



**President-Elect**

Wendy Stirk ([stirk@ukzn.ac.za](mailto:stirk@ukzn.ac.za))  
 Research Centre for Plant Growth & Development  
 University of KwaZulu-Natal Pietermaritzburg  
 Private Bag X01  
 Scottsville 3209  
 South Africa

**President**

Eileen Campbell ([eileen.campbell@nmmu.ac.za](mailto:eileen.campbell@nmmu.ac.za))  
 Department of Botany  
 Nelson Mandela Metropolitan University  
 PO Box 77000  
 Port Elizabeth 6031  
 South Africa

**Secretary-Treasurer**

Mark Rothman ([Mark.Rothman@uct.ac.za](mailto:Mark.Rothman@uct.ac.za))  
 Seaweed Unit, Marine and Coastal Management  
 Private Bag X2  
 Rogge Bay 8012  
 South Africa

**Membership Secretary**

Deborah Robertson-Andersson  
 ([drobertson-andersson@uwc.ac.za](mailto:drobertson-andersson@uwc.ac.za))  
 Dept. of Biodiversity and Conservation Biology  
 University of the Western Cape  
 Private Bag X17  
 Bellville 7535  
 South Africa

**Newsletter Editor**

Gavin W. Maneveldt ([gmaneveldt@uwc.ac.za](mailto:gmaneveldt@uwc.ac.za))  
 Dept. of Biodiversity and Conservation Biology  
 University of the Western Cape  
 Private Bag X17  
 Bellville 7535  
 South Africa

**Student Representative**

Nuette Gordon ([nuette.gordon@nmmu.ac.za](mailto:nuette.gordon@nmmu.ac.za))  
 Department of Botany  
 Nelson Mandela Metropolitan University  
 PO Box 77000  
 Port Elizabeth 6031  
 South Africa

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## From the Editor

It is the end of yet another year. Time has gone by so quickly and it seems only the other day that many of us met in George for the 25<sup>th</sup> annual meeting of our society. I can well imagine how exhausted (both physically and mentally) you all must be. I only hope that the past year has been a most productive one and that the exhaustion has at least paid off in some form of productivity. Anyway, back to matters at hand.

It has been a trying time this past year and while contributions have come in steadily from the same few regular members, sadly the time invested in our newsletter is starting to show. Much of the contributions in this issue are from the same institution. The contributions from our student members are once again of particular concern. This year, as in 2009, only one student submission was received. The article by Honours student Courtney Padua carries on from that presented in the December 2009 issue (Vol. 71: 16-19) and provides greater insight into a question previously unanswered. Once again I urge supervisors to have their students submit their research. With a bit of tweaking and some images included, even a thesis abstract would suffice.

Unfortunately, due to academic and administrative commitments, I will be missing the 2011 PSSA congress. I would have loved to join you all, but it is unavoidable. I will, however, be with you all in spirit, so have a cold one on me!

Best wishes  
Sincerely

Gavin W. Maneveldt

*Synarthrophyton patena*  
epiphytic on *Gelidium capense*

## News and Reviews

### 1. 4<sup>th</sup> Congress of the International Society for Applied Phycology (ISAP)

The 4<sup>th</sup> Conference of the ISAP, held under the auspices of the International Society for Applied Phycology, will be organized in collaboration with Canada's National Research Council - Institute for Marine Biosciences, and convened at the Halifax Marriott Harbourfront Hotel from June 19 - 24, 2011.

The 2011 congress theme is *Scaling-up for new opportunities in applied phycology*. Participants will include scientists, researchers, students, engineers, entrepreneurs, industry representatives, policy makers, marketers, and manufacturers coming together to discuss relevant issues regarding the cultivation, application, and commercialization of algae and their products. The meeting hopes to foster discussion on the most recent research discoveries and breakthroughs in applied phycology, while providing a productive forum for networking with both new and familiar colleagues from around the globe. Whether your interests are microalgae or seaweeds, production, value addition, harvesting or cultivation for human health, animal health, cosmeceutical, nutraceutical, or biofuels applications, ISAP 2011 is for you.

Halifax and its environs are a home to advanced and applied phycological research. With its legacy as one of the world's leading centres of algal research, the Halifax area has produced and attracted numerous practitioners in micro- and macro-algal production and harvesting, product development, commercialization, and biofuels technology development. The ISAP 2011 social program will provide participants with opportunities to visit Halifax's algal research community, explore the beauty of its seascape, and experience the warm hospitality that Atlantic Canada is famous for.

**Stephen O'Leary and Alan Critchley**  
Co-Chairs of the Local Organizing Committee

[ISAP2011@nrc-cnrc.gc.ca](mailto:ISAP2011@nrc-cnrc.gc.ca)

Please see **Appendix I** for the ISAP 2011 poster.





