

**Annual Report**  
**of the**  
**South African Chemical Institute**  
**(Incorporating the SA Institute of Assayers and Analysts)**  
6th August 2015 to 4th August 2016



**THE SOUTH AFRICAN  
CHEMICAL INSTITUTE**

## COUNCIL

### Office Bearers

President	:	Prof B Martincigh
Vice President	:	Prof V Nyamori
Immediate Past President	:	Prof S Lotz
Executive Secretary	:	Prof P Mallon
Executive Treasurer	:	Dr I Bratt
Co-opted Member	:	Dr M Booth
Co-opted Member	:	Prof N Coville

### Reporting Officers

Publications Officer	:	Prof G Kruger
Publicity	:	Prof N Coville
Webmaster	:	Mrs L Smith
IUPAC	:	Prof J Darkwa
SACNASP	:	Prof E Breet
RSC	:	Dr I Bratt/ S Finney
ACS	:	Prof C de Koning
SACI Student Representative	:	Bilal Ismail

### Chairpersons of Co-ordination Committees

Eastern Cape	:	Dr R Krause
SACI North	:	Dr D Bezuidenhout
SACI Central	:	Dr S Mhlanga
Kwazulu-Natal	:	Prof W van Zyl
Western Cape	:	Prof W van Otterlo

### Chairpersons of Divisions

Analytical Chemistry	:	Prof N Nindi
Chemical Education	:	Prof M Rollnick
Chromatography (ChromSA)	:	Dr M Rosemann
Electrochemistry	:	Dr P Baker
Environmental Chemistry	:	Prof OJ Okonkwo
Mass Spectrometry (SAAMS)	:	Prof D Cromarty
Industrial Chemistry	:	Dr M Booth
Inorganic Chemistry	:	Prof G Watkins
Molecular Modelling	:	Dr C van Sittert
Organic Chemistry	:	Prof I Green
Physical Chemistry	:	
Green Chemistry	:	Dr R Klein
ThermSA	:	Dr L van der Merwe

## OFFICE BEARERS



Prof B Martincigh – President



Prof V Nyamori – Vice-President



Prof S Lotz – Immediate  
Past- President



Dr M Booth - Co-opted Member



Prof N Coville – Co-opted Member



Dr P Mallon – Executive Secretary



Dr I Bratt – Executive Treasurer

## MEETINGS

Council meetings were held on:

4<sup>th</sup> August 2015 (AGM)

Executive Committee meetings were held on:

4<sup>th</sup> August 2015(AGM), 11<sup>th</sup> November 2015, 25<sup>th</sup> February 2016, 25<sup>th</sup> March 2016 and  
2<sup>nd</sup> August 2016

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## **PRESIDENT'S REPORT**

My first year in office has passed remarkably quickly but some notable achievements have been reached for which I would particularly like to thank all those members who gave of their time and effort and for which we can be duly proud.

The most notable achievement for the period has been that the South African Qualifications Authority (SAQA) has recognized SACI as a Professional Body and registered one profession designation, namely, that of Professional Chemist. This recognition holds for an initial five-year period with the possibility of renewal thereafter if all the requirements are met. Thus, a SACI member now has the opportunity to register as a Professional Chemist and to use the letters PrChemSA after his/her name. We have a committee in place under the chairmanship of Dr Mike Booth to screen all applications and the call for these registrations went live on 1 July 2016. I would particularly like to thank Dr Mike Booth and Professor Neil Coville for their perseverance and sterling work done to ensure we achieved this recognition.

Our international links with the RSC, ACS and the European Federation for Medicinal Chemistry are still strong and beneficial for SACI and its members. The MOU with the ACS was recently renewed for a further five-year period. These links with international societies have borne fruit in the form of collaborations, professional development of our postgraduate students, research links, education workshops and scientific events.

There have also been changes in the structure of the SACI Sections. The largest Section in terms of members was the Gauteng Section. Its members did not only reside in Gauteng Province but also in Free State, Limpopo, North West and Mpumalanga Provinces. In order to serve the members better it was decided to split the Gauteng Section into two and to rename the sections as Central Section and North Section. These two Sections of SACI are currently under the chairmanship of Professors Sabelo Mhlanga (Central) and Daniela Bezuidenhout (North). The new co-ordination committees have been established and they have enthusiastically taken up the challenge of revitalising the biggest SACI Sections for which we heartily commend them.

The incorporation of student representatives on all levels of SACI management continues. This year will be the first time that a student representative will attend the Council meeting and represent the student sector. At the National Convention held in December 2015 in Durban we had the opportunity to hold a meeting with the student members. At this meeting the purpose of SACI and the benefits of SACI membership were discussed. In addition, the students present made a number of useful suggestions for improvement in spheres of SACI that affect them. Some of these are detailed in the Student Report to be found later in this booklet. The SACI EXEC will look into the suggestions and see if we can effect suitable changes. The meeting was followed by a lunch where the students could meet and interact in a convivial environment.

The KwaZulu-Natal Section is to be congratulated for hosting a very successful National Convention at the Elangeni Hotel in Durban in December 2015. The standard of the speakers was exceptionally good and it was pleasing to see such a large participation from younger members of the Chemistry community. This bodes well for the future of Chemistry in South Africa. At the Convention six SACI Award lectures were delivered showcasing some of the best research conducted in South Africa.

The financial situation of SACI is sound although during the past year membership renewal has been sluggish and we have experienced a drop in membership. Hopefully, our newly acquired Professional Designation will assist in improving SACI membership. We urge all members to recruit at least one new member each and in that way sustain the well-being of the Institute. The EXEC have initiated steps to encourage more Patron and Company members.

The South African Journal of Chemistry continues to flourish. The Editor-in-Chief Professor Gert Kruger has made many positive changes in the management of the manuscripts to ensure a quick turnaround time but as always we need to ensure a good standard of reviewing. In order to ensure continuity in the running of the journal Professor Luke Chimuka has been appointed to understudy Professor Kruger so that there can be rotation of the Chief Editor. The journal now forms part of the Scielo platform which will assist in gaining more international recognition.

In closing, I would like to thank the EXEC and all the members most sincerely for their continued support and advice to ensure the well-being and prosperity of the Institute. I also wish to thank the SACI administrator, Laila Smith, for her exceptional ability in keeping the SACI Office running smoothly and efficiently.

Best wishes



**Bice Martincigh**  
**SACI President**

**AWARDS 2015**  
**2016 awards will be announced at the AGM**

**THE GOLD MEDAL**

The award, a gold-plated medal bearing the Institute's name and crest on the obverse and name of the medal and the recipient and date on the reverse, is made to a person whose scientific contribution in the field of chemistry or chemical technology is adjudged to be of outstanding merit.

**Professor Helder Marques**  
**University of the Witwatersrand**

**THE MERCK MEDAL**

The medal is awarded to the senior author of the paper, or papers, published in the South African Journal of Chemistry in a specific field of chemistry, adjudged to have made the most significant contributions to the discipline. The award for 2015, covering papers published in the period 2011 to 2014, was in the field of Physical Chemistry.

**ZN Tetana, SD Mhlanga, G Bepete, RWM Krause and NJ Coville\***

*S. Afr. J. Chem.*, 2012, 65, 39–49

**The Synthesis of Nitrogen-Doped Multiwalled Carbon Nanotubes Using an Fe-Co/CaCO<sub>3</sub> Catalyst**

**THE SACI POST-GRADUATE AWARDS**

The medals shall be awarded to students engaged in research towards an MSc or PhD degree at a University, or an MTech or DTech degree at a University or University of Technology. The number of medals awarded shall not exceed five per annum, and the awards are limited to one per institution.

<b>Ms Bronwyn Patricia Camden Grover</b>	<b>University of the Witwatersrand</b>
<b>Mr Wade Frank Petersen</b>	<b>University of Cape Town</b>
<b>Mr Michael Nivendran Pillay</b>	<b>University of KwaZulu-Natal</b>

### THE CHEMICAL EDUCATION MEDAL

The award is made to a person who has made an outstanding contribution to chemical education as judged by the person's published work in the previous 5 years. Published work may be in any form and may be related to any level or educational context.

**Dr Elizabeth Mavhunga**  
**University of the Witwatersrand**

### THE JAMES MOIR MEDALS

Medals shall be awarded to the best BSc Honours student in chemistry at each University, and the best BTech student in chemistry at each University of Technology. To be eligible for the award the student must have achieved a minimum final pass mark of 75%. One medal shall be available for award annually for each University or University of Technology in the Republic of South Africa.

<b>Mr Harold Hussein Shiri</b>	<b>University of Johannesburg</b>
<b>Ms Rumbidzai Chitongo</b>	<b>Cape Peninsula University of Technology</b>
<b>Mr Ofentse Alfred Makgae</b>	<b>Tshwane University of Technology</b>
<b>Ms Sunel De Kock</b>	<b>University of Stellenbosch</b>
<b>Ms Pumza Mente</b>	<b>Nelson Mandela Metropolitan University</b>
<b>Ms Siphesihle Magqazolo</b>	<b>University of the Western Cape</b>
<b>Ms Rozanne Maria Taylor</b>	<b>Rhodes University</b>
<b>Ms Jasmin Ferreira</b>	<b>University of Cape Town</b>
<b>Ms Melanie Visser</b>	<b>University of the Free State</b>
<b>Mr Darren E'ddish Chetty</b>	<b>University of KwaZulu-Natal, Westville</b>
<b>Ms Sibulele Pakade</b>	<b>Nelson Mandela Metropolitan University</b>

### THE SASOL CHEMISTRY INNOVATOR OF THE YEAR MEDAL

The award shall be made to a person whose scientific contributions in the field of chemistry or chemical technology during the year preceding the award are adjudged to be outstandingly innovative.

**Professor Lubertus (Bert) Klumperman**  
**Stellenbosch University**

### THE RAIKES MEDAL

The award shall be made to a person, under the age of 40 on 31 March in the year of the award, whose original chemical research shows outstanding promise, as judged by the person's publications in reputable journals. It is further stipulated that the research shall have been performed in South Africa.

**Professor André Joubert de Villiers**  
**Stellenbosch University**

## **MEMBERSHIP REPORT**

**May 2015 – April 2016**

The number of paying SACI members has shown a slight decrease from 797 in 2015 to 730 in April 2016. There was some concern in early February that a large number of members had not paid their membership fees, but after a concerted effort from the national office and the various section chairs, 150 members paid their fees between February 2016 and April 2016. The membership fees remain the lifeblood of the Institute and every effort needs to be made to encourage our members to pay their fees timeously as well as to encourage all chemists in South Africa to become members of the Institute. Of some concern is the decrease in the number of Patron and Company members. Despite efforts to follow up on company and Patron membership, little success was achieved in this regard.

In addition to the paying members, the Institute had 237 non-paying members. During the last year the Gauteng Section split into two sections which are renamed as the SACI North and SACI Central Sections. A summary of the membership per regional section is given below.

### **Sections**

Western Cape	<b>155</b>
Kwazulu Natal	<b>150</b>
SACI North	<b>195</b>
SACI Central	<b>395</b>
Eastern Cape	<b>61</b>
International	
Members	<b>11</b>

The Executive Committee would like to thank Laila for the management of the membership database and her tireless efforts in following up on unpaid membership fees due. Once again all SACI members are urged to encourage their colleagues and peers to join the Institute.

**Prof Peter Mallon**  
**Executive Secretary**

## **PROGRAMME COMMITTEE**

In 2015, there were two conferences held under the auspices of South African Chemical Institute (SACI). These were the 17<sup>th</sup> SACI Inorganic Chemistry Conference 2015, Inorg2015, (incorporating the Carman Physical Chemistry Symposium) and the 42<sup>nd</sup> National Convention of the South African Chemical Institute (SACI 2015).

The INORG2015/Carman Physical Chemistry conference was held at Rhodes University in Grahamstown from 28th June to 2nd July, 2015. The conference was timed to close at the start of the National Arts festival (hence the theme of the event: “Art and Science”) to allow delegates to experience some of the Arts festival after the conclusion of the conference.

A total of 133 delegates came from South Africa and from six other countries (Russia, Japan; Germany, United Kingdom, Israel, Botswana and Zimbabwe). The South African delegates



presented research being done at 16 different Universities, as well as at the CSIR. The choice of plenary and keynote speakers made by the Local Organising Committee (LOC) ensured a suitable and balanced range of topics in physical and inorganic chemistry, both international and local speakers, and afforded both established and younger leading researchers the opportunity to present their work. There was an excellent attendance by students, with some 80 students presenting lectures, flash talks or posters. The general feed-back was that topics covered were of high interest, that the conference was well structured and controlled, yet with plenty of opportunity to meet new friends. The next event will be the 18th Inorganic/Carman Chemistry Conference to be held in the Western Cape from 25<sup>th</sup> – 29<sup>th</sup> June 2017 (tentative date).

The 42<sup>nd</sup> National Convention of the South African Chemical Institute (SACI 2015) was held at the Elangeni Hotel in Durban. The five day convention started with the welcome reception on the evening of 29<sup>th</sup> November and concluded on the 4<sup>th</sup> December with the closing ceremony. The Convention was preceded by two pre-conference workshops as follows, i.e. firstly, *Short Course on Inductively Coupled Plasma-Optical Emission Spectrometry* workshop (organized in conjunction with the South African Spectroscopic Society) and presented by Dr J. Fischer (Sasol Group Technology) and Dr L. Marjanovic (SGS South Africa (Pty) Ltd). Secondly, *Green Chemistry* workshop presented by Dr Mary Kirchhoff of the American Chemical Society.

At the Opening Ceremony, on the morning of 30<sup>th</sup> November, a number of distinguished guests welcomed the delegates. These were Mr Wesam Abu Saif representing the Royal Society of Chemistry, Dr Mary Kirchhoff representing the American Chemical Society, and Professor Deogratius Jaganyi, the Deputy Vice Chancellor of the University of KwaZulu-Natal. Professor Ahmed Bawa, the Vice Chancellor of Durban University of Technology welcomed the guests and the Honourable Minister of Science and Technology, Naledi Pandor, MP, who officially opened the event and gave a most inspiring opening address.



**Left Picture:** From L to R: Prof Jaganyi (UKZN), Prof Martincigh (Convention Chair and SACI President), the Hon. Minister of Science and Technology Naledi Pandor, Prof Bawa (DUT), Prof Nyamori (Convention Vice-Chair and SACI Vice-President). **Right Picture:** SACI2015 delegates group photo.

