

ASBCB Newsletter

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Volume 3, Issue 1

Message from the President

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Special points of interest:

UNICEF/UNDP/World Bank/
WHO-TDR Bioinformatics
Workshop - Abuja Nigeria

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When the human, *Anopheles gambiae* and *Plasmodium falciparum* genomes were published a few years ago, it was thought that the **availability of this "triad"** would lead to rapid advances in malaria control. Few people doubt that translation of the genome data that are publicly available will lead to significant contributions to the management of public health problems in the tropics. As I am sure you are aware, the human genome was completed nearly 5 years ahead of schedule as a result of advances in sequencing technologies during the project. A few years before data of these genomes were published, Professor Winston Hide established the South African National Bioinformatics Institute (SANBI) at The University of *The* Western Cape. SANBI has contributed considerably to training bioinformatics practitioners through various short introductory courses (we gratefully acknowledge support from Ayo Oduola and Yeya Toure of TDR), and postgraduate

programs within South Africa, with various nodes of the National Bioinformatics Network (NBN) accepting students from other African countries.

The goal that encouraged Winston Hide to invest his time and resources at SANBI – increasing the number of bioinformatics specialists across Africa, in order to meaningfully generate knowledge from genome resources that will impact the wellbeing of the people of Africa, remains unmet. Since ASBCB was born during a meeting at SANBI in 2004, we have remained at the forefront of advancing translation of genome resources (see recent TDR article: <http://www.who.int/tdr/svc/publications/tdrnews/issue-81/meetings-bioinformatics>). The need for bioinformatics graduates remains urgent. The development of second generation sequencing technology has resulted in an unprecedented growth in sequence data. This is perhaps well illustrated by the 1000 human genomes project (www.1000genomes.org) whose goal is to generate a deep catalogue of human variation. This was technically inconceivable a few years ago. This is what Richard Durbin, co-chair of **the consortium said: "Such** a project would have been

unthinkable only two years ago. Today, thanks to amazing strides in sequencing technology, bioinformatics and population genomics, it is now within our grasp. So we are moving forward to build a tool that will greatly expand and further accelerate efforts to find more of the genetic factors involved in human health and **disease.**" These advances in technology demand that as we move into 2009, we must do more than hold short courses, which are great, but soon have a redundancy that is self-limiting. To sustain post-graduate training at universities in Africa is difficult, yet we must deliberately challenge universities to collaborate, often across borders in order to deliver and sustain relevant high quality training programs. We must try new ways, incorporating different formats, including on-line courses, to achieve this. Together we can do more. Are you ready?

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Word from the Editor

Welcome to our rather delayed newsletter. This issue was delayed partly because we did not get enough contributions to make for an issue. I personally would like to encourage members in this community to try and share with the readership of the newsletter any information you deem will benefit and enhance bioinformatics in the region. Also, we are currently putting together topics so that contributions in the upcoming issues will be theme-centric. This will be relayed to the larger community when we have shortlisted relevant lead topics.

The informatics field continues to grow both in depth and width generating tremendous amounts of data. This means that tools required to handle and synthesize the information therein will continue to be a necessary requirement. The challenges might still lie in properly

understanding the biological implications of the generated data before creating any models. And as exciting as this may be, the bigger challenge still remains whether funding to carry out these researches will be available. That said, collaborations will continue to be key. Novel and creative ways to bring information through web technology for research personnel training is worth thinking about.



This is becoming ever more feasible in the current global village.

Included in this issue is a report from the UNICEF/World Bank Bioinformatics meeting held in Abuja, Nigeria in 2008 and RSG—Africa student activities. Due to the delay in the release of this issue, a supplement has been posted on the ASBCB website focusing mainly on the student accomplishments since inception. I will encourage the student community to continue with the same spirit and enthusiasm that they have shown thus far.

