

Forum Phycologicum



Newsletter of the
**Phycological Society
of Southern Africa**

Vol. 70
March 2009

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From the Editor

Welcome to the first edition of *Forum Phycologicum* for 2009. It certainly was good seeing all the familiar faces, and the many new ones, at the recent PSSA congress held at the Paternoster Lodge, Paternoster in the Western Cape, South Africa. I trust that you all had an equally enjoyable time.

Continuing with the general format, the first edition of the year is largely devoted to the annual conference and presented herein are most of the reports presented at the AGM, a summary of the event, and of course, the list of prize winners. As in previous issues, these are intended largely for those who were unable to meet up with us in Paternoster. Hopefully we will catch up with the rest of you at the following PSSA congress to be hosted by the Nelson Mandela Metropolitan University.

In addition to the conference summary reports, there are the usual segments of interest. Much of the *News and Reviews* and even the *Featured Article* highlight various workshops, conferences and research initiatives being undertaken in Southern Africa and so this edition is very relevant to PSSA. As membership fees were included in this year's conference registration fee, we are please to introduce you to some new members joining the Society. Please look out for them and their research interests in the *Getting to Know your New Members* segment.

Until the next issue.
Best wishes
Sincerely

Gavin W. Maneveldt

Synarthrophyton patena
epiphytic on *Gelidium capense*

Reports presented at the annual general meeting held at the Paternoster Lodge, Paternoster, Western Cape, South Africa, 22 January 2009

1. President's Report – Eileen Campbell

2008... It seems strange that 2008 is already past. How do they say – time flies when you're phycologising! What a 2008 for such a small society. Between the 40-odd of us (some more odd than others) so much has been done.

The culmination of our activities is most definitely the 24th PSSA Congress with its:

- Past President's report
- Two keynote addresses
- 21 oral presentations
- 7 poster presentations.

The Society still retains a diverse array of phycological interests:

- 65% macroalgal vs 35% microalgal
- 35% UCT; 12% UWC; 12% Wits; 12% NMMU; 8% RU and the rest a wide array of institutions
- 38% seaweed ecology; 15% mariculture; 12% harvesting; 12% oceanic algae; 8% environment; 8% freshwater; with a few new topics being biofuels and mixed substrate shores.

Perhaps the most worrying trend is the decline of student participation – students made up 65% of the participants in 2008, but only 40% in 2009. The deepening economic distress may have something to do with this – travel has become exceedingly expensive. Many students take employ soon after completion or even during the final phases of their studies. We will need to focus on encouraging student participation if the Society is to have a good future.

The low numbers of freshwater phycologists that associate with the Society remains discouraging. We are so grateful for the continued support of those that do. You contribute so much to our Society.



There have been several visitors that enriched the research programmes of our members:

- Michael Stekoll (University of Alaska)
- Herre Stegenga (Rijksherbarium)
- Raphe Kudela (University of California)
- Sophie Seeyave (Southampton)
- Anton McLachlan (Oman)
- Han-Gu Choi (Korean Antarctic Inst.)
-

Our members have also been busy:

- Grant Pitcher edited a special issue of *Progress in Oceanography* focusing on Harmful Algal Blooms
- John Bolton is the president of the International Phycological Society
- Janine Adams is the chairperson of the Water Research Commission
- Stuart Sym is the Assistant Dean of Science at Wits
- Derek du Preez is the Director of the School of Environmental Sciences at NMMU

Their influence will do much to focus attention on phycology.

Attendance of conferences also made up a substantial portion of our contribution both locally and globally:

- The 23rd PSSA at Rocky Bay was a super event (despite power limits) – thanks again to Wendy!
- South African Marine Symposium (Cape Town)
- 5th Regional Conference on Innovation Systems and Innovative Clusters (Mozambique)
- 11th Annual Global Conference on The Competitiveness Institute (Cape Town)
- International Conference on Harmful Algae (Hong Kong)
- International Society of Applied Phycology (Galway)
- Student's Conference on Conservation Science (Cambridge)
- Microalgae, Seaweeds & Plant Relations (Hungary)

It is particularly exciting to have a few new focus areas pop up in recent years:

- The new interest in biofuels has a substantial and viable alternative in algae as biofuels. There are several members of the society that are taking up this challenge.
- Questions have been raised around the use of identification of phytoplankton associated with cholera.
- There are some interesting and novel products revolving around *Ulva* and sea urchin culture.

