

# DECLARA

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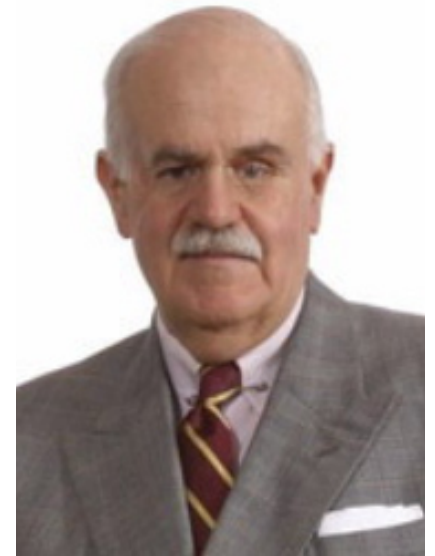
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## Editorial



**Carlos Casaus**  
President of CLARA,  
Executive Director of  
Cudi (Mexico)

Dear Colleagues,

I take on the Presidency of the CLARA Council with great enthusiasm. As you know, we are at the beginning of a new stage in the construction of the Latin American network which we are committed to build as member countries of our Association. CLARA has already taken over the administration, operation and maintenance of RedCLARA, after receiving responsibilities from DANTE, our European friends who were in charge of it during the project's early years.

In this new stage we will seek to strengthen the integration of research communities which generate high-impact applications for the region and to consolidate a strong infrastructure, featuring sections with our own fiber, which make it possible to increase the bandwidths available and reduce operation costs in the long run.

As part of the new network infrastructure we will expand the connection between RedCLARA and the European network GÉANT2, which will encourage a greater

number of projects between Latin America and Europe. We will also encourage the incorporation of Latin American countries not yet connected such as Bolivia, Costa Rica, Cuba, Honduras, Nicaragua and Paraguay. With the participation of the entire region we hope to develop promotion and training activities, in order to ensure that RedCLARA has an impact on the way education and research tasks are carried out in our continent.

I want to share with you the fact that RedCLARA will be also influencing the achievement of the Millennium Objectives in Latin America, by bringing broadband connectivity for education and health to those areas which are highly excluded and where tele-education and tele-health can make a big difference.

In Mexico, the University Corporation for Internet Development (CUDI) is working with the e-Mexico National System (SNeM), an agency dependent on the Communications and Transport Secretariat, in charge of the country's digital agenda, to develop a network with nation-wide coverage which makes it possible to connect all primary education centres and hospitals and health centres in the country. This effort will be based on the installation of state networks for education and health based on the WiMax technology which, using the telecommunication infrastructures of universities and of state governments plus CUDI's backbone, are able to provide broadband connectivity at a fraction of the cost currently available in the Mexican market.

The University Juárez Autónoma in Tabasco (UJAT), a member of CUDI, is one of the first universities in showing this new strategy for social coverage. UJAT connects its nine remote campuses by means of high-quality microwave links and has a high-bandwidth link to the CUDI network and the CLARA network.

A WiMax cell will be installed on each tower of its infrastructure, which makes it possible to provide connectivity for hospitals, schools, research centres, governmental offices and community centres located more than 20 kilometres from each location. By using only nine towers we can reach 70% of the almost 4,000 state schools.

Recently the Mexican government has allocated at no cost a 3.3 Mhz frequency band for the project. Additionally, it will allow CUDI to use capacity over the optical fibre of the Federal Commission on Electricity, which will enable Mexico to have a backbone of up to 10 Gbps between the country's main cities.

The Public Education Agency has announced its intention of connecting 200,000 education centres by means of this infrastructure over the next four years.

We are certain that projects like this one will be soon multiplied in our region and will pay off with concrete results the efforts made by all of us in order to improve connectivity in our countries.

## Programme for Fostering the Use of the Advanced Networks in Latin America for the Development of Science, Technology and Innovation

# Great opportunity for e-Science in the region

It has been under execution for only three months and it is already being talked about. It is the (OAS – FEMCIDI) e-Science project which is bringing together researchers, academics and coordinators from all our network in order to work hand in hand in favour of one great objective: to encourage the development of e-Science in our continent. If you are not aware of what we are talking about, get an update and take notes so that you can become part of this transcendental step.

Maria Alejandra Lantadilla Budinich

Wednesday May 12 must be marked off on the calendar as a historical day for our continent, since on that morning the Directing Board of the Inter American Agency for Cooperation and Development (AICD) approved the project called “Programme for Fostering the Use of the Advanced Networks in Latin America for the Development of Science, Technology and Innovation”, which was presented 8 months earlier to the Multilateral Special Fund of the Inter American Council for Integral Development (FEMCIDI).

This project, which will receive about US\$ 150,000 for its first year of execution, aims to reduce the existing divide in the promotion of e-Science in Latin America. But, what do we mean by e-Science? This small 8-letter hyphenated word refers to the set of scientific activities developed by means of the use of resources distributed all over the globe through internet.

Although we already have a suitable infrastructure for collaboration and e-Science development in our continent (we are obviously talking about RedCLARA), the actions currently underway on that infrastructure are still scarce. The reasons behind this anomaly are varied and include the lack of articulation and dialogue between researchers, a low amount of critical mass and the lack of awareness in relation to advanced academic networks, its use and applications. Therefore, the challenges are great and the road to follow is a tough one if we want to reach an optimal competitiveness level in science and technology for the region.

Within this context, the project launched in May 2008 aims to improve e-Science activities in the areas of science and technology; in order to do this, various activities have been organised, in which we expect significant participation

and strong adherence from Latin American NRENs (National Research and Education Networks), viewed as e-Science development focus.

Among the activities mentioned, we highlight the development of a **Strategic Agenda** for e-Science, which articulates and orients the countries’ efforts along these lines. This process has been already closed and now they are working on its execution parallel to this, it was possible to answer, until August 8th, the first round of the Delphi Poll on e-Science in Latin America, which aims to identify priorities and strategic lines for the development of e-Science in the region. If you did not apply in time, do not worry because there will be a second round between 8 - 26 September 2008 for those who wish to participate.

On the other hand, there will be **work networks** in various disciplinary areas, where advanced networks’ potentialities will be used as a tool for their activities. Registration and call for the conformation and strengthening of Work Groups on e-Science Areas; is open until October 31; and if you are interested in participating in the training on advanced networks for work groups, this call is open until May 31, 2009.

The goals of the project include the improvement of the skills of a **wide group of researchers for the formulation of competitive projects** using advanced networks. To do this, a training plan will be designed and developed - until October 31 - which will be implemented later.

A fourth strand of work features the construction of an **information and collaboration system for e-Science in Latin America**, which is intended to fulfil a long-time and

deeply felt need in relation to the lack of information and visibility of the region's scientific activities, as well as the difficulties to articulate work networks.

The (OAS - FEMCIDI) project is being executed by the Latin American Cooperation of Advanced Networks (CLARA), in conjunction with its thirteen associate national academic networks, which altogether involve more than 600 universities, research institutes, laboratories, and non-governmental organisations devoted to science.

The great goal is to have partly covered the gaps currently existing, the very same which hamper the advance of e-Science. Certainly, once the initiative has finished, the scientific community, brought together through the networks that have been strengthened over the last few years with the arrival of RedCLARA and its connection to it (let us remember that this resulted in the creation of several NREN within the Latin American context), will keep on undertaking new actions for the tremendous challenge implied in the development of e-Science in our continent.

CLARA is inviting you once more to take part in this great opportunity to make history and to do this the voices of some of its protagonists become crucial. We asked the directors of the NREN connected to RedCLARA about the importance they attribute to e-Science and its development in Latin America, and these were their answers:

**Carlos Monsalve, Director of CEDIA (Ecuador)**

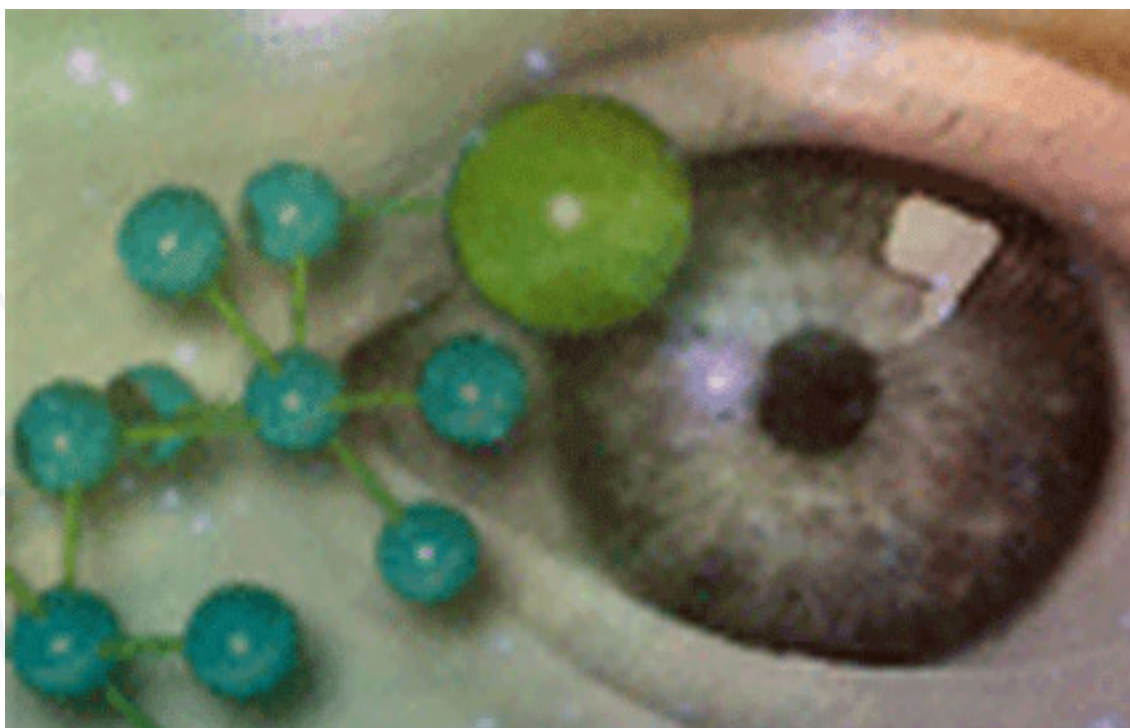
“Firstly, raising awareness about the importance of developing e-Science in Latin America promotes in all possible senses the collaboration between geographically dispersed researchers. This is already important on its own, since it helps develop a culture in which research cannot be isolated and in which it is possible to share resources while making it more efficient. On the other hand, if Latin America wants to bridge the Science and Technology divide as compared with further developed continents, researchers must get increasingly more involved in e-Science projects.

