

# **US-Africa workshop on expanding the AfricaArray network to support multidisciplinary science in Africa**

**108 Chemistry Building, Howard University, Washington D.C.  
June 2-4, 2010**

## **Sponsors:**

**Primary support for this workshop has been provided by the National Science Foundation. We also wish to thank the following for their contribution to the success of this conference: European Office of Aerospace Research and Development, Air Force Office of Scientific Research, United States Air Force Research Laboratory ([www.london.af.mil](http://www.london.af.mil)), UNAVCO, NOAA, U.S. State Department, United Nations Office on Outer Space Affairs, and World Climate Research Programme of the World Meteorological Society, and the Office of Naval Research Global.**

## **Workshop Agenda** version 5/21/10

### ***Workshop Format:***

The workshop is organized in seven sessions. In the first session, overview talks on science projects and research questions will be provided for each of the major disciplinary areas represented by the workshop participants. Sessions 2-5 will consist of working groups and reports back from the working groups to a plenary session. Session 6 will consist of a series of presentations that synthesize and review the compelling multidisciplinary science that could be addressed with an expanded science network, followed by a discussion with program managers about what aspects of the science and instrumentation needs they view as possibly prospective for funding. In the final session, three reports will be outlined (see workshop outcomes below).

Workshop participants are asked to bring with them information about their research programs, instrumentation needs, educational activities etc. to discuss in the working groups and to ultimately get folded into broader discussions during the plenary sessions about building a multidisciplinary science network. There will be opportunities in the working groups for short (5 min) presentations, so please bring a PowerPoint slide or two to share.

Participants selected to lead a working group (one from the U.S. and one from Africa; see names on agenda below) should be prepared to stimulate vigorous discussion, synthesize results and ideas, and make presentations back to the plenary sessions. If you have been selected to lead a working group and would rather not do this, then please contact Andy Nyblade ([nyblade@psu.edu](mailto:nyblade@psu.edu)) as soon as possible so that we can get someone else to help out. Questions that can be used to guide the working group discussions will be provided to the working group leaders in advance of the workshop.

### ***Workshop Objectives:***

- To obtain community input on key science questions (multidisciplinary and

discipline-specific) that cannot be addressed without new observations from Africa,

- To determine the observational infrastructure needed to provide cross-cutting and discipline-specific data sets for addressing the science questions,
- To explore the intersection and overlap between the observational infrastructure identified above and existing infrastructure within the AfricaArray network,
- To investigate broader impacts, including best options for communicating and disseminating science information to government and non-government organization (NGO) decision-makers and supporting educational activities in Africa and the U.S.

**Workshop Outcomes:**

- A science plan describing the rationale for developing a single instrumentation initiative that addresses the needs of several geoscience disciplines,
- A logistics plan that outlines the observational needs for each science field and indicates how the existing AfricaArray network can be adapted to meet those needs,
- A "broader impacts" plan discussing ways to support science education in Africa and the U.S. and how to effectively provide information to decision-makers in government agencies and NGOs.

**June 2, 2010**

08:30	Dr. Howard Wyche, Provost, Howard University	<i>Opening Remarks</i>
08:40	Greg Jenkins /Andy Nyblade	<i>Overview of workshop goals and outcomes</i>
<b>Session 1: AfricaArray and Multidisciplinary science</b>		
08:50	Andy Nyblade (Penn St. Univ.)	<i>AfricaArray Overview and Seismology</i>
09:25	Fred Semazzi (NC St. Univ.)	<i>Climate science</i>
09:50	Stuart Piketh (Wits Univ.)	<i>Atmospheric science</i>
10:10	Petra Tschakert (Penn St. Univ.)	<i>Human dimensions of climate change</i>
<b>10:40</b>	<b>Break</b>	
11:00	Niall Hanan (Colorado St. Univ.)	<i>Ecology/Carbon cycle</i>
11:25	Hans-Peter Plag (Univ. Nevada Reno)	<i>Geodesy</i>
11:50	Norm Miller (Univ. Cal. Berkeley)	<i>Hydrology</i>
12:15	Pat Doherty (Boston College)	<i>Space weather</i>

**12:40 Lunch**

**Session 2: working groups to identify key science questions**

- |       |                                                                                                                                                                                                                                                                            |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13:30 | Four concurrent groups with leaders identified: 1) <b>atmospheric/climate science</b> - Fuentes, Gaye; 2) <b>geodesy/hydrology/seismology</b> - LaFemina, Ayele; 3) <b>HD climate change/ecology</b> - Smithwick, Folack; 4) <b>space weather</b> - Groves, Olande (Baki). |
| 15:00 | reports back to plenary session from working groups. (20 min for each group + 15 min general discussion time)                                                                                                                                                              |

**16:00 Break**

16:25 reports back to plenary session from working groups. (20 min for each group + 15 min general discussion time)

***Session 3: working groups to identify critical gaps in data coverage and instrumentation needs***

17:00 Four concurrent groups with leaders identified: 1) **atmospheric/climate science** - Schumacher, Ndiaye; 2) **geodesy/hydrology/seismology** - Ebinger, Wonnocott; 3) **HD climate change/ecology** - Hermann, Oludhe; 4) **space weather** - Yizengaw, Obrou.

**18:30 Group Dinner at Howard University Faculty Club**

**June 3, 2010**

***Session 3 continued:***

08:30 reports back to plenary session from working groups. (20 min for each group + 15 min general discussion time)

**10:05 Break**

***Session 4: working groups to identify overlapping instrumentation needs and adapting the AfricaArray network***

10:30 Three concurrent working groups with leaders identified. 1) **western Africa** - Johnson, Tabod; 2) **southern Africa** - Malservisi, Doucoure; 3) **eastern Africa** - Delvaux, Farah.

12:00 reports back to plenary session from working groups. (20 min for each group + 25 min general discussion time)

**12:30 Lunch**

13:40 reports back from the working groups (20 min for each group + 20 min general discussion)

***Session 5: working groups on data management and sharing, and exploring the broader impacts of expanding the AfricaArray network (best options for communicating and disseminating science information to government and NGO decision-makers and supporting educational activities in Africa and the U.S.)***

14:30 Four concurrent working groups with leaders identified. 1) **data management and sharing** - King, Graham; 2) **communicating science information** - Evans, Durrheim; 3) **capacity building in Africa** - van der Meijde, Folorunsho; 4) **education activities in the U.S.** - Bililign, Serpa

16:00 *break*

16:30 reports back to plenary session from working groups. (20 min for each group + 15 min general discussion time)

18:05 **open dinner**

*Group leaders to pull together overview presentations of the workshop results during a working dinner*

## **June 4, 2010**

### *Session 6: Plenary session*

09:00 Overview presentations on science questions.

**1) atmospheric/climate science; 2) geodesy/hydrology/seismology; 3) HD climate change/ecology; 4) space weather** (15 min for each science area) Presenters TBA

10:00 **Discussion with program managers about what aspects of the science they view as possibly prospective for funding**

**10:30 Break**

11:00 Overview presentations on instrumentation needs and adapting the AfricaArray network

**1) atmospheric/climate science; 2) geodesy/hydrology/seismology; 3) HD climate change/ecology; 4) space weather** (15 min for each science area) Presenters TBA

12:00 **Discussion with program managers about what aspects of the infrastructure needs they view as possibly prospective for funding**

**12:30 Lunch**

### *Session 7: Outline reports and writing assignments*

13:30 Science plan

14:30 Instrument plan

15:30 Broader impacts plan

17:00 *Adjourn*

