



Minutes

Mini-Symposium: The African Network for Solar Energy

Date and time: Friday 4th February 2011, between **9.00 am** and **18.15 pm**.

Venue: Seminar room TN 858, Linz Institute for Organic Solar Cells (LIOS), Johannes Kepler University (JKU) Linz, Altenbergerstr. 69, 4040 Linz Austria,

Organiser: Linz Institute for Organic Solar Cells (LIOS), JKU (PD Dr. Daniel A. M. Egbe and Prof. Dr. N. Serdar Sariciftci)

Present:

- Msc. Workneh Getachew Adam**, Ph. D. Student in Physical Chemistry, Chemistry Department, Faculty of Sciences, Addis Ababa University, P.O. Box 1176 Addis Ababa, Ethiopia (getad12@yahoo.com) **WA**
- Prof. Dr. Abdelfattah Barhdadi**, Head of Laboratory of Semiconductors Physics and Solar Energy, Ecole Normale Supérieure de Rabat, Rue Mohamed Belhassan El Ouazani, P.O.Box 5118, Takaddoum, Rabat, Kingdom of Morocco (barhdadi@ictp.it) **AB**
- Dr. Adenike Omotunde Boyo**, Department of Physics, Faculty of Science, Lagos State University, Badagry Expressway, P. M. Box 1087 Apapa Lagos, Nigeria (nikeboyo@yahoo.com) **NB**
- Mr. Halil Ibrahim Dağ**, General Manager of SOLIMPEKS (Solar Energy Systems), Konsan Organize Sanayi Hilal Sk. No: 20, 42300 Konya, Turkey, (halil.dag@solimpeks.com) **HD**
- PD. Dr. habil. Daniel Ayuk Mbi Egbe**, Coordinator of ANSOLE and Head of Synthetic Chemistry Lab, Linz Institute for Organic Solar Cells (LIOS), Johannes Kepler University Linz, Altenbergerstr. 69, 4040 Linz, Austria (daniel_egbe@yahoo.com or daniel_ayuk_mbi.egbe@jku.at) **DE**
- Dr. Ralf Gebauer**, The Abdus Salam International Centre for Theoretical Physics, Condensed Matter and Statistical Physics Section, Strada Costiera 11, 34151 Trieste, Italy (rgebauer@ictp.it) **RG**
- Prof. Dr. César Kapseu**, Département de Génie de Procédés et d'Ingénierie, Ecole Nationale Supérieure des Sciences Agroindustrielles, Université de Ngaoundere, Cameroon (kapseu@yahoo.fr) **CK**
- Prof. Dr Hüseyin Kara**, Professor of Analytical Chemistry, S. U. Faculty of Science, Chemistry Department, 42031 Campus, Konya, Turkey (hkara@selcuk.edu.tr) **HK**
- Prof. Dr. Fayçal Kouki**, Unité des Matériaux Avancés et Optronique, Département de Physique, Faculté des Sciences de Tunis, 2092 El-MANAR I, Tunis, Tunisia (faycal_kouki@yahoo.fr) **FK**
- Prof. Dr. Malik Maaza**, Fellow of the African Academy of Sciences, Fellow of the Islamic World Academy of Sciences, Africa-International Desk, iThemba LABS-NRF, Chairman NANOAFNET, Nanosciences Laboratories, Materials Research Department, iThemba LABS-National Research Foundation of South Africa, Old Faure Road, P.O. Box 722, Somerset West 7129, Western Cape Province, South Africa.(Maaza@tlabs.ac.za). **MMA**
- Prof. Dr. phil. Mammo Muchie**, *SARCHI chair holder, IERI, TUT, Pretoria, South Africa on Innovation Studies, 159 Skinner Street, 001 Pretoria, South Africa.*Coordinator of Research Centre on Innovation and International Political Economy & The comparative Research Centre on Integration.*Member of the Scientific Board of GLOBELICS, Aalborg Universitet, Fibigerstræde 2 DK-9220 Aalborg Ø, DENMARK. (muchiem@tut.ac.za, mammo@ihis.aau.dk) **MMU**
- Dr. Joseph Niemela**, The Abdus Salam International Centre for Theoretical Physics, head of ICTP's experimental group, Strada Costiera 11, 34151 Trieste, Italy (niemela@ictp.it) **JN**
- Prof. Dr. Amel Romdhane**, Solid states physics, Faculté des Sciences de Tunis, Campus Universitaire 2092 El Manar Tunis, Tunisia. (amel.benfredj@fst.rnu.tn) **AR**
- Prof. Dr. Samir Romdhane**, Solid state physics, Département de Physique, Faculté des Sciences de Bizerte, Zarzouna 7021, Bizerte, Tunisia. (Samir.Romdhane@fsb.rnu.tn) **SR**

