



SASA NEWS/SASV NUUS

Newsletter of the South African Statistical Association • Nuusbrief van die Suid-Afrikaanse Statistiese Vereniging
Postal Address: SASA, PO Box 3341, Matieland, 7602 South Africa

ISSN 1011-8039 December/Desember 2013 Website: www.sastat.org.za

- 1 Presidential Address 2013
- 6 Editorial
- 6 New members
- 7 SASA 2013 Conference
- 9 Education Committee news
- 10 World Year of Statistics celebrated at UP
- 12 Young Statisticians
- 13 Stellenbosch Seminar Programme
- 14 Tribute to Prof JS Maritz
- 15 Thought Leader Award — announcement

Presidential Address 2013

SASA: STRATEGIC PLANNING FOR THE FUTURE

Distinguished guests, ladies and gentlemen: good morning to you all. I welcome you to the annual conference of the South African Statistical Association, SASA2013. My address is about a story that begins with great excitement in the world of statistics, then it unfolds into a tale of concerns and uncertainties about the future of Academic Statistics in South Africa, but it concludes on a positive note with strategic planning and objectives I believe SASA needs to engage in and deliver on to capitalise on the opportunities and to secure a great future for our discipline.

An era of great excitement for statistics

Ladies and gentlemen, we are living in an era of great excitement for the statistician! Recently, being a statistician was voted as the fourth best job in the world, after only Software Engineer, Mathematician and Actuary. This rating was based on income, working environment, stress, physical demands, job outlook and opportunities.

At the moment; statisticians do have huge opportunities and a fantastic job outlook. In a New York Times article in 2009, Chief Economist at Google, Hal Varian, said the following: “the sexy job in the next 10 years will be statisticians.” I believe it is not only for the next 10 years, but far beyond that. Given that Google employs more than 250 data analysts they may just know what they are talking about!

I.B.M. saw an opportunity in data-hunting services, and created a Business Analytics



Roelof Coetzer- delivering the SASA 2013 Presidential address

and Optimization Services group in April 2010. The unit utilizes the expertise of more than 200 mathematicians, statisticians and other data analysts in its research labs- but that number is not enough. I.B.M. plans to retrain or hire 4 000 more analysts across the company.

In a Harvard Business Review of 2012; “Data Scientist: The sexiest job of the 21st century”, by Thomas H. Davenport and DJ Patil, it was commented that the demand for Data Scientists has raced ahead of the supply. The authors conclude that the shortage of Data Scientists is becoming a serious constraint in many sectors. Large companies which employ Data Scientists include: LinkedIn, Facebook, Intuit, GE, Google, Amazon, Microsoft, Zinga, Netflix and Kaplan.



This issue is sponsored by the



ICSSA

ASA President Robert N. Rodriguez, during his Presidential Address on 13 August 2012, alluded to a recent study by McKinsey Global Institute which predicted that the United States will require between 140 000 and 190 000 professionals with expertise in statistical methods by 2018.

Furthermore, the 2013 International Year of Statistics has been a great celebration of the contributions of statistics on society across the world. Even in South Africa, the success and the importance of the 2011 Census were highlighted on the web site (www.statistics2013.org).

Many new career opportunities are emerging

There are many new career opportunities and dream jobs emerging in Industry. Some of these jobs are listed in Figure 1. The exciting thing about these new jobs is that they create the opportunity for new professional careers. However, there is a major concern regarding these new careers as well: Although expertise in statistics forms a fundamental basis for all these jobs, the traditional statistician is not necessarily in high demand.

In the Harvard Business Review of 2012, the authors describe being a consultant as “the dead zone”. The authors continue to label a “Data Scientist” to be a high-ranking professional with the training and curiosity to make discoveries in the world of big data. Data scientists are required to have a solid foundation in mathematics, statistics, probability, and computer science, with communication and business skills. As a related discipline, Business Analytics is defined as: “The science of using quantitative techniques to solve business problems” (source: Prof Riaan de Jongh, North-West University). Both these disciplines are seen as multidisciplinary and not pure statistics. However, statistics is a critical

