

*SOIL SCIENCE
SOCIETY OF
SOUTH AFRICA*



NEWSLETTER
No. 108

November 2019

SSSSA COUNCIL/GVSA RAAD: 2019-21

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	Mrs R. Rhodes (Avorcane, KZN)
	Dr A. Rozanov (Stellenbosch University)
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The SSSSA does not necessarily agree with opinions expressed in this newsletter.

Die GVSA onderskryf nie noodwendig die menings van bydraes tot sy nuusbrieff nie.

MESSAGE FROM THE PRESIDENT/ BOODSKAP VAN DIE PRESIDENT



COMBINED CONGRESS 2020 / GESAMENTLIKE KONGRES 2020

The 2020 Congress will run from 21st to 23rd January, once again in Bloemfontein. The theme of this Combined Congress is “Basic and applied sciences – Fundamentals of sustainable agriculture”. The main reason for the congress being twice in Bloemfontein, is the relatively low cost of arranging it on the University campus, which provides the Societies with the possibility of a good profit. On the Wednesday (22nd January), there will once again be a Workshop, with the topic: “Nutrition/Fertility”. Support our own congress, organised by our own people, for our own people. There is still room for sponsors to splash their organisations for awareness among literally several hundreds of scientists. Please remember to attend the AGM during the congress. There will be a lucky draw with nice prizes to be won. Members also have to confirm some minor adjustments to the SSSSA constitution in order for us to register with SARS as a non-profit organization (NPO).

Die 2020 Kongres vind van 21^{ste} tot 23^{ste} Januarie plaas en is weer in Bloemfontein. Die tema van hierdie Gesamentlike kongres is “Basiese en toegepaste wetenskap – grondbeginsels vir volhoubare landbou”. Die hoofrede om die kongres weer in Bloemfontein te hou, is die relatief lae koste om dit op die kampus te hou, wat die moontlikheid skep om goeie winste vir die Verenigings te maak. Daar gaan weer op die Woensdag (22^{ste} Januarie) ’n werkswinkel gehou word, met die tema: “Plantvoeding/Vrugbaarheid”. Ondersteun ons eie kongres, deur ons eie mense gereël, vir ons eie mense. Daar is ook nog geleentheid vir borgskappe deur organisasies wat hulle aan letterlik honderde wetenskaplikes wil bekendstel. Onthou om die AJV tydens die kongres by te woon. Daar gaan ook ’n gelukstrekking wees met handige pryse te wen. Lede moet geringe wysigings aan die GVSA Grondwet goedkeur ten einde by SARS as nie-winsgewende organisasie (NOW) te registreer.

JOURNAL / JOERNAAL

All paid-up members of the SSSSA have free access to the SA Journal of Plant & Soil. The Journal is hosted by Taylor & Francis, who do a fabulous job. All previous issues are available electronically on Taylor & Francis's website.

Important:

- Cite articles in our Journal
- Download articles from our Journal
- Publish in our own Journal
- Assist in uplifting the status of our Journal

Alle opbetaalde lede van die GVSA kry gratis toegang tot die SA Joernaal van Plant & Grond. Die Joernaal word deur Taylor & Francis gehuisves, wat hul uitstekend van hul taak kwyt. Alle vorige uitgawes is elektronies op Taylor & Francis se webwerf beskikbaar.

Belangrik:

- *Verwys na artikels in ons Joernaal*
- *Laai artikels in ons Joernaal af*
- *Publiseer in ons eie Joernaal*
- *Help om ons Joernaal se status te verhoog*

SACNASP / SARNAP

The SSSSA encourages its members to register with SACNASP as Natural Scientists in the field of Soil Science. According to law, it is compulsory for practising soil scientists to register with SACNASP. The Combined Congress, as well as the workshop, are registered for earning CPD points. As SASSO is an affiliate of the SSSSA, SASSO workshops are also registered CPD events. Other applicable CPD events are also forwarded to SSSSA members by the SSSSA Secretariat.

Elsewhere in this Newsletter is a copy of the SACNASP "Soil Science Fields of Practice" document as compiled by the SSSSA Council.

Die GVSA moedig sy lede aan om by SARN as natuurwetenskaplikes onder die veld van Grondkunde te registreer. Volgens wet is praktiserende grondkundiges verplig om by SARN te registreer. Die Gekombineerde Kongres en ook die werkswinkel is geregistreer dat afgevaardigdes CPD-punte kan verwerf. Omdat SAGO by die GVSA geaffilieer is, is SAGO-werksinkels ook vir CPD geregistreer. Ander toepaslike CPD-geleenthede word deur die GVSA-Sekretariaat aan GVSA-lede gestuur.

Elders in hierdie Nuusbrieff is die SARN "Grondkunde "Fields of Practice"-dokument, soos deur die GVSA Raad saamgestel.

MEDIA

- Facebook

The SSSSA has an active Facebook page. Feel free to “Like” our Facebook page and be part of the excitement. It is there for our members. Prof Andrei Rosanov (Stellenbosch University) takes care of it.

Die GVSA het’n aktiewe Facebook-blad. “Like” ons facebook-blad en wees deel van die opwinding. Dit is daar vir ons lede. Dr Andrei Rosanov (Universiteit Stellenbosch) sien hierna om.

- Photo competition / Fotokompetisie

Have a look on our Facebook page or website at the previous winning photographs. AGT Foods is our proud sponsor and this competition is open yet again with new prizes, sponsored by AGT foods. See elsewhere in the Newsletter for more information or contact Ruth Rhodes (ruth@avorcane.co.za).

Gaan kyk op ons Facebook-blad of die webblad na die vorige wenfoto's. AGT Foods is ons trotse borg en hierdie kompetisie is reeds weer oop met nuwe pryse geborg deur AGT Foods. Sien elders in die Nuusbrieff vir meer inligting of kontak vir Ruth Rhodes (ruth@avorcane.co.za).

