The SONA Newsletter
The Society of Neuroscientists of Africa

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THE ISSUE IN BRIEF
The present issue includes a brief overview on the teaching tools workshop initiative in Africa seeded a decade ago. The issue also includes information about the next SONA meeting, young African neuroscientists have been granted bursaries for 2016, as well as many neuroscience activities held within the continent. This issue includes particularly the news of creating the new society named the African Academy of Neurology (AFAN), a not-for-profit private civil society that have representatives within the 5 sub-regions of Africa. At this stage of the SONA newsletter initiative and based on the record of the two years that marks its start, we believe that this seed needs to be supported. The efforts with societies like AFAN will help provide these needs as well as bridging the gap between neurology and basic neurosciences and hopefully coming up with more fruitful efforts for the benefit of African neuroscience communities. We believe that the key component for this initiative to last and succeed is your input to make the newsletter more accessible and useful for African neurosciences members. We appreciate your feedback and contributions.

THE TEACHING TOOLS WORKSHOPS IN AFRICA
Sharon L. Juliano, Professor, Director of Neuroscience
USUHS, Bethesda MD

For nearly 10 years, the Teaching Tools Workshops (TTW) in Africa have occurred throughout Africa with the intent of providing tools for young African faculty to teach Neuroscience in a clear and exciting manner to students on the African continent. The field of Neuroscience is important for African students to clearly grasp, as diseases that affect the mind are mystifying and difficult to understand. Neuroscience and related disciplines are often feared and shunned by students of medicine and science in Africa. This is partly because the material is difficult and introductory biology and psychology courses do little to prepare students for neuroscience. Further, the neuroscience curriculum in many African medical schools is not consistent. With uneven neuroscience education for physicians and scientists, the stigma of many neurologic and psychiatric diseases persists - leading to continued poor diagnosis and treatment. We try to reach students and faculty throughout the continent - our Workshop has occurred in 8 different countries: Egypt, Morocco, Senegal, Ghana, Congo (DRC), South Africa, Kenya, and Ethiopia. The Workshop has a number of goals, which include teaching fundamentals of Neuroscience and conveying ideas about pedagogy in an effective and engaging manner. The faculty consists of relatively senior professors of Neuroscience who love teaching and live in multiple world regions including the USA, Europe, and Africa.

We formed a cohesive group that has completely integrated the principles of learner centered teaching. Over the years, we had direct contact with ~250 students from about 27 African countries, but through extrapolating to their own classes, we estimate that the TTWs have reached 8-10,000 African students. Although an entire Neuroscience course cannot be completed during the limited time of our Workshop, we intend that each presentation be an important component of teaching Neuroscience. We include lectures/presentations on basic principles of electrophysiology, neurotransmission, sensation, motor function, and learner centered teaching. The participants receive many additional materials on a USB drive. These include a variety of books, lecture materials, atlases, prepared laboratories on multiple subjects, concepts of team teaching, multimedia laboratories, and more. An important focus of each Workshop is to present the concept of learner centered teaching, whereby the teacher engages the student in active learning (to be continued on page 6).
13TH MEETING OF THE SOCIETY OF NEUROSCIENTISTS OF AFRICA, JUNE 11-14TH 2017, ENTEBBE, UGANDA

We invite you to come and join the Society of Neuroscientist of Africa (SONA) at our 13th International Meeting.

SONA2017 will be held on June 11-14 2017 at the Imperial Resort Beach Hotel on the shores of Lake Victoria, Entebbe, Uganda. Uganda is considered the “pearl” of Africa because of its natural beauty, wonderful climate, its splendid national parks, incredible array of landscapes that range from the snowcapped Mountains of the Moon and the Bwindi Impenetrable Forest to the semi-desert northeast and water-spangled Lake District. From forested highlands to sandy beaches, Uganda has it all.

The theme of the SONA meeting is “Neuroscience: a tool for the advancement of the African scientific community”. The goal of the 2017 meeting is to make SONA a truly global conference. We still want it to be true to its roots, and we want it to be a conference by and for African neuroscientists, however, we also want African neuroscientists to be involved in the global latest discoveries in the field. We believe that by inviting world renowned neuroscientist as plenary speakers, and by having a balanced mixed of symposia organized by local and international researchers, we will create opportunities for discussions and establishment of collaborations that otherwise could not be possible.

The meeting will exhibit plenary lectures, symposia, oral and poster presentations covering the breadth of the field of Neuroscience. Attendees will have the opportunities to share their knowledge in their respective fields of research, learn from experts and most importantly have the opportunity to connect and forge collaborations with neuroscientists from Africa and around the globe. There will also be sessions devoted to discuss solutions to African challenges in the further development of neuroscience research in the continent, such as reduced funding, often overload of teaching and administrative responsibilities on researchers, and difficulty to communicate science with the international community.