Over 280 delegates attended the conference with good attendance from a broad spectrum of the chemistry community. It was encouraging that over 60% of the delegates were postgraduate students. As 2015 was declared the International Year of Light by UNESCO the theme of the conference was *Chemistry Shines* to remind everyone of the centrality of Chemistry. One of the main aims was to encourage the participation of young chemists and to establish links between chemists in the country. Seven prominent chemists from different countries were invited to present plenary lectures. They included some of the best known chemists in the world and were especially chosen for their potential support for chemistry in Africa. These included Prof Nicola Armadori (Italy), Prof Christopher Brett (Portugal), Prof Alejandro Cifuentes (Spain), Prof Chao-Jun Li (Canada), Prof Roger Sheldon (Netherlands), Prof Vicente Talanquer (USA), and Prof Ganapati Yadav (India) among others.

During the conference, 120 oral presentations (20 minutes) in three parallel sessions were given over the five days. A large poster session was held and 120 posters were presented. The posters presented by either MSc or PhD students were adjudicated and the prizes were awarded (donated by RSC South Africa - North Local Section). In addition, nine keynote lectures and six SACI Award lectures were presented.

The Convention was organised by a team of chemists from the University of KwaZulu-Natal, Durban University of Technology and from the local Chemical Industry. The local organising committee was chaired by Professor Bice Martincigh with Professor Vincent Nyamori as Vice-Chairperson while the Scientific Programme Committee was chaired by Professor Werner van Zyl, all from the University of KwaZulu-Natal and with the help of other LOC members, both from UKZN and other institutions.

The LOC would wish to thank all the sponsors for their contributions and all the delegates for the participation. From the numerous comments received from the delegates and guests, the Convention proved to be a great success and was found to be a stimulating and rewarding experience. The next and Convention would be the 43<sup>rd</sup> SACI National Convention hosted by the SACI North Section.

Overall, both conferences were successful and were an investment to the SACI office. Other regional events were held and reported in the monthly SACI newsletter.

In 2016, under the auspices of SACI, we have the 14<sup>th</sup> Frank Warren Conference which will be held in Grahamstown, from the 4<sup>th</sup> – 8<sup>th</sup> December. We also have other conferences which are not directly under SACI, but chemistry related, such as the Fluorine Conference, which took place in February 2016 in Cape Town, while the 27<sup>th</sup> Catalysis Society of South Africa (CATSA) annual conference will be hosted by University of Johannesburg, at the Champagne Sports Resort (central Drakensberg), from 6<sup>th</sup> -9<sup>th</sup> November 2016.

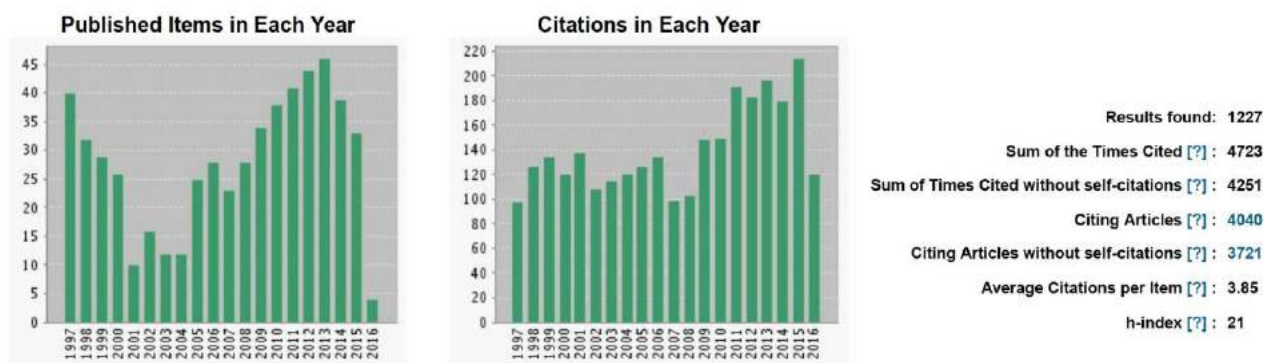
It noteworthy, that there are suggestions and on-going the discussions on the current and future SACI Programme National Programme (<http://www.saci.co.za/pdf/programme.pdf>).

**Prof V Nyamori**  
**Vice President**

## SA JOURNAL OF CHEMISTRY

Details of the journal and the editors can be seen at <http://www.journals.co.za/sajchem/>. Stats about the Journal are presented below.

### 2016 Search results:



The number of papers per year (that are published by the journal) have steadily increasing since 2004 and peaked at 2013. The number of citations are also increasing since 2008.

Credit should go to the Science editors:

**Organic Chemistry**

- Prof Willem van Otterlo
- Dr Leigh-Anne Fraser
- Dr Tricia Naicker

**Physical Chemistry**

- Professor Bice Martincigh
- Professor Jeanet Conradie

**Analytical Chemistry**

- Dr Patricia Forbes
- Dr Marc Humpries
- Prof Priscilla Baker
- Prof Dimitri Katskov

**Inorganic Chemistry**

- Prof Simon Lotz
- Dr Daniela Bezuidenhout

**Educational Chemistry**

- Professor Bette Davidowitz

**Computational Chemistry**

- Dr Gerhard Venter

**Materials Science and Nanotechnology**

- Prof Neerish Revaprasadu
- Prof Patrick Ndungu
- Dr Roy Forbes

Prof. Lotz has indicated he will retire as editor at the end of the year. We are currently looking at the appointment of a new Inorganic editor that can start taking over from Simon. We thank Simon for years of service as Inorganic editor.

Since the beginning of the year the journal have two Editors-in-Chief on a rotational basis: Profs Gert Kruger and Luke Chimuka. The idea is that each person will serve 2 years. Year one as “End process” editor and year 2 as “Screening” editor for all new submissions.

The majority of the papers published are still from South Africa. The top 100 countries of authors that have published in the journal are presented below.

Iran is in second place, followed by India and China. USA is in 5<sup>th</sup> place, followed by England Germany and Australia. England was in the 8<sup>th</sup> place in 2014. At least 19 other African countries are publishing in the journal (was 14 in 2014).

The first 100 Countries/Territories (by record count) are shown. For advanced refin

<input type="checkbox"/> SOUTH AFRICA (939)	<input type="checkbox"/> SWEDEN (3)	<input type="checkbox"/> TUNISIA (1)
<input type="checkbox"/> IRAN (63)	<input type="checkbox"/> SAUDI ARABIA (3)	<input type="checkbox"/> TANZANIA (1)
<input type="checkbox"/> INDIA (55)	<input type="checkbox"/> OMAN (3)	<input type="checkbox"/> SPAIN (1)
<input type="checkbox"/> PEOPLES R CHINA (47)	<input type="checkbox"/> CZECH REPUBLIC (3)	<input type="checkbox"/> SLOVAKIA (1)
<input type="checkbox"/> USA (35)	<input type="checkbox"/> CANADA (3)	<input type="checkbox"/> RUSSIA (1)
<input type="checkbox"/> ENGLAND (24)	<input type="checkbox"/> BRAZIL (3)	<input type="checkbox"/> REUNION (1)
<input type="checkbox"/> GERMANY (20)	<input type="checkbox"/> ZAIRE (2)	<input type="checkbox"/> PORTUGAL (1)
<input type="checkbox"/> AUSTRALIA (17)	<input type="checkbox"/> TAIWAN (2)	<input type="checkbox"/> NORWAY (1)
<input type="checkbox"/> NIGERIA (13)	<input type="checkbox"/> SWITZERLAND (2)	<input type="checkbox"/> NAMIBIA (1)
<input type="checkbox"/> TURKEY (12)	<input type="checkbox"/> SWAZILAND (2)	<input type="checkbox"/> MOROCCO (1)
<input type="checkbox"/> BOTSWANA (11)	<input type="checkbox"/> SERBIA (2)	<input type="checkbox"/> MEXICO (1)
<input type="checkbox"/> KENYA (8)	<input type="checkbox"/> RHODESIA (2)	<input type="checkbox"/> MAURITIUS (1)
<input type="checkbox"/> POLAND (7)	<input type="checkbox"/> PAKISTAN (2)	<input type="checkbox"/> MACEDONIA (1)
<input type="checkbox"/> FED REP GER (6)	<input type="checkbox"/> MALAYSIA (2)	<input type="checkbox"/> JAPAN (1)
<input type="checkbox"/> EGYPT (6)	<input type="checkbox"/> LESOTHO (2)	<input type="checkbox"/> INDONESIA (1)

In 2015, we have rejected a total of 152 papers, while 33 papers were published.  
 In 2014, we have rejected a total of 207 papers, while 39 papers were published.  
 In 2013, we have rejected a total of 106 papers, while 46 papers were published.  
 In 2010 the journal published 39 articles comprising 232 journal pages; the corresponding data for 2011 was 41 papers (262 pages), 2012 was 44 papers (285 pages) and 2013 was 46 papers (289 pages), 2014 was 39 papers (240 pages). The impact factor of the Journal is 0.6.

The current electronic system can now easily produce stats for the submission process. Below are some of the stats:

	2013	2014	2015
<b>Total submissions made</b>	140	243	189
Analytical	22	45	61
CompChem	15	12	14
Education	5	7	3
Inorganic	25	26	20
Nano	12	21	10
Organic	34	103	53
Physchem	27	28	29
Fastest time for paper to be accepted/days		38	43
Average time for paper to be accepted/days		147	100
Nr of submissions rejected within 2 weeks		69	100
Average time for rest of paper to be rejected/days		114	61
<b>Number of papers published</b>	46	39	33

<b>Papers published per editor (in specific year)</b>	2014	2015	Declined
Baker	-	1	2
Bezuidenhout	-	4	1
Davidowitz	-	1	0
Conradie	4	3	3
Frazer	1	1	2
Forbes – Patricia	3	2	6
Forbes – Roy	-	1	0
Humphries	-	-	
Katskov	-	-	
Lotz	2	1	3
Martincigh	5	0	5
Naicker	4	3	1
Dndungu	1	2	2
Van Otterlo	5	0	2
Venter	0	1	5
Revaprasadu	4	1	0

The average days for acceptance and rejection came down a lot. That is in my view the most important improvement, provided we can keep up the quality of the journal.

I have attended one Editors meetings last year in Johannesburg.

We are now in the process to link ORCID to the authors and papers.

Merck prize for best paper (2010-2015): It was decided last year that we will do away with the rotation of the prize between the sections and reconfirmed that the prize will only be awarded to a paper where one of the authors are from South-Africa. The following reproducible method was used to determine the best paper:

(a) Do a normal Web Of knowledge search using: **PUBLICATION NAME:** (SOUTH AFRICAN JOURNAL OF CHEMISTRY OR SOUTH AFRICAN JOURNAL OF CHEMISTRY SUID AFRIKAANSE TYDSKRIF VIR CHEMIE) **AND ADDRESS:** (south africa)

(b) Sort the search results in order of highest to lowest citations.

(top paper is a 2012 paper from Niel Coville – 11 times cited)

(c) Click on the “Times cited” nr on the right. This will open all the papers that have cited this paper.

(d) Use the refine option on the left. Expand the Authors on the left and mark each of the authors that appear on the paper.

(in the case of the Coville paper, these are: COVILLE, MHLANGA and TETANA)

(e) Click on refine. (In the case of the Coville paper there are 8 self citations: in other words only 3 citations.

These were done for all the papers down to 6 citations.

The most cited SA authored paper is (winning the 2015 prize):

[Determination of Titanium Dioxide in Commercial Sunscreens by Inductively Coupled Plasma-Optical Emission Spectrometry](#)

By: Bunhu, Tavengwa; Kindness, Andrew; Martincigh, Bice S.

SOUTH AFRICAN JOURNAL OF CHEMISTRY-SUID-AFRIKAANSE TYDSKRIF VIR CHEMIE Volume: 64 Pages: 139-143 Published: 2011

This paper did not have ANY self-citations. Other papers that were close were:

[Amorphous Pt@PdCu/CNT Catalyst for Methanol Electrooxidation](#)

By: Wang, Hui; Ji, Shan; Wang, Wei; et al.

SOUTH AFRICAN JOURNAL OF CHEMISTRY-SUID-AFRIKAANSE TYDSKRIF VIR CHEMIE Volume: 66 Pages: 17-20 Published: 2013

Papers with 5 citations (excluding self citations).

[The Determination of B-11/B-10 and Sr-87/Sr-86 Isotope Ratios by Quadrupole-Based ICP-MS for the Fingerprinting of South African Wine](#)

By: Vorster, C.; Greeff, L.; Coetzee, P. P.

SOUTH AFRICAN JOURNAL OF CHEMISTRY-SUID-AFRIKAANSE TYDSKRIF VIR CHEMIE Volume: 63 Pages: 207-214 Published: 2010

With 5 citations (excluding self citations). The rest had less citations (excluding self-citations).

Prof Gert Kruger  
**Chairperson SAJC**

### **SACI NEWSLETTER**

The newsletter is produced 11 times a year. The process used is as follows. Prof Coville collects information that could be used during a month. Many of the reports published are supplied by the SACI Council and the Executive. Typically a request for reports goes out by e-mail early in the month and reports are collated in the past week of the month. This entails reviewing information and placing in some form/sequence. This is then passed to Laila Smith for formatting. Two versions are compiled – a long version published on the SACI webpage and a shorter version that goes to members.

Clearly information published will be a function of what is submitted by members as well as what can be found in the literature that may be of interest to members.

The main function of the newsletter is to give members a sense of SACI activities – conferences/job opportunities/SACI section and division activities/awards information, and so on.

Sometime in the future the method of sending information to members will need changing. The use of social media for passing on information to members will need addressing to keep information relevant and immediate.

**Prof N Coville**  
**Publicity**

## IUPAC

### IUPAC South African Committee report 2015-2016

#### Composition of committee:

1. Professor James Darkwa (Chair)
2. Professor Alan Hutton (Immediate past Chair)
3. Professor Simon (Immediate past SACI President)
4. Dr. Mike Booth (Chemical and Allied Industries' Association)
5. Dr. Alufelwi Tshavhungwe (Department of Science and Technology)
6. Dr. Sibulelo Vilakazi (Mintek)
7. Ms. Lynn Ngwenya (NRF, Secretariat)

The committee had its first meeting in February 2015 and deliberated on several issues; including planning for the 45th IUPAC General Assembly and Congress in Busan, South Korea in August 2015. This meeting led to the election of the new committee listed above.

The meeting also identified several people who could serve on various IUPAC Divisions; but in the end most of the identified people either did not respond requests to serve or when they responded, did not follow through serving in the Divisions. There, nevertheless, three people from South Africa who are now members of three IUPAC Divisions; namely: (i) Professor Alan Hutton, Division VIII, Nomenclature as Vice President of the Division; (ii) Professor James Darkwa, Division II, Inorganic Chemistry as Member and (iii) Dr. Sibulelo Vilakazi, Division V, Analytical Chemistry as Member. All three attended the various Division meetings during the IUPAC General Assembly in Busan in August last year.

Also as the head of the South African delegation, Professor Darkwa was invited to a dinner hosted by the Mayor of Busan that took place on Tuesday August for the IUPAC Executive, heads of delegations and Presidents of the eight IUPAC divisions.

