



Foreword



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The main activity for H3ABioNet in April was the Medical population genetics and GWAS for complex diseases workshop and symposium, which took place at the African Institute for Mathematical Sciences in Muizenberg, Cape Town. The workshop is discussed in the Education and Training working group report below. The two day symposium which followed the workshop gave the participants an opportunity to hear about GWAS and population genetics in practice, and featured talks from the workshop trainers, some of the workshop participants, and additional speakers, mostly from within South Africa. The workshop ended with an interesting panel discussion on the challenges of GWAS in African populations, which gave the audience plenty of food for thought.

This newsletter will update you on other activities of our working groups, and some new initiatives. The working groups are making excellent progress in their respective areas. An interesting new development in the research working group is the planning of the webinar series and the development of special interest groups. The idea of these is to make the network aware of research being done by individual groups, and to form groupings of researchers interested in similar topics. We hope this will promote collaborations and generate new ideas for cross-institution projects.

I hope you enjoy reading about the working group activities, meeting and workshop reports, and announcements of past achievements and upcoming events provided in this newsletter.

Prof. Nicky Mulder.



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- **Education and Training**

The Medical Population Genetics and GWAS for Complex Disease Workshop held at the African Institute for Mathematical Science (AIMS) in Cape Town was run over April. The workshop was well attended by more than 30 students and researchers, both within the H3Africa network, as well as local students from AIMS and other institutes. Three international lecturers, Bogdan Pasaniuc (UCLA), Noah Zaitlen (UCSF) and Bjarni Vilhjalmsson (HSPH) together with local lecturers, Scott Hazelhurst and Shaun Aron from Wits University, presented the workshop. AIMS kindly agreed to host the workshop, which provided a great environment for participants to network during and after the workshop sessions. The first day of the workshop was aimed at familiarising all participants with the fundamental concepts of a GWAS study and the data analysis process through theoretical lectures. The group then split up for the remainder of the 3-day workshop with one group focusing on GWAS data analysis and results interpretation, while the other group focused on advanced GWAS modeling approaches. The workshop was well received with a large proportion of participants opting to attend the advanced modeling sessions. We wish to thank everyone at AIMS and those involved in the organization of the workshop for a job well done. We shall provide input on the formal course feedback surveys once they have been collated.

The GWAS workshop at AIMS was the last of the currently planned workshop for this year. Training plans for the remainder of the year will be assessed and implemented following consultation with the H3Africa Education and Coordinated Training working group at the upcoming consortium meeting in May in Zambia. We are in the interim exploring the idea of hosting a regional workshop in Dar es Salaam on GWAS data analysis, following numerous suggestions for this specific training at the ASBCB meeting in Tanzania. There are a few nodes in the region with GWAS datasets and this would be good opportunity to explore a regional workshop model for training.

On other training aspects, the E&T WG has been exploring methods to follow up on the various interns that have been trained to date. Ideally, the best outcome for each internship would be for the trained interns to return to their home institutes and train others on what they have learnt or prepare to attempt one of the accreditation exercises if applicable. We are currently setting up systems to document what skills have been acquired by each intern and how best to ensure that these skills are transferred. Finally, there have been several requests from H3ABioNet node PIs for an Introduction to Bioinformatics course for individuals who are entering the field. We are exploring a distance learning based model for this, with training happening simultaneously at 3 or 4 sites and trainers teaching from their home institutes via the Vidyo conferencing system with teaching assistance at each of the training sites. In addition, this type of training will be well suited to make use of the eBioKits for the practical components of the course.

Shaun Aron.



