



gisela BULLETIN

Grid Initiatives for e-Science virtual
communities in Europe and Latin America



SPECIAL EDITION GISELA-CHAIN CONFERENCE



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THE E-SCIENCE AS A NEW CHALLENGE



giselachain conference

At the entrance to the place that hosted the GISELA-CHAIN Conference a secular speech by the eminent Mexican doctor Ignacio Chavez can be read, in which he encouraged new generations to meet new challenges in science, almost seems that the requirement had been the same for these times: vocation and understand the context to adapt to changes. A clear conclusion derived from this new scenario called e-Science, a subject of discussion of an activity that congregated for three days more than eighty people from around the world.

➔ GISELACHAINMx

The Conference was also followed by a daily average of 100 people through the Web, as well as on Twitter using the hashtag #GISELA-CHAINMx.

The results and related articles/presentations to the different interventions can be found [here](#).

A compilation of related notes can be found in:

- [GridCast](#)
- [GISELA's Blog](#)



From June 27 to 29, the Autonomous University of Mexico hosted a diverse list of people to discuss the progress that has been generated in Europe and Latin America in the field of e-Infrastructures available to science and education. Featured lectures, demonstrations and with different environments and technologies, forms of organizing the use of technologies, successful projects and to be undertaken, and a discussion of political viability for institutional support to the path of Latin America in this field, were the issues made this a transcendent activity.

The GISELA-CHAIN conference was promoted with two objectives: to show profile cases of scientific communities who use e-Infrastructures, and discuss policies and plans for the long-term sustainability of the Advanced Computer Services in Latin America. With great impact in areas of health, environment and climate, discussions of the e-Infrastructure from different approaches led to clear results: the communities are the most efficient form of organization to use the available platform, the technology aims to create user-friendly environments and interoperable with other tools, and Latin America signs her first lines of commitment to continue their way on this issue.



LATIN AMERICA ACTIVATES ITS WAY INTO ADVANCED COMPUTING SERVICES

The GISELA-CHAIN Conference was the appropriate forum to discuss the future of Latin America in advanced computing services. Public authorities, representatives of national networks, researchers and technicians were laying out some possible ideas. A first letter of commitment to support the proposals on the issue was one of the best conclusions of this meeting.

Latin America must move toward the new way of producing knowledge

The Deputy Director of Planning and International Cooperation of CONACYT Mexico warned today at the opening of the GISELA-CHAIN Conference that Latin America should “wake up” in the subject of e-Science and move faster to respond institutionally to this new way of generating Knowledge.



Luis Mier y Terán (Conacyt México): Latin America needs to wake up in the area of e-Science.

The statement was made in the discussion environment generated by the GISELA-CHAIN Conference at the Autonomous University of Mexico, about the e-Infrastructure and its possible uses for the benefit of science and education.

As it is known, the GISELA-CHAIN Conference began today in Mexico City and will be going on until June 29, with discussion sessions about the technical and organizational advances that have been

➔ Mexico, Ecuador and Colombia are committed to e-Science in AL

Mexico, Ecuador and Colombia signed the first regional agreement to continue the operation of the e-Infrastructure in Latin America, in order to make available for research and education advanced computing resources for the benefit of e-Science, impacting and promoting opportunities in strategic sectors of society such as health and environment.

CEDIA, CUDI, RENATA, the National Research and Education Networks of Ecuador, Mexico and Colombia respectively, , as well as Universidad de Los Andes (Uniandes - Colombia) and Universidad Autónoma de México (UNAM - Mexico), are the first institutions that aim to boost cooperation in the search of financial and organizational mechanisms for Latin America to undergo a process of consolidation and sustainability of the e-Infrastructure in the region and encourage its use by the academic communities. The agreement was signed as a result of the GISELA-CHAIN Conference held in Mexico City.





Bernard Marechal (GISELA):
e-Science is not a luxury
but a necessity.

generated in Europe and Latin America in the issue of e-Infrastructures available to science and education.