It is interesting to note it was during the Division II meetings at the 45<sup>th</sup> IUPAC General Assembly that the final recommendations for the naming of new elements were approved. The division also agreed to have its next meeting during the coordination chemistry conference in Brest, France in July 2016.

The General Assembly was held over two days during which the 2016-2017 Executives were elected. Traditionally IUPAC has an incoming President who is the Vice President in the previous executive; so the positions that were available for elections did not include Vice President as the President elect for 2018-2019 becomes the Vice President for the 2016-2017 Executive.

Some Council members will remember that during the General Assembly the delegation sort permission to initially vote for Professor Richard Hartshorn from New Zealand as Secretary-General and Professor Atta Rahman from Pakistan as President, but as the dynamics of the electioneering become clear, we requested that we change our vote for President to Professor Qi-Feng Zhou of China. In the end South Africa backed the right candidates and elected Professor Richard Hartshorn and Professor Qi-Feng Zhou. Below is the South Africa delegation at the General Assembly.





The South African IUPAC committee is also a member of ICSU South Africa and for the past year, the President of the South African IUPAC committee and the President of SACI have presented SACI in all ICSU meetings. One of the key messages from ICSU is that DST is eager to have the South African scientific committee to host international conferences in South Africa. To this end, they now have a policy that will include support up to R2.5 million for hosting international science conferences. SACI should therefore think of bidding to host an IUPAC General Assembly and Congress in future. Lobbying for this could start before the 46<sup>th</sup> IUPAC General Assembly and Congress in Brazil in 2017.

**Prof J Darkwa**  
**Chairperson IUPAC**



The South African Council for Natural Scientific Professions (SACNASP) executes its mandate according to the Natural Scientific Professions Act, 2003, (No. 27 of 2003), as amended. The Council is appointed by the Minister of Science and Technology, and its principal function is the professional registration of Natural Scientists in different Fields of Practice (currently 23). It constitutes for this purpose a Registration Committee (RC), which is supported by a Qualification Assessment Committee (QAC) that assesses foreign qualifications, and a number of Professional Advisory Committees (PAC's) that evaluate the qualifications and vocational experience of applicants from different disciplines. An Ad-Hoc Committee of the Registration Committee considers applications for critical skills visas or permanent residence permits submitted by foreign scientists via the Department of Home Affairs. A Secretariat keeps record of all proceedings, materials and decisions pertaining to applications for registration. An Executive Director (ED) oversees all operations, while various Voluntary Associations (VA's), such as SACI, provide input with regard to specific requirements for their particular fields.



- **New Executive Director**

Dr Pradish Rampersadh was recently appointed as Executive Director. He succeeded Dr Rolf Becker, who returned to academia. Dr. Rampersadh is a Chemical Scientist who was formerly employed by NECSA and appointed as Technical Advisor to Parliament on nuclear reactor related matters.

- **Categories of Registration**

SACNASP introduced over time additional categories of registration (Levels A and B Certificated, Associate, Extension Scientist, Specialist and Trainee) not defined in the Act. The Minister of Science and Technology does not have the power to amend the categories of registration, though. This can only be done by an amendment of the Act. Consequently, SACNASP has to withdraw all certificates issued with categories not specified in the Act, and to re-issue these with only the three categories allowed by the Act, namely Professional Natural Scientist, Certificated Natural Scientist, and Candidate Natural Scientist.

- **Registration Statistics**

SACNASP currently has 9709 registered scientists, of whom only 658 (or 7%) are Chemical Scientists. Of them, 407 are registered as Professional Natural Scientists, 158 as Certificated Natural Scientists and 93 as Candidate Natural Scientists.

- **Questionnaire to Voluntary Associations**

SACNASP was requested to advise DST on ways to enhance the professions with which it is working. Hence all 41 VA's were approached to present a brief report to SACNASP on the status of their fields. The response from the VA's was excellent (80%), and will be utilised to prepare an overview from which the Minister can get insight into the key issues affecting the various fields of natural science in South Africa.

- **Continuous Professional Development (CPD)**

CPD will be implemented in 2017 and run in close cooperation with and on behalf of the various VA's.

- **Critical Skills Visa Applications**

SACNASP determines through its PAC's whether a foreign applicant has the critical skills within a specific Field of Practice to be granted a visa. Skills are not considered as "scarce" but rather to enable government to achieve the objectives of the National Development Plan (NDP), the Industrial Policy Action Plan (IPAP) and the New Growth Plan (NGP) in support of the Department of Trade and Industry (DTI).

**Prof. ELJ Breet Pr.Sci. Nat.**  
**Chairperson of PAC for Chemistry**

## **CO-ORDINATION COMMITTEES AND DIVISION REPORTS**

### **EASTERN CAPE**

Following the SACI Council meeting in September 2015 my name was put forward and accepted as the Chair of the regional section of SACI. We set about planning a regional postgraduate seminar for early November and planned to host a section meeting to finalise the other members of the committee. This meeting has been postponed three times and has not yet taken place.

This delay was due to the disruptions and protests, firstly around the Fees-Must-Fall campaign and then other campaigns including the campaigns against sexual violence, insourcing of work at NMMU and residence protests at UFH.

Currently Potlaki Tseki, Peter Adjibade, Ernst Ferg and Rosa Klein are the other members of the interim committee.

We have a number of events planned for the second half of 2016, following the General Elections in August.

These include:

July – Participation at the SAASTA Schools Debate in East London

30 July – Participation in the ESKOM Expo and National Science Week (activities planned at Rhodes and WSU).

End August – Celebration of Female Chemists in conjunction with National Women’s month. This will also be an opportunity to present some of the student awards that were not presented at the end of 2015 and beginning of 2016 due to the protests. We also hope to re-arrange the local committee so that the treasurer and the chair are both located at Rhodes to facilitate activities. Postgraduate Seminar Series – Likely beginning October.

**Prof R Krause**  
**Chairperson Eastern Cape**

### SACI CENTRAL

**A report prepared for the the 559th meeting of the SACI Council to be held at 11:00 am on Thursday, 4th August 2016, Gate House Building, Wits University.**

**Reporting Period: 1<sup>st</sup> October 2015 – 30<sup>th</sup> July 2016**  
**Prepared by Sabelo Mhlanga (Chairperson – SACI Central Section)**

#### **1. Presenting the SACI Central Section Committee**

The committee of SACI Central Section was elected at an annual general meeting of the SACI Gauteng Division held at the School of Chemistry, Wits University on the 1<sup>st</sup> October 2015. Eight SACI members present at the meeting were appointed. Their names and portfolios are given:

Sabelo Mhlanga (UNISA):	<i>Chairperson</i>
Caren Billing (WITS):	<i>Vice-Chairperson</i>
Alfred Muller (UJ):	<i>Out-going Chairperson</i>
Edward Nxumalo (UNISA):	<i>Secretary</i>
Andreas Lemmerer (WITS):	<i>Treasurer</i>
Juanita Van Wyk (WITS):	<i>Member</i>
Sibusiso Mnguni (Randwater):	<i>Member</i>
Tlou Chokwe (Randwater):	<i>Member</i>

#### **2. Meetings**

The Committee has met twice since its election to office:

**1<sup>st</sup> October 2015 at 2.00 pm:** The first meeting was held at the Nanotechnology and Water Sustainability Research Unit, UNISA Science Campus. Only two apologies were noted. The meeting was a success and its purpose was to.

- To confirm portfolios and elect a vice-chair. – *Caren Billing was elected.*
- To get a handover report from the outgoing chairperson and to share some ideas and plans of the outgoing committee. – *Fanie Muller gave a report.*
- To plan for 2016 SACI Central Division activities and membership. – *All present committee members contributed.*

- To get feedback and progress on preparations for the 2015 SACI Young Chemist's symposium. - *Feedback was given by Mark Smith (the chairperson of the LOC) and Christinah Chokwe (also a member of the LOC). Preparations of the event were already at an advanced stage. Sponsorship, prizes, book of abstracts, gifts for speakers, catering, photography and parking had all been secured. A sample folder (with book of abstract, programme, brochure, pen, etc.) to be given to all guests was presented to committee. The progress was impressive!*

**13<sup>th</sup> May 2016 at 2.00 pm:** The 2<sup>nd</sup> meeting was held Gate House Building, Wits University. Only two apologies were noted. The meeting was a success and its purpose was to discuss progress and ongoing activities of the section.

**Next meeting - 30<sup>th</sup> September 2016 at 2.00 pm:** This is the proposed date for the 3<sup>rd</sup> meeting of the committee to take place at Randwater.

### 3. Activities

#### 3.1 Young Chemists' Symposium (YCS)

Date	Host	Feedback/Progress
27-11-2015	University of South Africa	<p>The 2015 YCS was hosted by UNISA and it was a huge success. About 120 people participated in the event.</p> <ul style="list-style-type: none"> <li>Chair of organizing committee (Mark Smith – UNISA)</li> <li>Presentations: 8 <i>doctoral</i> and 8 <i>masters</i>. Best presentations were sponsored by the RSC.</li> <li>Participating institutions: University of the Witwatersrand, University of South Africa, University of Johannesburg, University of Pretoria, Northwest University, Vaal University of Technology, University of Limpopo, Tshwane University of Technology, NECSA, CSIR and MINTEK.</li> <li>Sponsors: Perkin Elmer, UNISA, RSC, SACI.</li> </ul>
21-10-2015	University of the Witwatersrand	<p>The 2016 YCS will take place at the WITS School of Chemistry, Humphrey Rakes Building, Lecture Theatre C6. The event is organized by a local organizing committee comprising Caren Billing, Andreas Lemmerer, Juanita Van Wyk and their co-opted members. A call for abstracts has been circulated. Deadline for submission is 30 September 2016.</p>
20-10-2017	Randwater	<p>Randwater agreed to host the YCS in 2017. Sibusiso Mnguni and Tlou Chokwe will be responsible for organizing the event at Randwater.</p>

#### 3.2 Membership update

- At least 40 new postgraduate student members and some staff members showed interest to register for SACI membership during the reporting period.
- All committee members were encouraged to invite others to join the SACI.
- Randwater has agreed to pay for its staff members interested in joining the SACI.
- Dr Heena Parshotam has been communicating with us to get ESKOM to join the SACI. ESKOM confirmed that they would join as a cooperate member. A number of individuals have joined as members.

### **3.3 *Change of division name***

- The SACI Gauteng Division was separated into the SACI Gauteng South Division (Chaired by Sabelo Mhlanga) and the SACI Gauteng North Division (Chaired by Daniela Bezuidenhout) with effect from November 2015.
- As of May 2016 the SACI Gauteng South Division was the ***SACI Central Division*** and the SACI Gauteng North Division were renamed the ***SACI North Section*** by the SACI executive committee.

### **3.4 *SACI Banner – Central Section***

The SACI is upgrading its old banners. The SACI Central would like to have a banner of its own to display in its events going forward.

### **3.5 *Facebook page***

A facebook page of the SACI Central Division was successfully created in 2015. Currently the page has 80 members and it is administered by the chairperson. The page is used to promote events of the section. A tweeter account will be created shortly. See below for a snapshot of the facebook page.

### 3.6 SACI Awards

The SACI executive committee handles all SACI awards. The SACI central committee was encouraged to invite its members to apply for SACI awards in all possible categories.

### 3.7 RSC/SACI events

- Andreas Lemmerer was appointed to represent the SACI Central Section in the RSC Committee.
- Two upcoming events hosted by the RSC/SACI Central Section are:

**SEAK TO A SCIENTIST – 28 July 2016, 6.30 pm, Sci-bono Discovery Centre**  
**RENEWABLE ENERGY: DEVICES AND THE MATERIALS THAT MAKE THEM WORK**

Prof. Dave G. Billing  
 Research Professor: Materials Energy Research Group (MERG)  
 School of Chemistry, Faculty of Science, University of the Witwatersrand

### **SACI/RSC Annual Lunch, Sunday 28 August 2016 at 12.30 pm**

The sixth joint SACI/RSC Annual function for members (and partners/spouses) of the SACI Central, SACI North and RSC SA North Sections will take place at the Wanderers Club. The event will include presentation of SACI Fellow certificates to the 2016 recipients. The cost will be R50.00 per member/guest. To be paid directly into the SACI

bank account and proof of payment sent with the booking to the SACI Secretary. The guest speaker will be Niel Malan MSc M.S.A.C.I. from the University of Pretoria.

### **3.8 Conclusion**

The SACI Central Division would like to increase its membership from individuals and corporate sector (industry) significantly. We have identified members of the section from various institutions who will promote the SACI and encourage members to keep their members active and to recruit new members. In general, committee members are enthusiastic and they contribute to participate in discussions some of which are not mentioned here. Besides the official meetings, we communicate frequently *via* emails to discuss on-going and arising matters. We would like to improve attendance of events.

**Dr S Mhlanga**  
**Chairperson SACI Central**

## **SACI NORTH**

### *Committee*

After the decision to divide the SACI Gauteng section into the SACI Gauteng North and Gauteng South sections in 2015, the SACI Gauteng North section coordination committee was constituted to represent the institutions and organisations included in the geographical area outlined for the Gauteng North section (Northern Gauteng, Mpumalanga and Limpopo). The committee members and their portfolios include Daniela I Bezuidenhout (University of Pretoria; Chairperson), Richard R Mampa (University of Limpopo; Vice-chair), Simon Mnyakeni Moleele (University of Venda; Student matters), Andrew Pienaar (Necsa; Secretary), Freddy M Muganza (Sefako Makgatho Health Sciences University; Membership), Mmalewane Modibedi (CSIR; Treasurer), Comfort M Nkambula (Tshwane University of Technology; Scientific programme and events) and Simon Lotz (University of Pretoria, Executive Committee member). The possibility of including the University of Mpumalanga was investigated, but this new university does not have a Chemistry Department and focuses mainly on agricultural academic programmes.

The first committee meeting was held at the University of Limpopo, Turfloop Campus on 19 January 2016, where it was decided that the future quarterly committee meetings will be held as Skype conferences, with one meeting to be attended physically by all committee members to coincide with the annual SACI North Young Chemist Symposium, so that the student representatives of the North Section can join. The second committee meeting was held on 12 April 2016, and the two final meetings are scheduled for 2 August and 19 October 2016.

After the second meeting, we approached the SACI Executive Committee with the request to change our section name from Gauteng North to North, in order to better reflect our membership profile from the Mpumalanga and Limpopo provinces, in addition to the Northern Gauteng members. This request has been approved, and SACI North as section name was adopted effective from June 2016.

