

The Improper Scientist

Official Magazine of the African Society for Bioinformatics and Computational Biology

Issue #1 December 2017

Hello,

It is a pleasure to welcome you to the first issue of The Improper Scientist. You may be wondering where the name comes from. In 2016 I was fortunate to be awarded a Fulbright fellowship to spend my sabbatical at the Broad Institute, Boston, USA. During that time, my apartment coffee table had a copy of The Improper Bostonian Magazine. This was the reference manual for my family and I as we identified a range of activities for everyone to enjoy. It is our hope that this magazine will become your virtual coffee table book as you explore all that bioinformatics has to offer on the African continent.



Those of you who attended the ISCB-ASBCB meeting in Entebbe, Uganda in October 2017 will agree with me that we had a fantastic time networking and listening to cutting edge research that is underway on the African continent. The ASBCB members have benefited from the overlapping meeting with the H3Abionet and in partnership with the ISCB. In this issue we report on the conference and the H3Abionet Scientific Advisory Board meeting. We witnessed the beginning of a community of special interest groups that will go a long way to fostering collaborations and strengthen scientific best practices.

I trust you enjoy the conference reflection and the introduction of a biobanking theme.

Alan Christoffels
Editor (@alangchris)

SAVE THE DATE!

- ★ 3rd week of each month: CPGR Foundation in Genomics 3-day Course, from standard molecular technologies to advanced 'omics' application.
<http://www.cpgr.org.za/training/workshops/>
- ★ H3ABioNet pan African online Women in Data Science (WiDS)
(<http://www.h3abionet.org/9-public-content/284-wids-2018>)
5th March 2018
- ★ GalaxyAfrica meeting, Cape Town, South Africa
3-5th April 2018
- ★ GET Africa: 4th African Conference on Emerging Infectious Diseases and Biosecurity (www.getafrica.org).
26-28th September 2018, Sierra Leone
- ★ International Data Week in Gaborone, Botswana
(<http://www.scidatacon.org/conference/IDW2018/about/>)
5-8 November 2018



Photo of conference attendees outside the venue at the Uganda Virus Research Institute.

Report on the ISCB Africa ASBCB Conference on Bioinformatics 2017

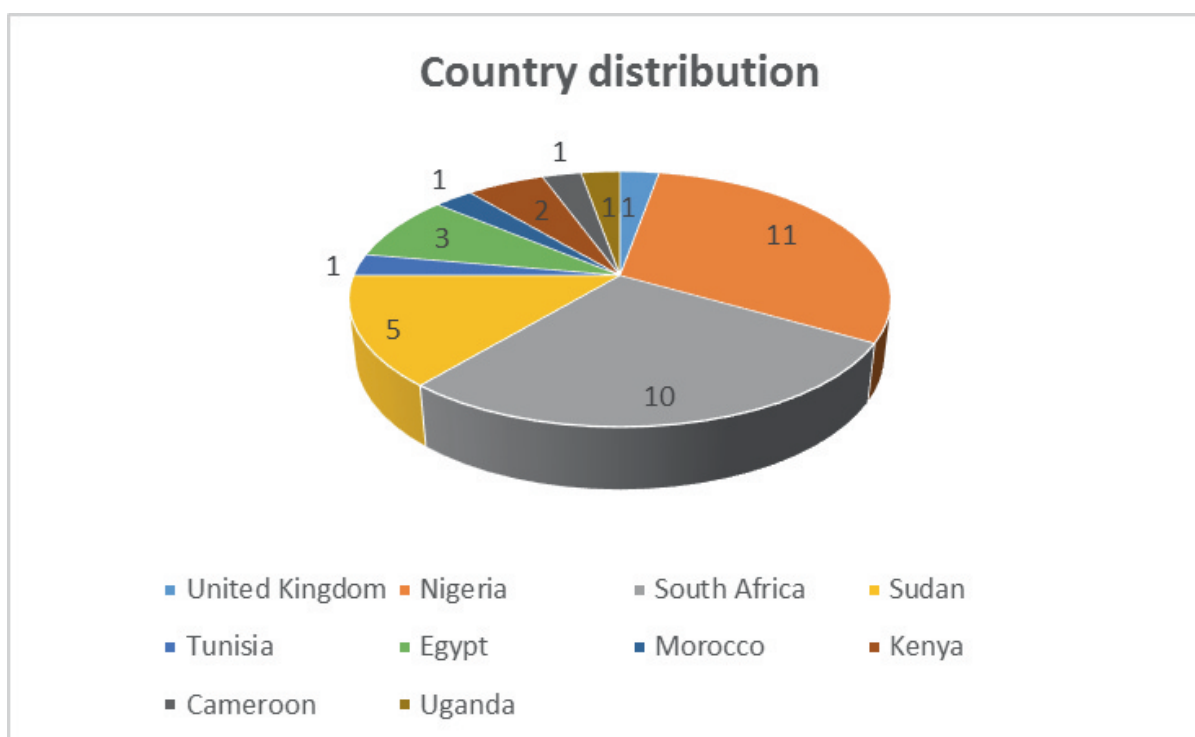
The 5th joint meeting of the ISCB and ASBCB Conference on Bioinformatics took place from the 10th-12th October 2017 in Entebbe, Uganda. The conference featured a broad bioinformatics scope with a special focus on diseases relevant to Africa. The ISCB Africa ASBCB Conference on Bioinformatics is the premier African bioinformatics conference held biannually on the continent, and showcases the most exciting current bioinformatics research being conducted by African students and scientists.

