

SASBi

Newsletter

Inside the Issue

South African Society for
Bioinformatics



BIOINFORMATICS
@
STELLENBOSCH
UNIVERSITY

SASBi
COUNCIL

Student PROFILES
@
STELLENBOSCH
UNIVERSITY

The Centre for Bioinformatics and Computational Biology (CBCB; <https://www.sun.ac.za/english/faculty/science/sci-bioinformatics/Pages/default.aspx>) was established at Stellenbosch University in 2017.

Meet the SASBi council and student council members.

Insight into the life of a student.

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PRESIDENT'S LETTER

Greetings!

Your new council (see below) and I have much work to do until the next SASBi-SAGS conference.

We have several ideas for the next few years to revitalize SASBi and work together with other South African science groups. We will work diligently with SAGS to make the next conference as spectacular as it can be. There has been a proposal that the 2020 SASBi-SAGS Conference be a larger and longer conference. The idea is to replicate the 2010 conference which was a joint conference with other biology societies. We are investigating the possibility and will keep you informed. We will establish a conference committee to assist the host institutions, since the effort will be greater than usual.

SASBi and SAGS have committed to work more closely together and will have reciprocal represen-

(Continued on page 2)



Prof Gerard Tromp
Photograph: Stefan Els

"we will work diligently with SAGS to make the next conference as spectacular as it can be"

tation on each other's councils to promote collaboration and communication.

Speaking of communication, this Newsletter is our first concrete activity and we hope that it will be useful. The plan is to generate an issue every two months. In this issue we introduce you to the Council and Student Council. Although our SASBi community is small, we often are quite unaware of the activities of our sister institutions; we therefore have included a feature to highlight the bioinformatics activity at one of the universities. Producing a newsletter is a lot of work and to spread that out, the responsibility for the newsletter will be rotated to different universities. This will permit the institution to showcase bioinformatics at that institution, as well as feature profiles of a few of their students. We will also use the newsletter to keep members informed of activities of the Council and Student Council.

We have established SASBi as a group on the "Google Groups" platform to facilitate communication. To post on the group you can send an e-mail to sasobioinformatics@googlegroups.com. Aside from announcements, the group can be used for discussions of bioinformatic topics. Note that the group is moderated to avoid abuse and reduce spam.

We intend to revamp and update the SASBi web site to show that bioinformatics in South Africa is alive and well. The newsletter will also be posted to the SASBi website. In addition, the website will include job and funding opportunities as well as listing of relevant conferences and courses. Please make sure you visit the website <http://sasbi.weebly.com/> regularly to benefit from these updates.

SASBi will only be a useful society if we provide benefit to our members. We are therefore investigating establishing inter-institution mentoring groups to promote junior investigators. Similarly, SASBi should be a resource for faculty when trying to identify potential examiners for our students. We also hope to organize additional activities, more frequently than bi-annually; possibly small workshops or conferences.

Council has already 'convened' twice for a conference call and has a standing schedule set up for monthly conference calls. If you have suggestions, please contact any of the Council or Student Council members, as appropriate.

SASBi Council

Prof. Gerard Tromp, President e-mail: gctromp@sun.ac.za

Gerard Tromp is a Professor in the Division of Molecular Biology and Human Genetics of the Department of Biomedical Sciences at the Faculty of Medicine and Health Science of Stellenbosch University. He holds the Research Chair in Bioinformatics at the Faculty. Prof. Tromp received his PhD in Molecular Biology and Biochemistry in 1989 at Rutgers University, New Jersey, USA. He returned to South Africa in 2015 after 33 years in the United States and has been involved in SASBi since then and was a member of the SASBi Council since 2016. He has over 200 publications, an h-index of 64 (Google Scholar) and his work has been cited >12,400 times.

Prof. Tulio de Olivera, Past President e-mail: tuliodna@gmail.com; deoliveira@ukzn.ac.za

Tulio de Olivera is a Professor at the College of Health Sciences, University of KwaZulu-Natal (UKZN), and Director of KwaZulu-Natal Research and Innovation Sequencing Platform (KRISP), Durban. He received his PhD at the Nelson R Mandela School of Medicine, UKZN, South Africa, and was a Marie Curie Research Fellow at the University of Oxford, UK from 2004 to 2006, where he received in-depth training on virus genetic analysis and molecular evolution. He is recognized as an expert on HIV genetic data and bioinformatics. He has over 200 publications, an h-index of 36 (Google Scholar) and his work has been cited >4,200 times.