### *Events*

The SACI North Young Chemist Symposium is to be hosted by the Chemistry Department, University of Limpopo, Turfloop Campus on 19 October 2016, and is organized by Dr Richard M Mampa. The programme of the symposium will include oral presentations from MSc and PhD students, and poster presentations by BSc Honours students. The plenary speaker for the event is Prof MJ Mphahlele, and the post-graduate student presentations are to be judged by Prof MJ Mphahlele and Dr Ian Bratt. To date, sponsorships from the University of Limpopo, RSC, DST and Lehlabile have been obtained to cover all costs associated with the symposium. A total of about 150 participants are expected with at least 8 MSc and 8 PhD students for the oral

presentation category. Prizes to be awarded will include best Honours poster.

The coordination committee has been tasked with setting up an organizing committee for the 2018 SACI National Convention, and this committee, as well as possible venues and dates, will be decided on during the last two committee meetings of the year. The possibility of organizing the Convention in such a fashion that the SACI Divisions play a major role in the organization of the scientific programme of the Convention is being investigated. This should increase support for the Convention from the different divisions, although the conference administration is to be done by the Convention committee.

#### *Budget*

The balance of the SACI Gauteng section was divided between North and Central sections, and members have been encouraged to re-new their membership and pay their fees to ensure that the finances are sustainable.

**Dr D Bezuidenhout**  
**Chairperson SACI North**

### **KWAZULU-NATAL**

#### **SACI Convention 2015**

KZN hosted the SACI Convention at the end of 2015. As noted by one of our plenary speakers, the scientific standard was very high and that is thanks to all the delegates. Please find a copy of the group photo attached. For more photos of the Convention please see our Facebook page at: <https://www.facebook.com/Saci2015-728122387318946/>

#### **Report on the 42nd National Convention of the South African Chemical Institute**

The 42nd National Convention of the South African Chemical Institute (SACI 2015) was held at the Elangeni Hotel in Durban. The 5-day convention started with the welcome reception on the evening of 29th November and concluded on the 4th December with the closing ceremony. At the Opening Ceremony, on the morning of 30th November, a number of distinguished guests welcomed the delegates. These were Mr Wesam Abu Saif representing the Royal Society of Chemistry, Dr Mary Kirchhoff representing the American Chemical Society, and Professor Deogratus Jaganyi, the Deputy Vice Chancellor of the University of KwaZulu-Natal. Professor Ahmed Bawa, the Vice Chancellor of Durban University of Technology welcomed the guests and the Honourable Minister of Science and Technology, Naledi Pandor, who officially opened the event and gave a most inspiring opening address. She spoke on the importance of science and technology to improve South Africa's competitiveness and economic growth and she encouraged all the delegates to become involved in the five grand challenges in order for South Africa to become a knowledge-based economy. The Minister's Opening Address was followed by delightful exhibition of Zulu dancing from a group of young local artists.





*From L to R: Prof. Jaganyi (UKZN), Prof. Martincigh (Convention Chair and SACI President), the Hon. Minister of Science and Technology Naledi Pandor, Prof. Bawa (DUT), Prof. Nyamori (Convention Vice-Chair and SACI Vice-President).*

As 2015 was declared the International Year of Light by UNESCO the theme of the conference was Chemistry Shines to remind everyone of the centrality of Chemistry and that most aspects of our lives involve chemistry. One of the main aims was to encourage the participation of young chemists and to establish links between chemists in the country.

The 5-day Convention covered all aspects of chemistry. Seven prominent chemists from different countries were invited to present plenary lectures. They included some of the best known chemists in the world and were especially chosen for their potential support for chemistry in Africa. The full list and the titles of their lectures are given below:

- Nicola Armaroli, CNR Research Director, Istituto ISOF - MACOL Research Unit, Bologna, Italy: Photoactive materials for energy-related applications
- Christopher Brett, Department of Chemistry, University of Coimbra, Coimbra, Portugal: Electrochemistry of materials for sensors and biosensors: challenges and perspectives
- Alejandro Cifuentes, Head of Foodomics Laboratory, Institute of Food Science Research (CIAL), National Research Council of Spain (CSIC), Madrid, Spain: Recent Foodomics results on the anti-proliferative effect of food ingredients against cancer cells
- Chao-Jun Li, Department of Chemistry, McGill University, Montreal, Quebec, Canada: Exploration of new reactivities towards chemical sustainability
- Roger Sheldon, Professor of Biocatalysis & Organic Chemistry, Delft University of Technology, Delft, The Netherlands: Engineering a Better World through Green Chemistry and Catalysis
- Vicente Talanquer, Department of Chemistry and Biochemistry, University of Arizona, Tucson, AZ, USA: Exploring student reasoning to support better teaching
- Ganapati Yadav, Vice Chancellor and R.T. Mody Distinguished Professor, J.C. Bose National Fellow (DST-Govt of India), Institute of Chemical Technology, Mumbai, India: Science and Engineering of Pores, Particles and Interfaces: In Pursuit of Green Chemical and Biological Processes

Six SACI Award lectures were presented. These were as follows:



- **2014 Gold Medallist of the South African Chemical Institute**

Leonard Barbour, Professor of Chemistry, Department of Chemistry and Polymer Science, University of Stellenbosch, Stellenbosch, South Africa: Structural flexibility in the solid state

- **2015 Gold Medallist of the South African Chemical Institute**

Helder Marques, Professor of Bioinorganic Chemistry, School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa: The Coordination Chemistry of Co(III) in the Cobalt Corrins

- **2014 SASOL Chemistry Innovator of the Year**

Orde Munro, SARChI Chair of Bioinorganic Chemistry, School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa: Gold(III) Macrocycles: Nucleotide-Specific Unconventional Catalytic Inhibitors of Human Topoisomerase I

- **2015 SASOL Chemistry Innovator of the Year**

Bert Klumperman, Distinguished Professor of Chemistry and Polymer Science, Department of Chemistry and Polymer Science, Stellenbosch University, Stellenbosch, South Africa: Macromolecules for real-life applications

- **2015 Raikes Medallist of the South African Chemical Institute**

André de Villiers, Department of Chemistry and Polymer Science, Stellenbosch University, Stellenbosch, South Africa: Recent developments in the LC-MS analysis of flavonoids

- **2015 Merck Medallist of the South African Chemical Institute**

Neil Coville, Emeritus Professor, School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa: Doping carbon with nitrogen

In addition, nine keynote lecturers were presented:

- Wesam Abu Saif, Royal Society of Chemistry

How to get your paper published in high impact journals

- Dr Daniela Bezuidenhout, University of Pretoria

Mono- to Multidentate Carbene Ligands for Application in Homogeneous Catalysis

- Professor Emmanuel Iwuoha, University of the Western Cape

Estrogenous Endocrine Disrupting Chemicals (e-EDCs): New Generation Signalling Protocols

- Professor Sreekantha Jonnalagadda, University of KwaZulu-Natal

Green Chemistry of Mixed Oxides in Value Added Conversions

- Dr Andreas Lemmerer, University of the Witwatersrand

Optical Heating and Crystallization Device – Fun with a CO<sub>2</sub> Laser

- Professor Anne Stark, University of KwaZulu-Natal

Ionic Liquid-based Processes in the Biorefinery: A SWOT Analysis

- Dr Robert Tshikudo, CSIR

Metallic Materials Innovation: Advancing Downstream Value Addition

- Professor Willem van Otterlo, Stellenbosch University

Triazoles as structural elements of novel kinase inhibitors

- Professor Ben Zeelie, Nelson Mandela Metropolitan University

Microalgae: The good the bad and the chemistry

During the conference, 120 oral presentations (20 minutes) in three parallel sessions were given over the five days. A large poster session was held and 120 posters were presented. The posters presented by either MSc or PhD students were adjudicated and the following were awarded prizes donated by RSC South Africa (North Local Section):

First Prize

Leanne Barnard, Department of Biochemistry, University of Stellenbosch  
Design and Synthesis of Antimalarial Pantetheinase Resistant Inhibitors

Second Prize

Zandria Lamprecht, Department of Chemistry, University of Pretoria  
Fischer carbene complexes of 3,3'-bithiophene and thieno[2,3-b]thiophene

Second Prize

Lerato Machogo, School of Chemistry, University of the Witwatersrand  
Effect of capping agents on the colloidal synthesis of gold selenide nanomaterials

The Convention was preceded by two pre-conference workshops as follows:

- Short Course on Inductively Coupled Plasma-Optical Emission Spectrometry (organized in conjunction with the South African Spectroscopic Society) and presented by Dr Johann Fischer (Sasol Group Technology) and Dr Ljiljana Marjanovic (SGS South Africa (Pty) Ltd)
- Green Chemistry presented by Dr Mary Kirchhoff, American Chemical Society

The convention was organised by a team of chemists from the University of KwaZulu-Natal, Durban University of Technology and from the local Chemical Industry. The local organising committee was chaired by Professor Bice Martincigh with Professor Vincent Nyamori as Vice-Chairperson both of the University of KwaZulu-Natal.

Over 280 delegates attended the conference with good attendance from a broad spectrum of the chemistry community. It was encouraging that over 60% of the delegates were postgraduate students.

The financial support received from a number of companies and bodies is much appreciated. These included the Department of Science and Technology, Ethekweni Municipality, National Research Foundation, University of KwaZulu-Natal, Durban University of Technology, ChromSA, AECI, Microsep, Peak Scientific, SMM Instruments, Royal Society of Chemistry (London), Bruker, SASOL, Royal Society of Chemistry South Africa (North Local Section), Aspen Pharmacare, PerkinElmer, DLD Scientific, Sep Scientific, Hiden Analytical and

Glenwood Superspar. Exhibitors at the convention included: AECI, Microsep, Peak Scientific, PerkinElmer, Royal Society of Chemistry, and SMM Instruments.

The social programme included: a welcome reception (Sunday evening, 29th November); a mayoral reception in the Durban City Hall on Monday evening, Wednesday afternoon excursions; and a conference dinner on Thursday evening. The latter was a gala occasion and was held at the Elangeni Hotel.

During the conference a number of important meetings were held. They included a meeting of the subject editors of the South African Journal of Chemistry, a meeting and lunch for all student delegates, and a meeting of the Heads of Chemistry at tertiary institutions in South Africa.

From the numerous comments received from the delegates and guests, the Convention proved to be a great success and was found to be a stimulating and rewarding experience.



SACI 2015 Convention delegates.

### **New SACI Executive**

KZN boasts to have both the SACI President and SACI Vice-President within the same Chemistry Department at UKZN. Below a profile of the new SACI President, Prof Bice Martincigh.



Bice Martincigh was born and raised in Umkomaas on the South Coast of KwaZulu-Natal in South Africa. She attended the University of Natal in Durban, South Africa where she obtained her B.Sc. (Hons) and Ph.D. degrees. She taught for six years at Natal Technikon before joining the School of Pure and Applied Chemistry at the then University of Natal (now University of KwaZulu-Natal) where she is currently Associate Professor in Physical Chemistry. She has held Visiting Professorships at West Virginia University, the University of Wales in Cardiff and Portland State University.

Her main research interest is aimed at understanding the photochemical behaviour of the absorbers used in sunscreen and cosmetic preparations to prevent reddening of the skin. She participated at a special meeting called by the United States Food and Drug Administration to re-evaluate the efficacy of approved sunscreen absorbers. She has been involved in a research project with several collaborators in Vienna to investigate the photostability of commercial sunscreen preparations. She is involved in projects investigating environmental contamination caused by PAHs, PCBs and flame-retardant chemicals. Her emerging research interest is in nanomaterials for the remediation of contaminated water by either adsorption or photocatalytic degradation. Her research would not have progressed without the input of the postgraduate students she has supervised. To date she has graduated 20 MSc and 8 PhD students, and she thanks them all. They have enriched her life in so many ways and kept her curiosity of the scientific world alive. She has over sixty publications in peer-reviewed journals, book chapters and conference proceedings.

For many years she has been involved with the organization of the annual FFS Expo for Young Scientists. At this event high school pupil's exhibit projects they have undertaken, are judged and prizes are awarded. This initiative was set up to foster and develop an interest in science amongst our school learners. She is also well-known for her appearances as "Miss Rabbit" in Professor Mike Laing's Magic Show. She is now part of the "The Three Magicians" act with her colleagues Vincent Nyamori and Bernard Owaga.

Bice is a Fellow of IUPAC and a member of the South African Chemical Institute, American Chemical Society, American Society for Photobiology and the European Society for Photobiology. She is currently the President of the South African Chemical Institute.

She has been a member of SACI since she was an Honours student many years ago. She has been involved in the organization of a number of SACI events in the KZN region but, particularly, the last three SACI National Conventions to be held in Durban. She is the Chair of the 42nd National Convention to be held from 29th November to 4th December 2015 at the Elangeni Hotel in Durban.

## Honours/BTech Symposium

Annually the KZN Section organises the Honours/BTech Symposium. This year it was held on Friday 23rd October at the Durban University of Technology. The event was kindly organised by Professor Vincent Bisetty of DUT. It was attended by approximately 100 fourth year students from across the province, including Durban University of Technology, University of KwaZulu-Natal, University of Zululand and Mangosuthu University of Technology.

Delivering the keynote address at the event was Professor Suren Singh, Faculty of Applied Sciences Executive Dean, who talked on the research done at DUT. "It's fitting to know that the SACI branch in KZN is actively involved in showcasing research projects at this level, especially for the BTech and Honours students in the region. Bringing together higher education institutions is very important and it also drives good, fundamental research," said Prof Singh.

Eight students, two from DUT, two from UniZulu, and two each from UKZN Westville and UKZN Pietermaritzburg, orally presented their BTech/Honours research projects while another 10 students presented posters on their projects. The oral and poster presentations were adjudicated and prizes were awarded.

There were a total of 2 prizes in the oral category, and 2 prizes in the poster category. K Balgobind from DUT, who spoke about the electrochemical detection of aspartame, won the oral first place. In second place was Nobuhle Hadebe from UniZulu. Her presentation focused on the synthesis of lead sulphide nano particles using lead thiosemicarbazone complexes as single source precursors.

The winners were:

### **Oral Presentations:**

First Prize : Keval Balgobind (DUT)

Second Prize: Nobuhle Hadebe (UniZulu)

### **Poster Presentations:**

First Prize: Zamachunu Mchunu (DUT)

Second Prize: Nkosingizwile Xulu (UKZN-PMB)



From left to right: Mr Keval Balgobind (DUT), Prof Werner van Zyl (UKZN), Mr Nkosingizwile Xulu (UKZN-PMB), Zamachunu Mchunu (DUT), Ms Nobuhle Hadebe (UniZulu)

The prizes were kindly sponsored by the Royal Society of Chemistry (Northern Section). We would like to thank them for their generous assistance with sponsorship for this event.