NEW MEMBERS / NUWE LEDE

The Society annually gets new members, and it is most encouraging to see so many young members joining. Senior soil scientists must please encourage juniors to join.

Die Vereniging kry jaarliks’n aantal nuwe lede by. Bemoedigend is soveel jong lede wat aansluit. Senior grondkundiges moet asb hul juniors aanmoedig om aan te sluit.

INTERNATIONAL UNION OF SOIL SCIENCES (IUSS)

The SSSSA is affiliated with the IUSS. Every paid-up member of the SSSSA hereby receives the privileges and benefits of the IUSS. SSSSA delegates regularly attend congresses of the IUSS.

Die GVSA is by die IUSS geaffilieer. Elke opbetaalde lid van die GVSA kry hierdeur die voorregte en voordele van die IUSS. GVSA-afgevaardigdes woon gereeld die IUSS se kongres by.

SSSSA PUBLICATIONS

1. Some minor adjustments to the new book on soil classification: “Soil Classification: A Natural and Anthropogenic System for South Africa”, were approved by the Soil Classification Working Group and will be published on the SSSSA website soon. Any further additions will be published on the SSSSA website over time, in order to keep the classification system alive.

’n Paar klein veranderinge aan die nuwe boek oor grondklassifikasie: “Soil Classification: A Natural and Anthropogenic System for South

Africa”, is deur die Grondklassifikasiewerkgroep goedgekeur. Dit sal binnekort op die GVSA webtuiste gepubliseer word. Verdere byvoegings sal oor tyd ook op die webtuiste gepubliseer word ten einde die klassifikasiestelsel lewendig te hou.

2. A book named “Guidelines for Conducting Soil Surveys In South Africa” (written by E Verster, MJ du Plessis and JL Schoeman) was peer-reviewed by Dr Freddie Ellis and Dr Dave Turner. The book will hopefully soon be endorsed by the SSSSA Council, after which it will enter the printing phase.

’n Boek genaamd “Guidelines for Conducting Soil Surveys in South Africa” (geskryf deur E Verster, MJ du Plessis en JL Schoeman) was deur dr Freddie Ellis en dr Dave Turner geresenseer. Dié boek gaan hopelik binnekort deur die GVSA-Raad geëndosseer word, waarna dit in die drukfase sal gaan.

Kind regards, till next time
Groetnis, tot volgende keer

Martiens du Plessis
(072 285 5414; martiens@nwk.co.za)

EDITORIAL/REDAKSIONEEL



I recently had a visit from some old University friends who travelled through Pretoria on their way back to the UK. Without mentioning any names, while we were chatting during their visit, it was interesting to hear about the situation in the UK from a soils research point of view. The Institute in question has gone through several amalgamations over the past few years and has had significant budget restrictions. This is manifest by the budgets of certain projects being arbitrarily cut, and the possibility of redundancies in the near future is very real. Competition for any sort of funding is fierce, especially involving Universities, and appointments are out of the question. The other question is Brexit, which, if it happens, would cut off the EU as a source of research funds.

Given such challenges (many of which are very applicable in South Africa), all we can do is to make sure that research that is carried out is of high quality and is relevant to South African agriculture and the environment, in order to maintain soil science a critical aspect of such investigations.

In the meantime, here's hoping that the coming summer rainfall season is positive and productive, for research purposes, but most importantly for South African agriculture at all levels.

Regards,

Garry Paterson

(012 310 2601; 083 556 2458; garry@arc.agric.za)

**PS. REMEMBER 5TH DECEMBER IS WORLD SOIL DAY –
WHAT CAN YOU DO TO RAISE AWARENESS?**

COUNCIL MATTERS/RAADSAANGELEENTHEDE

BULLETS FROM THE BOARD

- Dr Johan van der Waals has resigned from Council and his position was filled by Dr Gerhard Nortje (UNISA).
- The SSSSA Council considered bidding to present the 2030 International Soil Science Congress in Cape Town. Council eventually decided not to proceed with a bid for that IUSS congress.
- It is going well with the SSSSA finances and we enjoy a positive cash flow. We do have sufficient reserves on investment in order to buffer the cash flow, should it be necessary. We are busy registering the Society as a NPO with SARS.
- Members are absolutely welcome to drop the President an e-mail at martiens@nwk.co.za with bright ideas regarding the Society, or anything worrying you, or just to have a conversation.
- The Council is concerned for so many members not paying membership fees. It is bad is that we thereby lose so many members. Members who did not yet pay their subs, please contact Nancy Nortje at admin@soils.co.za.
- Remember that we render the option to advertise your products / services on our website or Facebook page, or even to advertise a vacancy in your organisation. Of course at an affordable fee!

APPOINTMENTS/AANSTELLINGS

As from 1st November, **Dr Ashira Roopnarain** has been promoted to Senior Researcher in the Microbiology unit at ARC-Soil, Climate and Water.



DEGREES AWARDED/GRADE TOEGEKEN

Recent graduations at the University of the Free State: (M.Sc. Agric. Soil Science)

- 1) **Tlhomelo Motema**: Response of soil carbon fractions after 37 years of wheat production management practices in a semi-arid climate (Supervisors: Dr Elmarie Kotzé and Prof Chris du Preez).
- 2) **Khanyisile Ncoyi**: Comparison of soil phosphorus fractions after 37 years of wheat production management practices in a semi-arid climate (Supervisors: Prof Chris du Preez and Dr Elmarie Kotzé).
- 3) **Klaas Seepamore**: Impact of long-term production management practices on wheat grain yield under a semi-arid climate (Supervisors: Prof Chris du Preez and Dr Gert Ceronio) – *with distinction*.

