

**Annual Report**  
**of the**  
**South African Chemical Institute**  
**(Incorporating the SA Institute of Assayers and Analysts)**  
28th June 2012 to 27th June 2013



**THE SOUTH AFRICAN**  
**CHEMICAL INSTITUTE**

## COUNCIL

### **Office Bearers**

President	:	Prof J Darkwa
Vice President	:	Prof S Lotz
Immediate Past President	:	Prof I Green
Executive Secretary	:	Dr P Forbes
Executive Treasurer	:	Prof N Coville
Co-opted Member	:	Dr M Booth
Co-opted Member	:	Prof B Martincigh

### **Reporting Officers**

Publications Officer	:	Prof G Jackson
Publicity	:	Prof N Coville
Webmaster	:	Mrs L Smith
IUPAC	:	Dr M Booth
SACNASP	:	Prof E Breet

### **Chairpersons of Co-ordination Committees**

Eastern Cape	:	Dr Z Tshentu
Gauteng	:	Dr A Muller
Kwazulu-Natal	:	Prof B Martincigh
Western Cape	:	Prof P Mallon

### **Chairpersons of Divisions**

Analytical Chemistry	:	Prof N Torto
Chemical Education	:	Prof M Rollnick
Chromatography (ChromSA)	:	Mrs P Forbes
Electrochemistry	:	Dr P Baker
Environmental Chemistry	:	Prof E Cukrowska
Mass Spectrometry (SAAMS)	:	Mr M Britton
Industrial Chemistry	:	Dr M Booth
Inorganic Chemistry	:	Prof S Lotz
Molecular Modelling	:	Prof G Kruger
Organic Chemistry	:	Prof I Green
Physical Chemistry	:	Dr D Billing
Green Chemistry	:	Dr V Nyamori
ThermSA	:	Dr J Wagener

## **OFFICE BEARERS**



Prof J Darkwa – President Prof S Lotz – Vice-President Prof I Green – Immediate Past- President



Dr M Booth - Co-opted Member Prof N Coville – Executive Treasurer



Dr P Forbes – Executive Secretary Prof B Martincigh- Co-opted Member

## **MEETINGS**

Council meetings were held on:

28<sup>th</sup> June 2012 (AGM)

Executive Committee meetings were held on:

28<sup>th</sup> June 2012(AGM), 30<sup>th</sup> October 2012, 4<sup>th</sup> February 2013 and 17<sup>th</sup> April 2013

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## **PRESIDENT'S REPORT**

As I get to the end of my two year term as President of the Chemical Institute I would like to reflect on a few things that I set out to do.

### **Centenary celebration:**

With only a few months to put together the Centenary celebration the Executive Committee of the South African Chemical Institute put together a number of events to celebrate 100 years of SACI. There were three National events and several regional events. All these events were very well patronised by SACI members and for this I would like to express the sincere gratitude of Council for the support by the entire SACI community. I would like to make special mention of two of these events, namely the main centenary event that took place on June 29<sup>th</sup> 2012 and the centenary event in Limpopo. The main Centenary event demonstrated how in recent years SACI has strengthened its international links. At this event we had representations from the Royal Society of Chemistry (RSC), the American Chemical Society (ACS) and the Federation of African Societies of Chemistry (FASC). The RSC was represented by its then President Professor Davis Philips, whilst the ACS was represented by Dr. Nancy Jackson, the then immediate past President of the ACS, and FASC by Dr. Yonas Chebude, FASC treasurer. I also had the opportunity to attend the Limpopo event, which was a one day symposium for Universities of Limpopo and Venda. The success of this event has now translated into an annual symposium series which this year takes place in Venda.

### **1. International links:**

Our international links continue to grow. We renewed our links with the Royal Society of Chemistry (RSC) by signing a 5 year MoU. The new MoU has the same broad terms of co-operation as the one signed in 2007, but in addition will allow SACI to further use its links with the RSC to strengthen FASC; especially with Professor Neil Coville who has recently been elected FASC President.

Our links with the Federation of African Societies of Chemistry (FASC) continue to grow. Neil and I attended the recent 4<sup>th</sup> FASC congress in Marrakech, Morocco, representing SACI. The role SACI plays in this regional organization cannot be over emphasized, but the support of the general SACI membership for this body is needed. I would like to see a few SACI members plan to attend the 5<sup>th</sup> FASC congress that will take place in Abuja, Nigeria in 2015.

Our links with ACS is now backed by a 3 year MoU, which was signed by me and the ACS President, Dr. Marinda Wu, at the ACS meeting held in New Orleans in April this year. This has paved the way for the ACS to collaborate with SACI on several fronts. The immediate one is the ACS participation in Inorg2013 and the Carmen conference in Durban at the end of this month. Another formal ceremony of the signing of the MoU will be held in Durban; but even more significant is that the ACS are sending three speakers, two plenary and one keynote, to take part in the conference. They are also bringing their popular "ACS on Campus" series to South Africa; one in Durban on July 5<sup>th</sup> and the other in Johannesburg on July 8<sup>th</sup>. The version of ACS on Campus that we would have, amongst other things, would cover tutorials on "how to publish in ACS journals". The Organic Division is discussing participation of the ACS in the next Warren conference.

## **2. Membership:**

I am pleased with the continued increase in our membership. This has led to our dream of using our membership dues for the day to day running of the SACI office; thanks to the relentless efforts of the Secretary-General, Dr. Patricia Forbes, and the administrator, Mrs Laila Smith in effort to retain old members and to get new ones. But we still are not yet in a position where our membership dues are sufficient to run our annual budget. I would therefore entreat every SACI member to recruit one new member this year to help us achieve this dream.

We discontinued the category of “Honourary Member of SACI” this year and introduced “Fellows” as a new category of membership in order to expand the Institute’s ability to recognise its members. The initial idea suggested by Professor Bhekie Mamba, then Secretary-General, two years ago is now approved and SACI will have its first batch of Fellows at the time of the AGM. I must however express my personal disappointment that we have extremely low nominations and would like to appeal to every SACI members to nominate a Fellow when the next nominations window opens early next year. This is our opportunity to honour the excellent people amongst us who have served chemistry and SACI well over the years.

## **3. Our financial situation:**

The general financial situation of the Chemical Institute continues to get better and our budget deficit keeps getting smaller. This is shown by the treasurer’s report. The Institute, however, needs to look at other avenues to invest in order to maximize returns on its investments. I would therefore like to take this opportunity to appeal to members of the Institute who have skills in this area to contact the SACI office for us to use their skills to improve on how the Institute can improve returns on our investments.

## **4. SA Journal of Chemistry:**

We continue to have increase in publications costs for the journal and Exco has been grappling with various options to deal with this. The increase cost is directly linked to the number of articles that the journal publishes, which is a good thing. My sincere gratitude goes to Professor Graham Jackson and his editorial team in getting the journal to publish more articles and also getting the publication process to be more efficient. Exco will continue to explore various avenues to deal with the increased publications cost.

## **5. Towards recognizing Chemists as “Professionals”:**

We are now at the tail end of this process and hopefully by the next AGM, we would have everything in place to have SACI members to recognize as “Professional Chemists” by SAQA. My sincere gratitude to everyone involved in this process that was led by Professor Coville and Dr. Mike Booth.

Lastly, the move of the SACI head office to Durban took place smoothly and you should all by now be familiar with the new SACI e-mail address that indicates we are now operating from UKZN. My sincere appreciation goes to UKZN for allowing SACI to use an office at its School of Physics and Chemistry in Durban. I am also grateful to Professor Bice Martincigh for overseeing the move to Durban. My sincere gratitude also goes to all Exco and Council members and the rest of the SACI membership for support during my term of office as SACI President.

James Darkwa

**AWARDS 2012**  
**2013 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 Tebello Nyokong  
Department of Chemistry  
Rhodes University

**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 2012, covering papers published in the period 2008 to 2011, was in the field of Analytical Chemistry Chemistry.

Professor Dimitri A Katskov  
Department of Chemistry and Physics  
Tshwane University of Technology  
*South African Journal of Chemistry*, 2010, 63, 45–57  
and  
*South African Journal of Chemistry*, 2011, 64, 79–87

**THE SASOL POST-GRADUATE MEDAL**

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 Technikon, or University or Institute of Technology. The number of medals awarded shall not exceed five per annum, and the awards are limited to one per institution. Adjudicators for the awards are fellow students.

Ms Thashini Chetty  
Ms Caitlin F Zipp  
Mr David Kuter

University of KwaZulu-Natal  
University of the Witwatersrand  
University of Cape Town

### **CHEMICAL EDUCATION**

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.

Mrs Joyce D Sewry,  
Department of Chemistry  
Rhodes University

### **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 Technikon, or University or Institute 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, Technikon and University or Institute of Technology in the Republic of South Africa.

Ms L van der Westhuizen	University of Stellenbosch
Ms L van der Wat	University of Pretoria
Ms BB Davies	University of Cape Town
Ms B Camden-Smith	University of the Witwatersrand
Ms J Coetzee	North-West University
Mr MB Ismail	University of KwaZulu-Natal PMB
Mr T Gunther	University of Johannesburg
Ms JM Taylor	Rhodes University
Mr TN Phaahlamohlaka	University Limpopo
Mr I Clifford	University of South Africa

### **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.

No Award Made

### **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.

Dr Hlanganani Tutu  
Department of Chemistry  
University of the Witwatersrand

### **THE HENDRIK VAN ECK MEDAL**

The award shall be made to a member of the Institute who has made exceptional contributions in the business or industrial sectors and/or to the community as a whole in South Africa.

No Award Made

### **THE INDUSTRIAL CHEMISTRY MEDAL**

The award shall be made to a person who has conducted novel research, or enhanced existing chemical research, in a particular field in an industrial laboratory, which is adjudged to be of outstanding merit, taking into account benefits to his/her company and the chemical community at large.

No Award Made

### **THE ANALYTICA PRIZE**

The award is made to the author(s) of the best paper published in Analytical Reporter during the previous year.

No Award Made

## **MEMBERSHIP REPORT**

The number of SACI members was relatively stable over the last year, with the total paying membership now standing at 900 (880 for 2011/2012), whilst the non-paying members decreased somewhat to 176 (228 for 2011/2012). The non-paying members include Honorary, Life, Student and Teacher members, as reflected in the table of membership figures at the end of this report. The main movement was in the categories of Members and Paying Students and in the termination of those having Conference (non-paying) Membership.

The relative stability of the membership numbers during this period is likely due in part to the fact that no SACI Convention was held over this time, which usually attracts new members. In fact the decrease in Non-paying Members is due to the termination of 69 non-paying Conference Members free membership period. These were the result of non-SACI members who attended a SACI conference and who were given the option of joining SACI for free as a conference member for a period of a year. They received the monthly SACI newsletter and email communication, with the hope that they would convert to paying members in due course. It will thus be advisable to devise a mechanism to improve the conversion rate of these delegates to full members in future.

The main focus during the year in terms of membership was in the initiation of the Fellows membership category. This has been successfully implemented, which included changes being required to the SACI Constitution. The first group of eight nominees in this membership category will be presented to SACI Exco and Council at the June 2013 meetings.

The following three members were awarded Life membership at the June 2012 SACI AGM, as they had been SACI members for 35 years or more and were over the age of seventy: Dr DA Baldwin; Prof PT Kaye and Prof KG Moodley.

There are currently thirteen divisions of SACI, with membership ranging from 29 to 455 per division, although it must be remembered that some divisions have additional non-SACI members which would not be reflected in these numbers. Gauteng remains the largest section (712 members), followed by the Western Cape (188 members) and KzN (162 members). A sub-committee headed by Mike Britton is investigating the continued suitability of the current SACI structure.

We obtained one additional company member (Perkin Elmer) during the year. A letter has been drafted to encourage companies to take up company and patron membership, and this is an area which we hope to improve on.

The Executive Committee would like to thank Laila for management of the membership database. Current SACI members are requested to assist in increasing our membership numbers by both encouraging colleagues and peers to join our Institute as well as by motivating their employers to consider company or patron membership.