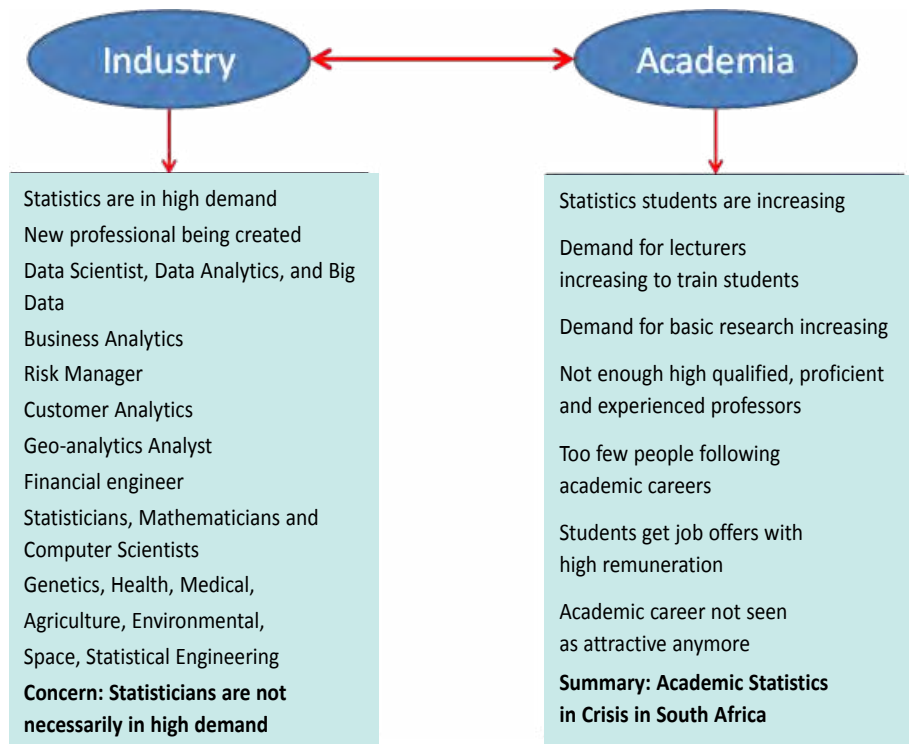


Figure 1: Interrelationship between Industry and Academia.

skill required to extract value from big data, and we can no longer afford to be the back-office statistician. Therefore, we need to adapt as academics and professionals in industry to not miss the boat in these emerging fields.

Roger Hoerl and Ronald Snee, in their 2010 paper “Statistical thinking and methods – the future”, stated that: “The current status of statistics in industry is strong; however, the status of statisticians in industry is possibly at an all-time low”. The democratization of statistics is a major contributor to the current status. The causes of this democratization include: easy to use software, huge training programs in statistical methods, mostly by non-statisticians, notions of data scientists where fundamental statistics is not seen as a pre-requisite. Hoerl and Snee recommend that: “in the 21st Century: Society needs statistics to be primarily an engineering discipline, with a secondary focus on statistical science. We need to adapt, and we need to recognize that statistics is both

an engineering discipline and a pure science”.

They define Statistical Engineering as: “The study of how to utilize the concepts, methods and tools of statistical and other sciences, to deliver process intelligence and insight, and generate value add”. For me, it is very similar to the definitions for the Data Scientist and Business analytics. However, irrespective of the naming, we need to recognise and take note of these new career opportunities which have statistics as its fundamental basis, and as educators, teachers and professionals take leadership in ensuring that we do not miss the opportunity of riding the wave into the future.

From the Harvard Business Review of 2012, there are important takeaways:

- Pure statisticians and quantitative analysts can be great at analysing data but not at subduing a mass of unstructured data and getting it into a form in which it can be analysed.

- On the other hand, data management experts might be great at generating and organizing data in a structured form but not at turning unstructured data into sensible structured data that speaks to the problem at hand, and also not at actually analysing the data.
- The new generation of data analysts or scientists must have all of the above, as well as social and business communications skills to be effective.

ASA President Robert N. Rodriguez, during his Presidential Address on 13 August 2012, called for the following:

- Engaging with data scientists outside the ASA who are involved in Big Data problems, research and technology
- Explaining to the media and the public why statisticians are essential in this emerging field and how their contributions are providing value to consumers of Big Data
- Providing training that prepares ASA members to work with Big Data

I believe that the above three bullets are as relevant for SASA as it is for ASA, and we need to call ourselves into action on these items.

Some Characteristics of the New Career Trends

Mr Murray de Villiers from SAS® Institute, South Africa, summarizes the new trends in statistics as follows: “We are witnessing the greying of boundaries between disciplines such as Forecasting, Statistics, Operations Research, Artificial Intelligence, Financial Engineering, Industrial Engineering, Information Science, Informatics and Computer Science – into the new world of Data Analytics. The needs, infrastructure and resource requirements of Companies and Government Departments are

maturing to the point of demanding integration of these converged disciplines into their strategy, decision-making and operations. This provides new challenges and employment opportunities that we were unaware of ten years ago, such as a Data Scientist, Deep Analytics Consultant, Computational Business Analyst and the Advanced Analytics Practitioner. But this also leaves us, as analytics consumers, analytics practitioners and academics with the responsibility to adequately develop our youth in order to be well prepared for their future”.

Some universities have been successful in adapting to the demands from industry, by developing and implementing a career-orientated training program. Specifically, a framework is required that has three focus areas i.e., Business Focus, Training Focus and Research Focus. Figure 2 illustrates the concept:

- The Business focus group is responsible for running projects in industry where new opportunities and ideas are created, and those ideas fed back for applied and basic research.

- The Research focus group is responsible for basic research in the statistical and other sciences that are relevant for the selected subject area of the centre. This ensures directed research and the commercialization thereof.
- The Training focus group is responsible for executing the various training programmes i.e., basic subject-specific training.
- The overlaps between the focus groups are ensuring focussed training, directed research and competent industrial consulting.

Therefore, Universities need to adapt and prepare for the demands from Industry i.e., Industry creates the demand for specific professional careers and the Academics need to make sure the training satisfies the demand. Figure 1 illustrates the interrelationship and dependence between Industry and Academia. However, there are significant pressures on the Universities to cope with these new demands and the conclusion is: Academic Statistics is in Crisis in South Africa.