## 2. Applied Centre for Climate and Earth Systems Science (ACCESS): Launch Conference

The Applied Centre for Climate and Earth Systems Science (ACCESS) officially launched with a conference on climate and earth systems science on 23-25 August 2010 at the University of the Western Cape. The conference was strategically divided into six themed sessions each commencing with a keynote address followed by short presentations by both invited keynote respondents and students from across the country. Simultaneously with the conference proceedings were two parallel-run workshops focusing on *Southern Oceans Seasonal Carbon Cycle and Climate* and *Seasonal and Inter-annual Variability*.

The opening proceedings kicked off with a most thought-provoking welcome address by the Rector of UWC, Prof. Brian O'Connell. This was followed by the official opening address by the deputy minister of the Department of Science & Technology, Mr Derek Hanekom. Following this were keynote speeches from Profs Toshio Yamagata (Jamstec, Japan) and Eystein Jansen (BCCR, Norway). The opening session was concluded by an overview of the ACCESS Centre of Excellence by Dr Neville Sweijd (CSIR). What follows are brief summaries of the sessions into which the conference was divided.

### Session 1: Planet Earth: A special place in a special time

Ours is currently the only known habitable planet. The importance of all the natural systems of this planet needs to be communicated to non-scientists. Discussion on the role of science in society suggests

that science is a necessary part of basic education. Society needs to become scientifically literate. Science should have a role in improving the quality of life for all.

### Session 2: Origins of Mankind and its Relationship with Climate Change

Fossils allow a partial reconstruction of the past. The new finding of *Australopithecus sediba* provides new information, which changes the picture of our past. The session emphasized the importance of continued exploration. GoogleEarth is proving a useful tool to find new sites. Different areas retain different archaeological and palaeontological objects. The Cape has fewer human fossils but they are morphologically modern. There are many cultural artifacts in the Cape suggesting that the region to be the probable location for the origin of *Homo sapiens*.

### Session 3: The Solid Earth

All the components of the solid earth recycle themselves at varying time scales. The sun provides most of the power to drive this recycling. The earth has feedback mechanisms to sustain itself on a geological time scale. The problem with human impacts is that the rate at which change is occurring exceeds the buffering capacity of the earth. If we want to extend the lifespan of our species, we will need to change the way we do things.

### Session 4: The Biosphere in Southern Africa

Sub-Saharan Africa has 60% of the burnt area in the world. Humans are not the main cause in the fire prone Savanna biome, but they do affect the fire cycle. The land and ocean systems are not independent. Micronutrients from the land are



responsible for variations in productivity in the Southern Ocean. The effectiveness of the ocean as a carbon sink is determined by the organisms present. Ocean acidification changes the community resulting in a less effective sink. We cannot consider the world's mechanics without considering human impacts. Southern Africa has a long history of human habitation making it a good place to study human impacts. Low carbon dioxide levels make the biosphere hypersensitive to variable climate. Our actions with regard to climate change are likely to trigger a change in evolution. South Africa has very high biodiversity but also many species at risk of extinction. Our conserved sites do not cover all the units of biodiversity adequately. There is a lack of political will to conserve our biodiversity. We need social scientists to help develop alternative sources of income. The importance of biodiversity to society needs to be emphasized to all.

#### Session 5: The Oceans Around Us

Originally, South Africa considered marine conservation from the fisheries perspective but now the focus is on managing the entire marine system sustainably. There are six challenges to consider: (1) the ocean system linked to South Africa; (2) interbasin heat and salt transport; (3) ecosystem responses to ocean acidification; (4) Southern Ocean carbon-climate feedback; (5) palaeoclimate; and (6) observation and operational systems needed to make the data gained useful for everyday life.

#### Session 6: Responding to Climate variability and Change: present vs. future

It is agreed that climate change requires action, but no one wants the responsibility. Everyone will need to adapt. Sub-Saharan Africa needs to diversify both the economy and food production to reduce its vulnerability to climate change caused by dependence on dry-land agriculture. Developing countries need energy for development but cleaner energy options are available. Research is needed to improve the information available to policy makers. Development provides opportunities for adaptation and vice versa. Affected people need to be involved so that their local knowledge can be transferred. Despite the uncertainty about the future there is enough information to start engaging stakeholders on how to integrate uncertainty and take action. We need to focus on socio-political aspects or our ideas will not be implemented.

#### Final Panel & Plenary Session:

##### What is the educational value of earth systems science?

Scientific information needs to be made accessible to the general public. Education is a tool that can lift people out of poverty.