All in all, it is our hope that the meeting will benefit all participants and increase the output of neuroscience research for the continent by finding specific solutions and promoting knowledge exchange and collaborations in a friendly and intellectually stimulating environment. Important dates of the event include:

- Submission of Symposium and pre conference workshops: May - July 2016
- Calls for Abstracts are expected to open in September 2016.
- Registration and housing opens January 2017 (early bird) and March 2017 (normal).

Visit the meeting page at https://sona2017.org to stay up to date on the latest developments and to sign up for SONA e-Alerts.

Start planning today and looking forward to seeing you in Uganda in 2017.

FIVE AWARDEES ARE GRANTED IBRO/ARC BURSARIES FOR 2016

Again this year new African neuroscientists have been granted the IBRO/ARC bursaries. In fact, five awards of 4000 Euros each is offered to young African researchers who demonstrated their ability to carry out independent research. This award is used for short training at host institutions either within Africa or abroad. Eligibility for candidates requires residency in Africa, under 45 years old, and significant research achievements in fundamental or clinical neuroscience. The awardees for 2016 are:

1. Adekeye ADESHINA from Nigeria
2. Ayodele AKINYEMI from Nigeria
3. Issaaf BERKIKS from Morocco
4. Kouadio Pacôme N’GO from Cote d’Ivoire
5. Samy Mohamed Lemine DADAH from Mauritania

Awardees reported their feelings after being granted the ARC bursary:

Ayodele Akinyemi: I would like to specially thank IBRO for the opportunity to engage in this important career advancement training and to interact with other scientist in the fields of neuroscience and form collaboration. Also, I would like to acknowledge my Institution for their support and permission to undertake this important career advancement. In addition, these awards will be of immense benefit to my Institution, as the experience gained will be shared with colleagues back home and will improve

Adekeye Adeshina: I wish to state that it is a real privilege and opportunity given to me to visit Prof Richard Brown Lab, Dalhousie University, Halifax, Nova Scotia, Canada where extensive understanding of the neuro-behavioural and immunohistochemistry will be done on motor dysfunction mice using MPTP. Comparative analysis will be done on the effect of D1 and D2 receptor agonists on dopamine metabolism.
A NEW SOCIETY FOR AFRICAN NEUROLOGISTS; AFRICAN ACADEMY OF NEUROLOGY (AFAN)

On the 29th - 31st of August 2015, a landmark meeting was held in Dakar, Senegal, the African Academy of Neurology (AFAN) was established as the sole representative body of the African region within the WFN and that it would be an independent not-for-profit, private civil society. The mission of AFAN is to represent and unify all African neurologists through their National Neurological Societies, towards optimal neurological education and up to date knowledge on advances in neurosciences. The aim is directed towards the provision of the highest level of care to neurological patients, as well as to improve public awareness throughout the continent of the importance of prompt and lifelong care for those afflicted by neurological diseases. The activities of AFAN shall be open to all of those who work, teach or perform research in the field of Neurology in Africa, irrespective of gender, race, language, religion, philosophy, political opinions, or nationality. AFAN will undertake a number of activities such as the organization of biennial Pan-African Congresses, national, regional and international symposia, congresses and workshops on Neurology and Neuroscience, as well as recommend basic programs for teaching, training and certification in Neurology. AFAN will also prepare and provide for the widespread distribution and implementation of guidelines and protocols for the diagnosis, treatment, rehabilitation, prevention and social impact of the main neurological disorders afflicting Africa in order to improve the competency of neurologists working on the African continent. AFAN has commenced the compilation of data for the member countries including the number of available neurologists, specialized neurological services and infrastructure (includes emails, phone numbers and research focus) towards creating a directorate of Neurologists for Africa. This data will be used to determine areas of particular need as well as prospective local training centers.

