



Division of Molecular Biology and Human Genetics (MBHG)

Social Outreach Report 2019

2019 FameLab SA Training and Heat		
Delivery Mode and Content	On Friday, 8th February, the Centre of Excellence for Biomedical TB Research (CBTBR) and South African Medical research Council (SAMRC) Centre for TB Research within the Division of Molecular Biology and Human Genetics (MBHG) at Stellenbosch University (SU), together with Jive Media Africa co-hosted the 2019 FameLab SA science communication and public speaking heat at the SAMRC headquarters.	
Engagement experiences including any highlights and/or challenges	Each participant was given three minutes to present their research to the judges and audience in a simple and understandable manner. Participants were judged according to talk content, clarity and charisma. Highlights from the event included the two postgraduate candidates within our facility were tied in second place in the competition. Challenges included recruiting postgraduate students to attend the FameLab Heat.	
Who was the intended audience?	Postgraduate candidates and early career researchers in science.	
What was actual number of audience members/stakeholders reached per audience category?	A total of 25 postgraduate students and 2 early career researchers from various disciplines within Stellenbosch University and SAMRC research units attended the FameLab training. Of these, a total of 13 participants took part in the FameLab heat.	
Indicate any broader impacts of your science engagement activities/project	FameLab is an international science communication and public speaking competition that promotes science and technology. The aim of FameLab is to develop and enhance scientists' skills as	



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communicators, to enable engagement with various stakeholders and dissemination of their research.

2040 W. H.T. D	
2019 World TB Day in Fisantekraal	
Delivery Mode and Content	On March 29th, the Stellenbosch University (SU) Immunology Research Group (IRG) within the Division of Molecular Biology and Human Genetics (MBHG) and the Molecular Biology Clinical Unit (MBCU), together with the SU-IRG Community Advisory Board (CAB), hosted a community outreach event in honour of World TB Day in Fisantekraal. The aim of this event included raising TB awareness, destigmatizing the disease, highlighting the role research plays in combating the TB epidemic and getting feedback from the community from which many of SU-IRG study participants originate.
Engagement experiences including any highlights and/or challenges	Various activities took place at the 2019 World TB Day outreach initiative, including interactive games for the kids centred around TB-disease and treatment, face painting, live music, a short play by the FAMCRU CAB regarding TB/HIV, motivational talks from TB survivors, CAB members and Clinicians, a Q&A and clinical information session, and a food drive. Challenges experienced during the organization and execution of this project included co-ordination of the various stakeholders and crowd control.
Who was the intended audience?	Community members within a high TB incident urban settlement
What was actual number of audience members/stakeholders reached per audience category?	Approximately 500 community members.



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Indicate any broader impacts of your science engagement activities/project

This event provided an opportunity for researcher and the local community to engage and exchange knowledge, lived-experiences and expectations - enabling trust building and aiding in the construct of a more people-centred approach to clinical research.

TB Under the Spotlight Science Engagement	
Delivery Mode and Content	On April 4th, the Division of Molecular Biology and Human Genetics (MBHG) in partnership with the South African Tuberculosis Vaccine Initiative (SATVI) and the Department of Education, presented a science engagement program at Somerset High School. This project aims to engaged with learners through interactive exhibitions to increase TB awareness within high TB burden areas and combat disease spread and prevalence.
Engagement experiences including any highlights and/or challenges	The exhibition consists of 5 "stations", each focusing on a different aspect of TB disease. Learners spend 15min at each station, wherein a brief information session followed by Q&A and hands-on activities took place. This project aimed to teach school learners about what TB is and how its spread, how TB is diagnosed, the signs and symptoms of TB, how TB is treated and the inner workings of a TB laboratory. A key thread throughout the exhibition included destigmatising the disease to positively shift attitudes towards those suffering from TB.
Who was the intended audience?	High School learners (Grade 8-12) within a high TB burden area
What was actual number of audience members/stakeholders reached per audience category?	Conceptualisation and launching of this science engagement programme first took place in March 2018. Since its launch, the exhibition has reached over 1000 learners within the Cape Winelands district.