#### ACCESS website:

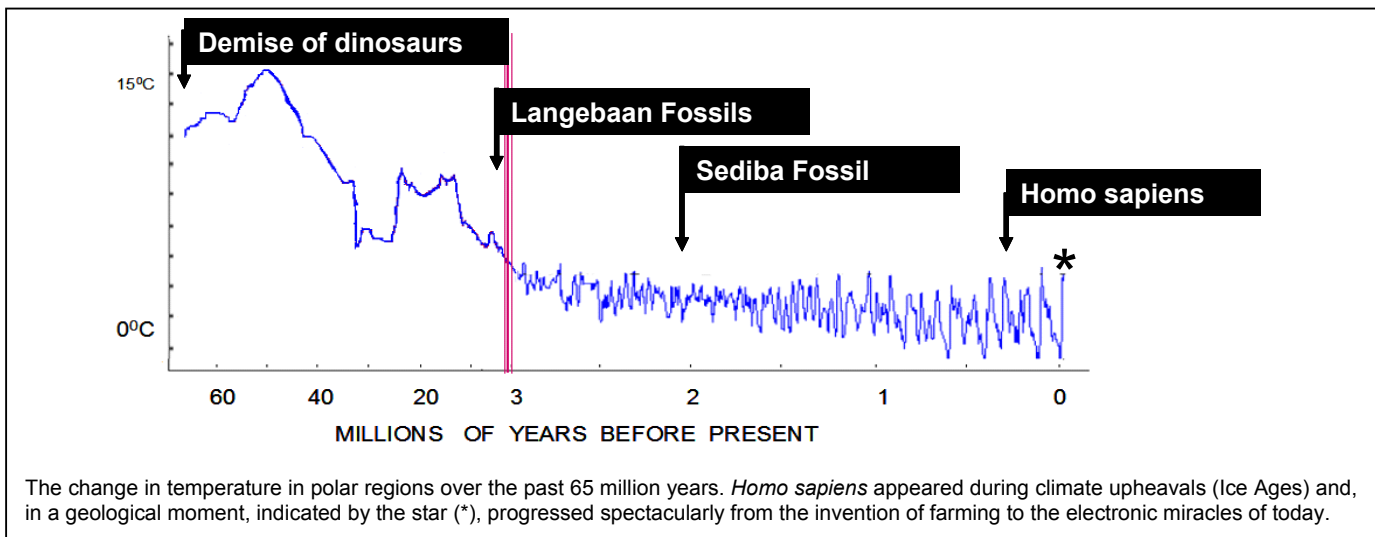
<http://www.africaclimatescience.org/index.php>

**Gwen Raitt**

Dept. of Biodiversity & Conservation Biology

University of the Western Cape

Email: [graitt@uwc.ac.za](mailto:graitt@uwc.ac.za)



The change in temperature in polar regions over the past 65 million years. *Homo sapiens* appeared during climate upheavals (Ice Ages) and, in a geological moment, indicated by the star (\*), progressed spectacularly from the invention of farming to the electronic miracles of today.



### 3. Centre for Algal Biotechnology (CAB): Microalgal Biodiesel Production

Microalgal biomass alone has a multitude of energy emitting uses. These are obtained from the thermochemical or biochemical conversion of the biomass into products including biodiesel, bio-oil, syngas, charcoal as well as electricity from direct combustion. The production of algal biomass allows for the sequestration of CO<sub>2</sub>, thereby reducing the greenhouse gas and contributing to positive climate change. The ability of microalgae to generate a multitude of renewable energy sources shows potential for the global dependency on renewable energies.

There are numerous reasons why microalgae are favoured as a biodiesel source. Microalgae require less water than terrestrial crops and can be grown in saline and brackish environments, reducing food security. Microalgae have a lipid yield of up to 80 % dry cell weight whereas vegetable crops can accumulate on average between 15 to 40 % total lipids. Microalgae have a generation time of between 4 and 24 hrs and can be cultured continuously resulting in constant oil supply.

The Centre for Algal Biotechnology (Mangosuthu University of Technology) has developed novel techniques for the production of biodiesel by physiological manipulation. This allows for rapid growth and maximum lipid accumulation. Current studies at the CAB have successfully produced biodiesel through the physiological manipulation of an indigenous microalgal strain. The CAB is currently planning a pilot scale biodiesel plant to investigate the economic feasibility of this technology. Extensive studies have been undertaken on CO<sub>2</sub> sequestration by phytoplankton in marine, estuarine and freshwater systems. The CAB uses state of the art instrumentation and

laboratories to look at alternative sources of renewable energy and value added products from microalgae. One of the services provided to industry and research institutions is the characterization of the physiological functioning of microalgae and cyanobacteria. This includes among others quantifying the optimum environmental parameters necessary for maximum growth. The photosynthetic rates and efficiencies are quantified and optimized using specialised techniques and instrumentation. The centre is currently investigating various environmental parameters that induce physiological stress in indigenous strains of microalgae. Determination of the extent of stress improves the efficiency of producing lipids and valuable carotenoids.

