

## CANCLIN, MEXICO | MAY 26 - 28

**Editorial - Ernesto Chinkes** The link between Europe and Latin America will be doubled: RedCLARA-GÉANT interconnection to be upgraded to 5Gbps Major repository infrastructure initiatives agree to align their networks The Progress of ELCIRA eduroam in Chile RENATA is ready to implement eduroam in the Colombian institutions We hope to see you in TICAL2014! Their voices will sound in the plenary sessions These are the 41 selected papers for TICAL2014 Meet the Program Committee of the Conference Bibiana López Acevedo: "TICAL has become a fundamental meeting" Rafael "Lito" Ibarra: "TICAL aims to attend a niche of professionals that are not always catered in a specific way" Brian Salomaki, Google: "We had the valuable opportunity to talk with the people making decisions to improve infrastructure for higher education and learn about their needs and plans" InnovaRed: Progress and Challenges CUDI and CEDIA signed an agreement Agenda



## RedCLARA: A clear path for your data

### We empower your research and developments

RedCLARA interconnects the national advanced networks in Latin America and connects them with all the networks in the world, giving Latin-American scientists, academics and researchers an infrastructure that allows them to effectively collaborate with the global scientific community.

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# Editorial



## Ernesto Chinkes

TICAL2014 Program Committee  
President

University of Buenos Aires  
(Argentina)

General Coordinator for  
Information and Communications  
Technologies of the University of  
Buenos Aires;

Committee President of TICAL2013

We are in the countdown to the start of a new edition of TICAL, which has become, without doubt, the main space of dissemination and sharing of innovations and ICT solutions for Latin American Universities.

A few days ago in Santiago, Chile, the TICAL2014 Program Committee – that I have the honor to integrate - met to select the papers to be published and exhibited at the Conference; and therefore also to prepare the program. It was a hard work, and enriching time reading the experiences that have been conducted in the institutions of the countries of the region. This time the number of papers received doubled the already successful call we had the previous year, we received 149 Universities papers from Brazil, Mexico, Argentina, Colombia, Ecuador, Uruguay, El Salvador, Cuba, Chile, Costa Rica, Peru, Honduras, Greece and Spain.

To select the 41 papers that will be presented between May 26 and 28 at the stunning Cancun Center, was not an easy task because of the quantity and quality of work we should assess, having prioritized those who we understood have a more interesting approach for the Conference.

Those who participated in TICAL2013, in the city of Cartagena de Indias, will agree that this conference has become a reference point for our region, which allows us to hear many of the best experiences in the use of ICT in the universities. It is a space of participation that allows to discuss ideas, strategies, joint problems and generate collaborative projects; where once a year we meet those who have responsibilities in leading Information Technologies and Communications of the Universities of Latin America.

This year we have a very rich program with the addition of half a day. Of course, it will remain as the major strength of our conference is the presentation and discussion of the 41 selected papers where the authors share their experience in Information Security, IT Solutions applied to teaching and research, solutions that enhance the management, Infrastructure, ICT Governance and management.



We will also have the participation of other guests as the presence of the Rector of the University of Guadalajara giving his vision for ICT, CIOs of U.S. Universities and the Technological Institute of Monterrey, which allow us to know what they are doing in their universities, a round table of Rectors and ICT Directors of Latin American Universities in order to analyze the role of technology in our institutions, the responsible of the UNAM CERT will state the major risks to which we are exposed, and what actions are being taken. We will also have the participation of one of the key figures of ICT governance that exists in Europe, and a panel with the senior management of advanced networks and academic research on different continents who will tell us what is the outlook of those networks that integrate Universities.

We are also creating new spaces for participation: one organized jointly with ISOC (Internet Society) to encourage the IETF (Internet Engineering Working Group) in order that the Universities of Latin America may have an important role in the decisions that are made about the network. Another space will be allocated to Governance, where the results of the survey being undertaken by RedCLARA for this conference, which will serve as a trigger for the participants to think about new actions; and a third workshop of

the TICAL community where new collaborative projects and common problems solutions will arise.

We will also have a large participation of leading companies, not only in their stands or organizing demos, but in some specific cases presenting innovations for Universities. Within this framework will be an important debate among industry leading companies on the WiFi solutions that they offer. Finally, we will also have a new and interesting activity to encourage ICT innovation in universities, and a group of young entrepreneurs selected by the national networks will meet business leaders .

The Universities of the century, in the age of knowledge, need to think strategically in the use of information technology and communications to foster research, education and extension; and allow better management and services to the university community. TICAL2014 will allow us, in three days of intense work, to combine in the same area successful projects, exchange of knowledge, understanding trends, and mobilization of new initiatives. It is an ideal place to establish connections between the institutions to attract partnerships to leverage the synergies between all the participants.

I hope to see you on May 26th in Cancun.



The link between Europe and Latin America will be doubled:

## RedCLARA-GÉANT interconnection to be upgraded to 5Gbps

A procurement jointly carried out by DANTE and RedCLARA during the second half of 2013 was successfully concluded with the awarding of a contract which will double capacity between RedCLARA and the pan-European GÉANT network to 5Gbps.

The new link, that will go through the RedCLARA POP in Sao Paulo (Brazil) to the one that GÉANT has in London (England), will be provided by Telecom Italia Sparkle and

is expected to be operational very soon, in order to benefit the Latin American research communities and their collaborations with their peers in Europe.



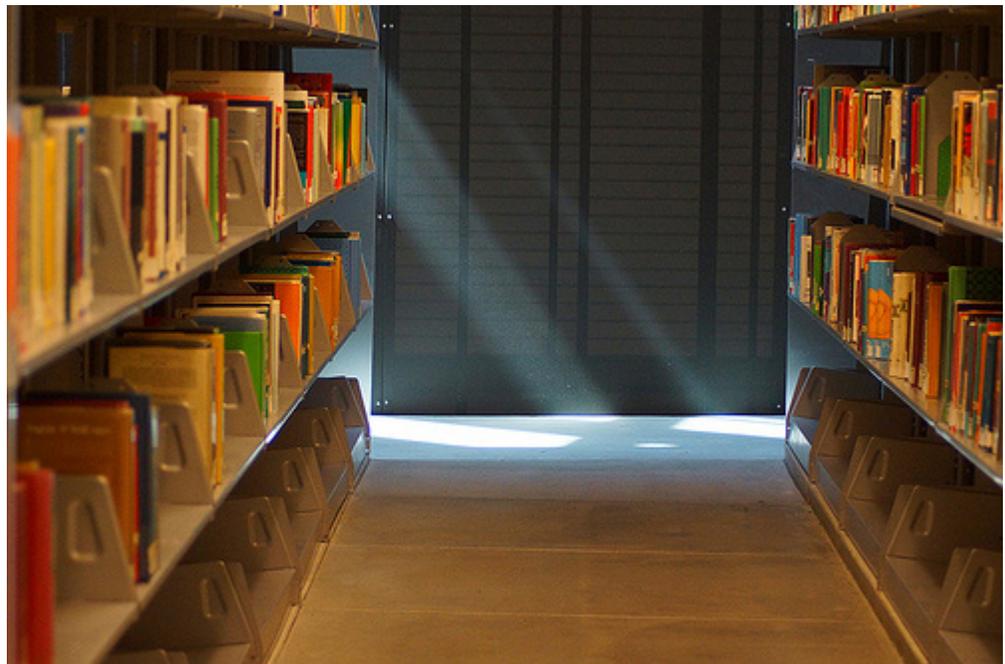
# Major repository infrastructure initiatives agree to align their networks