And from the University of Fort Hare: (M.Sc. Soil Science)

- 1) **Casparus Jacobus du Plessis** - Mapping soil factors influencing erosion using machine learning algorithms in the T35D-E Catchment in the Eastern Cape, South Africa.
- 2) **Siphamandla Ngesi** - Estimation of soil organic carbon stocks and the potential greenhouse gases in the proposed Ntabelanga dam footprint, Eastern Cape, South Africa.



Capture the **Beauty of African Soils** and ENTER NOW for the
**2019 AGT Foods / SSSSA Soils Photo
Competition!**

Photo: R. van Antwerpen – Boundaries



We invite all SSSSA members to submit their most beautiful digital photos of African soils.

- Closing date: 1 Dec 2019
- Winners in each category will receive their certificates at the SSSSA AGM, to be held during the Combined Congress in Bloemfontein in January 2020.
- Top entries will be featured on the SSSSA website, newsletter and Facebook page, and displayed at the Combined Congress 2020.

Rules and guidelines:

- **This competition is open to ALL SSSSA members**
- **If you win, but are behind on membership subs, your outstanding subs will be subtracted from your cash winnings.**

Photos should be submitted towards one of the three categories:

- **Soils in landscape / agriculture**
- **Soils: close up**
- **People / animals and Soils**

- The entered photo must feature African soil prominently. It may also feature plants, animals or humans, but the focus should be on soil.
- The photo must have been captured by the person entering the competition.
- Each SSSSA member may enter up to 4 photos. (Note: only 1 photo per mail please, to avoid e-mail congestion)
- Photos must be in digital .jpeg format and must not exceed 10 MB in size.
- High resolution photos are preferred (above 1.5 MP).
- Make sure that if you have any persons featured in the photograph, you have their permission to submit the photo to the competition. Likewise, if your photo is the property of your employer or company.
- No copyrighted photos should be submitted.
- **Closing date for submission of entries: Sunday 1 December 2019.**
- **Judging:** The SSSSA Council members, in consultation with a professional photographer, will judge the entries and select the winners in each category.
- Winners to be announced at the Combined Congress 2020.

Submit your photo to ruth@avorcane.co.za by 1 Dec 2019.

In your e-mail, include:

- The category for which you are submitting the photo
- A title for the photo
- The location where the photo was taken
- Optional – any background information regarding the photo

NOTE: by submitting your photo, you grant the SSSSA 'copyright' to use the photo in SSSSA promotional material, adverts, fliers, brochures, posters, newsletters, websites and social media. The photographer reserves ownership of the photo but gives the SSSSA permission to use the photograph as mentioned above. The photographer's name will, wherever possible, be featured with the photograph.

Enquiries: ruth@avorcane.co.za

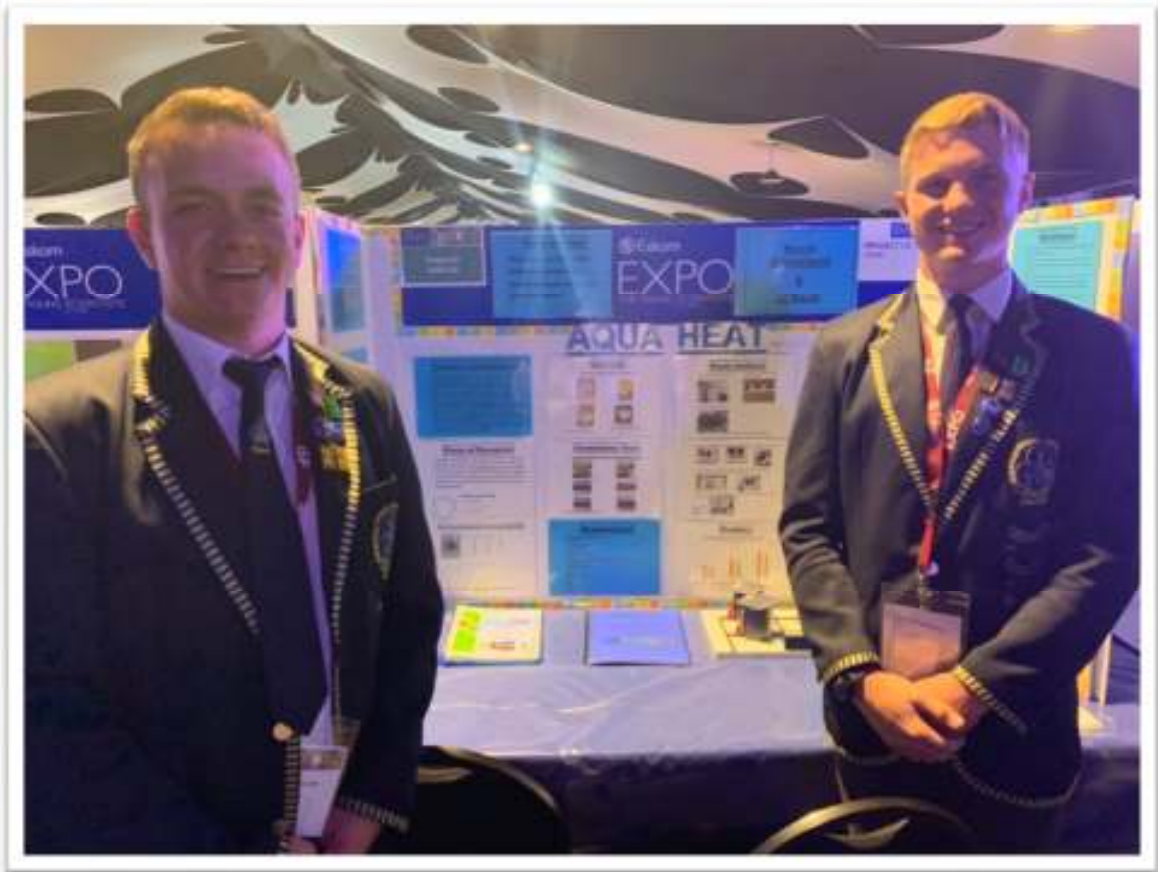
AWARDS/TOEKENNINGS

At the recent 2019 version of the Eskom Expo for Young Scientists, held as usual at the Birchwood Hotel and Conference Centre in Kempton Park, the SSSSA Council again sponsored two awards, of R1 500 each, to the best soil-related project in both the junior and senior category.