Indigenous strains of microalgae can be exploited for value added products and renewable energies in South Africa. Further research in these areas would allow South Africa to be competitive in the international microalgal market.

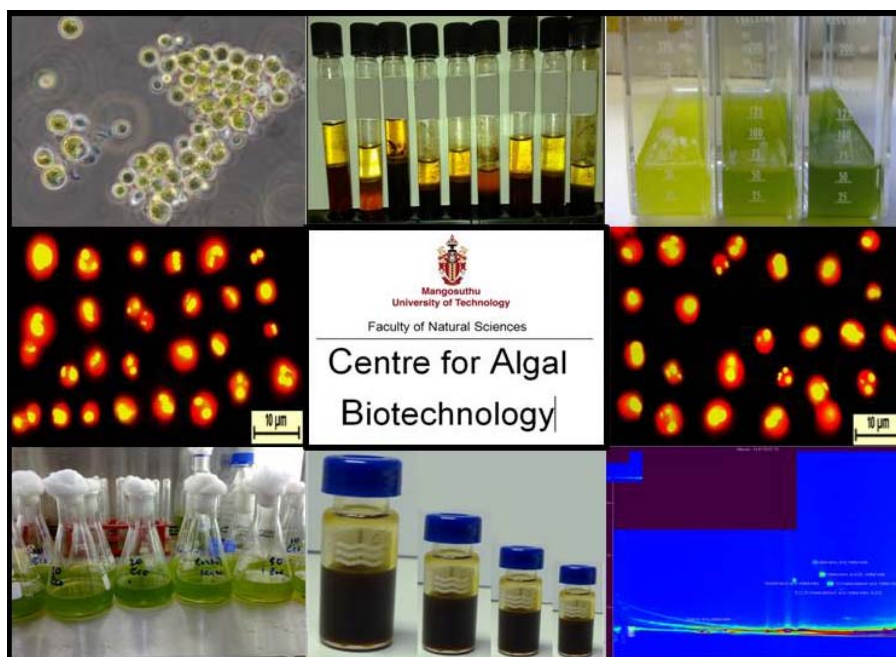
**Akash Anandraj and Sarah White**

Centre for Algal Biotechnology

Mangosuthu University of Technology

Email: [akash@mut.ac.za](mailto:akash@mut.ac.za)

Email: [sez.white@gmail.com](mailto:sez.white@gmail.com)







## Featured Articles

### Voyage of Exploration

It is said that rolling stones gather no moss, but rhodolith-forming (round to oval, nodular and free-living) species of non-geniculate coralline red algae (calcified, rock-hard seaweeds) are able to support an astonishing diversity of marine life. Rhodoliths are capable of transforming homogeneous soft sediment bottoms into heterogeneous hard substrata, providing habitat for a number of fleshy algae and a myriad of faunal species (Steller *et al.* 2003, Amado-Filho *et al.* 2007). This is the subject of an ongoing collaboration between the Department of Biodiversity & Conservation Biology at the University of the Western Cape, South Africa and the Research Institute at the Jardim Botânico (Botanical Gardens) of Rio de Janeiro, Brazil.

The Brazilian continental shelf has been reported to possess the largest rhodoliths beds in the world, occurring between 3° and 22° S (Foster 2001). With so few coralline algal specialists in the world, the UWC-Jardim Botânico connection has since 2006 collaborated in attempting to determine the taxonomy and biodiversity of the rich Brazilian rhodolith communities, and their associated epiphytic fauna and flora. The collaboration has been so successful that it has thus far resulted in an averaged one publication per year

with more either already submitted for publication or currently in preparation.



A sorting tray filled with freshly collected rhodoliths (photo: Ricardo da Gama Bahia).



An expansive rhodolith bed in a sandy bottomed environment at 60m depth (photo: Zaira Matheus).



With crystalline waters and an exuberance of corals, dolphins, lobsters and colorful tropical fish, as well as wonderfully preserved beaches and virtually no pollution, Fernando de Noronha is a paradise for divers, surfers and all nature lovers. (image and text source: <http://www.discoverbrazil.com/destinations/brazil/fernanado-de-noronha/>).

Between mid September and mid October 2010, I visited the Research Institute at the Jardim Botânico to further our interests within the neglected area of coralline algal taxonomy and biogeography research. Much of my time at the research facility in the botanical gardens was spent: examining already collected material; perusing micro-slides of algal thin sections; identifying specimens; instructing postgraduate students on the methodologies pertaining to coralline algal collection, handling, preservation and storage; giving the occasional seminar; and editing manuscripts in preparation for publication submission. While all of this was somewhat of a routine – I do this at my own institution – what was to follow would be an experience of a life time, a true *voyage of exploration*.

During my month-long stay, a week-long field trip to the beautiful tropical archipelago of Fernando de Noronha was planned. Flying from Rio de Janeiro (for 2 hours) and changing planes at Recife, we arrived at our destination some 3-hours of flight time and one hour of transit time later.