In a meeting in Rome on March 20-21, 2014 representatives from several major regional repository networks sat down to develop a strategy to better align their activities. The meeting brought together delegates from Australia, Canada, China, Europe, Latin America and the United States.

As research becomes increasingly global, it is critical to create infrastructure that can connect across geographic boundaries. Recently there have been significant efforts around the world to develop repository networks. These networks represent an important content layer within the research infrastructure system: They provide access to the products of research such as articles, data,

and other content to researchers and to the world. They are also becoming an important source of information for governments, funding agencies and institutions about the impact of the research they support.

Regional repository networks have evolved within their specific local contexts and currently differ in a number of ways. Aligning networks will enable the exchange of data between them, greatly improve access to content across regions, and allow us to extract maximum value from the products of research. "This is a significant step forward for all regions", says Prof. Norbert Lossau (Vice-President Göttingen University), chair of the meeting and chairman of the Confederation



Photograph Yuri Levchenko, with CC license.

of Open Access Repositories, “it will enable us to identify global best practices and avoid regional silos.”

In Rome, delegates identified several key elements that will be addressed immediately and agreed to work together on an ongoing basis on other issues to further align their repositories. It was also established that these activities will take place under the auspices of the Confederation of Open Access Repositories (COAR), an international alliance of repository initiatives.

For more information please contact Kathleen Shearer, Executive Director, Confederation of Open Access Repositories (COAR), [Kathleen.shearer@coar-repositories.org](mailto:Kathleen.shearer@coar-repositories.org)



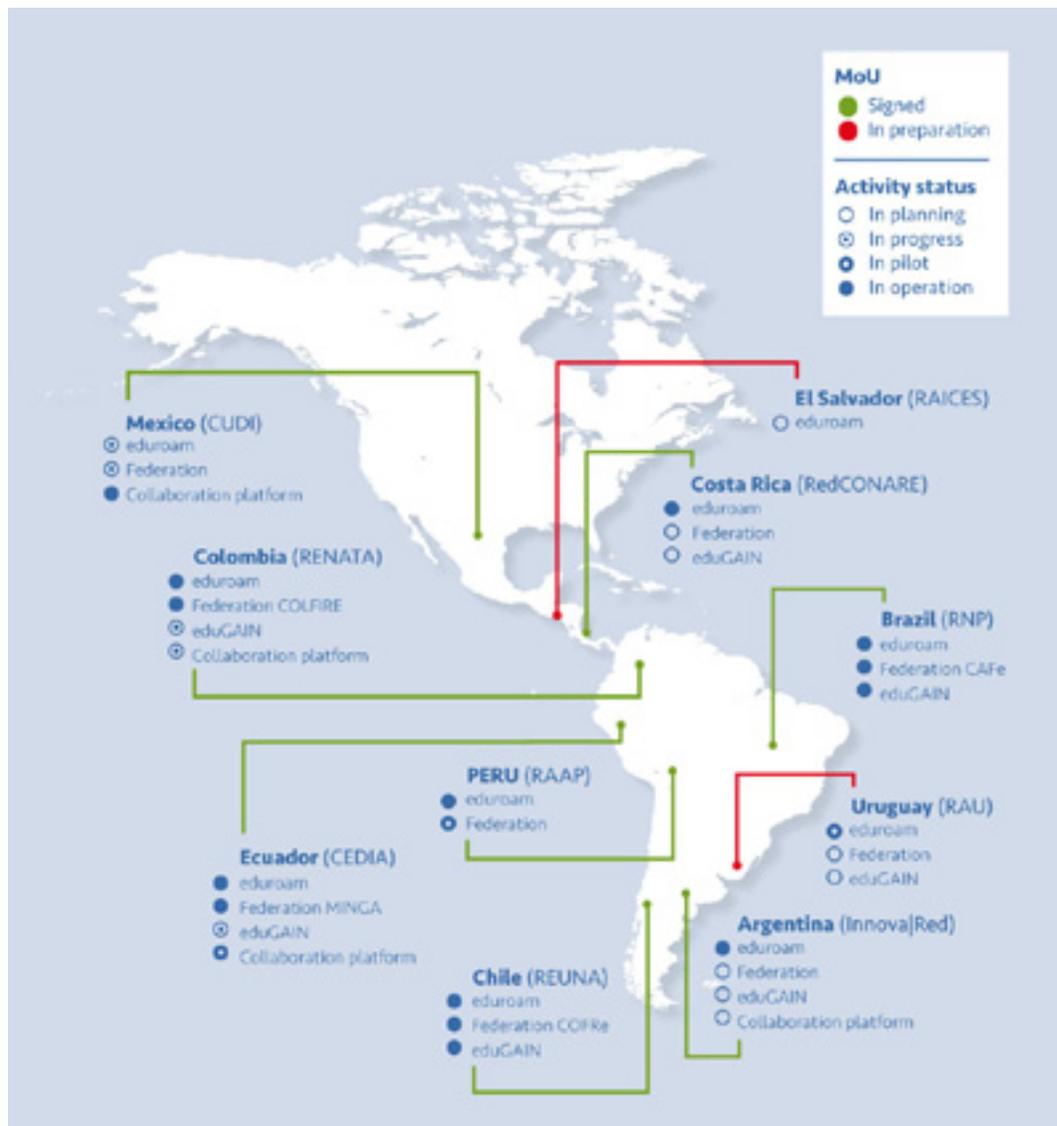
# The Progress of ELCIRA

Tania Altamirano

Almost two years after its beginning, dated on June 1st, 2012, the Project Europe Latin America Collaborative e-Infrastructure for Research Activities, ELCIRA, has accomplished several of its objectives that arose. Implementing Identity Federations in Latin American countries, the deployment of eduroam in the region and the development of a collaborative platform to enhance the

work of researchers and academics in the region and Europe are part of the activities carried out by the seven Work Packages of the Project. The following image presents the status of each activity to date.

