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# Joint WASCAL-ICTP Hands-on workshop on HPC technology for Climate Sciences | (smr 3689)

## Tuesday 03 May 2022

### Workshop Opening: Relevance of HPC and Climate Modeling - (08:00-10:00)

**Time zone:** You can choose your time zone (in place of Europe/Rome) on the top right of the page and the programme time will be modified accordingly.

time	title	presenter
08:00	Registration	
09:00	Opening Remarks by the Executive Director of WASCAL	
09:30	Opening Remarks by ICTP Senior Coordinator Programmes	RALF KAISER

### **- (10:00-16:00)**

time	title	presenter
10:00	Key-note: Overview of Facilities for Scientific Production Environment in Climate Modeling	
11:00	Coffee Break	
11:30	Key-note: Broad Overview of Scientific Challenges in Climate Modeling	
12:00	Overview of HPC & HPC @ WASCAL	KEHINDE OGUNJOBI
12:30	Overview of HPC & HPC @ ICTP	
13:00	Lunch	
14:00	Overview of HPC & HPC @ SASSCAL	
14:30	Overview of HPC & HPC @ ICPAC	
15:00	Overview of HPC & HPC @ FCFA	
15:30	Overview of HPC & HPC @ ACPC	

# Wednesday 04 May 2022

## **From Desktops Computers to HPC Clusters & Supercomputers - (09:00-11:30)**

time	title	presenter
09:00	Computer Architectures and Programming Paradigms for HPC	IVAN GIROTTTO
10:00	Raking and Building Clusters (+Power and UPS)	JOEL GOGWIM (UNIVERSITY OF JOS, NIGERIA), CLEMENT ONIME (ICTP, ITALY)
11:00	Coffee Break	

## **Key Note Session - (11:30-14:00)**

time	title	presenter
11:30	Speakers Introduction	
11:40	Regional Climate Model	GRAZIANO GIULIANO
12:20	Experience from a Scientists in Installing and Managing a Small HPC Cluster	OMOLOLU AKIN-OJO
13:00	Lunch	

## **- (14:00-16:00)**

time	title	presenter
14:00	Hands-on: Software Environment of HPC, How to Compile, How to Submit Jobs	IVAN GIROTTTO

## **- (14:00-16:00)**

time	title	presenter
14:00	Introduction in Networking (DNS, DHCP, etc...)	KANMI ADEWARA (OBAFEMI AWOLOWO UNIVERSITY, NIGERIA), JOEL GOGWIM (UNIVERSITY OF JOS, NIGERIA)
15:00	Networking for HPC (IPMI, etc..)	CLEMENT ONIME (ICTP, ITALY), KANMI ADEWARA (OBAFEMI AWOLOWO UNIVERSITY, NIGERIA)

# Thursday 05 May 2022

## **HPC Usage and Data Formats for Climate Sciences - (09:00-11:30)**

time	title	presenter
09:00	User management	MARY-JANE SULE
10:00	State-of-art Central Computing Resources at University of Abidjan	ISSA TRAORE
11:00	Coffee Break	

## **Key Note Session - (11:30-14:00)**

time	title	presenter
11:30	Speakers Introduction	
11:40	TBD	SYLLA BAMBA
12:20	Hands-on Lab sessions	
13:00	Lunch	

## **- (14:00-16:00)**

time	title	presenter
14:00	Data Format (HDF5/NETCDF)	GRAZIANO GIULIANI
15:00	Lab on HDF5/NetCDF Format	GRAZIANO GIULIANI

## **- (14:00-16:00)**

time	title	presenter
14:00	HPC Storage	
15:00	File Systems (NFS/parallel File Systems)	

# Friday 06 May 2022

## **notitle - (09:00-14:00)**

time	title	presenter
09:00	Hands-on tutorials for both tracks	
11:00	Coffee Break	
11:30	Hands-on tutorials for both tracks	
12:20	Computational climate science and the installation at DKRZ	THOMAS LUDWIG
13:00	Lunch	