- Prof. Dr. N. Serdar Sariciftci**, Head of Physical Chemistry Department and Director of Linz Institute for Organic Solar Cells (LIOS), Johannes-Kepler University Linz, Altenbergerstr. 69, 4040 Linz, Austria (serdar.sariciftci@jku.at) **SS**
- A.o.Prof. Dr. DI. Mag. Helmut Sitter**, Johannes Kepler Universität Linz, Institute of Semiconductor and Solid State Physics, Altenbergstr. 69, -4040 Linz, Austria (helmut.sitter@jku.at) **HS**
- Mrs Lesley Tobin**, Technology Analyst & ICPC Nanonet Project Coordinator, Institute of Nanotechnology, Unit 5/9 Scion House Stirling University Innovation Park Stirling FK9 4NF Scotland (lesley.tobin@nano.org.uk) **LT**
- Prof. Dr. Teketel Yohannes**, Physical Chemistry, Chemistry Department, Faculty of Sciences, Addis Ababa University, P.O. Box 1176 Addis Ababa, Ethiopia. (tekyoha@chem.aau.edu.et) **TY**
- Prof. Dr. Izzedine Zorkani**, Département de Physique, Faculté des Sciences Dhar Méhraz, B.P. 1796 Fes, Morocco. (izorkani@hotmail.com) **IZ**
- Prof. Dr. Thouakesseh Jérémie ZOUEU**, National Polytechnic Institute of Yamoussoukro (INP-HB), Department of electricity and electronics (DFR-GEE) BP 1093 Yamoussoukro – Cote d'Ivoire. Associate Member of International Centre for Theoretical Physics, Trieste (ICTP), Italy. Member of Fluorescence Applications in Biotechnology and Life Sciences, FABLS, Australia .Member of African Network of Laser Atoms and Molecules (LAM Network).(jeremie.zoueu@inphb.edu.ci) **JZ**

Apologies:

- Dr. Frank Lehner**, Initiator „ Solar Energy for Science“ DESY Deutsches Elektronen-Synchrotron, Notkestraße 85, 22607 Hamburg, Germany.(frank.lehner@desy.de). **FL**

Summary of individual presentations:

DE welcomed all the participants and expressed his gratitude to contributors, sponsors and attendees. He mentioned that the name of the network needed to be changed to make it more inclusive. All agreed that it should be renamed the African Network for Solar Energy (ANSOLE). He stressed that there must be interaction, cooperation and hard work for the network to thrive. DE then gave an overview of the network's background.

SS expressed his pleasure with the symposium and acknowledged Mr. Halil Ibrahim Dağ and Prof. Dr Hüseyin Kara and their sponsorship and support of the symposium in their absence. He stated that the future of Africa is in solar energy. The world is running out of oil and the oil wars have started. The future is in solar energy and it begins with academics and networking. There is increasing interest in solar energy and appreciation of its importance but it will take time. There is a dream and expectations that there will be an academic network where students will be involved in exchange programmes and academics will hold meetings in increasing numbers each year and eventually to have a big, world-class, solar energy institute in Africa.

DE mentioned that there are a number of initiatives currently in Africa that we don't know about, and there is a solar energy foundation in Ethiopia.

TY thanked SS and DE. He then gave background information about Ethiopia, the University of Addis Ababa and the status of solar research in the country (see presentation). He described the main research areas and the collaboration between the university and LIOS and with ICTP. A film describing the work of the Solar Energy Foundation was shown.

CK described the situation of solar energy research in Central and West Africa commenting on where there are currently research laboratories (Nigeria, Cameroon, Togo and the Ivory Coast). It was pointed out that slide 13 should not mention Senegal (see slides). Other projects are being carried out at the International Institute of Water Engineering and Environment in Ouagadougou and Kwame Nkrumah University. See the

first slide for contact names for solar energy. It was mentioned that Ethiopia is more advanced than Cameroon in the field of solar energy.