• Infrastructure



Most of the work of the ISWG is done through its task forces. New members have been introduced and included in task force activities. The Systems Administration Task Force has been very busy. Training has been suggested to the new members to help them with their knowledge enhancement:

- Dell hardware technical training
- Coursera Python training

Level 3 Sys Admin documents are being compiled. Old members are helping new members towards contributing to the level 3 documentation. The TF has been very busy with Globus rollout. This is a priority for the next few months as our goal is to complete rollout by the end of July. PIs are urged to check on their endpoint status with their technical staff. The current status is:

- Globus Nodes installation: Working with various Nodes' system administrators helping them through the installation and troubleshooting.
- Working on putting a FAQ to help future Globus users troubleshoot their Globus installation and configuration problem, based on the experience gained from the Node installations.
- Globus Test Phase: Providing each Nodes' system administrator with an account at UCT to transfer a test 10GB file from each Node and to provide metrics on the results
- The Wits' University Nagios Monitoring tools is collecting information from the Nodes who have already installed their Globus to help monitor the Globus services Status on a regular bases.
- The members of the taskforce are maintaining a Google Docs spreadsheet that helps to project manage the Globus rollout.

The Data Management Task Force continues to be busy with planning for managing data generated by H3A projects. We expect the first data from an H3Africa project to be submitted within the next few weeks and large-scale sequencing data to arrive by the end of 2015, so the DMTF is very busy ensuring the infrastructure and archive is ready. Members of the ISWG are also working as part of the H3A Recruitment Database task force. This is a project to help the H3A funders and project PIs monitor progress with participant recruitment and data collection.



- **Research**

A call to the consortium was sent out for volunteers to be the seminar coordinators. Two candidates were chosen to help co-ordinate these activities, Jean-Baka from SANBI and Oussema from IPT. Ideally we should have one for April as we will need to keep improving on the logistics. The RSWG chairs and Network Manager scheduled a meeting with the newly selected Seminar Coordinators to discuss the seminar logistics and plans for the first seminar session that was held on May 14th, 2015.

The first H3ABioNet Twitter party was held on the 10th of April. The announcement was sent to the consortium mailing list and the theme was “Afterthoughts of the ASBCB conference”. The turnout was low with 3 to 4 people attending. A series of questions were created and posted by Amel for which the members replied. For some of the participants it was the first Tweet they had ever sent! The discussion centered around how should we ensure the regional sustainability of the regional groups with the special interest groups being listed. Suggestions for the next venue for the ASBCB meeting were also discussed with Mauritius being mooted. The H3ABioNet twitter account needs to be advertised a lot more as some people did not know it existed and the Twitter parties do need to better advertised. It was agreed to add plug-in for both Twitter and Facebook on the H3ABioNet webpage to advertise the activities of the H3ABioNet social media.

A call for Special Interest Groups (SIGS) was drafted and sent to the H3ABioNet consortium to encourage the participation of the members. There has been a varied response and the co-chair has been collecting the various expressions of interests within a spreadsheet. The SIGs can also be looked at as specific themes. There is a forum plug-in within H3ABioNet website whereby discussions by members for the various SIGs can be started off. It was agreed that a reminder email should be sent to the consortium about joining the SIGs with a new deadline of 30th April 2015.

The previous annual report showed a list of projects that have been started without any timelines or milestones set that could reflect on the progress of these projects. Each project PI should be asked to nominate one person who will be in charge of providing updates and milestones to the RSWG immediately. There are two types of projects, the collaborative projects listed in the table and the ones which are reported to the NIH on. The ones reported to the NIH have specific milestones and these are created and reported on. The collaborative projects should then provide a list of milestones as well so they can be tracked. It was decided to email each project PI to nominate a person to provide regular updates.



User Support

The user support working group finalized delivery on the first two activities for 2015 (see table below). Compilation of the 2015 deliverables and updating our terms of reference has been successfully done. Both these documents have been adopted, and will guide our work plans from now on. We are now left with aligning our priorities with other working groups after establishing synergies once their deliverables are out. We are currently pursuing recruitment of additional members and setting up of Help desk management committee and website metrics review taskforce. Specifically, USWG volunteers have been requested to respond to a circulating call to serve on either of these groups, and more members to bring on additional skills will be co-opted from other working groups. The Help desk management committee and metrics review task force when in place will assist to devise creative strategies to further promote the helpdesk. The scheduled milestone deliverables in 2015 for the USWG are as listed in the table below:

• User Support

Milestone	Start Date (Month)	End Date (Month)
Compile USWG deliverables for 2015	Feb 2015	March 2015
Revise and update USWG terms of reference (TOR)	Feb 2015	March 2015
Constitute/renew Workgroup and Task force membership	Feb 2015	March 2015
Update help desk registry, Establish Helpdesk management committee, appoint node representatives, and Co-opt more expertise as needed	March 2015	Continuous
Clean up pages of the helpdesk to further refine subject categories, expertise available, and profile compilations	March 2015	Continuous
Update brochures for H3Africa consortium meeting and circulation at partner institutions for increased outreach	Apr 2015	May 2015
Publish a help desk article to raise awareness	April 2014	May 2014
Continued assistance in Data submission protocols and tool development	On-going	Continuous
Continued assistance in development of guidelines and SOPs for data management	On-going	Continuous
Continued assistance in identification of common bioinformatics workflows	On-going	Continuous
Audit Helpdesk and provide report on metrics	May, Nov 2015	Every 6 months
Continued Bioinformatics help desk FAQ set up	On-going	
Monitor H3ABioNet website and report on analytic metrics	March, June, Sept, Dec	Quarterly
Provide written annual USWG reports for NHGRI submission and H3ABioNet consortium meeting	May, October 2015	Annual
Provide written monthly working group activity report to MC	Feb 2015	Monthly
Provide oral reports to the GA and SAB at H3ABioNet's annual General Meeting	Oct or Nov 2015	Annual
Provide quarterly bulletin/Newsletter contributions	Feb 2015	Quarterly

Dr. Pandam Salifu.

Dr. Jonathan Kayando.



- **ISCB Africa ASBCB Conference on Bioinformatics 2015**



H3ABioNet provided support in terms of travel fellowships for African students to attend the fifth ASBCB Bioinformatics conference in Africa, which is the fourth ISCB Africa ASBCB Conference on Bioinformatics in conjunction with ISCB. The conference was held at the White Sands Hotel in Dar es Salaam, Tanzania from the 9th-11th March 2015 (<http://www.iscb.org/iscbafrica2015>). It was preceded by a Student Symposium organised by the ISCB and ASBCB Student Councils and attended by students and junior academics. Two days of workshops, one on “Exploring variation data and variation annotation” and the other on “Genomic data visualization”, were held at the University of Dar es Salaam following the conference.

The Bioinformatics conference ran over 3 days and included five excellent keynote presentations from top researchers in their field: Matthew Berrimann, Michele Ramsay, Michal Linial, Tom Gilbert and Roderic Guigo. Sessions were divided into the following topics with a total of 30 accepted oral presentations:

- Host/pathogen systems biology
- Bioinformatics of human genetics
- Molecular epidemiology and evolution
- Functional, structural and comparative genomics
- Database and resource development
- Search and design of vaccines and drugs

The audience agreed that the peer reviewed and keynote talks were of high quality, and we were particularly encouraged to see the majority of presentations coming from African scientists and students. Two poster sessions saw the presentation of >50 posters, again, predominantly from African laboratories. The program included ASBCB and ISCB Society business meetings, where participants discussed new ideas for “Twitter parties” and how to encourage participation in international conferences.

The Conference was attended by ~80 scientists from around the world, with the majority coming from Africa. There were many opportunities for networking and African scientists and students interacted with those who came from Europe and the USA. Through generous sponsorship from the Wellcome Trust and H3ABioNet, we were able to offer a total of 31 full or partial travel fellowships for African students to attend the conference and workshops. H3ABioNet enabled us to offer 15 partial or full travel fellowships to students or junior academics who would not otherwise have been able to attend the conference and present their work. Although the conference was well attended, there were very few participants or students from the H3Africa projects. We hope this will change with more H3Africa fellows attending subsequent conferences to present their work to the African Bioinformatics community.



