa.org.za → ORSSA 2013).

DISCLAIMER

The views expressed in this newsletter are those of the contributors and not necessarily of the Operations Research Society of South Africa. The Society takes no responsibility for the accuracy of details concerning conferences, advertisements, etc., appearing in this newsletter. Members should verify these aspects themselves if they wish to respond to them.

The 41st Annual conference of ORSSA

by Jacques du Toit (jacques@dip.ac.za)

Department of Logistics, University of Stellenbosch

The views expressed in this article are the personal views held, only at the time of writing, by Jacques du Toit.

The Aloe Ridge Hotel proved to be an interesting place before we even arrived, mostly (in my case) due to the fact that the Hotel's internet presence is quite unconventional. It is uncommon to stumble upon a website of this nature these days, particularly from hotels. On a scale of outdated to modern personal web pages, their web page would be closer to personal pages containing a questionable number of fidgeting *gifs* and flashing banners that were a common occurrence when people still knew that the internet came from ARPANET. Although this absurd analogy doesn't fit that well, I'm afraid that I have too little experience with hotel web pages to fill it out more. This interesting web page, the diverse and sometimes strongly worded reviews on Trip Advisor and the fact that Sol Kerzner built the hotel, only added to its mystique (there is a truly tiny 143x74 pixel image of a zebra poking its head over the reception counter on the website that I tried desperately to find a larger version of).

This website, the lack of information and the frustratingly low resolution images certainly piqued my interest and I was eager to see more. I was also keen to drink of the frothy knowledge broth served up by ORSSA delegates (as John Hearne said, "I suppose I better add that" after he said with regard to his Tom Rozwadowski medals, "I was proud of them at the time, and still am"). The hitherto unbelievable proposition of the hotel's being on a game reserve became more believable as we turned off an asphalt road onto a highveld dirt road. However, the signs along this road were not encouraging as the only wildlife they were initially concerned with was hedgehogs. The first sign stated "look out for hedgehogs" and the second "beware of hedgehogs." More alarmingly, and I suppose in pragmatic Johannesburg fashion, another sign ominously proclaimed "for your own safety, do not give lifts to anybody." The appearance of these signs in quick succession led me to momentarily believe that hedgehogs must be a real problem up there.

Upon crossing the concrete Franzen Saber bridge and driving through gates befitting a game reserve, my newly acquired fear of marauding hedgehogs was pleasantly supplanted by a lesser fear of more familiar

animals as we drove by a sign bearing the words "caution, rhino, hippo and buffalo."

Familiar faces greeted us shortly after our arrival and the networking commenced promptly in the Waterfall Bar. Mark Einhorn wasted no time in placing himself in the running for the category of best joke when he asked of ORSSA president Jan van Vuuren, "Are you in the presidential suite Prof?" Of these familiar faces, the friendliest were those of the local organising committee members. These weren't brave faces they were putting on, but excited ones. It was so infectious that a few of my compatriots and I were falling over each other to be involved with the registration.

Monday saw the first serving of the knowledge brew in the plenary session in which Winnie Pelser welcomed delegates and Jan van Vuuren delivered the Presidential address. Winnie nonchalantly mentioned a pontoon trip to the Lake Heritage dam wall that turned out to be a far more life threatening and life affirming occasion than she let on. The President "extended fourteen, very specific challenges" to ORSSA members during his address. I'll consider this article, although not at all academic in nature but certainly relevant (in this issue at least), as my attempt at meeting the challenge of contributing to the newsletter. The opening plenary delivered by John Hearne was bursting with interesting information and covered a variety of topics. One of his first comments upon taking the floor was that he was amongst "old friends, with not too much emphasis on old." He was quick to mention his students involved in the research projects he discussed as he said "I do the grunting, those are the people doing the work." The threat to gopher tortoises by the Australian military's need for a larger training area was discussed and Tom Garret the '*roo shooter/macropod harvester*' was introduced to a backdrop of kangaroos that were no more, that had ceased to be. The projector mapped red to black and so the scene was somewhat softened. Amongst the reasons given for kangaroo harvesting was that their "to put it plainly, farts" were of a lower methane content than that of cattle. He mentioned that Australians were somewhat averse to eating their national symbol, but Theo Stewart offered unperturbed that "we eat springbok." Lastly, the devastating fires that resulted in what is referred to as *Black Saturday* were discussed. At the end of the session Winnie Pelser warned that we should be sure to close our windows as it is "in your best interests and the best interests of the

baboons.” That would not be the last we would hear of them.

