

# DECLARA

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## EDITORIAL



Luis Furlan  
Head of ICT, University of the Valley of  
Guatemala- RAGIE (Guatemala).

Only fifteen or twenty years ago, when people talked about nets in our country they were most probably referring to a net of oranges or a net of fish. Nowadays, when using the term ‘net’ everybody thinks immediately of the Internet, a net of nets...a net of computers. In the first case, I think the concepts are wrong since there cannot be such a thing as a net of oranges or a net of fish... well, it could be, but it doesn't make much sense. Those nets were usually made of some sort of thread, string or ‘pita’ fibre, as people say in my country. Nets are tools and in that case they are used to store or transport oranges and/or fish. In the other case, nets are certainly made up of computers, but I think that many people haven't really thought about what they are or what they could be good for. The vast majority of people are more than satisfied with having access to chat rooms, e-mails and the www. It is on this point that I would like to focus in this editorial.

The ALICE project has several achievements that are worth pointing out, but I will only refer to two of them. First of all, it is the most successful of the projects presented within the @LIS initiative. Undoubtedly, this is due to the perseverance and endeavours of many people on both sides of the Atlantic Ocean.

The second achievement is the materialisation of the long-time dream of a group of ‘Quixotesque’ technicians and

professionals: the creation of a backbone, a Latin American telecommunications network. A lot has been made in this respect. I remember the EnRedo list, the Latin American Networks Forum, the OAS's RedHUCyT project, and many others. An attempt was made to organise it by sub-regions: the Andean countries, the Centro American countries and others. However, despite the accomplishments obtained with those efforts, the Latin American backbone was always the USA's network. It was not possible to have a regional network, and therefore each country logged onto the Internet as best they could, most of the times through our neighbour from the North.

Today, RedCLARA is a dream come true. In just two years and a half this backbone was created and, to date, we have twelve of our countries connected with the promise of having many more by the end of the year. The ALICE project is due to finish in March 2007 and a lot of hard work is going into it with the hope of carrying out a second version.

Going back to the topic of what this network is good for, the documentation of the ALICE project clearly indicates that the network will be devoted to the development of science/technology and education in the region, particularly (hence the name of the project - Latin America InterConnected with Europe) in order to link Latin American scientists and academics with their counterparts in Europe. As it is the case of all the science and technology developed by mankind, this network exists for the benefit of people, to improve their life styles, to move forward in the development of the region. Some countries are well advanced in this respect while others are behind.

In Central America, and this is my personal impression, RedCLARA will be mainly used to improve education. There are countries like Guatemala, where the barrier of the 50% of literacy has been overcome only in recent years. Our countries, with some respectable exceptions, do not have institutions devoted to science and technology and, in many cases, the institutions that focus on science and technology do not aim at the direct benefit of the people from the region.

RedCLARA must be used to bridge the gaps existing between and within our countries in terms of illiteracy, poverty, science and technology development. We have the opportunity of making a quantum leap without having to go through the same learning curve that more developed countries have experienced. This can be done if RedCLARA is used as a tool to make communication among people possible, to share resources and knowledge, to create projects resulting in the benefit of the population. The outcomes of the projects should not end up stored in some repository, laboratory or library.

The challenge is there! Among our members we have academics, scientists and, moreover, we have the network. We can therefore join forces to improve the education of the population, advance the region's quality of life, as well as that of mankind. It all depends on what each one of us does. Let us make the most out of ALICE's extension to outline the path that will make the difference in Latin America.

## RedCLARA and ALICE will present their advances at the 4<sup>th</sup> EU-LAC Ministerial Forum on the Information Society

The IV EU-LAC Forum will take place in Lisbon, Portugal on April 28 and 29, 2006. In the present version, the ALICE project will be able to show the accomplishments of RedCLARA, eighteen months after being launched at the Rio de Janeiro summit.

The main objective of the Forum will be the discussion of a declaration focusing on the social impact of Information and Communication Technologies (ICT), which will be presented at the fourth EU-LAC Summit of Heads of State and Government in Vienna in May 11 and 12, 2006.



*María Paz Mirosevic*

The IV European Union (EU) - Latin American and Caribbean (LAC) Ministerial Forum on the Information Society, organised by the Portuguese Government and the European Commission (EC), with the support of AHCIE (as member of the International Stakeholder Network of the @LIS Programme), will take place in Lisbon, Portugal on April 28 and 29, 2006. The forum will make it possible to pursue the exchanges that took place in the previous forums, held in April 2002 in Seville (Spain), in July 2003 in Lima (Peru) and in November 2004 in Rio de Janeiro (Brazil).

According to Catherine Stöver, Manager of the ALICE Project (DANTE), the Lisbon Summit is fundamental to RedCLARA since the ALICE project will be able to show the accomplishments of this network: the geographical growth and the increase of its use in scientific and educational communities of Latin America and Europe. "Apart from presenting the outcomes of the ALICE project, Lisbon will provide a forum to point up the importance of the challenges that RedCLARA will be facing in 2007, when the EU funds of the ALICE project come to an end", Stöver explains.

For RedCLARA the importance of this event does not end up there, since the stakeholders of the ALICE project will have to face, before and during the Forum, the question of how Latin America and Europe can ensure the success of ALICE beyond 2007. "The meeting in Lisbon will generate a forum to express our concerns and stimulate the discussion that is necessary to ensure the sustainability of RedCLARA", Catherine Stöver indicates, revealing the importance of the Forum in ensuring the continuity of the Latin American network.

### Agenda

The main objective of the debate at the IV EU-LAC Ministerial Forum on the Information Society will focus on the social impact of the Information and Communication Technologies (ICT), in order to elaborate a final declaration that will be presented at the EU-LAC Summit of Heads of State and Government in Vienna in May 11 and 12, 2006. This declaration will, in turn, constitute itself as the response to the mandate of the EU-LAC Summit held in Guadalajara (Mexico) in May 2004.

Another important topic will be the implementation of the work-scheme between Europe and Latin America and the Caribbean for the digital inclusion adopted in the III Forum of Rio de Janeiro.