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Indicate	any	broader	impacts	of	your
science e	engag	gement ac	ctivities/p	roje	ect

TB remains a global threat to the health and wellness of all individuals. Increased efforts aimed to demystify TB and improve the publics knowledge, attitude and perception towards the disease are thus paramount. This traveling science exhibition provides a platform by which to do so and affords scientists the opportunity to engage with the public and promote the work they do.

2019 SAMRC Madiba Day meal packing event		
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Delivery Mode and Content	On Thursday, 11th July several members of the South African Medical Research Council (SAMRC) Centre for TB Research within the Division of Molecular Biology and Human Genetics (MBHG) took part in the SAMRC Madiba Day meal packing event, hosted in collaboration with Rise Against Hunger, to rise to the call to celebrate Madiba by acting on the idea that each person has the power to change the world.	
Engagement experiences including any highlights and/or challenges	During this event, over 10000 meals were packed and donated to the Rainbow Educare in Greenpoint for distribution to families within Khayelitsha that experience food insecurity. The highlight of this event was to see how working together as a team to achieve a common goal can make light work out of any task.	
Who was the intended audience?	Postgraduate students/ early career scientists/ senior researchers and support staff within the SAMRC and its research units.	
What was actual number of audience members/stakeholders reached per audience category?	Approximately 150 members were present at the event.	
Indicate any broader impacts of your science engagement activities/project	These meals are used as a tool to change lives by promoting education, improving students' health and nutrition, addressing	



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gender inequalities, stimulating economic growth and fighting child
labour.

2019 Mandela Day Interactive Communi	ty Day (180-minutes for Madiba)
Delivery Mode and Content	On Saturday 20 July 2019, scientists from the Division of Molecular Biology and Human Genetics (MBHG) took part in the Uniting Reformed Church in Sarepta, Kuilsriver Mandela Day celebrations. This was an interactive community day hosted by the church to bring together a number of professionals including doctors, researchers and lawyers to interact with the community and share their expertise.
Engagement experiences including any highlights and/or challenges	Our topic of focus was tuberculosis and the on-going clinical research with which our institution is involved. Our station set up included a microscope and specimen slide for demonstration, a display of preserved organs from deceased TB patients, information leaflets about of division as well as TB signs and symptoms, and interactive games relating to TB prevention and treatment for children.
Who was the intended audience?	Community members within a high TB incident urban settlement
What was actual number of audience members/stakeholders reached per audience category?	Approximately 500 community members
Indicate any broader impacts of your science engagement activities/project	TB remains a global threat to the health and wellness of all individuals. Increased efforts aimed to demystify TB and improve the publics knowledge, attitude and perception towards the disease are thus paramount. This event allowed for researchers to improve their science communication skills and build rapport with the communities in which they work. It is imperative that we gain the trust and support



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of the public in our research as their involvement is vital to ensure research success with a people-centred focus.

2019 free TB testing day at the Elsies Riv	er and Ravensmead clinics
Delivery Mode and Content	On 18th July 2019, the Stellenbosch University Immunology Research Group (SU-IRG) within the Division of Molecular Biology and Human Genetics (MBHG), together with the SU Molecular Biology Clinical Research unit (MBCRU), SU Community Advisory Board (CAB), TB Proof and the City of Cape Town Sports and Recreation Centre, hosted a free testing day at the Elsies River and Ravensmead clinics to raise awareness about the SA TB and HIV epidemic.
Engagement experiences including any highlights and/or challenges	The key message of this event was to get tested and know your status, as well as address the stigma associated with disease status. The highlight of the event was seeing the compassion and understanding expressed by community members while listening to the TB proof members sharing of their journey in battling TB and providing inspiration to those that are worried about knowing their status and getting treatment. A challenge was co-ordinating this event in two clinical simultaneously and adequate communication between various stakeholders.
Who was the intended audience?	Community members within a high TB incident urban settlement
What was actual number of audience members/stakeholders reached per audience category?	Approximately 200 community members at each clinic (total of roughly 400 individuals reached)
Indicate any broader impacts of your science engagement activities/project	The rationale behind choosing Mandela day to host the event: our late president, Nelson Mandela, was passionate about public health surrounding HIV & TB — being a TB survivor himself. His aim and



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passion were to breakdown the stigma and discrimination associated with these diseases and emphasize the importance and the power of knowing your status. This event supporting and enables Mr Mandela's wishes to empower the nation with knowledge.