Dr Ruben Cloete, Secretary e-mail: ruben@sanbi.ac.za

Ruben Cloete is a Lecturer at the South African National Bioinformatics Institute (SANBI) at the University of the Western Cape. He completed a PhD in SANBI in 2013. His PhD focused on the identification of novel drug targets in the genome of *Mycobacterium tuberculosis* and the predicting their 3-dimensional structures. During his post-doctoral fellowship at SANBI he started implementing methods of molecular dynamic simulation. He spent 2 months in the laboratory of Professor Verma at the A-star Bioinformatics Institute, Biopolis, Singapore to learn molecular modelling, simulation studies of protein-ligand and protein-protein complexes, as well as methods in drug discovery and design. He now has his own laboratory group at SANBI and lectures in structural bioinformatics and comparative genomics. His current research uses structural methods for the discovery and development of novel drugs for HIV and tuberculosis. He has 8 publications, and an h-index of 4 (Google Scholar).

Prof. Oleg Reva, Treasurer e-mail: oleg.reva@up.ac.za

Oleg Reva, one of the founders of SASBi, is an Associated Professor in the Centre for Bioinformatics and Computational Biology, Department of Biochemistry, Genetics and Microbiology at the University of Pretoria. Prof. Reva obtained his PhD in Microbiology in 1995 in the Institute of Microbiology and Virology, Kiev, Ukraine. In 2002-2004 he did his postdoctoral fellowship in bioinformatics in the Medical High School in Hanover, Germany. His current research interests include the development of new biostatistical algorithms and computer programs for functional and comparative genomics, bacterial evolution, biotechnology and medicine. Prof. Reva lectures on bioinformatics and biochemistry and supervises post-graduate students. Numerous research projects



Prof. Gerard Tromp



Prof. Tulio De Oliveira



Dr. Ruben Cloete



Prof. Oleg Reva

were funded by NRF, SABINA and TIA. He is C2 NRF rated researcher. He has over 100 publications, an h-index of 24 (GoogleScholar), and his work has been cited >2,500 times.

Yumna Moosa, Member-At-Large e-mail: yumnamoosa@gmail.com

Yumna Moosa is an amateur mathematician, qualified medical doctor and fledgling bioinformatician. She is currently a PhD candidate at the KZN Research and Innovation Sequencing Platform (KRISP), based at the University of KwaZulu Natal. She was awarded her MBChB from the University of Cape Town in 2012 and completed a Masters in Medical Science in Virology/Bioinformatics UKZN in 2018. Yumna's research interests include the use of next generation sequencing and bioinformatics to survey the microbiome and virome present in a clinical sample. Her PhD project looks at the determinants of vaginal microbiome in the context of HIV acquisition risk.



Dr. Yumna Moosa

Phelelani Mpangase, Member-At-Large e-mail: phelelani.mpangase@wits.ac.za

Phelelani Mpangase is a Bioinformatician at the Sydney Brenner Institute for Molecular Bioscience at University of the Witwatersrand. He provides Bioinformatics support to students and researchers in the University. He has worked on projects involving protein structure and function, next generation sequencing data analysis, pipeline design, metagenomics and transcriptomics. Apart from being a Bioinformatician, he is also in the 3rd year of his PhD in Bioinformatics. His PhD project is focused at analysing transcriptomic data from black South African patients with systemic sclerosis and designing reproducible pipelines in Nextflow for analysing transcriptomic data and metagenomics.



Dr. Phelelani Mpangase

Alisa Postma, Member-At-Large e-mail: alisa.postma@gmail.com

Alisa Postma is a Research Assistant and a PhD candidate at the Centre for Bioinformatics and Computational Biology and the Forestry and Agricultural Biotechnology Institute at the University of Pretoria. She obtained a BSc and BSc (Hons) in Genetics at the University of Pretoria and an MSc in Genetics at Stellenbosch University. Her current research interests include genomics and transcriptomics analyses of forestry pests and pathogens. She is actively involved in student training, having been a practical demonstrator and tutor for numerous subjects at University of Pretoria and Stellenbosch University as well as co-supervising several honours and masters students.