## RSC and SACI KZN Region Lunch and Awards Ceremony

On Friday, 30th October all KZN SACI and RSC members were invited to a lunch and awards ceremony at the School of Chemistry and Physics at the University of KwaZulu-Natal, Westville Campus. At the event Life Membership was awarded to Professor Tony Ford and Professor Trevor Letcher was presented with his Fellow Certificate. At the function the 2015 James Moir Medal was awarded to Mr Darren Chetty of UKZN for achieving over 75% in his B.Sc. (Hons) degree. Also, Mr Michael Pillay was awarded the SACI Postgraduate Award for 2015 for his innovation, independence, and enterprise.

Approximately 45 members attended the event and had a very enjoyable time together.



Professor Trevor Letcher



Prof Tony Ford



Mr Michael Pillay



Mr Darren Chetty

## End-of-year Magic Show

This year the annual Magic Show was held on Friday, 20th November at the University of KwaZulu-Natal, Westville Campus in Durban. This event has been held in KZN for some 35 years and was started by the late Professor Mike Laing. His spectacular show was well known far and wide. When it first started it featured ladies being magically cut in half, Miss Rabbit popping out of a box and all kinds of extraordinary events.

This year the show was performed by the Three Magicians, who entertained both young and old with their chemical magic, bangs and smoke. They were ably assisted by the “real” magician, Mr Peter Warby, who kept the audience enthralled with his amazing tricks. Over 300 people attended the event. We were extremely pleased with the good attendance and the wonderful audience participation and enthusiasm.



The Three Magicians ready for action.



A young magician hard at work.



A very enthusiastic crowd want to assist!



Mr Peter Warby and his assistant.



Jelly flambé for dessert!



All the hard-earned earnings go up in flames: or maybe not!

The SACI KZN Section would like to thank the staff of the School of Chemistry and Physics and the WestChem Student Society for assistance, and UKZN for sponsoring some prizes.

**Prof W van Zyl**  
**Chairperson KZN Section**

## WESTERN CAPE

### SACI Young Chemists' Symposium – Western Cape Section

On 10 November 2015, the University of the Western Cape (UWC) hosted a “Young Chemists’ Symposium with the theme “Green Chemistry”. The timing of the event proved to be a little problematic as due to the “#FeesMustFall” activities the date of the symposium had to be moved at very short notice. Despite this hiccup, the general goals of the annual student gathering were achieved in that it provided an opportunity for postgraduates from different universities to meet and present their research to their peers. In addition, Dr Edith Antunes (Beukes) presented an invited lecture talk on the interesting topic “Green Nanotechnology and Natural Products”. All in all, over 40 postgraduate students from the 4 regional universities attended, and much fun was had by all!

### AGM and lecture:

The 73rd SACI AGM (Western Cape division) was held on the 3 September 2015 in the de Beers building at Stellenbosch University. There were 25 people in attendance and it was good to see that a large number of these people were postgraduate students. There were 13 SACI members and apologies from several others.

The chairperson, Prof. Mallon, covered the agenda including a chairperson’s report and a financial report – the treasurer Margaret Blackie is on sabbatical leave. A new Western Cape committee has been voted in with Willem von Otterlo as chair, Robbie Luckay as secretary and Margaret Blackie as treasurer. These members would hold these positions for two years. Other members on the committee are: Gareth Arnott, Peter Mallon, Ivan Green, Delia Haynes and 3 student representatives from the Western Cape universities. It is hoped that we would get further members from UWC and CPUT onto the committee. The AGM ended at 17h30.

The new chair, Prof. von Otterlo then introduced our guest speaker, Prof. Delia Haynes from Stellenbosch University. Prof. Haynes gave a lecture entitled “Framework materials based on organic components: from happy accident towards design.” Her intriguing lecture was well received with many points for discussion afterwards. The lecture finished at 18h15 and refreshments were served afterwards.

### New Chemistry on the Block – an event held by the WC Section on Tuesday the 14th June (by Dr Margaret Blackie)

In the Western Cape we have four chemistry departments within a 50km radius. We hold an annual event for students to present their work every November, but have become increasingly aware that we are not keeping up with the new faces amongst the academic staff at the various institutions. So this year, we held the first SACI-sponsored ‘New Chemistry on the Block’ session in the Department of Chemistry and Polymer Sciences, Stellenbosch University. To this end, we asked each institution to select one or two of their recent appointees to come and give a talk. It should be noted that most nominees had been around long enough to begin to set up a clear career trajectory!

At this afternoon event we thus had the pleasure of hearing from the following speakers, concerning their research and their future plans:

- 1) Dr Chris Barnett (UCT) on his computational work investigating the features of glycans and glycomes
- 2) Prof. Martin Onani (UWC) on biologically active organometallic complexes
- 3) Dr Sunny Sunassee (UCT) on medicinal chemistry applications of marine natural products



- 4) Dr Nikoletta Bathori (CPUT) on developments and challenges in synthon engineering in supramolecular chemistry
  - 5) Dr Njabu Gule (SU) on biologically compatible polymeric nanomaterials
  - 6) Prof. Denzil Beukes (UWC) on the wonders of the biosphere of marine natural products.
- It was an interesting and intellectually stimulating afternoon with over 60 attendees, followed by a relaxed gathering over snacks and a glass of wine. The aim of networking across the Peninsula was certainly achieved and we hope this will be the start of a new tradition in the Western Cape, aimed at taking place every 2-3 years.



Photo caption: The speakers for the afternoon with the event organiser and session chairs (Left to Right) Dr Clive Oliver (UCT), Prof Denzil Beukes (UWC), Dr Martin Onani (UWC); Dr Chris Barnett (UCT), Prof Willem van Otterlo (SU), Dr Margaret Blackie (SU), Dr Sunny Sunassee (UCT), Dr Nikoletta Bathori (CPUT).



Photo caption: An opportunity to have good conversations with colleagues from across the Peninsula.

## **SACI-RSC-AlchemUS Pub Quiz – 26 May 2016 (Triumph of Occam’s Razors)**

(By Kerry-Anne Whit and Jean Lombard - AlchemUS Student Society, Stellenbosch University)

After a “gruelling” journey across the vineyards in a hired luxury bus, the Stellenbosch teams stepped off and stepped up to the challenge of the Intervarsity Pub Quiz which took place on the 26th of May. Roughly 60 people; Stellenbosch boasting seven teams and UCT three, the stage was set for a night full of chemistry puns and obscure facts at the UCT Club. The markers and Prof. Mallon, the quiz master, had their hands full fending off bribes and sifting through answers to find the ones worthy of public shaming. As always among students, a Soap award was awarded to the “dirtiest” answer and a Lightbulb award was awarded to the team with the “brightest” idea. Round after round; shots after shots; two clear leaders emerged: UCT’s Occam’s Razors and Stellies’ Mendeleev’s Beard. Occam’s Razors proved the well-deserving champions winning prizes including wine and chocolate and bragging rights. Until next year!

Some Thank-yous: SACI for the prizes, the RSC for the first round of drinks, UCT’s Department of Chemistry for the venue and Stellenbosch University’s Department of Chemistry and Polymer Science for transport.



The winners (Occam's Razors)



The happy losers (The Hartree Fockers)

## **SACI/RSC Dinner of the Western Cape**

**Section** (By Tienie Botes - SACI student member, 2nd year PhD-Stellenbosch)

Now let’s face it, most of us spend a great deal of time in our labs – be it analytical, synthetic or computational – or in the meetings that every study leader so enjoys. So the Annual Dinner hosted by the RSC in collaboration with SACI, offered a great chance for Western Cape chemists to engage and socialize on a much more casual level than the daily slog allows. On 17 November 2015, the RSC and SACI hosted their combined annual year-end dinner at the Wild Fig Restaurant in Observatory.

This was the third Western Cape Annual Dinner I have attended, after the dinners hosted in 2012 and 2014, which were held at STIAS and the Protea Hotel in Techno Park, Stellenbosch respectively. In terms of venue, this was probably the nicest of the ones I have attended. The venue was small and intimate, which added a very social feel to the event and The Wild Fig was definitely true to their slogan “That Country Feeling on your Doorstep.” Besides the stunning venue, the evening also delivered in terms of food. The menu had three options for appetisers, five options for entrees and a dessert platter. The main problem with the menu was having to choose between the different mouth-watering options on offer, with the entrees including crispy roast duck, grilled fillet steak or line fish, slow roasted lamb in phyllo pastry and a wild mushroom risotto. To avoid making this sound like a review of the restaurant, I will restrain myself from waxing too lyrical about the food and cover the events of the evening.

Professor Alan Hutton, wearing the RSC chairperson’s hat, did an excellent job in organizing a memorable evening that was attended by researchers and students from Stellenbosch University, the University of Cape Town, University of the Western Cape and the Cape Peninsular

University of Technology.

The keynote speaker of the evening, was Professor Mike Davies-Coleman (Dean of Science, UWC), who delivered an interesting account of the history of drug development in the South African context. He spoke about the anti-malarial artemisinin and its semi-synthetic derivatives, which led to Tu Youyou sharing the 2015 Nobel Prize in Medicine. Prof Davies-Coleman's background and knowledge in the field of natural product chemistry and pharmacology made for a very well-rounded and entertaining talk – even for the companions of chemists at the event. I have seen Prof Davies-Coleman speak at conferences and he was true to form, delivering a talk that kept everyone engaged and enthralled.

The evening also allowed for the awards of prizes in chemistry to students and researchers who have achieved either great academic success or made significant contributions to their particular field of chemistry. The SACI Postgraduate medal was awarded to Dr Wade Petersen of UCT and the James Moir Medals were awarded to Ms Rumbidzai Chitongo (CPUT), Ms Sunel De Kock (SU), Ms Siphesile Magqazolo (UWC) and Ms Jamsin Ferreira (UCT). Other SACI prize-winners also attending were Prof Andre de Villiers (SU), the recipient of the 2015 Raikes Medal and Prof Bert Klumperman (SU), the 2015 SASOL Chemistry Innovator of the Year Medal winner. Finally, a SACI “lifetime membership” certificate was awarded (in absentia) to Mr Rob Miller.

All in all, much fun and discussion were had by all. I'm sure all SACI members, students, academics and professionals alike, will concur that Prof. Allan Hutton deserves a “Bells” for arranging such a great RSC-SACI Western Cape year-end function.



Award winners at the dinner. Front, from left to right: Dr Wade Petersen, Ms Jasmin Ferreira, Prof Andre de Villiers, Ms Siphesile Magqazolo, Ms Rumbidzai Chitongo. Middle row, left to right: Prof Willem van Otterlo, Prof Bert Klumperman, Ms Sunel de Kock. Back: Prof Allan Hutton.

**Prof W van Otterlo**  
**Chairperson of SACI Western Cape**

## ANALYTICAL CHEMISTRY

The Analytical chemistry is going to sponsor registration for 5 student's M & D to attend ChromSaaMS 2016 conference in September 11-14, 2016.

We are in discussion to organise a one-day student workshop sometime in October, 2016 in sample preparation. In addition, we are also in discussion to organise a meeting to plan for the 2017-2018 program.

Prof N Nindi  
**Chairperson Analytical Chemistry**

## CHEMICAL EDUCATION

No Report



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## **ANNUAL REPORT ON THE ACTIVITIES OF THE CHROMATOGRAPHY DIVISION FOR THE PERIOD MAY 2015 TO APRIL 2016**

### **A) COMMITTEE and MEMBERSHIP:**

Four committee meetings were held during the above period. The committee members are:

Chairperson:	Dr. Magda Rösemann
Immediate past Chairperson:	Dr. Patricia Forbes
Treasurer:	Mrs. Belinda Hickman Mosdell
Membership/Communications:	Dr. Yvette Naude
Student Liaison:	Prof. Luke Chimuka
Branding/Website:	Dr. Tyren Dodgen
Minutes Secretary/Vice chair	Ms. Vuyo Silwana

Additional members: Mrs. Anita Botha, Mr. Martin Brits, Mrs. Wiana Louw and Mrs. Hannalien Meyer.

### **Western Cape Representation**

Chairperson:	Prof. André de Villiers
Secretary:	Dr. Gordon Shephard

Additional members: Prof. Ben Burger, Prof. Ivan Green, Brenda Marx, Iain Moodie, Denice Smit, Dr. Marietjie Stander, Dr. Mare Vlok and Merrill Wicht.

### **KwaZulu Natal Representation**

Mr. Lawrence Mzukisi Madikizela



There are currently over 458 members on the ChromSA mailing list.

#### **B) ANNUAL GENERAL MEETING:**

The AGM was held on 26 November 2015 at the SA Grain building and 56 people attended.

#### **C) AWARDS:**

No nominations were received for the Chromatographer of the year award

#### **D) FINANCES:**

The funds held by the National ChromSA division are >R327000 (main income sources for the period were the receipt of the balance of the LC-MS short course profit). ChromSA contributed almost R42 000 in sponsorship (three students and an invited speaker) to the SACI Convention in December 2015.

ChromSA Western Cape has funds of >R233000.

#### **E) EVENTS ORGANISED:**

Numerous events were organized for our members during the period under review:

- The ChromSA Postgraduate Student Seminar was held on 11 August 2015 at the University of the Witwatersrand. Ten students presented their research and 23 other people attended the day. Refreshments were sponsored by ChromSA.
- The LCMS Course 2015 was held at the International Convention Center in Lynwood, Pretoria from 12 to 16 October. This event was organized jointly by ChromSA, SAAMS and Separations. A total of 62 delegates attended the course.
- In addition, the following lectures and events were held in Gauteng during the period under review:

<b>Speakers</b>	<b>Title</b>	<b>Date</b>	<b>Sponsor</b>
Douglas Stevens	Developments in GC/MS analysis for environmental and food samples using APGC	15 September 2015	Microsep
Prof. Dr. Alejandro Cifuentes	A fresh overview of Foodomics: Everything you always wanted to know about food science in the 21 <sup>st</sup> century, but were afraid to ask	26 November 2015	ChromSA
Dr Karl-Heinz Storbeck	The analysis of androgen metabolism in prostate cancer by supercritical fluid chromatography-tandem mass spectrometry	18 May 2016	ChromSA and Microsep

KZN organized a Solid –phase Extraction seminar on 5 May 2015, presented by Dani McIntyre and Lance Brooks from Separations.

- The following events took place in the Western Cape:

<b>Speakers</b>	<b>Title</b>	<b>Date</b>	<b>Sponsor</b>
Dr Karl-Heinz Storbeck	The analysis of androgen metabolism in prostate cancer by supercritical fluid chromatography-tandem mass spectrometry	21 May 2015	ChromSA
Andrew Baker Microsep	Exploring Metabolomics and Lipodomics	29 September 2015	

#### **F) FUTURE EVENTS:**

Planning for ChromSAAMS2016 Conference will be the primary focus for the year ahead. ChromSAAMS will be followed by a two day GCMS workshop presented by Dr Jack Cochran from the Restek Corporation.