Bernard Marechal, Coordinator of the Grid Initiatives for e-Science virtual communities in Europe and Latin

America - GISELA- project (primary organizer of the activity), addressed the expectations of the Conference, making emphasis that in addition to assessing the progress of the e-Infrastructure and its use in scientific areas in the region, this event also has the challenge of explaining to decision and policy makers in science and technology of the importance of the subject and its impact on the sector in Latin America. "E-Science is not a luxury but a necessity."

Marechal remembered that the current bet is on the system of academic and research networks in the region, grouped in RedCLARA as key players for the future of e-Science in Latin America, an idea that has been welcomed by the European Commission who is evaluating the transition of the entire accumulated experience in the region for six years in the field with European funding.



Felipe Bracho (UNAM):
We are committed with
collaboration

Felipe Bracho, director of Computing and Information Technology and Communication at the UNAM explained in this context the important role that Mexico had to meet in consolidating academic networks and stressed that UNAM is committed to scientific collaboration in Mexico and the region. "Behind these platforms are networks of people and ultimately it is these people that collaborate", illustrated Bracho to refer to the long road to be traveled to join effectively the new way of doing science.

As we know, for six years the European Community funded the training process and development of the e-Infrastructure based on Grid technology, which allows the use of distributed resources to speed-up scientific research. The GISELA project is the latest phase of this process and focuses on the moment for transferring technical and organizational knowledge to Latin America. In this sense, the agreement signed by Mexico, Ecuador and Colombia is formally a political commitment to ensure the sustainability of this regional initiative, adapted to the particular context of Latin America.

The role of Mexico, one of the leading countries of the region on the subject of academic networks, is in this regard to guide the consolidation of the e-Infrastructure in Latin America. Salma Jalife, CUDI's network representative, acknowledged the Conference GISELA-CHAIN as an activity of great importance, since it has been recognized worldwide by the various initiatives carried out in the field, but also the debate has landed on the concept sustainability of these services, in which national research and education networks play a vital role. "During this period of six years, Mexico has been a major beneficiary, we have developed an infrastructure and unified around the issue, with the network partners. This national awareness will allow us to be an arm that could encourage similar developments in the



Salma Jalife: Mexico will be a driving arm.

region, such as in the case of Mesoamerica to address critical issues as Risk and Disaster Prevention, using the platform available. "



For its part, Ecuador starts a leading role in this phase, recognizing a clear commitment to collaborate in the creation of mechanisms for sustainability of the new processes.

“The e-infrastructure involves machines, but beyond that, we must keep integrated the human resources trained for six years and strengthen the regional technically support for this platform. We also need the networks to generate awareness of the need and use of these technologies and have the support of universities. “

CEDIA Network has put in place a platform of 100

cores available for research in Ecuador and makes efforts to integrate the universities in this new phase of scientific production.

It is hoped that other regional national networks integrated the agreement that seeks to continue the work done by the GISELA project and, consequently, strengthen the organization of Latin America around the e-Infrastructure and e-Science.



Villie Morocho: we need the support of the Universities.

CUDI, RENATA, Uniandes, CEDIA and UNAM signed the first declaration of commitment in the region.



Costa Rica joins the declaration to support e-infrastructure in Latin America

Costa Rica joined the Declaration for the Sustainability of the Grid and Advanced Computing e-Infrastructure for e-Science in Latin America, a regional agreement originally signed by Mexico, Ecuador and Colombia in the context of the recent GISELA-CHAIN Conference to give continuity to the regional operation and make available for research and education advanced computing resources.

The incorporation of the new country was signed by Alvaro de la Ossa, on behalf of the Research and Education Network for E-science and E-education National of the Council of Rectors in Costa Rica (RedCONARE), during the 2nd Conference of Directors of Communication and Information Technologies of Higher Education Institutions, held in Lima July 2nd and 3rd.

It is hoped that new countries will keep adding to this important declaration that seeks sustainability of advanced computing services in Latin America.