2019 Voorbrug High School in Delft outre	each: health awareness and science as career
Delivery Mode and Content	On 28th August, the Division of Molecular Biology and Human Genetics (MBHG), together with the Divisions of Medical Physiology and Clinical Anatomy at Stellenbosch University, visited Voorbrug High School in Delft where a series of 15-20-minute sessions on health and wellness, TB awareness, genetics research and possible careers in medical science were covered.
Engagement experiences including any highlights and/or challenges	Our station aimed to teach school learners about what TB is, how its spread, how TB is diagnosed and how TB is treated. A key focus of the project apart from raising TB awareness includes highlighting the importance of TB research and destigmatising the disease.
Who was the intended audience?	High School learners (Grade 10-11) within a high TB burden area
What was actual number of audience members/stakeholders reached per audience category?	Approximately 100 learners were reached.
Indicate any broader impacts of your science engagement activities/project	TB remains a global threat to the health and wellness of all individuals. Increased efforts aimed to demystify TB and improve the publics knowledge, attitude and perception towards the disease are thus paramount. This traveling science exhibition provides a platform by which to do so and affords scientists the opportunity to inspire the next generation of scientists.



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2019 Bless-a-Baby Fundraising Tea	
Delivery Mode and Content	On 7th September, MBHG hosted a table at the Bless-a-Baby Fundraising Tea held at El Shaddai Christian Church. Bless-a-Baby is a non-profit organization that provides relief for new mothers in historically disadvantaged areas by providing basic essentials for a mother and new born.
Engagement experiences including any highlights and/or challenges	At the event, a hand over of donations received from members of the Division of Molecular Biology and Human genetics (MBHG) to Blessa-Baby was done. A total of 250 bags were packed by guests attending the fundraiser for distribution to mothers to assist them in the beginning phases of motherhood.
Who was the intended audience?	Community members within middle-class urban setting
What was actual number of audience members/stakeholders reached per audience category?	Approximately 100 community members.
Indicate any broader impacts of your science engagement activities/project	Since it's inception in 2002, Bless-a-Baby has distributed over 13920 bags in all shapes, sizes and colours, both locally (Karl Bremer, Kraaifontein, Tygerberg, Wesfleur in Atlantis, Paarl and Mowbray Maternity hospitals, Durbanville clinic and Delft MOU) as well as further afield to communities in need in places like Botswana, Kenya, Malawi and even Russia.



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2019 Job-shadow program	
Delivery Mode and Content	In June and September 2019, the Division of Molecular Biology and Human Genetics (MBHG) hosted its Job-shadow program, supported by the Centre of Excellence for Biomedical Tuberculosis (TB) Research (CBTBR) and South African Medical research Council (SAMRC) Centre for TB Research. This programme provides high school learners an opportunity to gain unique insight into what a career in research entails.
Engagement experiences including any highlights and/or challenges	During the 2-day initiative, attendees are given to brief introduction to clinical research, observed the inner working of a research laboratory, are exposure to a variety of molecular techniques and perform hands-on practical work. These activities were thoroughly enjoyed by the all attendees, responses collected by means of a programme evaluation form.
Who was the intended audience?	High School Pupils (Grade 9 to 11) who are in the process of making decisions regarding their careers by means of subject choice or university applications.
What was actual number of audience members/stakeholders reached per audience category?	A total of 15 learners ranging in grade level (Grade 9 to 11) from several schools within the Western Cape region and one all the way from Bloemfontein in the Free State.
Indicate any broader impacts of your science engagement activities/project	It's imperative that young people start to question what they want to do after matric — and how education can get them there. This programme aims to provide learners the opportunity to explore various options within STEMI (science, technology, engineering, maths and innovation) available to them. With the Fourth Industrial Revolution looming, it is imperative that we equip our youth with the



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tools and knowledge to bring about critical and creative thinking and
problem-solving skills.
problem-solving skills.