According to its organisers, the Forum will allow:

1. The follow-up to the exchange of experiences in relation to the impact of ICT on social inclusion.
2. The exchange of viewpoints on the state of the i2010 and eLAC2007 initiatives for the development of the Information Society in each region.
3. The discussion of bi-regional cooperation in the field of research in the ICT industry, including in the framework the ALICE project, which interconnects the Research and Education networks in Latin American countries - through RedCLARA - and the European network GÉANT.
4. The presentation of the results obtained in the context of the @LIS cooperation programme of the European Commission (EuropeAid - <http://europa.eu.int/alis>), that will contemplate a space for the demonstration of the results and best practices in the projects that are part of this programme.
5. The exchange of opinions about the future results and development of the United Nations World Summit of the Information Society, held in Tunis in November 2005.

Within the programme of the IV Forum two instances stand out. One of them is the plenary session of the first day, where topics concerning policies for the development of an inclusive information society will be dealt with. Secondly, the parallel thematic sessions: e-Government, e-Education, e-Health, and e-Inclusion, among others.

The attendants of the Forum include Ministers; coordinators of national programmes for the Information Society and/or Digital Inclusion; Presidents of regulation agencies in the industry in both regions, as well as high-level representatives from the civil society, the private sector and international organisations.

Further information at:  
<http://www.ahciet.org/agenda/evento.asp?idEvtnt=137&a=2006&Act=per>

## RENATA: The strength of Colombia in the Advanced Networks scene

On Tuesday January 24, by means of a videoconference that brought together the Colombian cities of Barranquilla, Bogotá, Bucaramanga, Cali, Medellín and Popayan, Colombia celebrated the launch of its National Academic Network of Advanced Technology: RENATA.



Recorded as the official beginning network's operations, the event was presided by Martha Pinto de de Hart, Minister of Communications; Cecilia María Vélez, Minister of Education; María del Rosario Guerra, Head of Colciencias; Ignacio Burell, European Union representative, and Gustavo Gomez Uribe, Head of the Connectivity Agenda. Florencio Utreras, Executive Director of CLARA and Nelson Simões, Executive Director of RNP (Brazil) and President of the CLARA Board, also participated in the videoconference through RedCLARA.

*María José López Pourailly*

RENATA "connects the scientific and academic society of Colombia with the world". This is what it says in the slogan heading the recently launched web site of the national network for research and education from the country of García Márquez and coffee plantations. And not even one single word of that motto fails to be truthful: RENATA is the state-of-the-art Colombian network that connects local universities and research centres among themselves, and with high speed international networks and research centres through RedCLARA.

Renata is a name of Latin origin and it means 'king'. According to some scholars of the subject, those people who are named Renata possess a personality that shows a great plasticity and capacity for adaptation, which makes it possible for them to achieve a balance between the will to change and diplomatic courtesy in order to meet their goals. They also have extraordinary mental and physical reflexes, originality in their mental comprehension and expression.

RENATA pulls down the barriers and provides vitality and reality to the concept of collaboration for the higher education institutions and research centres in the different regions of Colombia. Through their network they will be able to access new generation services and tools in research and education processes. In fact, the regional networks could confirm this when joining the RENATA launch ceremony through a videoconference. We are referring to RUMBA (Barranquilla), RUMBO (Bogotá) UNIREN (Bucaramanga), RUAV (Cali) RUANA (Medellín), and RUP (Popayán). These networks, made up of different local universities and research centres, could interact with authorities and representatives from CLARA - who talked about the possibilities of development of projects using high speed networks - testing the capacities of their new national network and their connection to CLARA.

Renata, the star

Regarding the Colombian network as 'the star' is not a game, a caprice or, least of all, a triviality. The topology of RENATA is actually organised geographically as a star. Its centre is located in the Morato branch of Colombia Telecomunicaciones (Bogotá) and the five main nodes of the Regional Academic Networks (RAREs) in the cities of Cali, Barranquilla, Medellín, Bucaramanga y Popayán represent its five points. All local operators, who handle the metropolitan networks of universities, are interconnected in these points.

In RENATA, the transmission of data is carried out through the SDH network of Colombia Telecomunicaciones. This is done at E1's level, with a convergence time of the SDH network of the national ring of optical fibre of 50 ms, according to the planned model. In relation to the supported access mechanisms, the Colombian network offers services to Ethernet 10/100/1000 interfaces, in multiplexors as well as in routers. The ports on the services support transparent transport (Port Mode) and that carried out through VLAN's (Cubre Stacked VLAN's) for virtual connections through a single port. The access nodes with 10/100BASET interfaces are the ones in charge of receiving the links of the local operators of each regional network.

Each node of the network, i.e. each point of the star, is interconnected by means of a GigaEthernet or FastEthernet interface -according to the topology established by the local operator- and conducts 10 Mbps towards the concentration node in Morato-Bogotá, guaranteeing thus the convergence time of 50 ms in the case of a failure in the SDH network.

Today, each of the links at national level possesses a 10 Mega capacity, provided by the SDH network of Colombia Telecomunicaciones at 5\*E1's level in each node of the

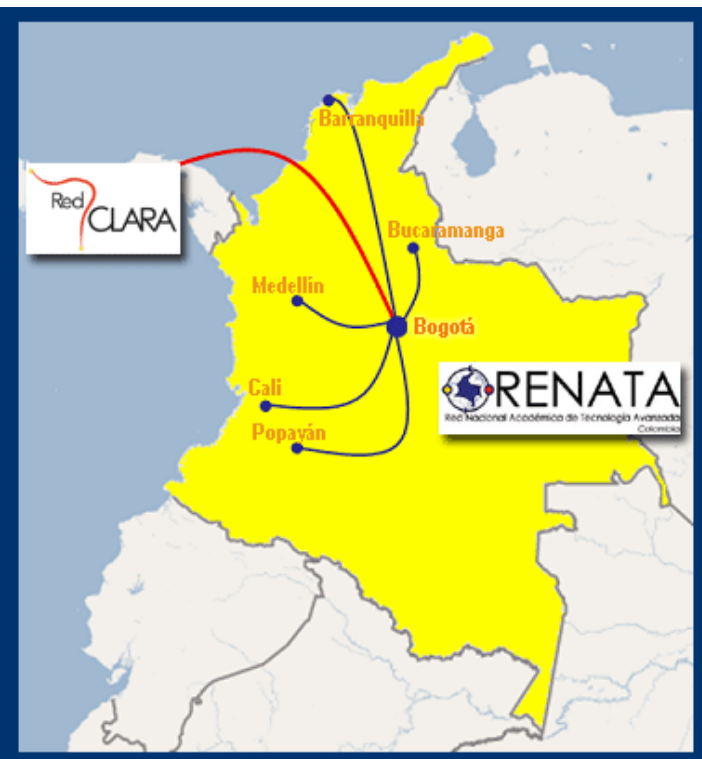


different regional networks. At national level, the SDH network delivers its capacity in E1's to a Metro 500 and Metro 1000 multiplexor equipment in Bogotá, in G703 interface; the multiplexor equipment groups the E1's and delivers them in Ethernet interface to the router equipment (Cisco 7606), constituting thus the national network. The operators deliver in Ethernet interface to a FastEthernet port of the Cisco 7606 router. In the case of Bogotá, the interconnection is made directly to the FastEthernet port of the equipment at an 802.1q level.