The adjudication panel were soil scientists from ARC-Soil, Climate and Water, led by Dr Ashira Roopnarain and Michael Kidson.



Junior Winner, Kaylee Warne (Kloof Senior Primary School, Durban, Grade 7), project entitled “The impact of urban green spaces on river water quality”.



Senior Winners, Bennie Groenewald and JJ Roodt (Duineveld High School, Upington, Grade 12), project entitled “Aqua Heat”.

CONGRESSES/KONGRESSE

The next **Combined Congress** will be held at the University of the Free State in Bloemfontein from January 21st to 23rd 2020.

If you are still in doubt, don't hesitate, quickly register and come and enjoy yet another wonderful congress. Also please attend the AGM – there will be some lucky draws as well! We also have to approve amendments to the SSSSA constitution.

We encourage you to register for the Combined Congress 2020.

Registrations: www.combinedcongress.org.za

Enquiries: nancynortje@icloud.com

See you there!

Congress Awards

For the benefit of Congress delegates and other SSSSA members who have expressed interest, here are the guidelines for evaluation of presentations at the Congress.

CONFERENCE AWARDS BY THE SSSSA

Date: 22 September 2015 (revised 16 September 2019)

Silver medal, certificate and cash for outstanding papers (includes posters).

1. Rules:

- 1.1.** These awards are a gesture in good faith by the Society. Although it may be difficult to judge papers correctly across the wide spectrum of the discipline, awards are nevertheless made to acknowledge good work.
- 1.2.** This document should be made available to the members of the society before conferences.
- 1.3.** Authors:
 - 1.3.1.** Two awards cannot be made to an author for the same paper. Should an author qualify for more than one prize, only the highest award qualified for will be awarded.
 - 1.3.2.** Current, paid-up SSSSA membership is a prerequisite to be eligible for an award.
 - 1.3.3.** As a member of the evaluation committee, authors will not judge their own work (whether as principal or co-author).
 - 1.3.4.** Where a paper that is presented by someone who is not an author, neither the paper nor the presenter shall qualify for an award.
- 1.4.** The awards are given for a paper presented at the conference of the SSSSA to members of the SSSSA.
- 1.5.** No award will be made if the overall standard in a category is unsatisfactory.
- 1.6.** An Awards Committee will evaluate the papers with the professionalism and impartiality required of such a process.
- 1.7.** The paper should have an underlying soil science content.
- 1.8.** Awards are presented to the author or co-authors presenting the paper, and in the following categories:

1.8.1. President's award for best oral presentation at the congress by a presenting author who is a member of the SSSSA.	The <u>oral</u> presentation with the highest judging score from any of the categories below (excluding best paper published in SAJPS). This may override the particular category prize, which may then not be awarded. The SSSSA President will decide whether the President's award replaces the category prize
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	(will not be awarded) or if the category prize will still be awarded. This award is presented by the SSSSA president.
1.8.2. Best paper presented by a SSSSA member older than 30 years.	This category is for any person aged 30 years and older on the day of presentation. It covers all soil science disciplines.
1.8.3. Best paper presented by a SSSSA member younger than 30 years on the day of presentation.	This category is for any person younger than 30 years on the day of presentation. It covers all soil science disciplines.
1.8.4. Best paper presented by a SSSSA member on innovative technology (new and implementable technology).	This category is for any new implementable technique, system or device aimed to alter the soil, to improve the condition of the soil or crop yield. It includes any new mechanisms to help understand soil processes.
1.8.5. Best paper in soil science from SSSSA members serving in the agricultural industry.	The first author must be from industry (not linked to an academic institution or research institute). The main and presenting author must be a member of SSSSA.
1.8.6. Best soil science paper by a SSSSA member on developing (emerging) agriculture.	This category is for any soil science presentation covering work conducted with emerging and/or small-scale farmers.
1.8.7. Best presentation at a congress an MSc student (and SSSSA member) registered at a South African University.	This person must be a <i>bona fide</i> full-time student and not employed at the time the work was conducted (previous Omnia prize).
1.8.8. Best poster presentation by a SSSSA member.	This category is for any non-oral paper presented at the congress on any soil related subject by an author of any age.
1.8.9. Best paper published in the South African Journal of Plant and Soil (SAJPS).	This is for a paper with a soil science focus where the main author is a SSSSA member. SAJPS papers from the preceding year are assessed prior to the congress, and the prize is awarded at the congress awards ceremony.

- 1.9. Order of awards:
 - 1.9.1. Prizes should be awarded starting with category 1.8.1. However, the Awards Committee can change the order if required.
 - 1.9.2. Posters and best paper published in SAJPS (categories 1.8.8 and 1.8.9) are treated separately from the above (see Table for detail).