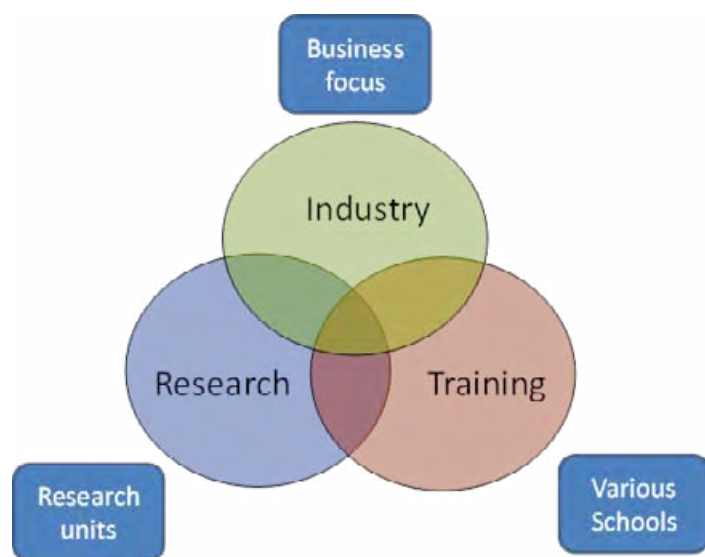


Figure 2: Career-orientated training programs (Source: Prof Riaan de Jongh, North-West University)

Academic Statistics in Crisis

Both the recent NRF call for proposals for a Centre of Excellence (CoE) in the Mathematical and Statistical Sciences and the 2008 DST Review on the status of the Mathematical Sciences have highlighted a national crisis in the field of Academic Statistics.

Former SASA President, Ms Yoko Chhana, has alluded to this in 2010 in her Presidential Address, commenting that: “we are facing a crisis in statistical capacity which is two-fold. There is a dire shortage of personnel who are trained to adequately address the magnitude of the monitoring and evaluation demands and secondly there is a shortage and a problem with retention of statisticians in academia which affects our ability to train adequately”. Furthermore, Dr Herrie van Rooy also highlighted the shortage of academic staff in his 2012 survey concluding that: “it is time for creative solutions”.

The popularity of the subject of Statistics is largely responsible for the crisis in Academic Statistics. Many students graduate in statistics and related application fields such as actuarial science, risk management, biometrics, econometrics and financial mathematics. These students are in high demand in industry and employed with salaries that universities find difficult to match. The supply demand gap is expected to widen in the near future due to a wide range of industries becoming interested in gaining competitive advantages through, for example, the analysis of BIG DATA sets and application of analytics.

Currently, the demand from industry requires universities to produce a substantial number of masters' students each year, which puts a lot of pressure on the academic staff at these universities. However, at PhD

level (although not currently as high in demand by industry) only a few graduates are produced each year. This is mainly due to a lack of professors who are able to provide supervision at the majority of Universities and the fact that masters students tend to prefer careers in industry. Many Universities are unable to fill positions at Associate Professor and full Professor level due to the fact that very few students actually pursued academic careers over the last 30 years (the DST Review refers to this as the 35-55 Gap – 5 years later, this is now a 40-60 Gap).

It is evident that all universities in SA find it difficult not only to fill academic positions but also to create Departments of Statistics with competent and internationally acclaimed researchers. The problem is especially acute at the professorial and senior lecturer level. Although some universities also experience problems in hiring staff at the lower levels, it is not a universal problem at this stage.

In 2013, a number of interested and concerned academics joined forces, and compiled a letter, dated 18 June 2013, to express their concerns and to call for a national intervention on the highest level in government to take note of the crisis in Academic Statistics. The letter was endorsed by 12 Heads of Departments of Statistics as well as ABSA and the International Statistics Institute. On behalf of SASA, I forwarded the letter to Minister Derek Hanekom, Minister of the Department of Science and Technology (DST), Dr Albert van Jaarsveld, CEO of NRF and Dr Philemon Mjwara, Director General of DST.

Subsequently, Prof Riaan de Jongh, Prof Tertius de Wet, Prof Andriette Bekker, Dr Sonali Das and I met with the NRF CEO, Dr van Jaarsveld, and his Executive Committee on 29 July 2013. Dr van Jaarsveld assured the

meeting that the NRF fully agree on the seriousness of the situation in Academic Statistics and that they are committed to engage in a process of building capacity in academic statistics in South Africa.

To assist me in this very important initiative a committee was established consisting of: Prof Riaan de Jongh, Prof Tertius de Wet, Prof Andriette Bekker, Prof Francesca Little, Dr Sonali Das, Prof Freek Lombard and Dr Inger Fabris-Rotelli. As a first step, the committee compiled a draft proposal, which was submitted to Dr Andrew Kaniki at the NRF on 2 September 2013. The proposal is specific regarding the nature of the crisis and specific strategies were proposed in the letter that can address the crisis in the short and long term. For example:

- find ways of assisting the available pool of senior lecturers / associate professors in becoming more confident to supervise MSc and co-supervise PhD students
- attract top students to study towards a PhD in theoretical or applied statistics supervised by top rated scientists, locally and/or internationally
- sensitise industry and tertiary education decision makers about the national crisis in academic Statistics and its negative ramifications
- pool resources from universities and utilise retired professors to develop advanced courses that could be shared at MSc and PhD level
- University Departments may also actively liaise with experienced Statisticians at the various Science Councils and in Industry

The engagement with the NRF will ensure that the crisis in academic statistics is being addressed on a national level. This is probably the most

important project that the statistics community in South Africa ever had to engage in.

Strategic Planning for SASA

The SASA EC has recognised the urgency and acknowledged that we need to be proactive in our projects and strategic planning to provide support to and growth for the statistical community. First, the EC engaged in a detailed SWOT analysis of statistics in SA. The major themes that emerged from the SWOT analyses on the strengths and opportunities are listed in Table 1.