The session-jumping part of the conference got under way after tea-time. In my few years attending the ORSSA conferences, it certainly feels like the topics are becoming more diverse in their applications and methodologies. I attended an interesting talk by Moonyoung Yoon about finding the best pass-receiving position in a RoboCup League. By her own admission the robots looked more like cylinders than, well, robots. However, the little tykes looked quite capable in the video she showed of them playing roboball. Sunday Ajibola discussed a space allocation problem before lunch and, although not related, I was surprised to find the lunch queue spilling out of the dining hall thereafter. It seemed that I had wandered into a dystopian parallel universe where I was attending a MORSSA (Meladroit Operations Rejects Society of SA) conference; *no to science, no to better*. This fear was quickly allayed when it was explained to me that the hotel did not deem it possible to provide two serving stations, and was soon replaced by the realisation that I may not have enough time to eat before the next session.

In the afternoon Elias Monapo presented work he hopes will lead to the resolution of a coveted problem in computer science and to him claiming the money offered by the Clay Mathematics Institute. Although, he did graciously add that if members of the audience had a valuable contribution to make, that he was willing to share.

After tea I attended André Brand's presentation in the Networks and Connectivity session. As the abstracts would have it, networks were spoken of often. That knowledge would likely not have changed my actions though as I decided to session-jump to the Metaheuristics and AI session for a dose of multi-agent systems and heuristics inspired by nature. I was ultimately defeated in table tennis by Nachamanda, the second speaker in the session.

Even though that website could do with some revamping and the lobby smelt of something I initially blamed the baboons for but later suspected the cats of, Aloe Ridge dished up superb food (and the staff were quite friendly). Apparently that is staple fare though as John Hearne pointed out when he spoke plainly once more at breakfast on Tuesday (following a delicious Monday braai), that at a conference one is “always two meals ahead and three poops behind.”

Tuesday's plenary session featured two speakers. The first was Clemens Dempers, introduced by the session chair, Paul Fatti, as “the man with the technology.” He

briefly touched on the software suites of LINDO, LINGO, Mathematica and Anylogic and illustrated a promising looking interactive format from Wolfram Mathematica that allows for “simulation models that [clients] can play with rather than giving them a dead report.” If John Hearne could be said to have touched on mildly macabre subject matter in his previous day's plenary, then Clemens' AnyLogic example in which serial killers “follow [people] around until no-one is there and then finish them off” would have continued with it. He added the caveat that “serial killers killing a serial killer is not in the logic” of the program. I look forward to seeing a Zombie apocalypse simulation in AnyLogic one day. Patrick Veldhuizen followed suit and discussed the group LP models that Sasol uses in maximising the global objectives of this sprawling organisation. He mentioned that Sasol employs roughly 250 PhDs which translates to roughly 0.9% of the company's total workforce (as specified in a 2011 Sasol document). As he discussed how they continuously improved their LPs to account for rising electricity costs and CO₂ taxes, he was interrupted by frolicking baboons. Dave Evans commented that the “peanut gallery” was in attendance and in case we weren't aware of them, they gave a few hearty *boggoms* (*baa-hom* for English speaking baboons).

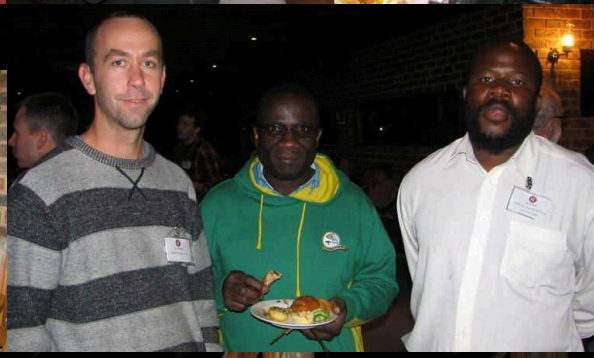
In the following session Ian Durbach admitted that he doesn't know much about rugby and stated his expertise extends as far as the knowledge that “the team that scores more points is the team that wins.” However, he did find that there weren't any experts on the SuperBru site either. I'm not sure if that places him in good company or not. Winnie Pelser lamented in the next presentation that asymmetric warfare is not like a “nice second world war” and that the defence environment is complex and dynamic.