The South African biosystematics initiative finally includes seaweeds!

The new interest in mixed substrate shores presents a suite of challenges for any phycologist.

While it is clear that the members of the society are keeping it healthy, vibrant and active – the society remains small and appears to be shrinking. We need to undertake a recruitment campaign as a matter of urgency.

Lastly, I want to thank the members of council for their hard work during 2008. Much of what they do happens unnoticed and often unrecognized. A personal and society “Thank You” to each one of you.

I wish you all a fantastic phycological 2009... May the ocean rise up to meet your ship, may the seaweeds shape up, may the phytoplankton fizz in the day and may the dinoflagellates phosphoresce on your moonlit nights.

2. Secretary Treasurer's Report – Mark Rothman

The Society has a Money Market Account that is held at First National Bank. Money Market Accounts have a basic monthly charge, a cash handling fee and have higher interest rates than conventional current accounts. There is a cheque book linked to the account for convenient handling. There are two signatories (currently John Bolton and Mark Rothman), although



withdrawals or cheques only require one of the two's signatures.

The following financial report is for the period 4 February 2008 till 4 December 2008. The Society had an opening balance of R33,500.00. All income and expenses are not finalised so here we report on projected figures. Projected capital gain for above mentioned period is R8,313.00. This is largely due to a projected profit of about R7,000.00 for the 2009 conference. The Society's bank account is looking very healthy and I propose we discuss under general in the agenda what we could apply some of this money to. This year subscription fees have been included in the registration fees. This will lighten the burden on the Membership Secretary of collecting these fees from the Congress attendants. Once again SASCA sponsored the best oral and poster presentation, for which we are very grateful.

As secretary I have to apologise for not sending out a call for nominations and thus we have not had a general election yet. Later this year the election of the 2010 committee will be preceded by nomination and then an election. Nomination as well as voting will be done via e-mail and the new committee will be announced at the next PSSA meeting.

3. Newsletter Editor's Report – Gavin W. Maneveldt

Thank you to all of you who have contributed so generously to the success of the PSSA newsletter. Once again, despite regular contributions from only a very small, committed sector of the society, we still have been able to produce three issues per year (March, June/July and December). Contributions from our student members in particular are sorely lacking.

In both our previous AGMs we discussed ways of encouraging students to contribute. One suggestion was to change the name of the newsletter to make it resemble a society journal. This has been done, but alas, still no increase in student participation.

As many of you now well know, we have done away with the hard copy version of the Journal and have been sending out only electronic copies (pdf) by email. As in my previous reports, I again take this opportunity of reminding you that the newsletters (in pdf format) and all the articles

therein are also available for download from the society's website (<http://www.bcb.uwc.ac.za/pssa/>). We still have a few members whose details have changed and we still have not been able to update these and so I would appeal to all to review their status every so often to check their web-details. For this, please contact the membership secretary (AJ Smit - smitaj@ukzn.ac.za) so that we can capture your new personal details.

Once again, thank you to all who have contributed to the success of the journal.

The Annual Conference

Summary and Prize Winners

The 24th Congress of the Society was hosted by the Department of Biodiversity & Conservation Biology, University of Western Cape, and held at the Paternoster Lodge, Paternoster, Western Cape from 19-23 January 2009. After a brief opening and welcome address by the president (Prof. Eileen Campbell) of the society, the conference kicked off with an opening address by the past president, Prof. John Bolton, entitled "*The biogeography of kelps (Laminariales, Phaeophyceae): A global analysis with new insights from recent advances in molecular phylogenetics*". Following on from the past-president's address, two plenary keynote lectures were delivered:

1. "*The fairest Cape in the whole circumference of the earth*" by Prof. George Philander, director of the African Centre for Climate and Earth System Science (ACCESS), Cape Town, South Africa, based at the University of Cape Town; and
2. "*Phycology 2.0: Can we foster a new interest in phycology using the technologies of Web2.0*" by Prof. Derek W. Keats, the then executive director of Information & Communication Services (ICS) here at UWC, and now more recently the deputy vice chancellor, Knowledge and Information Management at the University of the Witwatersrand, Johannesburg.