The technical model of RENATA allows the incorporation of up to 20 RARES.

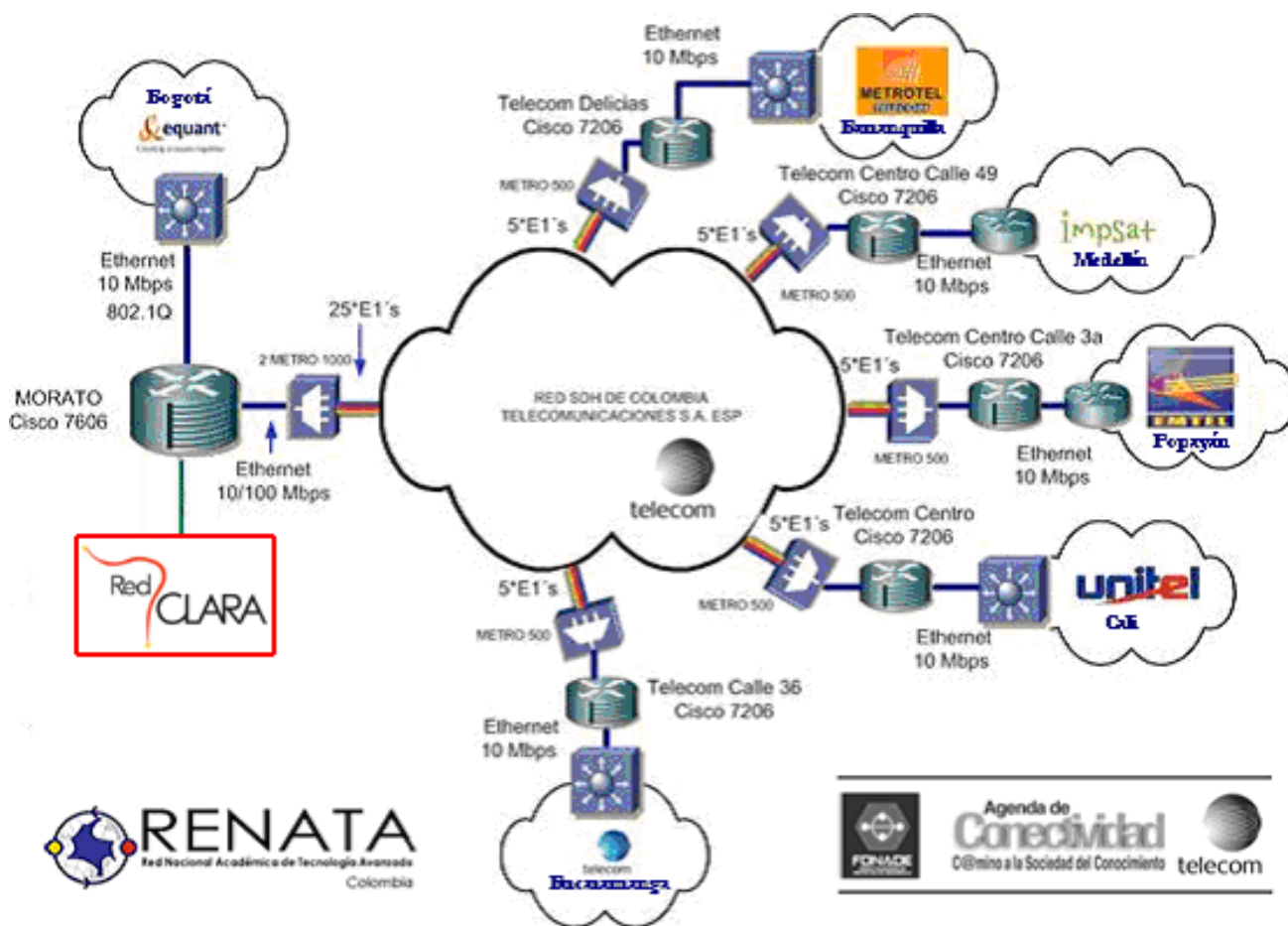
The connection of RENATA to RedCLARA, therefore its connection to the world of advanced networks, is carried out through Colombia Telecomunicaciones. This is an institution in charge of the transport of the capacity throughout the Colombian territory, in its SDH ring, from Telecom Morato to the head of the Cable Maya in Tolú, which in turn delivers the traffic to the PoP of RedCLARA in Panama.

The nodes of each of the cities form links of 10 Mbps, with a growth capacity of up to 1xSTM1 for each RARE, towards the main router (located in Telecom Morato Bogotá).



RENATA National Coverage

Logical connectivity of the nodes in the ring of Colombia Telecomunicaciones



## Members of RENATA

In its six regional branches RENATA groups a community which is made up of fifty institutions altogether. These are:

**RUANA.** Antioquean University Network (Medellín), constituted by: University of Antioquia, EAFIT, CES, Antioquia School of Engineering, Lasallist University Corporation, National University, Pontifical Bolivarian University, University of Medellín.

**RUAV.** High Speed University Network (Cali): University of the Valley, Javerian University, ICESI, Autonomous University of the West, Saint Buenaventura University, Santiago de Cali University, International Centre for Tropical Agriculture (CIAT).

**RUMBA.** Metropolitan University Network of Barranquilla (Barranquilla): University Corporation of the Coast, Free University of Barranquilla, Metropolitan University, Simon Bolivar Major Education Corporation for Development, Caribbean Autonomous University, University of the North.

**RUMBO.** Metropolitan University Network of Bogotá (Bogotá): School of Business Administration, Colombian School of Engineering, Granacolombiano Polytechnic, Pontifical Javerian University, Catholic University of Colombia, Jorge Tadeo Lozano University, University of the Savannah, University of the Andes, University of the Rosary, National University of Colombia.

**RUP.** University Network of Popayán (Popayán): University of the Cauca, Cooperative University of Colombia, Popayán University Foundation, Major College of the Cauca, Technological Institute of Comfacauca, SENA Regional Cauca, Autonomous University Corporation.