• **ISCB Africa ASBCB Conference on Bioinformatics 2015**



Figure 1 shows the distribution of countries of travel fellowship recipients, who are pictured in figure 2. Fifteen of these travel fellowships came specifically from H3ABioNet funding.

Figure 1. Country distribution of all travel fellowship recipients.

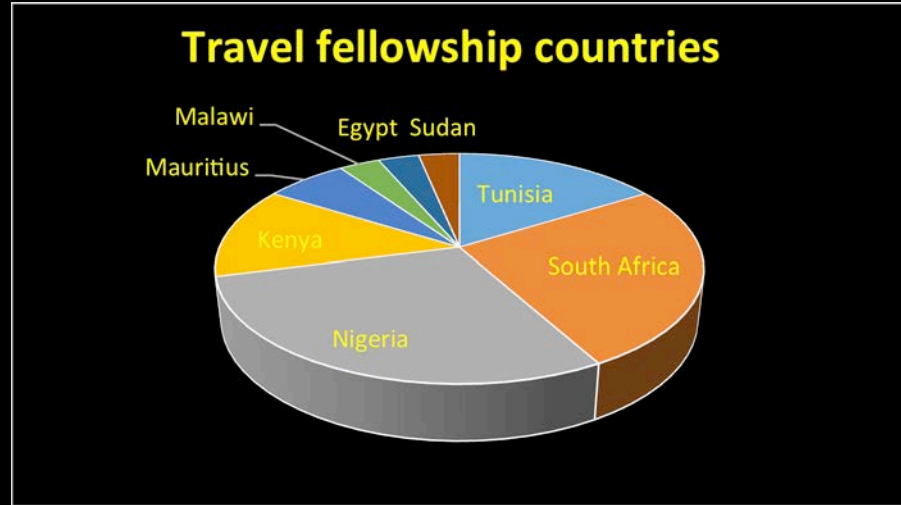


Table 1. List of H3ABioNet travel fellowship recipients and their country of origin.

First Name	Last Name	Affiliation	City	Country
Oussema	Souiai	Institut Pasteur de Tunis	Tunis	Tunisia
Darlington	Mapiye	University of the Western Cape	Cape town	South Africa
Benard	Kulohoma	International Centre for Insect Physiology and Ecology	Nairobi	Kenya
Gustavo	Salazar	University of Cape Town	Cape Town	South Africa
Kevin	Persand	University of Mauritius	Moka	Mauritius
Rosaline	Macharia	International Center of Insect Physiology and Ecology	Nairobi	Kenya
Amel	Ghouila	Institut Pasteur de Tunis	Tunis	Tunisia
Cherif	Ben Hamda	Institut pasteur de tunis	Tunis	Tunisia
Mohamed	Alibi	Institut Pasteur de Tunis	Tunis	Tunisia
Mohamed	Issa	Univesity of Zagazig	Zagazig	Egypt
Benjamin	Kumwenda	Malawi Liverpool Wellcome Trust/University of Malawi	Blantyre	Malawi
Rehab	Ahmed	Center for bioinformatics-Sudan.	Khartoum	Sudan
Trust	Odia	Covenant University	Ota	Nigeria
Jumoke	Soyemi	Covenant University	Ota	Nigeria
Shakuntala	Baichoo	University of Mauritius	Reduit	Mauritius



- **ISCB Africa ASBCB Conference on Bioinformatics 2015**



*"I would like to thank H3ABioNet for the travel fellowship. The travel fellowship provided me with a very rare opportunity to attend an international bioinformatics conference, where high quality cutting edge science was discussed. It also provided an excellent opportunity to meet and network with other scientists from multiple research fields. As a result, I have already actively started communicating and working with contacts/collaborators I met at the ISCB-ASBCB conference. Thanks for this wonderful opportunity." **Benard Kulohoma***