2. Awards Committee procedures:

- 2.1. The Vice - President shall act as convener.
- 2.2. The members of the Board (excluding the President but including the Past President), serve as the committee. Ideally this committee should have at least six members. If this number cannot be achieved from council members attending the congress then, at the discretion of the Vice-President, suitable SSSSA members at the congress may be requested to serve on the Committee.
- 2.3. The Committee evaluates all papers presented during a congress according to agreed standards and operational circumstances as set out in these guidelines.
- 2.4. The maximum possible number of Committee members assesses papers, where relevant split into equal numbers to cover papers presented simultaneously in parallel sessions.
- 2.5. In any prize category, the top three nominees are acknowledged at the dinner (only if time allows). If time allows, authors of the second and third placed papers are asked to stand at their table, and then to sit. The winner of that category is then announced and the prize given to the presenting author.
- 2.6. The winners of the awards are announced and prizes handed over. This process must take place in an effective and timeous manner.
- 2.7. One paper presented orally from any category will be selected as the overall best soil science paper at the congress. The authors will receive the SSSSA President's Award:
 - 2.7.1. The prize for this paper will be presented by the president of the SSSSA.
 - 2.7.2. The President can decide if the prize for the category into which this paper falls may be awarded with the other prizes/or not.
 - 2.7.3. The prize package will include a certificate for each author, a silver medal for the presenting author and an extra 25% for the presenting author over and above the cash amount which would ordinarily be awarded to the original category.
 - 2.7.4. By way of example, if a paper on innovative technology obtains the highest judging score, the authors of this paper will receive the President's Award. If the 'Best paper presented on innovative technology' cash prize was originally R1000, the presenting author will now receive R1250 as the President's Award. The President decides if the award will still be made for the 'Best paper presented on innovative technology' category, awarded now to the second best paper presented on innovative technology category, or not. If the President decides that the award will not be made for the 'Best paper presented on innovative technology' category, no award will be made in this category.

- 2.8. Before the start of the Congress, the Awards Committee members are informed of the contents of this document. They gather and process data at suitable times and at the end of each day.

3. Judging

Judging of papers will take place using the standard form. Attention should be given to:

- 3.1. Originality: This involves assessment of new approaches, new hypotheses, ingenuity, resourcefulness and imagination.
- 3.2. Impact: Degree of influence on other soil scientists working in agriculture, forestry, hydrology and environment are assessed.
- 3.3. Style: science, logical reasoning, appropriate explanation, good results, interpretation and discussion/recommendation.
- 3.4. Presentation, confidence, enthusiasm, clarity, conciseness, timing, quality of visuals and answering of questions.

Judging of posters:

- 3.5. Flow of content, order, ease of understanding and ratio of text to figures, tables, charts & imaging.

For all aspects:

- 3.6. A score of 3 is awarded when the aspect being judged is acceptable. When the aspect has been handled very well, award a score of 4 and when been handled exceptionally well, award a point of 5. When the aspect has been handled slightly below standard, award a score of 2 and when it was well below standard, award a score of 1.

SSSSA EVALUATION FORM FOR **ORAL** PRESENTATIONS

Author: _____ **Session:**__ **Date:**_____ **Evaluator:**_____

Category: Over 30 / Under 30 / Student / Innovative / Industry / Developing agriculture / Poster

Prerequisites (Please mark)

1. **Title:** suitable / not suitable
2. **Structure:** suitable / not suitable
3. **Results:** well-presented / deficient
4. **Timing:** on time / contravene

Meaning of scores

- 1 = Below standard
2 = Slightly below standard
3 = Acceptable
4 = Very good
5 = Exceptional

Objectives stated and relating to title.	5	4	3	2	1
Hypothesis relate to introduction, focused, concise	5	4	3	2	1
Materials/ Methods/Site description clear and logical	10	8	6	4	2
Results					
Logical sequence	5	4	3	2	1
Related to objectives	10	8	6	4	2
Level of science/Innovation/New data	5	4	3	2	1
Discussion					
Scientifically presented and related to results?	5	4	3	2	1
Clear, relevant, to the point?	5	4	3	2	1
Summary/Conclusions					
Objectives reached satisfactorily	5	4	3	2	1
Related to results and discussion	5	4	3	2	1
Impact: International / National / Local / Little / None	10	8	6	4	2

PRESENTATION

Presenter

Confidence/enthusiasm/Body language/eye contact	5	4	3	2	1
Clarity of speech	5	4	3	2	1
Timing (subtract 1 per minute exceeding time)	5	4	3	2	1

Material presented

Presented in easy-to-follow format	5	4	3	2	1
Good balance between text/figures/tables	5	4	3	2	1
Visual aids attractive & useful?	5	4	3	2	1

Final score: _____

(Total /100)

Evaluator's comments:

SSSSA EVALUATION FORM FOR **POSTER** PRESENTATIONS

Author: _____ **Session:** __ **Date:** _____
Evaluator: _____

Category: Over 30 / Under 30 / Student / Innovative / Industry / Developing agriculture / Poster

Prerequisites (Please mark)

- 3. **Title:** suitable / not suitable
- 4. **Structure:** suitable / not suitable
- 4. **Results:** well-presented / deficient
- 5. **Timing:** on time / contravene

Meaning of scores

- 1 = Below standard
- 2 = Slightly below standard
- 3 = Acceptable
- 4 = Very good
- 5 = Exceptional

	<u>Contents</u>				
Objectives stated and relating to title.	5	4	3	2	1
Hypothesis relate to introduction, focused, concise	5	4	3	2	1
Materials/ Methods/Site description clear and logical	10	8	6	4	2
Results					
Logical sequence	5	4	3	2	1
Related to objectives	10	8	6	4	2
Level of science/Innovation/New data	5	4	3	2	1
Discussion					
Scientifically presented and related to results?	5	4	3	2	1
Clear, relevant, to the point?	5	4	3	2	1
Summary/Conclusions					
Objectives reached satisfactorily	5	4	3	2	1
Related to results and discussion	5	4	3	2	1
Impact: International / National / Local / Little / No	10	8	6	4	2
Poster layout					
Presented in easy to follow format	5	4	3	2	1
Good balance between text/figures/tables	5	4	3	2	1
Visual aids attractive & useful?	10	8	6	4	2
Legibility and amount of text/size of font	5	4	3	2	1

Final score: _____

(Total/100)

Evaluators Comments:

SSSSA in BLOEMFONTEIN – 50 YEARS ON

by Prof Giel Laker

It has suddenly dawned upon me that it is very fitting for the soil scientists of South Africa that the 2020 Combined Congress will be held at the University of the Free State in Bloemfontein. It will mark 50 years after a congress of the SSSSA was held for the first time at the University of the Orange Free State (as it was then known) in April 1970. It was the third congress of the Society, the first two having been in Pretoria and Pietermaritzburg respectively.