NB thanked the organisers and attendees. She then described the main energy research centres including Sokoto Energy Research Centre and the National Centre for Energy Research and Development based in Nsukka. NB then provided information about NASENI's research group working on dye sensitized solar cells and organic solar cells before describing Lagos State University achievements including the provision of solar energy to ten 10 rural communities. Finally, NB mentioned that there is a need for a Nigerian Network for solar energy and it is necessary to look at reducing the costs of panels.

AB gave thanks and acknowledgements before describing solar energy research in Morocco. There are currently 32 main research groups in solar energy in Morocco partially supported by government. Most unities are in Rabat and Marrakech and most of the research is being carried out by teacher-researchers. About 100 of these are active. A number of publications have been co-authored with French scientists. However, there is no centre for solar energy.

IZ gave thanks and acknowledgements before describing the Société Marocaine pour le Développement des Énergies Renouvelables (SMADER) / Moroccan Society of Renewable Energies, which he hopes will become part of ANSOLE. He then described international and regional initiatives for renewable energies in the Arab Region and MENA, including the Agence Marocaine de l'Énergie Solaire (MASEN), Agence de développement des énergies renouvelables et l'efficacité énergétique (ADEREE), the Pole of Competences Condensed Matter and Modelling of Systems (MACOMS), the www.transgreen.eu project, the Réseau Universitaire Desertec (DUN), other scientific research activities in renewable energy, and conferences and workshops

SR described the challenges of Tunisia in energy, water and jobs, and the use of solar energy in the country. He then discussed the Tunisian Solar Plan 2010-2016 involving 2 B € and 40 Projects, and showed which organisations are supporting it. SR then gave an overview of three solar projects: Desertec, the Transgreen Project and the Sahara Desert Project. He concluded with an overview of Tunisian research achievements and statistics.

MMa gave thanks and acknowledgements before describing the activities of the Nanosciences African Network (NanoAfNet) and the solar energy focus. He mentioned that its location is strategic for access to facilities and there are links with North Africa and sub-Saharan Africa. 2009 saw the creation of the African nano centre in Africa. The main nano focus areas are health, water and energy. He then described Nanoafnet's links with SANi, (South Africa), AMANAT (Morocco), ENS (Egypt), NNI (Nigeria) and ATN (Tunisia) and listed its achievements with student mobility, partnerships and collaborations MMA then gave an overview of Solar Energy from the South African perspective and mentioned the various SARCHI chairs at the universities of Stellenbosch, Zululand and Cape Town, among others.

Prof Dr phil. Mammo Muchie

MMu Spoke about the South African Research Chairs initiative (SARCHi) and how this could be used to build research capacity in solar energy. He also mentioned the activities of the Global Network for the Economics of Learning Innovation and Competence Building Systems (www.globelics.org) and the The African Journal of Science, Technology, Innovation and Development, which was founded as a publishing outlet for younger, emergent African researchers and could be a useful tool for ANSOLE researchers

Lunch

JZ described the current status of solar energy research in the Ivory Coast, including the National Polytechnic Institute of Yamoussoukro and Abidjan. He emphasised how ANSOLE can help solar energy research in the Ivory Coast. There is a high level of education but an absence of a national programme. Moreover, exporting energy to neighbouring countries encourages them not to invest in electricity production and perpetuates monopolies.

RG gave an overview of ICTP and its activities to support Africa. He described how ANSOLE falls into these activities and how ICTP can facilitate it. ICTP supports affiliated centres, in different parts of Africa, networks of scientists and more than two dozen workshops, schools and conferences in Africa. There is a possibility of having an affiliated centre for solar energy in Africa and the most important thing is to have networks of scientists. ANSOLE should apply to ICTP to be a network and get network support. As a network ANSOLE can get funding from ICTP to send students to train in African centres. Support in terms of science and funding was given to the Addis Ababa school last year. Most schools take place in Trieste. If ANSOLE wishes to organise a workshop, contact RG. It is necessary to allow at least nine months to obtain funding. ICTP also supports the African Physical Review, which is another vehicle for research dissemination.

AP1. ANSOLE to submit a proposal to ICTP for funding for a workshop at least nine months beforehand (DE)

FL submitted a powerpoint which was shown in his absence. It described solar energy for science - an initiative by DESY co-organized by DLR in cooperation with SESAME and Academy of Scientific Research & Technology, Egypt and the Desertec project. Also, there is the Symposium Solar Energy for Science – 19/20 May 2011 DESY – Hamburg.

