



EVENT INFORMATION	
TITLE	Capacity Building and Skills Development in Radio Astronomy Workshop
PLACE	Ghana
ORGANISER'S INSTITUTE NAME	Dr. Bernard Duah Asabere Ghana Space Science and Technology Institute E-mail: bd.asabere@gmail.com , b.asabre@gaecgh.org
DATE	August 19 – 25, 2018 (the proposed date is flexible. The duration may be extended with little more funding)
NO. OF PARTICIPANTS	25 Facilitators and Tutors (And 3 Instructors from SKA SA, GSSTI-Ghana and ASTRON-JIVE)
TOTAL EVENT COST	23, 000 Euros [Twenty-Three Thousand Euros] to cater for transportation/air-tickets, accommodation, logistics and feeding of participants and instructors
OTHER SOURCES OF FUNDING	The host institution. The source of funding is being requested largely form RadioNet for this workshop project, There are other request from SKA South Africa and other institutions to support astronomy development and science engagement outreach to schools and visits to the observatory (Ghana Radio Astronomy Observatory). These are drives to identify and build the radio astronomy community and to use the radio astronomy infrastructures worldwide including those of RadioNet and the SKA.
REQUEST <i>(max. 2 pages)</i>	
Requested contribution	The organizer is requesting for an amount of 21,500 Euros (Twenty-one Thousand and Five Hundred Euros) from RadioNet Management: a request for gold sponsorship.
Use of the RadioNet contribution	<p>The contribution from RadioNet will be used to organise the Facilitators Workshop. The support will cater for transportation, accommodation and feeding of the 25 Ghanaian participants from the different educational and research institutions to be drawn nationwide, and the air-tickets, accommodation, ground transport and feeding of the two instructors from ASTRON-JIVE and SKA South Africa. The remaining cost will cover publicity, venue for the programme, logistics and honorarium for Instructors. The overall budget amount to 23,000 Euros (Twenty-Three Thousand Euros).</p> <p>The aim of the workshop is to build radio astronomy community in Ghana, raise facilitators, students and researchers to use the radio astronomy facility in Ghana and elsewhere. In particular, the workshop will eventually create a pull of interested postgraduate students and lecturers who will ultimately link up, collaborate and work with the rest of the radio astronomy world. As we speak, the fundamental training programme in radio astronomy supported by the United Kingdom Royal Society and Newton Fund has trained a number of Ghanaians who are currently pursuing their postgraduate studies in Europe and South Africa using data and facilities of RadioNet infrastructures such as EVN, e-MERLIN and APEX for their research.</p> <p>A key component of the workshop will be to identify interests in the key science projects and form research groups around the science projects of the Ghana radio telescope and the EVN. Publishable research topics and student projects will be proposed and drafted for follow-up actions. RadioNet will be acknowledged in all possible publications.</p> <p>The workshop will as well, provide a platform for networking among participants, astronomers(Instructors) and their affiliations. This will resonate future research and technical</p>

	collaboration among participants which will require the use of RadioNet infrastructures.
Impact of training	<p>The second radio astronomy facility in Africa, the Ghana Radio Astronomy Observatory (GRAO), was officially launched by the President of the Republic of Ghana on August 24, 2017. The GRAO facility hosts a 32m radio telescope fitted with a dual receiver system operating at central frequencies of 5.0GHz and 6.7 GHz, a weather station and high performance supercomputing facility. The telescope which is still in the science commissioning or early science mode has been successful in both single dish (pulsars and methanol masers) and network (EVN) observations. As the first African VLBI Network (AVN) infrastructure in operation, the GRAO will serve as a research, training and outreach/science engagement facility not only for Ghanaian students and researchers, but for the other African SKA Partner countries and beyond. Ghana is again, an African Partner to the giant SKA Project, and will host a remote station during SKA phase 2</p> <p>Ghana's human resource capacity needs in the field of astronomy is enormous. The workshop will help raise facilitators in the human resource capacity development drive to build the needed critical mass in research and sustainability of the recently launched observatory in Ghana. Building the capacity of Instructors will help transcend the knowledge of astronomy down to the grass root.</p> <p>Ghana is new in the field of astronomy and with this facility and passion, Ghana should be at the forefront in leading research, training and outreach in radio astronomy. It is therefore important to build the needed critical mass for the task ahead. The best way to build the human resource capacity is to use teachers/facilitators as ambassadors. The bigger picture is that astronomy will be introduced to the educational curriculum in the country and these teachers will serve as base Instructors.</p> <p>The last two days of the facilitators workshop will be used to cover an introduction to Linux system and the Python scripting language. Most Ghanaian students only have experience of Windows computing environment, whereas the combination of Linux and Python are widely used in scientific computing and astronomical data analysis</p>
Accessibility	The participants (facilitators and tutors) for the Workshop will be drawn from Ghanaian Universities and Colleges, Senior High and Junior High Schools and the major Research Institutions nationwide. Requests will be made to the Heads of the educational and research Institutions to nominate radio astronomy enthusiastic candidates, who will drive radio astronomy research and outreach in their respective establishments. In schools where we have Astronomy Clubs, we will encourage lead tutors to be nominated for participation.
Ethics	Attendees will be drawn from all the Physics/Engineering educational and research institutions nationwide, so all ethical issues such as gender, ethnic and regional balance will be addressed. The concerned authorities will be advised as to whom should be nominated to participate to ensure broader representation.