

ASBCB Newsletter

September 1, 2011

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Message from the President

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In this last letter from me as President, it is an opportune time to introduce the new President and the rest of the team that was elected this year to steer the activities of ASBCB for the next two years. I am honoured and humbled to have had the privilege to lead the last governing council since 2007.

Following the elections held in Cape Town in March, your new President is **Nicola Mulder**, an Associate Professor of Bioinformatics at the University of Cape, where she is also Director of the Computational Biology (CBIO) Group (<http://www.cbio.uct.ac.za>), a big team that includes personnel ranging from postgraduates to senior teaching and research staff. Nicky was co-chair of the highly successful ISCB Africa ASBCB Conference on Bioinformatics, held in March 2011. Nicky has been very instrumental in the growth of ASBCB, and helped us to forge very productive relationships, especially with ISCB and NIAID. Prior to her position at UCT, she

spent 8 years at the European Bioinformatics Institute in Cambridge, as a Team Leader, responsible for development of one of the most heavily used Bioinformatics resources at the Institute, InterPro. Her research at UCT focuses on microbial genomics and infectious diseases from both the host and pathogen perspectives, and her group provides Bioinformatics services for the local researchers. She has organized and taught on numerous bioinformatics courses and is a mentor and faculty advisor to students through the African regional student groups of the International Society for Computational Biology. Nicky is chair of the Bioinformatics Education committee in South Africa, responsible for organizing the national bioinformatics courses for postgraduate students. She is currently training postgraduate students from seven different African countries in her lab.

Segun Fatumo is the new Vice-President. He is a lecturer and researcher at Covenant University at Ota in Nigeria, but is currently a research associate at the University College London. He is the founder and first President of RSG Africa, and helped grow this body to a level where hundreds of students across Africa are involved in bioinformatics activities. Segun will bring the dynamism

associated with RSGs to the new council, and will also ensure that strong links are maintained.

Ezekiel Adebiyi is the new Honorary Secretary. He is a professor of Computer Science and heads the Bioinformatics group at Covenant University, Ota, Nigeria. He is also head of the Computer Science department. Ezekiel's group focuses on the development of the malaria research bioinformatics, and includes staff and students.

Alia Benkahla, who is the Treasurer, is the head of the Bioinformatics and Mathematical Modeling group at the Institut Pasteur de Tunis (IPT), Tunisia. Her initial focus at IPT was to build capacity in the field of Bioinformatics and she has trained two PhDs so far. She has also put much effort in national and international short-term training workshops. Her research at IPT focuses on data analysis and integration in systems biology for infectious diseases.

The council has two additional members: **Seydou Doumbia** and **Daniel Masiga**. Seydou is the Deputy Scientific Director of the Malaria Research and Training Centre at the University of Mali in Bamako.

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Special points of interest:

Letter from outgoing President ASBCB, Bioinformatics & H3Africa Project, Advances of RSGs.

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Word from the Editor

It is truly amazing how time flies—and unbelievable that it has been almost two years since the release of any ASBCB newsletter. Hopefully silence did not mean no real scientific work has been taking place in various labs because I am certain it has been. Summaries from various conferences, symposia and trainings reported in this issue attest to that fact.

To bring us current, I decided to look back whence we have come from. I know you still remember that after fully sequencing the human genome, the 'omics' race began in earnest. Fast forward and the talk now is how to use cutting edge technologies that are faster, reduced in size to ease research data acquisition, storage and analysis. The new buzz are technologies that promises to bring bigger changes to the field of bioinformatics and computational

biology through consolidation of tools to one-stop shop. How this can be tapped and translated in the Africa region is soon to be seen and hopefully reported in future newsletters. Already some countries are looking into harnessing all these to propel bioinformatics and related disciplines forward. Now who said science was boring?

In this issue, we have a report from the outgoing President of ASBCB —



Dr. Dan Masiga, who has ably led the organization since inception, several reports from the incoming President—Dr. Nicky Mulder and a report on regional student bioinformatics from Dr. Segun Fatumo. All these illustrate that the Africa region, through the different nodes, is making notable progress both now and with the bioinformatics leaders of tomorrow notwithstanding. Do take a moment to browse through the ISCB and other regional conferences that might be applicable to you.

Finally, I would like to encourage all in the community to be willing to contribute to the newsletter.