*"I wish to thank H3ABioNet for funding my trip to the ISCB-Africa. Being from a computing background, I normally have trouble in understanding the bioinformatics requirements of researchers from life Science. Also, at the University of Mauritius I have little chance to interact with people who are very active in Bioinformatics research. This conference gave me the chance to interact with high-profile researchers in the field. I also had the opportunity to meet people in the field of life science and I have realised that there is a lot yet to be done in terms of bioinformatics tools and research. Also the keynote speeches were really inspiring and motivating. If I did not attend the ISCB-Africa I would never have had the chance to meet such high-profile people. I have also had the chance to do networking and hopefully I can start doing some collaborative work with researchers whom I met at ISCB-Africa. Hence again, I am really thankful to H3ABioNet for this opportunity." **Shakuntala Baichoo***

*"I thank you for everything you did for us to be able to come to this conference. It was a wonderful experience to meet all these people, hear them and discuss with them. I have made good contacts that I will use for my future works." **Kevin Persand***

*"I want to thank you and the funders of the travel fellowship of the ISCB Africa ASBCB Conference on Bioinformatics 2015. Tanzania is an amazing country and the conference venue was the ideal scenario to share ideas between peers and to create alliances and future collaborations with researchers from Africa and abroad. The quality of the presentations (oral and poster) was really high and the key notes were incredibly motivating. I really appreciate the opportunity. Thanks." **Gustavo Salazar***

*"Thank you H3ABioNet for granting me the opportunity to share my project with fellow researchers. Indeed it was a wonderful experience, the feedback that I got from some experts in the field will assist me greatly to finalize and complete my project. It was also a good networking platform and my first time in Dar es Salaam and I thank H3ABioNet for it all." **Darlington Mapiye***

*"I would like to thank them for helping us to attend this conference. It's very necessary for a student like us to attend such meeting. We listened to comments about our work and suggestions to improve it. And like wise we shared our thoughts about others' work. It was a wonderful event for networking. Thanks a lot indeed for the travel fellowship." **Rehab Ahmed***



- **ISCB Africa ASBCB Conference on Bioinformatics 2015**



*"I want to acknowledge H3ABioNet for funding my trip, hotel accommodation and conference attendance to Da es Salam, Tanzania in order to expand my scope in the field of Bioinformatics. You have enabled me through your funding to interact and gain better knowledge in my research work. Thanks" **Jumoke Soyemi***

*"As my part, the conference was really perfect (the venue, the program and the presentations were excellent). Being in the first year PhD, all this is new to me. I really learned many things during the last week that are important for a researcher and it was a memorable experience that I would like to relive. In this context, I would like to take this opportunity to thank H3ABioNet for giving me the chance to attend ISCB Africa ASBCB Conference on Bioinformatics 2015 and for allowing me to live this experience. Thanks to H3ABioNet for his continuous support, I'll never forget that I was trained, became bioinformatician and my university research career does not stop to change for the better in the frame of this project. I'm so proud to be a part of H3ABioNet project." **Cherif Ben Hamda***

*"I am writing this letter to express my gratitude for you and for the funders of the project H3ABioNet for their consideration in supporting my work to be presented at the ISCB ASBCB 2015 Conference. I believe that my work can be useful for many people present on this conference from Africa, and you have given me the opportunity to introduce it for them. Your perspective and encouragement mean a lot to me. Thank you for all that you've done." **Mohamed Alibi***

Prof. Nicola Mulder



- **ISCB Africa ASBCB Conference on Bioinformatics 2015**



Group picture of the 31 travel fellowship recipients provided by the Wellcome Trust and H3ABioNet to attend and present their work at the ISCB and ASBCB conference on Bioinformatics, 2015.



Group picture of attendees to the Student Symposium organised by the ISCB and ASBCB Student Councils and attended by students and junior academics.



- **ISCB Africa ASBCB Conference on Bioinformatics 2015**



Professor Michele Ramsay from the H3Africa AWI-GEN project raising awareness about H3Africa to the African Bioinformatics community during her keynote presentation.



Group picture of ISCB and ASBCB conference on Bioinformatics 2015 attendees.