Beatrice Kilel, Ph.D

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Editor, ASBCB Newsletter

UNICEF/UNDP/World Bank/WHO-TDR Bioinformatics Workshop - Abuja, Nigeria

A Bioinformatics workshop, sponsored by UNICEF/UNDP/World Bank/WHO-TDR and organised in collaboration with the Southwest Biotechnology Centre of Excellence, NABDA/FMST and West African Biotechnology Workshop Series, was held in Abuja Nigeria in April with the purpose of establishing a strategy and subsequent development of a Pan-African Bioinformatics Network that improves health in Africa through leverage of biological information. The workshop brought together a small number of participants, including representatives from five different African countries and experts from the USA, France and Canada, all of whom have an active interest in Bioinformatics development in Africa.

The meeting was opened with presentations from the Honourable Ministers of Health, and Science and

Technology for Nigeria, and a representative from NABDA/FMST. Participants were given an update on the status of Bioinformatics in Tunisia, South Africa, Kenya, Mali and Nigeria, as well as presentations from US and Canadian participants on translational and commercial Bioinformatics research in drug discovery and infectious diseases. The remainder of the meeting was focussed on a strategy for development of a Pan-African Bioinformatics network.

The outcome of the workshop was a proposal for the development of a network of African scientists aimed at increasing research output in biological information translation from Africa by building capacity in research and training. The network aims to achieve this goal through four main activities: capacity building, fostering translational biological

research, organization and outreach. The capacity building element includes both the development of human capacity, which is fundamental to the success of the network, as well as infrastructural capacity, for example, equipment, internet access, and data generation, storage and access. The organizational component is designed to facilitate resource allocation and ensure the long-term sustainability of the network.

The proposal provides for a network composed of nodes that can be full nodes (currently pursuing Bioinformatics research and training, and have the infrastructure and capacity to host visitors and training courses) or associate nodes (working towards Bioinformatics capacity, but not yet containing the infrastructure and ca

-capacity to carry out Bioinformatics research and training), with the role of developing Bioinformatics capacity to facilitate biological information translation in Africa. The management structure suggested for the network involves a management board composed of a representative from each country containing at least one full node, and overseen by a scientific advisory board. Major activities of the network, including research, training, outreach and infrastructure development will be managed through subcommittees that report back to the management board.

In order to get the network started, a proposal will be put forward for funding of a survey of

Bioinformatics in Africa, and a network manager position.

A working group was put together to oversee the development of the proposal, as well as a full document outlining the network, its objectives, guidelines for membership and management structure.

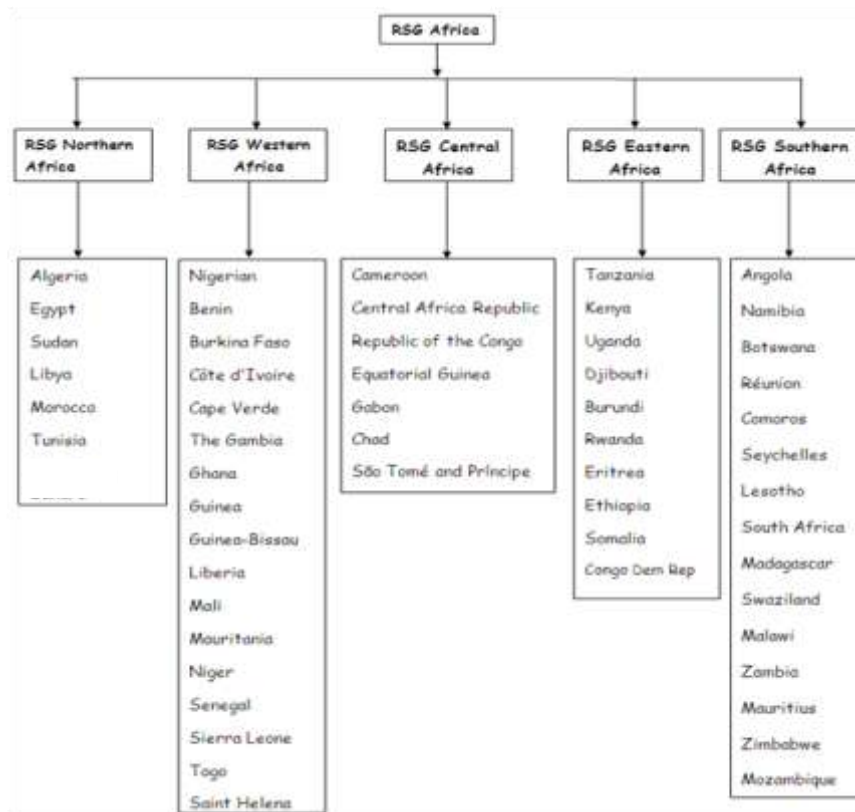
As part of the start-up activities, research proposals have been discussed, and will be written up as proposals for funding. We hope this initiative is successful and provides a mechanism for driving capacity development in Bioinformatics to ensure an increase in research output in the area of translational research in Africa.