Dr. Alisa Postma

Werner Smidt, Member-At-Large e-mail: werner.smidt@gmail.com

Werner Smidt is a postdoctoral researcher at UZKN at KRISP and a visiting scholar at the University of Pretoria. He completed his PhD in 2014. His research interests include development and implementation of computational methods for epigenetic studies, phylogenetics and the use of modern methods to deal with uncertainty in data modeling. He is currently collaborating with various research groups, focusing mainly on HIV and immunology. He is proficient in various computer languages as well as advance scripting.



Dr. Werner Smidt

Cedric J. Werely, Member-At-Large e-mail: cjw1@sun.ac.za

Cedric is a Principal Investigator in the Department of Biomedical Sciences, Stellenbosch University. He joined the department in 1990, and obtained his PhD in 2012; his 19 publications have received more than 880 citations, and he has a h-index of 14 (Google Scholar). His research interests have included tumours of the prostate, mechanisms of the descent of the testes, DNA fingerprinting, and tuberculosis host genetics. He is currently investigating the impact of genetic variation in protein structure and function, specifically with the aim to understanding the pharmacogenetics.



Dr. Cedric Werely

Mahtaab Hayat, Student Representative e-mail: mahtaab.hayat@gmail.com

Mahtaab Hayat is currently a PhD student at the Sydney Brenner Institute for Molecular Bioscience, University of the Witwatersrand. She obtained her undergraduate degree, Honours and Masters at Wits University. She is chairperson of the outreach programme at the Sydney Brenner Institute for Molecular Bioscience, as well as the President of the South African Society for Bioinformatics Student Council (SASBi-SC). Her current research aims to explore the genetics contributing to breast cancer in South African Black populations.



Dr. Mahtaab Hayat

SASBi Student Council

The SASBi Student Council 2018-2020 has six enthusiastic individuals. The SASBi-SC members will attend the **Grahamstown Science Festival** (6 - 12 March, 2019) to promote Bioinformatics to school going learners. The committee has also teamed up with the Southern African Society for Human Genetics Young Researchers' Forum (SASHG YRF) to host the **Young Researchers' Symposium** (YRS) to be held at Intaka Island Eco-Centre, Cape Town on 3 August 2019. The YRS will be held before the 18th Biennial Congress of the Southern African Society for Human Genetics (SASHG) at the Century City Conference Centre, 3 - 6 August 2019. SASBi-SC also plans to host a hackathon.

Mahtaab Hayat, President

email: mahtaab.hayat@gmail.com

Mahtaab is a PhD student at the Sydney Brenner Institute for Molecular Bioscience, University of the Witwatersrand. She obtained her undergraduate degree, Honours and Masters at Wits University. She is the chairperson of the outreach programme at the Sydney Brenner Institute for Molecular Bioscience. Her current research aims to explore the genetics contributing to breast cancer in South African Black populations.

"six
enthusiastic
individuals"

Bertha Baye, Secretary

email: berthabay@gmail.com

Bertha is studying towards a MSc degree in Bioinformatics at Rhodes University.

Natasha Kitchin, Development Officer

email: natashak@sun.ac.za

Natasha is a Research Assistant in the Department of Psychiatry, Stellenbosch University, managing the lab of the Neuropsychiatric Genetics research group, while assisting with various departmental research projects. She is also doing her PhD, in-



vestigating the molecular aetiology of Fetal Alcohol Spectrum Disorder (FASD).

Jorge da Rocha, Development Officer

email: jdarocho1@gmail.com

Jorge is a PhD student at the Sydney Brenner Institute for Molecular Bioscience. He is interested in pharmacogenomics, and is learning how different populations may have varied response to medicine.

Noëlle van Biljon, Media Administrator

email: noelle@vanbiljon.co.za

Noëlle is a MSc student at the University of Cape Town. Her research involves longitudinal modelling of brain metabolite levels from HIV positive and HIV negative children.

Laura Cottino, Media Administrator

email: lauracottino@gmail.com

Laura is a MSc student at the University of the Witwatersrand. Her research project focuses on pharmacogenomics.