As a consequence of this involvement there may follow the expansion of the researcher's peers network, the access to resources that were unthinkable until recently, as well as access to sources of funding which would be otherwise hidden”.

**Rafeal Ibarra, Director of RAICES (El Salvador)**

“It is often said that education is the key to encourage a nation's development. It is also often said that research and the strengthening of scientific and technological activities of one community can have a positive impact on their quality of life.

“e-Science, understood as the realisation of scientific actions and projects supported by the electronic devices and communication available at world level, expands and facilitates the materialisation of that original promise, by



bringing researchers from various disciplines together to collaborate in situations, environments and contexts which are geographically distant, but share hopes and objectives. This is the relevance of the development of e-Science in our Latin American region”.

**Darío Solís, Director of RedCYT (Panama)**

In my opinion, e-Science is a fundamental tool to develop and consolidate scientific-technological capacities in distributed computing in Latin America in areas of great importance, due to their huge potential and relevance within

a globalised world. The development of capacities in the most advanced technologies of e-Science is something that takes time and network collaboration enables us to quickly contact advanced partners and also to consolidate our resources in terms of teamwork, specialised personnel and software, so as to catapult us to new scenarios which would otherwise remain outside our reach for an even longer time”.

### Joaquín Guerrero, Director of RAAP (Peru)

“e-Science is collaborative work and use of geographically decentralised resources by means of the intensive use of communication networks, mainly of those called “advanced networks”, like CLARA. This fact turns it into a scientific development driver, with all the corresponding benefits that this implies.

“Most Latin American countries do not provide constant support in the field of scientific research, mainly because of the lack of academic and research networks which was a reality until recently. Today this network is available for all scientists in the region, but there is not full awareness yet about how to properly exploit it.

“The regional development of e-Science will reduce the gaps that separate the most productive countries from those with less activity on this subject; the result will be the homogenisation of the region’s scientific productivity capacity and the integration motivated by common interests dealt with under the same conditions”.

### Paola Arellano, Executive Director of REUNA (Chile)

“From the point of view of REUNA, this new way of doing science, where collaboration is the key element, must now be implemented in the country. This is why, together with our partners, we have set ourselves a mandate to coordinate the actions in order to materialise a National e-Science

Programme, knowing that this will have a positive impact on the advance of knowledge, industry and therefore, of society.

“It is no longer a mystery to anyone that e-Infrastructures for e-Science and its development facilitate and encourage collaboration between research groups through the efficient use of centres and/or resources, as well as the emergence of new modalities to share knowledge; both facts will evidently result in a new thrust to technology and the development of research at all levels, which will enable the opening of new markets and new forms of interaction and collaboration.

“Since 2006 REUNA has been moving forward along the lines of e-Science and we are certain that walking along this path together with our Latin American peers represents an step forward in terms of development and innovation at regional level”.

For enquiries on the calls please visit:

[http://www.redclara.net/index.php?option=com\\_content  
&task=view&id=130&Itemid=192](http://www.redclara.net/index.php?option=com_content&task=view&id=130&Itemid=192)

For further information on the project, visit:

[http://www.redclara.net/index.php?option=com\\_content  
&task=view&id=128&Itemid=188&lang=en](http://www.redclara.net/index.php?option=com_content&task=view&id=128&Itemid=188&lang=en)

## CLARA and RedCLARA receive great political support

Since April 2006, when in her closure speech at the Europe-Latin America and the Caribbean Ministerial Forum on the Information Society (ALCUE), held in Lisbon, the European Union Commissioner for the Information Society, Vivian Reding, highlighted RedCLARA as a “great success history of the summit” in terms of cooperation between Europe and Latin America on Information Society issues, stating that this initiative must “be highlighted, continued and expanded”, political and governmental support towards Latin America’s Advanced Network has increased in quantity and intensity. This year has been particularly intense in this sense and everything seems to indicate that the Ministers of Science and Technology from Central and South America are determined to protect the development framework offered by RedCLARA in that area and in Education.

María José López Pourailly

Back in February 2008, signs of support towards CLARA and RedCLARA from officials from the ministries of Science and Technology, Education and other related areas, started to become evident. Gathered at the 2nd Ministerial Conference on the Information Society Elac2007, held in San Salvador (El Salvador) between February 6-8, they included in the document called “San Salvador Commitment” ([http://www.eclac.org/socinfo/noticias/noticias/2/32362/2008-1-TICs-Compromiso\\_de\\_San\\_Salvador.pdf](http://www.eclac.org/socinfo/noticias/noticias/2/32362/2008-1-TICs-Compromiso_de_San_Salvador.pdf)) the following paragraph:

“We highlight with special attention the good results and strategic importance of the @LIS and RedCLARA initiatives for the development of national knowledge networks between the countries in the region and we decidedly support the strengthening and continuity of the @LIS programme and RedCLARA, as well as the extension of the interregional cooperation towards the Caribbean by means of C@rubNET;” (Page 2, paragraph 5).

The same document indicated that “The second Ministerial Conference on the Information Society in Latin America and the Caribbean is glad to express its satisfaction because of the support provided by the European Commission to eLAC and asks the Salvadorian Government to transmit this to the fifth Summit of Heads of State and Government from Latin America and the Caribbean and the European Union, which will be held in Lima in the following May.”.

And on May 15-17, the message sent by the ministers gathered in February in El Salvador, reached the officials present at the 5th ALC-UE Summit, held in Lima (Peru). This meeting ended with the signing of the “Lima Declaration” ([http://www.vcumbrealcue.org/downloads/declaracion/declaracion\\_lima.pdf](http://www.vcumbrealcue.org/downloads/declaracion/declaracion_lima.pdf)), which in Section



25, sixth point, highlights the intention of Heads of State and Government from Latin America, the Caribbean and Europe of expanding the interconnection between RedCLARA, GÉANT (Pan-European Advanced Network) and CKLN (Advanced Academic Network from the Caribbean):

“To promote the use of information and communication technology to facilitate new opportunities of employment, better education and access to health services. Within this context we will develop the communications infrastructure in order to bridge the digital divide under programmes like @lis, and will expand the interconnection between the CLARA, GÉANT and CKLN networks”.

At the beginning of the second semester, Florencio Utreras, Executive Director of CLARA, participated in the Preparation Meeting for the Second Meeting for Ministers and Senior Officials of Science and Technology within the context of CIDI (Inter American Council for Integral Development), organized by the Organisation of American States (OAS). One of the results of this activity, held in Washington (USA) on July 29-30, was the document called Consultation with the Civil Society on the Second Meeting for Ministers and Senior Officials of Science and Technology within the context of CIDI ([http://scm.oas.org/doc\\_public/SPANISH/HIST\\_08/CIDI02231s02.doc](http://scm.oas.org/doc_public/SPANISH/HIST_08/CIDI02231s02.doc)). This document mentioned RedCLARA in its sixth recommendation:

“6. To strengthen advanced academic networks as ICT infrastructure that favours regional collaboration (RedCLARA)”.

This suggestion of open support towards the Latin American network will reach ministers and secretaries of state summoned to participate in the 2nd Meeting for Ministers and Senior Officials of Science and Technology, which will be held on October 27-28 in Mexico City, Mexico. This is an opportunity that will have to be exploited by the National Research and Education Networks (NREN) that are members of CLARA and are connected to RedCLARA in order to get the recommendation to take on the form of a regional ministerial commitment, so as to ensure not only RedCLARA's development and sustainability in time, but also that of their own national networks.



During May and June

## Rio de Janeiro hosted the CLARA-TEC and CLARA meetings

The CLARA-TEC meeting was held on May 24th and 25th in Rio de Janeiro. The meeting was a great opportunity for work group (WG) technical representatives from the Network Engineering Group's (NEG) and the Network Operations Centre (NOC) of RedCLARA to discuss the technical advances and future courses of action.

A month later, between June 23rd and 27th, the Brazilian city once again brought CLARA members together. This time it was the chance for senior staff from the National Research and Education Networks belonging to it to review the advances of ongoing projects and the ALICE2 Project proposal.

RNP Press Room and Maria José López Pourailly

In December 2007, within the context of the ALICE meeting held in Panama City, Nelson Simões, Executive Director of the Brazilian National Research and Education Network (RNP), indicated that thanks to the commitment of his country's government towards the ALICE project and RedCLARA -which resulted in a significant financial contribution- RNP will fund during 2008 the organisation of two CLARA meetings (both aimed at technicians and Assembly members) in Brazil; on that occasion the first meeting was scheduled for June. And 2008 came and Simões' promise was fulfilled a month ahead of the scheduled date. Why? Well, RNP was holding its 9th Workshop on May 26th and 27th, and the occasion was perfect to offer technicians from networks associated to CLARA the possibility of staying longer in order to benefit from the contents that would be addressed by the most outstanding leaders and engineers from world advanced academic networks.

### May: CLARA-TEC

The CLARA-TEC meetings are held every semester. This was the second time that Rio de Janeiro hosted one of these events; in 2004 the city was the place chosen to hold the first of these meetings which also marked the launch of RedCLARA. RNP -Brazil's NREN- had an outstanding participation in the event's programming. RNP's Director of Innovation and member of CLARA's Technical Commission, Michael Stanton, was in charge of the opening of the latest meeting. After a brief retrospective of previous meetings, he talked about the current state of the ALICE Project (Latin

America Interconnected with Europe), which was completed this year, and about the preparations for ALICE2. At the end of the event's first day, Stanton made a presentation on hybrid networks.

Other representatives from RNP's Innovation Management also participated in the CLARA-TEC meeting. Iara Machado talked about the current work groups (WG) made up of CLARA members and about the Training WG she is leading. Noemi Rodríguez made a presentation on Authentication and Authorisation Infrastructure, one of RNP's new experimental services. In the same way, the also experimental Ipê Network's monitoring service (Monipê) was presented at the event by its representative, Augusto Suruagy.

The RNP services that have already gone beyond the experimental stage and are today part of the portfolio offered to the organisation's user institutions, were also presented. Paulo Agiar, from the UFRJ Electronic Computing Cluster, spoke about the VoIP platform, developed by a RNP WG coordinated by him (VoIP-WG), which developed the fone@RNP. Regina de Melo, from the Video Laboratory of Sao Paulo University, presented the video platform developed by the Video Administration WG, which is coordinated by her.