LT described the activities of the Institute of Nanotechnology and how the NEAT area of the website can help promote courses and match students and course. She then described the ICPC Nanonet project's tools for networking, including the Nano Archive (<http://www.nanoarchive.org>), which is an online repository of open access nano-related abstracts and full texts. Researchers can apply for an editor's account and upload their own papers. The other tools are the researchers' and organisations databases and the annual region reports. A report on N&N in Africa will be available online at the end of May. The project also provides an online forum, free monthly webinars, and annual workshops which are webcast live as well as recorded on DVD and sent to anyone who requests it. She invited all those present to register on the website (www.icpc-nanonet.org) take advantage of the tools.

Minutes of the Round Table

Agenda

- status of the network/establishment of network
- joint project proposals to be submitted to international funding institutions (UN, EU, ...)
- exchange of students and researchers (Doktorandenkolleg/pool of PhD scholarships)
- graduate programs on renewable energies in Africa
- organization of meetings in Africa
- creation of the network website
- logo of the network

SS recapitulated and summarised the morning's proceedings, mentioning that ICTP has the instruments that can help realise the idea of the network as well as provide funding, while ICPC can provide logistic support and advise on networking tools. He added that there is a need to distinguish between the research foci and look at the applications of solar energy. He gave as an example LIOS work in converting solar energy into artificial gasoline.

All attendees agreed on the name of 'The African Network for Solar Energy'

Discussion about the physical location of ANSOLE and host institution

It was agreed that Europeans should not coordinate ANSOLE as it should be done by Africans and in Africa. While there is an impressive amount of activity in Nigeria and South Africa, dedicated solar energy institutes don't exist and these are needed. It is therefore the responsibility of ICTP to facilitate the establishment of these.

RG agreed that ICPTP is the centre for many kinds of activity, and while it should not be the home of ANSOLE, it should facilitate it.

MMu commented that it is important to find a location for ANSOLE's headquarters that has the financial capacity to support the infrastructure. Africans in the diaspora are still Africans and could therefore host the network.

MMa commented that the host country must be strategic in relation to political strategies and the African union. The host institution should be in a country that can offer financial support. **MMa** suggested Addis Ababa. If the network is going to be established as soon as possible, it should be in Addis as the headquarters of the African Union, even if it is just temporarily.

RS suggested that there should be another symposium to decide on this issue with more people representative of wider Africa

SS countered this, commenting that a second symposium would not reach a decision and asked TY if it was possible for the host institution to be the University of Addis Ababa.

TY responded that it was difficult to say in terms of resources and making the financial commitment.

AB pointed out that it may not be necessary to be connected with the African Union to establish a scientific structure and it is possible to find money outwith political structures. By mentioning African union the network introduces political body.

DE Emphasised the need to keep the network in the spirit of how it was conceived in Tunisia – as a purely scientific network – and that all African mentalities should be taken

into consideration. Therefore it cannot just be based anywhere. The issue can be decided at a bigger meeting in Africa supported by ICTP.

AP2 Host institution to be decided at a bigger meeting in Africa supported by ICTP.

SS Suggested applying to ICTP now as a network so that finances can be obtained.

RG Clarified that an entity does not need to be recognised by ICTP as a network to apply for funding for a workshop.

JN Confirmed that the 9 month deadline is for funding for a conference or workshop, not for a network and the network application can be made anytime.

IZ Stated that we have to make a start.

AB Suggested that RG could organise a meeting in Trieste and this would be an opportunity to discuss the network

RG commented that he was not sure about manpower and who will be available as solar experts to discuss this.

MMa stated that there was a need to identify sources as ICTP cannot fund 10 people from Africa, for example. The network should approach businesses and funding agencies for support, and that the network therefore needs a contact point, physical address and letterhead so that it appears a legal entity as a network. A temporary home should be identified so that a critical mass of African fellows can convene.

SS Drew everyone's attention to the protocol and the minutes. All attendees are nominally the first members of the ANSOLE and all agreed to establish formally the legal entity of ANSOLE as initially founded in Sousse, Tunisia and signed accordingly.