More than 120 delegates from leading Biomedical research labs within and outside of Africa attended the conference, which was held at the Uganda Virus Research Institute (UVRI), to present on and discuss contemporary research in bioinformatics. Figure 1 shows a photo of some of the conference attendees outside UVRI. The conference program included five scientific sessions focusing on bioinformatics tools and research presented primarily by African students and scientists, and three poster viewing sessions. The ISCB Africa ASBCB Conference on Bioinformatics also marked the closure of the first phase of the H3Africa Pan African Bioinformatics network, H3ABioNet. A special joint H3ABioNet ASBCB session was dedicated to student research and relevant bioinformatics project presentations. Special sessions attached to the conference were arranged, which included the ISCB Student Council Symposium, career development and NGS data analysis using Galaxy workshops, as well as a discussion panel supported by the Mozilla Open Science Foundation focusing on the importance of Open Science in accelerating biomedical research discovery. The latter generated very interesting discussions and stimulated further

Excellent and engaging keynote speeches covering a variety of genomics related topics were given by:

- Francis Ouellette (Chief Scientific Officer and Vice President of Scientific affairs at Génome Québec, Canada)
- Julie Makani (Associate Professor, Department of Haematology and Blood Transfusion, Muhimbili University of Health and Allied Sciences, Tanzania)
- Daniel Masiga (Head of the Molecular Biology, Bioinformatics & Biostatistics Unit, International Center of Insect Physiology and Ecology, Kenya)

We are very grateful for funding that enabled many African scientists to attend the conference. In total 36 travel fellowships were awarded to African students to attend the 5th ISCB Africa ASBCB Conference on Bioinformatics and present their scientific research. These were funded by H3ABioNet, the Wellcome Trust, and the African Partnership for Chronic Disease Research (APCDR). Additional local researchers were supported by MUII-Plus (Makerere University/UVRI Infection and Immunity) travel fellowships. Figure 2 shows the distribution of countries of travel fellowship recipients.



Country distribution of all travel fellowship recipients.

Training

Conference Workshops

Galaxy Workshop

Galaxy is an open-source, web-based platform for data intensive biomedical research. Peter van Heusden provided the Galaxy training during a 1-day hands-on session. During this workshop Peter demonstrated the use of Galaxy for analysing NGS data. All participants at the Galaxy workshop were interested in the GalaxyAfrica meeting that will be held from 3-5 April 2018. The Uganda Virus Research Institute in Entebbe now runs a local Galaxy installation.



H3AbioNet Career Development Workshop: Communicating Science

This workshop was aimed at MSc and PhD students to convey why it is important to communicate one's science and to provide tips and tricks as well as practical experience in doing just that. Topics include: Effectively communicating research, Getting your scientific posters noticed, Winning scientific oral presentations, and How to read a research article. The workshop presenters comprised Nicki Tiffin, Christopher fields, Francis Ouellette, Segun Fatumo and Sumir Panji.



H3AbioNet Career Development Workshop: Communicating Science

A two day workshop was organized as a collaborative effort between H3Abionet, UVRI and ASBCB. The workshop was intended to provide insight into, and basic practical experience in, developing grant proposals. The presenters included: Nicki Tiffin. David Roos, Ken Wiley. Ellis Owusu-Dabo, Gerard Tromp, Laura Povlich, Faisal Fadlelmola. Jenniffer Mabuka-Maroa.