A view of the Atlantic Ocean from the congress venue.



The 2009 PSSA participants.



Observing seaweed diversity in the Cape Columbine Nature Reserve.



An excursion to the fossil park at Langebaanweg.



Socialising at the Cape Columbine lighthouse.



Fishing boats lay at rest on Paternoster beach while the summer sun sets.



Both of these researchers are “highly cited” individuals who have each published over 80 peer-reviewed papers in various international journals. While Prof. Philander gave a modern-day perspective of our current understanding of the reasons why the Western Cape is so specious, Prof. Keats gave the audience a view of how the new computer age could be used to facilitate and promote our understanding and knowledge of algae and seaweeds.

Due to the relatively intimate nature of the congress, the programme was divided into six diverse, but sequentially running sessions ranging from *Physiology and Ultrastructure*, *Systematics*, *Ecology and Biogeography*, *Bio-monitoring and Biologically Active Compounds*, *Nutrition and Mariculture*, and a Poster session. In total, 24 talks (10 by students) and 6 posters (5 by students) were presented. Midway through the conference, an entire day was dedicated to two mid-conference excursions. The first of these comprised a morning outing into the Cape Columbine Nature Reserve examining the seaweed diversity of this cool-temperate region. The second excursion later in the day comprised an outing to the West Coast Fossil Park at Langebaanweg where we were shown a view of what the Cape Peninsular looked like some 10 Million years ago by examining the rich fossil finds of the area. The mid-congress excursion was complimented by sundowner cocktails and supper at the famous Cape Columbine lighthouse. The AGM was held late on Thursday afternoon and the congress closed with a relaxing Dinner and Prize-Giving on Thursday evening.

The congress organizers are grateful to the following organizations for sponsoring the event.

- Coca-Cola South Africa
- Kelp Products (Pty) Ltd
- Matuba Wines
- South African Breweries Limited
- Taurus Chemicals (Cape Kelp) (Pty) Ltd
- University of the Western Cape.

The quality of all the presentations was very high but the winners were:

SASCA award for the best oral paper:

Theminkosi Steven Dlaza - *Porphyra* as food: The annual variation in the nutritional value of three South African *Porphyra* (Bangiales, Rhodophyta) species from the wild.

SASCA award for the best poster presentation:

Flower Msuya - Recent developments in the Tanzanian seaweed farming industry.

Best PSSA student oral paper:

Graham Stansell - The effect of temperature and nutrient availability on the growth and lipid accumulation rates of the unicellular alga *Platychrysis* sp. in batch culture.

Best PSSA student poster presentation:

Cornelia Garner - Macroalgal assemblages of mixed substrate shores: reliable indicators for shore type or not?

Best student article for 2008:

Trevor Bell - The Class Prasinophyceae (*Forum Phycologicum* 68: 9-11)

Gavin W. Maneveldt

Dept. of Biodiversity & Conservation Biology
University of the Western Cape, Bellville





PSSA 2009 Prize Winners



Thembinkosi Steven Dlaza received the SASCA ward for the best oral contribution to the seaweed industry.



Flower Msuya received the SASCA ward for the best poster contribution to the seaweed industry.



Graham Stansell received the prize for the best PSSA student oral presentation.



Cornelia Garner received the prize for the best PSSA student poster presentation.

News and Reviews

1. Automated plankton identification: state of art, calibration and practice

Date: 15-25 June 2009

Place: University of Plymouth, PML and SAHFOS Plymouth, UK.

This course is designed to give marine ecology students and scientists an appreciation of the

potential of automated plankton identification. The course will first review current automatic plankton recognition system and how they work. Their performance will be contrasted to that of human experts doing the same tasks. Students will get an opportunity to analyse plankton water samples themselves, and gain a first-hand understanding of the problems of identification and consensus. The second part of the course will look at image analysis and recognition techniques, allowing students to gain some experience in pattern recognition methods that underpin plankton



recognition. Finally students will put this all together by using ZooImage and related software to analyse and recognise plankton images. Reviews of performance and system limitations, with a look at the future potential of these types of instruments, will conclude the course.