**UNIRED.** Network Corporation of Universities of the Metropolitan Area of Bucaramanga (Bucaramanga): Industrial University of Santander, Autonomous University of Bucaramanga, Pontifical Bolivarian University, Saint Thomas University, University of Research and Development, Colombian Institute of Oil, Adel Corplan.

**Martha Inés Giraldo Jaramillo:**  
**“We have CLARA and, with it we have the certainty that the conditions to learn and work hand in hand with ‘the experts’ are given”**

Martha Inés Giraldo, Head of ICT Application of the Connectivity Agenda of Colombia, is one of the people coordinating the RENATA organisation project.

Her task, shared with the directives from the regional networks of her country, as well as with the Ministry of Education and Colciencias, clearly meets her professional aspiration which, in the private as well as in the public sector, has been to actively participate in projects that result in the “opening of new roads”. And, what, if not new roads, are RENATA and RedCLARA for Colombia?

*María José López Pourailly*

With a background in Systems Engineering, Martha I. Giraldo has always been involved in projects in which the main focus has been the improvement of processes and the identification, design and development of new opportunities, through the incorporation of ICT. During her career, which now takes place at RENATA, the major application areas have been e-Commerce, the environment and education. Nowadays, the efforts of the Colombian executive are going into overcoming the digital gap and inserting Colombia in the world by means of the advanced academic networks. Undoubtedly, the launch of RENATA and its connection to RedCLARA are a landmark that will positively affect the accomplishment of this goal.

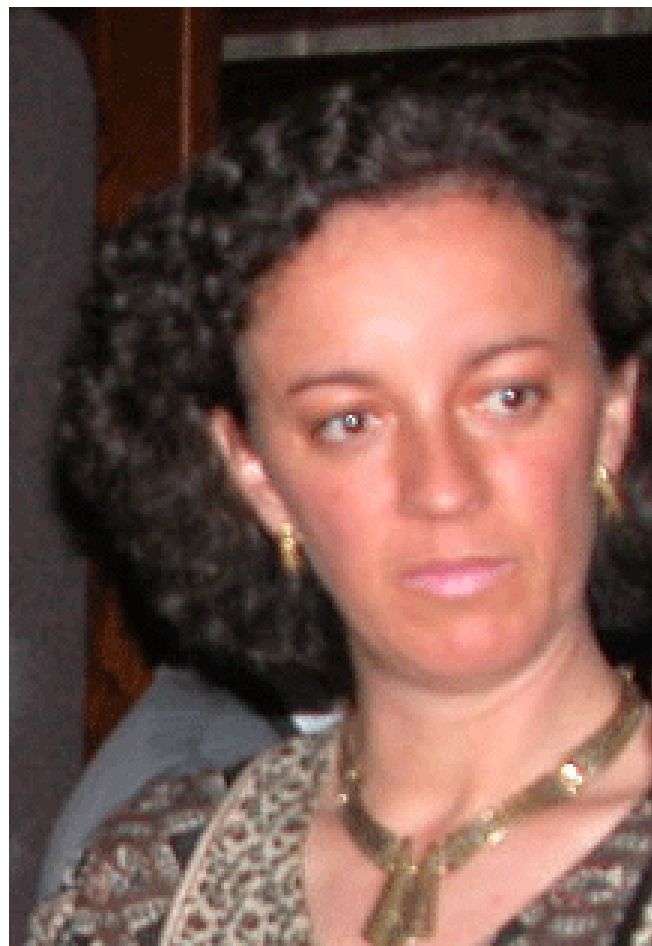
We talked about these matters with Martha Inés. The dialogue, as usual, was held through the network.

In the Conpes 3072 document of February 9, 2000 indicating the functions and strategies of the Connectivity Agenda it is stated that “the country must take advantage of the unique chance offered by ICT to hasten its development. Keeping in mind the fact that, so far, very few nations have introduced initiatives in this respect, the efforts made by Colombia in this direction will represent a remarkable difference from the other countries”. In the same document the importance of bridging the Digital Gap is revealed. In what way does the insertion of Colombia in the map of the advanced academic networks contribute to hastening the development of the country and bridging the Digital Gap?

It is well known that the most developed countries are the ones with the biggest investments in research. This has to do with the scientific and technologic capacity of the countries, but also with the educational systems, especially those of higher education. In this globalised world, the added value that we imprint on processes, products and/or services is what makes the difference and, therefore determines the competitiveness. As long as the communities of scientists, academics and students advance their researches, and apply them articulately to the development needs of each of the industries in the different regions of the country, we will be jointly working for the development of the Colombian economy, contributing, thus, to bridging the gap. RENATA provides academics and researchers with a favourable environment to advance their researches and innovations more effectively and more efficiently.

Almost six years have gone by since the birth of Conpes 3072, and Colombia, through its Government and academic community, insists on getting ready to efficiently use the Information and Communication Technologies. Why is this effort sustained and increased? The Information Society is evolving at a quick pace and ICT are central in this process, in that they allow the efficient exchange of information, the development of new products and services, as well as the new ways of management in organisations. ICT have increased enormously in importance as facilitators of development to reach national objectives and to participate in the global markets. Therefore, there is a prevailing need in developing countries of incorporating these technologies to attain their progress goals as a necessary alternative contributing to bridge the gap. The State, as well as private entities, are responsible for defining the strategies for the incorporation of new technologies as a crowbar for the development of the strategies of the industry. The Connectivity Agenda has, in turn, the objective of promoting ICT as an instrument of social development and works in the development of projects, especially in those industries in which it is necessary to provide specific support.

2005 could be regarded as crucial for Colombia's insertion in the framework of the advanced networks. On February 25 both the Ministers of Communications and Education announced that as of May Colombia will have RUNAV (High Speed National Academic Network) - which had received \$2.680 Million from the Connectivity Agenda (for the interconnection of regional networks and connection to advanced international networks) - in early October it was established that the new network would be called RENATA and studies concerning its implementation at regional level started; participation at CLARA level became more active, and finally it was established that the launch of the network would take place on January 24, 2006. In relation to the development of an advanced network, what made Colombia intensify its efforts during that year? Although Colombian universities had made individual and even regional efforts in order to have their high-speed



networks, we needed the support of the ALICE project to be able to consider the possibility of developing a national strategy. Aware of the need to support this process, the Connectivity Agenda took up again the significant advances made by the University of the Cauca, and supplied the necessary resources to develop a network structuring model that would take into consideration the geographical and internal conditions of the institutions participating throughout the country. Due to the response of higher education institutions - which so far have organised themselves into six regional networks, with forty-six participating institutions altogether - the Connectivity Agenda, through the ICT Application Office, has decided to continue supporting this project in order to move quickly from the issue of infrastructure and connections to that of the exploitation of the network, and network work that makes us think as regions, as a country.