Sostenibilidad de la e-Infraestructura de Grid y Cómputo Avanzado para la e-Ciencia en América Latina

Declaración

Conscientes que el Proyecto GISELA concluye el 31 de agosto de 2012, los representantes de las Redes Nacionales de Investigación y Educación (RNEIs) y RedCLARA presentes en la Conferencia GISELA-CHAIN celebrada en la ciudad de México, los días 27 al 29 de junio de 2012 reconocemos la importancia de dar continuidad a la e-infraestructura que se ha consolidado en los últimos seis años, con los proyectos EELA, EELA-2 y GISELA, como plataforma para el desarrollo de aplicaciones de e-Ciencia que requieren servicios de grid y cómputo avanzado.

Las RNEIs de Ecuador (CEDIA), México (CUDI) y Colombia (RENATA) se comprometen a buscar los recursos financieros para dar continuidad a la operación de la e-infraestructura en América Latina, que ha sido comprometida por las diferentes instituciones participantes en GISELA. Esto con el fin de poner a disposición de la investigación y la educación los recursos de cómputo avanzado y las redes de transporte en beneficio de la e-Ciencia que a su vez se manifieste en mejorar la calidad de vida de los pobladores de la región.

Para ello, en los meses de julio y agosto se intensificarán los trabajos del equipo de transición de CLARA (CLARA TT) quien coordinará con CEDIA, CUDI y RENATA el mecanismo de cambio de liderazgo y la nueva estructura que dará continuidad al proyecto GISELA y que buscará sumar esfuerzos con otras iniciativas regionales para fortalecer una organización latinoamericana de e-Infraestructura para la e-Ciencia.

México, D.F. a 29 de junio de 2012.

Por Ecuador

CEDIA

Por México

CUDI

UNAM

Por Colombia

RENATA

UNIANDES

THE E-SCIENCE FOR THE BENEFIT OF HUMANITY

During the conference, demonstrations on the use of the e-Infrastructure for the benefit of areas such as medicine and earth sciences stimulated the idea of a platform that could streamline processes and achieve faster results obtained in a collaborative way in cases such as the detection disease and early warning of earthquakes, hospital care units and centres for risk and disaster prevention are looking seriously at this possibilities.



Alberto Redolfi: we can improve research on prevention of diseases like Alzheimer.

The Google for Brain Imaging

The turn is up for biomedicine in the data tide that invades science. The Editorial of the February 2011 Nature Medicine Journal refers to the joint statement of 17 funding agencies calling for biomedical researchers to openly share data. This means more collaboration, but also new technologies that should help with this idea.

Alberto Redolfi, keynote speaker at the GISELA-CHAIN Conference, is enthusiastic about the possibilities that this approach may provide to physicians in terms of innovative mechanisms for the diagnosis of diseases, benefiting clinical decision making.

Around what Redolfi called the google for medical imaging of the brain, handled by sophisticated and demanding computational algorithms, various initiatives have started in Europe with research communities and different technological platforms to manage distributed resources. Apparently, this is a gold mine, if a single virtual laboratory can be integrated with large medical image data of great interest to neuroscience, in which researchers could access, through a common web, images, clinical variables and statistical tools. This trend could precipitate collaborative solutions with major social impact, such as the prevention of Alzheimer's disease. And behind all this, the Grid infrastructure to manage distributed resources gets the glory. Redolfi does not reject the idea of replicating this option in Latin America.



Collaborative work could speed up Alzheimer's prevention

[View Article](#)



Modeling the past climate to improve the future

Recognizing that to predict the future, nothing better than revisiting the past, Phillipe Navaux presented at the [GISELA-CHAIN Conference](#) the idea of a data repository with the climate activity of the last ten years in Brazil, Argentina, Peru and Uruguay. The idea is supported in the draft GBRAMS AMSUD project seeking to create tools for large-scale weather computing in this part of the region.