All participants agreed on the domain name <http://www.ansole.org> and that it should be purchased

DE mentioned that at the large meeting in Africa the network will decide how people can cooperate. Currently there are three possibilities:

- a. Network of scientists. There is no deadline to apply for this.
- b. Affiliate centres. This is now the bigger issue. **RG** stated that this should be left to later
- c. Funding for workshops for 2012. The network must apply by February 15th for the following year

DE Discussed the possibility of African and EU countries project affiliation and application for this, fostering networking between Africans in Africa and in the diaspora. These would be individual applications rather than an ANSOLE submission.

CK Proposed Francophonie should be approached for funding

NB Stressed the need to identify the common problem; that there has to be something that will be useful to everyone in Africa and the network should define what it needs to do

SS. Moved to the next point, the exchange of students and researchers and asked about graduate programs

MMu Stressed the importance of mapping solar energy research in Africa as this would involve everyone and show who is doing what and the numbers involved. He also mentioned the complexity of the relationship between funded and funding bodies.

DE Volunteered to coordinate and submit the funding proposal and application

AP3 ANSOLE to apply to ICTP to be a network (DE)

AP4 Proposal for funding for a workshop to be submitted to ICTP (DE)

LT Suggested exploring the possibility of SICA funding through the EU with ICTP and LIOS (SICA are Collaborative Projects where the consortia must include at least four independent legal entities of which at least two must be established in different Member States or Associated countries and at least two must be established in different ICPC countries)¹

RG Stated that ICTP will view itself as an incubator and will support the network so that it will appear to be an established and existing entity.

JN says there has to be a person for provisional governance so someone has the moral authority to go ahead.

All delegates agreed that DE should be appointed the official coordinator of ANSOLE

SS Stated that DE will be the coordinator but ICTP will be the holding area for communications

TY suggested not waiting until 2012 for the larger ANSOLE meeting and to explore additional sources of funding rather than focusing only on ICTP for this.

SS Recommended that delegates decide when and where to host the ANSOLE workshop.

LT Suggested a satellite event with African Materials Research Society conference in Zimbabwe in December, since relevant individuals would already be there and would not have to find funding for travel and subsistence.

MMa Mentioned that Adewoye Olesgun is with NASENI and the AMRS, so there is a clear overlap and the AMRS event would be a good platform

¹ One of the objectives of international cooperation in FP7 to address specific problems that third countries face or that have a global character. Under this area, Specific International Cooperation Actions (SICAs) can address particular needs of developing and emerging economies, by means of dedicated cooperative activities. SICAs are dedicated to non-Associated third countries and respond to mutual interest in cooperating on particular topics which have been selected with a view to their scientific and technological level and needs. The identification of specific needs and priorities is closely linked to relevant bilateral cooperation agreements and with ongoing multilateral and bi-regional dialogues between the EU and these countries or groups of countries and international forums, as well as within the context of the Millennium Development Goals. Priorities are identified based on the particular needs, potential and level of economic development in the region or country and may include: health policy research, health systems and healthcare service research, maternal and child health, reproductive health, control and surveillance of neglected communicable diseases and emerging unforeseen policy needs in those regions.

SS Agreed that this could be the next big gathering.

JN Mentioned that it is possible to apply to the ICTP for funding for an external activity and in this way it is possible to receive 5,000 € (from the office of external activity). This must be done six months before the activity

TY Suggested approaching the organisers of the AMRS Zimbabwe event for approval to host the ANSOLE satellite event

MMa Mentioned that he is on the board and would approve it.

AB Stated that in the previous symposium it was agreed to host the meeting in Tunisia and asked SR if it was ok to move the location.

SR Said that he could not answer for the others.

DE Stated that it should be held in Zimbabwe.

AP5 ANSOLE to secure confirmation that it can hold either a satellite event or give a poster presentation at AMRS, Zimbabwe (DE) ??

IZ Proposed that it should take place in Morocco in 2012 as a launch and independent of AMRS

SS Commented that the meeting in Zimbabwe was not intended to be a launch but an additional platform

MMa Remarked that holding the event in Zimbabwe would provide an opportunity to promote the network and increase its regard.

SS Mentioned the SPIE event where they gave a poster presentation about photovoltaics. There were five thousand people in attendance and it was great publicity. AMRS is a publicity platform and we should not hesitate even if it is a poster presentation.

AB We have time to consider the proposal for Zimbabwe we can decide when the next meeting will happen

DE Displayed the draft logo prepared by LT. Participants contributed design ideas.