More information about ELCIRA: [www.elcira.eu](http://www.elcira.eu)



# eduroam in Chile

eduroam Chile roaming exceeded 6000 connections between local universities and promises to continue growing.

## REUNA

A total of 6777 roaming (wireless connections) have been made through the global mobility service eduroam Chile since it started to be delivered by REUNA (the National Research and Education Network which is also the official eduroam operator in the country) in May 2013. Service statistics also reveal that the Spanish citizens are the foreign users that lead the roaming number with over 5000 connections made from Chile.

The University of Chile was the first higher education institution in the country to join the eduroam signal (education roaming), which is addressed to the university community and its guests.

More information at REUNA: <http://www.reuna.cl/index.php/89-novedades/2532-eduroam-llega-al-pais>





# RENATA is ready to implement eduroam in the Colombian institutions

The Colombian National Academic Network of Advanced Technology, RENATA, tested eduroam connectivity from RENATER, the French national research and education network. eduroam will allow each member of the community of institutions connected in Colombia to have its own username and password to access the service from anywhere in the world. This initiative emanates from the activities carried out under the ELCIRA Project.

## Comunicaciones RENATA

The ultimate goal is that users have, in a seamless way, a virtual workspace with Internet access, access to services and resources of its organization of origin as well as access to services and resources of the organization that is welcoming the users where they are.

The members of RENATA - Lucas Giraldo Rios, Executive Director, Claudia Inés Chaparro, Head of the Project Office and Diego Alberto Rincon Yanez, Technology Manager - tested the efficiency of eduroam accompanied by Florencio Utreras, Executive Director of RedCLARA. The test was carried out from Paris, France.

"2014 will be the year of eduroam for Colombia by means of RENATA. The impact of eduroam for Colombia will benefit the entire community of the institutions wishing to implement this technology, because by doing so, all people that can connect to their networks via WiFi will be able to access the network from any institution linked to eduroam", said Lucas Giraldo Rios, Executive Director of RENATA.

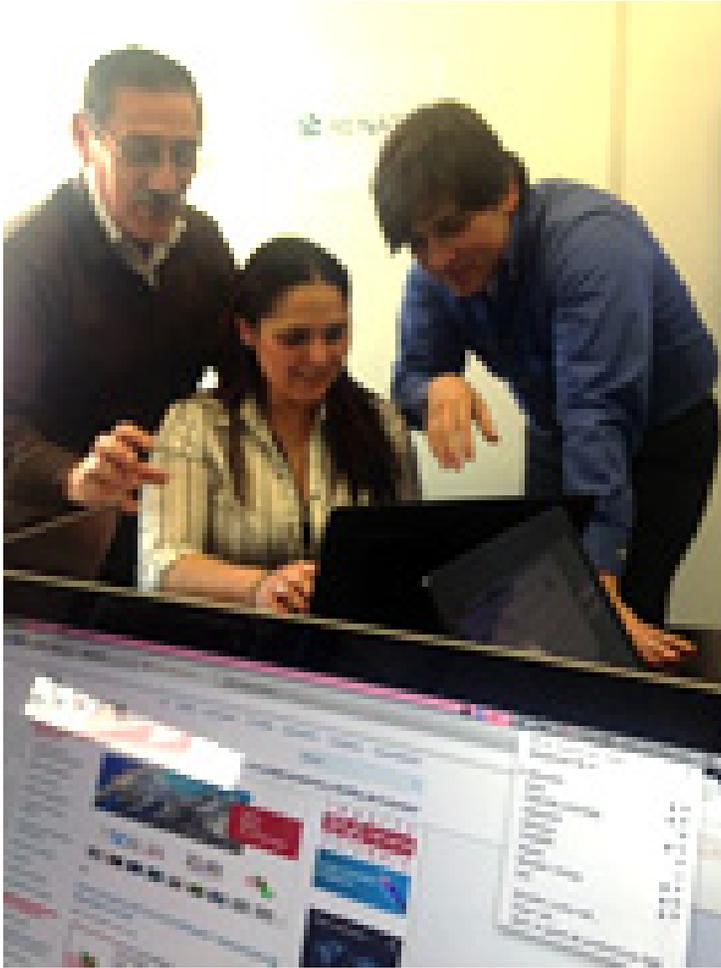
"In other words, all those who belong

to a RENATA member institution that has implemented eduroam, may benefit from this technology anywhere in the world. The user will just need to open his computer, browse the WiFi networks and enter through eduroam, and use his login and password. eduroam is that easy", said Giraldo Rios.

According to Diego Rincon Yañez, Technical Manager of RENATA, the institutions wishing to implement eduroam must do two things: "The first is link to COLFIRE, the RENATA identity federation system through which users and passwords will be enabled in order to allow the access to eduroam anywhere in the world, and second thing will be to do the technical implementation of eduroam in their WiFi networks."

"This means that the institutions that are related to RENATA may participate in this initiative as "identity providers", providing users as well as offering eduroam connectivity from its facilities as "service providers". Institutions will have to adhere to the policy compliance of the CO eduroam federation (COLFIRE)", explained Rincon Yañez.

Those institutions that are not affiliated



The engineers Florencio Utreras, RedCLARA Executive Director, Claudia Inés Chaparro, RENATA Head of Project Office of RENATA, Diego Alberto Rincon Yañez, RENATA Technical Manager, at the time of testing eduroam for RENATA, Colombia, from Paris, France.

with RENATA but are in a position to act as providers of this service for the benefit of the academic community in the country and the world, will be also able to participate by fulfilling the policy of the CO eduroam federation (COLFIRE) .

RENATA considers that the procedure for the implementation of eduroam will take one month to each institution. Those interested in joining the initiative in Colombia , must make the request via email: [soluciones@renata.edu.co](mailto:soluciones@renata.edu.co).



Very soon will be 09:00 o'clock of May 26, time and date in which TICAL2014 will start. The reception of papers, the quality of them and the speakers of the plenary sessions, the active participation of the RedCLARA member networks in the Conference promotion, and the ever increasing registration of participants, are predicting a successful Conference and this DeCLARA special will give us the necessary framework to turn our engines and get ready to travel to Cancun to meet in the fourth version of TICAL. See you there!