After tea near the underutilized indoor swimming pool Dave Evans provided an informative presentation on what he said was old work. He also said that Modderfontein was actually three years older than Johannesburg. The session on predictive modelling offered me refuge from the incessant manoeuvring from venue to venue. Margarete Bester probably spoke for many when she stated during her presentation on Xeno that one could “access the data from anywhere except from here, because here [we] don't have internet.”

Just as it is customary that nominations to the EC are singular (as Jan van Vuuren pointed out), the remainder of Tuesday afternoon was occupied by the AGM. Hans Itmann pointed out that “we help other people make money, we should make money ourselves” in reference to the unpaid member dues. Although the AGM didn't



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ORSSA: Category I Recognition Award Presented to Libero Paul Fatti

Citation by Esbeth van Dyk and Jan van Vuuren

Libero Paul Fatti was born in Uxbridge, England on 28th January, 1944. After matriculating with a first class from St John's College in Johannesburg in 1961, he studied at the University of the Witwatersrand where he obtained a BSc (Mathematics and Mathematical Statistics) in 1964 and a BSc Hons (Mathematical Statistics) in 1967. In 1968 he obtained an MSc (Statistics and Operations Research) from Imperial College, London and in 1979 a PhD from the University of the Witwatersrand. The topic of his dissertation was "The random effects model in discriminant analysis."



Paul Fatti receiving his ORSSA Category I Award from Jan van Vuuren with Dave Evans looking on.

Paul Fatti was employed by the Statistics Division of the Chamber of Mines Research Laboratories while he studied towards his Honours degree. After obtaining his Masters degree he worked as consultant for the Institute of Operational Research in London. In 1970 he returned to South Africa and joined the Department of Applied Mathematics at the University of the Witwatersrand as lecturer. He later became Head of the Division of Statistics and designed the honours programme in Operations Research. From 1981 to 1986 he worked at the National Research Institute for Mathematical Sciences of the CSIR where he headed the Division of Operations Research and Statistics from 1984 to 1986. In 1987 he returned to the University of the Witwatersrand as Head of the Department of Statistics and Actuarial Science, where he remained until his retirement in 2004. Throughout his career he consulted for numerous companies. He is currently Emeritus Professor and Honorary Research Professor at the School of Statistics and Actuarial Science and the Dental Research Institute of the University of the Witwatersrand.

During his academic career he co-authored a book, contributed a chapter to a book, published 91 peer-reviewed papers; for one of which he received both the Tom Rozwadowski medal in 1981 from ORSSA and the Goodeve Medal in 1984 from the Operational Research Society (in the United Kingdom). He is regularly approached to review papers for journals – he has served more than twenty different operations research and statistics-related journals in this way. He has also read papers at 25 international and numerous local conferences. In addition, he has supervised 10 PhD students and 15 Masters students to completion of their studies.

Paul has been a member of ORSSA for many years. In addition to serving on various committees and panels, he served as Chairman of the Johannesburg Chapter during the period 1979-1980, as President during the period 1983-1984, as Editor-in-Chief of ORION during the period 1997-2004 and as IFORS representative on the Executive Committee of ORSSA. Paul is a fellow of both the Royal Statistical Society and of ORSSA, as well as a member of the institute for Operations Research and Management Science and the Statistics Association of South Africa, of which he was president in 1988.

For his services to and impact on operations research in general (both locally and abroad), his leading role in the field of statistical analysis and modelling, his services to ORSSA, his role in the international operations research community as well as mentorship to many graduate students at the University of the Witwatersrand over a period of more than 30 years, Libero Paul Fatti was, on the 18th day of September 2012, duly awarded a Category I ORSSA Recognition Award.

NOTICE

From 2013 onwards medals will be introduced for both the 4th year / honours category and the masters category of the (written) ORSSA National Student Competitions. Names will be associated with these medals and ORSSA members are hereby invited to suggest names for these medals, by emailing the President, Jan van Vuuren, at vuuren@sun.ac.za. Emails should include your suggested medal names for each competition category as well as short motivations explaining why these names are, in your opinion, suitable.
Closing date: January 31st, 2013.