**Dr Patricia Forbes**  
Executive Secretary

SACI Membership - 30 April 2013

**CURRENT MEMBERSHIP FIGURES - Paid UP**

**Breakdown of Full Membership**

	Jan-10		Oct-11		Jan-12		Oct-12		Apr-13	Total paying 900
Members	301	-14	287	79	366	-39	327	133	460	
Retired Members	19	0	19	0	19	-4	15	6	21	
Associate Members	48	-19	29	10	39	-5	34	20	54	
Married Associates	3	-2	1	0	1	0	1	2	3	
Students(Paying)	148	93	241	26	267	-64	203	148	351	
Patron Members	2	1	3	0	3	0	3	1	4	
Company members	6	-2	4	0	4	2	6	1	7	
<b>Non-Paying</b>										
Honorary Members	19		20		20		19		19	Total Non Paying 176
Life Members(50YR Members)	78		85		85		85		85	
Students(non Paying)	50		37		40		49		49	
Teachers	8		19		19		20		23	

**Divisions**

Analytical Chemistry	455
Chromatography	162
Chemical Education	117
Electro Chemistry	92
Environmental Chemistry	289
Industrial Chemistry	252
Inorganic Chemistry	290
Mass Spectrometry	107
Molecular Modeling	58
Organic Chemistry	263
Physical Chemistry	184
ThermSA	29
Green Chemistry	65

**Sections**

Eastern Cape	60
Western Cape	188
Gauteng	712
KZN	162
International Members	35

**Patron Member**

Coca-Cola South Africa (Pty) Ltd  
 BASF Holdings SA  
 Merck (Pty) Ltd SA  
 Bruker South Africa (Pty) Ltd

**Company Members**

Microchem lab Services  
 PerkinElmer South Africa  
 Chem Science Laboratories cc  
 Consol Glass Pty Ltd  
 SMM Instruments (Pty) Limited  
 3M South Africa (Pty) Ltd  
 Dow Southern Africa (Pty) Ltd

## **PROGRAMME COMMITTEE**

Many excellent regional meetings were organized during 2012 to celebrate 100 years of SACI in South Africa. The main event in Johannesburg was held on the 29 June 2012 and hosted local speakers and International guests. The centenary celebrations were the focal point of many activities during 2012 with one day symposia at the University of Limpopo (main speaker Ian Bratt) and University of Pretoria (main speaker Cathy Dwyer). The year-long celebrations were concluded with a function at the end of the year in the Western Cape.

The 16th SACI National Inorganic Conference is being organized for the end of June 2013 at UKZN in Durban (more than 150 participants), and will be followed by the National SACI Convention in December 2013 in East London.

Many regional events in divisions were organized, advertised and reported in the monthly Chemistry newsletter.

**Prof Simon Lotz**

## **SA JOURNAL OF CHEMISTRY**

Scientific editors: J. D. Bradley (chemical education), S Lotz (inorganic chemistry), N.Torto (analytical chemistry), H. G. Kruger (organic chemistry), W. van Otterlo (organic chemistry), L. Fraser (organic chemistry), B. S. Martincigh (physical chemistry) and G Venter (computational chemistry), N. Revaprasadu (nanoscience)

Coordinating editor: G. E. Jackson.

### **Administrative**

The board of scientific editors has been expanded to cope with the increased diversity of submissions. Two new editors have been added, Professor Neerish Revaprasadu for nano-science and Dr Gerhard Venter for computational chemistry.

A new on-line submission system has been commissioned. It has not worked optimally and is presently being upgraded and tested by Professor Kruger.

### **Statistics for 2012-2013**

There has been a dramatic increase in submissions during the 2012/2013 period. In 2011/2012 there were 282 submissions while in the 2012/2013 period there were 1055 submissions. A similar number, 225 were submitted by email but there were 830 online submissions. Many of these submissions were summarily rejected but it did highlight the need to modify and tighten the on-line submission process. The average publication time for 2012 is the same as 2011, while the fastest time from submission to publication is in line with those of previous years (see Table 1). The rejection rate in 2013 is very high, reflecting the poor quality of some of the manuscripts received via the on-line system.

The international nature of the journal is one of its positive features, and for those years for which accurate statistics are available, South African manuscripts represented only ~10% of those submitted. India, China and Iran are the three countries for which the journal appears to be most attractive. The quality of the South African papers however is high and this is reflected by the proportion of papers published relative to the total; for a number of years now South African papers published has been below 50%. It is hoped that, while the journal will continue to attract manuscripts from other countries, the number of South African submissions will increase once local

authors regain confidence in the journal since it went electronic in 2000.

The sharp increase in the number of manuscripts submitted since 2006 has seen its greatest effect in the area of organic chemistry. The spread among the remaining disciplines remains virtually unchanged, with chemical education continuing to attract very few submissions, reflecting the relatively small number of active researchers in that field. The number of papers published in each discipline is in proportion with the total numbers of manuscripts received.

Fraud continues to be a problem and all papers are now routinely screened using TURITIN.

### Concluding Remarks

The journal is continuing to experience growth. 2012 was the largest issue of the journal since it went electronic. A matter for concern, however, expressed in previous annual reports, is the increasing number of poor quality manuscripts being received. These can be a source of embarrassment to potential referees, and an early rejection procedure have been implemented. The criteria for submission of papers on new synthetic methodology has also been considerably tightened. There is always room for improvement in the turnaround time between submission and publication. The difficulty of extracting reports from the more recalcitrant referees and in ensuring that authors return their revised manuscripts with the minimum of delay is putting an increased burden on our scientific editors. The fact that the whole publication process is dependent on the goodwill of voluntary referees and editors, who have to balance many conflicting demands on their time, is appreciated, but they need to be made aware of their crucial role in reducing turnaround times.

**Table 1.** Numbers of manuscripts received per year, numbers of journal pages, numbers of manuscripts published, rejected or withdrawn, and pending, rejection rates and times to publication.

Year	No. of manuscripts received	No. of journal pages	No. of papers published	No. of manuscripts rejected or withdrawn	No. of manuscripts pending	Rejection rate/%	Average time to publication /months	Fastest time to publication /months
2003	38	62	16	22	0	57.9	9.2	2.7
2004	55	56	17	38	0	69.1	9.9	2.4
2005	63	143	21	42	0	66.7	11.3	3.1
2006	103	140	19	84	0	81.6	8.6	1.8
2007	120	128	19	81	20	67.5	6.1	2.5
2008	88	161	24	52	12	59.1	6.3	2.6
2009	101	204	34	63	0	66.3	6.1	2.3
2010	123	233	39	167	27	68.3	5.9	1.2
2011	91	56	9					0.8
2012	194	285	44	150	0	77.3	5.5	0.1
2013*	868	157	26	789	53	90.8	5.7	0.5

\*Up to 10 June 2013.

**Prof G E Jackson**

## SACI NEWSLETTER

The SACI newsletter is published monthly 11 times per year; no edition is published between early December and late January since (i) the office is closed over the holidays and (ii) most members are on vacation over this time period.

The newsletter content is determined to some extent by the input of members; the rest is generated by local input from SA scientific bulletins/newsletters etc. I continue to collate the information and then submit to Ms Laila Smith who creates the newsletter sent to members. The decision to send Ms Smith on a web design course has certainly benefited the members by allowing the newsletter to generate a professional means of communicating with SACI members.

A future plan will be to have a shorter version of the newsletter and provide more links to relevant sites.

**Prof Neil Coville**

## IUPAC

Name of Committee	<b>International Union of Pure and Applied Chemistry (IUPAC)</b>	
Committee members (please indicate office, year of election/nomination, gender, race and age)	Assoc Prof Alan Hutton (Male, White) (Chairman)	- University of Cape Town
	Dr Mike Booth (Male, White) Industries' Association	- Chemical & Allied
	Dr Erica Steenberg (Female, White)	- RADMASTE Centre
	Professor Koos van Staden (Male, White)	- University of Pretoria
	Dr Alufelwi Tshavhungwe (Male, Black) Technology	- Dept. of Science and
	Dr Sibulelo Vilakazi (Female, Black)	- Mintek
	Professor Ewa Cukrowska (Female, White)	- University of the Witwatersrand
	Professor James Darkwa (Male, Black) Johannesburg)	- President of SACI (University of
	Ms Lynn Ngwenya (Female, Black)	- ICSU Secretariat
	<i>All elected 2011</i>	

Headings	Activities completed – 2012	Activities planned – 2013
1. Participation by South Africans in Union activities (Indicate name of South African, union and type and	The structure of IUPAC comprises eight divisions and three standing committees:  Physical and Biophysical Chemistry Division (I)	

Headings	Activities completed – 2012	Activities planned – 2013
level of participation)	<p>Inorganic Chemistry Division (II) Organic and Biomolecular Chemistry Division (III) Polymer Division (IV) Analytical Chemistry Division (V) Chemistry and the Environment Division (VI) Chemistry and Human Health Division (VII) Chemical Nomenclature and Structure Representation Division (VIII)</p> <p>Chemical Research Applied to World Needs (CHEMRAWN) Committee on Chemistry Education (CCE) Committee on Chemistry and Industry (COCI)</p> <p>South Africa has representation on five of the Divisions (or their Sub-committees) and one of the Standing Committees. In addition we have representation on the Committee on Printed and Electronic Publications:</p> <p>Professor Kelly Chibale - Division III (Sub-committee on Biomolecular Chemistry) Professor Liliana Mammìno - Division III (Sub-committee on Green Chemistry) Professor Ron Sanderson - Division IV (Sub-committee on Modelling of Polymerisation Kinetics and Processes) Professor Nelson Torto - National Representative - Division V Professor Ewa Cukrowska - Titular Member - Division VI (Sub-committees on Biophysico-Chemical Processes in Environmental Systems; Chemistry of Environmental Compartments) Professor Alan Hutton - Associate Member - Division VIII Dr Erica Steenberg - Titular Member - CCE Professor James Bull - Committee on Printed and Electronic Publications; Editorial Advisory Board</p>	
2.1. Size of local community	<ul style="list-style-type: none"> <li>• Approximately 40 Fellows and Members of IUPAC</li> <li>• The estimated size of the wider Chemistry community (i.e. including those not directly participating in the Union's activities) is very approximately 8000.</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
2.2 South Africans serving on Unions or its subsidiary bodies	<ul style="list-style-type: none"> <li>• As far as can be established, all of the above-named committee members or representatives are South African except for Professors Darkwa and Torto.</li> </ul>	
2.3 Attendance of International Congresses/Workshops	<ul style="list-style-type: none"> <li>• Young Ambassadors for Chemistry, Kasulu, Tanzania, 23 – 27 April 2012 co-presented by Dr Erica Steenberg (CCE).</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