Theo van Rooyen and I, then two young lecturers in Soil Science at the University, formed the heart of the organising committee. We made the arrangements under the watchful eye of Prof Taffie Burger, then Head of the Department of Soil Science. We had two young technicians to help us and very capable support from the two MSc students that the Department had at the time (both doing their research under my supervision), namely Allan Bennie and Koos Eloff.



In those days, organising a congress was very different from today. We had to do everything ourselves. There were no computers or fax machines, so people who wanted to present papers had to mail abstracts to us. Fortunately, the postal service was excellent. We could not make spreadsheets on Excel or anything like that, so we literally spread out the abstracts on the floor of Prof Burger's office and then started shuffling them into groups that would make up the different sessions, and reshuffling them until all sessions were filled up to our liking. The congress programme was then typed on an ordinary typing machine by a typist before being duplicated.

Only delegates from private companies had enough money to travel by car and stay in hotels. There were no guest houses in those days. Government officials had to travel with second class tickets by train and stay in the university residences (hostels), two in a room. So, we had to make arrangements to pick them up at the railway station at their respective arrival times and take them back to the station after the congress. The scheduled arrival time in Bloemfontein of the train from Cape Town to Johannesburg was always 2:30 am in the night. The railways had a very kind arrangement to hook off the Bloemfontein coach so that the passengers did not have to get off the train at that unholy hour. However, they could not leave it in the station, because other trains had to pass through. So the coach was moved to the shunting yard and then taken back to the station at 5:30 in the morning so that the passengers could disembark. I do not know whether any youngster knows what a horrendously noisy place a shunting yard is, especially at night when everything sounds louder. So, the delegates from Stellenbosch would arrive at 02:30 on a specific night. They were then supposed to spend the rest of the night in the shunting yard in the coach. I arranged with Allan Bennie to pick them up at the station at 5:30 in the morning. But then I had a rude awakening when my phone rang at 2:30 in the night. It was my good friend Francois Claassen who just wanted to inform me that he and the rest of the Stellenbosch delegates were at the station and would I please be so kind to come and pick them up? Being a kind-natured person I did so. After seeing to it that they were safe in their hostel rooms I then very kindly woke Allan up at about 3:00 in the night to inform him that the Stellenbosch people were already in the hostel and that he did not have to get up early in the morning to go and fetch them!

To guide the delegates coming by car to the congress one had to put up signposts. Fortunately, the Automobile Association or Rondalia Travel always provided neat, sturdy signs. But one had to use a ladder to attach these high enough to lamp posts along the roads so that naughty students or others could not steal them for souvenirs.

Papers were presented in the Odeon, the music hall of the University. All papers were oral papers. It was long before the days of posters.

The field trip was great fun. It was to the infamous area with non-irrigable soils that were earmarked for the development of a big irrigation project under the Orange River Scheme. (Fortunately, six months earlier, a gang of us under leadership of Prof Burger succeeded in convincing the big shots in Pretoria that it would be a disaster to develop irrigation there).

We had hardly departed when José Marques got hold of the microphone of the bus and for the rest of the day kept us laughing non-stop with his jokes and stories. His full name was José Jacinto Montelvaio Marques. He was from Lourenco Marques (now Maputo)



and did a MSc (Agric) in Soil Science at the University of Natal (as it was then).

It was a very dry, dusty day. By the time that we reached the little hotel at Modderivier station on our way back in the afternoon there were some very thirsty soil scientists on that bus. So they indulged very heavily in beer. Well, soon after that it had its consequence, as could be expected. Such a lot of beer cannot stay in the human body forever. Soon after we passed Petrusburg, the first guys started pleading with the bus driver that he must stop so that they could get out. But the conservative bus driver explained to them that this was the south-western Free State where there are not enough big bushes to hide behind and he was not going to allow them to stand disgracefully there in the open. However, when they started threatening to do it in the bus if he did not stop he had to give up in self-defence, in the vicinity of De Brug military base. Penelope Grant and one other guy and I did not need to relieve ourselves and sat high in the bus where it was on a built-up road and looked down on the long line of irrigators along the fence. Then Penny remarked drily: *“Yes, just like all the soils that we saw today – poor water holding capacity.”*

Agricultural Entrepreneurs training

Soil scientists and other colleagues from ARC were recently involved in a series of training initiatives with a company called EARN (Enterprising Africa Regional Network), which is a privately-funded company based in Centurion that takes promising people to train in agriculture. Both formal and practical training was offered, and a piece of land near Lephallale (Ellisras), donated by Exxaro, is being used by the trainees to start their journey to becoming agricultural producers. Similar initiatives are being planned in other areas, and ARC looks forward to being the training partner. The photo below shows the soil practical session, held at the Roodeplaat Research farm.



2020 Kirkham Conference

Kruger National Park, South Africa, 14-17 September

Second Announcement

The Kirkham Conference is due to be held in **South Africa** in 2020.

The Location:

The proposed location is the Skukuza Rest camp of the Kruger National Park in the north-eastern part of South Africa. Skukuza, situated on the banks of the Sabie river offers an ideal game viewing location and a wide variety of game can be observed during short road excursions from the camp. Delegates will be safely housed in the rustic self-catering chalets and will enjoy a mid-week excursion to hydrological and soil research sites in this pristine savannah.