RNP's Engineering and Operations Centre (CEO) participated in CLARA-TEC through two presentations. The first, made by Alex Moura, who talked about its main activities and provided some figures. Eriko Porto, RedCLARA's



Network Engineer and member of the same organisation's NEG, showed RedCLARA's main connections with international academic networks and discussed the current scenario of the connections from education and research networks in Latin America.

Claudia Inostroza, responsible for RedCLARA's Network Operations Centre (NOC), which as of the present year is dependant on REUNA (Chilean NREN), discussed the activities carried out during the first month of operations of the new NOC (the same that used to depend on the Mexican NREN, Cudi) as well as the commitments in relation to the network's monitoring, the retrieval of traffic volume by interfaces and equipment resources (CPU, RAM), the requirements system and the blog, and the information regarding latencies and losses in RedCLARA's links; as for the longer run, she talked about the implementation of a network's sensitive map (Weathermap), Netflow, Perfsonar and the development of a network's equipment inventory.

RNP's Education Communitarian Networks initiative (Redcomep) was also presented during the event. Ney Castro, from RNP, made a presentation on the most important aspects of the installation of metropolitan optical networks. Well-know sectors of RNP, such as Information Technology (STI -represented by Jean Faustino), and the Security Incidents Attention Centre (CAIS -represented by Liliana Solha) were also presented, thus showing the main activities of their respective sectors.



The CLARA-TEC meeting featured presentations from researchers and representatives from other education and research networks like Artur Serra, from IZCAT, among others.

To see the full programme of the CLARA-TEC meeting and the presentations made by each CLARA-TEC-WG,

please go to: <http://indico.rnp.br/conferenceOtherViews.py?view=clara&confId=41>

## June: CLARA

The Directors of the National Research and Education Networks belonging to CLARA gathered from June 23rd to 27th in order to review the advances and commitments in relation to the projects currently being developed in CLARA and the formulation of the ALICE2 proposal, which aims to lead CLARA to a second stage of development.

Ana Cecilia Osorio, consultant in charge of the (OAS-FEMCIDI) e-Science project -“Programme for the Promotion of the Use of Advanced Networks in Latin America for the Development of Science, Technology and Innovation” (started in May)- explained each of the project's details and the related consultancies and studies that will be developed, and answered questions from those present in relation to each stage of the initiative's development process. A special emphasis was made on the conduction of the Regional Dialogues on e-Science in Latin America and the Validation of the Strategic Agenda for e-Science in Latin America, to be held on November 5th - 7th in Lima (Peru).

Rocío Cos, CLARA's Project Manager, had to provide information on the management and the different activities which are being carried out as part of the BID project - “Strengthening of Regional Advanced Academic Networks through CLARA as a Regional Public Asset”. The process of hiring consultancies and its results were key aspects of this session, which was followed by the launch of the paper on Marketing developed as part of the same project by the consultant Javier Bazo (Argentina). Bazo offered a supportive scenario, although not free from complications implied by the installation of marketing lines in NREN and CLARA, in terms of the increase of knowledge in these institutions and the potentialities of the services which networks they operate provide for the development of science, technology, education and research in Latin America.

And since we have mentioned the services offered by the NREN and CLARA, the consultant María Mercedes Zaghi, who is developing the Services Plan of the BID project, explained the wide range of services she could identify in each of the NREN belonging to CLARA and, after explaining how these were systematised and grouped she devoted her time to the validation process for these services.

Carmen Gloria Labbé, who has been involved since 2006 to the development of projects in CLARA, was in charge of presenting the advances of the Training on Management Plan, which is implemented within the context of BID project for Regional Public Assets. Her session also featured the Curriculum analysis and a brief development of case studies.

Finally, always within the context of the “Strengthening of Regional Advanced Academic Networks through CLARA as a Regional Public Asset” project, the external consultant Leonardo Pineda conducted a session aimed at the validation of CLARA’s Strategic Plan. During this activity, CLARA partners devoted their time to reformulate the vision and mission of the Latin American Cooperation of Advanced Networks, which were written not only with the participation of each of the NREN directors, but also with the participation of the entire CLARA work team.

As for the work meeting about the then still under formulation ALICE2 Project, CLARA’s Executive Director, Florencio Utreras, offered a report, which was followed by the presentation of reports by the groups in charge of each of the work packages (WP) which are part of the project, namely:

- WP2: Purchases
- WP3: Public Relations and Promotion
- WP4: Network Technology
- WP5: Marketing and Services

- WP6: Applications Promotion
- WP7: Sustainability
- WP8: Regional Coverage
- WP9: Human Resources Development

After the WP presentations, Utreras, together with Mark Urban, CLARA’s Head of Administration and Finance, explained the ALICE2 budget and what it will imply in terms of counterpart funds from the European Commission -in case the proposal is approved- which will have to be provided by the CLARA partners.

The CLARA Assembly was held on Friday 27th, and it was a meeting with exclusive access for partners of the institution.

The next CLARA meetings will be held in Rio de Janeiro in November under the sponsorship of RNP.



Guayaquil - Ecuador, 8-11 December 2008

# First Regional Workshop on Climate Monitoring and Analysis of Climate Variability: Implementation of Climate Watch Systems in the South American Region (WMO RA-III)

Can you really say that you have never ever heard about “Global Warming”? Of course not; actually, global warming, and talking about it, happens to be in vogue. Unfortunately, it is not a fashion like mini-skirts or red leather pants, it is not a wash and ware fashion, it is a reality, and not a pleasant one: the world is in danger and the Earth cannot yell “fire, fire!”, because this heat cannot be washed down with water... the water is starting its boiling process. Of course this metaphor does not serve much to give an accurate picture of the situation, it barely works as a poor “cartoon” of the current state of the planet, but there are Climate and Environment experts in the world that are committed to finding a way to stop this global disaster. And it’s those experts that will meet in the Gustavo Galindo Campus of the Escuela Superior Politécnica del Litoral (ESPOL), in Guayaquil (Ecuador) from December 8th to 11th, to address the need for climate monitoring in the South American region.

María José López Pourailly

In the evening of August 26th, I googled “Global Warming” and I got approximately 55.500.000 hits in just 0,18 seconds. Then I repeated the exercise, this time in Spanish, “Calentamiento Global” was the concept, and the result was of approximately 3.020.000 entrances (in 0,14 seconds). Thereafter I entered “aquecimento global” for the Portuguese search and 1.850.000 hits appeared in the same 0,14 seconds. Then I added the numbers up; I then thought about who was the biggest fashionable artist of the moment, right after that I googled Madonna, yes, the pop singer who just celebrated her 50th birthday, finding that the number of entrances that the Google search on Global Warming has produced in the three languages amounted to half of the Madonna hits. Then, of course, the conclusion was: Yes, Global Warming is a fashion issue. Let me explain: in the Web the entrances that I got from Madonna included links to photos, songs, videos, magazines, interviews, tours, films, etc, etc, etc. And as far as I know, if any subject on the Web has at least a third of the entrances that the most popular pop singer of the last three decades has, it is because it is a fashionable issue and also a real global concern: Everybody older than 10 years has the issue on his or her mind.

And this is what Global Warming is: a global problem, a global concern. The World Meteorological Organization (WMO), a specialized agency of the United Nations (UN), “is the UN system’s authoritative voice on the state and behaviour of the Earth’s atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources”, and of course this certainly includes Global Warming. WMO is the institution behind the First Workshop for the South American Region (WMO RA-III) that will take from December 8th to 11th of 2008 at ESPOL, in the city of Guayaquil (Ecuador).

A Climate Watch is delivered as an alert/advisory on foreseen and/or evolving climate anomalies with possible negative impacts. Its implementation is based, on the one hand, on climate observations, climate monitoring products and long range forecast and, on the other, on existing information on the socio-economic impacts of various global and regional climate patterns and extremes. A Climate Watch can serve as a mechanism to raise awareness in the user community that a significant climate anomaly exists or might develop and that preparedness measures should be initiated. To issue climate watches will help reduce socio-

economic vulnerability by improving preparedness procedures for adverse climatic conditions.

**WMO RA-III**

The WMO will lead a series of regional workshop on climate monitoring and climate watches that will constitute a leverage in achieving the goal of enhancing climate monitoring capabilities for the generation of higher quality and new types of products and services. These activities also aim at building capacity of National Meteorological and Hydrological services as well as of the regional climate institutions in the regions in need.

The first of its kind, the RA-III workshop (RA-III: South American Region) on climate watches was recommended by the WMO - Commission of Climatology (CCI) - Implementation Coordination Team, that met in Switzerland, in October 2007 ([http://www.wmo.int/pages/prog/wcp/cca/documents/doc6Climatewatch26\\_09\\_07.pdf](http://www.wmo.int/pages/prog/wcp/cca/documents/doc6Climatewatch26_09_07.pdf)).

The Workshop is sponsored by WMO and ESPOL. It will address the implementation of climate watches in the region based on the existing infrastructure and expertise at national and regional level. The ultimate goal is to ensure that National Meteorological and Hydrological Services (NMHSs) and regional climate institutions make use of best practices in delivery, provision and evaluation of climate watches, and implement best practices in managing efficiently and seamlessly the interaction among the three involved parties: Regional Institutions, NMHSs and end users.

The objectives of the WMO RA-III are:

- Address the need for climate watches in the region,
- Review the status of climate monitoring and long range forecasting capabilities at regional and national level,

- Review and discuss Climate watch showcases from the region and from abroad,
- Work on tailoring the WMO guidelines on climate watches to the region needs,
- Recommend best practices for the region in issuing climate watches,
- Recommend best strategies towards users of climate watches,
- Develop an action plan to implement climate watches at national and regional level,
- Recommend a follow-up mechanism on the implementation of climate watches.

The expert in Meteorology and Professor of the Faculty of Marine Engineering and Sea Sciences of ESPOL, Dr. José Luis Santos (PhD) is the Coordinator of the Local Organizing Committee of the WMO RA-III. We talked to him about the Workshop and the possibilities for participation in it for CLARA members.

**In your opinion, what is the crucial relevance of this event?**

Climate change is a popular topic and it's not exclusive of a group of scientists as it cuts across all levels of society. There isn't practically a single day in which we do not hear on the news about some emergency caused by extreme climatic events. This is an evidence of the increasing impact of climate on our way of life. On the other hand this is a global issue and therefore its solution has to be global as well. This is why it is important that relevant people from all over the world (and I don't mean only meteorologists, but society as a whole) jointly deal with this issue, hence the importance of this event since we will have first-class scientists from all over the world, sharing their experiences with "users" from other fields.