Headings	Activities completed – 2012	Activities planned – 2013
<ul style="list-style-type: none"> <li>• Number of conferences attended</li> <li>• Number of South African delegates</li> <li>• Number of papers presented by South Africans (indicate any special invitations, e.g. keynote/ plenary talks)</li> </ul>	<ul style="list-style-type: none"> <li>• IUPAC Committee of Chemistry Education (CCE), Rome, Italy, 15 and 17 July 2012 attended by Dr Erica Steenberg.</li> <li>• 22<sup>nd</sup> International Conference on Chemistry Education, Rome, Italy, 15 – 20 July 2012 attended by Dr Erica Steenberg. Oral papers presented: <ul style="list-style-type: none"> <li>• 1. “Learning from the Experience – The Global Water Experiment in Developing Countries” (Beverly Bell, John Bradley and Erica Steenberg).</li> <li>• 2. “The Chemists’ Triangle and a General Systemic Approach to Teaching and Learning Chemistry” (John Bradley and Erica Steenberg).</li> </ul> </li> </ul>	
2.4 Capacity Building with regard to Membership of National Committee and involvement of young scientists in International Meetings	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Dr Leah Vilakazi will attend 47<sup>th</sup> IUPAC General Assembly in Istanbul, Turkey, 9 – 15 August 2013</li> </ul>
2.5 Involvement of young scientists in Union activities.	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
2.6 Organisation of Union related Conferences in South Africa	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
2.7 Contribution by members to key documents (e.g. policy docs.) and publications (please indicate why they are regarded as key)	<ul style="list-style-type: none"> <li>• Professor Hutton contributed a section on organometallic nomenclature to the document “IUPAC Brief Guide to the Nomenclature of Inorganic Chemistry”, which seeks to provide the bare essentials of inorganic nomenclature for school pupils and university students.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• To be published in 2013: “IUPAC Brief Guide to the Nomenclature of Inorganic Chemistry”, by R. M. Hartshorn (New Zealand), K.-H. Hellwich (Germany), A. Yerin (Russia), T. Damhus (Denmark), A. T. Hutton (South Africa).</li> <li>•</li> </ul>
2.8 Report back on recommendations made during the in depth review (indicate what were the recommendations and what progress has been made to attend to them.)	<ul style="list-style-type: none"> <li>• n/a</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
3. Value to the Community and benefit to South Africa	<ul style="list-style-type: none"> <li>• Visibility and active participation in the international community. Providing a channel for dissemination of latest recommendations from IUPAC.</li> </ul>	
4. Public Society Interfaces and Outreach Programmes –	<ul style="list-style-type: none"> <li>• ICSU National Board of SA meeting held 28 February 2012 attended by Dr Erica Steenberg.</li> <li>• ICSU National Board of SA meeting held on</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

Headings	Activities completed – 2012	Activities planned – 2013
self initiated or facilitated by ICSU	22–23 November 2012 – IUPAC report presented by Dr Erica Steenberg.	
5. Research Highlights/ New Initiatives in South Africa (indicate what benefits will these bring for SA)		•
6. Science Education (Any activities involving teachers, students, school curriculum development, graduate student development)	Not aware of science education activities held in South Africa under the IUPAC umbrella.	•
7. Highlights and/or major activities/events		• 47 <sup>th</sup> IUPAC General Assembly in Istanbul, Turkey, 9 – 15 August 2013 is the highlight and major activity for 2013. During this Assembly South Africa will be represented at the IUPAC Council Meeting by three delegates to Council.
8. Financial assistance received by South Africans direct from ICSU bodies during 2012	NRF funding for Dr Erica Steenberg to attend ICCE in Rome, July 2012 (see Section 2.3 above).	•

**Prof AT Hutton**

## SACNASP

The South African Council for Natural Scientific Professions (SACNASP) operates under the Natural Scientific Professions Act 2003 (Act No 27 of 2003), and registers Natural Scientists in different categories and fields of practice.

- Transformation and Restructuring

A new era commenced at SACNASP under the leadership of the newly appointed Executive Director Dr. Rolf Becker. The office now comprises 6 business units. The core units (Registration, Finance and Administrative Support) are situated in-house, while the non-core units (Human Resources, Marketing and Legal) have been outsourced to external service providers. Nine permanent and four temporary new personnel appointments were made to facilitate the transformation and restructuring of the office and to cope with the increasing number of applications to be dealt with.

- Registrations

During the reporting period a total of 1082 applications were received. Of these, 123 were first reviewed by the Qualifications Assessment Committee. A total of 843 applications were tabled at 6 (previously 4) Registration Committee meetings, and 713 natural scientists (327 Professional, 235 Candidate and 151 Certificated) were finally registered. Of these, 57 (8%) were Chemical Scientists.

- New Categories of Registration and New Fields of Practice

In response to the needs of natural scientists, the SACNASP Council approved several new categories of registration, viz. Specialist Natural Scientist, Certificated Natural Scientist Level A and B, Trainee Certificated Natural Scientist Level A and B, Associate Natural Scientist and Trainee Associate Natural Scientist. Two new Fields of Practice were approved by Council, viz. Toxicological Science and Geospatial Science.

- Finances

Revenue increased by R 1.1 million (36%) from R 3.1 million to R 4.2 million compared to the previous financial year, while operating expenses only increased by R270 000 (6%). The following meetings were held: Council (3), Executive Committee (3), Registration Committee (6), Qualifications Assessment Committee (4) and Marketing Committee (2).

- Other Achievements

Professional Indemnity Insurance at very lucrative preferential rates was secured for SACNASP registered scientists and their companies. The incentive officially commenced on 1 April 2013, but bridging insurance was already available from November 2012. E-mail and cell phone campaigns were launched during the year to communicate several important marketing events to SACNASP registered scientists. SACNASP's profile in the social media was enhanced by creating a twitter account and by a facebook page which is regularly updated.

- Cooperation Agreement

The Canadian Council of Professional Geoscientists recently signed a cooperation agreement with SACNASP, which accommodates the Geological Society of South Africa (GSSA), in recognition of the similar professional practice of geological sciences by the two bodies beyond national borders.

**Prof. ELJ Breet, Emeritus Professor in Chemistry, North-West University, Potchefstroom**

## CO-ORDINATION COMMITTEES AND DIVISION REPORTS

### EASTERN CAPE

#### **1. Current Leadership Structure (2013-2015)**

Chairperson - Prof Zenixole Tshentu (NMMU)

Secretary – Prof Peter Ajibade (FHU)

Treasurer – Dr Potlaki Tseki (WSU)

Organizer – Prof Ernst Ferg (NMMU)

There is a need to reorganize the current structure to include a colleague from Rhodes University since Prof Tshentu left RU in 2013. A deputy chairperson position will be created. The chairperson will lead this aspect the current committee and with colleagues at RU.

#### **2. Annual SACI EC Postgraduate Seminar 2012**

The annual Eastern Cape postgraduate seminar was hosted by Walter Sisulu University on the 12<sup>th</sup> of October 2012 at the WSU Health Resource Centre in East London. In his welcome address, the Head of Department of Chemistry and Chemical Technology, Dr PF Tseki, expressed their happiness for the opportunity to host the event for the second time in recent years. The SACI awards were presented by Prof. Ernst Ferg on the behalf of the EC SACI committee chair (Dr Z.R. Tshentu). The James Moir Medals were presented to Ms Jessica Taylor from Rhodes University and Mr Ian Clifford from UNISA but based in the Eastern Cape. It was also announced that Prof. Nyokong will receive the Gold award during the SACI National Convention in 2013 while Mrs Sewry would be presented with the Chemical Education Award at Rhodes on the 16<sup>th</sup> of November 2012. The chairman congratulated the recipients and emphasized the need to do more on recruitment of new members and for academics to be actively involved in SACI activities. The sponsors, Aspen Pharmacare, LASEC SA and WSU Chemistry department were acknowledged for their financial support.

All the Universities in the EC were represented in the seminar and the quality of the research works presented by the students were extremely high. In the junior category, topics varied from metal organic frameworks as fluorescence agents that won the first prize to investigation of aesthetic water quality for penguin rehabilitation. Others are electrochemical studies of AA alkaline batteries and determination of the basic characteristics of bagasses from sugarcane. In the senior category, presentations include seeking novel antibacterial agents by incorporating silver nanoparticles into phthalocyanine that won the first prize. Others are pure organic chemistry involving isolation, structure elucidation and cytotoxicity assay from indigenous plant to a physical chemistry presentation that dealt with the elucidation of chemical nature and species distribution of a compound.



Names of the winners (from left to right): Nomvuyo Nantu (WSU), Herbert Chiguvare (FHU), Nkosiphile Masilela (RU), Dr Nigel Harmse (Aspen Pharmcare representative), Colin Mkhize (RU), Luzuko Maqunga (NMMU), Francois van Vuuren (NMMU).

In his closing remarks, the Deputy Dean and Director of WSU School of Physical and Environmental Sciences specifically thanked Prof. Nyokong for making it a matter of priority to attend the SACI seminar every year moving round the province universities with the students. He also invited everybody and encouraged the students in particular to do more work so that they can present their research at the National Convention in 2013. Three prizes sponsored by Aspen Pharmcare and Lasec SA were awarded in each category as determined by the five panel of judges, one from each university and Dr Nigel Harmse, the representative of Aspen Pharmcare who also presented the award. In accordance with recently adopted policy of the EC SACI, University of Fort Hare will host the event in 2013.

**Written by Prof Peter Ajibade (SACI EC secretary)**

### **3. Chemical Education Seminar at Rhodes University on the 16 November 2012**

A Chemical Education Seminar was held by the Eastern Cape branch of the South African Chemical Institute (SACI) on Friday 16 November 2012. The SACI Chemical Education Medal was presented to Mrs Joyce Sewry. The seminar was well attended; delegates from NMMU, WSU and UFH were also present in addition to the Rhodes and Grahamstown community. The facilitator was Dr Zenixole Tshentu who is the current chairman of the Eastern Cape section of SACI.

Prof Nelson Torto, Head of the Department of Chemistry at Rhodes University, welcomed the delegates. He deliberated on the tremendous role that Mrs Sewry has played in her endeavors to promote Chemical Education including taking good care of the Rhodes Chemistry remedial course at first year and heading community engagement projects that give the department a good profile. The seminar kicked off with a presentation entitled “A scientific approach to teaching chemistry” by the invited speaker, Prof Marietjie Potgieter (UP). She began by mapping the context in which South Africa views education at a tertiary level and she highlighted two strategic plans; “broadening access to post-secondary education and improving higher education throughput rate by 20% by 2014”, and DST Ten-Year Plan for South Africa (2008 – 2018) “to compete in the global science and technology arena and the plan to increase SA’s PhD production fivefold”. She lamented about failures in science education and highlighted the following; declining student enrolments and the difficulties that students face in learning science as well as the intrinsic difficulty of certain chemistry topics as indicators and areas of concern.

Prof Potgieter shared insights that she has gained from the Chemistry Competence Test (CCT)

which included 65 items from 11 topics in the following areas; basic concepts (atoms, ions and molecules, mole concept, phases of matter, solutions and reactions), special topics (acids & bases, chemical equilibrium, electrochemistry and organic chemistry), and skills (mathematics and process skills). This probe was then used to test the effectiveness of first-year teaching at several universities in South Africa. She highlighted the following as being the most difficult challenging areas; stoichiometry and the mole, balancing equations, ion-electron equations and electrochemistry, bonding, equilibrium, organic chemistry involving reactions of carbonyl compounds, hydrolysis, condensation and esters, and radiochemistry. She illustrated by a way of a chemical equation how students miss a lot of information that is presented, and attributed this to metacognition and information processing. Apparently, we have a limited working memory to deal with all conscious activities and an effectively unlimited long-term memory that can be used to store schemas of varying degrees of automaticity. The working memory has to accommodate both the holding space and processing space hence the limited capacity (i.e. easily overloaded). When selection of information is done more effectively, overload is reduced and when a task exceeds working memory capacity, performance drops drastically and learning stops. She advised the following strategies for dealing with this problem; pre-learning to guide selection of useful information, modifying presentation (better sequencing, breaking down complex ideas in smaller parts, and a stepwise approach) and making explicit the links between new material and existing knowledge. She ended by acknowledging the institutions that provided space for her to get the requisite data for her studies as well as colleagues who she has worked with in the field of chemical education. She congratulated Mrs Sewry on her award and wished her well for the future.



From the left: Dr Zenixole Tshentu, Mrs Joyce Sewry and Prof Marietjie Potgieter.