2019 University of Limpopo Medical Stud	dents Society (ULMSS) Facilities visit
Delivery Mode and Content	On 18th September, a group of students from the University of Limpopo Medical Students Society (ULMSS) visited our facility, where they attended an hour information session followed by a series of laboratory tour and practical demonstration sessions.
Engagement experiences including any highlights and/or challenges	The purpose of their visit was to learn more about the various study opportunities available at the Division of Molecular Biology and Human Genetics (MBHG) and get an idea of possible career options available after completion of their studies. Challenges of this project included co-ordination of the facilities tour for such a large group of learners and adequate time management.
Who was the intended audience?	Undergraduate medical students from the University of Limpopo
What was actual number of audience members/stakeholders reached per audience category?	A total of 105 students attended that facilities tour.
Indicate any broader impacts of your science engagement activities/project	This programme aims to provide science and medical graduates from historically disadvantaged areas the opportunity to explore various postgraduate study options available to them within our institution and gain valuable insight into possible careers arising from this qualification.



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2019 Golden Key Science Expo Mentor initiative	
Delivery Mode and Content	In April 2019, The Golden Key Science Expo Mentor initiative was launched at Florida High School. For this initiative, several students and staff from the Division of Molecular Biology and Human Genetics (MBHG) provide mentorship and support for students at Florida High to develop and present a science project at the Biomedical Sciences departmental science expo in November 2019.
Engagement experiences including any highlights and/or challenges	This initiative was founded to provide support, both financially and via mentorship, to students in historically disadvantaged areas that are otherwise unable to take part such events due to resource constraints. The overall aim of the project involves equipping the students with the skills and confidence to take part in the annual national Eskom Expo 2020. Highlights of the project included seeing the hard work of the students come together as they presented their project at the Science Expo and the excitement and wonder they expressed upon visiting our facility. Challenges of this project included co-ordinating a timetable that met the needs of the school and learners as well as that of the mentors.
Who was the intended audience?	High School learners (Grade 8-11) within historically disadvantaged areas
What was actual number of audience members/stakeholders reached per audience category?	A total of 6 learners started the programme, of which only 3 learners completed the mentorship programme and presented their projects at the Biomedical Sciences departmental Science Expo.
Indicate any broader impacts of your science engagement activities/project	It's imperative that young people start to question what they want to do after matric — and how education can get them there. This programme aims to provide learners from historically disadvantaged areas the opportunity to explore various options within STEMI (science, technology, engineering, maths and innovation) available to



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them. With the Fourth Industrial Revolution looming, it is imperative that we equip our youth with the tools and knowledge to bring about critical and creative thinking and problem-solving skills.

2019 'Yummy Tummy' Initiative	
Delivery Mode and Content	The Molecular Biology and Human Genetics Community Advisory Board (CAB), together with the Molecular Biology Clinical Research Unit (MBCRU), started a 'Yummy Tummy' initiative wherein they supply basic, warm-cooked meals (such as soup or Aknee) to clinical trial participants during the cold winter months.
Engagement experiences including any highlights and/or challenges	This project is heavily reliant on sponsorship which was challenging; wherein most donations received were of a small amount and mostly from local grocery stores and community members. The CAB also actively raised funds through clothing drives and veggie sales, where donated clothing items and long-life foods were sold to historically disadvantaged communities for a reasonable price. Raising funds for such initiatives on a continuous basis has proven difficult and time consuming but very rewarding.
Who was the intended audience?	Community members within a high TB incident urban settlement
What was actual number of audience members/stakeholders reached per audience category?	Approximately 50 community members received hot meals during their visits to the clinic.
Indicate any broader impacts of your science engagement activities/project	Hunger is a state of constant being for many South Africans. With high poverty and unemployment rates, food insecurity is a common challenge many households face within our country. This project aims to give back to community members that are involved health research through participation in clinical research trials, serving as a token of



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appreciation and acknowledgement for their involvement. This
activity aims to build trust and respect within the community and
ensure people-centred approaches to research by attending to the
communities needs.