**How could CLARA members participate in this Workshop?**



As I said before, the climate change issue affects us all, and must be addressed from a regional perspective. This is why it is important that networks such as RedCLARA get involved in order to develop applications in a more efficient way.

### What is in your opinion the state of the art of the research and the developments on Climate in Latin America?

There are several institutions which have made big efforts to improve the state of the art in the area of climate research within our region, but maybe one of the key shortcomings is the fact that these developments have not been extensively disseminated within the region.

### Date and Place

The Meeting will be held at the Campus “Gustavo Galindo” of the Escuela Superior Politécnica del Litoral (ESPOL) in Guayaquil, Ecuador, from 8 to 11 December 2008, and will be conducted in English only. In addition, several main conferences will be transmitted simultaneously using Advanced Internet (by means of the connection of CEDIA, the Ecuadorian NREN, to RedCLARA).

The complete information about the Workshop can be download in PDF format in the following URL: [www.redclara.net/doc/2008/CWS\\_PresentationPaper18\\_07\\_08.pdf](http://www.redclara.net/doc/2008/CWS_PresentationPaper18_07_08.pdf)



**Dr. José Luis Santos (PhD), Coordinator of the Local Organizing Committee of the WMO RA-III**

#### More information:

- The World Meteorological Organization: [http://www.wmo.int/pages/about/index\\_en.html](http://www.wmo.int/pages/about/index_en.html)
- Technical document on “Climate Watches” referenced in WCDMP-No. 58/WMO/TD-No.1269, and available in electronic format at the WMO website at: <http://www.wmo.int/pages/prog/wcp/wcdmp/documents/GuidelinesonClimateWatches.pdf>.
- ESPOL: <http://www.espol.edu.ec/>
- EDIA: <http://www.cedia.org.ec/>

# GLOBAL Project: There no Langer excuses for not organising virtual events

From 2006 CLARA has had a videoconferencing service called ISABEL, which met the requirements for the conduction of virtual meetings. Since last March we have a new version called GLOBAL, which includes new functionalities and facilities for remote training and collaboration. We invite you to get to know about it.

Maria Alejandra Lantadilla Budinich

Although it used to be difficult to bring together world experts on a given subject to hold conferences, there are now no reasons not to organise massive events. GLOBAL (Global Linkage Over Broadband Links) is a project which does away with difficulties related to time and space. By means of the creation of a Virtual Videoconference Centre (VCC) today it is possible to plan, create, advertise, coordinate, manage the contents of, and conduct open virtual videoconferences with a great deal of participation. By using a simple and popular software, we coordinate and facilitate the development of distributed global events where users can exchange information on the development of the e-Infrastructure in their region, identify partners for future collaborations or discuss possible synergies between their respective initiatives.

The event is not only carried out remotely, as it features new functionalities such as the creation of a repository for future enquiries where you can manage registration for the event, as well as add documents or applications which can support the event's content.

GLOBAL was officially launched in March 2008, but Juan Quemada, professor of telematic engineering at the Polytechnic University of Madrid has been working on it since long ago. The history goes back to November 2006, when the first videoconferences of his first creation -ISABEL- were carried out. They were developed to support activities related to the academic world where participants usually have to travel to the event's venue. Thus, we facilitated the access

to the most important events at world level for professionals in education and research, especially those living in more remote areas.

At the beginning of October 2006, CLARA's Executive Director, Florencio Utreras, and Doctor Javier Uceda Antolín, Chancellor of the Polytechnic University of Madrid, signed a collaboration agreement to strengthen relations and join efforts in order to contribute towards the development of

the use of collaborative systems, encouraging the use of the ISABEL Platform. Juan Quemanda, leader of the project, talked at that time about the advantages of ISABEL: *"It makes collaboration via Internet more attractive and efficient, because it puts participations in order and develops visual messages which enable you to see what is happening in remote places."*

When asked to evaluate the platform, Juan Quemanda said that *"ISABEL, as well as other tools stemming from the concept of service we have developed, can lead us to a new generation of highly-efficient collaboration services in real time. There is still a long road ahead of us, but I think we are going in the right direction"*.

And that road is now behind us, and the result is GLOBAL, a virtual videoconference centre using advanced communication technologies and concepts to support the promotion of topics on the e-Infrastructure all over the world.



[global-project.eu](http://global-project.eu)

One of GLOBAL's main objectives is to help research projects to disseminate their results and training events in order to reach a wider audience, located in different parts of the globe. The events carried out through GLOBAL provide advanced collaboration tools and support for participants, as every event is recorded and stored in a repository together with documents and results for future reference.

In essence, the GLOBAL virtual videoconference centre offers three main functions, focusing on usability:

- A virtual auditorium for the planning, coordination and management of virtual events,
- A repository of the event to store recordings and the results of events,
- And a virtual corridor, which supports the creation of networks and the establishment of alliances between participants.

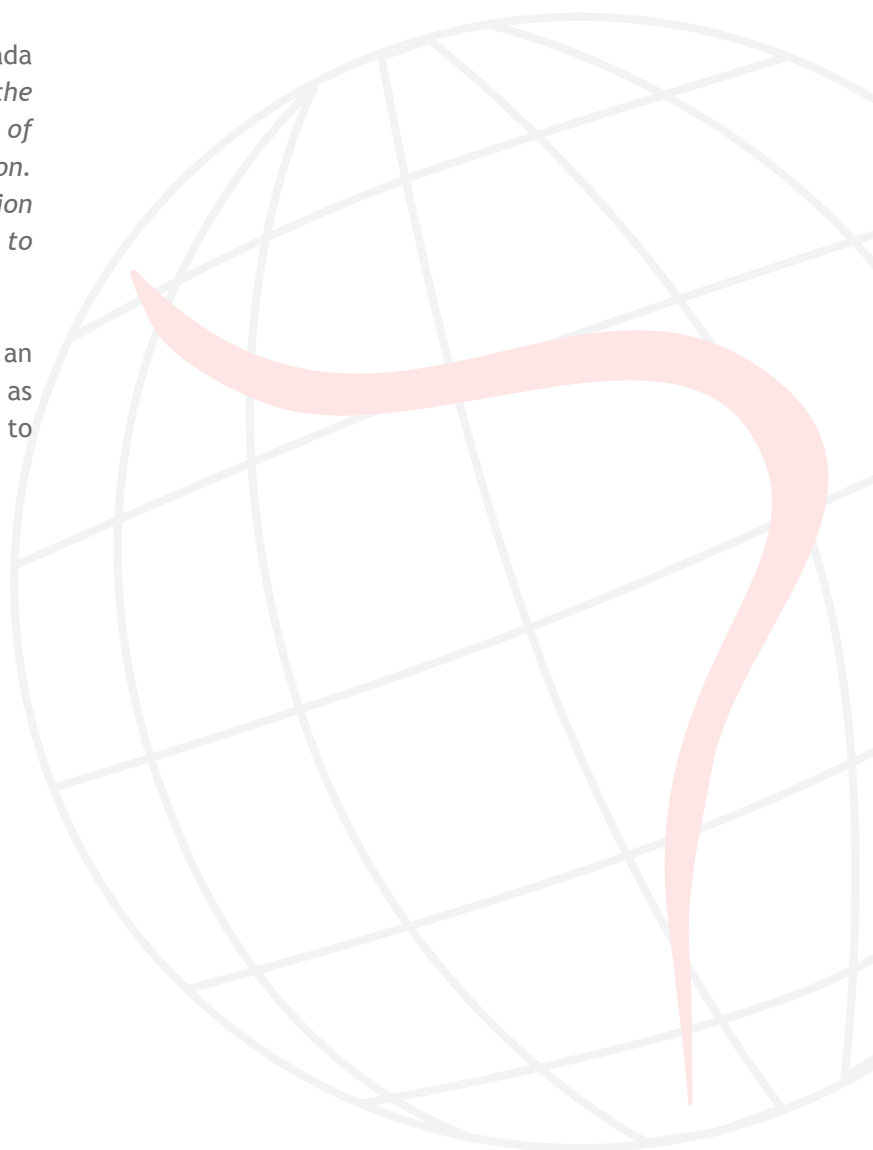
In a brief presentation made by Professor Juan Quemada at the GÉANT2 Conference last March he stated that *"the GLOBAL project is aimed at people for the creation of networks in order to establish connection and collaboration. It is an e-Infrastructure providing support for the organisation of this kind of events by generating a social repository to store all resources and applications"*.

You already know it, when you are asked to organise an event, do not hesitate to send invitations to everybody, as your guests will certainly be able to be present thanks to GLOBAL.

GLOBAL conferences conducted so far:

- GEANT2 (Bled, March 2008) [http://isabel.dit.upm.es/component/option,com\\_docman/task,cat\\_view/gid,97/Itemid,74/](http://isabel.dit.upm.es/component/option,com_docman/task,cat_view/gid,97/Itemid,74/)
- Terena Networking Conference (Bruges, May 2008) [http://isabel.dit.upm.es/component/option,com\\_docman/task,cat\\_view/gid,111/Itemid,74/](http://isabel.dit.upm.es/component/option,com_docman/task,cat_view/gid,111/Itemid,74/)

More information on this project:  
<http://www.global-project.eu/>



# RENATA expanded International channel to 22.5 megabits per second

This great step has enabled the Colombian network to improve and expand its services to more than 76 universities and research institutes located throughout the country.



**RENATA**  
Red Nacional Académica  
de Tecnología Avanzada  
COLOMBIA

On 23 July Colombia's National Academic Network for Advanced Technology, RENATA, carried out the expansion of its international channel by means of RedCLARA from 22.4 Mbps, thus increasing its bandwidth by 70% between February and July 2008.

This was received as great news by the Colombian academic and scientific community, as it will allow institutions connected to RENATA to expand its data transmission capacity so that communications with international academic networks can flow at a suitable transmission and response speed.

Over the last six months RENATA also made available for the scientific community new services such as events broadcasting, the audiovisuals library, the virtual office and the projects information service. All of these are available through its new website.

Certainly RENATA has taken great steps in supporting the academic community and the educational sector. Over the present year it has promoted more than 400 videoconferences between its institutions and has organized training events for the academic community.

In 2008 RENATA created the "International Meeting for e-Science and education supported by advanced technology",

the "Regional Dialogues on e-Science" and has supported and promoted the most important research and education events within the local context.