ORSSA: Category I Recognition Award Presented to Theodor John Stewart

Citation by Jan van Vuuren

Theodor John Stewart was born in Cape Town on 16th September 1943. In 1963 he obtained a BSc (Eng) degree in chemical engineering from the University of Cape Town. Thereafter he obtained a BSc (Hons) degree in operations research in 1972 and an MSc degree in operations research a year later, both from UNISA. His MSc thesis topic was "A production scheduling algorithm for a multi-product, multi-facility situation with capacity constraints." In 1976 he obtained a PhD in mathematical statistics, also from UNISA, on a dissertation entitled "Bayes optimal experimental design for determination of a response surface maximum."



Theodor Stewart receiving his Category I Recognition Award from Jan van Vuuren.

Theo started his career in 1964 in the employment of Corner House Group, where he was involved as chemical engineer with mineral processing plants and laboratories. In 1967 he moved to the Sentrachem group where he advanced to Plant Superintendent: Formulations of Klipfontein Organic Products at Chloorkop. In 1971 he joined the Council for Scientific and Industrial Research in Pretoria where he spent more than thirteen years, culminating in the position of Director and Head of Operations Research and Statistics. Since July 1984 he has been full professor of statistical sciences of the University of Cape Town. He has held Visiting Professor positions at various universities in Europe since 1993.

He has co-authored three books and published more than 80 refereed papers or reports. He is a regular contributor to conferences and has read more than 90 conference papers, primarily in the broad area of multi-criteria decision analysis. He has supervised eight PhD studies to completion and has been evaluated as an A-

rated researcher by the National Research Foundation of South Africa. The quality of his publications has been acknowledged by ORSSA who awarded him the Tom Rozwadowski Medal on a record five occasions: in 1978 (with HW Ittmann), 1981, 1984, 1995 and 1996 (with L Scott). He has also been awarded the prestigious gold medal of the International Society on Multiple Criteria Decision Making.

Theo is a member of the Academy of Science of South Africa, the Operational Research Society, and the Institute for Operations Research and Management Science, as well as a registered professional Engineer in South Africa. He has also been elected fellow of the Royal Society of South Africa, the Statistical Association of South Africa, ORSSA and the University of Cape Town.

Theo has served the operations research community in a variety of ways. He served the Society as President in 1978 and from 1984 to 1989 he was the founding editor of ORION. Since then he has regularly served on the executive in a variety of capacities, amongst them as chair of the Western Cape and Pretoria chapters of ORSSA. He has also served as Vice-President of IFORS, as well as President of the International Society on Multiple Criteria Decision Making. He has organised a number of international conferences and has been coordinator of ESIGMA, the European Special Interest Group on Multicriteria Analysis since 1996. He serves on the editorial boards of the Journal of Multi-Criteria Decision Analysis, the Journal of the Operational Research Society, International Transactions of Operational Research, Omega and ORION.

For his services to and impact on operations research in general (both locally and abroad), his leading international role in the field of multi-criteria decision analysis, his services to ORSSA, his role in the international operations research community as well as mentorship to many graduate students at the University of Cape Town over a period of nearly 30 years, Theodor John Stewart was, on the 18th day of September 2012, duly awarded a Category I ORSSA Recognition Award.

ORSSA: Category II Recognition Award

Presented to Wessel Johannes Pienaar

Citation by Jan van Vuuren

Wessel Johannes Pienaar was born in East London on 9th July 1950. He obtained bachelors and honours degrees in the economic and management sciences from Stellenbosch University in 1976 and 1979, respectively. In addition, he holds two masters degrees, one in transport economics from Stellenbosch University, obtained in 1981, and one in civil engineering from the University of California Berkeley, obtained in 1983. He also holds two doctorates, one in transport economics from the University of South Africa, obtained in 1985 and the other in civil engineering from Stellenbosch University, obtained in 2000.