PROMOTING NEUROSCIENCE IN AFRICA (continued from previous issue)

Neuroscientists meet with primary school students Brain Awareness Week, South Africa

The community efforts starting to raise awareness about neuroscience in South Africa came at an appropriate time, one week prior to the Society of Neuroscientists in Africa conference which was held in KwaZulu-Natal and in keeping with the theme of the conference to address research needs and priorities in Africa. It has been recognized that there is a fundamental need to advance the promotion of Neuroscience and current research trends particularly in local communities. Despite the considerable research output of all the countries in Africa, there is a paucity between the results and the information being conveyed to the communities. Neurological disorders are not awarded adequate priority in developing nations despite the fact that a large percentage of the population may remain undiagnosed. Both Dr. Thayer and Miss Harricharan believe that it is imperative for us as researchers to take responsibility along with government officials, policy makers and non-governmental organisations to increase brain advocacy and awareness in a sensitive, selective and appropriate manner. Since there is a lot of information, we should take extra-care as to NOT overwhelm or alarm the communities. Innovative strategies and relevant organisations need to be formulated and implemented and Miss. Harricharan believes that this should include those even at the level of a student. Initially we became neuroscientists to understand the brain, the complexities and intricacies of its functioning in disorders to make a difference to a problem we recognized and we all are doing a good job in that part. We now need to take a step further, in an effort to convey this information in a meaningful way to educate and empower the local communities, as well as impart this knowledge to those policy makers and members of government that hold appropriate positions to assist in creating this transformation. This transformation cannot occur instantaneously, but rather it will be a gradual process and even small initiatives will positively contribute towards the promotion of neuroscience in Africa.

Board of Directors of AFAN and the World Federation of Neurology (WFN) President. Left to Right: Prof Foad Abd-Allah (Egypt); Prof Amadou Gallo Diop (Senegal); Prof Lawrence Tucker (South Africa); Prof Yomi Ogun (Nigeria); Prof Agnon Balogou (Togo); Dr Augustina Charway-Felli (Ghana); Prof Raad Shakir (WFN President); Prof Mansour NDIaye (Senegal); Prof Riadh Gouider (Tunisia); Prof Osheik Seidi (Sudan); Prof Alfred (Cameroon); Prof Alain Tehindrazanarivelo (Madagascar) Njammshi

AFAN Board of Directors:
- President: Professor Mansour Ndiaye (Senegal);
- President-Elect (set to take office in 2 years’ time): Professor Yomi Ogun (Nigeria);
- Treasurer: Dr. Lawrence Tucker (Republic of South Africa);
- Secretary-General: Dr. Augustina Charway-Felli (Ghana)

Five Vice-Presidents were elected to represent each of the five sub Regions of the continent:
- Northern Africa: Professor Foad Abd-Allah (Egypt)
- Western Africa: Professor Agnon Balogou (Togo)
- Central Africa: Professor Alfred K. Njammshi (Cameroon)
- Eastern Africa: Professor Osheik Abu’Asa Seidi (Sudan)
- Southern Africa: Professor Alain Tehindrazanarivelo (Madagascar).
The 8th Teaching Tools Workshop (TTW) was hosted by the Department of Physiology, Addis Ababa University, Ethiopia from September 17-22, 2015. It was sponsored by the International Brain Research Organization (IBRO) and The Grass Foundation with support from the International Society of Neurochemistry (ISN). The entire workshop was held at the Ghion Hotel, Enterprise Addis Ababa. There were twenty-seven participants who attended, originating from 9 African countries and the United Kingdom. Participants were mainly Lecturer of aspects of neuroscience, such as neurophysiology, neuroanatomy and neuropharmacology. One of the goals of the workshop was to equip participants with tools and ideas that would be used in helping their various home universities set up neuroscience courses. In addition, participants were furnished with materials and strategies for efficient and learner-centred teaching in the various neuroscience courses as well as other courses that they handled. The facilitators for the workshop comprised of Professor Sharon Juliano (USA), Professor Jack Martin (USA), Professor Nilesh Patel (Kenya), Professor Evelyne Sernagor (UK), Professor Janis Weeks (USA), Professor Amadi Ihuwo (South Africa) and Dr. Beatrice Bora (DRC). The programme was highly focused on pedagogical principles such as cognitive basis of learning, effective oral presentations, changing the roles of content, the teacher and responsibility for learning as well the purpose and process of student evaluation. These pedagogical principles are geared towards encouraging students to take up more responsibility for the learning process and making the focus in the classroom less on teaching and more on learning. Discussions were centred on how to teach effectively while encouraging an interactive process and involving the student actively in their learning, especially on the African continent.

Participants as part of the training gave presentations on how to make the most effective use of the Teaching Tools Programme to benefit themselves and their home universities. Participants were guided by faculty in developing sample lectures which were presented to the group and evaluated. All the materials participants were exposed to during the workshop including lectures, laboratory simulations and software were given as a package on departure.

