



Conference on "Role of e-infrastructures for Climate Change Research"

ICTP 16 - 20 May, 2011

co-organized by



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From heat waves across Europe to cold snaps in Delhi and the massive devastation of extreme rainfall across Asia, extreme weather is becoming a global issue which researchers believe is caused by climate change. Research into issues such as monsoon rainfall is now based on simulating models which rely on advanced computing infrastructures (einfrastructures) and high-speed networks. These enable researchers, irrespective of their geographical location, to make swift and accurate calculations and projections based on massive data sets. This has seen the growth of Virtual Research Communities (VRC) from around the world which depend upon policy makers and experts to ensure einfrastructures are interoperable, efficient and work across countries and continents.

With climate change high on the political agenda, the "Conference on the role of e-Infrastructures for Climate Change Research", held in Trieste at the Abdus Salam International Centre for Theoretical Physics (ICTP) 16-20 May 2011, addressed these aspects bringing together scientists, policy makers and international actors to address climate change from scientific, economic and political perspectives. The event was co-organised by 3 EC-funded projects EU-India Grid2, EUMEDGRID-Support and CHAIN which are driving forward collaboration between regional e-Infrastructures; and the Italian Institute of Nuclear Physics (INFN).

Global policies for climate change

The conference program saw the contributions of leading e-Infrastructure initiatives for climate change in Africa, Asia-Pacific, China, Europe, India, Mediterranean Area, Latin America, USA, together with presentations of outstanding scientists in climate research, including the Intergovernmental Panel on Climate Change (IPCC) vice-chair, Prof Van Ypersele. The need for *a worldwide strategy for a worldwide problem* was clearly identified and the role of e-Infrastructures and international cooperation as a key instrument for achieving progress understating climate change impact and possible mitigation strategies.

"Climate change has become a political issue in many national and international debates, but despite the inception of many international programs there is the tendency to use national models and centers" explained Filippo Giorgi of the Abdus Salam ICTP. In order to support the global drive to address climate change issues VRCs require robust and reliable e-Infrastructures. This concern has a special impact in developing countries which are the most vulnerable countries. At times such countries are actors in the climate change debate participating to climate research, while at other times they are simply spectators. According to Professor Philander, Director of African Centre for Climate and Earth System Science, Princeton University, (USA), "Global Warming is elitist and should be democratized in a way that boosts self-esteem".

"The interconnection and interoperability between Europe, Asia and other continents is a *must* for new VRCs that need to collaborate at an international level to address new large scale top-level scientific



challenges such as Climate Change” said Federico Ruggieri, EUMEDGRID-Support and CHAIN projects coordinator.

Projects such as EU-IndiaGrid2 and EUMEDGRIDSsupport are doing exactly this in India and the Mediterranean. “Climate change is one of the flagship applications of the Indian National Knowledge Network with a massive €1 billion Infrastructure program which will run till 2020 recently launched by the Indian Government” said Alberto Masoni, EU-IndiaGrid2 project coordinator.

“Grid Infrastructures in the Mediterranean and Middle-East have the potential to help developing countries in closing the ICT gap empowering a large number of their researchers to actively participate in leading edge scientific challenges such as Climate Change” explains Federico Ruggieri. “A large federation of e-Infrastructures will allow the interconnection with key players in Europe and other continents empowering the research and education communities and investing in local human resources and the next generation.”

About CHAIN, EU-IndiaGrid2 and EUMEDGRID-Support

CHAIN, EU-IndiaGrid2 and EUMEDGRID-Support are Projects approved within the Seventh Framework Program, Research Infrastructures, Directorate General for Information Society and Media of the European Commission. They all support cooperation on e-Infrastructures between Europe and selected regions worldwide for the benefit of scientific communities.

More information is available at the project web sites:

www.chain-project.eu

www.euindiagrid.eu

www.eumedgrid.eu