Everything is ready:

# We hope to see you in TICAL2014!

Technical details:

Name: TICAL2014 - Fourth Conference of Directors of Communication and Information Technologies of Higher Education Institutions

Date: 26-28 May 2014

Location: Cancun Center

City: Cancun

Country: Mexico

Number of speakers: 7

Number of papers / experiences to be presented: 41

Number of papers / experiences that were postulated: 149

Organizers: CUDI and RedCLARA

With the support of: Caribbean University

We hope to see you in TICAL2014!



### Sponsors:



## Their voices will sound in the plenary sessions

They are leaders. They are recognized experts. Many people expect to hear their voices. They are important knowledge holders, knowledge that they are willing to share. They are the lecturers of TICAL2014. Get to know them!



**Rubén Aquino**  
Assistant Director of Information Security in the UNAM-CERT, National Autonomous University of Mexico, Mexico

Computer Engineer, Assistant Director of Information Security in the UNAM-CERT of the General Directorate of Computer and Information Technology and Communication of the UNAM. Since 1999 is specialized in information security in areas such as detection and incident response, computer

forensics, systems for management, best practices and awareness. Since 2009 he is in charge of the Division of Information Security and leads the UNAM Incident Response Team, which provides services to the University and to public and private entities in the country.

He has made computer security expert, coordinated incident response teams, developed information security projects of national importance and has participated as speaker in various national and international forums. He is currently working on an MBA in Information Technology and Management.



We hope to see you in TICAL2014!



**José Tam**  
Director of  
Information  
Technology of  
the Technological  
System of  
Monterrey, Mexico

Tam has over 24 years of experience in several areas: Strategic Business Planning and IT, Enterprise Architecture, Customers Relationship Management (CRM); Business Process Reengineering, Application Integration, Service-Oriented Architecture, Information Management and Business Intelligence, and Business Innovation Strategies using IT.

The industries where Tam has expertise are: Education, Financial Services; Consumer

Goods; Trade, Manufacturing, Natural Resources, Transportation, High Technology and Telecommunications.

Tam has had the opportunity to develop his career internationally living in 4 countries over 10 years in executive positions in companies of systems integration such as Sil Data and Softtek and for 14 years as Partner of "Consultoría y Managing", Director in consulting business and IT, as KPMG Consulting, BearingPoint, Neoris and IBM Global Business Services.

José Tam holds a Masters in Business Administration at the University ESAN and studied Industrial Engineering at the National University of Engineering in Lima, Peru.



**Wim Van**  
University of  
Antwerp, Belgium

Wim Van Grembergen is a full professor at the Economics and Management Faculty of the University of Antwerp (UA) and executive professor at the Antwerp Management School (AMS). He teaches information systems at master and executive level, and researches in IT governance, IT strategy, IT performance management and the IT balanced scorecard. Within his IT Alignment and Governance (ITAG) Research Institute ([www.uams.be/itag](http://www.uams.be/itag))

he conducts research for ISACA/ITGI on IT governance and supports the continuous development of COBIT and VAL IT.

Currently he is evolved in the development of COBIT 5. Dr. Van Grembergen is a frequent speaker at academic and professional meetings and conferences and has served in a consulting capacity to a number of firms. He has several publications in leading academic journals and published books on IT governance and the IT balanced scorecard. His most recent book "Enterprise Governance of IT. Achieving strategic alignment and value" is published in 2009 (Springer, New York).

We hope to see you in TICAL2014!



**Brad Wheeler**  
Vice President  
for Information  
Technology & CIO,  
Indiana University,  
United States of  
America

Dr. Brad Wheeler leads university wide IT services for IU's eight campuses. He has co-founded and led open source software and service collaborations such as the Sakai Project, Kualii, and the HathiTrust. Most

recently, he developed IU's eTexts initiative and implemented a cutting-edge delivery model to tackle the high costs of textbooks for students.

A member of various boards and organizations, Wheeler focuses on leadership and meaningful collaboration in higher education. He is also a professor of information systems in IU's Kelley School of Business, and has taught executive programs for corporate and MBA audiences on six continents.

### Round Table: The future of Advanced Networks



**George McLaughlin**  
Member of the  
APAN Board of  
Directors, Australia

George McLaughlin led the Australian Academic & Research Network (AARNet) from 1995 to 2003, developing AARNet's connections to and engagement with the research communities around the world.

Since then has worked with various international agencies and on initiatives that focus on exploiting Research and Education

Networks to enhance collaboration opportunities in research and discovery and to improve societal outcomes.

These included roles with the World Bank; the European Commission; the NSF-funded TransPac program; and with UNESCO. McLaughlin was one of the founding directors of Asia Pacific Advanced Network (APAN) Ltd and has held various other roles in APAN where he is currently an adviser. He has received a number of awards for his contributions to the ICT and Research and Education sectors and in 2009 was inducted as a Member of the Order of Australia.



We hope to see you in TICAL2014!



**Niels Hersoug**  
General Manager  
of DANTE, United  
Kingdom

Niels Hersoug joined DANTE as General Manager in 2011. A

Certified Project Manager and Master of Science and Business Administration, Niels is highly experienced in management and technology.

Prior to DANTE, Niels worked in a number of senior management roles in a range of technology driven companies.



**Florencio Utreras  
Díaz**  
RedCLARA  
Executive Director,  
Chile

Florencio Utreras holds a graduate degree in Mathematics and Engineering and a PhD in Engineering, has been the Executive Director of RedCLARA, the Latin American Advanced Networks Cooperation, since 2004.

He has participated actively both in his country as well as throughout the region, initially as a lecturer and later focusing on what would become his core activity – building computer networks to help develop academic knowledge and research.

Winner of the LACNIC 2011 Outstanding Achievement Award, he has been involved in Internet development and Academic Networks in the American continent for more than twenty years and has received

several awards for his contribution to the dissemination of Internet technology and research networks.

Utreras played a key role in connecting Chile to global computer networks, leading the incorporation to Bitnet in 1987 and coordinating the FONDEF Project for strengthening the National University Network which allowed creating a 64-kbps link for REUNA members in 1992. In 1997 he promoted a strategic alliance between REUNA and CTC Mundo (currently Telefonica), which allowed creating REUNA2 –a broadband network from Arica to Osorno, at the time considered to be the largest in Latin America. In 1992 he contributed to the creation of REUNA (the first Latin American and Caribbean academic network). He was then part of the first RedCLARA Board of Directors and later competed for the position of Executive Director which he assumed in 2004.