Writing skills were taught during several workshops: Postdocs and early career scientists on the Grant Proposal Development Workshop learned practical approaches for finding grant opportunities, engaging with the grant-writing process, and avoiding common grant-writing pitfalls. They learned to create a proposal framework using focused Research Aims and Objectives, and practiced these skills by preparing a 'Letter of Intent' relating to their own research. During the

Communicating Science Workshop, participants were presented a step-by-step guide on how to write a research paper; and postgraduate students were taught a practical framework for planning and writing their Masters or PhD thesis effectively.



Global Health Bioinformatics Research Training Awards in Africa

Recently Fogarty and the NIH Common Fund announced the new Global Health Bioinformatics Research Training Program Awards. This exciting initiative will provide 5-year funding for interdisciplinary training for bioinformatics scientists in Africa. The list of awardees are as follows:

- **Covenant University**

West African Sustainable Leadership and Innovation Training in Bioinformatics Research (WASLITBRE) (Nigeria, Mali, Ghana)

Principal Investigators: Drs. Ezekiel Femi Adebisi, Peter Amoako-Yirenkyi and Seydou Doumbia

- **International Centre of Insect Physiology and Ecology (ICIPE)**

Eastern Africa Network for Bioinformatics Training (EANBIT) (Kenya, Uganda, Tanzania)

Principal Investigator: Dr. Daniel Kanani Masiga

- **Makerere University**

Nurturing Genomics and Bioinformatics Research Capacity in Africa (BRECA) (Uganda)

Principal Investigators: Drs. David Patrick Kateete, Daudi Jjingo, Irving King Jordan and Graeme Mardon

- **University of Sciences, Techniques and Technologies of Bamako, Mali**

West African Center of Excellence for Global Health Bioinformatics Research Training (Mali)

Principal Investigators: Drs. Seydou Doumbia, Jian Li and Jeffrey G Shaffer

The Improper Scientist will feature each of these networks in the coming months.

Biobanking and Biosecurity

Biobanking refers to the collection, processing and storage of biospecimens and the collection of meta-data for future research use. Biospecimens can include human, animal, pathogens and plants. The extensive collections of biospecimens throughout Africa would not necessarily have adhered to international biobanking best practices. Nonetheless, in the last 5 years there has been a concerted effort to drive the establishment and harmonization of national and regional biobanks in Africa through H3Africa, AIDS Cancer Specimen Resource, B3Africa and the GET Consortium.

The Improper Scientist will feature biobanking and biosecurity initiatives in Africa with a view to understand our preparedness for disease outbreaks and readiness to drive large-scale genomics research projects.

The Low- and Middle-Income Countries (LMICs) Biobank and Cohort Building Network (BCNet) symposium (<http://bcnet.iarc.fr/>)

Recently BCNet held its symposium in Lyon, France where LMIC Biobanks presented their biobank development activities in Africa and Asia. The 2-day event was followed by a training workshop in partnership with B3Africa. The training sessions focused on the Eb3kit modules (demo.bibbox.org) namely AZIZI mobile field collection, Baobab LIMS, STategraEMS and Galaksio.

The following messages resonated with participants:

- Reproducible research relies on a successful biobank.
- Biobanks are catalysts of a bio-economy
- Establishing sustainable biobanks across Africa requires political will and investment.



BCNet Symposium November 2017, Lyon, France.

Cosi corner Community of Special Interest Groups

The community of special interest groups were established at the ISCB ASBCB conference. A total of 5 cosi groups were established namely Structural Biology and Design, Metagenomics, Systems Administration, Pathogens, and Population Genomics. These networks allow researchers with similar research interests to remain connected. Please email contact@asbc.org if you would like to join any of our current cosi groups, or if you wish to start a new group.



Structural Biology & Drug Design



Metagenomics



System Administration



Pathogens and Population Genomics

: ASBCB Governing Council

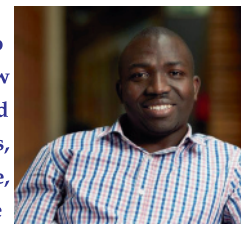
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Vision

To facilitate the development of African scientists
as leaders in bioinformatics and computational biology

Mission

To be a scholarly society dedicated to advancing,
developing and promoting bioinformatics and
computational biology in Africa.

Serve a global membership through distribution of valuable
information about training, education, employment
and relevant news from related fields.

Encourage the application of bioinformatics in
Africa to improve the livelihood of people.

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We welcome volunteers who wish to contribute to the following areas of the magazine:

- Editorial Team
- Layout and Design – we are looking for individual who wish to exercise their creativity in improving the look at feel of the magazine
- Articles – contributions related to any of the themes outlined in the magazine.

Please submit all contributions to
contact@asbcb.org