Phil Culverhouse

P.Culverhouse@plymouth.ac.uk

<http://www.pleione.nocg.ciis.plymouth.ac.uk/API/Workshopdetails.htm>

2. Annual conference of the Southern African Society of Aquatic Scientists

Date: 21-25 June 2009

Place: Magaliesberg Conference Centre,
Broederstroom, South Africa.

The Centre for Aquatic Research (CAR), Department of Zoology, University of Johannesburg is hosting the conference. Closing date for the submission of abstracts is 30 April 2009.

The conference will focus on aspects related to aquatic and estuarine research and includes themes on conservation and management of aquatic resources in southern Africa. During the conference week the presentations will be scheduled within multidisciplinary sessions that are structured around the theme "Beyond rapid assessments - time for an aquatic research renaissance in South Africa". Each day will begin with a plenary session, introduced by a guest speaker and then move on to the presentation of papers. Arrangements will be made for parallel sessions if necessary. Poster papers are welcome and will be displayed for the duration of the conference.

Nico Smit

Department of Zoology, Univ. of Johannesburg
Auckland Park, South Africa

Please see 2nd announcement appended.

3. 2009 KwaZulu-Natal Marine & Coastal Management Research Symposium

Date: 24-25 June 2009

Place: Durban, South Africa - venue to be announced later

The aim of the symposium will be to provide feedback to Ezemvelo KZN Wildlife managers on the outcomes of research projects funded through MCM's provincial programme. However, other relevant research that will improve management of the KZN coastal and marine environment and its resources will also be accommodated.

Please book these dates. Further information regarding presentations and registration will be provided later.

Craig Mulqueeny

KZN Marine & Coastal Management Res. Group
Ecological Advice Coordinator Coast,
Ezemvelo KZN Wildlife, South Africa

4. 9th bi-annual Aquaculture Conference: Africa in the Global Aquaculture Villiage

Date: 7-11 September 2009

Place: Swakopmund, Namibia

The Aquaculture Association of Southern Africa is hereby announcing the 9th bi-annual Aquaculture Conference. An invitation is extended to fellow aquaculturist, government institutions, industry & interested parties to attend this event. Registration for the conference will commence in early April 2009. Register EARLY to avoid disappointment. *Details to follow shortly.*

REGISTRATION CLOSES - 31 JULY

Deadline & Abstract Submission - 12 June

For questions or comments.

info@aasa-aqua.co.za +27 (0)12 8076720.



Featured Article

Marine algae biofuel pilot project launched in the Eastern Cape, South Africa

The Eastern Cape has been selected as the site for a pilot project where marine algae will be used to convert carbon dioxide into biofuels and other products. This 'green technology' could ultimately be rolled out across the country and into other parts of Africa.

The use of algae as one of the next-generation sources of biofuel has long been a subject of controversy, with past schemes both locally and abroad giving rise to dramatic claims – but with no hard proof. However, research being carried out by Jacobs University, in Germany, using marine microalgae to capture, through photosynthesis, the carbon dioxide in flue gases at two major power stations, is yielding impressive results. A low-cost, custom-built 800-m² photobioreactor – set up at a lignite coal-based power plant – has been converting carbon dioxide into biomass since August 2008.

Jacobs University has now partnered with Nelson Mandela Metropolitan University (NMMU), in Port Elizabeth, to expand the research with the intention of establishing pilot sites at various Eastern Cape industrial sources – including breweries, refineries and cement factories – by early next year. The next step is to partner with major industrial facilities, both nationally and in other African countries. Underpinning the German-South African partnership is a memorandum of understanding, signed in December between Phytolutions, which is

jointly owned by Jacobs University and several German investors, and InnoVenton, NMMU's internationally recognised institute of chemical technology.

InnoVenton's Professor Ben Zeelie says the Eastern Cape was selected for the pilot project as it boasts "optimal coastal climatic conditions (in which algae can thrive), along with a mix of industrial activity". That, coupled with

InnoVenton's expertise in bioprocessing, made it the obvious choice. "The merging of the two scientific capabilities and the proven ability of both to undertake and demonstrate the engineering and viability of the integrated systems are of huge significance and contrast with the negative local and international publicity surrounding past schemes to achieve real results from this next-generation biofuels technology."