We hope to see you in TICAL2014!



# These are the 41 selected papers for TICAL2014

As a result of the announcement made through national research networks and institutions related to information and communications technologies in Latin America, 149 papers postulated to be part of TICAL2014. RedCLARA will award one author per paper with the plane tickets that they need to travel and be part of the Conference.

All the submitted works were evaluated by the program committee integrated by Ernesto Chinkes - University of Buenos Aires (Argentina - President), Mauro Cesar Bernardes - University of São Paulo (Brazil), Nadja Starocelsky - Austral University of Chile (Chile), Luis Alonso Castro - University of Costa Rica (Costa Rica), Wilfredo Antonio Bolaños - Catholic University of El Salvador (El Salvador), Jorge Preciado - University of Colima (Mexico), and Alberto Bellorín - Central University of Venezuela (Venezuela).

The 41 selected papers that will be part of the Program of TICAL2014 are:

## Infrastructures

De la planeación de TIC a la implementación de IPv6 un escenario deseado para desarrollar el "Internet de las cosas" en la Universidad de Ibagué Colombia - O. Motta, R. Pelaez - Colombia

Proyecto de Consolidación del Centro de Datos de la Universidad Estatal a Distancia de Costa Rica: Hacia una nube híbrida - F. Duran, R. Rojas - Costa Rica

Adopción de una solución de Nube privada

en un esquema de sedes disperso a nivel nacional - S. Carrasquilla, M. Amado - Colombia

MonIPÊ: Um serviço de monitoramento de desempenho de redes usando soluções em hardware de baixo custo e virtualização de infraestrutura - Several authors - Brazil

Despliegue de infraestructura de fibra





We hope to see you in TICAL2014!



óptica para formar la Red Nacional de Investigación y Educación en el Perú - Varios - Peru

Integración de usuarios y servicios informáticos, WebDesktop - M. Ruiz, L. Navarrete - El Salvador

Rapla: Sistema de planificación de recursos implementado en una red de videoconferencia - J. Rodríguez - Mexico

A CHAIN-REDS solution for accessing computational services - Several authors - Several countries

Unidad de Control Multipunto para Videoconferencia basado en Software Libre con integración a la Red Académica VoIP de Argentina - M. Martín - Argentina

Proyecto U.V "UNLAR-VOIP" - F. González - Argentina

### ICT Governance and Management

¿Cómo gobiernan sus Tecnologías de la Información las universidades españolas? - Several authors - Spain

Estructura Organizacional del área TIC en la Universidad de Buenos Aires: Desde Soporte Técnico hacia un Centro de Servicios para el Usuario - Several authors - Argentina

Eficiencia y efectividad en el otorgamiento de servicios de TI. Caso en la Universidad Nacional Autónoma de México - Several authors - Mexico

Propuesta de Criterios Complejos para la Evaluación de Proyectos Tecnológicos Ambientalizados - J. Sepúlveda, L. Ramírez

- Colombia

A percepção dos profissionais de TI da Unicamp com relação a Governança de TI - A. Rodrigues - Brazil

Desarrollo de una Plataforma de Gestión de Conocimiento para la Innovación en Tecnología Educativa - Several authors - Mexico

Certificación ISO 9001:2008 en todos los procesos informáticos – Caso de éxito en la Universidad Nacional de General Sarmiento - A. Barberio y D. Natale - Argentina

Ações de Governança e Gerenciamento de Serviços em uma Universidade Brasileira: Relatos de uma Década de Experiências - Several authors - Brazil

### Information Security

Propuesta de Implementación de una Arquitectura Segura para activos de información de la Universidad de Boyacá - M. Suárez - Colombia

Extensiones de Seguridad para el Sistema de Nombres de Dominio aplicadas en la Universidad Nacional de Loja - G. Espinoza, L. Chamba - Ecuador

Modelo de encriptación con llaves colegiadas: Aplicación para el voto electrónico en la Universidad Técnica Federico Santa María, Chile - Several authors - Chile

¿De ISO 20000 e ISO 27001 la evolución hacia un modelo de gobernanza empresarial de TI ? - D. Plata - Colombia

We hope to see you in TICAL2014!



### ICT Solutions for Management

Gestión de las investigaciones basada en proyectos en una universidad - O. Enríquez, J. Jerez - Cuba

Plataforma Tecnológica Para Disminuir la Deserción Estudiantil En La Universidad De La Costa - H. Combit - Colombia

Modelo predictivo de deserción estudiantil utilizando técnicas de minería de datos - Several authors - Colombia

UBA Prisma. Experiencia en la implementación de un sistema de gestión de recursos humanos en la Universidad de Buenos Aires - Several authors - Argentina

Vídeo@RNP: integrando serviços de vídeo digital para a comunidade acadêmica - M. Cunha, J. Faustino - Brazil

Mejorando las comunicaciones con los estudiantes de la Universidad Austral de Chile con TI - M. Muñoz, N. Starocelsky - Chile

### ICT Solutions for Teaching and Research

WebRTC - Una nueva tecnología web al servicio de la educación. Caso en VirtualNet 2.0 - Several authors - Colombia

La Incorporación de Tecnologías Educativas en la Universidad del Magdalena bajo un enfoque de Smart Campus - S. Prieto - Colombia

Integración de servicios web 2.0 al software de redes sociales Elgg para el apoyo a procesos de enseñanza y aprendizaje en educación matemática - Several authors - Colombia

Educação a Distância e Pesquisa de Tecnologias Educacionais no CESUP/UFRGS: 2008-2014 - A. Soares, D. Grüne - Brazil

Live Streaming y Video On Demand de contenido academico producido en la PUCP - J. Barturén, G. Ríos - Peru

Criando Serviços Avançados na América Latina em Colaboração com a Comunidade Científica e as Redes Acadêmicas - Several authors - Brazil

Implementación del acceso abierto al conocimiento y repositorio institucional UANL - N. Serna, C. Villanueva - Mexico

El Open Journal Systems (OJS) y la visibilidad internacional - F. Ardito - Peru

Interoperabilidad entre Redes Federadas de Repositorios Institucionales para la diseminación del conocimiento: El caso REMERI de México - R. Vázquez, A. Razo - Mexico

Avances conceptuales y técnicos en el diseño e implementación del Sistema Nacional de Recursos Educativos Digitales Abiertos (REDA) - J. Bernal, L. Castellana - Colombia

SISMILAB, Laboratorio Virtual para la Enseñanza y el Aprendizaje de la Ingeniería Sísmica - Several authors - Colombia

Construcción de una comunidad de práctica en Second Life para aprendizaje en educación superior - M. Méndez - Colombia

e-LAB Colombia: Red de Laboratorios Virtuales y Teleoperados de Colombia en la Red Nacional Académica de Tecnología Avanzada (RENATA) - Several authors - Colombia.