## **- (14:00-15:00)**

time	title	presenter
14:00	RegCM (Tutorial): Components of Real Application for Regional Climate Modeling	GRAZIANO GIULIANI

## **- (14:00-16:00)**

time	title	presenter
14:00	Hands-on: Building Cluster	

# Monday 09 May 2022

## **HPC Best Practices and Data Management - (09:00-11:30)**

time	title	presenter
09:00	Research Data Management (RDM)	
10:00	Bitwise Reproducibility and Machine Learning	THOMAS LUDWIG
11:00	Coffee Break	

## **Key Note Session - (11:30-14:00)**

time	title	presenter
11:30	Speakers Introduction	
11:40	Trends in Data Management for Climate Science3	HANNES THIEMANN
12:20	Seasonal Extreme Precipitation over the United States in Earth System Models: Investigating the Added Value of High Resolution and Super-parameterized E3SM	AKINTOMIDE AKINSMOLA
13:00	Lunch	

## **- (14:00-16:00)**

time	title	presenter
14:00	RegCM (Tutorial): Components of Real Application for Regional Climate Modeling	GRAZIANO GIULIANI

## **- (14:00-16:00)**

time	title	presenter
14:00	Hands-on: Building Cluster	

## Tuesday 10 May 2022

### **Parallel Computing and Monitoring on HPC Facilities & REGCM Tutorial - (09:00-11:30)**

time	title	presenter
09:00	What's New in the AR6 IPCC WGI. The New Dimension of the Regional Based Climate Change Assessment	ERIKA COPPOLA
10:00	Lab sessions	
11:00	Coffee Break	

### **Key Note Session - (11:30-14:00)**

time	title	presenter
11:30	Speakers Introduction	
11:40	Lab sessions	
13:00	Lunch	

### **- (14:00-16:00)**

time	title	presenter
14:00	RegCM (Tutorial): Components of Real Application for Regional Climate Modeling	GRAZIANO GIULIANI

### **- (14:00-16:00)**

time	title	presenter
14:00	Hands-on: Building Cluster	



# Wednesday 11 May 2022

## **Best Practices in Acquisition of HPC Facilities, WRF Tutorial - (09:00-11:30)**

time	title	presenter
09:00	Procurement & Purchase of Equipment: Best Practices	OLAKANMI ADEWARA, JOEL GOGWIN (UNIVERSITY OF JOS, NIGERIA)
10:00	Workshop/Group Discussions on Procurement, Purchasing and Documentation	
11:00	Coffee Break	

## **Key Note Session - (11:30-14:00)**

time	title	presenter
11:30	Speakers Introduction	
11:40	Lab sessions	
12:20	Burkina Faso's National Meteorological Agency	JOEL ZOUNGRANA
13:00	Lunch	

## **- (14:00-16:00)**

time	title	presenter
14:00	RegCM (Tutorial): Components of Real Application for Regional Climate Modeling	WINDMANAGDA SAVADOGO

## **- (14:00-16:00)**

time	title	presenter
14:00	Hands-on: Building Cluster	

# Thursday 12 May 2022

## **notitle - (09:00-11:30)**

time	title	presenter
09:00	Hands-on Tutorials for Both Tracks	
11:00	Coffee Break	

## **notitle - (11:30-14:00)**

time	title	presenter
11:30	Hands-on Tutorials for Both Tracks	
13:00	Lunch	

## **- (14:00-16:00)**

time	title	presenter
14:00	RegCM (Tutorial): Components of Real Application for Regional Climate Modeling	VINCENT AJAYI

## **- (14:00-16:00)**

time	title	presenter
14:00	Hands-on: Building Cluster	

## Friday 13 May 2022

### **Networking and Future Work - (09:00-13:00)**

time	title	presenter
09:00	Discussions on Future Editions and Continuous Collaboration	
09:50	Recommendations for Future Editions and Continuous Collaboration	
10:15	Closing Ceremony	
12:00	Lunch Break	