By means of RENATA's infrastructure more than 40 projects are being developed, including areas such diverse as virtual education based on interactive television, work with high-quality museum reproductions, robotics, computing grids, the Colombian digital library and telemedicine, among others.

Currently RENATA is composed by seven Regional Academic Networks distributed throughout the Colombian geography, including a total of 76 higher education institutions connected to the network.

More information: [www.renata.edu.co/](http://www.renata.edu.co/)



Synchrotron Light Laboratory, Brazil

## A beam of Light that breaks through the boundaries of research

Can you think of a place where scientists from all over the world do research to expand knowledge about atoms and molecules? Or rather more specifically, can you think of a laboratory where researchers can discover materials' characteristics to be applied in medicine, engineering, industry, etc.? This place already exists and is located in Brazil, open for all the Southern Cone's scientific community.

María Alejandra Lantadilla Budinich

In the city of Campinas, about 100 km from Brazil's capital, there is a human group made up of 180 people, plus about 80 postgraduate students and interns working in favour of science. This is taking place at the National Synchrotron Light Laboratory (LNLS), a laboratory open to users in Brazil and abroad, offering scientists unique conditions to do research at world competitiveness level. It is sustained thanks to the resources provided by Brazil's Ministry of Science and Technology (MST) and has an infrastructure which includes light lines with experimental stations installed on the synchrotron light source, high-resolution electronic microscopes for the study of atoms, nuclear magnetic resonance and other scientific instruments. The experiments conducted in these facilities help expand knowledge in areas of Physics, Chemistry, Materials Engineering, Environment, and Life Sciences, among others.

Since July 1997, LNLS operates the only source of synchrotron light in the entire southern hemisphere. There are only 14 countries having this type of laboratory, which is why it represents an honour to be able to have this space open for the scientific community.

It is important to point out that nearly 85% of scientists using LNLS come from other foreign institutions. Experts in physics, chemistry, biology and materials engineers or related areas can submit research proposals for the development of projects within LNLS, either from universities and other research centres in Brazil or abroad.

The objective of LNLS is to develop knowledge useful for the creation of new materials and, for example, new medicines.

Increasingly in the 21st century man will manipulate atoms, thus forming a sort of very advanced engineering and thanks to LNLS Brazil is on the lead in this subject.

In order to find out more about the LNLS we contacted Professor Caio Lewnkopf, Associate Director of the National Synchrotron Light Laboratory; the following is the result of that conversation:

**Do you at LNLS have any policies to welcome new countries in the region?**

The National Synchrotron Light Laboratory's mission is to act as an open and multidisciplinary institution promoting and doing research, development and technology transfer in order to contribute to improving Brazilian technological and scientific level. We operate as an open facility and welcome research proposals from all over the world. Proposals are assessed based on merit by advising committees whose members are external to the LNLS. Approved projects are eligible for a sponsorship program. For more details, please look for "open facilities" and "users support" at our homepage <http://www.lnls.br>.

**Are there any collaboration possibilities for Latin American countries by means of advanced networks?**

About 15% of the LNLS users, of a total of 1,600 in 2007, are from abroad. Even without taking advantage of a specific funding program for international collaboration, several research teams from Chile have used our facilities over the last few years. Their research was mainly focused in biological problems using our Protein Crystallography Beamline (MX1) and material science using our High Resolution Transmission

Electron Microscope (HRTEM). Financial support for scientific collaborations involving South-American research groups are available from the CNPq (the federal Brazilian science funding agency) via the Pro-Sul program (See details in <http://www.cnpq.br/editais/ct/2008/011.htm>), which has yearly calls. Note that is a very general program, by no means restricted to the LNLS.

#### Which are your impact communities and those with greater development, and in which areas?

Besides applications of synchrotron light, we also have very sophisticated associated laboratories at the Center for Nanoscience and Nanotechnology (C2Nano) and the Center

#### How can interested researchers get to participate in your projects?

The LNLS is very interested in strengthening international participation in our activities. For this purpose we welcome both external users from abroad and international collaborations. Our homepage describes how external users can contact our laboratory (see <http://www.lnls.br/lnls/cgi/cgilua.exe/sys/start.htm?tpl=home>, for the English version) and provides an extensive description on our open facilities. The LNLS also supports international collaboration projects on important scientific and technological problems conducted under the responsibility of our researchers.



for Structural Molecular Biology (CeBiME). In addition to the research done by external users, the LNLS has a small, but highly qualified research team. Some of the topics of current interest are: quantum dots, quantum wires, catalysis, polymer science, magnetism, atomic physics, material science under extreme conditions, structural biology, molecular biology, etc.

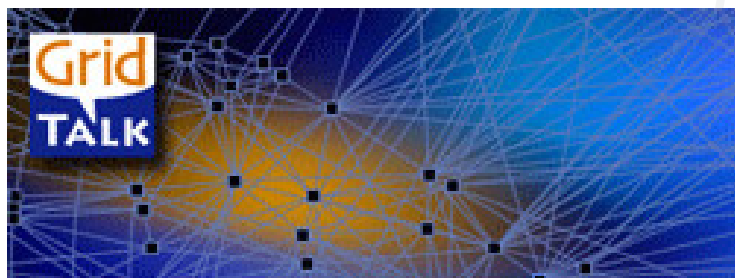
More information on LNLS: <http://www.lnls.br>

# You want to talk about collaboration? Fine, let's meet at GridCafé

No, GridCafé is not a new coffee-shop. It will not reduce the clients or the success of Starbucks or Juan Valdez, but for sure is and –for those that doesn't know it yet- will be, the favourite Café of those who are involved in scientific collaboration, advanced computing technology and, of course, grid developments. You still don't get the point of these words? Then come with me to the grid, I will introduce you with a couple of friends, don't be shy, I invite the coffees.

María José López Pourailly

A couple of months ago I was “surfing” over the net, just going from here to there trying to find out something that could tell me more about Grid technology, I'm not a techie or a geek, so of course I was looking for some friendly or “easy going” information. I needed to write a report for beginners (people just like me, I would say). I was drifting in the Net when I got myself inside this particular place called GridCafé. The first thing that came to my mind was the idea of going out for a Café that's around the corner... but it was raining cats and dogs. So I decided to stay in that GridCafé. I thought, “what a curious place”, two guys and a girl sitting around a table and a robot standing beside them that seems to be the who serves the coffees. There's also a cat. “Weird”, I think to myself and I go to the coffee machine in order to get me a light latte. Onces again in my desktop, with the latte in my left hand and the mouse in the right, I start clicking the buttons of the GridCafé website.



Awesome! Double awesome with two sugar spoons. Really, after five or six minutes in that Website I did totally understood what the Grid is, what can do, what is dream behind it, and a lot more. But that was not the coolest thing about GridCafé, not at all, for me the most brilliant issue about it, was the fact that was written in such a comprehensible language. I was totally impressed.

Who did this? What's behind this concept? I really wanted to know. And I got some answers from GridTalk, a project that since a few months ago is telling the success stories of Europe's e-infrastructure. GridTalk began on 1 May 2008, and will run for two years. Co-funded by the EC as part of its 7th Framework Programme, the project is targeting three main audiences: policymakers working in government, science and industry; scientists with an interest in grid computing; and the general public. And GridCafé is by definition THE introduction to grid computing for the general public.

So I dig a little more in GridTalk website and I found Cristy Jane Burne, Grid Outreach Coordinator of GridTalk. Then I remembered that by the end of June I received an email from her asking me to send some friendly information about the EELA-2 project (where the RedCLARA networks plays a fundamental role). Of course I contacted Cristy by email and I invited her to share a nice cup of coffee through the net. She responded instantly and accepted, though she does not really like coffee, she is a “tea” girl.

## The first cup of Coffee

María José: What did you study?

Cristy: I studied biotechnology, followed by science communication.

María José: For how long have you been working in advanced technology and in GridTalk?

Cristy: I first learned about grid computing in May 2007, when I became editor of International Science Grid This Week. I have been working with GridTalk since the project began in May 2008.

María José: When you were studying, did you imagine that you would be doing the kind of work that you are currently doing?

Cristy: While studying biotechnology, I quickly realised that I enjoyed writing about science more than actually doing science. I moved in to science communication, so I could spend more time learning about the exciting discoveries and amazing breakthroughs of science, and sharing them with others. My job now involves sharing the excitement of grid-powered scientific research, so yes, this is exactly the kind of work I imagined doing.

María José: In terms of tasks, what does exactly mean to be the Grid Outreach Coordinator of GridTalk?

Cristy: I work with grid computing projects all over Europe and the world to help spread the message that grid computing is a worthwhile investment, and that grids are helping scientists to do research that would be virtually impossible without this technology. I am part of a team working on working on a number of projects: GridCast (blogging and podcasting from grid computing events); GridGuide (presenting the human face of grid computing); International Science Grid This Week (a free weekly newsletter about grid-powered science); GridBriefings (short articles showcasing key issues in grid computing for decision and policy makers) and GridCafé (a great website for explaining the basics of grid computing).

María José: Did it take you long to understand what the grid is?

Cristy: I still don't understand everything about grid computing; much of it is very technical and there are new things to learn every day. But, just as I don't have to understand my car motor in order to drive my car, scientists don't have to understand the technical details of grid computing in order to benefit from using grids for their research.

María José: Apart from your job, which are your personal interests and how do you see yourself in a couple of years?

Cristy: I am moving from Geneva, Switzerland to live in London in the UK, still working for the GridTalk project. I am looking forward to exploring London and seeing lots of famous music and theatre that you can hardly ever see in Perth, Australia, which is my home city.

María José: How do you like your coffee?



**Cristy Jane Burne,**  
**Coordenadora de Apoio do GridTalk**

Cristy: I drink tea!

María José: Well... it doesn't matter, you don't really need to like coffee to talk about GridCafé and GridTalk.

A sip of Soda: GridTalk

María José: GridTalk began the 1st of May of 2008. Which was the central idea behind the project? Which are its main objectives?

Cristy: GridTalk aims to coordinate grid reporting across Europe. The project works to help spread the message that grid computing is a worthwhile investment, and that it is enabling global science and critical research to take place.

María José: GridTalk is working in three main areas: Informing Policymakers, GridCafé and International Science Grid This Week. Which are the main challenges of each one of these areas?

Cristy: Each of these areas targets a different group of society—policymakers, general public and scientists—and each of these groups overlap with each other, which means they all

share common challenges. The most important challenge is to emphasise that grid computing is not about computing; it is about science. Computing grids exist to enable research for global science, things like climate change, disease, renewable energy and other important global challenges.