2019 CBTBR Science Communication Awards	
Delivery Mode and Content	The Centre of Excellence for Biomedical TB Research (CBTBR), which is made up of three nodes housed at Stellenbosch University, University of Cape Town and University of Witwatersrand, launched its official Science Communication Essay Writing Competition, in partnership with The Conversation Africa and the Centre for Research on Evaluation, Science and Technology (CREST), in June 2019. On the 3rd December 2019, the CBTBR Science Communication Awards Day was held, wherein the winners of the CBTBR Writing Competition were announced.
Engagement experiences including any highlights and/or challenges	To enter students had to submit an 800-word essay describing their research, in the format of a popular science article for publication in The Conversation. The highlight of the event was the fact that the CBTBR Stellenbosch node members, housed within the Division of Molecular Biology and Human Genetics (MBHG) took both first and second place in both the PhD and MSc categories (with a UCT node member tied in first place for the MSc category) illustrating the efforts made by our facility to promote science communication.
Who was the intended audience?	The competition was open to Master's and Doctoral postgraduate students within in the Centre.



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What was actual number of audience	A total of 14 entries were received, of which 6 were from MSc
members/stakeholders reached per	candidates and the remaining 8 from PhD candidates.
audience category?	
Indicate any broader impacts of your	Science communication forms a vital part of research, wherein
science engagement activities/project	scientists share their research findings and the impact thereof with
	the public. It enables researchers to extend their reach beyond
	academia, contributing towards democratizing knowledge and
	empowering society through increased knowledge, understanding
	and participation in science.

Knowledge Brokerage Report 2019 (Supplementary)

- ARTICLE PUBLISHED IN THE CONVERSATION: In March 2019, a recently graduated PhD candidate from the
 Division of Molecular Biology and Human Genetics published an article in "The Conversation" online media, titled
 "Why warthogs are useful in figuring out how bovine tuberculosis spreads". To read the article click here.
- RHOMBUS MEDIA INTERVIEW FOR WORLD TB DAY: In March 2019, principle investigator Prof Michele Miller of the SU Animal TB Research group within the Division of Molecular Biology and Human Genetics was telephonically interviewed by a reporter from Rhombus Media for World TB Day. The article titled "Tuberculosis a real threat to Kruger lions and rhinos World Tuberculosis Day 2019" outlined the on-going research efforts of the group within the Kruger National Park and the impact their findings have on wildlife within South Africa. To read the article click here.
- ARTICLE PUBLISHED IN VRYE WEEKBLAD: In April 2019, members of the SU TB Host genetics research group within the Division of Molecular Biology and Human Genetics were interviewed by science journalist Ms Elsabe Brits for the Vryd Weekblad and an article thereof published. The article, titled: "Die Khoi-San en genetika: Waar kom jou velkleur, uitspraak en vatbaarheid vir siektes vandaan?" highlighted recent findings made regarding the role of host genetics in disease susceptibility. To read the article click here.



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- SKILLS TRAINING WORKSHOPS: The Division of Molecular Biology and Human Genetics (MBHG) is actively engaged with stakeholders from a number of SADC countries and hopes to expand this model to the region. In July and August 2019, MBHG in conjunction with the SAMRC Centre for TB Research and DSI-NRF Centre for Biomedical TB Research hosted scientists, technicians and students from Ethiopia for a training workshop covering a variety of topics including biosafety, phenotypic techniques, genotypic techniques and sequencing analysis. MBHG is also actively engaged in training hosted by international partners or organizations; in November 2019, MBHG member, Dr Anzaan Dippenaar, was invited to lecture on Next-Generation sequence analysis and applications in TB research at University of São Paulo, Ribeirão Preto Medical School in Brazil.
- BACTERIAL FLOW CYTOMETRY WORKSHOP: Members of the Division of Molecular Biology and Human Genetics co-organised the "Bacterial Flow Cytometry: Guidance, Applications and Innovations" event on 28-30 May 2019. This 3 day conference and workshop was co-hosted by the SU and UCT, with 2 international keynote speakers (UK and Germany) and over 60 participants from UCT, SU, UWC and other institutions. A combination of lectures, networking activities and hands-on workshops provided participants with opportunities for skills development and networking.
- CAPRICON FM #BreakfastChampion RADIO INTERVIEW: In February 2019, MSc student Ms Amokelani Mahungu
 within the Division of Molecular Biology and Human Genetics was interviewed about her experiences as a Black
 woman in science and her research studies on PD. The interview questions included explaining genetics to the
 local communities, as well as explaining the research project and its implications. Capricon FM has a listening
 audience of 300 000 people in and around Limpopo.
- WHITE PAPER DISCUSSION WITH DST DIRECTOR GENERAL DR PHIL MJWARA: In June 2019, the Division of Molecular Biology and Human Genetics had the honour of hosting the Director General of the Department of Science and Technology, Dr Phil Mjwara and his team prior to his talk on the 2019 White Paper. Several students and young researchers were afforded the opportunity to interact and share with them the exciting projects they are currently involved in and highlight the impact of our research both locally and globally.