By June 2009, a 200-m² photobioreactor – capable of producing 2 t of dry biomass a year – will be up and running at NMMU. This will be followed early next year by the establishment of

two 1 000-m² photobioreactors at sites adjacent to interested industrial partners, to evaluate the technology in industrial applications. "It is envisaged that, within two years, the technology will have been optimised for African conditions, with photobioreactors sized to match carbon dioxide mitigation targets," says Zeelie.

To keep costs down, the photobioreactors will be built locally by black economically empowered small and medium-sized enterprises, based on the original Phytolutions designs, with the algae



A photobioreactor power plant operated by RWE, Germany's second-biggest electricity company (image source: <http://www.engineeringnews.co.za/>).



housed in plastic bags on metal frames, and the carbon dioxide piped to each bag through long tubes. Phytolutions has developed software to monitor the process. Once harvested, the algae will be turned into dry biomass and converted into biofuels, glycerine and protein. Zeelie says the project's main goal is the mitigation of carbon dioxide into a form where it is "permanently sequestered on a significant scale, based on an economically and technically sustainable technology".

Nicky Willemse

Edited by: Martin Zhuwakinyu

First published on the Engineering News website,
20 March 2009

Source: <http://www.engineeringnews.co.za/>

Getting to Know your New Members

New Members for 2009

Rosemary C. Eager

(9512477@uwc.ac.za)

Rosemary Eager is registered for an MSc degree under the supervision of Gavin W. Maneveldt from the Department of Biodiversity & Conservation Biology at the University of the Western Cape, South Africa. Rosemary's



Rosemary Eager

primary research interests include herbivore-algal interactions on rocky shores and the ecology of encrusting coralline red algae. Her personal interests include various outdoor activities, cycling, exercising, cooking, reading, poetry and interacting with children and the youth.

Denzil R. Beukes

(d.beukes@ru.ac.za)

Dr Denzil Beukes is a senior lecturer and researcher in the Division of Pharmaceutical Chemistry, Faculty of Pharmacy at Rhodes University, South Africa. Denzil's primary research interests include natural products chemistry of marine algae with specific focus on biological activity, chemical ecology, metabolomics and biosynthesis. Denzil is married to Edith, and together they have two kids, Matthew and Alyssa. Denzil's personal interests include activities where his whole family is involved, and reading books on the history and philosophy of science, and biographies of great scientists.



Denzil Beukes

Chris Boothroyd

(chris.boothroyd@uct.ac.za)

Chris Boothroyd is an ordinary member who is employed as a marine research assistant in the Department of Environmental Affairs' Marine & Coastal Management's Seaweed Unit housed in the Botany Department at the University of Cape Town, South Africa. His interests lie in seaweed resources research.



Chris Boothroyd

Nontutuzelo Pearl Gola

(p.gola@ru.ac.za)

Pearl Gola is registered for a PhD degree under the supervision of W.J. Muller from the Institute for Water Research at Rhodes University, South



Pearl Gola



Africa. Her research interests include testing for toxicity in microalgae.

Graham Stansell
 (gstansell@iafrica.com)

Graham Stansell is registered for a PhD degree under the supervision of Stuart Sym and Vincent Gray, all from the School of Animal, Plant & Environmental Sciences at the University of the Witwatersrand, South Africa. Graham's research interests include South African microalgae and their metabolites. His personal interests include windsurfing, kiteboarding, surfing, hiking and farming.



Graham Stansell

Conference Countdown

PSSA 2010 will be hosted by the Nelson Mandela Metropolitan University and is planned for their satellite campus in George, Western Cape Province, South Africa. Updates on the conference will follow in future editions of the newsletter and on the website.