María José: Which of those areas would you say has been the most successful in terms of reaching audience?

Cristy: GridCafé and International Science Grid This Week are established projects that have enjoyed significant success since their launch in 2003 and 2006 respectively. GridCafé is extremely popular and has been translated in to French, Magyar and Mandarin (with Spanish on the way!) by volunteer translators. It has also been nominated for a Pirelli International award and for a Webby award. Equally, subscriptions to International Science Grid This Week continue to rise, hitting a new high of more than 3800 subscribers in August. GridTalk is building on and coordinating the success of these projects to share their messages with a wider audience.

María José: After five months, would you say that Grid really talks?

Cristy: The voice of grid computing is still relatively quiet, so it is important that we continue to promote grid computing and its successes, so that more scientists can benefit from this enabling technology. Grid computing is an essential tool for modern science; without it, many ambitious scientific projects just could not happen.

### Let's have a nice café (my second cup)

María José: The first thing that I noticed and I totally loved of GridCafé was precisely it's name and the ambitious idea of inviting the Web Site visitors to know "The Grid" in a friendly and apparently non ambitious way (apparently cause nothing could be more ambitious than dreaming about informing of such a complicate thing in a simple way for simple people,

and you did it!). Which was the team that brought that idea to life?

Cristy: GridCafé was developed by a team of IT Communicators at CERN: Francois Grey, Matti Heikkurinen, Rosy Mondardini, and Robindra Prabhu, with design done by Marie-Agnès Messan and André-Pierre Olivier. Many others contributed their ideas and time to this project.

María José: How do you deal with that kind of simplicity -in the explanations, in the messages that you pass, etc.- each day?

Cristy: If you assume your audience is intelligent, then everything, even brain surgery or rocket science or grid computing, can be learned and explained. It's a case of providing the right information. I love to learn new things, and being a learner often helps you realise what information is needed to teach.

María José: What kind of feedback have you received? Does everybody loves this coffee shop or is there any detractor?

Cristy: We receive lots and lots of great feedback about GridCafé, and we welcome any feedback or ideas for ways we could improve it.

María José: In this global community that the grid is helping to create and in the context of a world where globalisation has so many detractors as adepts, which would you say is the real contribution of GridCafé?

Cristy: Grid computing enables globalization of scientific research, which is essential for facing global challenges, like climate change, sustainable energy, air pollution and more. These are problems that countries must work together to face. Sites like GridCafé help to spread the word that it is possible for scientists from different countries and different disciplines to share their information, share their computing power and share their ideas and results.



María José: Latin America has been quite far from technological development for a long time, but ever since the RedCLARA Network was created the region has been rapidly evolving and through projects like EELA (FP6), EELA-2 (FP7) and RINGGrid (FP6), has started to know and use grid technology. Some Latin-American countries are starting to develop their National Grid Initiatives and some are promoting inside their boundaries the implementation of e-Science Programmes, in fact inside the RedCLARA Network there's a project funded by OAS/FEMCIDI. How do you think that Latin America can benefit from GridCafé?

Cristy: Grid computing allows researchers to access enormous computing power, all from the comfort of their own desk in their own country. This means that researchers in remote locations, or scientists working in laboratories without enormous data centres, can have access to massive computing power without needing to travel to other countries or move to a laboratory with a larger computing centre. Grid computing brings the resources to you. This brings an immense benefit for researchers in Latin America.

Cristy: Grid computing also opens the way for international collaborations, allowing researchers from countries all over the world to work together from their home countries, sharing ideas, data and information across super-fast networks. This capacity allows researchers in Latin America, and across the world, to contribute to cutting edge global science.

María José: Are there any ways of participation and collaboration for this region envisioned in the project?

Cristy: Thanks to interest from the team at REUNA (the Chilean NREN), we are currently preparing to include a Spanish translation of GridCafe in time for the launch of the updated site, scheduled for October. We are very excited by this, since it provides an opportunity for Spanish speakers to benefit and learn from the resources at GridCafé.

María José: In a very broad scenario: Which would you say is the importance of Latin America in the context of the current Grid development status?

Cristy: Latin America is in a very exciting phase of grid adoption and development. Latin America has been collaborating with both the U.S., as part of Open Science Grid, and with Europe, as part of EELA and EELA-2, for several years, and as such makes use of infrastructures and technologies coming from the U.S. and Europe. Thus Latin America is in a position to not only extend the reach of grids in the region, but also to play an important role in terms of inter-regional interoperability and standards in grid computing.

María José: Hey, you know what? I will definitely copy this conversation in order to share it with all the friends in CLARA and in the EELA-2 project. Is there any problem with that.

Cristy: Of course not! I hope that they all enjoy GridCafé.

María José: They surely will!

Cristy: Hey, I've got to run. The grid is talking!

María José: Bye, thank's!

Cristy: See you around, bye!

So, after all the drifting and several cups of coffee, I met a new friend and I also got the information that I needed. That was fun. Hey, by the way, here you have the address of GridCafé: <http://gridcafe.web.cern.ch/gridcafe/>. Sorry, I've got to go now, there's a latte waiting for me.

## Grids for Kids

# Children also want to know

If you think you have seen it all after hearing about GridCafé, let me tell you that you are absolutely wrong, as there is a lot to tell when it comes to Grids. Grids for Kids is one of the most entertaining examples.

One of the actions developed by the Genre Action work team at EEE (European grid initiative) is the organization of activities that introduce science and technology to children at an early age and, at the same time, encourage girls to consider a career in science as a feasible alternative for their future. Grids for Kids was born with this idea in mind; it is a full or half school day activity which offers children between the age of 9 and 12 all the necessary information to not only understand what a grid is and what it can be used for, but also to explain to them everything in relation to the CERN experiment on the Large Hadron Collider. Yes, the very same experiment that is trying to replicate the Big-Bang and which will be launched worldwide on October 3.

María is a 'Grid outreach coordinator' (a post similar to that of the grid's external relations coordinator) in GridTalk, but what she really spends her time on is the configuration of middleware, "I specifically work on a tool called YAIM, a tool which serves to install and configure middleware. Middleware is the set of programmes which make the grid work. They are very complex and hard to install programmes and this is why we use the tool I am developing. The tool's logo is the yak, which is a very furry animal and our slogan is "shaving the yak", since shaving such a furry animal is a tedious task, but YAIM makes it easier". María Alandes is a Computer Engineer from the Polytechnic University of Madrid and has been living for the last three years in a French village near the Swiss border, that is to say, since she has been working at CERN.

**How long have you been working on topics like Grid and Education?**

I have been working for three years on the grid, as part of the EGEE project. I have collaborated in the Grid for Kids project on several occasions.

**What is the most motivating aspect of this job?**

The possibility of working in a team and interact with people from different countries. I love to think that we are building something very useful for science and to feel that we are part of a great project which will make it possible to know more about our world from various fields such as particle physics and biology.

**How did you come up with the idea of organizing an event to educate children on grid technology?**

It is part of the Genre Action Plan of the EGEE project, in which we aim to increase the number of women working on IT. Education is fundamental to change the existing culture and it is very important that boys and girls see it as natural that women work in the scientific world.



# YAIM

GridTalk, the same project run by GridCafé, has already carried out one of these experiences and in order to get more details about it we contacted María Alandes Pradillo, who was one of the women in charge of the development of the activity.

How do you relate directly with EGEE for the organization of this kind of events?

I work for EGEE and I know grid technology very well. The project contacts me when they need to organize this kind of events and between the project's office and myself we prepare the presentation and the contents.

**What has been the reception of children like? How old are they?**

We have worked with children between six and eight years old. The response has been very positive and children have actively participated in the presentations, taking part in the games proposed and answering questions.

**What would you say about the real importance of educating them on this subject?**

It is fundamental to eliminate stereotypes and that children face their career election without any prejudice. Careers in IT can be very interesting for both men and women and it is very important to spread this message.

**If a country in Latin America had the intention of organizing an event similar to Grids for Kids, what would you recommend? What are the basics and what are the first steps?**

You have to contact a local school in which teachers are interested in this kind of events. It is important that teachers get involved and participate in the presentation, reshaping it if necessary so as to adapt it to the children, as they know better that anyone what children can get to understand. It is a good idea to subsequently carry out a classroom activity, making a summary of the things they learnt. You have to prepare material (presentation, games, souvenirs) and find the right person to give the presentation. You can also consider the use of videoconferencing in order to make use of technology.

**Is there any real chance for collaboration between Latin America and the Grids for Kids initiative?**

From CERN we have collaborated with sites with the RAL laboratory in the UK via videoconference. I am sure that the Project's Office could help Latin America by providing advice and lending material for presentations.

**Have you got any plans to organize new events for children?**

We have now started the Stage III of EGEE. I don't know what plans they have for Genre Action Plan in this stage. You

can contact [project-eu-egee-gap-taskforce@cern.ch](mailto:project-eu-egee-gap-taskforce@cern.ch) for more information.

**What have you enjoyed the most and what has been the most motivating aspect in relation to the Grids for Kids experience?**

To see that children are very bright and that they are interested in all things new. They understand very well ideas that were unknown to them and they have a lot of imagination. Working with children is very rewarding and fun. Besides, as a woman I think it is necessary to increase the



**María Alandes Pradillo,  
Grid outreach coordinator de GridTalk.**

number of women in the field of IT and I am very happy to be able to contribute to the promotion of my work and of this science among children so that they understand that this is not a men-only world and that there are opportunities for everybody.

Everything necessary to carry out a Grid for Kinds activity is available online from the EGEE website at: <http://egee-technical.web.cern.ch/egee-technical/NA1/GENDER/GAP-EOP/Grids4Kids.htm>.



Faster, higher, stronger:

## TEIN2 won gold medal for IPv6 at Beijing Olympics

This is cool! Everybody should stand up and clap and perform a wave and shout... all cheerful expressions are allowed, because we have to celebrate the fact that TEIN2 (Trans-Eurasia Information Network) –the first large-scale research and education network for Asia-Pacific, which connects ten countries in the region, and provides direct connectivity to Europe’s GÉANT2 network– is among the first advanced networks in the history of the Olympic Games to provide access to the event’s website through IPv6. Isn’t that great?

Helga Spitaler (Regional Marketing Officer - DANTE International Relations) & María José López Pourailly



Ok, let’s breathe in -do it!, inhale, exhale- in order to be able to explain this wonder in technical (or formal) terms.