Dr Tshentu highlighted areas of engagement in which Mrs Sewry was involved, most importantly the linking of chemical education with community engagement, and then presented her with the SACI Chemical Education Medal for 2012, after which Mrs Sewry was invited to give her presentation entitled “From FET, first to fourth year: Chemistry education at all levels”. She mapped the declining number of Science and Maths learners sitting for a NSC examination in the Grahamstown district from just below 400 in 2009 to just above 200 in 2011 for Physical Science, and also showed a similar trend for the national candidates. She lamented on the poor performance of learners in the Grahamstown district in both Maths and Science. She then presented a Rash analysis of the 2011 NSC Science examination and highlighted the rates of reactions and

equilibrium as well as electrochemistry as areas of difficulty while there was better performance in organic chemistry. She then highlighted activities of the Khanya Maths and Science Club which she runs on Saturday mornings with the aim of engendering a love of Maths and Science. She also outlined the work that she does with grades 11 and 12 (titrations and organic functional groups), ACE teachers, and the Chemistry 1R (remedial course) and Chemistry 1 teaching. She illustrated by a way of combustion of methanol, how live experiments can be used to foster learning of concepts such as stoichiometry, complete and incomplete combustion, and exothermic reactions. She also used dry ice (solid CO<sub>2</sub>) to show how concepts such as sublimation, acids and bases can be learnt in action. She also discussed how she uses “A Pollutant’s Tale” and hands-on experiments as a service learning course for fourth years where students are required to present at the schools and then reflect on the process. She concluded by sharing how community engagement can and does inform her teaching at the tertiary level, and vice versa. She then thanked the following; Prof Perry Kaye, Dr Ken Ngcoza, Mr Reuben Maselwa, The Bristol Team (Prof Davies-Coleman, Mr T. Harrison and Prof D. Shallcross), Prof Torto and Colleagues, All student volunteers and her Family as well as Prof Marietjie Potgieter for supporting her special event.

Dr Tshentu concluded the event by thanking the guest speaker, Prof Marietjie Potgieter, for her willingness to support the EC SACI, and colleagues from NMMU, WSU and UFH for supporting the SACI events. He congratulated Mrs Sewry on her achievement and applauded her for a well-deserved award. He also encouraged colleagues from the EC to nominate deserving candidates for the SACI awards. He then invited the delegates to refreshments, kindly sponsored by SACI, LASEC SA, and the Rhodes University Chemistry Department.

**Written by Dr Zenixole Tshentu**

#### **4. SACI CONVENTION 2013**

The venue for the convention will be the River Park Convention Centre in East London as against the previous venue ICC East London. This is because the River Park is cheaper, more spacious and they are not demanding a deposit. This venue has been secured for the 2<sup>nd</sup> to 6<sup>th</sup> of December. The registration and opening ceremony will be held at Golf club East London. Student accommodation has been secured at the East London WSU accommodation. The rooms there are sufficient for students and delegates who do not mind to share flats.

Some speakers have been contacted and they have shown willingness to be present while we are still waiting for others. The following; guest speaker (Prof Nyokong), plenary speakers (Prof Sabu Thomuas, Prof Davidowitz, Dr Mashimbye, Prof D Richon) and one key note speaker (Prof B Ameduri) have agreed to present at this conference. We are however facing great challenges in terms of Organic Chemistry, and Physical Chemistry plenary speakers as the ones we have contacted have still not given their full commitment. Prof Tshentu will also share a list of potential keynote speakers with council before we contact them for invitation.

Twenty six abstract has been received so far of which 90% are from African and Europe. Several emails were received as some delegates were confused as to which SACI conference they were to submitting an abstract to (the one in July or in December). A drive has been put in place to get all Chemistry Department in South African Universities to help publish this to their postgraduate students and academia. As the deadline draws close we are certain that more abstract will be submitted by South Africa delegates. A scientific program will be drawn once the speakers have been reconciled and abstract acceptance process completed. A national scientific committee has been put in place to deal with abstracts.

There has been some drive by the finance sub –committee to raise funds. So far all we are we have

only receive about R102 000 (see the breakdown below). Potential donors such as DST, Bruker, Chemtrix, Chemical and equipment suppliers have made some commitment and the committee intends to follow up.

NRF KIC R32000

WSU Chemistry R50 000

Nazareth House R30 000

**Prepared by Prof A. Oyedeji**

## GAUTENG

In the last half of 2012 the SACI Gauteng coordination committee acquired Marile Landman (UP) as an additional member. Her skills in organizing some of the SACI events from previous years make her a valuable attribution to the committee. Currently the committee consists of Alfred Muller (UJ, chair), Richard Moutloali (Mintek, vice-chair), Omotayo Orotiba (UJ, secretary), Andreas Lemmerer (Wits, treasurer) Nosipho Moloto (Wits, sponsors), Justice Moloto (VUT, events), Melanie Rademeyer (UP, events) and Marile Landman (UP, events). The committee is still in a favorable financial situation from a previous SACI convention held in the Gauteng region.

In the last half of 2012 members of the committee helped in organizing two successful events:

- 1) SACI Half-day centenary symposium, held 28 September 2012
- 2) SACI Young Scientist Symposium held 9 November 2012

Both the events were held at the University of Pretoria where two of our committee members are situated.

The committee had to cancel a public lecture by Simon Connell from UJ in November 2012, but this was rescheduled at the Sci-Bono center on 18 March 2013. For 2013 several events are planned, but most of these will only happen in the last part of 2013. These events are:

- 1) SACI/RSC annual dinner event, to be held at Wits, 5 July 2013
- 2) SACI young scientist symposium, to be held at UJ, 13 September 2013
- 3) Award ceremony, to be held at Wits, preliminary 24 October 2013

As it is always difficult to get the recipients of the SACI awards together for an event, the committee decided to hand out these awards at all three of the planned events above. This will give recipients several opportunities where they can receive awards, and give a presentation if required. The committee had two general meetings in the year that passed, basically to discuss organization of events and possible plans to increase SACI membership. Most of these recommendations were conveyed to the ExCo committee for consideration.

**From the SACI Gauteng Coordination Committee**

## KWAZULU-NATAL

During this period we were very pleased to have four members join the Coordination Committee. These are Sue Petzer, Themba Msukwini, Irvin Booysen and Stephen Ojwach. We wish to thank them for volunteering to serve the Institute. Unfortunately, we lost Ross Robinson who resigned because of pressure of work. We would like to thank him for his valuable contributions during his membership and also his leadership during his period as Chair of the committee. The committee has met regularly, every two months, to plan various events.

The KZN SACI Section celebrated the Institute's Centenary in the form of a dinner. This was held on 2<sup>nd</sup> August 2012 at the COMSA Lounge of the University of KwaZulu-Natal, Westville Campus in Durban. Approximately 60 members attended the function. Professor John Field was the Master of Ceremonies for the evening. Our first speaker was Professor Siegfried Drewes, who is an Emeritus Professor of the University of KwaZulu-Natal, and the 1995 Gold Medal winner and 1966 Raikes Medal winner of the Institute. His talk was entitled: "Some characters from the past who made a difference". He had the audience enthralled with amusing and more serious anecdotes of some of the chemists from our province. Our second speaker was Themba Msukwini who is currently employed in the Co-operative Education Unit of the Durban University of Technology as an External Engagement Manager. He spoke on his research findings on "Perspectives of employers on the work readiness of graduates". This stimulated much discussion among the members particularly those involved in the educational sphere. Our last speaker was Professor Tony Ford, also an Emeritus Professor of the University of KwaZulu-Natal, and a past-President, 2006 Gold medal winner, and twice AECI Medal winner of the Institute. He entertained the audience with amusing anecdotes of interesting events that happened at various conferences he has attended. The Section would like to thank Council for funding and making this event possible. It enabled members to celebrate the 100 years of the Institute's existence and catch-up with old friends and have a very enjoyable evening together.

For the first time in KwaZulu-Natal, SACI in collaboration with the RSC hosted the 2012 high school crystal growing competition. Schools were provided with some reagents and instructions on how to grow crystals, and given several weeks to complete the task. A number of schools participated from the Pietermaritzburg area. Judging took place at the Pietermaritzburg Campus of the University of KwaZulu-Natal. The learners were first taken on a tour of the research facilities in the School of Chemistry that included the NMR spectrometer, X-ray diffraction lab as well as the Mass spectrometry labs. The students were all given lunch followed by a chemistry magic show in the afternoon. Over the course of the morning and afternoon sessions a total of about 130 students were hosted. After the chemistry magic show, the prize-giving ceremony was held for the best crystal. The winning school was Maritzburg College, that won a small weather station for their science class room. All the schools that participated received a Galileo thermometer as well as a periodic table for their class rooms. Unfortunately the similar event scheduled for Durban had to be cancelled because the Minister of Education banned school trips due to road deaths caused by school transport during that period.

Annually the KZN Section organises the Honours/BTech Symposium. It was successfully held on 24<sup>th</sup> October 2012 at the Hotel School of the Durban University of Technology. The event was kindly organised by Professor Vincent Bisetty of DUT. It was attended by the fourth year students from Durban University of Technology, University of KwaZulu-Natal and Mangosuthu University of Technology. Unfortunately, the University of Zululand was unable to participate this year. Professor Moyo, the Acting Director of the Centre for Research Management and Development at DUT, gave the welcoming address. Nine students, three each from DUT, UKZN Westville and

UKZN Pietermaritzburg, orally presented their BTech/Honours research projects while another 15 students presented posters on their projects. The oral and poster presentations were adjudicated and prizes were awarded. The winners for the oral presentations were: first prize to Sandeeran Govender (UKZN, Westville Campus) and second prize to Lesley Dralle and Thembisile Zaca (UKZN, Pietermaritzburg Campus). The poster presentation winners were: first prize to Letisha Deeplal (UKZN, Westville Campus) and second prize to Ntokozo Chamane (UKZN, Westville Campus). At the event a number of SACI Awards were also handed out. These were: the 2012 James Moir Medal to Mr Bilaal Ismail from UKZN Pietermaritzburg Campus for achieving over 75% in his Honours degree, the 2012 Sasol Postgraduate Medal to Miss Thashini Chetty from UKZN Westville Campus for her excellent academic endeavours and contributions, and the Institute's Life Membership Award presented to members aged 70 or over, with a minimum 35 years membership, to Professor KG Moodley for his dedication and long service to Chemistry. We would like to thank the Royal Society of Chemistry (Northern Section) for assistance with sponsorship for this event.

The KZN Section ended the year with its annual Magic Show which was held on 5 December 2012 at the University of KwaZulu-Natal, Westville Campus in Durban. This event has been held in KZN for some 30 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 was the first time that others performed the show and they had very difficult shoes to fill. The show was performed by the Three Magicians (Vincent Nyamori, Bernard Owaga and Bice Martincigh) who entertained both young and old with their chemical magic, bangs and smoke. Some 60 people attended the event which ended with the serving of magical ice cream. The KZN SACI Section would like to thank Langet Laboratories for their generous sponsorship of the event, and the staff of the School of Chemistry and Physics and the WestChem Student Society for assistance.

At the start of 2013 the SACI Head Office and Mrs Laila Smith, the SACI Administrator, moved to the Chemistry Building at the Westville Campus of the University of KwaZulu-Natal in Durban. The move went very well apart from a few minor bureaucratic hiccups. Laila is now well settled in her new environment and as efficient as ever. The KZN Section is very pleased to have her here.

During 2013 the committee has been busy with the organization of the forthcoming 16<sup>th</sup> Biennial Inorganic Chemistry Conference incorporating the Carman Physical Chemistry Symposium. This will be held at the Elangeni Hotel from 30 June to 4 July 2013. At the meeting the American Chemical Society will be represented for the second signing of the Memorandum of Understanding between the ACS and SACI. On Friday, 5 July the ACS will host ACS on Campus at the Westville Campus of the University of KwaZulu-Natal. This event is aimed at postgraduate students. This will be followed on Saturday, 6 July with a Workshop on SciFinder. In addition, the committee is also in the process of assisting with the organization of the 5<sup>th</sup> IUPAC International Conference on Green Chemistry which will also be held at the Elangeni Hotel from 17 to 21 August 2014. The planning and preparation for these events has kept everyone occupied but on 13<sup>th</sup> June a Workshop on Solid Phase Extraction will be held again at the Westville Campus of the University of KwaZulu-Natal to which all the members are invited.

The finances of the Section are relatively healthy but we need a mechanism in the near future to ensure that the finances are sustainable.

**Prof Bice Martincigh**

## WESTERN CAPE

The Western Cape section of SACI had a relatively quiet year. Despite this, there are two main highlights for the section that occurred during this reporting period. The first was the hosting of the closing function of the centenary celebrations of the Institute and the second was the lecture and awarding of the Institute's Raikes Medal to the 2011 recipient DrGregory Smith from UCT.