Considering the SWOT analysis we revisited the Vision and Mission of SASA to ensure they address the issues highlighted from the SWOT analysis. A vision is specified for a long term strategy (5 to 10 years), and mission statements are specified for shorter term deliverables (about 2 years) in order to achieve the vision.

A Proposed Vision:

To be the leading African statistical association, internationally recognized for advancing statistical practice,

applications and research in all areas of society, for publishing quality research in leading statistical journals, improving statistical education, and promoting awareness and value-add of statistics and the statistical profession.

Proposed Mission Statements:

- to create a forum for nurturing, attracting and retaining statisticians in South Africa, and advancing their interests
- to actively market the discipline of statistics in order to improve the general perception and appreciation of the discipline
- to support members by providing a platform for networking opportunities and publications
- to produce timely and high quality up-to-date publications, including the SASJ and the Conference Proceedings, and communicate to its members relevant information and news through the Newsletter.
- to serve the national interest by means of promoting the registration

of members at the Institute of Certificated and Chartered Statisticians of South Africa (ICCSSA) in disciplines relating to the application of the science of statistics.

We need to drive a strategy with clear measurable objectives to deliver on each mission statement and to achieve the vision in the long run. Therefore, I call on SASA to:

- be the strategic vehicle for developing and implementing strategic objectives for the advancement of theoretical and applied statistics in SA
- develop the strategic intent to be the preferred home for all statisticians working in all areas of theoretical and applied statistics, irrespective of background in training, experience, expertise, or application.
- support the SASA/NRF initiative in rebuilding Academic Statistics capacity in South Africa.
- for the members to be active in all SASA projects and the annual conference
- for the pro-active collaboration between SASA and ICCSSA to establish a healthy and high-in-demand statistics profession in SA

“At this point I feel the definite need for some new Fishers and Neymans. A relatively safe prediction is that some sort of Bayesian-frequentist compromise will blossom in the near future of statistical theory. In fact, attitude change is already in the air, at least in the world of statistical applications”, Bradley Efron, 2007. ■

Roelof Coetzer

Strengths	Opportunities
Membership of SASA	High demand for statistics
Annual conference of high quality	Data Analytics, Business Analytics and Data Scientists
Established journal of high quality	maths4stats initiative
Communication to its members e.g. Web site and Newsletter	Marketing and training of statistics at school
Business and government partnerships	Internet and social media
Bursary scholarships and competitions	Business and government partnerships
Good governance	Engagement with DoE, DST and the NRF
	Short courses and workshops in specialised fields
	ICCSSA accreditation for courses and workshops
	ICCSSA registration for professionalism
	Many young people in the association

Table 1. Strengths and opportunities from SWOT analyses

Contact details for the newsletter editor**Dr. Mardi D Jankowitz**

University of South Africa
Department of Decision Sciences
Preller Street, Muckleneuk Ridge,
Pretoria,
P O Box 392, UNISA 0003
Telephone: +27 12 429 4629
Fax: +27 12 429 4898
email: jankomd@unisa.ac.za

Please send all Newsletter matters to the Editor at the above address, and all other SASA matters to

The Secretary,
P.O. Box 3341, Matieland,
7602, South Africa
email: Inger.Fabris-Rotelli@up.ac.za

The Newsletter is an informal collection of news items and short articles of interest.

The Newsletter will appear in March, June, September and December.

Submission deadlines:

Issue	Deadline Date
March	1 February
June	1 May
September	1 August
December	1 November

The views expressed in this Newsletter are those of the contributors and do not necessarily reflect the policies of the SA Statistical Association or the editor of the Newsletter.

Designed by Graphcom Design Studio cc

Editorial

Dear SASA members

After a wonderful and very successful 55th annual conference hosted by the University of Limpopo at The Ranch near Polokwane, this is the last issue of the newsletter for 2013. The presidential address from Dr Roelof Coetzer is of interest to all SASA members.

Congratulations to all the award winners who feature in this newsletter. From the education committee there were the SAS awards for the best honours project and the STATSSA awards for the best postgraduate papers. Then there was a Sichel medal awarded, and awards for Honorary members.

The University of Pretoria report on their Year of Statistics celebration, the Young Statistician is Victoria Goodall, and a tribute to Stephan Maritz are all of interest in this issue.

Please note that a call for overseas visitors for the 2014 conference and a call for a thought leader are included. The seminar program for the first semester 2014 of the Stellenbosch University is also included.

We welcome all new members. We also appreciate the support of ICCSSA for sponsoring this issue of the newsletter. Season greetings! ■

Mardi

Welcome!

New members of SASA

Mr D Benade, Senior Systems Engineer: Control Systems Engineering, dbenade@absamail.co.za

Mr JP Engelbrecht, Scientist: Sasol, pirow.engelbrecht@sasol.com

Mr P Hungwa, Lecturer: Saint Ignatius College, percyhungwa@yahoo.com

Mr BJ Kawimbi, Business Intelligence Analyst: Elbee Technologies, bkawimbi@outlook.com

Dr R King, Lecturer: University of Newcastle, robert.king.newcastle@gmail.com

Mr AG Kuhudzai, Business Analyst and Statistician: University of the Witwatersrand, gelfand9@yahoo.com

Mr MT Loots, Lecturer: University of Pretoria, theodor.loots@up.ac.za

Ms ND Moroke, Lecturer: North West University Mafikeng campus, moroke@nwu.ac.za

Mr KF Mpeta, Lecturer: North West University Mafikeng campus, kolentino.mpeta@nwu.ac.za