We hope to see you in TICAL2014!



# Meet the Program Committee of the Conference

This year, seven leading experts from the region were responsible for the evaluation of the articles received in response to the call for papers and to select those that will be part of the TICAL2014 program.

In order to contribute to enhance the work and the role of the Information and Communication Technologies (ICT) Directors of the universities of the region, TICAL2014 gathered in its Program Committee experts from universities in Argentina, Brazil, Chile, Costa Rica, El Salvador, Mexico and Venezuela.

The members of this group had the task of defining the topics of the Conference, evaluate the articles received from the call for papers and select those who will join the program TICAL2014.

## Who are they?



Ernesto Chinkes, Committee President | University of Buenos Aires (Argentina). General Coordinator for Information and Communications Technologies of the University of Buenos Aires; Committee President of TICAL2013



Mauro Cesar Bernardes | University of São Paulo (Brazil). Chief of the Technology Division of the Electronic Computer Center (ECC).



Nadja Starocelsky | Austral University of Chile. Director of the Informatic Center.



Luis Alonso Castro | University of Costa Rica. Director of the Informatic Center.



Wilfredo Antonio Bolaños | Catholic University of El Salvador. Laboratory Director, Information Technology.



Jorge Preciado | Colima University (Mexico). President of the CUDI Board of Directors, Strategic Projects Coordinator of AEM and CUDI.



Alberto Bellorín | UCentral University of Venezuela. ICT Sub-Director and Academic / Researcher.

We hope to see you in TICAL2014!



Bibiana López Acevedo:

## “TICAL has become a fundamental meeting”

Systems Engineer and specialist in Advanced Technologies for Software Development, since 2008 Bibiana Lopez is the Executive Director of UNIRED (Corporation Education Institutions Network for Education, Research and Development of the Colombian Eastern) a labor that she has shared with her role of former Executive Director and Chairman and Vice Chairman of the Board of the Colombian national network, RENATA.

Tania Altamirano

In this interview, the executive talks about her experience in the previous editions of TICAL, the results of her participation for UNIRED and her expectations about TICAL2014.

We know t that you have participated in previous editions of TICAL, which is your perception of the growth and evolution of the Conference over the years?

I participated in TICAL2012, held in Lima, Peru, and in TICAL2013, held in Cartagena de Indias, Colombia, events in which I have noticed the significant evolution of the Conference regarding not only the academic content (speakers and themes) but also the logistic, infrastructure, the number of attendees and the outstanding experiences shared on how ICTs become fundamental to the strengthening and development of education in Latin America.

Moreover, TICAL has allowed, over the years, to ease the consolidation of working groups around fundamental issues that facilitate

collaborative growth and encourage every year the ICT CIOs to share their knowledge and experiences.

What do you think is the value of TICAL2014 for institutions related to higher education in Latin America?





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TICAL has become an essential forum for the exchange of best practices in the use and appropriation of ICT in higher education institutions around the world, providing opportunities for interaction, collaboration and coordination among CIOs of major HEIs (Higher Education Institutions) in Latin America, leading to the consolidation of the region and to the mutual growth and continuous improvement.

Which have been the main benefits that you have obtained for your institution through your participation in the Conference?

For UNIRED and its associated institutions, TICAL has become a key meeting where to share experiences in the development of ICT-based projects and services that enable a more efficient and effective management of the activities of HEIs, not only to socialize the benefits of the implementations, but also the lessons learned during the process; which significantly speed up the execution time of

future similar projects in other institutions and, why not, also the provision of services between the different institutions to solve specific needs.

Likewise, through the workshops that have been generated in these meetings, it was possible to create interdisciplinary teams to build projects around common interests of different institutions and Latin American countries on issues such as knowledge management, digital repositories, supercomputing, IT management and governance, among others.

As a Network it is fundamental to know the experiences related to cooperative management in areas such as joint negotiations, the ability to share resources and services, and of conducting collaborative projects for mutual development.

It should be noted the reported progress of one of our institutions in matters of the implementation of ISO 27001 IT processes, a

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subject which has led and has been enriched with the feedback received on the TICAL governance worktable. Of course, more and more institutions that are part of UNIRED are interested in participating in this event, either as attendees or panelists.

If possible, could you tell us about any initiative or idea implemented in UNIRED which has commenced as a result of your participation in TICAL?

The implementation of project ideas that started within TICAL have occurred within the institutions of higher education that are members of UNIRED, from such ideas supercomputing services for the management of massive processing and scientific visualization has been developed, which is today a major requirement of the researchers. Moreover, the motivation of HEIs to implement cloud services for computing rooms management, which significantly reduces the cost of investment and maintenance, is another result. In this regard, in TICAL2013 there was a discussion table regarding the legal implications of cloud services, that allowed to solve many doubts about how these contracts should be developed to protect the integrity, quality and confidentiality of institutional information.

Similarly, issues such as open access have led institutions to work towards national scientific production sharing through digital repositories that can be collected in a digital library for the world, which facilitates access

to scientific information, reduces the efforts duplication and fosters the integration of communities and working groups to enable the development of joint projects on behalf of institutional, regional, national and international scientific development.

Do you plan to participate in TICAL2014?

I would love to participate in this new version of TICAL2014, in which there are five key themes prioritized to potentiate education and research in the region, in an increasingly globalized world, eager for information and in love with ICT.

In this context, what are your expectations for this year?

In the 2014 edition of TICAL I will expect to meet joint project experiences of use and appropriation of ICTs among different educational institutions in Latin America, revealing the results of the collaboration that is expected among peers that will be participating in the event; in addition I will like to know the latest trends in ICT implementation for teaching and research, academic and technological management of HEIs and infrastructure consolidation.

UNIRED is connected to the advanced networks through the Colombian National Academic Network of Advanced Technology, RENATA.

More information: <http://www.unired.edu.co/>



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Rafael "Lito" Ibarra:

## "TICAL aims to attend a niche of professionals that are not always catered in a specific way"

Since in 2011 the first version of TICAL was held in Panama, the Chairman of the Salvadorian Academic Network, RAICES, Rafael "Lito" Ibarra, has not missed any edition of the Conference. What makes of TICAL a necessary meeting point for him? Find it out in this interview.