The closing function of the Institute's centenary celebrations consisted of a Gala banquet dinner held at the Wallenberg research centre in Stellenbosch. The function was attended by approximately 80 members of SACI and the RSC in the Western Cape and we were particularly happy to have a large number of post graduate students attending as well as some very long time members of the chemistry community. Amongst the guest we were also pleased to have several past Presidents of the Institute including Prof. Ivan Green, Prof. Graham Jackson and Prof. James Bull. The presence of the three past presidents highlighted the contributions of members of the Western Cape section to the broader chemistry community in South Africa. In addition to an excellent meal, we had two invited dinner speakers. Emeritus Prof. Cyril O'Connor entertained diners with recollections and anecdotes from his long and distinguished career in Chemical Engineering. Emeritus Prof. Helgard Raubenheimer gave some very interesting perspectives on the current state of Chemistry as well as some of his thoughts on the future of Chemistry in South Africa. The immediate past President of SACI, Emeritus Prof. Ivan Green proposed the toast to SACI and formally closed the centenary celebrations on behalf of the President of the Institute, and Prof. Peter Mallon acted as the master of ceremonies for the event. Those attending the function unanimously agreed that it was a very fitting function to end the year long centenary celebrations. We should make special mention of Dr Margret Blackie for all the effort she put into arranging such a successfully event. A copy of the function programme is attached to the end of this report.

In August we had a special event attached to the sectional AGM for the formal awarding of the Institute's Raikes Medal to the 2011 recipient, Dr Greg Smith from UCT. In addition to the formal handing over the medal and certificate, Dr Smith presented a lecture entitled "Organometallic Macromolecules: From Metal-Containing Polymers to Metallodendrimers"

This lecture and award ceremony was very well attended, and it was particularly encouraging to see such a large contingent of people from UCT who travel to Stellenbosch to support Greg.

In October the PD Hahn memorial lecture was held at UCT. This is formally a RSC event, but as is the norm now in the Western Cape, it was a co-sanctioned RSC-SACI event. Professor Nelson Torto from Rhodes University was the invited speaker for this biennial event and he presented a lecture entitled "From litmus paper to pregnancy test kit: what next in diagnostics?" Once again it was encouraging to see such good attendance at this very prestigious lecture.

In March of this year Prof. Wolfgang Mackenroth, from BASF presented a SACI lecture entitled "TDI for Europe - A large Investment at the Ludwigshafen Verbund Site". Prof Mackenroth has long been associated with Stellenbosch University and has presented a module on industrial chemistry in the Honours Course for a number of years. This SACI sponsored lecture was a good opportunity for the SACI members (particularly our postgraduate student members) to hear about some of the latest developments in industrial chemistry in Europe.

Lastly, it should be mentioned that the Western Cape Section of SACI and the Southern Section of the RSC continued their cooperation in the form of a joint co-ordination committee in the Western Cape. There is no question that this joint effort has been to the benefit of both societies and the chemistry community in the Western Cape in general and we plan to continue this joint committee.

**Prof Peter Mallon**

## ANALYTICA

No Report

## CHEMICAL EDUCATION

I regret to report that I have done very little for the division this year. I consider the division and its activities to be very important in SACI but pressure of work has made it difficult to fulfill my duties. I have tried unsuccessfully to persuade other colleagues to take on this work. Apart from a small contribution to the SAQA process, I have done very little. I was even away when the NSTF meeting took place.

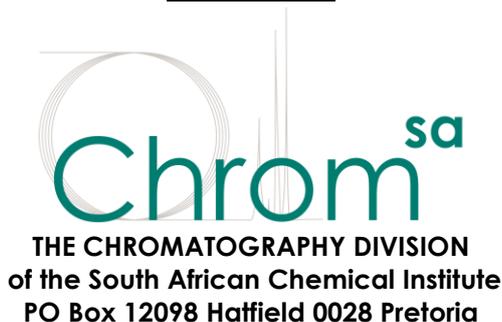
The NSTF meeting procedures are freely available on their website and their communication is very thorough.

I was an invited speaker at the recent Gordon research conference on chemical education and my talk was well received. Professor Bette Davidowitz of UCT also presented a poster.

I will attempt to find leadership for this important community in the next year.

**Prof Marissa Rollnick**

## CHROMSA



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

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

Dr Patricia Forbes (Chairperson)  
Mrs Hannalien Meyer (Immediate Past Chairperson)  
Dr Magda Rösemann (Treasurer, Vice-Chairperson)  
Mrs Belinda Hickman Mosdell (Minutes secretary)  
Prof Luke Chimuka (Student Liaison)  
Mrs Yvette Naudé (Honorary Secretary and Membership)  
Mrs Anita Botha (Programme co-ordinator)

Additional members: Dr Peter Gorst-Allman, Dr Maria Fernandes-Whaley, Mrs Wiana Louw, Alexander Whaley (Webmaster).

Dr André de Villiers is the ChromSA representative for the Western Cape. Additional members of the Western Cape committee are Ben Burger, Ivan Green, Brenda Marx, Iain Moodie, Gordon Shephard, Denice Smit, Marietjie Stander, and Merrill Wicht. Stefan Louw resigned from the committee as of 2013 as he has moved to Namibia. Ahmed Mohamed from UWC has accepted an invitation to join the Western Cape committee.

Dr Martin Dovey is the ChromSA representative for KwaZulu Natal.

There are currently over 400 members on the ChromSA mailing list.

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

The AGM was held on 8 October 2012 at the ChromSAAMS 2012 Conference at Dikhololo. Attendance was rather limited, with 21 people present, although a major benefit of holding the AGM at this national event was that it allowed regional representatives to attend which would otherwise not have been possible.

### **C) AWARDS:**

Dr André de Villiers was announced as the ChromSA Chromatographer of the Year for 2012 at the ChromSAAMS 2012 Conference at Dikhololo.

### **D) FINANCES:**

The finances of ChromSA continue to be sound and were boosted by the profit made from the ChromSAAMS 2012 Conference. The funds held by the National ChromSA division are >R430 000, whilst ChromSA Western Cape has funds of ~R246 000.

### E) EVENTS ORGANISED:

- Most of the division's efforts during this reporting period focused on the organization of the ChromSAAMS 2012 Conference, which was held on 7 to 10 October 2012 at Dikhololo. The ChromSA national committee and the ChromSA Western Cape regional committee provided sponsorship to a total of four postgraduate students to attend the conference. ChromSA also sponsored a prize for the Best Student Oral Presentation at the conference, which was judged by a group of international plenary speakers and was awarded to Leandri van der Wat of the University of Pretoria. The conference was very well attended (>160 people) and was very well organized under the Chair of Dr Peter Gorst-Allman, which resulted in a sizeable profit (~R400k including short course profit, see next point). This was divided between the national committees of ChromSA and SAAMS which had provided seed funding for the event.
- The conference was followed by a short course on LC-MS (11-12 October 2012) at NMISA. Over 40 people attended, which clearly demonstrated the need for this course and its successful organization (w.r.t. location, topic, presenters, and pricing).
- The following lectures were held in Gauteng during the period under review and were well attended:

<b>Speakers</b>	<b>Title</b>	<b>Date</b>	<b>Sponsor</b>
Dr Laura Quinn	The importance of accurate, reliable gas chromatography	15 February 2013	NMISA
Dr Juergen Schnelle-Kreis	Analysing emission and ambient particulates – Application of GC- and GCxGC-TOFMS	28 February 2013	German-South African Year of Science (Forbes grant) & LECO

- The following events took place in the Western Cape:

<b>Speakers</b>	<b>Title</b>	<b>Date</b>
Dr Lubbe Wiesner & Prof Neil Ravenscroft	LC-MS and preclinical pharmacokinetics & Chromatography: as essential tool in vaccine development	1 August 2012
Peter Alden	Ultra Performance Convergence Chromatography: Expanding Selectivity for the Chromatographic Laboratory	17 October 2012
Prof Tadeusz Górecki	Adventures in GCxGC: taking the path less travelled	29 November 2012
Simon Szwandt	Analytical flexibility coupled with high resolution accurate mass offered by Orbitrap mass spectrometry	27 February 2013

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

The committee is assisting with the development of the Chromatography and Analytical sessions of the ICCA 2012 Conference to be held at the University of Pretoria (UP) from 8 to 12 July 2013.

A number of lectures and events are planned for the year ahead in the different regions and includes a Postgraduate Student Workshop in September at UP. Dr André de Villiers will present an acceptance talk for the Chromatographer of the Year award in Stellenbosch on 28 May 2013.

#### **G) OTHER:**

A mutually beneficial joint meeting between the chairpersons of the ChromSA national committee, the ChromSA Western Cape regional committee and the SAAMS national committee was held on 4 July 2012 in Stellenbosch, in order to improve communication and collaboration.

The ChromSA division participated in a SACI wide survey of the sections and divisions co-ordinated by Mike Britton.

Anatech announced at the ChromSAAMS 2012 Conference that they would provide R30 000 towards the sponsorship of postgraduate students to future chromatography and mass spectrometry events (conferences and training courses). A document outlining the purpose of the program, qualification criteria and the procedure to be followed in the awarding of funding was subsequently drafted by ChromSA and SAAMS, who will jointly administer the application process and recommend awarding of the funds. Applications to this program were opened for the forthcoming ICCA 2012 conference and one eligible student will be supported from it.

#### **H) CONCLUDING COMMENTS:**

It is very encouraging to note the continued increase in interest and involvement of postgraduate students in the activities of ChromSA. A special thank you is extended to Genna-Leigh Geldenhuys and Leandri van der Wat, the UP postgraduate students who maintain the ChromSA

Facebook page, as well as to Laila Smith of the SACI Head Office, who has taken over the role of Webmaster of the ChromSA webpage, which is now linked to the SACI website.

It was only possible to hold so many successful events in the year with the dedicated hard work of the ChromSA national committee members and regional representatives, who voluntarily give of their valuable time and energy. I would therefore like to sincerely thank all committee members for their contributions. The ongoing valuable support of ChromSA's sponsors is also highly appreciated and all ChromSA members who contribute to the vibrancy of the division are thanked for their participation in our events. Our excellent collaboration with the SAAMS division has led to many mutual benefits, and is seen as one of the key elements to the success of our division.

**Dr Patricia Forbes**

**ENVIROMENTAL CHEMISTRY**

No Report

**PHYSICAL CHEMISTRY**

No Report

## ELECTROCHEMISTRY



### Electrochemistry Divisional Report

Chair: Prof PGL Baker

#### Events and Activities:

##### *Past events:*

*ElectrochemSA* hosted its 2<sup>nd</sup> International symposium on Electrochemistry at the University of the Western Cape, Bellville, SOUTH AFRICA from 19-20 July 2012. The symposium focussed on “Electrochemistry for Energy” and the main themes identified for this symposium included Electrochemical applications of nano-materials in energy related fields such as supercapacitors, batteries, fuel cells, Sensors and sensor technology as well as Industrial Electrochemistry. Each theme was introduced by leading experts in the field and precedence for senior student presentations were given. The majority of the participants in the event were students and this greatly affected the income potential of the symposium. All plenary speakers and keynote speakers however were from South Africa and this balanced the expenditure. The facilities of the University of the Western Cape were sponsored and hence the income was devoted to catering, printing and transportation costs. The final conference booklet and some conference photos are available on the *ElectrochemSA* website.