The LAGClima application and the creation of a computational Grid are the objectives of this collaboration generated between universities of the involved countries, together with France. The project uses the BRAMS application, an open software developed in Brazil to model weather conditions, inspired in RAMS (Regional Atmospheric Modeling), created in Colorado, USA. "We must build capacity to use local tools and methodologies," said Navaux.

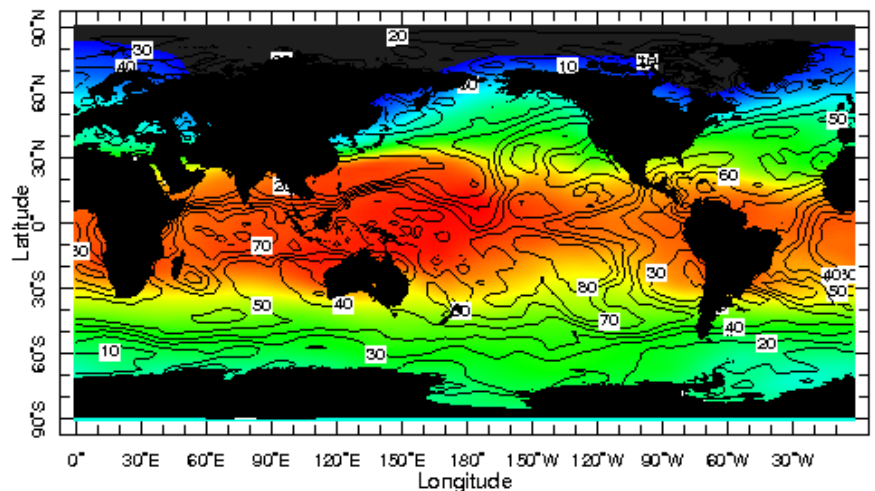


Phillipe Navaux: we must build capacity to use local tools and methodologies.

The initiative would record a series of important data for studies of hydrology, weather predictions, predict natural disasters and other activities favorable to agriculture and urban development in the midst of a potential international network of specialists in this field.

The involved countries have already created the Grid for these purposes. Navaux said to be open to integrate efforts with the GISELA Project and the new Science Gateway environment for access to data derived from this project as well as other possibilities for working together. "We have common objectives."

These works help weather prediction and natural disaster prevention



Pressure 300. mb Time Jan 1990

[View presentation](#)



A contribution in the fight against Breast Cancer

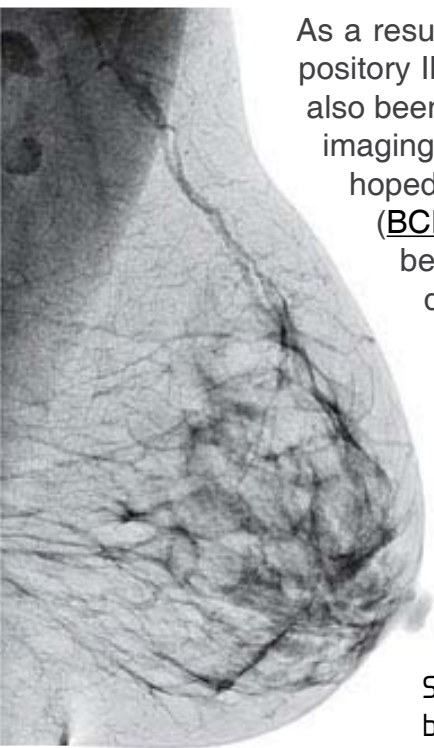
Guillermo Diaz presented an experience in the development of new methods and tools for assisted diagnosis of breast cancer, a project involving researchers from the Faculty of Medicine, University of Porto (FMUP), the Institute of Mechanical Engineering and Industrial Management University of Porto (INEGI), and the Extremadura Center for Advanced Technologies (CETA-CIEMAT).