Fernando de Noronha is an archipelago of 21 islands, islets and rocks of volcanic origin situated some 354 km offshore from the Brazilian coast in the southern Atlantic



Newsletter of the Phycological Society of Southern Africa



Fernando de Noronha is probably best known for its beautiful secluded and pristine beaches (photo: Gavin W. Maneveldt).

Ocean. The main island, from which the group gets its name and which is the only inhabited island of the group, makes up 91% of the total area and has an area of only 18 km<sup>2</sup>. The main island is only 10 km long and 3.5 km wide at its maximum.

Although the climate is tropical, it is very different from the most common tropical weather. Here the rainy season is in winter (from around March to September) and summers are hot and dry, although both mean temperature (26°C) and humidity (80%) is fairly constant throughout the year. As a consequence, very little enclosed vehicles can be found on the island. Nearly all modes of transport, even the local taxis, are open beach or dune buggies.

Fernando de Noronha is probably best known for its beautiful secluded and pristine beaches that are home to a host of unique marine organisms. The archipelago serves as an important feeding ground, nursery and home to several species of tuna, billfish, cetaceans, sharks, and marine turtles. Besides these, the immediate



Beach or dune buggies are the commonest and sometimes the only mode of transport available.



Cacimba do Padre beach is one of the most famous of the island's beaches. During some times of the year, this beach has huge waves making it ideal for surfing.



Just a short walk from Cacimba do Padre beach is the famous Morro Dois Irmãos or *Two Brothers Rocks* (photos: Gavin W. Maneveldt).

subtidal zones are rich in coral reefs and expansive rhodolith beds that along some stretches of the coastline are even more prominent than the coral communities. It is no wonder the archipelago was designated a UNESCO World Heritage Site with the entire main island proclaimed one large marine reserve. It truly is a diver's paradise! To maintain the pristine nature of the tropical reefs, swimming channels are clearly demarcated and no snorkel diving is permitted without a life jacket. This is not so much for diver safety as it is for preservation of the reef as the life jackets keep one afloat, preventing divers from stepping on the delicate reef structures. Furthermore, to prevent tourists from settling in for too long, a daily escalating *Environment Preservation Tax* (EPT) is charged, which helps to maintain the local ecology. My eight days on the island cost me just under R1000.00 in EPT.

While there was the occasional day for hiking, snorkeling and general site seeing, nearly all of our day-





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Praia Sancho, or Sancho beach is a popular dive location. The beach is surrounded by a natural wall 50m high, which serves as a shelter for many species of seabirds (photo: Gavin W. Maneveldt).

light hours were spent SCUBA diving around the main island. The archipelago has a relatively steep shelf with the base of this enormous volcanic formation some 750 m below the ocean's surface. Consequently, one did not have to go too far out to sea to obtain depths in excess of 50m. Most of our diving was between depths of 10-60m; many of the deeper locations were literally no more than a few hundred metres from the island. To cover as much of the island's shoreline as possible, we hired a dive charter, which included a double-hulled catamaran aptly named *Atlantis Explorer*. This vessel was to be our base for much of the time spent at sea. After my first day out at sea and even though I was back on solid ground, the entire island still moved in a wavy motion. No doubt I was not accustomed to this culture of research diving. But, after getting some nasty-tasting nausea drops and regaining my balance, it did not take me long to *acquire my sea legs* and the final diving days became quite pleasant.



The *Atlantis Explorer* was our base of operations.



We were wonderfully entertained by the acrobatics of the island's famous spinner dolphins.



My research colleagues are seasoned divers. Closest to the camera is Dr Gilberto Amado-Filho, Director of the National School of Tropical Botany, my collaborative partner on the project. Next to him is famous underwater photographer Zaira Matheus (photos: Gavin W. Maneveldt).

The warm currents around the island and its distance from the mainland have created a unique marine ecosystem rich in marine life. Due to the astounding underwater visibility the island is reported to have some of the best diving locations in Brazil and, some say, in the world. While I cannot testify to diving at many tropical locations – I have dived quite a few though – around the world, I can say that the experience at Fernando de Noronha was truly my best ever. Not only did we find an abundance of rhodolith communities stretching for several hundred metres, we were fortunate enough to encounter many of the local subaquatic fauna. Every day was a new experience, each with its own unique encounters.

I am home again and while I had missed being away from home, I truly do miss the many unique experiences encountered, not only on Fernando de Noronha, but also in Rio de Janeiro. The students and staff from the Research Institute at the Jardim Botânico were my



“family” for a month and really made me feel appreciated and important. This is one experience that will long remain fondly in my memories and I have little doubt that I will one day return.

