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## Deliverable D6.9

# Report on Key Research Communities



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# Periodical Progress Report

## *ELCIRA Deliverable: ELCIRA D6.9 – Report on Key research communities*

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**Abstract:** This deliverable focuses on the development and implementation process of three high impact academic communities in Latin American region.



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## DELIVERABLE ROUTE

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## 1. Introduction

This report focuses on the development and implementation process of high impact academic communities in the region. In the first place, it shows the methodology used to identify, along with the national research and education networks (NRENs) and their partner institutions, the priority themes for regional development. These are supported by RedCLARA through the promotion of academic and research communities in these fields.

In the second place, it presents the mechanisms used to encourage participation and a stronger commitment of national networks and their members in the development of those academic communities. This mechanism is based principally on the validation of the priority themes for the region, according to the national networks, through a bottom-up methodology.

Finally, it presents the factors and requisites that facilitate the development of a successful academic community in RedCLARA, allowing the establishment of a methodology that fosters the development of this kind of communities. These requisites are connected to the work developed in some of the priority themes, the regional diversity of the members of a community, leadership of its activities and the need for a short and mid-term work plan.

The report also discusses some key elements observed in innovative academic communities, which serve as an introduction to describe the three Key Research Communities that illustrate all these elements.



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## 2. Developing academic communities of regional impact

Thanks to the close work with National Networks (NREN) and their research groups, RedCLARA has managed to develop a good expertise in the creation and promotion of academic communities. This has been used to implement the three Key Research Communities described in this report. This process implied following three main stages:

- 1) Identifying the priority themes for the region in order to build high impact academic communities.
- 2) Guaranteeing the participation of the national networks in the development and leadership of the communities.
- 3) Establishing the orientations and requisites to consolidate the communities.

### 2.1 Identification of priority themes

From June 2014 on, a research has been carried out to analyze and systematize priority research topics for Latin America and the Caribbean, using information from regional and international organizations such as UN, OAS, IADB, CONCYTED, and diverse Latin American universities.

This work, called "Comparative analysis of regional interest topics for Latin America 2014" allowed us to identify priority themes for the region and validate them with the national networks associated with RedCLARA. This way, through a comparative analysis of goals, objectives, priorities and/or trends from the institutions involved, we managed to identify 15 topics of high relevance in the region. These results were compared to the study conducted by RedCLARA in 2009 called "Alice2 DO2. 1-02 Identifying, Creating group/communities in selected



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thematic areas related to MDG", in order to analyse trends and identify those specific regional topics in which RedCLARA will concentrate on. Chart 1 presents the results of this comparative analysis.

Chart 1: Research thematics of regional interest for Latin America and the Caribbean

2009 Study: LA regional thematics	2014 Analysis: LAandC regional thematics	Lines and fields of study included on the 2014 thematics	Sources consulted (2014 thematics)
Health	e-Health	<ol style="list-style-type: none"> <li>1) Telemedicine</li> <li>2) Continuing education through ICT</li> <li>3) Electronic patient records</li> </ol>	Pan American Health Organization, Strategy and Action Plan for e-Health, 2011
Education	Education	<ol style="list-style-type: none"> <li>1) Quality of education (training of teachers, use of ICT in remote areas, educational technology)</li> <li>2) Training in citizenship</li> <li>3) Combat school dropout</li> </ol>	ONU, Millennium Development Goals, 2013 Report; Inter-American Development Bank, Book <i>Educación para la Transformación</i> , 20
Materials technology	Nanotechnology	<ol style="list-style-type: none"> <li>1) Structural materials and fibers improved with nanotechnology</li> <li>2) Nanoscale materials for chemical, environmental and energy systems</li> <li>3) Optical, electronic, chemical, environmental, magnetic, biological sensors, and measurement and control systems based on nanotechnology</li> </ol>	Organization of American States, Science, Technology, Engineering and Innovation for Development. A vision for the Americas in the XXI century, 2005.
Social Science	Economic growth, Equality and Welfare	<ol style="list-style-type: none"> <li>1) Economic growth with equity and social inclusion by strengthening production units, innovation and competitiveness</li> <li>2) Contribution of ICT to innovation, productivity, competitiveness and economic growth in the context of sustainable development</li> <li>3) Development of strategies and</li> </ol>	Organization of American States, Sixth Summit of the Americas, Cartagena de Indias, Colombia 2012.