Considering the effective functioning of RENATA and the establishment of its connection to RedCLARA, how do you visualise the development of research, science and technology in Colombia?

Thanks to the network, the higher education institutions and the research institutes will be able to expand their field of action: get connected to international circles for the management of added values services and collaborate in projects with international research teams, as well as inviting people from other countries to participate in ours.



From the academic point of view, a new scenario emerges in the field of virtual education and the development of more ambitious programmes, thanks to the chance offered by the network of using advanced services and tools. New possibilities are available for researchers and teachers in general in relation to the use of virtual laboratories, high-resolution videoconferences, supercomputing centres, and scientific and technological instruments unavailable in the country, among many alternatives.

What are the first goals that RENATA must reach? RENATA has several challenges for the present year. These are:

- Organise itself, define and establish an organisational structure.
- Coordinate RENATA as an articulate network of regional networks made up of academic and research institutions.
- Identify and develop the core of services and applications of great impact and utility for universities.
- Promote, diffuse, train and support the academic and research community so that they make the most out of the network in a short time.
- Support the creation of work-teams, dealing with technical matters as well as applications.
- Advance the definition of network use policies; develop a sustainability strategy and advance the necessary schemes of promotion and dissemination of the network.

From your personal point of view, what is the real importance of being a member of CLARA for Colombia?

CLARA becomes the fundamental strategy for the articulation of Latin American networks in order to work as real teams, joining forces to: 1) Learn from the experience of the other countries. No to make isolated efforts. 2) Facilitate collaborative work, identifying applications of common interest and incorporating new work-teams doing research and innovation on specific applications that are relevant for the region, with representatives in different countries. 3) Collect and channel international initiatives (Europe, Asia, and USA) that are of interest for the regional networks and vice versa.

I think this is the most significant aspect of CLARA together with the well-informed working atmosphere, which has been able to imprint its guidelines through regional meetings characterised by an ethos of friendship, interest, good will and collaboration among countries that are eager to share their knowledge.

After participating in the ALICE and CLARA project meeting held in Montevideo (November 2005), where you could get first-hand insights into the reality of the rest of the countries in the region, how do you perceive the state of development of advanced networks in the region, particularly RedCLARA?

There is an evident difference between the Latin American countries that have been working on advanced networks for several years, and those countries just recently organising themselves. What we perceive is that there is a gap between the Latin American countries, but at the same time we have CLARA and, with it we have the certainty that the conditions to learn and work hand in hand with “the experts” are given.

The first year of CLARA’s life is over. If you had the power to make a dream come true for CLARA and one for RENATA, what would those dreams be?

As for CLARA, my dream is being able to get, for a few



more years, a good sponsor (or sponsors) who understand the significance of this project - as the European Union has done- and who supports us in the task of financially sustaining it for an additional period of time, while the regional networks are consolidated and CLARA is able to define and devise a sustainability strategy, probably by offering some sort of product or service.

In the case of RENATA, my dream for this year is being able to see the consolidation of the network, which implies having researchers jointly working on projects about it. Additionally, I would like to identify and develop those products and services that single us out as local regions or countries. This way, we could start making progress in order to consolidate the same networks and find the road to sustainability.



## RNP collaborator trained the new technicians Ecuadorian Network Connected to RedCLARA

The Ecuadorian Consortium for the Development of Advanced Internet (CEDIA) is connected to RedCLARA since January 18. A 10 Mbps link starts from Guayaquil, Ecuador, and gets to Santiago, Chile, where it joins the central ring of the advanced network infrastructure of Latin America.

By means of CLARA, the Ecuadorian academic community is in direct contact with their counterparts in Latin America, Europe and the USA.



*RNP*

Together with the activation of the link, a training course on advanced routing was carried out from the 16 to 20 January. The course took place in Cuenca, Ecuador, within the programme of CEDIA's III Workshop of Advanced Networks. Two representatives from each institution belonging to the consortium were trained alongside technicians responsible for the backbone of the Ecuadorian network.

The training was in charge of Eriko Porto, coordinator of RedCLARA's engineering hub and collaborator of the National Network of Teaching and Research (RNP, Brazil). He was invited to offer the course by CLARA's training work-team. They also invited Hans Reyes, head of RedCLARA's operation hub; Guillermo Cicileo, executive vice-director of the Argentinean academic network (RETINA), and Harold de Dios, specialist in IPv6 from the University of Guadalajara (Mexico). Porto and Reyes had already participated in a similar training in Venezuela, in September 2005.

The group of forty-five students received theoretical training, supported by laboratory practices on the following topics: OSPF routing; IS-IS routing; BGP routing; BGP- better practices; IPv6 - theory and applications; IPv4 and IPv6 multicast; BGP, OSPF and IS-IS with IPv6. The equipment used was donated by the Cisco academy of the Higher Polytechnic School of the Coast.

At the end there was a debate on the implantation of the CEDIA network and its connection with other academic networks. The participants profited from the vast experience of the guests

when discussing the best way of implementing the national backbone and the connection with universities, the Latin American academic networks and with other regional networks through RedCLARA.

The training course on advanced routing was sponsored by the CEDIA and CLARA consortiums, by the Foundation for Science and Technology (Fundacyt), an institution linked to the National Office of Science and Technology of Ecuador, and by the University of Cuenca, which provided the facilities to carry out the training course.





## Rocío Cos: Projects Manager at CLARA

On March 13 Rocío Cos (Mexican) began working as Projects Manager at CLARA. She travelled to Chile to meet Florencio Utreras, Executive Director of the institution in order to coordinate her working activities. The Mexican executive talked to DeCLARA at the REUNA offices.

Rocío Cos will assume one of the fundamental missions of CLARA: develop and carry out the projects established in the Strategic Plan. Recently incorporated into the organisation that runs RedCLARA, Rocío faces her new professional challenge with eagerness and enthusiasm. We invite you to find out more about her.