Wessel Pienaar receiving his Category II Recognition Award from Jan van Vuuren

Wessel started his career in 1972 in the employ of the Planning Division of South African Railways and Harbours in Johannesburg. In 1974 he moved to Rembrandt in Paarl, where he held the position of Senior Cost Consultant, and then to Kalley Flooring in Cape Town in 1977, where he held the position of Transport Manager. In 1979 he joined the National Institute for Transport and Road Research at the CSIR as Senior Chief Researcher, where he remained until 1987. In 1988 he was appointed as Managing Director of the Southern African Bus Operators Association in Randburg, and in 1989 as Executive Project Manager at Tramway Holdings in Cape Town. Since 1991 he has been full professor of logistics management at Stellenbosch University. He has also held various consulting and visiting professor positions at universities and research institutions in North America and Europe since the early 1990s.

The research interests of Wessel Pienaar include logistics, transport economics and transportation engineering. He was the first South African researcher in the field of logistics and transport economics to obtain a rating by the National Research Foundation of

South Africa. He has published more than 70 peer-reviewed papers and has supervised 12 doctoral students to completion in these fields of research. He has contributed chapters to various books and has co-authored a very successful logistics management textbook which is now in its fourth edition internationally, published by the prestigious Oxford University Press. In addition, he has read a large number of papers at national and international conferences and has acted as external examiner for a many masters theses and doctoral dissertations.

Wessel has been a member of the American Society of Civil Engineers since 1983, the Institute of Transportation Engineers since 1983, the Transportation Educators Council of the ITE since 1992, the South African Academy of Science and Arts since 1997, and the Operations Research Society of South Africa since 1999. He also served as chairman of the Transport Consultative Committee (a committee of the South African Business Chamber) during 1988 and 1989, as member of the Cape Town Metropolitan Transport Advisory Board during the period 1999-2004, as member of the Leadership Group of the Supply Chain Council in 2004, and as member of the Education Committee of the International Society of Logistics in 2007.

Wessel chaired the Department of Logistics at Stellenbosch University during the period 1991-2010, during which time he built up the department from a three-person operation in 1991 to the top research department in the Faculty of Economic and Business Management at Stellenbosch University, a department today boasting no fewer than 15 academic staff members and hosting a Centre for Supply Chain Management, which employs a further 5 consultants. Notably for ORSSA, Wessel established a grouping of 7 operations researchers within the department during the period 1998-2007 which has gone on to play a prominent role in terms of serving the Society and producing a large number of scarce skills operations research graduates entering the job market since 2004. The Department of Logistics at Stellenbosch now houses one of the largest academic groupings of operations research professionals and students in the country. For this single, outstanding service to the profession of operations research, Wessel Johannes Pienaar was, on the 18th day of September 2012, duly awarded a Category II ORSSA Recognition Award.

ORSSA: Category III Recognition Award

Presented to Cornelius Jacobus Fourie

Citation by Tanya Visser



Neels Fourie, recipient of an ORSSA Category III Recognition Award

Cornelius Jacobus Fourie, known as Neels, was born on 22 December 1944. In 1969 he obtained a BSc degree in industrial engineering from the University of Pretoria. He followed this up with a masters degree in industrial

engineering at Stellenbosch University in 1996 with a thesis entitled "Decision support systems for the management

of manufacture" and a PhD in industrial engineering in 2003, also from Stellenbosch University, with a dissertation entitled "On monitoring and intelligence in an integrated manufacturing system."

Neels started his career at ISCOR, Pretoria, in 1970, and remained there for seven years, rising to the rank of senior engineer. Thereafter he moved to Datsun (now Nissan) where he was involved in building vehicles and containers. In 1979 he took up the position of Operations Manager at Pretoria Metal Pressings (an Armscor subsidiary) where he remained for the next eight years and where he was promoted to manager of the Industrial Engineering Department as well and later the division head of Industrial Services.

After 17 years in industry, Neels decided on a career change and in 1987 joined the Department of Industrial Engineering at Stellenbosch University as a senior lecturer and director of the Centre for Robotics within the department. During his lecturing career, Neels focused on teaching undergraduate subjects in the fields of manufacturing, and operational management. On postgraduate level, he taught courses in project management and robotics. He also lectured in project management on a part-time basis at the Cape Peninsula University of Technology as well as the Nelson Mandela Metropolitan University. He was promoted to full professor of industrial engineering in 2004 and as Chairperson of the Department of Industrial Engineering, a position he held until May 2009.