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**Gavin W. Maneveldt**

Dept. of Biodiversity & Conservation Biology  
 University of the Western Cape  
 Email: [gmaneveldt@uwc.ac.za](mailto:gmaneveldt@uwc.ac.za)



Rhodolith mounds were a common site at deep depths. Such mounds were often 2m in diameter and 1m high. The sand tilefish *Malacanthus plumieri* (see opposite page) is responsible for creating the mounds (photos: Zaira Matheus).



A nurse shark or sandpaper shark, *Ginglymostoma cirratum*.



This grouper was nearly 2m long.



The sand tilefish *Malacanthus plumieri* is seen here picking up a rhodolith fragment. These fish are responsible for the rhodolith mounds we observed throughout our diving expeditions (photos: Zaira Matheus).





## Popular Student Article

### Determining the recruitment preference of the coralline alga *Spongites discoideus* (Foslie) Penrose & Woelkerling

Courtney Padua  
(Honours student)

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

In marine ecosystems, mollusc shells often provide microhabitats as well as increased surface area for the settlement of a variety of epizoic organisms (Bell 2005, Nakin and Sommer 2007). One such interaction has been observed between the non-geniculate (encrusting) coralline red alga *Spongites discoideus* (Foslie) Penrose & Woelkerling and the molluscan winkle *Oxysteles sinensis* (Gmelin) (Figure 1). Individuals (juvenile and mature) of the morphologically similar winkle, *O. tigrina* (Anton), do not display any coralline encrustations even though they share some habitats with *O. sinensis* (Eagar 2010). As part of her research, Eagar (2010) wanted to understand the reason behind the high frequency of epizoic *S. discoideus* on the shells of *O. sinensis* in the Kalk Bay shallow subtidal zone. In one of her experimental trials she performed a manipulation experiment under controlled laboratory conditions testing for recruitment preference of the coralline alga. However,

despite attempting to replicate the natural environment in a controlled laboratory under two different (candescant and incandescant) light regimes, no recruitment was observed and thus inconclusive results were obtained. The aim of the current study was to replicate the laboratory study by Eagar (2010), but under natural conditions. The hypothesis tested was that *S. discoideus* has a recruitment preference for *O. sinensis* over *O. tigrina*. A caged experiment was set up in a shallow subtidal channel at Kalk Bay which included fifty juvenile *O. sinensis* ( $13.3 \pm 0.24$  mm) and fifty juvenile *O. tigrina* ( $14.18 \pm 0.12$  mm) ( $p > 0.05$ ) individuals, with no visible coralline algae present on their shells (Figure 2). Twenty five individuals from each species were removed from their shells; the remaining twenty five individuals from each species were left intact.

Boulders bearing reproductively mature individuals of only *S. discoideus* (recruitment sources) were secured using cable ties, onto the inside of the cages. Even though recruitment was notably low ( $7.60 \pm 1.32$  %), by the end of the experimental period (three months), coralline recruitment was observed for all treatments (Figure 3). The data showed that there was no recruitment preference between both live individuals and empty shells of *O. sinensis* ( $p = 0.23$ ), or that of *O. tigrina* ( $p = 0.78$ ), and that there was no recruitment preference between either of the two species ( $p = 0.19$ ). The high occurrence of the coralline alga on shells of the winkle *O. sinensis* are probably due to the prolonged residence



**Figure 1.** The association between the non-geniculate coralline red alga *S. discoideus* and the molluscan winkle *O. sinensis*.

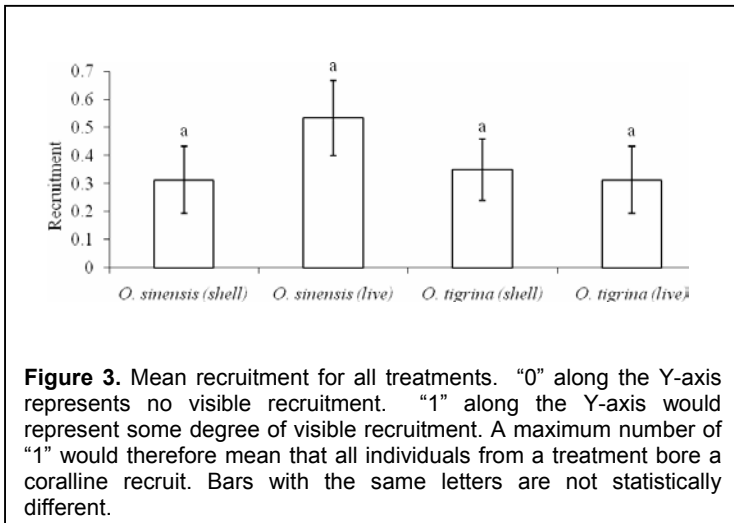


**Figure 2.** Cages bearing settlement plates, winkle treatments and coralline encrusted boulders bolted down onto a concrete slab.





times of high densities of juvenile *O. sinensis* in rockpools as well as the high percent cover abundance of reproductively mature *S. discoideus* in the rockpools.