Science Bytes

Human genome editing ethics

Open letter from Chinese HIV professionals on human genome editing

Zhang, L *et al.*, The Lancet, 2019 Vol 393 Issue 10166, P26-27, January 05, 2019

DOI:[https://doi.org/10.1016/S0140-6736\(18\)33082-4](https://doi.org/10.1016/S0140-6736(18)33082-4)

One of the major current ethical issues discussed in the scientific community is the claim of a Chinese scientist, He Jiankui, that he edited the CCR5 gene of the human embryonic genome of twin babies, using CRISPR-Cas9 technology. In this open letter, a group of Chinese HIV professionals state their opposition to this kind of gene editing, with reasons, and call for worldwide regulatory measures in this field.

Hackathons and open science

Hackathons as a means of accelerating scientific discoveries and knowledge transfer

Ghouila, A *et al.* Genome Res. 2018 28: 759-765

doi:10.1101/gr.228460.117

This paper by Mulder *et al.* describes the process of a week-long hackathon in which three large research organisations, hosted young African scientists from different disciplines, to assess the idea of releasing research data sets prior to publication to be collaboratively analysed in a data mining workshop. The data sets in this case were transcriptional data of several isolates of

the human malaria parasite, *Plasmodium falciparum* and the aim was to predict mechanisms of artemisinin resistance.



The workshop did not produce a useable predictive model during the week, but demonstrated the value of multidisciplinary collaboration and the educational potential of such workshops by surveys testing knowledge transfer. The authors discuss challenges with pre- and post-workshop communication, but ultimately recommend this open-science hackathon format to be adopted by others for suitable projects.

Genome Detective

Genome Detective: an automated system for virus identification from high-throughput sequencing data

Vilsker, M *et al.* Bioinformatics, 2018, 1-3

doi: 10.1093/bioinformatics/bty695

The authors created a web-based automated system to identify viruses from high throughput sequencing data. They note that it is very fast and validated accurately against a large collection of clinical datasets, after being developed on synthetic datasets. The pipeline accepts FASTQ or FASTA files and utilises Trimmomatic, FastQC and DIAMOND for data processing and alignment. It generates a report and has web-based graphics options to choose from.

Bioinformatics @ Stellenbosch University

The Centre for Bioinformatics and Computational Biology (CBCB; <https://www.sun.ac.za/english/faculty/science/sci-bioinformatics/Pages/default.aspx>) was established at Stellenbosch University in 2017. It is a trans-faculty center, with academic presence in the faculties of Science, AgriSciences, and Medicine and Health Sciences. CBCB is physically located in the Perold building on the Stellenbosch campus and is managed by a Director, currently Prof. Hugh Patterson, assisted by a management team composed of the Director and Profs. Gerard Tromp and David Tabb from the Faculty of Medicine and Health Sciences. Governance and oversight is provided by a Board made up of Deans and an expert bioinformatician. Currently CBCB has Members in the Departments of Biochemistry, and Genetics, Division of Molecular Biology and Human Genetics, and the Institute of Wine Biotechnology. The CBCB also maintains close links with the Departments of Computer Science, Mathematics and Statistics.

"Centre for Bioinformatics and Computational Biology (CBCB)" The aim of the CBCB is "to perform research, training and support in bioinformatics in a vibrant environment that fosters academic excellence, facilitating the comprehensive engagement of students and staff with computational and data intensive activities in biology and the life sciences, and promoting the discipline of bioinformatics at Stellenbosch University." The CBCB thus provides assistance to researchers and students with bioinformatics problems and projects, provides workshops on diverse bioinformatics topics to answer specific training needs, and performs cutting-edge bioinformatics research, which also allows training of post-graduate students in bioinformatics. Research groups in the CBCB work on a range of projects, spanning structural bioinformatics, epigenomics, aging, tool development, systems biology, transcriptomics, and proteomics.