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- RADIO 702 INTERVIEW FOR WORLD PARKINSON'S DAY: In April 2019, senior scientist Prof Soraya Bardien within
 the Division of Molecular Biology and Human Genetics was interviewed by Relebogile Mabotja from Radio 702
 for World Parkinson's Day. For this interview Prof Bardien gave insight on PD to raise disease awareness and
 outlined the research being conducted within the SU Neuropsychiatric genetics research group within the
 CBTBR.
- ARTICLE PUBLISHED IN GROUNDUP: In July 2019, members of the SU TB Genomics research group within the Division of Molecular Biology and Human Genetics were interviewed by science journalist Ms Elsabe Brits for GroundUp news agency. The article, titled: "South African researchers develop quicker way to detect drug resistance" highlighted a recent publication outlining novel techniques used to study drug resistance in TB patients and its application in a healthcare setting. To read the article click here.
- Cape Town Acid Fast Club 2019: On 2nd August, the Division of Molecular Biology and Human Genetics hosted the 2019 Cape Town Acid Fast Club held at the Stellenbosch University Tygerberg Medical Campus. The Cape Town Acid Fast Club is a scientific research forum focusing on the mycobacteria. These important bacteria include species responsible for tuberculosis, leprosy and other diseases of Man and animals. Several CTR members took part in the event, some presented 5-min talks, others did a quick 3-min BLITZ presentation and many had poster presentations during the poster lunch time session.
- BSc Honours Open Day: On 13th August, the Division of Molecular Biology and Human Genetics at Stellenbosch
 University hosted an open day for prospective BSc Honours students to showcase the various postgraduate
 opportunities available within the division. A representative from each research group within the division
 presented a short presentation on what their research entails, to provide insight into possible career paths for
 the students.
- #IAmNotNext and Casual Day: On 6th September, the Division of Molecular Biology and Human Genetics joined several South Africans in standing in solidarity against gender-based violence by wearing black clothing. In addition, the CTR joined the NCPD in celebrating 25 years of Casual Days by purchasing Casual day sticker. The



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theme for 2019 was TIME TO SHINE, which set out to highlight and showcase the brilliance that's created when South Africans unite behind a truly great cause. All proceeds raised went to support the NCPD.

- On the 27-28th November, members of the Division of Molecular Biology and Human Genetics attended the priME Investigators Meeting in Dar es Salaam, Tanzania. During this 2-day meeting, the project team got the opportunity to exchange ideas relating to the collaborative project that aims to develop a BCG replacement (TB vaccine) which is not only more effective, but also can be produced in a way that meets the global demands in a reliable, affordable manner.
- From 19-23 November 2019, a member within the Division of Molecular Biology and Human Genetics, Dr Brigitte Glanzmann, attended a workshop held in Nairobi, Kenya as part of the Africa Research Excellence Fund (AREF) "Towards Leadership Programme". This programme, funded through the UK Global Challenges Research Fund, was launched earlier this year in partnership with three Networks, namely The Crick African Network, The PRECISE Network and The RECAP Network. A total of 10 individuals participated in the programme. All members had to complete a series of three workshops run throughout the course of the year. The relationships formed throughout the course of these workshops will be lifelong for each of the researchers involved. It has been requested that each of the members of the group now act as mentors for the next round of fellows, thereby keeping the channels open for both personal and professional growth.

Funding Partners











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