**Figure 3.** Mean recruitment for all treatments. "0" along the Y-axis represents no visible recruitment. "1" along the Y-axis would represent some degree of visible recruitment. A maximum number of "1" would therefore mean that all individuals from a treatment bore a coralline recruit. Bars with the same letters are not statistically different.

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## Conference Countdown

PSSA 2011 is being hosted by the University of the Witwatersrand and is planned for 25-28 January 2011 at the Magaliesberg Conference Centre in Gauteng, South Africa.

## DEADLINES

Registration by 30 November 2010.

*Completed registration forms should preferably be emailed to the conference administrator.*

Payment by 14 December 2010.

*Late registration will be subject to a surcharge of R200.00.*

Abstracts by 10 January 2011.

*Abstracts should be sent via e-mail as an attachment or in the body of the message, or faxed to the conference administrator.*

See Appendix II for a copy of the registration form.

Convenor: Stuart Sym ([stuart.sym@wits.ac.za](mailto:stuart.sym@wits.ac.za))

## Calendar of Events

- 37<sup>th</sup> Annual Conference of the South African Association of Botanists (SAAB). Grahamstown, South Africa. 17-19 January 2011. <http://atashost.co.za/SAAB/>
- 9<sup>th</sup> SASSB Conference: Biodiversity Matters. Grahamstown, South Africa. 19-21 January 2011. <http://www.sassb.co.za>
- 7<sup>th</sup> European Conference on Ecological Modelling. Riva del Garda, Italy. 30 May – 2 June 2011. <http://www.cosbi.eu/ecem2011>
- 14<sup>th</sup> South African Marine Science Symposium (SAMSS) / 49<sup>th</sup> Estuarine and Coastal Sciences Association (ECSA) International Conference. Grahamstown, South Africa. 4-9 April 2011. <http://www.atas.co.za/SAMSS2011/>
- Asian-Pacific Phycological Forum (APPF) 2011. Yeosu, Korea. 9-14 October 2011. <http://appf2011.org>



# 4th Congress of the International Society for Applied Phycology

June 19 - 24, 2011  Halifax, Canada

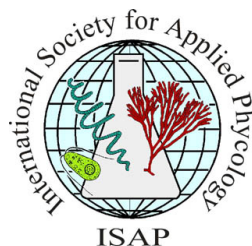
*Scaling-up for New Opportunities in Applied Phycology*

ISAP 2011



## Topics include:

- **Scaling-up production and the mass cultivation of algae**
- **Fundamental studies in algae science**
- **Products and Applications**
- **Algae and environment / ecology**
- **Patenting, licensing and IP protection**
- **Use of algae in aquaculture**



For more information, please visit [www.isap2011-halifax.org](http://www.isap2011-halifax.org)



**26<sup>TH</sup> congress of the  
Psychological Society  
of Southern Africa**  
University of the Witwatersrand



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25-28 January 2011  
Broederstroom, Magaliesberg

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CONFERENCE VENUE

The Magaliesberg Conference Centre is situated in the foothills of the Magaliesberg near Broederstroom between Lanseria airport and the Hartebeestpoort Dam. The Society has held a previous Congress here so it may be familiar to some. It has been upgraded to incorporate some de luxe accommodation with private decks and TV. There is a swimming pool set in sweeping lawns and under expansive thorn trees, so do come prepared. For further information about the venue, visit [www.magalies.co.za](http://www.magalies.co.za). We, at the Centre and at Wits, look forward to welcoming you!

PROGRAMME

Tuesday 25 January	Arrival of delegates, registration, ice-breaker dinner
Wednesday 26 January	Full day conference Plenary Address - Dr Pierre Durand Algal Biofuels Open sessions
Thursday 27 January	Full day conference Open Sessions Poster presentations Conference dinner and prize giving
Friday 28 January	Delegates depart

GUEST SPEAKER

Dr Pierre Durand  
Evolutionary Medicine Unit  
Department of Molecular Medicine & Haematology  
Medical School  
University of the Witwatersrand

Adjunct Professor  
Department of Ecology and Evolution  
University of Arizona  
Tucson, Arizona, USA

Title of Plenary Address:

Understanding the origin and evolution of biological complexity using the Volvocine green algae as a model lineage.



## PRESENTATIONS

One session will be dedicated to Biofuels and is anticipated to offer a platform for further informal discussions for the Biofuel Workshop group that attended in George at the last conference. This format for Biofuels work has been introduced to facilitate the integration of the two groups of researchers with a phycological interest. The remaining sessions are open and will be ordered as far as possible to keep similar research areas grouped.