PROSPECTIVE IBRO-UCT AFRICAN ADVANCED SCHOOLS: NEUROIMAGING, NEUROPSYCHIATRIC GENOMICS, AND COMPUTATIONAL NEUROSCIENCE

The IBRO-UCT Advanced School on “Neuroimaging: Understanding the brain in time and space” will be held from 1 to 15 December 2016. It aims to provide a platform for senior PhD students, postdoctoral fellows, registrars and junior faculty engaged in neuroimaging research to gain knowledge and experience in the use of additional neuroimaging techniques such as fMRI, DTI, TMS, TES and EEG in researching fields such as cognition, face perception, substance abuse, psychiatric disorders, paediatric neurology and HIV among others. The treatment capabilities of brain stimulation will also be addressed. The processing of data will be a key feature of the School. Please see: http://saneurosoc.co.za/2016/ibro-uct-african-advanced-school-on-neuroimaging-understanding-the-brain-in-time-and-space/ for more information.

The IBRO-UCT African Advanced School on “Neuropsychiatric Genomics” will be held from 1 to 14 December and aims to bring students from around Africa to UCT for a two-week intensive training period, which will include lectures and practical sessions focused on ethics, project design, logistical considerations, and statistical analysis of large scale genomic studies of neuropsychiatric disorders. In addition, practical training will be provided in the use of open-source resources provided by the Allen Institute for Brain Science. For further information please see: http://ibro.info/events/applications-open-for-ibro-uct-african-advanced-school-on-neuropsychiatric-genomics.

The IBRO-SIMONS Computational Neuroscience Imbizo will be held from 9 to 28 January 2017. It aims to promote computational neuroscience in Africa by bringing together international and local students under the tutelage of world-leading experts in the field. Computational neuroscience is a rapidly expanding subject whose methods are essential for understanding and modelling the brain, as well as for designing and interpreting experiments. The school will entail intensive lecturing on advanced topics in computational and theoretical neuroscience as well as practical exercises in simulation and data analysis. In addition, students will perform a mini-research project under the supervision of one of the school tutors to be presented at the end of the school. The school is structured in three thematic weeks: 1) Higher order brain function. What are the problems brains need to solve? 2) Neural biophysics, plasticity and machine learning. 3) Computations in spiking networks (http://ibro.info/events/applications-open-for-the-ibro-simons-computational-neuroscience-imbizo/). We thank IBRO, all of our co-sponsors and the many international instructors who contribute to the success of the IBRO-UCT African Advanced Schools in Neuroscience.
GOLDEN HELIX SYMPOSIUM ON GENOMICS OF NEURODEGENERATIVE DISEASES
Mansura, Egypt
January 14-16, 2016

ORGANIZERS: Wael Mohamed, Menoufia Medical School, Egypt.
Mohamed Salama, Mansura Medical School, Egypt.
Mohamed Sobh, Abdel Halim El Tantawy, Mohamed El Gamal

The symposium was sponsored by the International Society of Neurochemistry (ISN), International Parkinson and Movement Disorders Society (MDS), Golden helix foundation the Biologists, the World Academy of Science (TWAS), and Mansura Experimental Research Center (MERC).

The school provided a 3-day comprehensive course (for details please see attached the scheduled program). The school was declared open by the organizers during an official opening ceremony with presence of the president of Mansura University and the Heads of local authorities and associations. The school started at the Ophthamology center, Mansura University and MERC with three modules: Basic, clinical and translational.

The first day schedule was dedicated to “advances in neurodegenerative disorders” the first plenary lecture on this day was given by Prof. MB Abou donia, Duke University, USA about peripheral biomarkers for brain damage. During the second day, students began to understand the concept of translational research with Parkinson’s disease (PD) in focus. The day started with a series lectures beginning with the second plenary lecture by Prof. Rudi Balling (LCSB, Luxembourg) about PD mapping. The continued in 2 phases; first on molecular neuroscience and second phase focused on translational neuroscience.

The third day was dedicated to clinical cases. Moreover, there was a workshop at the end of the day in UNC, Mansoura University.

Besides the scientific and educational program, the school provided different social events that augmented communication and interaction between the faculty and the students from different countries. First, at the arrival to the hotel, a welcome party was offered with welcoming remarks of the organizers. Also during day 2 of the school, a trip to the Mediterranean Sea was organized with a special presentation of how the Mediterranean Sea meets the Nile River and its significance. At the end of this day, a special gala dinner was provided at Hawaii Restaurant on a lovely terrace overlooking the Mediterranean Shore.

Besides Egyptian Faculty, we had guests from most of the world continents: Prof. MB Abou-Donia from America, Prof Rudi Balling, Dr. Johan Holemberg from Europe, Dr. Toshi Yamashita, from Japan, Asia, and Dr. Samir Ahboucha, from Morocco, Africa.