Beatrice Kilel, Ph.D

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Editor, ASBCB Newsletter

Report on the ISCB Africa ASBCB Conference Bioinformatics 2011

The third ASBCB Bioinformatics conference in Africa was held in Cape Town from the 9th – 11th March 2011 at the Cape Town International Convention Centre. ASBCB joined forces with ISCB for the second time to organise the ISCB Africa ASBCB Conference on Bioinformatics. The meeting was held back to back with the Joint International Conference of the African and Southern African Societies of Human Genetics with a shared session on an overlapping day with two keynote speakers. Between these two meetings, we were able to attract a number of high profile scientists to the country and expose participants to a broader scope of scientific research. This shared session was highly successful and enabled the two communities of scientists to interact. The rest of the Bioinformatics conference sessions were full of high quality

peer reviewed and keynote talks in the areas of host-pathogen systems biology, database and tool development, molecular epidemiology and evolution, vaccines and drugs, and functional, structural and comparative genomics. In total there were 31 peer reviewed talks, two invited talks and six keynote speakers all kicked off with a fascinating opening speech by the esteemed Prof Sydney Brenner.

The conference was preceded by two days of workshops with three parallel sessions. These were attended by over 90 participants. During the conference we also had an ASBCB AGM, and initiated the ASBCB mentorship programme (described in more detail elsewhere in the newsletter), where we collected information on students requiring mentoring and senior researchers who are willing to act

as mentors. We took the opportunity of having so many of our ASCB members present to hold the new Governing Council elections, which were also opened for online voting to members who could not attend. The results are published in this newsletter.

The ISCB Africa ASBCB Conference on Bioinformatics was attended by 180 scientists from around the world, with the majority coming from South Africa and the rest of the continent. 80% of registrations were from 13 different African countries. Through generous sponsorship from the South African Department of Science and Technology, the Wellcome Trust and the National Institute of Allergy and Infectious Diseases (NIAID), we were able to

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ASBCB Mentorship Program

The ASBCB is planning on facilitating a mentorship programme in which we will try to pair up mentors and students based on their respective research interests and needs. We have collected details from a group of mentors from around the world, as well as many students who require mentorship.

The programme is intended to bring together students and mentors with common research interests so that the mentors can provide valuable input into the student projects.

Mentorship can occur at different levels, depending on the time commitments of the mentors, but can vary from regular communication and input on projects to active participation in lab meetings via Skype, to exchange visits to the mentor's lab. This programme is in its early stages and more information will be made available on the ASBCB website.



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President, ASBCB

Bioinformatics and the H3Africa Project

In 2010, the National Institute of Health (NIH) and Wellcome Trust (WT) announced a partnership to support research on Human Heredity and Health in Africa (H3Africa) through input of significant funding over the next 5 years. These funding agencies have teamed up with the African Society of Human Genetics and developed a set of recommendations for the H3Africa project. More details can be found at the website:

<http://www.h3africa.org/>. A public meeting was held in Cape Town in March this year just before the Bioinformatics conference, and researchers were invited to sessions on the various aspects of the project. The WT (<http://www.wellcome.ac.uk/Funding/Biomedical-science/Funding-schemes/Strategic-awards-and-initiatives/wtvm052057.htm>) and NIH

(<http://www.h3africa.org/funding.cfm>) have now put out funding calls for proposals, which are due before the end of the year. The NIH is holding an information ses-

sion for potential applicants in Nairobi, Kenya in September (http://www.h3africa.org/2011_nairobi_meeting.cfm). One of the calls is for a bioinformatics network to support the research projects and to build a solid bioinformatics infrastructure on the continent.

A consortium of over 20 bioinformatics groups in different African countries are working on a proposal, if you are interested in being involved please contact Nicola Mulder (Nicola.mulder@uct.ac.za).



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Advances of African Regional Students' Groups #1

It is no longer news that RSG-Africa split and formed five new RSGs during the ISCB-Africa ASBCB Joint Conference on Bioinformatics of Infectious Diseases held in Bamako Mali in December, 2009. The inauguration and official recognition of the five new RSGs was witnessed by the ISCB president Professor Burkhard Rost, some members of the ISCB board of directors - Prof. Christine Orengo, Prof Reinhard Schneider, Prof Anna Tramontano, Prof Alan Christoffels, President of ASBCB – Dr Daniel Masiga, members of the ASBCB governing council, founder and pioneer president of ISCB student council- Dr Manuel Corpas, all participants of the ISCB-Africa ASBCB Joint Conference on Bioinformatics of Infectious Diseases and members of the Bamako press.

The need for forming the new five RSGs was necessitated by the tremendous growth experienced by the old RSG-Africa in just two years. The Old RSG-Africa began with about 50 student membership and grew to have membership of about five hundred under the leadership of Dr. Segun Fatumo as the president and Sheila Omneh as secretary with representatives in each region of Africa. The leadership felt that regional groups within the continent would better address more local issues, including language differences that can have an impact on effectiveness of some activities.