The Theme:

Since soil-water-atmosphere interactions in southern Africa are critically dependant on soil hydraulics, the development of soil physics in South Africa has a long history. With Agriculture, Ecology and now Mining heavily dependent on advances in soil physics, these topics will be included in a broad theme, suited to the region.

The Date:

The conference will take place from 14 – 17 September 2020.

Registration:

Since the number of delegates is limited, please register your interest in attending at:

<http://cwrr.ukzn.ac.za/conferences/kirkham-conference-2020>

MISCELLANEOUS/ALGEMEEN



For the information of SSSSA members who are registered with SACNASP, here is a copy of the “Fields of Practice” document, as compiled by the Society. For enquiries, go to www.sacnasp.org.za

SOIL SCIENCE FIELDS OF PRACTICE

The Natural Scientist: Soil Science is a person who conducts work and provides expertise in the science and technology of soils, concerning research (basic or applied), education (courses, extension, and training) technology transfer (through written or verbal communication or through electronic information dissemination), consulting (based on information, knowledge and/or field-based evidence) in one or more of the recognized disciplines of:

- Pedology,
- Soil Chemistry,
- Soil Physics,
- Soil Mineralogy,
- Soil Biology,
- Soil Fertility.

The Natural Scientist: Soil Science may work alone or in groups including multi-disciplinary groupings.

Certificated Natural Scientist - Soil Science

- Performs routine sample and data collection in the field primarily associated with the recognised disciplines of soil science using recognised methods. Sample and data collection may extend to other allied Scientific Fields of Practice where integration of Soil Science Field of Practice and other Scientific Fields of Practice are required.
- Performs sample preparation, or supervision of sample preparation for analyses.
- Performs detailed to reconnaissance scale soil and land surveys using generally recognised and established survey location, classification, data recording, mapping, data capture and reporting procedures to evaluate primarily the suitability of soil or land for various agricultural, urban, infrastructural, industrial, environmental and recreational uses.
- Reports on primary field and laboratory data using recognised and standardized reporting procedures towards physical soil and land evaluations including evaluations directed towards diverse soil management

planning, wetland delineation, hydropedology, soil quality, soil remediation and soil rehabilitation.

- Performs routine laboratory and in-field analyses of solid, liquid or gaseous samples of an organic or inorganic nature using recognised chemical and physical methods, and directly reports of these analyses in soil chemical evaluations including evaluations directed towards soil nutrient balance, soil acidification, soil salinization, soil chemical composition, contamination or degradation, soil and water quality assessment, and chemical assessments of an agricultural or environmental nature.
- Performs routine laboratory and in-field analyses of soil physical phenomena using recognised physical, hydrological, mechanical and structural methods, and directly reports on these analyses in soil physical evaluations including evaluations directed towards physical soil and land quality and degradation, soil water evaluations including irrigation, drainage, hydrology and soil aeration, and soil tillage evaluations including soil compaction.
- Performs routine laboratory and in-field analyses of soil fertility phenomena using recognised chemical, physical, biological and plant morphological methods and directly reports on these analyses in soil fertility evaluations including evaluations directed towards soil plant nutrient balance, depletion or excess, soil fertility management, soil health, soil organic matter and soil carbon sequestration.
- Performs routine laboratory and in-field analyses of soil biological phenomena using recognised biological, chemical, physical and microscopy methods, and the directly reports on these analyses in soil biological evaluations including soil microbiology, soil health, soil organic matter and carbon sequestration, bio-remediation and bio-engineering.
- Performs routine laboratory and in-field analyses of soil mineralogical phenomena using recognised mineralogical, chemical and physical methods, and the directly reports on these analyses in soil and clay mineral assessments.
- Maintains or supervises the maintenance of instruments at acceptable operational capacities through correct and timely installation, routine checking, accurate calibration, and service and repair procedures.
- Operates or supervises the operation of recognised low risk (?) laboratory and field procedures involving processes, systems, equipment, infrastructure and information archiving used within the disciplines of soil science by ensuring compliance to health and safety ordinances, applicable legislation and by meeting product quality specifications. (*How is low risk defined? Low risk is a central part of the concept of a Certified Natural Scientist*)

Professional Natural Scientist - Soil Science

- Performs or supervises the performance of routine to advanced sample and data collection in the field primarily associated with the recognised disciplines of soil science. Sample and data collection may extend to other

allied Scientific Fields of Practice where integration of Soil Science Field of Practice and other Scientific Fields of Practice are required.