Ms T Ndiweni, Credit Risk Strategy Manager: Standard Bank, Tbt.ndiweni@gmail.com

Mr PG Seaketso, Lecturer: North West University Mafikeng campus, seapheme@gmail.com

Mr JT Tsoku, Lecturer: North West University Mafikeng campus, johannes.tsoku@nwu.ac.za

Call for nominations for visitors for the 2014 conference

Any SASA member wishing to nominate an overseas visitor for the 2014 SASA Conference, please contact the secretary of the Executive Committee with supporting information by 20 January 2014. The contact details for the secretary are:

The Secretary: SASA
P O Box 3341
Matieland
7602
email: Inger.Fabris-Rotelli@up.ac.za



Seen at the
55th Annual SASA Conference



The South African Statistical Association (SASA) in collaboration with the University of Limpopo's Department of Statistics and Operations Research in the School of Mathematical and Computer Sciences, hosted the 55th Annual SASA Conference that took place on 04-08 November 2013 at The Ranch in Polokwane, Limpopo Province.

As SASA was established in 1953, this 2013 Conference marked the Association's 60th Anniversary.



The SASA 2013 Thought Leader, Prof Freek Lombard congratulated by Dr Roelof Coetzer.



Honorary member Prof Nico Crowther from UP congratulated by Dr Gary Sharp.



Honorary member Prof Abrie van der Merwe from UFS congratulated by Dr Gary Sharp.



Journal editor, Prof Max Finkelstein thanked by Dr Roelof Coetzer.



More photographs on the University of Limpopo Facebook



Sichel Medal awarded to Prof Freek Lombard by Prof Paul Fatti.





Why join ICCSA?

Many issues that have an impact on our daily lives, such as our health and safety, our work, our standard of living, and the policies of our governments are crucially influenced by statistics – the collection, analysis, presentation and interpretation of quantitative data in the presence of uncertainty.

Sound statistical practice ensure sound platforms whereby sound decisions can be made, leading to better policy and better outcomes. Incorrect or unethical use of statistics can produce misleading results, poor advice and worse choices.

That is, the practice of statistics is a job for skilled professionals. Accredited statisticians have been recognized by their peers as combining education, experience, competence, and commitment to ethics at a level that labels them as professionals. Accreditation provides a measure of assurance to employers, contractors and collaborators of statisticians, and a mark of accomplishment to society at large.

Mission statement

ICCSSA will provide an operational function to:

- Get buy-in from business, science councils and universities
- Implement a process for application and recruitment of members
- Ensure financial health (e.g. universities, actuarial societies...)
- Create market awareness
- Engage with stakeholders to establish a Continuous Professional Development programme
- Organize activities to unite, attract and empower members



WWW.ICCSSA.CO.ZA

SASA Scholarship and Bursary Information

ATTENTION: HoD's and academics, please inform potential students about the SASA scholarship and bursaries.

Students (studying statistics) who will commence their third year studies at any South African university in January/February 2014 are eligible for the awards. Applications are available from the SASA website (<http://www.sastat.org.za/> ▶ Committees ▶ Education ▶ Scholarships/Bursaries).

Potential students must complete the form in its entirety; any omissions and the forms are viewed

as incomplete and hence not considered. The form must then be returned by the academic referee (not the applicant) to Mr WJ Brettenny, Department of Statistics, PO Box 77000, NMMU, Port Elizabeth, 6031. All applications must reach Mr Brettenny no later than 31 December 2013. *Applications received thereafter will not be considered.* A maximum of three awards will be made.

For additional information contact Mr WJ Brettenny (warren.brettenny@nmmu.ac.za). ■

2013/2014 SASA Student Project Competition

Sponsored by SAS®



The 2012/2013 first prize winner, Hassan Sadiq (left), receiving his award from Murray de Villiers (from SAS on the right) at the 2013 SASA conference.

The SASA education committee invites all South African Universities to prepare their top three honours projects in Statistics from 2013 for the 2013/2014 SASA Student Project Competition sponsored by SAS®. The head of the Department/School at each University may submit up to three projects and group work is allowed. There is an additional prize for the best use of SAS in an honours project (to be awarded to the project that utilises the software best and places in the top three). The national prize winner will be sponsored to present their project at the annual SASA conference. The closing date for entries is 11 March 2014. Please contact Hannah Kroon should you require further details. ■

Contact person: Hannah Kroon

E-mail: Hannah.Kroon@uct.ac.za

2013 SASA 3rd Year Competition sponsored by SAS® and SASA

It is with great excitement that the SASA Education Committee hereby announces the 2013 SASA 3rd Year Competition! This competition is open to all 3rd year Statistics/Mathematical Statistics students who are planning to enrol for an honours degree in Statistics/Mathematical Statistics at a South African university in 2014.

Two awards will be made: a scholarship of R21 000 (sponsored by SAS), based on academic merit, and a bursary of R9 000 (sponsored by SASA), to an academically deserving student who can demonstrate financial need. The application forms are available on the SASA website.

The SASA Education Committee will handle the adjudication process. The

judges' decision will be final and there will be no correspondence regarding the decision. ■

The deadline for applications is 30 December 2013.