Rocío Cos, Industrial Engineer from the Autonomous University of Mexico, recently went back to her university to do an MA, and is now finishing her studies on Systems Engineering, with a major in Planning. At professional level, she has been usually involved in the academic field, either teaching or coordinating some areas. Rocío also worked for a technological institution in Mexico where she carried out -among other tasks- the implementation and coordination of a quality project. One of her last jobs before joining CLARA was with the ILCE (Latin American Institute of Educative Communication), where she performed a content research for the development of the e-Mexico project, whose objective is to bring technology closer to the people with less resources and those without any ICT knowledge.

How did you become interested in applying for the position of Projects Manager at CLARA? It's a little bit odd. While I was working at ILCE, a fellow worker who is registered in CUDI got the call, but she works in a different area, so she came to me and told me "look, I have the feeling that you might be interested in this". When I saw the advertisement, it was very strange, because I had previously worked in something related to almost all the requirements indicated. Then, after finding out more about the project, I thought it was very interesting, very important for the development of the area



*María José López Pourailly*

of technologies, but focused on the field of research and education. Then, considering I met all the requirements and my interest in the project, I decided to apply.

Are you going to work from Mexico City?

Yes, I am. I will be physically working from my home, but I have received the approbation from CUDI and they will provide all the support I need.

What are your fundamental tasks and what is going to be your objective?

Basically, I will carry out the follow-up and control of the projects that have to be developed in order to attain the big objective, which is the consolidation of CLARA.

Today is your second day at CLARA, what is the scenario like after two days?

(Laughs) Well, processing information, because there are several projects that have to be well defined in order to work on them in the best possible way, when the time comes.

Finally, what do you expect from the relationship you are going to establish with the members of CLARA?

The idea is to establish a suitable link with everybody, connecting all that's being done within CLARA and the implementation of its projects; with everything that the stakeholders represent and that everybody can perfectly join this development.





## EELA took off!

By means of the action of a group of very skilled and highly motivated people in Europe and Latin America, the EELA Project will create a human network dedicated to work on Grids, e-Infrastructures, and e-Science. EELA started on the 1st of January 2006 and was officially launched during its Kick-off Meeting (KoM) that took place at CIEMAT, in Madrid and Trujillo (Spain), between January, 30 and February, 2, 2006.

*María José López Pourailly*

Funded by the European Commission with 1.7 million Euro, the EELA Project ("E-Infrastructure shared between Europe and Latin America") aims to build a digital bridge between the existing e-Infrastructure initiatives that are in process of consolidation in Europe (in the framework of the European EGEE Project), and those that are

emerging in Latin America, throughout the creation of a collaborative network that will share an interoperable Grid infrastructure to support the development and test of advanced applications.

In two years EELA will establish a collaboration network within which will be possible to identify and promote a frame of sustainability for e-Science in Latin America. This initiative is considered very strategic to reinforce the collaboration between Latin America and Europe, taking advantage of the establishment of the connection and of the advanced network that has been developed thanks to the ALICE project: RedCLARA, the first regional research and education network in Latin America.

The extraordinary goals reached in Europe in the scope of advanced networks and research infrastructures have paved the way for the development of a powerful Grid infrastructure, that allows distributed computation and shared storage between different geographic and administrative domains. All this e-Infrastructure - where the initiatives of GÉANT and EGEE are leaders - has resulted in the creation of an ideal platform for the development of the so-called European Research Area (ERA).

Through specific support actions, EELA aims to position the Latin American countries at the same level of the European developments in terms of e-Infrastructures. Now that the network infrastructure in Latin America is stable, the EELA focus will be in the Grid infrastructure and in some related e-Science applications. Therefore, the project's participant institutions have identified two fundamental scopes: the creation of a human network in e-Science - valuing its necessities and giving training to it - and the conduction of the technological developments that will allow Grid development and operation in the region.

In its collective effort, EELA will start up a common infrastructure in Latin America and Europe, interconnected by means of the RedCLARA and GÉANT networks, in which to implement certain applications of general interest: Biomedicine, High Energy Physics, e-Education and Climate. Because of the scope of its action, EELA will help to reduce the digital divide in the Latin-American region, making available to researchers a very powerful e-Infrastructure on which to make complex investigations in a simple way, that can be extended in the future to serve as basis for a greater community of users. In addition, this effort will allow Latin America to enter in an ordered form, and as a group, in the Grid technology.

EELA Kick off Meeting, the KoM

After twelve months of preparation and negotiation, the EELA project lifted off in Spain, during a four day meeting. In the KoM, the first two days were dedicated to management set-up, technical meetings and presentations of EGEE - considered as the mother project - and also the EuChinaGrid, EuMedGrid, SEEGRID and ICEAGE Projects. This part of the KoM was held in Madrid. After those two days, the participants went to visit the future facilities of CETA-CIEMAT located in the town of Trujillo (Department of Extremadura, Spain), where the KoM continued with meetings of the four different Project Work Packages.

### EELA members

EELA is coordinated by CIEMAT (Spain) and includes several partners from Europe - CERN; CSIC, REDIRIS, UC and UPV (Spain), INFN (Italy) and LIP (Portugal) - and Latin America -CLARA; UNLP (Argentina), CEDERJ, RNP, UFF and UFRJ (Brazil), REUNA, UDEC and UTFSM (Chile), CUBAENERGIA (Cuba), UNAM (Mexico), SENAMHI (Peru) and ULA (Venezuela).

More information: <http://www.eu-eela.org>



## EUChinaGRID

The 24th of February 2006, in Athens, the EUChinaGRID project kicked-off. It promises to support the integration and interoperability of the Grid infrastructures in Europe and China for the benefit of e-Science.

*María José López Pourailly*

The European Union funded EUChinaGRID (Interconnection & Interoperability of Grids between Europe & China) Project, in the next two years support the integration and interoperability of the Grid infrastructures in Europe and China for the benefit of e-Science application and worldwide Grid initiatives, in line with the support of the intercontinental extension of the European Research Area (ERA)

A second important objective for EUChinaGRID is the dissemination and training activity, which aims to improve the accessibility of the Grid infrastructure for new research groups and application, promoting scientific and, possibly, industrial developments.