#### **G) CONCLUDING COMMENTS:**

The hard working members of the ChromSA committee want to thank all the members who regularly attend our events for their support. We also want to express our sincere appreciation to our generous sponsors for their contributions during the year.

**Dr Magda Rosemann**  
**Chairperson ChromSA**

#### **ENVIROMENTAL CHEMISTRY**

No Report

#### **PHYSICAL CHEMISTRY**

No Report



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**Activities for reporting period:**

ElectrochemSA strongly supported the 42nd National Convention of the South African Chemical Institute, 29th November – 4th December 2015 (Durban). Prof Baker served on the scientific committee, advising on abstracts for inclusion in the electrochemistry sessions of the programme.

*Programme summary:*

The plenary speaker for the Electrochemistry session was a long-time collaborator and friend of the SensorLab colleagues (UWC). Prof Christopher Brett (Department of Chemistry, University of Coimbra, Portugal) presented a thought provoking plenary entitled “Electrochemistry of materials for sensors and biosensors: challenges and perspectives” which set the tone for the level of scientific exchange. He was introduced by Prof Emmanuel Iwuoha (SARCHi chair, nano-electrochemistry and sensor technology, UWC). Prof Iwuoha delivered a keynote presentation on “Estrogenous Endocrine Disrupting Chemicals (e-EDCs): New Generation Signalling Protocols”. The electrochemistry session showcased student presentations on electrochemical sensors for antibiotic residues and polyaromatic hydrocarbons, a feature on electrochemical corrosion and Li ion cathode electrochemistry. Electrochemistry also featured in related work on battery materials, battery performance and environmental analysis.

**ElectrochemSA supporting the International Society of electrochemistry (ISE)**

*Regional representation:*

Prof Baker (2016-) has been elected as the follow up ISE regional representative for South Africa (and Africa) following the two terms served by Prof Kenneth Ozoemena, after South Africa was recognised as a region of the ISE in 2012.

*International conferences:*

70<sup>th</sup> Annual Meeting of ISE will be hosted by ISE South Africa in Durban, South Africa (2019). This is the first time an electrochemistry meeting of this magnitude will be hosted in our country. In 2014 we hosted a topical meeting of the ISE with around 360 participants. The annual meeting attendance expectation exceeds 1000 participants. This means that ElectrochemSA community will have to work closely together with its colleagues in Africa and the world, to ensure the success of the 2019 meeting.

Prof. Priscilla G L Baker  
**Chairperson ElectrochemSA**

## INORGANIC CHEMISTRY

### **REPORT on INORG 2015 The 17th South African Chemical Institute Inorganic Chemistry Conference**

The 17th South African Chemical Institute Inorganic Chemistry Conference (INORG 2015) (*incorporating the Carman Physical Chemistry Symposium*) was held at Rhodes University in Grahamstown from 28th June to 2nd July. The conference was timed to close at the start of the National Arts festival (hence the theme of the event: “Art and Science”) to allow delegates to experience some of the Arts festival after the conclusion of the conference.

A total of 133 delegates came from South Africa and from six other countries (Russia – for the first time at a SACI conference; Japan; Germany; the UK; Israel; Botswana and Zimbabwe) either as plenary, keynote or ordinary delegates. The South African delegates presented research being done at 16 different Universities, as well as at the CSIR. A balance of plenary and keynote speakers was made by the LOC to ensure a suitable range of topics in physical inorganic chemistry involved both international and local speakers, affording both established and younger leading researchers the opportunity to present their work.

This event was designed to be run as an inexpensive conference, so as to attract good student attendance, and there was an excellent attendance by students, with some 80 students presenting lectures, flash talks or posters. Monday afternoon was reserved for student flash-talks, with 20 students chosen to summarize in five minutes, the work presented in their posters in the poster session later that evening. This extended flash-talk programme worked particularly well, with the students doing a Stirling job.

The general feedback the LOC has received was that topics covered were of high interest, that the conference was well structured and controlled, yet with plenty of opportunity to meet new friends, and to let one’s hair down at the social events!

See everyone down in CAPE TOWN in two years time, when we all meet up at INORG 2017.



Plenary lecturer, Prof Furuta

Poster session

*Gary Watkins, Conference Chair*



## INDUSTRIAL CHEMISTRY

For some time there has been little activity in the division. The chairman recently retired from his role at the Chemical & Allied Industries' Association and the Executive has taken the opportunity to revisit and update the remit of the division. This will be conveyed to divisional members with the proposal to resuscitate the committee and elect a new chairperson.

**Dr M Booth**  
**Chairperson Industrial Chemistry**

## MOLECULAR MODELLING

The annual meeting of the Molecular Modelling Special Interest Group was held at the annual CHPC meeting on 3 December 2015 (13:00 - 13:30) in the Ruby Auditorium of the CSIR Convention Centre in Pretoria.

The following issues were addressed:

1. Prof. Gert Kruger (UKZN) resigned as chairperson of Molecular Modelling Division of SACI. Dr. Cornie van Sittert (NWU) was elected as the new chairperson. This led to the position of secretary opening up. Dr Penny Govender (UJ) was elected as the new secretary.
2. Software requirements/inventory of software available on CHPC to members of the Molecular Modelling Division was discussed.
3. An open invitation was extended to members to follow the protocol for new software to be made available on the CHPC.
4. The members were informed that the hardware at CHPC is being upgraded and queuing problems users experienced will be addressed.
5. Training activities and needs were discussed.
6. The members were informed of support changes at CHPC. The Helpdesk should be contacted first and then Dr Anton Lopic or Dr Krishna Govender at CHPC.
7. Members were requested to acknowledge CHPC in outputs and send copies of outputs to Dr Anton Lopic or Dr Krishna Govender at CHPC.

**Dr C van Sittert**  
**Chairperson Molecular Modelling**

## ORGANIC CHEMISTRY

The main purpose of this report is to assure Council that the Organic Division is holding its regular National Convention, the Frank Warren Convention and to make sure that the sequence of locations and dates are adhered to by the responsible sections.

Following on after the most successful 13<sup>th</sup> Frank Warren Conference held in Cape Town, I am delighted that Prof Rui Krause has been able to get a good organising committee together who have been busy with arrangements for the 14<sup>th</sup> Frank Warren conference. The event will be held at Eden Grove at Rhodes University in the beautiful surrounds of Grahamstown from the 4-8<sup>th</sup> December 2016. In earlier communications with Prof Krause, during the rather tenuous times of the Rhodes must fall campaign, there were some jitters as to the eventual outcome. At present, all seems calm and thus there is the expectation that the conference will indeed take place as scheduled.

There is an interactive website to handle an online registration and details of the speakers and

full programme will soon be posted giving further details of the event. As has been the trend in the recent past, some big international as well as national names in Organic Chemistry will be the draw cards at the FW conference and an emphasis will be placed on attracting as many younger generation organic chemistry students to attend and deliver their work in both podium and poster formats.

I do not doubt that the FW conference will, as past history confirms, prove to be both a huge success as well as to serve to stimulate the younger generation of Organic chemists to continue with their chosen profession and we at Council wish Rui and his organising committee all the very best in their endeavours.

**Emeritus Professor Ivan R Green**  
**Divisional Chairman of Organic Chemistry**



Supporting all Mass Spectrometry activities in South Africa  
A Division of the South African Chemical Institute  
[www.saams.up.ac.za](http://www.saams.up.ac.za)



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### Report for the period July 2015 to June 2016

#### 1. Committee

The committee members are:

Duncan Cromarty	(Chairperson)
Ljiljana Marjanovic	(Vice-chairperson)
Mike Britton	(Immediate-past Chairperson)
Schalk de Kock	(Treasurer)
Egmont Rohwer	(International Representative)
Maré Linsky	(Minute Secretary)
Caryn Hepburn	(Vendor Industry Representative)
Dwayne Koot	(Vendor Industry Representative)
Eve Kroukamp	
Brendon Naicker	
Edwin Madala	

Regional representatives:

Johan Jordaan	North-West Province
André de Villiers	Western Cape
Hugh Patterton	Free State

## 2. Membership

SAAMS currently has more than 350 members.

## 3. Finances

SACI was supplied with audited statements of SAAMS for the period ending 30 April 2015. On 30 April 2016, SAAMS' assets amounted to R315 980. The saving account value was R77 628, with the balance being Unit Trusts.

## 4. Functions and activities

Exploring Metabolomics and Lipidomics (University of Pretoria, 22 September)

42 persons attended this mini-symposium, sponsored by Microsep. The speakers were Dr Andrew Baker of Waters Corporation, USA and Dr Zander Lindeque of the Department of Biochemistry, NWU.

LC-MS/MS (CSIR ICC, 12 to 16 October)

This training workshop, organised jointly by SAAMS and ChromSA, was presented by Alek Dooley and Volker Kruft from Sciex, and sponsored by Separations. 57 Delegates attended the basic course and 41 the additional metabolomics (biochemistry) component. Most attendees were inexperienced, younger scientists. The course feedback was very favourable.

ChromSAAMS 2016 (Vanderbijlpark, 11 – 14 September)

This conference is imminent and most of the SAAMS efforts and time at the moment is focussed on this being a success. Details can be found at [www.chromsaams2016.co.za](http://www.chromsaams2016.co.za).



## 5. General

We are currently revamping the SAAMS website in order to improve communication with our members

*This report was compiled by Mike Britton and Schalk de Kock*

**ACS**  
**ACS Chapter Report July 2015**

### **Binational Organic Chemistry Conference**

On 30 November 2014 the ACS chapter was launched at the Binational Organic Chemistry Conference (BOCC-2014). For the first time the Organic Divisions of the ACS and SACI hosted a conference at Stellenbosch University, incorporating the 13th Frank Warren Conference. Speakers from the ACS and Professor de Koning gave presentation and this was followed by a cocktail event opening the conference as well as the launch of the ACS chapter. SACI provided R5000 for this event. During the course of the conference the following invited speakers form

the US gave presentations. Clay Bennett (Tufts University), Jef De Brabander (UT Southwestern Medical Center), Craig Forsyth (Ohio State University), Vladimir Gevorgyan (University of Illinois at Chicago), Marisa Kozlowski (University of Pennsylvania), Richmond Sarpong (University of California, Berkeley), Scott Snyder (Scripps Research Institute), Lawrence Williams (Rutgers University) and Armen Zakarian (University of California, Santa Barbara). These invited speakers certainly added value to the conference and more links have been established between organic chemists in the US and South Africa.

### **Chem Education workshop**

In July 2013, SACI signed a memorandum of understanding with the American Chemical society and became aware of the involvement of the Office for International Activities of the ACS in organizing teacher workshops in Chemical Education. The possibility of having such workshops in South Africa was an exciting and valuable prospect. The office for international activities contacted SACI with an offer to send a facilitator to South Africa at their expense if SACI would fund the local expenses for the facilitator and the workshops.

SACI EXCO members, including President Prof Simon Lotz (University of Pretoria) and Chemical Education division head Marissa Rollnick (Wits University) have been in planning and communication with Dr Bradley D. Miller, Director, Office of International Activities American Chemical Society, as well as Dr Jerry Bell, the ACS technical expert for chemistry education and professional development. A budget was drawn up for the activities but funding was not available to run them. A proposal was thus put to PRoSET with a budget of R65,000 for workshops in three centres in South Africa in July 2015. ProSEt agreed to contribute R50,000 funding all Dr Bell's in country expenses and the expenses of the workshops with the exception of the teachers' lunches. These were funded by SACI.

**Workshop Description:** The teachers at each workshop engaged in activities, discussion, analyses and assessment that help understand the relationships among basic chemical concepts. Research on teaching and learning indicates a positive correlation between teacher content knowledge and student learning. The goals of this workshop were to enhance and enrich secondary chemistry teachers' knowledge of and interrelationships among chemical concepts and their consequences through engagement in activities, discussion, and analyses that demonstrate how lessons on these concepts can be presented in a way that stimulates student thinking and prompts exploration of the complexity of the concepts. The content and structure of the workshop draws on several decades of experience the American Chemical Society has in activity-based curricula development.

### ***The workshops***

The workshops were held in Durban, Cape Town and Pretoria as follows:

1. Durban 1-4th July at UKZN, Durban Westville Campus
2. Pretoria - 6-9 July to coincide with the SAASTE national conference at UNISA. Dr Bell also delivered a plenary address at the SAASTE conference on the 10<sup>th</sup> July.
3. Cape Town 14-16 July at UCT

At each workshop teachers received a workshop manual and a USB with presentations, online material and an electronic version of the manual. Feedback was received day by day.

### **FASC event in Nigeria**

The ACS gave financial support to 4 delegates from Africa (young academics) to attend the FASC/CSN conference in Abuja, Nigeria, Sept 7-11 2015. This was coordinated by the SACI office. The ACS also supported an afternoon event for students at the Nigeria event.

### **Prof CB de Koning Chairperson ACS**



## **Report for SACI Council meeting 4<sup>th</sup> August 2016**

### **Summary of activities for 2016**

- Support for Sci Bono Science centre including the Emasondosondo Chemistry Bus, Chemistry laboratory, “spectroscopy in a suitcase” and donation of textbooks for schools
- Sponsor “Speak to a Scientist” lectures at Sci Bono
- Support for KZN Science Centre
- Support for local chemistry conferences ChromSAAMS; CATSA (poster prizes and student sponsorship)
- Donations of RSC books to local universities (UKZN Pietermaritzburg, UNISA, TUT)
- Judging and special subject prizes for Chemistry projects at Eskom Young Scientists Expo
- Support for Seabe High School/MDSE Project (Peter Malatji)
- Support for Setlhare teachers project
- Support for UKZN schools crystal growing project

### **RSC activity in Africa**

- Ongoing support for Pan-African Chemistry Network (PACN)
- PACN Congress - Sustainable water resources for Africa; Addis Ababa, Ethiopia 30<sup>th</sup> Nov – 2<sup>nd</sup> Dec 2016

### **Involvement with SACI**

- Proposed Joint RSC SA North/SACI Central/North annual function (28<sup>th</sup> August 2016)
- Sponsorship of prizes at SACI Central (Gauteng) Young Chemists symposium
- Sponsorship of prizes at SACI North Young Chemists symposium
- Sponsorship prizes for KZN Student symposia
- Organisation of public lectures to promote Chemistry

**Ian M Bratt (Dr)**  
Chairman, RSC SA North





## Green Chemistry report 2015 - 2016

Green Chemistry continues to grow and diversify in South Africa, both in terms of the number of people involved and the range of approaches to improving the environmental impact/sustainability of our work in terms of energy (catalysis, microwave chemistry), renewable resources (biofuels, use of chitosan, natural products), and reduced emissions (flow chemistry, “green solvents”, supercritical fluid technology) – to mention only a few. These initiatives have increased in both research activities and teaching activities across the board. The inception of the Green Chemistry Division of SACI occurred in 2011 and in 2012, its membership was 22. Within the short time since then, through the excellent work of its first committee, the division has grown to 101 members (Figure 1)! At the moment there has been a drop in membership, and therein lies an opportunity. As the Frank Warren conference approaches, efforts are underway to promote green medicinal chemistry initiatives through the inclusion of speakers on the programme, and to improve collaborations between green chemists and other synthetic chemists to decrease our environmental footprint overall.