Enquiries: Dr Lizelle Fletcher

E-mail: lizelle.fletcher@up.ac.za

Tel: (012) 420 3967

Fax (012) 420 5185



World Year of Statistics celebration at UP

The World Year of Statistics, a global initiative launched by the American Statistical Association (ASA), was celebrated at University of Pretoria on 3 October 2013 with a gala event, hosted in the Aula Foyer. This initiative at UP aimed to promote awareness and importance of statistics across all fields, and in the daily life of all associated with UP. A wide array of dignitaries was present, not only from UP, but also from other

As part of these celebrations, a competition (WYSUP2013 competition) was launched by the Department of Statistics earlier this year, with a theme of “Unexpected Statistics”. Entries had to be visual in nature and exhibit statistics in a relevant way. Michaela Giocovazzi, a 2nd year BSc Actuarial Science student, came out on top to win the grand 1st prize of R 15 000 cash (generously sponsored by The SAS Institute). Ms Giocovazzi’s entry was a canvas, the size of a door, with over a 1 000 white origami shirts pasted on it – with one single red shirt – her unexpected statistic.

Africa), and special guest prof. Michael Greenacre – acclaimed academic from Universitat Pompeu Fabra, Barcelona, Spain. Prof. Greenacre delivered an address



incorporating his pianistic skills to great entertainment of the audience, whilst also maintaining an informative and relevant view on statistics. Prof. Greenacre is well-known to South African statistics audiences, having completed his undergraduate studies at UCT, and his MSc at UNISA in the early 70s.

The Department of Statistics at UP is humbled to have been able to present this evening (sponsored by The SAS Institute), and continue to strive for teaching and research-based excellence at University of Pretoria in the light of these events.



Prof de la Rey, Mr Lehohla, Prof Bekker and Stroh

esteemed institutions such as The SAS Institute, StatsSA, the National Research Foundation, and various other companies and representatives from industry. The South African statistics community was well-represented with the following academics present: Proff. Freek Lombard (UJ), Tertius de Wet (US), Daan de Waal (UFS), Paul Fatti (WITS), Delia North (UKZN), Renette Blignaut (UWC), drs. Roelof Coetzer (SASOL), Nancy Stiegler (UWC), Pravesh Debba (CSIR), and UP staff such as Proff. Nico Crowther and Francois Steffens.

The gala event program consisted of addresses by the Vice-Chancellor and Principal of UP, prof. Cheryl de la Rey, Mr. Pali Lehohla (Statistician-General of StatsSA), dr. Roelof Coetzer (president of the South African Statistical Association), Mr. Desan Naidoo (Managing Director of The SAS Institute, Southern



Guests from the SA Statistics community with Prof Greenacre



Fifth International Conference **MATHEMATICS IN FINANCE**

Skukuza, Kruger National Park South Africa
24 - 29 August 2014

Hosted by North-West University in collaboration with the University of Cape Town.

Objective

The main objective of the conference is to bring together academics, practitioners and graduate students who are working in the broad field of financial mathematics, risk analytics and the broader area of business analytics. It is envisaged that participants who are at the forefront of the area will reflect on current open problems and relevant challenges and that they will indicate directions for future research. It is hoped that the interplay between theory and practice as well as issues relating to the dissemination of knowledge and teaching in this field will be discussed.

Target Audience

- Actuaries
- Quants
- Risk and Business Analytics Practitioners
- Academics
- Graduate Students

Confirmed Plenary Speakers Include:

- Bruno Dupire (Bloomberg and New York University, USA)
- Paul Embrechts (ETH Zurich, Switzerland)
- Matheus Grasselli (McMaster University, Canada)
- Andrea Macrina (University College London, UK)
- Mike McAleer (Erasmus University, Rotterdam, Netherlands, and National Tsing Hua University, Taiwan)
- Alex McNeil (Heriot-Watt University, UK)

Deadlines and Registration

The deadline for submitting abstracts is March 31, 2014. Registration will close on April 30, 2014. Note that the number of participants is limited to 150. Registration will be handled on a first-come, first-served basis.

For more information please visit: <http://www.nwu.ac.za/content/mif-2014-landing-page>



Driven by a passion for nature – Victoria Goodhall

“my statistical background has definitely shaped the way that I think about a problem and has helped me cope with the various challenges that the working world has thrown at me.”

Please introduce yourself.

My name is Victoria Goodall and I am 31 years old. I studied for my BSc, BSc Hons and MSc degrees through Rhodes University in Grahamstown. I have always loved the bush and for my Masters degree I was able to combine my studies and my passion for the outdoors by doing an applied analysis using data from the Kruger National Park. I worked on data from 3 projects looking at the effect on vegetation of the closure of some artificial waterpoints, the effect on vegetation of an enclosure for the breeding of rare Roan antelope and the impact of elephant damage on riparian trees. This project made me realize that when studying part-time, the topic had to be in line with one of my main passions and interests and lead towards my PhD. I am currently studying for my PhD part-time through the University of the Witwatersrand. The project is co-supervised by the School of Statistics and Actuarial Science and the Animal, Plant and Environmental Sciences School. My PhD research focuses on the application of various statistical time series analysis techniques applied to GPS tracking data from sable antelope, buffalo and zebra in the Kruger National Park. GPS tracking is becoming a popular way of tracking the movements of a variety of species with regular intervals between locations and spanning a few years. My challenge was to investigate and adapt existing models for analyzing these data in order to gain insights into the ecological processes and animal behavior underlying it.