**Shooting:** Members of the international research and education community had the unique opportunity to get the latest on the 2008 Beijing Olympics by visiting <http://ipv6.beijing2008.cn/en/>, the IPv6 version of the official Games website which, for the first time in the history of this international sport event, was developed using next generation Internet technology.



**Sailing:** Hosted by China Education and Research Network (CERNET/CNGI-CERNET2), the nationwide academic backbone, the website provided faster and more secure access to the Beijing Olympics information. IPv6 users across Asia-Pacific and Europe were able to visit the site thanks to TEIN2, the IPv6-enabled Trans-Eurasia Information Network and thanks to its interconnection to Europe’s multi-gigabit network GÉANT2.



**Archery:** IPv6 is the sixth version of the Internet Protocol designed to provide a solution to the problem of IPv4 domain space running out. IPv6 has a much larger address space, which allows flexibility in allocating addresses and routing traffic, thus alleviating congestion.



**Marathon:** At the forefront of Internet development, research networks like CERNET/CNGI-CERNET2 and TEIN2 act as a demonstrator and enabler for IPv6 and are inspired by the same motto as athletes: faster, higher, stronger!

**Stands:** TEIN2 went to the stand and got THE Gold Medal

GÉANT2 got the laurel crown and some red Chinese roses for its collaborative spirit.

For additional information, please see:  
 Beijing Olympics: <http://en.beijing2008.cn/news/official/preparation/n214384681.shtml>  
 TEIN2: <http://www.dante.net/server.php?show=ConWebDoc.2852>



## EELA Squad charges in Latin America

Continuing along the road outlined during the preceding project – EELA (E-Infrastructure shared between Europe and Latin America)-, EELA2 (E-science Grid Facility for Europe and Latin America) will offer a Grid School, Workshops, Tutorials, meetings for decision-makers and its first Conference in Latin America. The key months and countries for the present year and the beginning of the next one are: October – Mexico, November – Brazil, December – Ecuador, February – Colombia.

María José López Pourailly

### Mexico with the support of Cudi

Within the context of the Cudi Autumn Meeting, which will be held in Monterrey - Nueva León, Mexico-, from 6th to 8th October, the EELA-2 Project will develop two primer-level activities, namely:

EELA-2 Workshop: October 6th, from 08:30 to 14:00. During this event the Mexican community that is part of Cudi will be presented with the advances of the EELA-2 project, the ways to participate in the project, the applications that are developed on it, plus presentations on the work and initiatives of Cudi's Supercomputing and Grid Group and five grid project initiatives which are being developed in the country. Furthermore, there will be presentations on the advances on this topic that are being carried out by UNAM, an institution that is part of EELA-2. The draft programme is available at: [http://www.cudi.edu.mx/otono\\_2008/programa\\_eela.html](http://www.cudi.edu.mx/otono_2008/programa_eela.html)

Decision Makers day: October 8th at 08:00. the “Decision Makers Day” is a private meeting - lasting approximately 40 minutes - featuring key personalities for the development of e-Science and e-Infrastructures at a national level. In this activity, where the CUDI-EELA-2 collaboration will be presented, there will be an open discussion on the likelihoods of establishing an e-Science Programme in Latin America with long-term sustainability.

The Cudi Autumn Meeting and the EELA-2 activities associated with it will be developed at the Camino Real Monterrey Hotel. It is important to point out that on October 7th the Meeting will feature Florencio Utreras, CLARA's Executive Director and Bernard Maréchal, Coordinator of the EELA-2 Project.

EELA-2 is also planning to offer a Tutorial for Grid Administrators and Users by the end of October, which will be held in UNAM facilities (Mexico City).

### Ecuador, with the support of the University of Loja, Cedia and ESPOL

As part of EELA-2's plans, there is currently a discussion on the development of one or two Workshops, a “Decision Makers Day” and a Tutorial for Grid Users and Administrators. The idea is to link the first two activities with the First Regional Workshop on Climatic Monitoring and Climatic Variability Analysis: Implementation of Climatic Surveillance Systems in the South American region (WMO RA-III), which will be held in Guayaquil from 8th to 11th December. But it is also a possibility of holding a EELA-2 Workshop in Quito (a decision had not been made at the time of writing this article).

During the same month, on a date to be confirmed, there will be a Tutorial for Grid Administrators and Users at the University of Loja.

### Colombia, with the support of UNIANDES and RENATA

The First EELA-2 Conference that will take place in Bogotá, Colombia, from February, 25 to 27, 2009. The Conference is meant to be both an “open conference” and a “user forum” and its Scientific Programme is conceived to reach two main objectives:

- Present a selection of the most impressive results obtained by scientific communities using not only EELA-2 but also other e-Infrastructures in Latin America and the rest of the world;
- Discuss policies and plans for the long term

sustainability of Regional e-Infrastructures, with special emphasis on the Latin American one.

The call for proposals is already open for those who are interested in submitting their papers. The conference topics include, but are not limited to:

- Grid Communities and Applications
- Culture, Arts and Humanities
- Biomedical informatics/e-Health
- Distance and eLearning
- High Energy Physics
- Earth Sciences
- Material Science
- Astrophysics
- e-Government
- Artificial Intelligence
- Civil Protection
- Engineering
- e-Infrastructures case studies:
  - AAA in a Grid Environment
  - Security Challenges
  - Grid Middleware Interoperability
  - Scientific repositories
  - Grid in Education and Education with/on Grid
  - Grid Portals and Problem Solving Environments
  - Data Access and Management
  - Resource Management and Scheduling
- e-Infrastructures for Development:
  - Ongoing and/or Planned Grid Projects in Europe and the rest of the World
  - Regional, National and/or International Grid Infrastructures Deployment and Operation
  - Long term sustainability
  - Quality Assurance
  - Public policies
  - Mobile and e-Infrastructures Convergence
  - Industry role and participation

Important dates:

Abstract submission deadline: 1 November 2008

Acceptance notification: 15 November 2008

Camera ready papers: 1 December 2008

The Agenda and all the information about the First EELA-2 Conference is available at:

<http://indico.eu-eela.eu/conferenceDisplay.py?confId=132>

## The future

However, EELA-2's activities development plan does not conclude in February. Actually, the EELA-2 Project Direction is aspiring to be able to develop workshops, tutorials and meetings with decision-makers in Uruguay and Panama. As for the latter country, it has been announced that the development of the activities already described would take

place in the week running from the 20th to 24th September 2009.

## EELA-2

Funded by the European Commission's 7th Framework Programme - Capacities, the EELA-2 Project (E-science grid facility for Europe and Latin America) aims at building a high capacity grid, with quality produce and scalable, providing global access 24 hours a day to distributed computing, storage and networking resources that are required by a wide range of applications which operate in scientific collaborations between Europe (EU) and Latin America (LA), with a particular emphasis on the delivery of a full range of versatile services in order to meet the requirements of the applications and ensure the long-term sustainability of the e-Infrastructure beyond the date of the project's completion.

Such an ambitious project as EELA-2 would not be possible without the existence of a consolidated e-Infrastructure, established with the intention of building a sustainable grid platform (which operates on RedCLARA). That was the objective of the EELA project, which today provides its users with a stable and well-sustained grid infrastructure, based on the 16 Resource Centres (RCs) which add up more than 730 nuclei and 60 Terabytes of storage space, thus demonstrating that the deployment of a EU-LA e-Infrastructure is not only feasible but, even more, that it responded to a real need from a significant part of the scientific community.

EELA-2's vision is twofold:

- To consolidate and expand the EELA e-Infrastructure, built on the research networks GÉANT (European National Research and Education Networks - NRENs-) and RedClara (LA NRENs), in order to constitute itself as an e-Infrastructure resource which provides a full range of services for all kinds of applications in multiple scientific areas for the scientific communities in Europe and Latin America.
- To determine the conditions of the e-Infrastructure durability, beyond the time allocated for the project's execution.

All the EELA-2 activities have an agenda and can be seen at: <http://indico.eu-eela.eu/>

EELA-2's website: <http://www.eu-eela.eu>

# CLARA community invited to participate in the 11th Workshop on Internet Network Technologies for Latin America and the Caribbean (WALC2008)

In this version, the Workshop will be jointly held with the 10th Latin American Networks School (EsLaRed, see textbox), between November 10th and 14th 2008 at the University of Los Andes (ULA) in the city of Merida, Venezuela. The programmes, pre-registration and other details on the event can be found in its official website <http://www.ula.ve/walc2008/>.

María Paz Mirosevic Albornoz



## Wireless networks for data transmission

This workshop aims to train participants on the tools and techniques to install, maintain, secure and update wireless networks for data transmission, focusing on the use of low-cost and accessible solutions for small organisations to be used in long-distance links.

## Administration of networks and telecommunications projects

In this module participants will be able to initiate, plan, execute, control and close a networks and telecommunications project, generally on new information and communication technologies.

## Content production in ICT projects for social development

The objective of this workshop is to strengthen the community of professionals working on the development of content development for projects that they intensively use and to apply the new information and communication technologies to the achievement of various development objectives through websites and portals, virtual networks and communities.

## Networks management

This course is designed to provide participants with a structured theoretical framework about networks management, as well as to share experiences gained in the operation of complex IP networks. The content includes a discussion on the free software alternatives currently available, and the opportunity to install and operate some of these.

With the objective of fulfilling the training needs of technicians and professionals from Latin America and the Caribbean working in the field of information and communication technologies, focusing on the practical aspect of networks, the organization and administration of ICT projects and recent technological developments such as wireless technologies, IP telephony and network management, the Faculty of Engineering of the University of Los Andes in Venezuela, is organising the eleventh version of the Workshop on Internet Network Technologies for Latin America and the Caribbean (WALC2008).

In this opportunity the idea is to also identify and establish individual and institutional links which can contribute to the development of national and international internet-based activities.

WALC2008 will offer theoretical-practical workshops simultaneously, with a limited number of participants. These are:

## IP telephony

In this workshop participants will have the chance to understand the change of paradigm that is currently taking place in the field of telecommunications and incorporate specialised technical knowledge on the installation of IP telephony platforms, particularly Asterisk, a free software platform for the implementation of hybrid PBX (TDM+IP).

## Computer security

The objective of this module is to review the theoretical and practical bases of security for computer systems, focusing on the techniques that make it possible to secure, monitor and maintain an information system free from attacks threats due to security faults, as well as to guarantee their growth following internationally recognised patterns and regulations.

EsLaRed is the Latin American Networks School Foundation, a non-profit institution devoted to the promotion of information technologies in Latin America and the Caribbean.