Oral presentations are 20 minutes (15 minutes presentation and 5 minutes question time). Data projectors are available for oral presentations. Should you require any other media for your presentation please inform the conference organisers at the time of submission of your abstract. Presentations on disk/flash must be submitted to the chairperson of the session well before the start of that session.

Poster presentations should be placed in the designated areas during registration time. They should remain on display for the duration of the conference. Poster dimensions should all be A0 size (120 cm tall x 84 cm wide). Please include a photograph of the presenting author. Ensure that poster text can be comfortably read from a distance of 2 m. Material for attaching posters will be provided.

## DEADLINES

Return completed Registration Forms by 30 November 2010.

*Completed registration forms should preferably be emailed (but may be faxed) to the conference administrator.*

Payment by 14 December 2010.

*Late registration will be subject to a surcharge of R200.00.*

Abstracts due 10 January 2011.

*The abstracts should be sent via e-mail as an attachment or in the body of the message, or faxed to the conference administrator. Please do not submit abstracts later than this user-friendly date as we will not have time to incorporate them into the programme.*

## REGISTRATION

+ includes annual membership fees, and all meals including the conference dinner, tea & coffee.

- excludes accompanying persons.

## ACCOMMODATION

Accommodation is at the Conference Centre and there are various options available:

Standard Twin Room (sharing ablutions with another room) - R265 per night

Standard Single Room (sharing ablutions with another room) - R295 per night

Single Room with en suite (bath only) - R355 per night

De luxe Room with en suite (shower only) and TV (sharing) - R435 per person per night

De luxe Room with en suite (shower only) and TV (single) – R535 per person per night

Please indicate if you wish to share with someone in particular. Towels are provided.

Additional time at the venue (e.g. staying on Friday night) may be requested but this will need to be negotiated with the proprietors of the Magaliesberg Conference Centre. If you are interested in such an option, please indicate this in the relevant field on the registration

form, together with the day/s involved. The costs per additional day are the same as those listed below for accompanying persons.

### TRANSPORT

Because of our limitations (only two drivers), we will be able to offer only a limited transport service for those arriving by air. Thus, we would appreciate it if you could organise to fly into Johannesburg around mid-afternoon. For those flying in from Cape Town or Durban, please consider arriving at Lanseria airport which is very conveniently located relative to the Conference Centre and where time of arrival will not be such an issue. Please try to let us know by 14 January of your final flight details, but we appreciate that last minute changes are sometimes unavoidable.

### FIELD TRIP

No field trips have been scheduled however if you are keen on visiting any location please bring it to our attention and we will see if we can accommodate you.

### ACCOMPANYING PERSONS

Costs for accompanying persons will be R250 per day in addition to accommodation costs. Please let us know if your accompanying person will not be partaking in any of the programme and we can trim the costs accordingly.

### CONFERENCE ADMINISTRATOR

Stuart Sym

E-mail: [Stuart.sym@wits.ac.za](mailto:Stuart.sym@wits.ac.za)

Tel: 011-717-6431

Fax: 011-717- 6494

Or

Graham Stansell

E-mail: [graham.stansell@students.wits.ac.za](mailto:graham.stansell@students.wits.ac.za)

Tel: 011-717-6432

Fax: 011-717- 6494

### FEES

*Please mark the block for your choices:*

Name:			
Address:			
Telephone:		Facsimile:	
Email:			Amount due
Registration:	Ordinary Member	R1380.00	
	Life Member	R1300.00	
	Student Member	R1200.00	
	Late (add additional)	R200.00	
	Daily rate (dinner and breakfast and registration pack included)	R529.00	
Accommodation		Per Night	
Standard Twin Room (sharing ablutions with another room)		R265	
Standard Single Room (sharing ablutions with another room)		R295	
Single Room with en suite (bath only)		R355	

De luxe Room with en suite (shower only) and TV (sharing)	R435	
De luxe Room with en suite (shower only) and TV (single)	R535	
Request transport from airport (delete whichever applicable)		Yes/No Lanseria/ORT
Special dietary requirements	Vegetarian Halaal Other (specify)	

Banking details:

Phycological Society of Southern Africa

FNB

Cheque Account

Acc no: 62045373636

Branch code: 201509

For the Reference please use: Institution + Surname

ABSTRACTS

Please submit your abstract in the box below in the format shown.

Please underline the presenting author. (The box will be used in the final version)

<p>The title of the paper, which should be short and informative, and printed in Times New Roman, bold, 12 point, centred</p> <p>First O. Author<sup>1</sup>, Second T.W.O. Author<sup>2</sup>, Third T. Author<sup>1,2</sup></p> <p><sup>1</sup>The address of the first affiliation author(s); email address of presenting author <sup>2</sup>The addresses of other authors</p> <p>The text of the abstract should be in Times New Roman, 12 point, single spaced, justified, single paragraph. Word limit is 300 words.</p>
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