These methods help physicians dedicated to detect breast cancer, offering them a second opinion to confirm the diagnosis, thereby facilitating the identification of breast cancers at earlier stages of its formation and thereby increasing the chances of full recovery of patients. The intensive use of the e-Infrastructures provided by CETA-CIEMAT facilitates the exploration of classifiers, which has allowed the development of assisted classification methods with the highest degree of accuracy.



Guillermo Díaz: assisted classification methods are provided for greater accuracy.

As a result of this project the first fully annotated repository Iberian of breast cancer patients' cases has also been created, including digital content (different imaging modalities) and associated metadata. It is hoped for the digital repository of breast cancer ([BCDR - Breast Cancer Digital Repository](#)) to become a reference tool for medical students, doctors, researchers and technical staff involved in the study and diagnosis of breast cancer in Latin America and the world.



Support for physicians in early breast cancer detection

[View Article](#)



These and other conferences of interest to the field of seismology, astrophysics, climatology, middleware and technical developments are available [here](#).

*PRESENTING THE NEW SCIENCE GATEWAY

The GISELA Science Gateway was presented at the Conference with a new face and a more pleasant site that houses scientific applications. This new graphical version, proposed by María Eugenia Hernández, Ysabel Briceño and Rodrigo Torrens (ULA, Venezuela), looks to bring together elements of identification of user with Latin America, suggesting clear paths for using tools and progressive services. The visual organization was associated with the GISELA and RedCLARA image, main drivers of this initiative.

The new graphical approach was implemented by Rita Ricceri (INFN, Italy), along with Rodrigo Torrens, in a process of training and knowledge transfer on Liferay, the content management system that supports the GISELA Science Gateway.



The old GSG



The new GSG

*A FIRST CLASS TEAM

The GISELA-CHAIN Conference had a great team, who was in charge of all the logistical details linked to this international event. Philippe Gavillet (CERN) and Herbert Hoeger (ULA, Venezuela) handled flawlessly the overall coordination. Jesus Cruz (UNAM), head of the organizing team, efficiently managed local conditions to enable participants to enjoy a comfortable space with all the conditions at hand. Guillermo Rodriguez, Elizabeth Silva and his boys/girl formed an excellent protocol and on-site support team. And Mari Carmen Hernandez with the communication staff of DGTIC UNAM,

did an excellent job of supporting the dissemination and local image design of the activity. From the technical side, to the food tasting a very comfortable environment was provided for the event. To all, thanks for the contribution to the success of the Conference.



*THE ASSESSMENT OF THE CONFERENCE

Federico Ruggieri closed the conference with a full report on the outcome of this three day prominent activity highlighting keywords: Science Gateway, Sustainability, Infrastructure, Applications and Users.

- The Science Gateway was seen as an environment of easy access by non-experts in Grid, interoperable with different infrastructures, aiming to improve the usability and services.
- The regional advantages that could be integrated into the High Performance Computing under a collaborative concept were reviewed.
- The policies and compatibility on issues such as data repositories and long-term preservation of information, and the issue of Identity Federation is part of the issues to address.
- As immediate projects to ensure continuity of the infrastructure and use in Latin America, distinguished: **Mesoamerica**, considered the pioneer project initially directed to Central America, with the potential to expand; **ELCIRA** - mainly for the networks with possibilities of cooperation between the European Union and Latin America, and **CHAIN**, as possible support in the area of regional infrastructure.



Federico Ruggieri: showed the assessment of the conference



Organizing Committee

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Herbert Hoeger (Co-Chair)
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Jesus Cruz Guzman (Co-Chair)
Luis Nuñez

Philippe Gavillet
Ramon Diacovo
Roberto Barbera
Salma Jalife
Ysabel Briceño

Local Committee

Elizabeth Silva
Guillermo Rodriguez
Jesus Cruz Guzman
Salma Jalife

giSela

tailored to the needs of Latin America

A large amount of computers and storage provided by the project partners, is now available for groups of scientists working on problems that demand high quantities of computing resources, that without this e-infrastructure would be difficult to solve.

<http://www.gisela-grid.eu/> 