The main aim of the Project is to facilitate exchange and processing of scientific data supporting a pilot interoperable usage of the most relevant Grid Infrastructures in Europe (developed within the EU EGEE Project) and China (managed by the CNGrid Project). EUChinaGRID will use the existing and planned infrastructure provided by the research networks like the Gigabit Pan-European Research & Education Network (GÉANT), exploit the initiatives of high speed



intercontinental network connection, like TEIN2 and ORIENT, and work in synergy with them for the optimization of network usage in agreement with the objectives of the Communication Network Development scheme. EUChinaGRID will use EGEE supported applications and the established common practices and policies to foster the migration of new application on the Grid infrastructures in Europe and China by training new user communities and support the adoption of powerful grid tools and services.

The results of EUChinaGRID Project will surely form the basis for a much larger scientific collaboration between Europe and Asia, through the creation of a human network in the area of Grids, e-Science, e-Infrastructures, and Policies between Europe and China, promoting the existing and creating new international collaborations.

The EUChinaGRID Project is coordinated by INFN and involves several partners from China, Greece, Italy, Poland and Switzerland.

Further information: <http://www.euchinagrid.org>

## RETINA is part of the initiative

## Argentina houses the world's biggest observatory

*María Paz Mirosevic*

Three thousand square kilometres is the total surface that will be used once the Pierre Auger scientific Observatory is completed in the Argentinean pampa. If we add the two hundred and fifty scientists participating in the project, plus the thirty institutions and fifteen countries involved, the result is a USD 50 million Mega-project of unthinkable dimensions. The Argentinean physicist Alberto Etchegoyen confirms this.

And, what is the purpose of all this? To achieve a necessary objective and an important goal: solve the mystery about the origin of the cosmic super-particles that the earth

The Pierre Auger Cosmic Rays Observatory has already started operations in the Pampa Amarilla of Argentina. So far, it has collected a significant amount of scientific data that will be fundamental to figure out the origin of the scarce high-energy particles contained in the invisible rain of cosmic rays that the earth constantly receives. The connection required for the storage and transmission of the project's data is provided by RETINA, a member of RedCLARA.

receives, which are nothing but atomic nuclei or electrons, charged with an amazing energy. In fact, a small minority of these particles is a million times more energetic than the particles generated in the world's most powerful accelerators. To get an idea of the significance of this project, let us mention that it could represent a great discovery, likely to change even the Theory of the Universe. However, the great mystery that is to be unveiled is where these particles come from and why they are charged with so much energy.

The observatory has two complementary methods for

detecting these particles. In the first, four fluorescent telescopes detect the ultra violet light that the nitrogen molecules present in the atmosphere emit when they interact with the particles falling down upon the earth. With this method, it is possible to track the development of the particles.

The second complementary method consists of surface detectors: 1600 polyethylene tanks, whose interior is coated with black plastic sheeting, and containing twelve tons of purified water. Each detector is a mile distant from the others, and they are all arranged in the shape of an equilateral triangle. The distance is such, because only a few high-energy particles get to the earth. In fact, according to the statistics, not more than one high-energy particle in a square kilometre for every century. Therefore, many square kilometres are necessary to catch a significant amount of particles in a short time, explains Luis del Peral, from the University of Alcalá de Henares, one of the universities participating in the project.

Surface detectors also contain three phototubes capable



OBSERVATORIO



PIERRE  
AUGER

MALARGUE  
MENDOZA  
ARGENTINA



of detecting the dim light (Cherenkov radiation) produced by the interaction between charged particles and the purified water molecules. This makes it possible to calculate the energy and direction of the ray, explains the director of the Pierre Auger observatory.

Until now, only some dozens of particles have been detected, and once the observatory is fully equipped they expect to catch about thirty particles of that energy every year. This quantity will be doubled when a counterpart of Pierre Auger is built in the next few years in the state of Colorado, USA. "In 2000 we detected the first cosmic rays - explains Etchegoyen -. Today we are recording two per hour, and we could confirm that the variables of the experiment's design work perfectly as planned.

The origins of the cosmic observatory

Frenchman Pierre Victor Auger, after whom the observatory was named, discovered the phenomenon of the rain of cosmic particles. Auger died in 1993, two years after registering the most intense cascade ever detected, with 200.000 million particles and 300 times more energetic than what world's generators can detect. Later, this phenomenon occurred again in Japan, surprising the entire academic world.

After the occurrence of this phenomenon, Nobel prize winner James Cronin, and Alan Watson, director of the Cosmic Rays Observatory of Leeds, thought about the importance of building an observatory exclusively devoted to catch the particles raining down upon the earth. "Higher-energy cosmic rays are messengers from the extreme universe. They represent a new frontier of human knowledge" commented Cronin when announcing the project. Thus the idea was born and was later materialised in 1995, when the design of the observatory was completed with the support of UNESCO.

The experts estimate that they need to register data for twenty years to answer the questions about the origin of these particles and the reason why they can be found on the earth. Everyone agrees that it is a huge construction full of promises.

Argentina was chosen to house the observatory, after competing with countries like South Africa and Australia. The 1200-m altitude, as well as the scientific and technologic characteristics of Argentinean science, clearly influenced the decision of the Observatory's directors.

Defying theory

But, why so much curiosity over the existence of these particles? Their origin is an enigma, and of course there are diverse hypotheses. It has been confirmed that the higher their energy, the less these particles are likely to be caught. Besides, they seem to come indistinctly from everywhere, so the obvious question is: where do they come from?

There are theories suggesting that their origin can be found in the Milky Way, in star explosions occurring every

fifty years. Some evidence suggests that the incubator would be in our own galaxy; while some other evidence suggests they would come from black holes in the centre of highly luminous and active galaxies. There is one theory that suggests corrections to Einstein's Theory of Relativity, and another one that relates these particles with the Big Bang. What is certain is that more data is needed to decide whether any of these theories can be the answer to the origin of these particles. In any case, each theory gives birth to concrete predictions, like the detection of a given number of particles. For this reason, physics believe that the research will yield the keys to the understanding of the universe.

Four months ago in Malargüe (Argentina), there was a presentation of the first data obtained by the scientists. Representatives from the countries participating in the project, as well as scientists and professionals working on it were present in the event. However, it is still too soon to venture any explanatory answer about the phenomenon.

#### The participation of RETINA

RETINA (TeleInformatic Academic Network), the Argentinean member of CLARA, plays a fundamental role in the collection and storage of the data obtained by the detectors and telescopes. The data obtained by the observatory are sent to a central station by means of mobile telephony. Then, the data are sent through the RETINA network to the Constituyentes Atomic Centre in Buenos Aires. The data are stored there for twenty years, and, thanks to RedCLARA, remain there at the disposal of international collaboration.