Under the new dispensation, African RSGs (RSG- East Africa, RSG- Central Africa, RSG- South Africa, RSG- West Africa, and RSG- North Africa) have continued to experience further advances, paving way for their students to excel in their academic pursuits. Brief report of RSGs activities in the last one year is summarized in this article. Detail enquires can be received from the individual leaderships.

RSG- Eastern Africa

RSG- Eastern Africa is making waves

across the region. Among other activities, RSG- Eastern Africa organized:

- i). Bioinformatics and RSG EA awareness campaigns in 5 public universities in the region.
- ii). Organized the molecular phylogeny workshop.
- iii). Hackathon: a 3 day open source software development project was funded and took place in Nairobi.
- iv). A 1-day Commonwealth scholarship talk was organized by RSG EA and was facilitated by Dr. John Kirkland – the executive officer for Commonwealth Scholarship Commission, UK.
- v). Introductory Linux course, Nairobi, Kenya.
- vi) 2-day EMBL-EBI Bioinformatics Roadshow to be held in Nairobi, Kenya.

RSG- East Africa also Initiated and implemented the “Rithi Kitabu” project – aimed at equipping bioinformatics students in Eastern Africa with Bioinformatics textbooks.

RSG- Central Africa

The student group in central Africa is initiating policy change in the educational system in the region. Among other activities, they have been involved in:

- i). The creation of awareness on Bioinformatics in Central Africa has led to the revision of some program syllabuses in Cameroonian state universities where courses such as introductory Bioinformatics, Functional Genomics & Bioinformatics resources, have been successfully introduced in the postgraduate and undergraduate Biochemistry degree programs.
- ii) RSG Central Africa assisted successfully in running a one week nationwide workshop on Plant Molecular Phylogenetics during the month of September, 2010 targeting thir-

teen Staff from various disciplines in the Plant and Animal sciences.

- iii). Organized a five- day molecular biology workshop.

Workshop in the month of June, 2010 for Postgraduate students in the Biochemistry program at the University of Buea during which the students were given lectures on the major bioinformatics database resources and the use of other bioinformatics tools for sequence retrieval and analyses.

- iv). Educating members on techniques for writing a good motivation letter and a CV, hence making them competitive for advertised positions. One student benefited from such interactions and got a PhD offer in the Department of Chemistry at the University of Cape Town, S. Africa to study hemozoin formation in *Plasmodium falciparum*, another member secured a 6 month fellowship in the United States to investigate the evolution of proteases in *P. falciparum* and another took a PhD offer at the South African National Bioinformatics Institute (SANBI) in Bioinformatics and Functional genomics (Genome annotation and gene expression profiling using next generation sequencing).

RSG- Southern Africa

RSG Southern Africa has also played a major role in developing bioinformatics among African students in their region. Activities in their first year include:

- i). Conducted recruitment drives aimed at inducting students in the region into RSG activities.
- ii) RSG- Southern Africa students attended course on the UNIPROT database held at the UCT Medical School.
- iii). Attended virtual conference on Phylogenetics that was organized in conjunction with RSG- Eastern Africa.
- iv). Encouraged a good number of

Advances of African Regional Students' Groups #2

our members to submit abstracts and attend the ISCB/ASBCB conference to afford them the opportunity of interacting with experts in the industry.

RSG- Western Africa

The activities of RSG- West Africa are similar to their sister RSG- Central Africa

RSG- West Africa, majorly involved in Bioinfo-popularization fora, workshops/ symposia, language pluralism and Establishment of Mentor-Student links in 2010. Some of the activities are as listed below.

i). RSG- Western Africa in collaboration with their advisor has triggered the interest of one of their universities management's interest at Covenant University for the construction and establishment of Bioinformatics and Biotechnology centre of excellence.

ii). RSG- Western Africa mobilised with students a 4 day International Biotechnology Symposium held in Covenant University, Nigeria. Many students attended the Workshop from various parts of the region.

iii). RSG- Western Africa has attempted to solve the language pluralism challenge which was a major setback in their midst and has been partially handled at the grassroots level. English remains the main language of communication. Measures have been taken to appoint an interpreter who is engaged in translating certain information into French which happens to be the major language of 9 out of 16 member states.

iv). RSG-WA has been playing a key role in assisting its members in the exploitation of available Bioinformatics opportunities and capacity building. Two members got a 1 year TWOS scholarship each in research centers in India and China, one student benefited from a Fulbright Scholarship with Johns Hopkins Bloomberg School of Public Health,

Malaria Research Institute, Johns Hopkins University, Baltimore, Maryland, USA, and another secured a post Doctoral fellowship in the United States. Through rigorous announcements and circulations, several members got travel grants and various bursaries to attend international, local conferences and workshops including—Wellcome Trust courses and workshops, ISMB, WHO/TDR, ESF, ISFIT among others.