The objectives of EsLaRed are:

- To develop, promote and spread in Latin America and the Caribbean activities on human resources development and research in the areas of Telecommunications, Computing, Computers Networks and Informatics in general, as well as their applications;
- To come up with research and development plans on technological transference with the idea of facilitating scientific and technical progress in Latin America and the Caribbean. To this end, the Foundation will perform the following roles: to carry out activities which contribute towards the development of research or researchers training, such as courses, workshops, seminars, symposiums and national and international congresses; and
- To offer services of attention, advise, assistance, guidance and research by natural or judicial persons, either public or private, in the areas of Telecommunications, Computing, Computer Networks and Informatics in general.

As part of the TERENA 2008 Networks Conference activities:

# Advanced Networks created virtual telescope in real time with a diameter of nearly 11,000 kilometers

On Thursday May 22, the members of the EXPReS project (Express Production Real-time e-VLBI Service) used multiple data networks in order to connect telescopes in South America, North America, Africa and Europe to a central correlator located in the Netherlands, thus simulating a telescope with a diameter of nearly 11,000 kilometers.

This was made possible by the capacities and interconnection of AtlanticWave, AMPATH, Centennial, DFN, GÉANT2, Internet2, Netherlight, SURFnet, NGIX, RedCLARA, REUNA, SANReN, StarLight and TENET.



For the first time ever, the telescopes located in Chile, Germany, Italy, the Netherlands, Puerto Rico, South Africa and Sweden simultaneously observed yesterday a quasar 3C454.3 and sent the data flux in real time to JIVE (Joint Institute for VLBI in Europe) using a great bandwidth. In JIVE the data were correlated in real time and the results were transmitted to Bruges, Belgium, as part of a live demonstration developed as part of the TERENA 2008 Networks Conference (held from May 19 to 22).

Arpad Szomoru, head of Technical Operations and Research and Development at JIVE, stated that “connecting telescopes across such long distances and domains poses unique challenges. Transport via TCP/IP is not suitable, but the use of UDP can cause serious disruptions in other users’ connectivity. For this demonstration we used a series of methods, such as the use of 1Gbps luminous steps with guaranteed bandwidth, VLANs and flatly IP-routed connections. The success of this test proves that the global development of e-VLBI has become an operational reality”.

The data from TIGO (Transportable Integrated Geodetic Observatory, University of Concepción - UDEC), a radio telescope with a 6mm diameter, located in the southern city of Concepción, Chile, were sent to

María José López Pourailly and Kristine Yun (EXPReS Public Outreach Officer)

REUNA (National University Network - National Research and Education Network, NREN) and RedCLARA, in South America, to GÉANT2, operated by the EXPReS NREN which is a DANTE member, and from there, via Netherlight, operated by the EXPReS NREN which is a member of SURFnet. The data collected by the Arecibo telescope (radio telescope with a 300m diameter) in Puerto Rico, were routed via Centennial, AMPATH, AtlanticWave, NGIX, Internet2 and StarLight towards GÉANT2 and NetherLight.

By employing a technique called Very Long Baseline Interferometry (VLBI), the most accurate to determine the Earth’s distances and rotation in geodetics and to resolve



images from sources of radium in the universe in astronomy, astronomers used multiple radio telescopes to simultaneously observe same region in the sky. The data collected by each telescope were modeled, synchronized and correlated with each possible combination between the telescopes participating in the experiment. VLBI can generate images from cosmic radium sources with a resolution more than a hundred times higher than that of the best optical telescopes. EXPreS, a three-year project funded by the European Commission, is interconnecting telescopes in order to send data electronically and correlated in real time. Named e-VLBI, this process does away with sending discs and provides astronomers with timely correlated data, thus enabling them to explore transitory astronomical events such as supernovas and gamma ray bursts.



**Telescopes of Arecibo, Puerto Rico, Effelsberg, Germany, Hartebeesthoek, South Africa and Tigo, Chile**

It must be pointed out that this is the first time that an experiment of this kind and relevance is carried out in Chile and Europe, especially with such large bandwidth. For the Chilean NREN REUNA this represents a greater challenge in terms of collaboration and experimentation in advanced networks, this is why it has worked really hard with TIGO-UDEC and RedCLARA in order to ensure its success.

The development of this successful experiment is great news for Chile, as it takes up a leading position on this subject within the region. However, the Director of the TIGO Observatory, Hayo Hasse, explained that their work is non-profit and that they do not have the resources to back the cost of a national infrastructure and that they are in disadvantage compared to peers in Brazil, for example. “In Latin America we were the first to show that the new observation method works, but I am worried that Chile may lose its recent leadership role because of a lack of significant funding to

adapt its Internet infrastructure for research, as in Brazil or Europe”, explained Hasse.

The Director of JIVE, Huib Jan van Langevelde highlighted the global scope of the observation carried out on May 22, as well as the contribution of e-VLBI for science: “It is very meaningful that we have demonstrated that we can connect

telescopes distributed across all continents. Connectivity in real time between telescopes at such long distances will literally resolve the most energetic sources of radium in the Universe”.

**More information:**

- TERENA 2008 Networks Conference: <http://tnc2008.terena.org/>
- EXPreS: <http://www.expres-eu.org/>
- TIGO Geodetic Observatory: <http://www.tigo.cl/>
- RedCLARA: <http://www.redclara.net>
- REUNA: <http://www.reuna.cl>
- GÉANT2: <http://www.geant2.net/>

# New horizons for cooperation between Chile and Colombia

Chile's National Corporation for Science and Technology –CONICYT- and its Colombian counterpart, the Colombian Institute for the Development of Science and Technology –COLCIENCIAS- summoned their researchers to participate in an unprecedented Call for Exchange Projects with the aim of strengthening excellence scientific work and support research projects. The deadline established for the first edition of this call was September 30.

As part of a Cooperation Agreement established between CONICYT (Chile) and COLCIENCIAS (Colombia), a call was launched for the

submission of exchange projects between Chilean and Colombian research teams; the condition for applicants is to have a Framework project.

The main objective of the 2-country initiative, which is currently about to close the submission of proposals, is to support the exchange between

Chilean and Colombian researchers with the aim of strengthening excellence scientific work and support research projects in the areas of: Biotechnology, Education, Health Science, Environment, Habitat and Biodiversity, Marine Sciences, Electronics, Telecommunications and Computer Science, Energy and Mining, Agricultural Sciences and Materials Science.



**COLCIENCIAS**  
C O L O M B I A

The call for exchange projects takes place as part of the Scientific and Technological Cooperation Agreements signed by the

Chilean agency and its foreign counterparts. By means of these agreements Chile intends to link its scientific community with its peers abroad so that they can share knowledge and develop research projects with

relevance for both countries involved.



**CONICYT**

COMISIÓN NACIONAL DE INVESTIGACIÓN  
CIENTÍFICA Y TECNOLÓGICA

The applications, received until September 30, were open for

1 or 2 year projects and the condition was to submit them simultaneously in Chile -CONICYT- and Colombia -COLCIENCIAS. The list of approved projects will be available in February 2009 in CONICYT's website ([www.conicyt.cl](http://www.conicyt.cl)).

More information and related documents at:  
<http://www.conicyt.cl/573/article-23995.html>



## A G E N D A

## O C T O B E R

**9th IEEE/ACM International Conference on Grid Computing (Grid 2008)**

September 29th – October 1st; Tsukuba, Japan  
<http://www.grid2008.org>

**12th International Congress on Internet and the Information Society: Internet World 2008**

October 1st – 3rd; Malaga, Spain  
<http://mundointernet.es/>

**Cudi, Autumn Meeting 2008**

October 6th-7th; Monterrey, Mexico  
 On October 6th, as part of the CUDI meeting, the EELA-2 Workshop will be developed.  
[http://www.cudi.edu.mx/otono\\_2008/hotel.html](http://www.cudi.edu.mx/otono_2008/hotel.html)

**13th Conference on Software Engineering and Databases**

October 7th -10th, Gijón (Spain)  
<http://www.sistedes.es/jisbd2008/index-es.html>

**IADIS International Conference WWW/Internet 2008**

October 13th – 15th; Freiburg, Germany  
<http://www.internet-conf.org>

**eChallenges Conference 2008**

October 22nd – 24th; Stockholm, Sweden  
<http://www.echallenges.org/e2008/>

**TECDO 2008**

October 22nd – 26th, Santo Domingo (Cybernetic Park PCST), Dominican Republic  
<http://www.tecdo.com/app/en/frontpage.aspx>

**5th Symposium on Digital Libraries**

October 23rd – 24th; Malaga, Spain  
<http://www.istec.org/events/ga/sibd/informacion-general>

**5th Hispanic-American Congress on University Teaching**

October 29th – 31st; Valencia, Spain  
<http://www.cfp.upv.es>

**LAGrid08**

October 29th – November 1st; Campo Grande, Brazil  
<http://lagrid08.Incc.br>

## N O V E M B E R

**Advanced School on HPC and Grid**

November 3rd – 14th; in Trieste, Italy  
[http://cdsagenda5.ictp.trieste.it/full\\_display.php?smr=0&ida=a07176](http://cdsagenda5.ictp.trieste.it/full_display.php?smr=0&ida=a07176)

**12th Congress of the Mesoamerican Society for Biology and Conservation**

November 10th – 14th; San Salvador, El Salvador  
<http://www.smbcelsalvador2008.com>

**11th Workshop on Internet Network Technologies for Latin America Latina and the Caribbean (WALC2008)**

November 10th – 14th; Mérida, Venezuela  
<http://www.ula.ve/walc2008/>

**International Conference of Education, Research and Innovation (ICERI 2008)**

November 17th – 20th; Madrid, Spain  
<http://www.iated.org/iceri2008>

## D E C E M B E R

**1st TERENA Workshop on End-to-End Provisioning**

December 1st -2nd; Amsterdam, the Netherlands  
<http://www.terena.org/e2e>

**First International High Performance Grid Workshop**

December 1st – 4th; Dunedin, New Zealand  
<http://grelec.unile.it/HPDataGrid08>

**Ninth International Conference on Interworking: «Future Internet»**

December 1st – 2nd; Miami, Florida, United States  
<http://interworking2008.org/>

**Regional Workshop on Climate Monitoring**

December 8th -11th; Guayaquil, Ecuador  
[http://www.wmo.int/pages/index\\_en.html](http://www.wmo.int/pages/index_en.html)

**Hispanic-American Conference WWW/Internet 2008**

December 10th -12th; Lisbon, Portugal  
<http://www.ciawi-conf.org/es/index.asp>