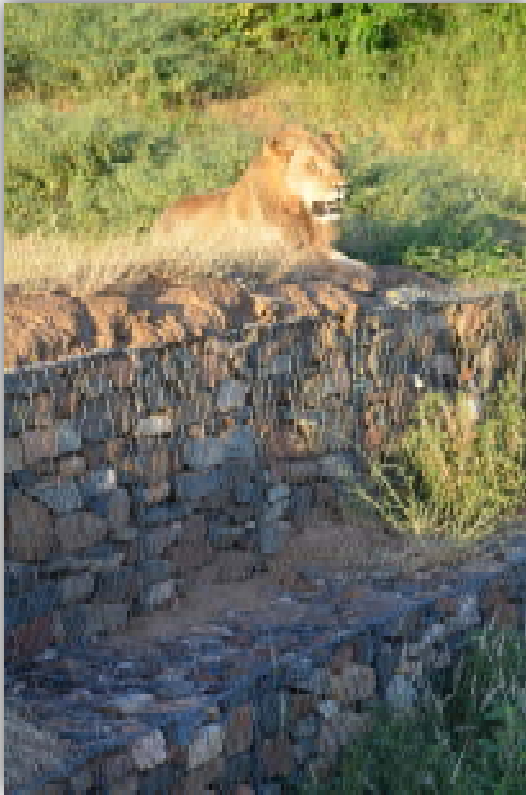
- Performs or supervises the performance of sample preparation taking special recognition of routine to specialized sample preparation methods or technologies, or performs or supervises the performance of data capture operations including implementing the design of information systems and the adherence to quality assurance processes within these information systems.
- Designs, performs, interprets and reports on detailed to reconnaissance scale soil and land surveys using scientifically recognised procedures to acquire survey location, classification, data recording, mapping, data capture and reporting information. The information may be reported directly or evaluated, modeled, interpreted or integrated using accepted scientific principles. The surveys serve to evaluate the suitability and sustainable land use of soil or land for various agricultural, urban, infrastructural, industrial, environmental and recreational uses. The surveys will support and scientifically integrate natural resource information as primary function, whilst also giving due recognition to social and economic information where this is relevant.
- Designs, collects, interprets and reports on primary field and laboratory data using scientifically recognised procedures towards physical soil and land evaluation including evaluations directed towards diverse soil management planning, wetland delineation, hydropedology, soil quality, soil remediation and soil rehabilitation.
- Performs or supervises the performance of laboratory and in-field analyses of solid, liquid or gaseous samples of an organic or inorganic nature using recognised chemical and physical methods, and reports and interprets these analyses in soil chemical evaluations including evaluations directed towards soil nutrient balance, soil acidification, soil salinization, soil chemical composition, contamination or degradation, soil and water quality assessment, and chemical assessments of an agricultural or environmental nature.
- Performs or supervises the performance of laboratory and in-field analyses of soil physical phenomena using recognised physical, hydrological, mechanical and structural methods, and reports and interprets these analyses and activities in soil physical evaluations including evaluations directed towards physical soil and land quality degradation, soil water evaluations including irrigation, drainage, hydrology and soil aeration, and soil tillage evaluations including soil compaction.
- Performs or supervises the performance of laboratory and in-field analyses of soil fertility phenomena using recognised chemical, physical, biological and plant morphological methods and reports and interprets of these analyses in soil fertility evaluations including evaluations directed towards soil plant nutrient balance, depletion or excess, soil fertility management, soil health, soil organic matter and soil carbon sequestration.
- Performs or supervises the performance of laboratory and in-field analyses of soil biological phenomena using recognised biological, chemical, physical

and microscopy methods, and reports and interprets these analyses in soil biological evaluations including soil microbiology, soil health, soil organic matter and carbon sequestration, bio-remediation and bio-engineering.

- Performs or supervises the performance of laboratory and in-field analyses of soil mineralogical phenomena using recognised mineralogical, chemical and physical methods, and reports and interprets these analyses in soil and clay mineral assessments.
- Performs or supervises the performance of laboratory and in-field analyses of any soil-related phenomena or properties using recognised mineralogical, chemical and physical methods, and reports and interprets these analyses in conjunction with any other relevant Field of Practice, both within and outwith the ambit of SACNASP.
- Maintains or supervises the maintenance of instruments at acceptable operational capacities through correct and timely installation, routine checking, accurate calibration, and service and repair procedures.
- Operates or supervises the operation of recognised laboratory and field procedures involving processes, systems, equipment, infrastructure and information archiving used within the disciplines of soil science by ensuring compliance to health and safety ordinances, applicable legislation and by meeting product quality specifications.
- Performs, supervises or manages research, educational, technology transfer or consulting activities in the Field of Practice: Soil Science. The products of these activities may result in their publication, distribution or commercialization.
- Provides and integrates soil science information to natural science professions within the Agricultural and Earth Science Fields of Practice.

HUMOUR

Not exactly humour, but on a trip to the Kruger Park earlier this year, this beautiful male lion was observed early in the morning lying on top of the soil conservation gabions on the banks of the Letaba River. So not only is SANParks helping to conserve the alluvial soils and river banks in the park, they are also providing convenient lookout points for the resident lions! A really memorable sighting.



SOIL SCIENCE SOCIETY OF SOUTH AFRICA: MISSION

The SSSSA is a scientific society, which, in the interest of its members, promotes the advancement of soil science and soil technology as well as the responsible practicing thereof by its members with the view to the long-term sustainable utilization of the environment in the interest of the community.

Aims

1. Promotion and protection of the professional status and prestige of soil science as a science and career.
2. Promotion and extension of the society.
3. Promotion of the standard of training of soil scientists and technologists.
4. Creation of opportunities for the free exchange of ideas on soil science and technology.
5. The obtaining and dissemination of knowledge, information and ideas having relevance to soil science by means of discussion and publication.
6. Promotion of contact between the society and other bodies with common or similar interests, both within South Africa and overseas.

GRONDKUNDEVERENIGING VAN SUID-AFRIKA: MISSIE

Die GVSA is 'n wetenskaplike vereniging wat in belang van sy lede verbind is tot die bevordering van grondkundige wetenskap en tegnologie, en die verantwoordelike beoefening daarvan deur sy lede met die oog op die lang termyn volhoubare benutting van die omgewing in belang van die gemeenskap.

Doelstellings

1. Bevordering en beskerming van die professionele status en aansien van grondkunde as 'n wetenskaplike beroep.
2. Bevordering en uitbouing van die vereniging.
3. Bevordering van die standaard van opleiding van grondkundige wetenskaplikes en -tegnoloë.
4. Skepping van geleenthede vir vrye gedagtewisseling oor grondkundige wetenskap en tegnologie.
5. Die verkryging en verspreiding van kennis, inligting en idees wat op grondkunde betrekking het by wyse van samesprekings en publikasies.
6. Bevordering van skakeling tussen die vereniging en ander liggame met gemeenskaplike of soortgelyke belange, beide in Suid-Afrika en in die buiteland.