My working career started in 2004, when I joined the Volkswagen South Africa Graduate Placement program. I worked as a Data Analyst in the Customer Relationship Management department. I was responsible for managing the customer database of all VW and Audi

customers using SAP Business Warehouse. The Graduate Placement program also gave me the opportunity to work with other departments in the company and I was exposed to the Auto Africa Motor show, dealership visits and even working for 3 weeks on the Golf production line! I used statistics in various ad hoc customer analyses using the data that was captured during brand campaigns, sales and services.

I then moved from the automotive industry to marketing research when I worked as a statistician for Synovate South Africa (now Ipsos). I was involved in the development of the Brand Value Creator, Market Barriers and Connections which were the new Synovate brand equity and communications testing measures. I worked on both client projects and research and development work, with a key focus on statistical analyses for R&D projects.

I am currently working as a Data Scientist for the South African Environmental Observation Network, Fynbos Node based at Kirstenbosch Gardens. My research projects within the organization have focused on the analysis of long-term climate data, as well as securing and archiving long-term climatic datasets. The position has given me the opportunity to once again work on environmental projects and the application of statistics to a wide variety of environmental problems.

When did you decide to enter into the field of Statistics and what brought about this decision?

I entered the field of Statistics rather by chance. I had done a course in statistics during Add-Maths in matric and I disliked it intensely. However in my first year at Rhodes University, I had started out studying botany only to discover that a microscope gave me a massive

headache. So to avoid the botanical microscope work, I took a six-month Statistics course which was aimed at the Commerce students. Something clicked and six-months later I was registered for Statistics, Pure and Applied Mathematics for the rest of my degree. Quite ironic then that I have ended up working at the Kirstenbosch National Botanical Garden! My botany lecturers would be proud!

How has your perspective of Statistics changed since you've started working (if at all)? During my working career, I think the main thing that I have found is that many people are intimidated by Statistics. I have not used a lot of the theory that I have learnt, but my statistical background has definitely shaped the way that I think about a problem and has helped me cope with the various challenges that the working world has thrown at me.

Why do you feel that Statistics is important and how does it contribute value to your company/ institution/ the country etc.? Statistics is hugely important in the research and development areas. In environmental science, the fieldwork is often done without sufficient thought about how the data are going to be analyzed to answer their research questions.

What are the pros of a profession as a Statistician? And the cons?

One of the main challenges that I see for statisticians in the environmental sector is to communicate effectively with the research scientists to discuss the hypotheses and questions that they have, how statistics can be used to answer these and the best way to set up the fieldwork to provide the data in the required format. ■

SEMINAR PROGRAM: FIRST SEMESTER 2014

Stellenbosch University Department of Statistics and Actuarial Science

14 February	Hendri Uys (Department of Statistics and Actuarial Science, Stellenbosch) Statistical methods for opponent modelling in simplified poker
28 February	Jef Teugels (Katholieke Universiteit, Leuven) Change point methods in extreme value analysis
14 March	Michael McCaul (Biostatistics unit, Stellenbosch) Pre-hospital versus in-hospital thrombolysis for ST-elevation myocardial infarction: A Cochrane systematic review and meta-analysis
28 March	Jürgen Möller (Quantivation, Durbanville) An overview of big data and analytics
11 April	Vince Micali (Eskom, Johannesburg) Application of statistical sciences in electrical utilities
25 April	Hugo Fourie (Stellenbosch) The auction process within a normalised distribution world
9 May	Roelof Coetzer (SASOL, Johannesburg) The analysis of compositional data

Lectures start at 13:00 and are held in Room 2021 of the Statistics and Accounting Building, c/o Victoria and Bosman Streets, Stellenbosch.

Enquires: Danie Uys (Statistics and Accounting Building, Room 2015d)
Telephone: 021 808 3879
Fax: 021 808 3830

Tribute to Prof. JS Maritz

Johannes Stephan Maritz was born in Wepener in the Free State in 1928. It was the beginning of the depression so, like many others, the family moved to Johannesburg in search of better prospects. Some years later the mathematical talents of the young Stephan were recognised by a teacher, Dr Bingle, who later became the rector of the PU vir CHO (now NWU), who persuaded him to further his studies in mathematics and physics.

After obtaining a BSc from Wits, he took up his first position as a statistician, as technical assistant to HS Sichel at the National Institute for Personnel Research (NIPR) in 1948. He assisted Sichel with research on the lognormal distribution and estimation of parameters of the negative binomial distribution. This

was a turning point for Stephan who comments, "It was because of Sichel's enthusiasm that I decided to give Statistics my serious attention". He was also studying for his honours degree in Mathematics at Wits and studied Statistics under the late Prof. John E Kerrich.

In 1952, having completed a MSc under Kerrich, he pioneered the Statistics Section at the Chamber of Mines Research Laboratories. He spent the next eight years at the Chamber of Mines also learning a good deal about statistical consulting. The problems of setting non-decreasing confidence bands for fitted distribution functions, together with his concurrent reading of Good's Probability and the Weighing of Evidence, aroused his interest in Bayes methods, resulting in his 1970 book Empirical

Bayes methods. Several well-known statistical personalities, among them Hilton Miller, Paul Winer, Alan Munro, Alan Joffe, Paul Fatti and Derek Hudson as students, were connected with the Section.

The SA Statistical Association was founded on 28 October 1953 and Stephan was a founder member. Prof. B de Loor was elected as first President, Mr JE Kerrich as Vice-President and Stephan as Secretary/Treasurer. Prof. Gertrude M Cox, a visitor from the Statistical Institute at Raleigh, North Carolina, was chosen as the first Honorary Vice-President of SASA.