Tania Altamirano

We know that you have participated in the previous editions of TICAL. What is your perception of the growth and evolution of the Conference over the years?

I think every year is increasing the number of people who hear and know of this event, and the quality and usefulness of its exhibitions, and the variety of topics, all of interest for the ICT managers of universities and academia in the region. The fact that the problems and challenges are similar make the proposals of solutions very welcome.

What do you think is the value of TICAL2014 for the national networks?

TICAL aims to attend a niche of professionals that are not always catered in a specific way, such as technology managers in academia. It

is perceived as an added value for the NRENS and its members, facilitated by RedCLARA, showing full awareness and empathy with this population.

Which have been the main benefits that you could get for RAICES from your participation in the Conference?

For what I explained before, participation and much interest from RAICES. The topics that are discussed are more grounded, specific and useful to IT managers, who are often the representatives of RAICES members. Therefore, there have been at least two different Salvadorian universities who have directly participated in the TICAL working groups preparation. That involvement is positive for RAICES.

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If possible, could you tell us of any initiative or idea implemented in your country which has started as a result of your compatriots and your own participation in TICAL?

The VoIP project has been strengthened at each visit to TICAL. Likewise, there have been some ideas to replicate what we have learned.

Have you planned to participate in TICAL2014?

I hope to be able to participate.

What are your expectations for this year?

I wish that more Salvadorians participate in the Conference.



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Brian Salomaki, Google:

**"We had the valuable opportunity to talk with the people making decisions to improve infrastructure for higher education and learn about their needs and plans"**

Brian Salomaki is Technical Program Manager at Google, company that for the first time supported TICAL's Conference in 2013. This year Google can say "Oops, I did it again", cause of course they will be participating in TICAL2014. In the following lines you will now why this successful company decided to continue betting on the Conference.

Tania Altamirano

Google was part of TICAL2013 in Cartagena de Indias, Colombia. What would you say was for Google the main result and/or asset of being directly involved in the conference?

Last year we were able to connect with executives from all of the RENs throughout Latin America, as well as from many universities. We had the valuable opportunity to talk with the people making decisions to improve infrastructure for higher education

and learn about their needs and plans. It was great to be able to meet people in person and be part of the conversation about how to improve education through technology.

Which is the strategy of Google about ICT applied to higher education?

We are excited about the possibilities for cloud-based solutions to improve the quality and availability of educational tools and content, and to reduce the costs of

We hope to see you in TICAL2014!



ICT services for institutions of all types. We work with educational institutions, sponsors, and local specialists to improve Internet access, then provide free tools that enable easy communication and collaboration for all students, faculty, and staff. With cloud-based solutions, students have access to their work from any device, at any place and time. Schools then have the opportunity to transform their teaching, learning, and research, preparing students for the future armed with problem solving and collaboration skills.

In which way is Google linked with higher education institutions specifically on the ICT topics?

We provide Google Apps for Education for free to all educational institutions. This includes advanced tools like Gmail, Docs, and Calendar that students and teachers are already familiar with, and all the data is secure as well as owned and controlled by the institution. In addition, we develop the software that helps our OEM partners make great devices like Chromebooks and Android tablets that provide affordable access to all the tools and content available online.



Can you briefly summarize some of your TICAL2013 successful experiences and tell us about your expectations for TICAL2014?

We had the chance to talk with more than 250 attendees last year and look forward to renewing those connections as well as meeting with new people. We hope to be able to answer questions for any universities



We hope to see you in TICAL2014!



who are interested in moving their IT to the cloud, and help them make the transition successfully. We would also like to continue conversations with RENS about how we can help them better serve the educational and internet communities in their countries. We have collaborated with RENATA to deploy

infrastructure for measuring broadband quality in Colombia and believe that other RENS can play an even bigger role in overall connectivity in their respective countries.

# InnovaRed: Progress and Challenges

Access to new technologies of information and communication, are a source of social, cultural and economic development and a decisive factor for enrichment and competitiveness of a nation. This is the policy that InnovaRed wants to accompany is this belief that it is driving a new change to improve and advance its mission: to strengthen the development of science, education and culture in Argentina through the innovative use of advanced networks.

During the last stage, InnovaRed has been able to strengthened its national high-speed network and to be increasingly well connected at an international level through RedCLARA. However, to meet the growing needs of the scientific system, intends to work within a new paradigm.

Manuela Lasdica, InnovaRed

## The result of a joint effort

In recent years it has been achieved a logic that has put the concern of achieving the connection of all institutions in the whole system rather than in each single institution. In other words, there has been a movement from a passive sales concept to an active concept of promotion of the use of the advanced networks for all the scientific and technological system. This advance was made possible thanks to the decision taken by the Ministry of Science, Technology and Innovation (MINCYT) along with the National Council for Scientific and Technical Research (CONICET) and their willingness to boost the InnovaRed project and to provide the resources needed to develop it. Thanks to the public policy pursued, InnovaRed could implement a national network of 10Gb which has allowed places like Buenos Aires, Rosario, Córdoba, San Luis, Villa Mercedes, Mendoza, Malargüe, Bahía Blanca, Neuquen, Bariloche and La Plata, to be connected at speeds that

no academic or scientist could dream a few years ago. We are currently working on the securitization of the national backbone. Furthermore, RedCLARA has finished the 10G link with Brazil, providing greater redundancy to the regional backbone for all the connected countries.

MINCYT played a key role in bringing forward a policy that drives the InnovaRed project through the creation of an environment that brings together all the institutions that are making use of the advanced networks. This is the National System for Advanced Networks (SNRA, because of its name in Spanish) which aims to contribute to the optimization and improvement of the National Advanced Network, enhancing InnovaRed activities, and harmonizing its actions with the needs that come from institutions of the scientific and technological system.

In parallel, it must be highlighted the involvement of the Ministry of Education, with



which it has been signed a very important agreement with the purpose of financing, between the two ministries and CONICET, the implementation and maintenance of the advanced network through InnovaRed.

### Current challenges

However, today InnovaRed is confronting further challenges. While it can be said that progress has been made regarding the consolidation of the advanced network and that Argentina may have its own backbone, there are still many aspects in which InnovaRed must work in order to improve. Institutions are gradually passing from low-speed networking to networks connected to 100Mb to 1Gb. In addition, there still



InnovaRed Staff. Julian Dunayevich and Fernando Moreno.

the need of covering the entire country to increase the capillarity of the network and reduce the distances to the InnovaRed points of presence.