### **Committee**

Rosa Klein (Rhodes), Chair

Rui Krause (Rhodes), (Secretary)

Vincent Nyamori (UKZN), (Treasurer)

Werner van Zyl (UKZN), Vice Chair

Martin Onani (UWC)

Philip Labuschagne (CSIR), (industrial representative)

Alu Tshavhungwe (DST), (government representative)

The committee can be contacted through the secretariat ([greenchem@ukzn.ac.za](mailto:greenchem@ukzn.ac.za)) or through the chair ([r.klein@ru.ac.za](mailto:r.klein@ru.ac.za)).

### **Finances:**

The Division is looking at ways to fund workshops and invited speakers in order to bring the philosophy of Green Chemistry into the mainstream of chemical practice within South Africa. Incorporating the Division within national or other international conferences should help in that regard.

Dr Rosalyn Klein

**Chairperson Green Chemistry**





## **ThermSA report 2015 - 2016**

### **Committee**

Chairperson: Dr Liezel van der Merwe (UP)

Immediate Past Chairperson: Dr. Kobus Wagener (Necsa)

Treasurer: Ms. Isbé van der Westhuizen (UP)

Secretary: Dr. Andrew Pienaar (Necsa)

Website/Communication: Mr. Benni Vilakazi

Regional Representative (WC): Prof. Chris Woolard (NMMU)

### **Applications in Thermal Analysis Workshop 2015**

A workshop entitled “Applications in Thermal Analysis” was held from 17 – 18 August 2015 at the Stellenbosch Institute for Advanced Study (STIAS). A total of 20 oral and 6 poster contributions were received from presenters from academia and industry, with 48 delegates attending the event. Several sponsorships were secured and resulted in a nett profit for the event.

### **Student Symposium 2016**

ThermSA is dedicated to promote knowledge and increase capabilities in the field of thermal analysis in South Africa. It is to this end that we have decided to organise a Student Symposium in 2016, to be held at the University of Pretoria on 14 September. Students from all institutions currently busy with their post graduate studies and using thermal analysis as part of their research are invited to present at no cost. This is a full day event and prize and venue sponsorships have been secured.

### **Knowledge dissemination**

Regular newsletters to members and interested parties ensure that local events such as webinars and training sessions are communicated, thereby further developing the field of thermal analysis in South Africa.

### **International Ties**

ThermSA is currently working with the Instituto Internacional de Análise Térmica in Brazil to develop thermal analysis competence in both these countries. Furthermore, we have established membership as an affiliated society of ICTAC (International Confederation of Thermal Analysis and Calorimetry).

### **Membership**

There are currently 33 members of SACI who are members of ThermSA. In addition there are 4 members who are not SACI members. We aim towards increasing our membership by creating awareness amongst SACI members, and organising workshops and symposia.

**Dr L van der Merwe**  
**Chairperson: ThermSA**

**Dr A Pienaar**  
**Secretary: ThermSA**

## **SACI STUDENT REPORT**

The student population across South African institutions are increasing year by year as many universities are increasing their enrolment numbers. Although the increased interest in tertiary education is positive in the national landscape, the concurrent pressure on many departments is visibly noted and Chemistry is not spared. Whilst speaking to a variety of chemistry students across SA, I have noted a number of similar complaints arising from this such as: a lack of work space; equipment and facilities. Although this may not affect SACI directly, it is the students wish for this point to be raised in the hope that SACI can inform the Department of Science and Technology of South Africa.

The information received from SACI student members and non-members have been summarised in point-form below. The comments and recommendations were received mostly at the SACI Convention held in Durban last year, as well as *via* email and word of mouth.

### **Student likes**

1. Students appreciate SACI's running of and involvement in conferences and colloquiums.
2. Those who attended SACI lectures have indicated the usefulness about learning the kinds of chemistry done in departments across SA and globe.

### **Student dislikes**

1. Many students have disclosed that they do not know what SACI is about, what SACI stands for or why it is beneficial to join.
2. Some student members feel that they have received no additional benefit from joining SACI. The job adverts in newsletters are seen elsewhere (such as LinkedIn), the conference adverts are advertised *via* departments anyway and students don't benefit directly from reduced conference fees because the costs are covered by their supervisors in any case.
3. Most students do not realise that the South African Journal of Chemistry exists.

### **Student recommendations**

1. Be active and visible on Social Media such as Twitter or Facebook.
2. Provide platforms for engagement and discussion such as MyRSC where students, academics and industry can be linked.
3. Provide opportunities for students to physically visit industry.
4. Have student or staff representatives at institutions hold information sessions for students to learn about the benefits of SACI.

Have a fair and adequate distribution of SACI events across institutions and provinces.

**Bilaal Ismail**  
**SACI Student Representative**

## **FINANCIAL REPORT**

The audited SACI accounts are available on request. The table above provides a summary of the Institute's financial affairs for 1<sup>st</sup> May 2015 to 30<sup>th</sup> April 2016.

SACI has experienced some financial challenges over the past year. These include:

- Revenue from membership fees was 22% (R91870) less than budgeted due to members not renewing their membership of the Institute. This is of particular concern since this is a trend which has continued from previous years.
- Journal income has dwindled to only R3295 due to the decision to change to an open access policy
- Overall the 'operating' income for the year was 22% (R104K) below budget for the year.
- The long term investments, currently totally just over R2 million only grew by R10718 over the year (c.f. R353K in the previous year) due to the poor market conditions.

Although these were disappointing, costs were well controlled and came in at 17% (R110K) under budget mainly due to salaries and wages being R75K under budget.

This resulted in an overall loss for the year of R165 708 against a budgeted loss of R172 000.

Fortunately, the 'operating' loss was more than covered by the profit on conferences of R296081. This can be attributed mainly to SACI2015 which generated a healthy surplus. However, we cannot rely on receiving such a large income from conferences every year.

Overall, we made a net profit of R167424.

In terms of the Budget for 2016/17, it is difficult to reduce our expenditure as this is already at the minimum level required to keep the Institute operational. Therefore, the only way to reduce the operating deficit is either to increase membership revenue or to increase revenue from sponsorship. Membership fees have been increased by an average of only 5.7% in line with inflation. It is therefore critical that we try to regain the members we have lost over the past few years and recruit new ones to bolster the income revenue. Economic conditions are making it tough for businesses at the moment but I believe that there is still scope to recruit more Patron and Company members.

In compiling the budget for 2016/17, I have been conservative on membership numbers which means that we are budgeting for an operating loss of R211K for the coming year. I appreciate that this is not an ideal situation as no organisation can budget to make a loss. We need to work together to encourage all our chemistry colleagues and friends to join SACI to ensure that we remain financially viable in the future.

I would like to conclude by thanking Laila Smith for her day to day handling of the receipts, and payments and the general handling of the SACI accounts. Without her, the SACI accounts would not be kept up to date and in good order.

**Dr I Bratt**  
**Executive Treasurer**

**SACI ACTUAL VS BUDGETED EXPENDITURE FOR THE PERIOD 1 MAY 2015 TO 30 April 2016**

	2015-2016		2015-2016		2015-2016		2015-2016	
Income	Actual		Budget		Diff		Act/Bud	
Membership Fees	R	328 630	R	420 500	R	-91 870		-22%
SAQA application fees and PrChemSA fees		-		-				
Journal Income	R	3 295	R	20 000	R	-16 705		-84%
IUPAC Income	R	7 700	R	12 500	R	-4 800		-38%
Merchandise/Ties and Scarfs	R	3 900	R	5 000	R	-1 100		-22%
Advertising Income	R	20 200	R	20 000	R	200		1%
Admin donation from conferences	R	10 000	R	-	R	10 000		
<b>Total Income</b>	<b>R</b>	<b>373 725</b>	<b>R</b>	<b>478 000</b>	<b>R</b>	<b>-104 275</b>		<b>-22%</b>

Expenditure	Actual		Budget		Diff		Act/Bud	
Journal Expenses	R	46 035	R	65 000	R	-18 965		-29%
Bank Charges	R	6 525	R	6 000	R	525		9%
Computer/Software/Pastel/Internet/SAIC	R	18 382	R	17 000	R	1 382		8%
Courier and Postage	R	1 961	R	5 000	R	-3 039		-61%
Entertainment Expenses (Council/Exco Functions)	R	10 585	R	10 000	R	585		6%
General Expenses	R	7 068	R	8 000	R	-932		-12%
Printing, Stationery and Photocopying	R	11 666	R	15 000	R	-3 334		-22%
Salaries and Wages	R	324 451	R	400 000	R	-75 549		-19%
Telephone and Fax	R	10 929	R	10 000	R	929		9%
Travel and Accommodation	R	32 602	R	30 000	R	2 602		9%
Presidents Travel	R	-	R	10 000	R	-10 000		-100%
Subscriptions (IUPAC/FASC/EBSCO/NSTF)	R	12 396	R	18 000	R	-5 604		-31%
Auditors	R	9 000	R	10 000	R	-1 000		-10%
Medal Prize Money and Minting of Medals	R	19 833	R	15 000	R	4 833		32%
Medal Functions/Donations	R	10 000	R	5 000	R	5 000		100%
Rental	R	18 000	R	26 000	R	-8 000		-31%
Merchandise	R	-	R	-				
<b>Total Expenditure</b>	<b>R</b>	<b>539 433</b>	<b>R</b>	<b>650 000</b>	<b>R</b>	<b>-110 567</b>		<b>-17%</b>

Profit/Loss	Actual		Budget	
Total Income	R	373 725	R	478 000
Total Expenditure	R	539 433	R	650 000
<b>Balance</b>	<b>R</b>	<b>-165 708</b>	<b>R</b>	<b>-172 000</b>

**FUNDS**

SACI Admin account			Account Balance
Wits Admin account			R 7 894
Standard Bank Cheque Account			R 7 199

Central Fund Account	Interest/Movement	Opening Balance	Total
Investec Equity Fund	R 10 193	R 426 443	R 436 636
Old Mutual	R -8 721	R 410 806	R 402 085
Standard Bank Market Link Account	R -12 731	R 378 446	R 365 715
SIM General Equity fund	R -4 154	R 390 807	R 386 653
Stanlib Prperty Income Fund	R 26 131	R 476 537	R 502 668
<b>Total</b>	<b>R 10 718</b>	<b>R 2 083 039</b>	<b>R 2 093 757</b>

<b>Total Interest on Investments</b>	<b>R</b>	<b>23 449</b>
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Seed Monies and Loans	Loan	Total
ACS Division	R 10 000	R 10 000
<b>Total</b>		<b>R 10 000</b>

Profit Derived from Conferences	2014-2015	2015-2016
<b>Total</b>	<b>R 60 037</b>	<b>R 296 081</b>

Divisions' Market Link Accounts	Movement	Opening Balance	Account Balance
Inorganic Chemistry	R 2 011	R 93 455	R 95 467
Computational Chemistry	R 430	R 5 261	R 5 691
Chemical Education	R -49 854	R 50 980	R 1 126
Eastern Cape	R 1 847	R 89 010	R 90 857
Analytical	R 3 793	R 249 297	R 253 091
Organic Chemistry	R 4 745	R 115 216	R 119 961
Kwazulu Natal	R -20 056	R 84 864	R 64 809
Electrochemistry	R 1 868	R 48 782	R 50 650
Gauteng South	R -	R 24 994	R 24 994
Gauteng North	R -	R 24 945	R 24 945
ThermSA	R 11 041	R 22 055	R 33 096
Green Chemistry	R 1 739	R 80 066	R 81 805
ACS Chapter	R 5 049		R 5 049
<b>Total</b>	<b>R -37 386</b>	<b>R 888 927</b>	<b>R 851 541</b>

**SACI BUDGET FOR THE PERIOD 1 MAY 2016 TO 30 April 2017**

	2015-2016	2016-2017	change %	
Income	Actual	Budget	Bud/act	Notes
Membership Fees	R 328 630.00	R 365 000.00	11%	5.5% increase in fees; 5% increase in membership
SAQA application fees and PrChemSA fees	-	R 12 000.00		32 members (12 %) applying for PrChemSA
Journal Income	R 3 294.88	R -	-100%	No journal income - open access
IUPAC Income	R 7 700.00	R 8 470.00	10%	
Merchandise/Ties and Scarfs	R 3 900.00	R 5 000.00	28%	Price will increase on new stock
Advertising Income	R 20 200.00	R 22 220.00	10%	
Admin donation from conferences	R 10 000.00	R -	-100%	
<b>Total Income</b>	<b>R 373 724.88</b>	<b>R 412 690.00</b>	<b>10.4%</b>	<b>Without PrChemSA increase 7.2%</b>
Expenditure	Paid	Budget	Bud/act	Notes
Journal Expenses	R 46 034.93	R 51 000.00	11%	Increase in publishing costs
Bank Charges	R 6 524.83	R 7 200.00	10%	
Computer/Software/Pastel/Internet/SAJC	R 18 381.60	R 20 000.00	9%	
Courier and Postage	R 1 961.07	R 2 200.00	12%	
Entertainment Expenses (Council/Exco Functions)	R 10 585.23	R 12 000.00	13%	
General Expenses	R 7 068.41	R 8 000.00	13%	General cost increases 8-12%
Printing, Stationery and Photocopying	R 11 666.37	R 12 500.00	7%	
Salaries and Wages	R 324 450.51	R 350 000.00	8%	
Telephone and Fax	R 10 929.45	R 12 000.00	10%	
Travel and Accommodation	R 32 601.59	R 35 000.00	7%	
Presidents Travel	R -	R 5 000.00		
Subscriptions (IUPAC/FASC/EBSCO/NSTF)	R 12 395.54	R 15 000.00	21%	Increase higher due to R/\$ exchange rate
Auditors	R 9 000.00	R 10 000.00	11%	
Medal Prize Money and Minting of Medals	R 19 833.38	R 22 000.00	11%	
Medal Functions/Donations	R 10 000.00	R 5 000.00	-50%	
Rental	R 18 000.00	R 20 000.00	11%	
Merchandise	R -	R 36 800.00		200 ties @ R100 each; 12 banners @ R1400 each
<b>Total Expenditure</b>	<b>R 539 432.91</b>	<b>R 623 700.00</b>	<b>15.6%</b>	<b>Without ties &amp; banners, increase is 8.8%</b>
Item	Profit/Loss	Profit/Loss		
Total Income	R 373 724.88	R 412 690.00	10.4%	
Total Expenditure	R 539 432.91	R 623 700.00	15.6%	
<b>Balance</b>	<b>R -165 708.03</b>	<b>R -211 010.00</b>	<b>27.3%</b>	