During the 2012 calendar two events were hosted by the *ElectrochemSA* division (May 2012 and July 2012) and both of these are captured in divisional reports and the *ElectrochemSA* website. These events were planned to create awareness and support for the 13<sup>th</sup> Topical meeting of the International Society of Electrochemistry, which was held at CSIR Pretoria, 7-11 April 2013. The topical meeting providing an excellent knowledge sharing platform and networking opportunity for South African and international researchers in the same thematic areas addressed in the 2<sup>nd</sup> International symposium referred to above and served to highlight the research areas and expertise of South African electrochemistry community. South Africa is represented at International Society for Electrochemistry by Prof K Ozoemena (regional representative) and Prof PGL Baker (newly elected vice chair (2012) Division 2: Analytical electrochemistry)

##### *Diary request:*

*ElectrochemSA* plans to host its 3<sup>rd</sup> International symposium on Electrochemistry in January 2015. This event will coincide with the planning workshop of an FP7 mobility programme which will bring renowned scientists in the field of cancer nanosensing to our shores and is an opportunity not to be missed by South African scientists.

**Prof Priscilla G L Baker**

Chair: Electrochemistry division 2006-

11 June 2013

## INORGANIC CHEMISTRY

The main focus of the last year was centered round the organization of the SACI Inorganic Conference (Inorganic 2013) at UKZN from Sunday 30 June until Thursday 4th July 2013. The chairperson of this Conference, Werner van Zyl, and his organising team put together a well-balanced programme. The Carman symposium was again incorporated as these divisions have a lot of themes in common. A delegation of the American Chemical Society will attend to sign a memorandum of understanding between the ACS and SACI. More than 150 participants have registered and it is clear that the Conference is attracting a lot of attention and will be very successful.

Many events organized by regional and thematic divisions have been reported on in the regular monthly SACI Newsletters. This is a wonderful source of information to keep the Inorganic Chemistry fraternity of South Africa in contact with activities in other sections. It is clear from the reports that Inorganic Chemistry is still very much alive and still acts as an umbrella grouping when events are organized and speakers selected.

Inorganic Chemistry divisions played active roles in organizing symposia or events during centenary celebrations in the second half of 2012 to mark this great occasion in the history of SACI.

Inorganic Chemistry researchers were encouraged to submit manuscripts to the Chemistry Journal of South Africa and a number of papers were published during the last year to support this cause. Researchers in Inorganic Chemistry could further improve communication with SACI office at UKZN to advertise events, visitors, seminars, etc. It is envisaged that each SACI branch in the country should have a publicity member (also for Inorganic Chemistry) to distribute information, report on activities and share overseas visitors.

**Prof Simon Lotz**

## MOLECULAR MODELLING

### **MINUTES OF THE SACI SPECIAL INTEREST GROUP – MOLECULAR MODELLING DIVISION ANNUAL MEETING**

**(BREAK AWAY SESSION FROM CHPC NATIONAL MEETING)**

**DATE AND TIME: 6 DECEMBER 2012 FROM 12:15 TO 13:15**

**VENUE: DURBAN INTERNATIONAL CONVENTION CENTRE (MAIN HALL)**

#### **PRESENT:**

Gert Kruger (GK) (Chair) [kruger@ukzn.ac.za](mailto:kruger@ukzn.ac.za) UKZN

Marianne Conradie [ConradieMM@ufs.ac.za](mailto:ConradieMM@ufs.ac.za) UV

Jeanet Conradie [ConradJ@ufs.ac.za](mailto:ConradJ@ufs.ac.za) UV

Karel van Eschwage [veschwkg@ufs.ac.za](mailto:veschwkg@ufs.ac.za) UFS

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Marile Landman [marile.landman@up.ac.za](mailto:marile.landman@up.ac.za) UP

Stefan Coetzee (SC) [spookperd@gmail.com](mailto:spookperd@gmail.com) UP

Nelson Dzade [dzanel55@yahoo.co.uk](mailto:dzanel55@yahoo.co.uk) UCL

Okolo Gregory [22006303@nwu.ac.za](mailto:22006303@nwu.ac.za) NWU

Richard Harris [richardh@mintek.ac.za](mailto:richardh@mintek.ac.za) Mintek

Daniel Moeketsi (DM) [dmoeketsi@chpc.ac.za](mailto:dmoeketsi@chpc.ac.za) CHPC

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Njabulo Gumede [ngumede@mut.ac.za](mailto:ngumede@mut.ac.za) MUT

#### **APOLOGIES:**

Dr CGCE van Sittert (secretary)

#### **WELCOME**

The chair welcomed all members present. The agenda for the meeting included and addressed progress on issues from the previous minutes recorded at the 2011 SIG meeting.

### 1. SOFTWARE REQUIREMENTS/INVENTORY

#### **CURRENT**

##### *MATERIAL STUDIO (MS)*

- The latest version, MS 6.0, has been installed.
- As a result, **MR** who is a current user of MS 5.5 expressed concern that the older version of MS should not be removed from the clusters since this would impact on his studies. It was decided that it will be communicated to the CHPC technical team that any older versions of particular software must be retained for a specific duration before being removed. Another user of CHPC, **SC**, confirmed that all three versions: MS 5.0; 5.5 and 6.0, are currently available on the clusters.
- Furthermore, **MR** asked **GK** to follow up with CHPC and Accelrys regarding any initiatives on parallelising semi-empirical modules such as VAMP
- **GK** encouraged members to address problems with the CHPC helpdesk. In addition, **GK** volunteered to assist members (CHPC users) by approaching the CHPC technical team with any burning issues/problems the users may experience with the clusters or software should their issues not be resolved via the help desk

##### *AMBER 12*

- Is the latest version installed. Mahmoud Soliman (contact details???) who is considered as an AMBER expert may be contacted should users require assistance when using the software.

##### *GAUSSIAN 9*

- No problems were reported

##### *Schrodinger*

- No problems were reported

##### *Symmetry Adapted Perturbation Theory (SAPT) - freeware*

- **TF** requested that the installation of SAPT be treated as high priority. **GK** to follow through with the CHPC technical team to ensure that the installation is done.

#### **NEW**

NAMD: No feedback

DESMOND: No feedback

REAXFF: **ZP** stressed to **GK** the importance for using this in his research.

**GK** to follow through with CHPC and keep **ZP** abreast of any feedback regarding the installation and use of this software.

MOLCAS: **IN** faced lots of problems with the compilation of MOLCAS on CHPC clusters. **IN** still busy with checking if the software works correctly.

PIPELINE PILOT (PP): It was suggested that since MS and DS have been installed on the clusters it would be useful to invest in PP. The recommendation has been passed on to Happy Sithole (Director: CHPC).

QUANTUM EXPRESSO ON GPU: This is freeware. **AL** requested an installation of this package. **GK** to follow through while keeping **AL** apprised of all communication with the CHPC in this regard.

### **PROTOCOL FOR NEW SOFTWARE**

- **Identify the software**
- **Interest must be generated from the computational community**
- **Rally support from the same community**
- **Identify a key person that will drive the above process from start to finish including getting the support of the CHPC based on the above criteria**

### 2. QUEUING SYSTEM

*Calculation Run Time:*

**AA** expressed his calculations run on GAUSSIAN 9 and FIREFLY GAMESS 1.8 required long wall times. Current scripts used do not allow calculations to exceed more than two weeks for calculations and thus calculations were restarted regularly.

**Happy Sithole** suggested that a **SIG** application be sent in where a request for more cores must be made. *It is not feasible if calculations run on an HPC unit takes 1 month for completion.*

*Parallelisation of Gaussian* – it was recommended that this be further investigated so that the run time issue can be resolved.

*Policy for using MS, DS and Gaussian* – it was also recommended that a guide should be provided on how one may optimally use (scaling system for effectiveness) the clusters for a calculation without wasting CPUs. This again re-emphasised the need for a COMPUTATIONAL CHEMIST to be housed at the CHPC so that these inconvenient issues may be dealt with.

**GK** recommended to **DM** that the NSA (based in the states) had a smooth efficient queuing system and perhaps the CHPC should interact with them in order to solve our current problem on the same matter.

### 3. TRAINING ACTIVITIES

Two successful workshops were hosted in 2012, one by NWU and the other at UKZN on an Introduction to Molecular Modelling and AMBER, respectively. **GK** and the members agreed that follow up workshops on the same areas will be conducted in 2013.

### 4. INDUSTRIAL INVOLVEMENT

- CHPC currently addressing this issue

### 5. GENERAL/SPECIFIC PROBLEMS

Help Desk: With thanks, this issue has been addressed and a significant improvement observed to date

Weekend support: No current support, however **DM** has reported that future plans will address this issue

Quality checks for software: Again it is stressed by the **SIG** that the CHPC needs to look into having a designated person for this particular task, preferably a COMPUTATIONAL CHEMIST

### 6. WEB

Website: **DM** has reported that the website is currently under construction. The **SIG** has requested that a list of the available software and scripts be uploaded onto the website

Wiki: **DM** confirmed the new website will have a wiki for the **SIG**

### 7. RESEARCH OUTPUTS

**GK** stressed to the members that the CHPC must be acknowledged in all research output obtained through the use of their clusters. Peer-reviewed journals, MSc dissertations and PhD thesis must be sent onto **DM** for CHPC records and statistics. **GK** has requested that **DM** forward the statistics obtained once he has finished compiling the necessary information from the data received.

### 8. OTHER

- **Happy Sithole** requested more involvement from the **SIG** for next years CHPC meeting. He suggested 3 volunteers to join the scientific programming planning committee and one plenary speaker from the **SIG**. **GK** to send mail to all members looking for possible volunteers.

- **GK** also mentioned to **DM** about the clash of the SACI and CHPC conference to be held in the first week of December in 2013. GK suggested that both conferences merge and be held at one venue. **DM** and **GK** to report this clash to Happy Sithole.
- **GK** to send correspondence to all members in January 2013 requesting a new selection of committee members

**Prof Gert Kruger**

### ORGANIC CHEMISTRY

The Organic Division of SACI is currently involved in the organisation and participation of the 2<sup>nd</sup> Bi-National Frank Warren Organic Chemistry Conference with the Liebig-Vereinigung für Organische Chemie of the German Chemical Society (GDCh) as a follow-up to the very successful event hosted by the Gauteng Branch in 2008 at Berg-en-Dal in the Kruger Park with our German colleagues.

Members from the SACI Division of Organic Chemistry in Gauteng and the Western Cape represent the SA side of the organising committee while our German colleagues situated at Köln University, are responsible for organising details on the German side. This second bi-national conference in the series is scheduled to be held from the 29<sup>th</sup> September-4<sup>th</sup> October at Tutzing on Lake Starnberg near Munich. Twelve invited speakers from SA and 12 from Germany will provide for the lecturing programme whilst 10 MSc/PhD students from as many different SA Universities as possible have been selected to present posters at the event and of these, 5 will deliver short introductory talks (5 min) for their posters. The profit generated from the earlier Frank Warren Conference in 2008 is being used to partially support these 10 students to attend and will hopefully in this way the gesture will generate future SACI members. The Germans will select a similar number of MSc/PhD on their side to provide for the balance.

The Western Cape Organic Chemists are also currently busy with the organisation of the next Frank Warren Conference to be held at Stellenbosch in December of 2014. The committee at this stage comprises colleagues from the US, UWC and UCT and we hope to draw additional members from CPUT and the local industries. Under the chairmanship of Prof Willem van Otterlo, the committee is attempting to involve the ACS to sponsor a number of excellent young pace setting American Organic Chemists and although feelers have been sent out for some mutual interaction similar to that of the RSC and Germany, all we have achieved at this stage is a signed MOU between SACI and ACS supporting the principal for interactions benefitting the two societies. We are naturally hopeful that the Americans will find sponsorships for a number of their academics and students to participate in the conference similar to the RSC and German Chemical Societies when requested to do so. It is as yet early and the committee remains optimistic in its vision.

**Professor Emeritus Ivan R Green**



## 1. **Committee**

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

Mike Britton	(Chairperson)
Duncan Cromarty	(Vice-chairperson)
Schalk de Kock	(Immediate-past Chairperson and Treasurer)
Egmont Rohwer	(International Representative)
Maré Linsky	(Minute Secretary)
Tony Hassett	(Membership and Webmaster)
Louis van Huyssteen	(Vendor Industry Representative)
Ljiljana Marjanovic	
Johan Jordaan	
Andrew Dinsmore	

## 2. **Membership**

SAAMS currently has 336 members, only 107 of whom are also affiliated to SACI; confirming that mass spectrometry serves a wide variety of scientific disciplines.