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RSG NETWORK



RSG-Africa Decentralizes

The ISCB Regional Students Group (RSG-Africa) since its inception in 2007 has grown both in terms of number of students (nearly 500), and activities. Approximately 40 students have also been registered yearly with the International Society of Computational Biology Students council (ISCBSC) from 2007 to date. It has therefore become necessary to decentralize in order to maintain closer contact between leaders and members, and to make it easier (even cheaper) to organize events (workshops/conferences) as well as register members to ISCBSC.

It was also 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. Notably also, RSG Morocco already existed, and it was felt that merging this with the northern region of RSG Africa would better serve this end of the continent. In line with this, four additional sub-regional groups were therefore created, with newly elected leaders as well as a new mentor to the additional list of committed mentors and faculty advisors. The decentralization should facilitate much more activity at the grassroots level than was previously possible. The following are the regional representations of the RSG subunits:

RSG-Northern Africa (Merger between RSG-Morocco and RSG-Africa Northern Africa region)

1. President: Noura Chelbat
2. Vice president: Majdi Dammak
3. Secretary: Amina Elgo
4. Webmaster: Amel Ghouila
5. Faculty Advisor: Dr. Amal Maurady

RSG-Southern Africa

1. President: Ramdayal, Kavisha

RSG-Eastern Africa

1. President: Nelson Ndegwa
2. Secretary: Blanche Kaira
3. Webmaster: George Githinji
4. Faculty advisor: Dr. Etienne deVilliers

RSG-Central Africa

1. President: Mbandi Stanley Kimbung (University of Buea)
2. Secretary: Emily Tangie (University of Buea)
3. Webmaster: Assam Jean Paul (University of Yaounde)
4. Faculty advisor: Dr. Fidelis Cho-Ngwa (University of Buea)

- *Grand Webmaster:* Kenneth Babu

Mentors

Prof. Winston Hide – SANBI UWC,
(Former faculty sponsor ISCBSC Regional Students Group RSG-Africa)

Prof. Olivier Gascuel - CNRS-LIRMM
France, (International advisor)

Dr. Daniel Masiga- ICIPE, Kenya

Dr. Raphael Isopheki- Jackson State University, Jackson Mississippi USA

Dr. Doumbia Seydou - Malaria Research and Training Center, University of Bamako, Mali

Dr. Alia Benkahla - Institut Pasteur, Tunis

r. Jaco de Ridder - University of Pretoria, South Africa

Dr. Trushar Shah- CIMMYT, Mexico

Dr. Beatrice Kilel - Virginia Bioinformatics Institute, USA

Dr. Mohamed M.M. Ibrahim Abouelhoda- Nile University, Egypt (New mentor)

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We're on the Web!

<http://www.asbc.org/newsletter>

Conferences and Training

- | | |
|---------------------------------------|--|
| 30-Nov-09 Bamako, Mali | ISCB-Africa ASBCB Joint Conference on Bioinformatics of Infectious Diseases |
| 10-Dec-09 United States, Snowmass, CO | Rocky Mountain Bioinformatics Conference ISCB Event |
| 10-Oct-09 France | Challenges in experimental data integration within genome-scale metabolic models |
| 01-Mar-10 Uruguay | ISCB Latin America |
| 04-Jan-10 United States, Kohala | Pacific Symposium on Biocomputing 2010 |

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

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