That is why with the same momentum and the same belief regarding the importance of the advanced networks, InnovaRed promotes a new paradigm shift to help strengthen links with national, regional and international community and that seeks to further promote the use of advanced networks, and to achieve higher positioning and visibility in the scientific-academic sector, supported by public policy management and a new model of working team.

### Community engagement

InnovaRed is aware that for many areas of the community the advanced network is a component still unclear due to a poor dissemination. The major objective set out in the new Operational Plan is to identify the needs of each of the institutions and to relieve their projects so the advanced networks be an effective tool that can meet their needs and support them in developing their plans. It will require hard work with each of one the research groups in order to understand which applications and what kind of applications and network requirements they have.

This work is essential especially in a stage in which the strengthening of the scientific system is part of the public policy of the Ministry. This means that what it is seek is to integrate each one of the components in a single system, and as such it is required an appropriate connection, not of each one of them to the exterior, but between all of them. InnovaRed is looking after to accompany this policy becoming a strategic partner for all the created National Systems and to those that will be created in the



InnovaRed Staff. From left to right: Ayelen Pezzuto, Javier Martinez, Federico Fillipello , Milena Parra, Marcelo Cancer, Manuela Lasdica, Mauricio Sibilla, Juan Carlos Fischer, Azul Miranda, Alejandro Borrás, Angel Martinez, Juan José Nicolas.

future within the framework of the Large Instruments and Database Program. In this context it will provide the connectivity infrastructure that will articulate to other national systems, including the National System for High Performance Computing, the National Climatic Data System, the National System for Microscopy, among others.

### Strategic alliances

The new paradigm is based on strategic alliances with key stakeholders. This means not only strengthen the institutional link to all institutions that are currently part of the system of advanced networks, but also to continue working for the inclusion of new agencies and for the creation of new links with other institutions of science, technology and education.

One of the strategic priorities was to integrate the Argentina Connected National Plan, a State policy whose main objective is to generate a digital platform of infrastructure and services for the government sector and the citizen linkage. The Ministry of Science and Technology together with CONICET, signed the agreement with Argentina

Satellite Solutions Company SA (ARSAT), which is responsible for the implementation of the entire network, and its operation and maintenance, hence bringing the possibility of access to broadband to all the corners of the country. This partnership represents a fundamental tool not only to minimize the cost of last mile but also to reduce the technological gap of the national infrastructure by expanding the points of presence across the country.

### Bonding with the international community

Considering the integration of the scientific community a fundamental component, InnovaRed intends to take forward the promotion, dissemination and linkage actions not only nationally, but also regionally and internationally.

In particular, the integrated work that is carried with other NRENs is of main importance to InnovaRed. As a member of RedCLARA, InnovaRed aims to promote regional collaboration in research and education matters through the access to high performance networks. We are all RedCLARA! Therefore, it intends to actively participate,



promoting proposals, taking the initiative and contributing very directly. Actions that have regional impact have been included in the operating plan. Some of them are looking after the boost of projects that develop and / or use the advanced networks at regional level. It is also seek the maintainance of an ongoing conversation with the institutions that bring together scientists from the region by means of the active participation in their activities and regional support.

In the international context InnovaRed seeks to actively participate in projects that promote its inclusion in the community. For this it has been proposed a new perspective to consolidate its contacts network and to promote the inclusion of all national scientific institutions at an international level.

More information about InnovaRed at:  
<http://www.innova-red.net/>

# Convenio entre CUDI y CEDIA

El 30 de enero de 2014 los líderes de las redes académicas ecuatoriana y mexicana, CEDIA y CUDI (respectivamente), firmaron un convenio para colaborar en el desarrollo de tecnologías y aplicaciones.

Firmado entre Juan Pablo Carvallo, Director Ejecutivo de CEDIA (Ecuador), y Carlos Casasús, Director General de CUDI (México) el convenio pretende impulsar la promoción de objetivos compartidos, trabajando en estrecha colaboración y apropiada

interconexión entre las instituciones a las que sirven ambas redes.

CEDIA: [www.cedia.org.ec](http://www.cedia.org.ec)

CUDI: [www.cudi.mx](http://www.cudi.mx)

# Agenda 2014

## MAY

5-9 | XXXII Brazilian Simposium of Computing Networks and Distributed Systems  
Florianopolis, Brazil  
<http://sbrc2014.ufsc.br/>

26-28 | Fourth TICAL2014 Conference  
Cancun, Mexico  
<http://tical2014.redclara.net/es/index.html>

19-22 | TERENA Networking Conference 2014  
Dublin, Ireland  
<https://tnc2014.terena.org/>

## JUNE

03- 05 | IWSG 2014 – 6th International Workshop on Science Gateways  
Dublin, Irlanda  
<https://sites.google.com/a/my.westminster.ac.uk/iwsg2014/>

25-28 | 12° Global Congress on Bioethics  
Mexico City, Mexico  
<http://bioethicsmexico.mx/es/>

09-10 | Internacional Conference on Open Educative Practice  
Monterrey, NL, Mexico  
<http://www.oportunidadproject.eu/conferencia>

## JULY

21-25 | 2014 Internacional Conference on High Performance Computing and Simulation  
Bologna, Italy  
<http://hpcs2014.cisedu.info/>

22-25 | VI Ibero-American Conference on Learning Technology  
Mexico  
<http://ccita2014.org/>

## AUGUST

11-15 | 38 APAN Meeting  
Nantou, Taiwan  
<http://www.apan.net/meetings/Nantou2014/>



# CANCUN - MEXICO | MAY 26-28

Editorial - Ernesto Chinkes The link between Europe and Latin America will be doubled: RedCLARA  
GÉANT interconnection to be upgraded to 5Gbps Major repository infrastructure initiatives agree  
to align their networks The Progress of ELCIRA edroom in Chile RENATA is ready to implement  
in the Colombian institutions We hope to see you in TICAL2014! Their voices will sound  
in the plenary sessions These are the 41 selected papers for TICAL2014 Meet the Program  
Committee of the Conference Bibiana López Acevedo: "TICAL has become a fundamental meeting"  
Rafael "Lito" Ibarra: "TICAL aims to attend a niche of professionals that are not always catered in  
a specific way" Brian Salomaki Google: "We had the valuable opportunity to talk with the people  
making decisions to improve infrastructure for higher education and learn about their needs and  
plans" Innovared: Progress and Challenges CUDI and CEDIA signed an agreement Agenda



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