RSG- Northern Africa

RSG Northern Africa has primarily focused on collaboration with other RSG in Europe. A prominent event was symposium on Bioinformatics.

The first RSG- Northern Africa, RSG-Portugal and RSG- Spain Student Symposium on Bioinformatics(NPS3Bio) was held on October 26, in Malaga (Spain) as a special session within the X Jornadas de Bioinformática (Workshop on Bioinformatics for Personalized Medicine). The meeting witnessed variety of invited talks, student talks and posters. This event marks the beginning of a new era for North African, Portuguese and Spanish students. Associated to the International Society for Computational Biology, the three Regional Student Groups launched this event with high expectations for new interactions amongst students affiliated in these geographical regions. There is no other event, targeted at students, that unites these three regions due to their geographic proximity and shared history. RSG- North Africa will continue this new partnership yearly with RSG Portugal & Spain.

Joint Efforts among the five RSGs

The beginning of 2010 saw the publication of editorial paper "10 simple rules for organizing a Virtual conference anywhere" in a reputable PLoS Journal series. The publication was an outcome of the first African Virtual Conference on Bioinformatics (Afbix '09). Because of the success of the historical first African

Virtual Conference on Bioinformatics (Afbix '09), more joint efforts are in the works. The five RSGs in collaboration with their colleagues in India and Bioinformatics organization will be organizing the Africa-India Joint Virtual Conference 2011 (Bifx11), this was as a result of the some research paradigms shared by Africa and India.

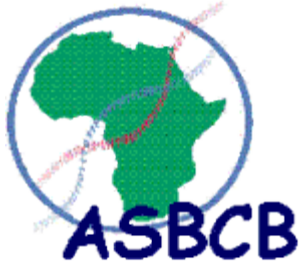
In conclusion, the African RSGs continually strive to provide opportunities for networking, career enhancement and skills development for those who aspire to become the next generation of computational biology leaders in Africa. The RSGs fosters speedy results to many challenges faced by many African students, young researchers and scientists in the field of bioinformatics and computational biology.



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We're on the Web!

[Http://www.asbcb.org/newsletter](http://www.asbcb.org/newsletter)

From Page 1-Outgoing President

He is the coordinator of the African Center for training in genomics of disease vectors, which hosted a bioinformatics training workshop held in concert with the first ISCB-ASBCB Africa Conference on Bioinformatics held in Mali in 2009. Daniel continues as a member of the council, having served as President since 2007. He heads the Molecular Biology and Bioinformatics Unit at the International Centre of Insect Physiology and Ecology in Nairobi. Both Seydou and Daniel are mentors to students in the RSGs.

Jaco de Ridder is the ASBCB webmaster and also serves as Membership chair of the society. He is in the Department of Biochemistry at the University of Pretoria (South Africa). His research is in the field of biomarker discovery as well as the development of educational software in the field of Biochemistry.

Beatrice Kilel continues in her role in charge of Public Relations of ASBCB and also continues as News-

Conferences and Trainings

08-Oct-11 Ireland, Galway	RECOMB Comparative Genomics 2011
29-Nov-11 UK, Hinxton, Cambridge	Functional Genomics and Systems Biology
08-Dec-11 United States, Snowmass, CO	9th Annual Rocky Mountain Bioinformatics Conference
17-Mar-12 Chile, Santiago	ISCB Latin America Conference on Bioinformatics (ISCB-LA-2012)

Complete list of ISCB meetings found <http://www.iscb.org/iscb-conference-events>

*** Check out regional nodes for relevant meetings and symposia.

letter Editor. She currently works for a global company as a bioinformaticist and also teaches a graduate bioinformatics course at a local university in Maryland, USA. She plans to use the newsletter to increase awareness and provide key issues related to bioinformatics in the Africa region.

As you will see in this newsletter volume, there are exciting times ahead. There are various efforts to encourage and strengthen the capacity of African scientists to harness genomics and bioinformatics resources. I believe that under Nicky's leadership many objectives for which ASBCB was formed will be met. I look forward to the future of bioinformatics in Africa, as I am sure most of you do.

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Outgoing President, ASBCB

From Page 2- Bioinformatics 2011

offer 40 travel fellowships for African students to attend the conference and workshops. The meeting provided an excellent platform for interactions between students and senior scientists, particularly during the two poster sessions, lunches and social events. The conference closed with a dinner at Marco's African place, where the scientists let their hair down to jive to African music from a local band! Now we look forward to organizing the fourth conference in North Africa in 2013.

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