The CBCB is implementing a comprehensive Bioinformatics training program, including a B.Sc. Hons, M.Sc. and Ph.D. degree in Bioinformatics and Computational Biology, to be offered first in 2020. The M.Sc. degree will be a research Masters. As part of the training pipeline, an under-graduate stream in Bioinformatics will also be offered, providing training in Computer Science, Mathematics, Statistics, Biochemistry, Genetics and Bioinformatics. This stream will provide students with substantive knowledge in Biology and Computer Science. These students can proceed to the B.Sc. Hons, which is designed to also



Prof Hugh Patterson, Prof Gerard Tromp, and Prof David Tabb

accept students from other fields, providing supportive training in lacking disciplines, as required. The B.Sc. Hons degree will also provide an Advanced Bioinformatics module, covering topics such as biostatistics, database theory, next generation sequencing, genomics and functional genomics, sequence analysis, biological databases and ontologies, evolution and phylogenetics, population genetics and GWAS, structural bioinformatics, proteomics, networks and pathways, microbiomes, as well as stand-alone courses on algorithms in bioinformatics and on machine learning in bioinformatics.

The CBCB is part owner of a Scientific Linux 7.6-based HPC with 1 head node and 9 compute nodes, 392 CPU cores, 4.3 TB total RAM storage, 1.9 TB local scratch storage, 4.6 TB network scratch storage, 40 TB user space storage, and 100 TB of archive storage. Apart from housing numerous bioinformatics tools, including a Galaxy 18 server, the HPC is also routinely used for execution of bioinformatics analyses and operations, including genome assemblies, mappings, alignments, etc.

The CBCB provides space for workstations, where students and post-docs are housed, which will be expanded to accommodate the B.Sc. Hons students in 2020.

For more information about CBCB, contact Hugh Patterson (hpatterton@sun.ac.za), Gerard Tromp (gctromp@sun.ac.za), or David Tabb (dtabb@sun.ac.za).



Save the Date – Conferences [MARCH 2019]

18-20 March, 2019: HUPO-PSI (human proteomics organization proteomics standards initiative) meeting, Breakwater Lodge, Cape Town. People with an interest in proteomics, file format specifications, and ontologies are encouraged to attend. <http://www.psidev.info/hupo-psi-meeting-2019>

27-29 March, 2019: Genomics of Rare Disease, Wellcome Genome Campus, UK. <https://coursesandconferences.wellcomegenomecampus.org/our-events/genomics-rare-disease-2019/>

11-12 April, 2019: Personal Genomes: Accessing, Sharing and Interpretation, Wellcome Genome Campus, UK. <https://coursesandconferences.wellcomegenomecampus.org/our-events/personalgenomes2019/>

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3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19 HUPO-PSI Meeting	20	21	22	23
24	25	26	27 Genomics of Rare Disease	28	29	30
31						

5-7 June, 2019: Applied Bioinformatics and Public Health Microbiology, Wellcome Genome Campus, UK. <https://coursesandconferences.wellcomegenomecampus.org/our-events/applied-bioinformatics-public-health-microbiology-2019/>

11-12 June, 2019: Health Data Science, Wellcome Genome Campus, UK. <https://coursesandconferences.wellcomegenomecampus.org/our-events/healthdata2019/>

12-19 June, 2019: EMBO Practical Course "Microbial metagenomics: A 360° Approach", Heidelberg, Germany. <https://www.embl.de/training/events/2019/MET19-01/>

15-18 June, 2019: The European Human Genetics Conference, Gothenburg, Sweden <https://2019.eshg.org/>

16-30 June, 2019: EMBO Practical Course "Bioinformatics and genome analyses", San Michele all'Adihe, Italy. <http://meetings.embo.org/event/19-genome-analyses>

16-28 June, 2019: RNA Transcriptomics, Wellcome Genome Campus, UK. <https://coursesandconferences.wellcomegenomecampus.org/our-events/rna-transcriptomics-2019/>

8-12 July, 2019: Systems Biology: From Large Datasets to Biological Insight, Wellcome Genome Campus, UK. <https://>

coursesandconferences.wellcomegenomecampus.org/our-events/systems-biology-2019/

3-6 August, 2019: 18th Biennial Congress of SASHG, Century City Conference Centre, Cape Town. www.sashg2019.co.za

9-11 September, 2019: RNA informatics, Wellcome Genome Campus, UK.

15-20 September, 2019: Emerging Statistical Challenges and Methods for Analysis of Human Microbiome Data Banff, Alberta, Canada. <https://www.birs.ca/events/2019/5-day-workshops/19w5221>

16-19 September, 2019: German Conference on Bioinformatics, Heidelberg, Germany. <https://gcb2019.de/>

16-18 October, 2019: Plant Genomes in a Changing Environment, Wellcome Genome Campus, UK. <https://coursesandconferences.wellcomegenomecampus.org/our-events/plant-genomes-2019/>

23-25 October, 2019: Exploring Human Host-Microbiome Interactions in Health and Disease, Wellcome Genome Campus, UK.