A GLANCE AT THE SONA CONSTITUTION
SONA OFFICE BEARERS
Revised, Rabat, June 2013.

a) The Office bearers of the Society and Terms of Service shall be:
   i) Chairperson (President) of the Governing Council;
   ii) Secretary-General, as chair of the Executive Committee
   iii) Assistant Secretary-General;
   iv) Regional Secretaries each representing East and Central Africa, Southern Africa, West Africa and North Africa respectively;
   v) Treasurer
b) The Office bearers shall be full members of their respective Corporate/Regional members of SONA.
c) The Chairperson (President) of the Governing Council shall be elected for a term of two years, who will not necessarily be the convenor of the SONA conferences (see article 2) and shall not serve for another term;
d) The Secretary-General and Assistant Secretary-General, shall hold office for a period of four years and shall not be eligible for re-election for another term.
e) Other Office bearers including the Treasurer and Regional Secretaries, shall hold office for a period of four years and shall not be eligible for re-election for another term. More than 50% of the full complement of the serving committee may not change at any one time.
f) Office bearers should be appointed one year prior to taking their office such that they function in an elect capacity with current officers. This may be achieved by a postal/electronic ballot if the General Assembly does not meet in the interim or in the absence of nominated candidates.
g) All office bearers shall be nominated, elected and ratified by SONA members on register and present at the General Assembly or prior postal/electronic ballot. Office bearers may be removed from office in the same way as is laid down for the expulsion of members in rule (3f), and vacancies thus created shall be filled by persons elected at the meeting of the Governing Council resolving the expulsion.
Since 2002, the Kenya Ubongo Campaign has organized Brain Awareness Week (BAW) events. (Ubongo is Swahili name for brain). This year, Dr. Philip Mwachaka, Department of Human Anatomy, was the event organizer of the BAW event at the University of Nairobi, and was assisted by 20 other students from the departments of Human Anatomy and Medical Physiology and the advisors: Prof Jameela Hassanali, Pwani University, and Prof Nilesh B. Patel, University of Nairobi. The objective of this year’s events were (i) to show students basic aspects of brain anatomy and physiology, (ii) to inspire and develop their research interest in neuroscience, (iii) to give a hands-on, participatory sessions to the students on methods of studying brain function, and (iv) to make the students aware of the career options in neuroscience. Letters of invitation were sent out to 8 secondary (high) schools and 3 confirmed attendances. In all there were 34 students: Lenana School (5), Maryhill Secondary School (10), and Alliance High School (19). Following the introduction and welcome from Prof. Nilesh B. Patel, Dr. Hussein Dossajee, who is one of the founding members of the Ubongo campaigns, talked about careers in neuroscience, and the importance of research on the human brain. The students were then divided into 8 groups and rotated through 5 activities.

THE TEACHING TOOLS WORKSHOPS IN AFRICA Sharon L. Juliano, Professor, Director of Neuroscience USUHS, Bethesda MD (continued from page 1)

Another important part of the Teaching Tools Workshops are the evening sessions; we have both free-form and structured discussions of how best to implement what the participants learn in the Workshop. The applicants have the opportunity to seriously evaluate the barriers and challenges to developing a neuroscience curriculum in Africa, how to best disseminate the information acquired at the Workshop, and importantly, how to convince senior faculty to be open to new concepts in faculty development. These sessions give the participants the opportunity to discuss obstacles to higher education due to sexual and/or racial discrimination that may affect junior faculty in different African nations. These discussions evolve into their own character depending on the group of participants. The primary aim of the Workshop is to provide educators of neuroscience in Africa with tools to expand their teaching horizons. We hold open applications for young neuroscience teachers in Africa and often present the workshops in countries that volunteer to host or in conjunction with other activities such as the SONA meeting or other regional gatherings. Please see the IBRO website for more information about applications. The next TTW will be held in the Fall of 2016.

1. Human brain specimens
2. Electromyography (recording the electrical activity of the muscles)
3. Electroencephalography (recording the electrical activity of the brain)
4. How to assess visual function?
5. How assess auditory function?

Following lunch, there was an afternoon session - the Brain Buster - in which the students were given multiple rounds of quizzes. After being given information on the rules of the quiz, the different groups competed against each other. They were allowed to seat together and consult on the questions that were to be asked. In the second round of questions, the students were grouped into their respective schools. In this round they were also allowed to consult on the questions that were asked.

In the third round, each school was requested to present one student who would represent their school. In this quiz, each student was allocated a time of one minute. In this 1 minute, they attempted to answer as many questions as they could. Prizes were given to the winners, and first and second runners up.

ACKNOWLEDGEMENTS
The success of the event relied heavily on generous support from various sponsors, the University of Nairobi, and Prof. Nilesh B. Patel for supporting the event financially.

ACTIVITIES TO COME