Calendar of Events

Upcoming Conferences

1. International Marine Conservation Congress (IMCC 2009), Washington DC, USA, 20-24 May 2009.
<http://www2.cedarcrest.edu/imcc/index.html>
2. GEOHAB Modeling Workshop 2009, Martin Ryan Institute, National University of Ireland, Ireland, 15-19 June 2009.
<http://www.geohab-models.org/>
3. 10th Anniversary Conference of the Southern Africa Society for Systematic Biology, Illovo, South Africa, 25-27 July 2009.
 Contact: Rob Slotow (slotow@ukzn.ac.za).
4. International Conference on Algal Biomass, Resources and Utilization (ICABRU - 2009), Chennai, Madras, India, 27-30 July 2009.
<http://www.geocities.com/krishalg>
5. International Phycological Congress (IPC) 2009, Tokyo, Japan, 2-8 August 2009.
<http://www.ec-inc.co.jp/ipc9/>
6. International Society for Ecological Modelling Conference (ISEM 2009), Quebec City, Canada, 6-9 October 2009.
<http://www.isemna.org/Pages/semQuebec2009.htm>
7. 3rd International Rhodolith Meeting, Búzios, Brazil, 1-5 December 2009. Email: Marcia Figueiredo Creed at mfigueir@jbrj.gov.br
8. VI Southern Connection Congress, Bariloche, Argentina, 15-19 February 2010.
<http://southernconnection2010.crub.uncoma.edu.ar/php/index.php>

SECOND ANNOUNCEMENT SASAqS 2009



The Southern African Society of Aquatic Scientists

**"Beyond rapid assessments - time for an aquatic
research renaissance in South Africa"**

21 – 24 June 2009, Magaliesberg Conference Centre,
Broederstroom.

On behalf of the University of Johannesburg we invite you to the
Southern African Society of Aquatic Scientists symposium from 21 –
24 June September 2009 at Magaliesberg Conference Centre,
Broederstroom, South Africa

We look forward to your participation with us.

*The Local Organising Committee
University of Johannesburg*



SCIENTIFIC INFORMATION

The conference will focus on aspects related to aquatic and estuarine research and includes themes on conservation and management of aquatic resources in southern Africa. During the conference week the presentations will be scheduled within multidisciplinary sessions that are structured around the theme "Beyond rapid assessments - time for an aquatic research renaissance in South Africa". Each day will begin with a plenary session, introduced by a guest speaker and then move on to the presentation of papers. Arrangements will be made for parallel sessions if necessary. Poster papers are welcome and will be displayed for the duration of the conference. Time allowed for oral presentation will be strictly 15 minutes followed by 5 minutes discussion. Posters should not be more than 90cm wide x 110cm long and should be easily readable from a distance of 1m.

Prizes will be awarded for:

- Best student presentation
- Best student poster

CONFERENCE VENUE



The Magaliesberg Conference Centre is a green haven in the foothills of the Magaliesberg in the picturesque Broederstroom - close to Hartebeestpoort Dam. An easy 10 minutes from Lanseria airport and a 40 minute drive from Pretoria and Johannesburg, this long-established conference centre is rated amongst the finest training establishments in Southern Africa providing up-market conference facilities in a country setting just outside of Johannesburg. The air conditioned auditorium which seats 150 is comfortably furnished and well equipped with modern training and presentation aids and all necessary office equipment. To ensure the safety of delegates the property is surrounded by a security fence and patrolled 24 hours per day. This venue offers a top-class restaurant, bar and various leisure-time facilities such as a swimming pool, tennis courts, volley ball court, snooker and darts. There is an outdoor lapa and outside pub for more informal gatherings. Nature lovers will delight in the bird-life and joggers and hikers have access to some of the best routes in the Magaliesberg.

KEY THEMES

Whilst not wanting to be too prescriptive the initial theme topics are:

- Freshwater ecosystems
- Estuarine ecosystems
- Freshwater-estuarine interface
- Marine ecosystems
- Environmental Toxicology and Chemistry
- Management of shared water resources
- Aquaculture
- Coastal zone management and conservation
- Catchment management
- A call for further suggestions

CALL FOR ABSTRACTS

Please complete and use the accompanying submission form

Abstracts for the oral and poster presentations need to reach the organising committee by **30 April 2009**. Please note that only abstracts submitted in the prescribed abstract format, and accompanied by payment of the registration fee will be considered for acceptance. If you do not have access to e-mail facilities please supply a copy of the abstract/s in MS WORD on a disk and post it, together with a hard copy of the abstract and all other relevant correspondence to the organising committee. The official language of the Congress will be **English**. Please note that abstracts not submitted in acceptable English will be returned or rejected.