## 3. **Finances**

On 30 April 2013, SAAMS' assets amounted to R286 000.

## 4. **Functions and activities**

### Inorganic MS event (Necsa, 26 July)

After three introductory talks on the applications of ICP-MS, GC-MS and plasma-source- and thermal ionization-MS in the nuclear industry, the 45 attendees visited the mass spectrometry laboratories of Pelindaba Analytical Labs. The afternoon concluded with refreshments sponsored by Chemetrix.

### Proteomics workshops

SAAMS collaborated with the African Centre for Gene Technologies (ACGT) in arranging these training courses presented by Dr Kathryn Lilley, Head of Proteomics at Cambridge University, together with some local scientists, and supported financially by the DST.

A total of 45 people attended the 1-day seminar and 2-day hands-on workshop at the CSIR, Pretoria from 3 to 5 October. A similar event, held in the Western Cape region from 8 to 10 October, was attended by more than 30 delegates.

### ChromSAAMS 2012 (Dikhololo, 7 to 10 October)

The highlight of the 2012 SAAMS calendar was the ChromSAAMS conference, which is organised every four years together with ChromSA. 153 delegates, many from overseas,

participated. A total of 45 lectures and 32 posters were presented and 20 companies supported the exhibition. The conference, managed by *Carlamani Conferences and Events*, was highly successful scientifically, financially and socially.

SAAMS was able to obtain sponsorship from the International Mass Spectrometry Foundation (of which it is a founding member) for Professor Jane Thomas-Oates from the University of York to present a plenary lecture at the conference.

#### SAAMS AGM (Dikhololo, 9 October)

The SAAMS AGM was arranged to coincide with ChromSAAMS 2012 in order to facilitate attendance by members from other regions. Several suggestions for future events were discussed by the thirteen delegates present.

#### LC-MS course (Pretoria, 11 to 12 October)

A total of 22 people attended this post-conference training course, presented by Dr Chris Marvin from Environment Canada and Prof Eric Reiner from the Ministry of Environment, Ontario.

#### Recognition function for Barrie Hopkins (Pretoria, 19 February)

This prestigious event at the CSIR International Convention Centre was arranged to give recognition to Dr Barrie Hopkins for his valuable contribution to mass spectrometry in South Africa over the many years. More than 50 people attended and enjoyed the three talks on isotopic analyses, as well as the refreshments afterwards. The venue for the event was sponsored by Microsep.

#### Visit to NWU MS labs (Potchefstroom, 15 May)

38 people participated in this visit to the North-West University, with 24 travelling on the bus from Pretoria and Johannesburg sponsored jointly by SAAMS and ChromSA. After introductory talks, the guests visited the well-equipped MS labs of the Chemistry and Biochemistry departments, and enjoyed the lunch sponsored by Bruker.

#### ICCA 2013 (Pretoria, 8 to 12 July)

SAAMS was invited to participate in the 12<sup>th</sup> International Chemistry Conference Africa and three committee members served on the Scientific Committee. Numerous abstracts relating to mass spectrometry have been accepted for the conference.

### 5. **General**

At ChromSAAMS 2012, Anatech Instruments offered to fund a program to sponsor students registered for a post-graduate degree at a South African university and whose project involves chromatography and / or mass spectrometry, to make an oral or poster presentation at a relevant conference. The program will be administered jointly by SAAMS and ChromSA. Terms and conditions for the program have been finalized and the first recipient (Mrs Caitlin Swiegelaar) will make an oral presentation at ICCA 2013.

The successes of the past year are the result of the dedication and hard work of the SAAMS committee members, the sustained support from our sponsors and the active participation of our members. I would like to thank you all for your valuable contributions!

**Mike Britton**

## RSC



### South Africa (North) Section

Activities of the section for 2012 were detailed more fully in the Annual Report which is available on request. This report describes the section activities from mid-2012 to mid-2013.

The highlight of the year was undoubtedly the visit of RSC President, Professor David Philips. He had visited South Africa previously to attend the SACI 2011 IYC conference. This time he came to re-sign the RSC/SACI agreement which has now been in place for over five years. He also presented the RSC President's award to the RSC South Africa North section, for our work in promoting Chemistry. It is very rewarding that the efforts of the section have been recognised in this way.

The re-signing of the RSC/SACI agreement and the handing over of the President's award took place at the SACI centenary event which was held at Sci Bono in June.

Ian Bratt was the keynote speaker at SACI Centenary event held at the University of Limpopo in October. This event which attracted close to 200 participants. Speakers from Mintek, SASOL and the DTI spoke on the theme "Chemistry and Industry in Limpopo: A skills perspective". In the afternoon, students from the universities of Limpopo and Venda gave presentations on their research projects. It was decided to offer prize money to the best presentations in the Honours and MSc categories. It looks like this will become an annual event and I believe that it would be worthwhile supporting it in future.

The largest proportion of the section funding still goes to Sci Bono. This goes for ongoing support of the Chemistry Bus, ongoing support of the chemical laboratory and to assist with the developing of additional chemistry exhibits. 170 copies of Access to Chemistry were also ordered and delivered. 100 copies were donated to Sci Bono, 44 copies went to Impala Platinum for distribution to schools in the Springs area in lieu of monies owed which were not spent on periodic tables, 22 copies were given to Radmaste for distribution to their schools along with periodic tables, 3 copies were sent to Seabe High School and 1 copy was kept for future reference.

Following on from the International Year of Chemistry in 2011, the RSC offered local sections and interest groups, grants of £1000 to spend on IYC legacy projects. The committee decided that a project proposed by Sci Bono, for a workshop to be held for Gauteng district Science coordinators would be a worthy IYC legacy project. This took place in October and was attended by 17 subject advisors and members of the Sci Bono staff. A subject advisors manual was also developed for use on the course and this will be a very useful resource in future

It was the second year that we have supported the Science project at Seabe High School in Mpumalanga. Peter Malatji, from UCT, continues to drive this project with great enthusiasm.

The section provided judges for the National final of the Eskom Science Expo which took place for the second year running at the Birchwood Hotel in Boksburg. Once again the number of exhibitors in the Chemistry section was somewhat disappointing. Although a few projects were excellent the overall standard of chemistry was not particularly good. Indeed the best Chemistry project was actually to be found in the Chemical Engineering category.

The SACI Young Chemists symposium this year was hosted by the University of Pretoria. In contrast to the disappointing standard of school chemistry the MSc and PhD presentations improve each year. This is not only an indication of better presentation skills but also a reflection on the high standard of chemistry research being done in local South African Universities. RSC prizes were awarded to the first three in each of the MSc and PhD categories.

The annual donation of RSC books to local universities took place once again. The universities selected for 2012 were the University of Pretoria, Tshwane University of Technology and the University of Johannesburg. Recipients for 2013 will be the University of the Free State, the University of the Northwest and the Vaal University of Technology.

It was the second occasion on which a joint annual dinner was held with the SACI Gauteng section. The venue was Hofmeyr House as usual where the food was excellent as always. Around 40 people (sadly only 5 RSC members and their guests – 11 in total) enjoyed an excellent evening. We were enthralled by the account given by famed paleoanthropologist, Professor Lee Berger, about his discovery of Australopithecus.

As well as the annual dinner, two lectures were organised at Wits University Chemistry Department in conjunction with SACI Gauteng. The first was presented by Jan Boeyens in March entitled “Mystery of molecular structure”. Around 35 people attended the lecture. The second, on the discovery of the Higgs Boson, to be presented by Professor Simon Connell, was supposed to have taken place during November. This lecture had to be postponed when objections were raised by the Department of Physics at Wits that a speaker from the University of Johannesburg (where Simon Connell is based) would be unwelcome at Wits. The lecture was rescheduled and took place in February 2013 at Sci Bono. Around 80 people attended the lecture. Ian Bratt also gave a talk on Fuel Cells at Sci Bono as part of their “Speak to a Scientist” lecture series.

The latest membership figures received from the UK (Nov 2012) indicate that the section now only has 89 members. This is a significant drop on the figure reported last year. It may be that some of the people previously allocated to the SA North section have now been correctly allocated to the SA South section. However, it is known that a number of longer standing members no longer appear on the list for reasons unknown.

There were a larger number of local conferences held in our area this year compared to previous years. We supported five conferences (Frank Warren, ChromSAAMS, SANi, CATSA and Indaba) providing poster prizes for all five and student subsidies for four of them (excluding SANi). These donations continue to be well received and also provide publicity for the RSC to a wider range of people. The section also sponsored refreshments for the African Crystallography workshop which was organised by Andreas Lemmerer at Wits after the Indaba conference.

**Dr Ian M Bratt**

## Green Chemistry

The inception of the Green Chemistry Division of SACI occurred in 2011 at the 40th National Convention of SACI which incorporated the 3rd FASC Congress and it is now still being sustained by its committee and members. In 2012, its membership was 22 and in 2013 the number grew to 62 active members, with about 150 signing up for the Green newsletter. We hope that with time the numbers will continue to grow.

### **Green presentations at INORG2013 conference**

For the second time since the inauguration of the Green Division, a day will be set aside at the INORG2013 conference for all things that are Green, and we are fortunately able to bring out Prof Robin Rogers (University of Alabama) from the USA to present a plenary talk. There will also be a number of other speakers presenting talks or posters on Green Chemistry related aspects.

### **International IUPAC Green Chemistry Conference in Durban in 2014**

The Green Chemistry Division is currently involved with organizing the IUPAC Green Chemistry Conference to be held in Durban in August 2014. This is expected to bring a lot of foreign networking to the shores of South Africa and should launch much more local and international collaboration.

### **David Wylie in the US:**

Sadly, David Wylie, who was the Program Manager of the ACS Green Chemistry Institute based in Washington DC, passed away during the past year. Hopefully the momentum that he started can be sustained between our Division and the ACS Green Chemistry Institute.

### **Journal Publications:**

**Over 20 articles** just between June 2011 and 2012 related to Green Chemistry, in particular on better synthetic strategies, have been published in the South Africa Journal of Chemistry. This shows that this area of chemistry is growing rapidly and with foresight the Institute has set up this Division.

### **Conferences:**

Vincent Nyamori attended the *4th International IUPAC Conference on Green Chemistry* from the 25-29 August, 2012 at Foz do Iguacu/PR, Brazil. Through this conference and after meeting the IUPAC Green Chemistry conference organisers, we were privileged to host the next conference here in South Africa, Durban, i.e. *5th International IUPAC Conference on Green Chemistry*. The website is now available on <http://www.saci.co.za/greenchem2014/>, however, there are still some sections under construction.

### **Finances:**

The Division is looking at ways to find funds for future workshops and invited speakers. Incorporating the Division within national or other international conferences should help in that regard. It is also important to note that the Green Chemistry Management Committee is very gratefully and acknowledges the R5000 donation from SACI, awarded as a loan towards their activities.

### **Website:**

The website has been up and running for a while at the following links:

<http://www.saci.co.za/GreenChemistry/default.html>

Apart from the FAQs section, the website still has the potential to be improved in order to be more informative and interactive.

**E-mail address:**

The e-mail address, [greenchem@ukzn.ac.za](mailto:greenchem@ukzn.ac.za), was created a year ago and is checked by the Green Chemistry secretary. All the division members and interested parties are welcome to contact the committee with anything of interest.

**Management Committee members:**

**Chair:** Dr Vincent O. Nyamori (UKZN)  
**E-mail:** nyamori@ukzn.ac.za  
**Tel:** 031-260 8256

**Secretary:** Dr Werner E. van Zyl (UKZN)  
**E-mail:** Vanzylw@ukzn.ac.za  
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**Treasurer:** Dr Muhammad D. Bala (UKZN)  
**E-mail:** bala@ukzn.ac.za  
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**Member:** Victoria Anderson (Anglo American)  
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**Member:** Dr Alufelwi M. Tshavhungwe (DST)  
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**Tel:** 021-843 6433

**Member:** Dr Sabelo Mhlanga (Wits)  
**E-mail:** sabelo.mhlanga@wits.ac.za  
**Tel:** 011-717 6705

**New Green nomination/election at INORG2013 conference**

The current Green Chemistry Management Committee has served for about 2 years and hence, this year their membership is due for election/nomination and some of the above members have already expressed their wish to pass their roles to other Green Chemists in our Society while others would wish to continue with their duties.