According to a presentation titled 'Advancing with Net Sciences' (<http://www.retina.ar/retina/retina2/ermann-4.ppt>) done by Miguel Ermann, coordinator of the Tics and Secyt project from Argentina, RETINA has had to perform tasks assigned by the observatory project. First of all, it conducted a study on the improvement of the communications infrastructure in Argentina in order to carry out the necessary improvements and take over the operation and management of the traffic between the observatory, located in Malargüe, and the world.

Thus, RETINA is in charge of providing the connectivity necessary for the transmission of data into the storage programmes that, after the established time, will yield the results that promise new and important knowledge.

#### Further information at:

- Pierre Auger Observatory - <http://www.auger.org.ar/visitas/home.swf>
- RETINA - <http://www.retina.ar>
- Miguel Ermann presentation - <http://www.retina.ar/retina/retina2/ermann-4.ppt>

## GÉANT2:

### The New Technology to Predict the Weather

A group of national weather centres across Europe are harnessing the power of GÉANT2, Europe next generation high-speed research and education network, to create a global weather forecasting system that allow meteorologists to make more accurate and timely predictions quicker.

*María Paz Mirosevic*

Climate change is a major global issue and few people will argue about its effects or that it is linked to extreme weather events, says Dai Davies, General Manager of DANTE, which manages the GÉANT2 network. This makes the need for accurate weather prediction even more critical than ever before.

National weather centres, led by the Deutscher Wetterdienst (DWD) are working together to create a Global Interactive Forecasting System (GIFS), which will use the latest technology for more accurate and timely forecasting. GIFS will use GÉANT2 to transfer critical, time-sensitive data among researchers.



GIFS will be able to transmit as much as 500 Gigabytes of data daily. That's equivalent to more than 700 CDs worth of data. The international connectivity overcomes the cost of high capacity links and enables meteorological services to work together to combine data and skills, Mr Davies says. This will speed up weather forecasting and allow meteorologists to make more accurate and timely predictions.

To share the power of national weather computers, GIFS will use advanced Grid computing technology that will allow processing workloads to be shared across national weather computers automatically via GÉANT2 and national networks. It plans to conduct feasibility studies during 2006/2007, operational tests in 2008 with the aim of full operation within 10 years. GÉANT2 itself connects 34 countries through 30 National Research and Education Networks. With an estimated 30 million users across the continent, the network offers unrivalled geographic coverage, high bandwidth, innovative hybrid networking technology and a range of user-focused services.

Further information at: [www.geant2.net/](http://www.geant2.net/)



## CUDI publishes in the network a video about Internet2

CUDI ([www.cudi.edu.mx](http://www.cudi.edu.mx)) presents to the community an explanatory visual document about the mission of this association and Internet2

*María Paz Mirosevic*

The University Corporation for the Diffusion of Internet, A.C. Internet2, Mexico, CUDI, founded 7 years ago like an association without profit aims, has made a visual document that will allow to clarify the image of CUDI and Internet2.

The idea of the document is to promote and to spread the objectives and the mission of CUDI. The video has been made under the coordination of the Members Committee and the important support of the General Direction of Education Television.

These documents explains in depth which means the use of the advanced networks, the institutions associated to them in Mexico and give a clear vision of which it means Internet2 for research, and how it works.

The video is available for the community in:  
[http://www.cudi.edu.mx/members/video\\_cudi.wmv](http://www.cudi.edu.mx/members/video_cudi.wmv)



## IV Workshop on Computational Grids and Applications WCGS

On Friday second of June will take place WCGS in Curitiba, Paraná, Brasil in Co-located with SBRC 2006 (24th Brazilian Symposium on Computer Network)

*María Paz Mirosevic*

WCGA has the objective to act as a forum for technical presentations of ongoing research and relevant activities in the area of Computational Grids, Infrastructure, Middleware Development and Applications, getting together researchers and professionals actively working in this area. The workshop also intends to form multi-institutional collaborative networks, groups with technical and scientific competence, and the strengthening of ongoing activities.

Previous editions of WCGA - 2005, 2004 & 2003 - have been held at LNCC (Petropolis - RJ), as part of the Summer Program, and generated substantial interest in the community and it is expected that this interest will continue. Far from exhausting the topics of interest, they have paved the way for a third edition of the workshop in the series. For WCGA 2006 workshop, researchers from the various GRID and Applications communities are encouraged to submit and present original work to be considered for publication. It is as joint organization of LNCC, RNP, NCSA and SBRC 2006.

Important dates:  
 Paper Submission: 3rd April 2006  
 Notification of Acceptance: 24th April 2006  
 Camera Ready Paper Due: 2nd May 2006

For further information: [sbrc2006@sbrc2006.arauc.br](mailto:sbrc2006@sbrc2006.arauc.br)

## AGENDA

### April

**7 – 8: Online International Symposium on Journalism**  
 Texas, USA.

**10 – 12: First WiMAX & CDMA African Forum**  
 Johannesburg, South Africa

**23 – 26: Itanium Gelato ICE 2006 Conference and Exhibition.**  
 San Jose, California, USA.

**24 – 28: II Latin American Workshop on GRID Computing**  
 Mérida, Venezuela.

**26 – 28: Conference “The Impact of Internet on European Media”**  
 Delphi, Greece.

**28 – 29: IV EU-ALC Ministerial Forum on the Information Society.**  
 Lisbon, Portugal.

### May

**14 – 15: IV International Congress of Nebrija on Cyber-journalism.**  
 Madrid, Spain.

**14 – 17: DFMA 2006 International Conference**  
 Malaysia.

**17 – 19: VI International Conference on Technology-based Education and Training. Online Educa, Madrid.**  
 Madrid, Spain.

**22 – 26: IX LACNIC Meeting**  
 Guatemala.  
<http://lacnic.net/sp/eventos/lacnicix/index.html>  
 May 29 to June 2: Internet Global Congress 2006  
 Barcelona, Spain.

### June

**2: IV Workshop on GRID Computing and its applications.**  
 Curitiba, Brazil.

**19 – 23: Ibero-American Congress of Science, Technology, Society and Innovation CTS+I**  
 Mining Palace, Mexico D.F.

**21 – 23: IV International Symposium of Digital Libraries (S.I.B.D.)**  
 Malaga, Spain.

**June 29 to July 1: XI International Congress of Educative Informatics**  
 UNED, Madrid, Spain.  
<http://dewey.uab.es/pmarques/pdigital/es/docs/CIIE061resumen.doc>