• Announcements

Announcements

- Congratulations to Professor Alan Christoffels from the South African National Bioinformatics Institute (SANBI) for being the first African Scientist to be awarded the inaugural [Human Genome Organization \(HUGO\) African prize](#) for his outstanding contributions to bioinformatics and health genomics in Africa and leadership on regional programs at the annual HUGO meeting in Malaysia in March 2015.
- Professor Christoffels has also been awarded a Fulbright fellowship to spend 6 months at the Broad Institute in Boston to work on *Mycobacterium tuberculosis* genome comparisons.
- The SANBI Node has graduated 3 PhD students in bioinformatics in March 2015
- Congratulations to Darlington Mapiye, Galen Wright, Nicki Tiffin and Ikechi Okpechi for their poster presentation "*Computational genomics approaches for kidney diseases in Africa.*" at the World Congress of Nephrology March 2015
- Congratulations to the NABDA Node for organising and hosting an Experts' Roundtable meeting on Advancing Genomics Research and Innovation in Nigeria in May 2015
- The "Genetics Unit and Center of Excellence in Molecular & Cellular Medicine, Faculty of Medicine, Suez Canal University in collaboration with the (Egyptian center of Bioinformatics and Genomics), Zagazig University has successfully organized a workshop entitled "Manipulation of Biological Sequences" (Module 2) in April at the Genetics Unit and Center of Excellence in Molecular & Cellular Medicine, Faculty of Medicine, Suez Canal University.
- The Ugandan Viral Research Institute (UVRI) Node is organising and hosting a "Bioinformatics in the tropics Uganda 2015: Introduction to bioinformatics analysis techniques for next generation sequencing data" workshop. The application deadline is the 8th of June 2015. For more details see: <http://www.h3abionet.org/training-and-education/h3abionet-courses/17-h3abionet-courses/h3abionet-courses-upcoming/232-uvri-ngs-2015-workshop>



- **Upcoming H3ABioNet Working group meeting schedule**

H3ABioNet Working Group Meeting Schedule until June 2015

Summary of H3ABioNet upcoming working group meetings:

Working Group	Time	Date	Month (2015)
E&TWG	UTC = 11am	14	April
E&TWG	UTC = 11am	28	April
E&TWG	UTC = 11am	12	May
E&TWG	UTC = 11am	26	May
E&TWG	UTC = 11am	9	June
E&TWG	UTC = 11am	23	June
USWG	UTC = 9am	3	April (Easter)
USWG	UTC = 9am	1	May (Bank Holiday)
USWG	UTC = 9am	22	May
USWG	UTC = 1pm	5	June
RSWG	UTC =11am	17	April
RSWG	UTC =11am	15	May
RSWG	UTC =11am	12	June
ISWG	UTC = 1pm	10	April
ISWG	UTC = 1pm	8	May
ISWG	UTC = 1pm	19	June
NATF	UTC = 1pm	24	April
NATF	UTC = 1pm	29	May
NATF	UTC = 1pm	26	June

Acronyms used for the various H3ABioNet working groups:

E&T WG	Education and training working group
RSWG	Research working group
ISWG	Infrastructure working group
USWG	User support working group
NAWG	Node accreditation working group

Time zone conversion table to UTC for all of H3ABioNet working group meetings:

UTC Time Offset	Time Zone Name	Regions / Countries in the Timezone offset
-5 hours (-6 hours)	CDT	Chicago, USA (2nd November, 2014)
-4 hours (-5 hours)	EDT	Boston, USA (2nd November, 2014)
0 hours	GMT	Burkina Faso, Ghana, Mali, Morocco, Senegal
+1 hour	WAT	Cameroon, Chad, Gabon, Namibia, Nigeria, Niger, Tunisia
+2 hours	CAT	Botswana, Egypt, Malawi, South Africa, Sudan, Zambia
+3 hours	EAT	Ethiopia, Kenya, Tanzania, Uganda