Therefore, we hope to have a new committee chosen at the forthcoming the 41<sup>st</sup> National Convention of the South African Chemical institute which will be held from 1<sup>st</sup> - 6<sup>th</sup> December 2013. This event will be held in the Eastern Cape with the Walter Sisulu University being the host University and the venue being the Hotel Regent in East London.

**Dr Vincent O. Nyamori**

**ThermSA**

The ThermSA committee was nominated in June 2012 and met in July to elect the office bearers and commence with the activities of the society. Areas that are currently being focused on include

training and workshops, conferences, recruitment of members and administrative matters. A concerted effort is being made to reach all thermal analysis practitioners in South Africa.

### **Committee**

The ThermSA committee elected the following office bearers in July 2012:

Chairperson:	Dr. Kobus Wagener (Necsa)
Treasurer:	Ms. Isbé van der Westhuizen (University of Pretoria)
Secretary:	Mr. Andrew Pienaar (Necsa)
Website/Communication:	Mr. Danie Moolman (Necsa)
ICTAC Representative:	Dr. Heinrich Badenhorst (University of Pretoria)
Regional Representative:	Dr. Chris Woolard (Sasol)

The committee will serve for a term of two years (until June 2014). Dr. Heinrich Badenhorst was nominated as additional committee member after the original committee was announced.

### **ICTAC**

The previous contact person for ICTAC (International Confederation for Thermal Analysis and Calorimetry) was Dr van der Merwe (UP), but due to other obligations this responsibility was handed over to Dr Badenhorst. ICTAC recently elected a new membership secretary, Prof Ozao. ICTAC was contacted for transfer of Dr van der Merwe's membership. However due to restructuring this has been delayed. ThermSA is currently awaiting feedback regarding the application. Enquiries have been made regarding costs for ThermSA/SACI to join ICTAC as an affiliate member, however given ThermSA's small membership base and infancy it was decided to postpone joining until a later stage.

### **Membership**

Some effort was made to recruit new members outside the chemistry community who are not SACI members. There are currently 31 members of SACI who are members of ThermSA. In addition there are 2 members who are not SACI members. A number of new applications from non-SACI members are currently being processed.

### **Newsletter**

ThermSA intends to send a newsletter to members when important news is to be communicated. The first newsletter (March 2013) informed members of the considerable changes in the suppliers of thermal analysis equipment in South Africa.

### **Planned activities**

ThermSA plans to present a workshop on Thermal Analysis techniques in the final quarter of 2013. Negotiations with presenters and sponsors are currently taking place. A venue has already been secured. Details will be announced shortly.

### **Dr JB Wagener**

## FINANCIAL REPORT

### SOUTH AFRICAN CHEMICAL INSTITUTE SECRETARIAT BUDGET AND BALANCE SHEET FOR THE PERIOD 1 MAY 2012 TO 30 April 2013

	2012-2013		2012-2013		2013-2014	
Income	Budget		Received		Budget	
Membership Fees	R	363 691.00	R	394 048.00	R	430 267.00
Journal Income	R	18 000.00	R	19 780.23	R	20 000.00
Merchandise			R	2 180.00	R	2 000.00
Advertising Income	R	21 000.00	R	17 900.00	R	20 000.00
<b>Total Income</b>	<b>R</b>	<b>402 691.00</b>	<b>R</b>	<b>433 908.23</b>	<b>R</b>	<b>472 267.00</b>

Expenditure	Budget		Paid		Budget	
Journal Expenses	R	50 000.00	R	55 040.78	R	60 000.00
Bank Charges	R	4 500.00	R	3 507.23	R	4 500.00
Computer/Software/Pastel/Internet/SAJC	R	15 000.00	R	14 090.40	R	35 000.00
Courier and Postage	R	8 000.00	R	2 149.68	R	3 000.00
Entertainment Expenses (Council/Exco Functions)	R	9 000.00	R	11 014.76	R	10 000.00
General Expenses	R	3 000.00	R	35 472.32	R	5 000.00
Printing, Stationery and Photocopying	R	10 000.00	R	4 406.46	R	5 000.00
Salaries and Wages incl. Wits 25% Administration Fee	R	330 260.00	R	282 823.99	R	271 388.00
Telephone and Fax	R	10 000.00	R	7 592.19	R	10 000.00
Travel and Accommodation	R	20 000.00	R	19 349.82	R	20 000.00
Subscriptions (IUPAC/FASC/EBSCO/NSTF)	R	4 000.00	R	2 869.96	R	3 500.00
Auditors	R	8 500.00	R	9 075.00	R	10 500.00
Medal Prize Money and Minting of Medals	R	15 000.00	R	13 300.32	R	15 000.00
Medal Functions/Donations	R	3 000.00	R	2 500.00	R	3 000.00
Rental	R	20 000.00	R	10 500.00	R	-
Merchandise	R	-	R	-	R	23 560.00
<b>Total Expenditure</b>	<b>R</b>	<b>510 260.00</b>	<b>R</b>	<b>473 692.91</b>	<b>R</b>	<b>479 448.00</b>

Item	Budget		Real		Real	
Total Income	R	402 691.00	R	433 908.23	R	472 267.00
Total Expenditure	R	510 260.00	R	473 692.91	R	479 448.00
<b>Balance</b>	<b>R</b>	<b>-107 569.00</b>	<b>R</b>	<b>-39 784.68</b>	<b>R</b>	<b>-7 181.00</b>

SACI 100th Celebration			R	176 914.20

Central Fund Account	Movement	Opening Balance	Total
Investec Equity Fund	R 20 973.16	R 71 072.34	R 92 045.50
Investec Bond Account	R 19 955.31	R 213 438.39	R 233 393.70
Nedcor Income Generator	R -	R 20 000.00	R 20 000.00
Nedcor Call Account	R 2 355.83	37 017.85	39 373.68
Old Mutual	R 61 276.67	375 856.56	437 133.23
Sanlam Industrial Fund	R 93 498.13	104 943.90	198 442.03
Standard Bank Cheque Account	R -41 579.22	55 401.50	13 822.28
Standard Bank Market Link Account	R -243 401.91	543 273.36	299 871.45
<b>Total</b>			<b>R 1 334 081.87</b>

Seed Monies and Loans	Loan	Opening Balance	Total
ThermSA	R 5 000.00	R -	R 5 000.00
Green chemistry	R 5 000.00	R -	R 5 000.00
SACI2013	R 50 000.00	R -	R 50 000.00
INORG2013	R 50 000.00	R -	R 50 000.00
<b>Total</b>			<b>R 110 000.00</b>

Profit Derived from Conferences	2010	2011	2012
<b>Total</b>	R 21 119.92	R 871 800.00	R 1 163.00

Divisions' Market Link Accounts	Movement	Opening Balance	Total
Inorganic Chemistry	R 1 905.95	R 55 200.88	R 57 106.83
Computational Chemistry	R 127.06	R 5 854.11	R 5 981.17
Chemical Education	R -	R 975.18	R 975.18
Organic Chemistry Gauteng	R 26 800.62	R 103 217.07	R 130 017.69
Eastern Cape	R -18 734.55	R 19 669.65	R 935.10
Analytical Bursary Fund	R 7 056.23	R 190 146.11	R 197 202.34
Analytical	R 726.57	R 23 002.18	R 23 728.75
Organic Chemistry KZN	R 2 331.75	R 67 533.25	R 69 865.00
Kwazulu Natal	R 3 783.76	R 11 828.86	R 15 612.62
Electrochemistry	R 1 517.05	R 43 938.10	R 45 455.15
Gauteng	R -9 917.65	R 112 987.26	R 103 069.61
ThermSA	R -	R 3 524.32	R 3 524.32
Green Chemistry	R 5 004.93	R -	R 5 004.93
SACI2013	R 50 000.00	R -	R 50 000.00
INORG2013	R 23 635.00	R -	R 23 635.00
<b>Total</b>			<b>R 732 113.69</b>

### SACI Treasurer's report

A number of years ago it was decided that SACI should be serviced by a full time secretary/administrator even if the annual funds generated from membership fees did not cover the annual SACI running costs; the difference would be made up from interest on investments. This has worked as SACI has functioned well as a professional body over this period of time. Last year SACI turned 100. A budget of R250000 was set aside for a series of events to be held country wide to celebrate the event. An amount of R176914.20 was spent (see item in budget).

The major event in this financial year relates to the decision to move the SACI office to the Westville campus of UKZN. This move has turned out to have actually saved SACI some budgeted expenses as the cost of running the office from Westville is cheaper than running the office from Johannesburg.

The SACI asset base is still sound and consists of (i) investments of R1334098.37 and (ii) seed monies of R110000. Further, the Divisions and Sections have reserves of R732 113.69. It is also to be noted that there are still some Divisions/Sections with reserves not listed in the above totals. A consideration of the balance sheet for the period May 1 2012 to April 30 2013 reveals a loss of R39784.68, much less than the budgeted loss of R107569. This has been brought about by:

- 1) An increased membership income of almost R30000
- 2) A savings on salaries of almost R48000
- 3) A savings of rental of R10000
- 4) Other smaller savings

Over expenditure items, of note, include

- 1) Journal expenses (paid to publish the SAJC)
- 2) General expenses – this relates to extra charges for: saving documents electronically, President Plaques, Salary Survey payment, Frames, and a Student assistant.

### **Budget for 2013/2014**

Most of the items have been budgeted as per the past year. It will be noted that the salaries item is less than in 2012/2013 – this arises since UKZN do not charge an overhead.

An item for merchandise (R23560) relates to the purchase of ties/scarves and this will be recovered as the items are sold.

### **Investments**

No changes to the portfolio have been made for many years. If there are any SACI members who have investment skills, they should approach the executive so that SACI can be advised as to the best procedures to adopt in the years ahead.

### **Thanks**

I wish to record my thanks to Ms Laila Smith for her ability to keep the SACI accounts up to date and in sound order. The accounts have now been moved to KZN from Johannesburg to simplify financial transactions.

Prof Neil Coville  
SACI Treasurer 2012/2013

## 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 Jordan	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	NJ Coville
1954-1955	S S Israelstam	2009-2011	IR Green
1955-1956	FW Hayes	2011-2013	J Darkwa
1956-1957	F Hawke		

## **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	PS Steyn	2010	No Award
1988	C W Holzapfel	2011	CJH Schutte
1989	No Award	2012	T Nyokong
1990	J G H du Preez		
1991	No Award		
1992	A Goosen		

## RECIPIENTS OF THE RAIKES MEDAL

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

## **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	2007	J J Pienaar
2001	G H P Roos	2008	PP Coetzee
2002	N J Coville	2009	CW van der Westhuizen
2003	J C A Boeyens	2010	NJ Coville
2004	I Cukrowski	2011	RH Simoyi
2005	B Staskun	2012	DA Katskov
2006	H M Marques		

## **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		
1997	No Award		
1998	No Award		
1999	No Award		

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

1961	GE 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
		2012	No Award
2000	N Ravenscroft		
2001	T Grimmbacher		
2002	No Award		

## **RECIPIENTS OF THE MISCHA MROST (ANALYTICA) PRIZE**

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

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

- 1994 JJ Nair, OQ Munro, PG Mountford, MHS Gradwell  
1995 BG Taverner, JL Scott, SL 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 SD 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

## **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

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

- 1993 MJ Laing  
1994 J Elsworth  
1995 M Selvaratnam  
1996 No Award  
1997 GC Gerrans  
1998 No Award  
1999 SJ 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  
2013 JD Sewry

### **RECIPIENTS OF THE SASOL**

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

- 2002 No Award  
2003 No Award  
2004 MJ 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