Completed forms should be mailed, e-mailed or faxed to:

Yolandi Cloete
SASaQS 2009 Conference
Department of Zoology
University of Johannesburg
P O Box 524
Auckland Park
2006
South Africa
Tel: +27 11 559 2951
Fax: +27 11 559 2286
E-mail: ycloete@uj.ac.za

INSTRUCTIONS TO AUTHORS (see example below)

1. Abstracts should contain a short **title**, a list of **author(s)**, the **affiliation/s** of the author/s, and the **text**.
2. The title should be written in lower case letters (**bold**) and the names of the authors in unbold lower case. The author/s affiliation/s must be in *italics*. Underline the presenting author. Include the e-mail address of the presenting or senior author.
3. Abstracts should state the study's **objective**, briefly describe the **materials and methods** used, summarize the **results** obtained, and state the **conclusion/s**.
4. Type the entire abstract **single-spaced**. The recommended font is "**Arial 12 point**".
5. The abstract should be a maximum of **350** words in length (excluding the title, authors etc.) and should accurately reflect the contents of the paper or poster to be presented.

Receipt of the abstract, acceptance of the paper or poster and the scheduled date of presentation will be communicated to the principal author. For this notification, your correct mailing address including telephone and fax numbers, as well as an E-mail address, is essential. Please take care to present this information clearly when completing the form. If you have not received confirmation of receipt of your abstract within 4 weeks, please communicate directly with the Conference Co-coordinators (yκλοete@uj.ac.za).

POSTERS

There is a wall which will be used as the poster board and the conference committee will provide appropriate materials for affixing your poster to the board. A general size of A0 or A1 is suggested as a guideline for the poster dimensions.

ACCOMMODATION

Reservations have been made to accommodate 90 delegates (further details will be available in the second announcement). There are 48 standard bedrooms (each sleeps 2) with showers available as well as 12 standard (each sleeps 2) *en suite* bedrooms with baths. All the rooms have TVs and there is a communal TV in the lounge. There will be a first come first served policy in regards to the 12 rooms with baths unless special circumstances require use of those rooms. There is secure undercover parking with 24 hour security guards.

B & B single (per day)
B & B sharing (per day)

R535 pp
R300 pp

Complete the accommodation section of the accompanying submission form.

REGISTRATION

The registration fee of R1300 / delegate includes lunches and dinners for 3 days, tea/coffee breaks and use of facilities. Registration fees are payable not later than **30 April 2009**. A penalty fee of R300 / delegate will be charged extra for late registrations. Day delegates will need to pay R300/day per person which includes lunch as well as the tea and coffee. A penalty fee will be charged for late registrations.

| | |
|-----------------------------------|-----------|
| Registration fee members | R1,300 pp |
| Registration fee non-members | R1,700 pp |
| Registration fee students | R 800 pp |
| Late registration fee members | R1,600 pp |
| Late registration fee non-members | R2,000 pp |
| Late registration fee students | R1,000 pp |
| Day delegate (per day) | R 300 pp |
| Late day delegate (per day) | R 400 pp |

Student registration

The **WRC** has sponsored R500 per student who will be presenting at this SASAqS conference. To qualify for student registration, students must provide proof of full-time student status (university registration). All applications must be submitted together with the registration form by **30 April 2009**. Students who do not presenting orals or posters will not qualify for student registration.

Complete the registration section of the accompanying submission form.

ACCOMPANYING PERSONS

A fee of R 650 for the 3 days is payable for day delegates. Late registration for accompanying persons will be an extra R150 per person.

Accompanying person's fees are inclusive of the Welcome function, Monday night's dinner, and the Gala dinner. The accommodation fee includes breakfast. They are free to enjoy the Magaliesberg and surrounding areas during the day as well as the Conference venues facilities including:

- Swimming pool
- Floodlit tennis courts
- Volleyball court
- Darts and snooker
- Bird watching
- Walks and jogging

REMEMBER:

- **Submission of Abstracts, registration, accommodation bookings and payment – deadline 30 April 2009**