SS Asked LT to coordinate with DE about logo. It was agreed to remove the words and replace them with the network's acronym, and to replace the 'O' with the sun. Meanwhile, everyone was invited to contact African artists who could produce something professionally.

AP6 Logo to be finalised (DE and LT)

[MMu Referred back to priority topical selection and identifying the research programs that individuals can carry out, stating that one or two people can be leaders and motivate others]

SS Reiterated that ICTP will host the website and emails on their servers

AB Stressed that the aim is to work together scientifically and to choose a topic for priority. Since most of the attendees are working on materials for solar energy, he proposed that this should be chosen as priority – materials for solar energy.

SS In response to MMA said that there will be letter of intent stating the members' affiliation to and support of this initiative with everyone's signature. It is now legally binding. He then asked who would be in charge of mapping solar energy activities in Africa and what would be the infrastructure, focus and how would it be carried out?

MMu Suggested asking what is the most interesting area of the research and that perhaps a SWOT type analysis would be one approach as well as identifying the way forward.

DE Mentioned creating the schema and the databases

RG said that ICTP can do the databases and DE should email them

AP7 RG to organise the designing of the datebases and liaise with DE (RG and DE)

MMA Suggested identifying regional representatives who would inform their regions and gather the information.

RG Mentioned that ICTP already has something in place to gather information about individuals and areas of interest.

Closing statements

CK Agreed to go back to the Cameroon and be an ambassador for the country and area.

RG Said that ICTP were glad that Africans are taking the initiative to do something that they can support and work with

JZ Expressed his thanks and appreciation. He mentioned that the Ivory Coast will do what it can to help make inventory of researchers from these countries and can forward the link to the ICTP database to others to get them to register.

MMA Said that on behalf of NanoAfNet he wanted to strengthen the network for solar energy and in the context of human capital they would support one scientist and two students.

LT Stated that ICPC Nanonet would give all the support possible to the network in terms of tools and provision of information

IZ Thanked everyone and said he was happy with the meeting. He added that Morocco put 9 million dollars in solar energy in the business sector but that the government must make a financial commitment to academics

SR Said that he hoped to see the network advance solar energy science in Africa.

DE Said that he was glad to see a continuation of what was started in Tunisia and that he was grateful for the confidence in him and for the continued support. He thanked everyone for coming.

TY Expressed his happiness with the events as this was his dream 11 years ago and he hoped to continue in this direction. He thanked SS for the years of collaboration.

AR Said that she was happy to be in Linz and taking part and hoped that the network would be a platform for promoting research in every country in Africa

MMu Mentioned that he has been in topdown networks that died and that good networks are ones grounded in commitment in enthusiasm and hard work. He added that it was a great beginning and challenges could be overcome if the network tries to be the best in everything. He stated that the AJSTID publishes inspiring profiles and invited everyone to submit articles about an inspiring profile. It can network research and can be used as a tool. MMu also mentioned that he has two postdoctorate positions that he will offer to South Africans and has one PhD student who can actively participate.

JN Promised the backing of ICTP. He commented that although solar energy is not his field, he is heading up an applied physics section and would like to extend this to engage in research and training activities. JN added that it was good that ANSOLE is a home grown initiative that has the same dynamics as the African Physical Society and so the momentum should be sustained. He wished the network great success and offered support in training.

NB Expressed her gratitude at being in Linz and said that she would spread the word. She added that light has come to Africa and will continue to shine.

AB Commented that he was very happy and the meeting was successful and positive. He thanked the organisers and staff and thanked ICTP for their support. He added that he can see the project is building up and becoming reality and promised he would do his best from the Moroccan side in the domain of solar energy.

HK Thanked the organisers for a meeting that he will remember, adding that he felt the network and association will last forever.

HD Thanked the organisers too and commented that he was jealous that Turkey was not in Africa as they could do something similar in the Middle East. He suggested representation from the industrial point of view, since for all organisations there must be someone from industrial side to feed in about topics for commercialisation and profit to society. There are a lot of solar topics that can be researched but they should start with solar thermal as it was very important in terms of benefits. Nothing must be ignored for research.

WA Said that he was happy to be one of the founders of ANSOLE. He mentioned that he has a lot of experience in this type of network and is proud of Africa.

SS Called the symposium to a close at 18.15pm