Neels has been contracted by the Department of Industrial Engineering at Stellenbosch University to teach undergraduate and postgraduate courses, to carry out relevant research and to supervise and examine postgraduate students. During the period 2009–2010, he negotiated the establishment of a Chair for Maintenance and Engineering Management with

the Passenger Rail Agency of South Africa and was subsequently appointed chair incumbent in this position within the Department of Industrial Engineering at Stellenbosch University in 2011, a position that he still holds. The primary objectives of the Chair is to improve operational efficiency, to implement lean supply chain principles in the maintenance and service sectors, and to implement reliability-centred maintenance policies.

Neels' present research interests are within the areas of lean manufacturing and management, project and programme management, maintenance management, risk management, and statistical reliability engineering. He is the author of 11 peer-reviewed journal papers, 3 keynote conference addresses and 33 papers at international conferences. He has supervised 20 postgraduate students to completion. He has been registered with the Engineering Council of South Africa as professional engineer since 1975 and also serves on the Professional Advisory Committee for Industrial Engineering on this council. He is a member of the South African Institute for Industrial Engineering and a member of the Project Management Institute of the USA.

Neels was nominated for this award because he has always firmly supported the sustained inclusion of operations research as a fundamental component of the industrial engineering curriculum at Stellenbosch University. He appreciates the value that expertise in operations research can add to the constitution of an industrial engineer and has for more than 25 years been an advocate and proponent of the field under engineers. Thanks in part to Neels' insight and conviction, operations research is still a fundamental part of the undergraduate and postgraduate curriculum at the Department of Industrial Engineering at Stellenbosch University today. There are hundreds of industrial engineering graduates who have left the university with an understanding of, and respect and appreciation for the value of operations research as a result of his support of the field and its resulting inclusion in the industrial engineering syllabi. For this contribution to the profession of operations research in South Africa, Cornelius Jacobus Fourie was, on the 18th day of September 2012, duly awarded a Category III ORSSA Recognition Award.

Tom Rozwadowski Award 2012

by Dave Evans (davee@dbsa.org)

ORSSA Vice President and 2012 Rozwadowski Award Convenor

The Tom Rozwadowski Award is made each year to the best written contribution to Operations Research published by a member of the Society during the previous year.

All papers published in ORION are automatically entered, and anyone (including the authors themselves) may submit papers published in peer reviewed journals. Evaluation criteria include Originality, The quality of any theory developed, Interaction between theory & practice, New areas of application, New opportunities created for Operations Research, and Clarity of exposition.

The Nomination Committee is the Vice President and the chapter chairs. The top two papers then go forward to a Selection Committee consisting of the Vice President and three National Executive Committee members. Four papers were evaluated; the quality was uniformly high, and the scoring was close in both rounds.

The winning paper was *Modelling household responses to energy efficiency interventions via system dynamics and survey data*, by Stephen Davis and Ian Durbach, published in ORION.



Ian Durbach receiving the Tom Rozwadowski Medal from Jan van Vuuren with Dave Evans looking on.

It reports on an original system dynamics modelling approach to the problem of understanding how households possessing divergent characteristics might react to various types of interventions. These hypotheses were tested using data gathered from field experiments.

The system dynamics approach proved useful in advancing a non-traditional point of view for which, for historical and economic reasons, data were not

abundantly available. In areas where traditional models are heavily quantitative, some scepticism to a system dynamics model may be expected. A statistical comparison of the model results using the empirical data indicated it may be an effective tool in reducing such scepticism.

I would like to express my congratulations to Ian Durbach, and my thanks to the members of the two committees for their time and contributions.

Student Competition Awards

Best Paper Presentation by a PhD student at ORSSA 2012:

Angela Rademeyer
(University of the Witwatersrand)



Best Paper Presentation by a Masters Student at ORSSA 2012:

Francois Fagan
(Stellenbosch University)



Best Written Project by an Honours Student:

Annaliza Moodley
(University of Kwazulu-Natal)



and

Alex Smit
(Stellenbosch University)



QUERIES AND CONTRIBUTIONS

Any queries and contributions to the newsletter are most welcome, especially article submissions. For any queries and contributions, please contact the newsletter editor: Mark Einhorn
Email: 14854937@sun.ac.za

Optimise your career through research collaboration or by obtaining a degree through the Industrial Engineering Department at Stellenbosch University.



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