Early in 1961 he was appointed as Senior Lecturer in Statistics at the University of Melbourne, Australia, his first teaching post. Not only one of the most trying, but also most rewarding experiences he recalls is teaching theoretic probability to a class including TP Speed and JP Matthews. In 1964 he returned to the Chamber of Mines for a productive three months visit. The list of interesting and stimulating visitors to the department includes MS Barlett, EL Pitman and the great Bayesian IJ Good.

In 1972 he moved to Monash University in Melbourne and was awarded a DSc by Wits. The most rewarding aspect of being Professor of Mathematical Statistics was supervising the PhD thesis of T Lwin. Their collaboration resulted in several joint papers, as well as in Lwin becoming co-author of the 2nd Edition of Empirical Bayes Methods with Applications. While



Stephan Maritz and Dr Lize van der Merwe taking a break during a review meeting of the Biostatistics Unit at Noordhoek, Cape Town, in 2007.

Stephan Maritz can look back on a full career, highlighted by more than 70 publications in most of the major Statistical Journals and two books.

teaching nonparametrics, Stephan realised that none of the textbooks at that time was satisfactory for a lecture course. With some encouragement from DR Cox, he then wrote *Distribution-Free Statistical Methods* in 1981.

Wanting a change from academic life, he joined the CSIRO Division of Mathematics and Statistics in Australia for three years and during this time wrote a paper on estimating the standard error of the sample median, which is often cited in literature as Bootstrap methods.

He then returned to the academic world in 1979, as Professor of Statistics at Melbourne's La Trobe University which has an enviable reputation for research. During his time at La Trobe, he visited the University of the Free State, the Pennsylvania State University and in 1983 the Institute for

Biostatistics of the SA Medical Research Council (MRC). This visit was to be very important for his subsequent career, for in 1989 he returned to South Africa to join the Institute of Biostatistics of the MRC. The following year he became a statistical consultant at the Stellenbosch University, a post he held until 1996. Stephan then joined the Biostatistics Unit (BU) of the MRC on a part time basis until 2008. During this time he worked closely with researchers in Tuberculosis from the University of Stellenbosch. In 2011 he was still a co-author on a publication in Tuberculosis on the pharmacokinetics and pharmacodynamics of a drug being used in the standard treatment of adults and children.

Stephan Maritz can look back on a full career, highlighted by more than 70 publications in most of the major Statistical Journals and two

books published by Chapman & Hall; Editor of the *Australian Journal of Statistics* (1983-1989) and of the *SA Statistical Journal* (1994-2000), as well as serving on the editorial boards of *Communications in Statistics*, *Journal of Statistical Computation and Simulation* and *Statistics and Decisions*; election as Fellow of the Institute of Mathematical Statistics and of SASA; Honorary life membership of SASA and of The Statistical Society of Australia; practising statistics as a research officer or consultant for the CSIR, Chamber of Mines, CSIRO, the Cancer Institute of Melbourne, the MRC and the University of Stellenbosch. In 1999 he was awarded the Herbert Sichel Medal for the best paper published by a member of SASA.

Stephan, who is now 85, has finally retired but still keeps his version of R up to date. He and his artist wife, Cecilia van Heerden, live in Durbanville, Cape Town. He believes in keeping fit, plays the classical guitar and enjoys a good red wine.

Compiled by Johan van Vuuren, Carl Lombard and Marie Smith. ■

Thought Leader Award

SASA will once again award a Thought Leader Award in 2014 to one of its members due to the generous sponsorship from SAS South Africa. A Thought Leader is a person who has made an impact within the South African statistical community across a wide range of activities and has made significant contributions in academia, industry, government and elsewhere. The criteria include contributions and impacts made in Leadership, Knowledge Generation, Human Capital Development, Impact of the Work and Research and Attracting Funding.

We invite SASA members to submit nominations for the Thought Leader for 2014. Please also submit all supporting documents, including full CV, of the nominated person with your nomination to Dr Roelof Coetzer at roelof.coetzer@sasol.com by 20 January 2014.



THE BUSINESS
VALUE BEHIND

BIG DATA

When organisations get to the point where their volume, velocity and variety of data exceed storage or computing capacity, there are some big challenges – but even bigger opportunities to achieve unprecedented business value. So, where do they turn when looking for optimal ways to gain insights from these larger data sets in shorter reporting windows? They turn to SAS®.

Speed to insight

From banking and retail to health care and insurance, SAS is helping industries gain insights that once took weeks and days – in just hours, minutes and seconds. It's all about getting to the relevant data quicker, revealing previously unseen patterns, sentiments and relationships, delivering that information into a real-time architecture and speeding the time to insights.

High-performance analytics from SAS

Combining industry-leading analytics software with high-performance computing technologies produces fast answers to previously unsolvable problems – and enables our customers to gain competitive advantage. SAS Grid Computing creates a centrally managed, shared environment for processing large jobs and a growing number of users efficiently. SAS In-Database builds analytic logic into the database itself for improved agility and governance. And SAS In-Memory Analytics eliminates the need for disk-based processing, allowing for much quicker response times. Together, the components of this integrated, supercharged platform are changing the decision making landscape – and resetting how the world solves business problems. Find out more about how SAS can help you realise the business value achieved from capitalising on complexity.

A leading bank reduced loan default calculation times from 96 hours to just 4.

A major retailer reduced the time it takes to optimise store-specific pricing each week from 30 hours to 2.

sas.com/bigvalue



sas
THE POWER TO KNOW®