## PRESIDENTS OF THE INSTITUTE

1916-1917	J S Jamieson	1957-1958	A L Abbot
1917-1918	R B Denison	1958-1959	H A E McKenzie
1918-1919	J A Wilkinson	1959-1960	G W Perold
1919-1920	J McCrae	1960-1961	F L Warren
1920-1921	J Lewis	1961-1962	W S Rapson
1921-1922	G H Stanley	1962-1963	F L Clark
1922-1923	J Gray	1963-1964	E F C H Rohwer
1923-1924	H H Green	1964-1965	L J le Roux
1924-1925	J Moir	1965-1966	R E Robinson
1925-1926	H H Dodds	1966-1967	V Pretorius
1926-1927	J A Wilkinson	1967-1968	M Lamchen
1927-1928	B de C Marchand	1968-1969	M Mrost
1928-1929	C C Frye	1969-1970	P C Carman
1929-1930	M Rindl	1970-1971	P R C Cooke
1930-1931	F W Fox	1971-1972	J F Preston
1931-1932	A Harding Kloot	1972-1973	F E Malherbe
1932-1933	H R Raikes	1973-1974	C F Garbers
1933-1934	B van der Riet	1974-1975	N Stutterheim
1934-1935	J B Robertson	1975-1976	S Goodman
1935-1936	St C O Sinclair	1976-1978	V C O Schuler
1936-1937	J A McLachlan	1978-1979	D E A Rivett
1937-1938	T D Hall	1979-1980	A Goosen
1938-1939	F J de Villiers	1980-1981	R R Arndt
1939-1940	H J van Eck	1981-1982	R O Perry
1940-1941	F G Braithwaite	1982-1984	C J H Schutte
1941-1942	J P van Zyl	1984-1986	P Bloom
1942-1943	W F Barker	1986-1988	J R Bull
1943-1944	P Kamerman	1988-1990	J D Bradley
1944-1945	J E Worsdale	1990-1992	A M Heyns
1945-1946	T J Wilken Jorden	1992-1994	M D Booth
1946-1947	E Taberner	1994-1996	T M Letcher
1947-1948	H L de Waal	1996-1998	E L J Breet
1948-1949	W H Dyson	1998-2000	C J Rademeyer
1949-1950	H J Koch	2000-2001	B Rae
1950-1951	P v d R Copeman	2001-2003	G E Jackson
1951-1952	L F Addis Smith	2003-2005	E Meintjies
1952-1953	A J Petrick	2005-2007	T A Ford
1953-1954	L D C Bok	2007-2009	N J Coville
1954-1955	S S Israelstam	2009-2011	I R Green
1955-1956	F W Hayes	2011-2013	J Darkwa
1956-1957	F Hawke	2013-2015	S Lotz
		2015-2016	BS Martincigh



## **RECIPIENTS OF THE GOLD MEDAL OF THE INSTITUTE**

1970	L H Ahrens	1993	R J Haines
1971	P C Carman	1994	A M Heyns
1972	S G Shuttleworth	1995	S E Drewes
1973	W S Rapson	1996	D Ferreira
1974	P E Rousseau	1997	N J Coville
1975	V Pretorius	1998	W McGill
1976	C van der Merwe Brink	1999	T M Letcher
1977	D G Roux	2000	M E Brown
1978	G J Stander	2001	J P Michael
1979	R E Robinson	2002	H G Raubenheimer
1980	C F Garbers	2003	L Nassimbeni
1981	P R Enslin	2004	B Burger
1982	GW Perold	2005	No Award
1983	J C A Boeyens	2006	T A Ford
1984	J R Bull	2007	P Kaye
1985	A M Stephen	2008	No Award
1986	M Peisach	2009	M R Caira
1987	P S Steyn	2010	No Award
1988	C W Holzapfel	2011	C J H Schutte
1989	No Award	2012	T Nyokong
1990	J G H du Preez	2013	B Klumperman
1991	No Award	2014	L J Barbour
1992	A Goosen	2015	H Marques

## RECIPIENTS OF THE RAIKES MEDAL

1961	P C Haaroff	1989	H M Marques
1962	A J de Koning	1990	C A Strydom
1963	No Award	1991	M D Adams
1964	No Award	1992	J H Potgieter
1965	No Award	1993	G H Verdoorn
1966	S E Drewes	1994	N V Jarvis
1967	W Robb	1995	M Raynor
1968	C H J Shutte	1996	No Award
1969	R A Basson	1997	No Award
1970	No Award	1998	No Award
1971	No Award	1999	K J Naidoo
1972	D P Botes	2000	M H S Gradwell
1973	R J Haines	2001	M J Mphahlele
1974	P S Steyn	2002	R I Stefan
1975	No Award	2003	No Award
1976	R D Hancock	2004	W A L van Otterlo
1977	G V Fazakerley	2005	No Award
1978	R van Eldik	2006	No Award
1979	K De Haas	2007	J R Zeevaart
1980	G J Mc Dougall	2008	O Q Munro
1981	T V Ashworth	2009	R Meijboom
1982	R L Paul	2010	M Fernandes
1983	No Award	2011	G Smith
1984	No Award	2012	H Tutu
1985	No Award	2013	E Strauss
1986	M O Albers	2014	A Lemmerer
1987	No Award	2015	AJ de Villiers
1988	No Award		

## **RECIPIENTS OF THE AECI MEDAL**

1961	P R Enslin, L A Anderson and W T de Kock	1979	G M L Cragg
1962	F J Joubert and T Haylett	1980	J C A Boeyens
1963	O A Swanepoel	1981	E Singleton
1964	V Pretorius and P C van Berge	1982	C Pohlandt
1965	M Peisach and C O Poole	1983	J M Koekemoer and G J Lourens
1966	C v d M Brink, W Nel, G H J Rall, J C Weitz and K G R Pachler	1984	No Award
1967	M B Hanley, S C Churms and E C Leisegang	1985	R M A von Wandruszka
1968	G W Perold and H K L Hunt	1986	E Singleton
1969	J Turkstra, G B Behrens and W J de Wet	1987	A E Watson
1970	W J Engelbrecht and M J de Vries	1988	C W Holzapfel
1971	J G H du Preez	1989	T A Ford
1972	J A van den Berg	1990	E Singleton
1973	J C A Boeyens	1991	P P Coetzee
1974	T W Steele	1992	J R Bull
1975	A Goosen	1993	A Amman
1976	P C Carman	1994	N J Coville
1977	E F C Rohwer and J J Cruywagen	1995	J F van Staden
1978	F E W Strelow	1996	P P T Kaye
		1997	T A Ford
		1998	J M Anderson

## **RECIPIENTS OF THE MERCK MEDAL**

2000	J F van Staden	2008	P P Coetzee
2001	G H P Roos	2009	C W van der Westhuizen
2002	N J Coville	2010	N J Coville
2003	J C A Boeyens	2011	R H Simoyi
2004	I Cukrowski	2012	D A Katskov
2005	B Staskun	2013	D D N'Da
2006	H M Marques	2014	J Conradie
2007	J J Pienaar	2015	NJ Coville

## RECIPIENTS OF THE HENDRIK VAN ECK MEDAL

1983	A E Rupert	2000	No Award
1984	N Stutterheim	2001	No Award
1985	No Award	2002	P S Steyn
1986	No Award	2003	No Award
1987	No Award	2004	No Award
1988	No Award	2005	No Award
1989	No Award	2006	No Award
1990	No Award	2007	No Award
1991	C F Garbers	2008	No Award
1992	No Award	2009	No Award
1993	F E Malherbe	2010	No Award
1994	No Award	2011	No Award
1995	No Award	2012	No Award
1996	R R Arndt	2013	No Award
1997	No Award		
1998	No Award		
1999	No Award		

## **RECIPIENTS OF THE INDUSTRIAL CHEMISTRY MEDAL**

1961	G E Mapstone	2003	No Award
1962	No Award	2004	K McIntosh
1963	No Award	2005	No Award
1994	A Geertsema	2006	No Award
1995	F Fisher	2007	No Award
1996	No Award	2008	No Award
1997	No Award	2009	No Award
1998	No Award	2010	No Award
1999	No Award	2011	J Dixon
2000	N Ravenscroft	2012	No Award
2001	T Grimmbacher	2013	No Award
2002	No Award		

## RECIPIENTS OF THE MISCHA MROST (ANALYTICA) PRIZE

1977	J M Pratt	1996	G J Stander
1978	I R Leith	1997	J H Potgieter
1979	H J Hattingh	1998	No Award
1980	P Theron	1999	P Apps
1981	J Zlotnick	2000	N J Coville
1982	G L Moore	2001	E W Neuse
1983	M F Dutton	2002	No Award
1984	No Award	2003	S S Potgieter
1985	R Osborne	2004	No Award
1986	G L Moore	2005	P W Lotz
1987	M A B Pougnet and M A E Wandt	2006	No Award
1988	S Parris	2007	No Award
1989	T M Letcher	2008	No Award
1990	M A B Pougnet	2009	No Award
1991	C Pohlandt-Watson and E A Jones	2010	No Award
1992	D Gravett and L Salter	2011	No Award
1993	No Award	2012	No Award
1994	No Award	2013	No Award
1995	M J Laing		



## **RECIPIENTS OF SASOL POST-GRADUATE MEDAL**

- 1994 J J Nair, O Q Munro, P G Mountford, M H S Gradwell  
1995 B G Taverner, J L Scott, S L Roberts, P Mason  
1997 J A Ferreira, J du Toit, V Sewram, D Bessarabov, A Horne  
1998 M A Hearshaw, W A L van Otterlo, J J C Erasmus, H A Mahomed, J J C Grove  
1999 H van Rensburg, M A Fernandes, G Cripps  
2000 S Otto, A Rousseau  
2001 K Kaschula, W van Rensburg, K Blann  
2002 H de Bod, M Onani, C B Perry, D Webber  
2003 L Mpholle, K Barnes, C Gray  
2004 A Landman, E E Mmutlane, T le Roex, M Shezi  
2005 C Pelly, N Govender  
2006 A Lemmerer, J N Zimba, M Lawton  
2007 G Morgans  
2008 S D Mhlanga, K de Villiers, S Hadebe, M Shaw  
2009 S Pelly, C B Barnett, G A Boyle, T I Nkambule  
2010 D Bezuidenhout, E Nxumalo  
2011 W Motswainyana, O Onajole, D Cruishcank, A Shaikjee, R Wamsley  
2012 T Chetty, CF Zipp D, Kuter  
2013 D Ondigo, M Maubane, N Njuguna, H Wahl  
2014 A S Ogunlaja, MM Johnson, KJ Wicht, C Obuah

## **RECIPIENTS OF SACI POST-GRADUATE MEDAL**

- 2015 BP Camden Grover, WF Petersen, MN Pillay

## RECIPIENTS OF THE JAMES MOIR MEDAL

- 1999 J P K Reynhardt, A J de Villiers, R Best, K Thornell, S V Goodall, K Blann, U Naidoo, N I Harmse, D P de Carcenac, R Cock, J C Nel
- 2000 N Grootboom, E Lamprecht, Amaluleke, D Rautenbach, G L Natrass, A M Castille, W Gerber
- 2001 J van Rensburg, T Le Roex, X K Peter, J Taljaard, K Lobb, G Venter, A van Aswegen
- 2002 L Greyvenstein, D Patten, Y Baijnath, T Raasch, K Stern, M du Toit, S Botha, O Horwood
- 2003 V Buchanan, E T Borkum, E Erasmus, P Reddy, P Franklyn
- 2004 W Barnard, R Gessner, A Gordon, Z Hall, G Lloyd, L Rota
- 2005 D I Bezuidenhout, C Booyjzsen, J Coetzee, R Janse van Vuuren, Y Koen, C A Laing, E Marais, S Mohamed, M S Mokhadinyana, N Moodley, J Paraskevopoulos, T S Pentz
- 2006 T Paquet, I Rootman, N Rose, P D R Kptze, S Travis, N Miti, D Duma, V A Patterson, M van Rhyn
- 2007 L Loots, M Adendorf, S Botha, MW Smith, P Skillington, N E Hendricks, T Hughes, B Waldron, M N Kay, D J Brankin
- 2008 SA Herbert, KE Mason-Jones, N Silwana, C Reynolds, JI du Toit, A Manival, A Cullen, TR Madihlaba, B Truscott.
- 2009 E Hanekom, W Xu, S M Jing, C F Zipp, Y Nortje, K J Gillham, B Dzepina, P Nyamukamba, A C Conibear, A Ilchev, P I Tshoke, K Potgieter B Simpson
- 2010 C Eley, A Falch, I Grobler, K Hadje Georgiou, N Jijana, P Khalili, R Koen, L Komarsamy, H Maritz, W Petersen, A Pholosi, CA Renison, BK Sebogisi, P Sobantu, S Thompson
- 2011 M Lephoto, H Mungondori, R Pretorius, C Rassie, S Robinson, T Pieterse, A Sayed, K Wicht, M Ungerer
- 2012 L van der Westhuizen, L van der Wat, BB Davies, B Camden-Smith, J Coetzee, MB Ismail, T Gunther, JM Taylor, TN Phaahlamohlaka, I Clifford
- 2013 N Steyn, N Mvumvu, SF Douman, R Hartzenberg, L Dralle, EH Kamanga, FM Amombo Noa, AJK Kupeta, M Mohale
- 2014 E Mamedov, S Raghunath, I Strydom, PL Pohl, M Dunn, T Saywood, NA Dare, JBML Smit, S Chohan
- 2015 HH Shiri, R Chitongo, OA Makgae, S De Kock, R Menté, S Magqazolo, RM Taylor, J Ferreira, M Visser, DE Chetty, S Pakade

## **RECIPIENTS OF THE CHEMICAL EDUCATION MEDAL**

1993	M J Laing
1994	J Elsworth
1995	M Selvaratnam
1996	No Award
1997	GC Gerrans
1998	No Award
1999	S J Nel
2000	P Huddle
2001	No Award
2002	MS Rollnick
2003	No Award
2004	B Davidowitz
2005	No Award
2006	G O M Onwu
2007	M White
2008	M Potgieter
2009	GV Green
2010	E Steenberg
2011	P Loyson
2012	J D Sewry
2013	No Award
2014	P Forbes
2015	E Mavhunga

## **RECIPIENTS OF THE SASOL**

### **INNOVATOR OF THE YEAR AWARD**

2002	No Award
2003	No Award
2004	M J Green
2005	I Smith
2006	No Award
2007	No Award
2008	No Award
2009	No Award
2010	No Award
2011	No Award
2012	No Award
2013	L J Barbour
2014	O Munro
2015	LB Klumperman