6-8 November, 2019: Epigenetics of Common Diseases, Wellcome Genome Campus, UK. <https://coursesandconferences.wellcomegenomecampus.org/our-events/epigenomics-common-diseases-2019/>

2020: SASBi/SAGS Conference, Cape Town

2018 SASBi/SAGS CONFERENCE REPORT

The joint conference of the South African Society for Bioinformatics and the South African Genetics Society (SASBi/SAGS) held at the Golden Gate National Park (16-18th October) provided a successful collaborative platform for these two interdependent research fields. This, the fifth SASBi/SAGS conference, with the theme: *Sequencing Analysis from this Generation to the Next*, was attended by approximately 155 delegates, consisting of national and international speakers. The conference covered a broad range of topics in a variety of fields, including Biomarker Discovery, Molecular Evolution, Expression Analysis, Functional Genetics, Association Genomics, DNA Methylation, Next-Generation Sequencing, and Phylogenetics.



Delegates at the 2018 SASBi /SAGS Conference held at the Golden Gate National Park

The interdisciplinary conference showcased the latest Next Generation Sequencing methods. Furthermore, it provided a great opportunity for networking between established and early-career delegates. The international speakers shared their best practice expertise in advanced genomics, epigenetics, bioinformatics, and epidemiology to expand scientific research, drive innovation, and solve global health problems.

Prof. Hervé Vanderschuren (University of Liège), an international keynote speaker, shared his passion, experiences, and a few of the challenges studying plant genomes, their pathogens, and sequencing technologies. He also highlighted the potential of high-throughput sequencing technologies to fill-in the knowledge gaps. Prof. Tulio de Oliveira (Krisp/ University of KwaZulu-Natal), emphasised the importance of collaboration, high-level science and technological innovation in South Africa. Dr. Frank Zachos (University of Vienna) shared his views, experience, and findings on species concepts and conservation that was partly supported by Prof. Paulette Bloomer (University of Pretoria). Prof. Bloomer emphasised the need to conserve ecological and evolutionary processes in the southern African bovid species and also gracefully acknowledged the Department of Molecular Biology and Human Genetics, Stellenbosch University, for their collaboration on the southern African bovid species. The Forestry and Agricultural Biotechnology Institute (FABI) was well represented at the conference. The chair in Forest Genomics and Biotechnology, Prof. Alexander Myburg, and his team provided interesting insights into plant genetics and genetic diversity, in *Eucalyptus grandis*, which plays a key role in forest tree breeding in South Africa.

The oral and poster presentations showcased a wide spectrum of research talent, and were well received, culminating in numerous fruitful discussions and potential collaborations in diverse fields unified around technological applications.

Prof. Gerard Tromp was elected as the new SASBi president and Prof. Sanushka Naidoo as the president of SAGS. Members were also elected to the SASBi and SAGS student councils



(see a related article in this Newsletter).

The SAGS executive team includes Prof. Sanushka Naidoo (president), Dr. Irene Barnes (vice president), Dr. Steven Hussey (secretary), Dr. Clint Rhode (treasurer), and Dr. Albé van der Merwe (website manager). The council members are Dr. Jean Mollett (Wits), Dr. Marieka Gryzenhout (UFS), Dr. Robyn Jacobs (SASRI), Dr. Aletta van der Merwe (Stellenbosch University). In addition, Lerato Diseko (UFS), Ernest Makua (Tshwane University of Technology) and Ncité Da Camara (Stellenbosch University) will serve as student members.

Excellence in the SAGS community was acknowledged by awarding the Hofmeyer-Van Schaik Medals and Fellowship Awards at the conference. Dr. Stefanie Malan-Müller (Stellenbosch University) was the Silver Award winner, Prof. Anna Maria Botha Oberholster (University of Stellenbosch) received the Gold Award and Prof. Hendrik Huisman and Prof. Zander Myburg (University of Pretoria) were awarded fellowships.

The best oral presenters were Mr Erik Visser (UP) (PhD) and Ms Leandri Bezuidenhout (UP) (MSc). The best poster presentations were awarded to Ms Sara deRaedt (UWC) (PhD) and Mr Daniel Harty (UP) (MSc).

In conclusion, the conference was very informative, inspiring and successful in creating collaborations across disciplines. The prospects for the next SASBi/SAGS conference, to be held in Cape Town in 2020, are to include workshops, and "lightning talks" to encourage and accommodate more student projects. The idea to possibly host a virtual conference, and grant student travel awards in order to build and grow SASBi/SAGS was also put forward.

We gratefully acknowledge the sponsorship received from Krisp, eGrowth, Aramex, Inqaba Biotech, Labotec, Lasec, McGraw Hill, Perkin Elmer, Separations, The Scientific Group, ThermoFischer, WhiteSci and Forest Molecular Genetics.



Student Profiles @ Stellenbosch University

Dr Elizna Maasdorp

PhD candidate: Bioinformatics (Stellenbosch, Tygerberg Campus)

What is your current project?

I am working on predictive modelling for TB biomarker discovery.

Please fill us in on your career up to this point:

I started as a medical doctor and practiced for ten years in primary health care and HIV care. Then I decided to pursue my interest in epidemiology and biostatistics and completed an MSc in clinical epidemiology. After that I worked as a study clinician for a TB research team and transitioned from that into the PhD I am currently busy with.

If you could give advice to students who are new in the field, what would you say?

Good choice! But steep learning curve... I think speaking to the people around me - the molecular biologists, mycobacteriologists, immunologists etc, and finding out what their research questions are and how they go about solving it and seeing the kinds of data they produce, have helped me a lot to get context for where the bioinformatics that I am involved in, fits in.

Do you have a favorite computer language?

I have only one computer language, R, and yes, it is my favorite.

What are your hobbies/activities you do in your free time?

I like photography and videography.

If you were an animal - what would you be and why?

Maybe one of those flying squirrels... They are the size of rats, look a bit like bats and they fly, but they are called squirrels. Seems like a versatile bunch.



Dr Elizna Maasdorp

"I like photography and videography."

Trust Odia

PhD Candidate: Bioinformatics (Stellenbosch, Tygerberg Campus)

What is your current project?

Longitudinal study of whole blood transcriptome during tuberculosis treatment

Please fill us in on your career up to this point:

B.Sc. Computer Science; CISCO Network Associate; M.Sc. Computer Science (with bioinformatics); H3ABi-



Trust Odia

oNet Research Assistant; Doctoral Student (Bioinformatics).

If you could give advice to students who are new in the field, what would you say?

Be eager and excited to try new things.

Do you have a favorite computer language?

Don't have a favorite, but understand c++ better.

What are your hobbies/activities you do in your free time?

Creating a music playlist.

What do most people not know about you?

I'm on twitter: @thereal_trust

"Be eager and excited to try new things."

Heléne Fouché

MSc candidate: Bioinformatics (Stellenbosch, Stellenbosch Campus)

What is your current project?

Developing a tool to study the process of genome evolution.

Please fill us in on your career up to this point:

I obtained my BSc degree in Molecular Biology and Biotechnology in 2017 and a BSc Honours in Genetics in 2018, both at the University of Stellenbosch. I will start with an MSc in 2019.

If you could give advice to students who are new in the field, what would you say?

Online courses. Never stop expanding your skillset.

What are your hobbies/activities you do in your free time?

Hiking and tennis are definitely at the top of the list for the time being, but I've recently discovered I enjoy golf a fair amount as well. Admittedly I also enjoy working through courses on Udemy quite a bit.

When did you first realize you love science/computers?

During the second lecture of the Bioinformatics module of one of our third year Biochemistry courses. The topic that day was Hidden Markov Models.

Please describe what you were like at age 10:

Definitely not a scientist in the making. I enjoyed arbitrary debates considerably more than the science experiments you get exposed to as a child. I genuinely didn't care why the vinegar made the volcano erupt or what made the salt crystals grow.



Heléne Fouché

"Never stop expanding your skillset."

Editorial Team — This issue brought to you by



From the right: Prof Helena Kuivaniemi, Prof Gerard Tromp, Dr Elizna Maasdorp, Ncité Da Camara, Ashley Ehlers, Marina Pauw, Darryn Zimire, and Trust Odia (front)