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2009 Study: LA regional thematics	2014 Analysis: LAandC regional thematics	Lines and fields of study included on the 2014 thematics	Sources consulted (2014 thematics)
		policies for youth employment	
Natural disasters	Environment and Natural disasters	1) Natural Disaster Reduction 2) Risk Management of Natural Disasters 3) Advancement of the scientific knowledge related to the causes of natural and technological disasters 4) Climate change	Organization of American States, Inter-American Network for Disaster Mitigation; OEA, Sixth Summit of the Americas, Cartagena de Indias, Colombia 2012
Food	Food security	1) Production, processing and preserving food 2) Increase in value-added of agricultural, fishery and aquaculture products 3) International food trade	UN Fund for Food and Agriculture, Food Security, information for decision making. Practical Guide; CYTED, Agro-food Program
Water	Water sector	1) Urban water supply and sanitation 2) Effects of climate change on water management 3) Economic effects of water deterioration	Organization of American States, Declaration of Santo Domingo for the Sustainable Development of the Americas, 2010.
Renewable energy	Renewable energy	1) Search for renewable energy generation substitutes 2) Development of technologies for energy storage 3) Management of radioactive waste	Organization of American States, Science, Technology, Engineering and Innovation for Development. A vision for the Americas in the XXI century, 2005; Sixth Summit of the Americas, Cartagena de Indias, Colombia 2012.
ICT (E-GOV)	e-Government	1) Promotion of horizontal cooperation and support to the design of e-government citizen- focused public policies 2) Public Managers training in e- Government 3) Strength results-based	Organization of American States, Network of e- Government Leaders of Latin America and the Caribbean <a href="http://www.redgealc.net/que-es-la-red-">http://www.redgealc.net/que-es-la-red-</a>



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2009 Study: LA regional thematics	2014 Analysis: LAandC regional thematics	Lines and fields of study included on the 2014 thematics	Sources consulted (2014 thematics)
		management on the implementation of e-Government public policies	gealc/contenido/2001/es/)
ICT (Digital libraries)	Digital libraries	1) Promotion of digitization, access and preservation of cultural and scientific heritage. 2) Interconnection between Digital libraries and high speed research and development networks 3) Create a network of digital information to responds to the needs of the information society	UNESCO, General Conference 36C/20, 2011
Biotechnology	Biotechnology	1) Creation and training of a Legal Framework for Biotechnology 2) Human Resources Training in Biotechnology 3) To promote research, exchange and regional cooperation in Biotechnology	Organization of American States, Science, Technology, Engineering and Innovation for Development. A vision for the Americas in the XXI century, 2005
Astronomy	Astronomy	1) Astroinformatics 2) Astrophysics 3) Milky Way	<i>Universidad de Chile, Los desafíos de la nueva astronomía, Instituto milenio de astrofísica, <a href="http://ingenieria.uchile.cl/noticias/101840/los-desafios-de-la-nueva-astronomia">http://ingenieria.uchile.cl/noticias/101840/los-desafios-de-la-nueva-astronomia</a></i>
Archaeology and Cultural heritage	Archaeology and Cultural heritage	1) Intangible heritage 2) Preservation of the endangered plant and animals habitats 3) Management of the cultural heritage	UNESCO and <i>Universidad de los Andes, Desafío del Patrimonio Cultural, <a href="http://www.uandes.cl/noticias/desafios-del-patrimonio-cultural.html">http://www.uandes.cl/noticias/desafios-del-patrimonio-cultural.html</a></i>



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2009 Study: LA regional thematics	2014 Analysis: LAandC regional thematics	Lines and fields of study included on the 2014 thematics	Sources consulted (2014 thematics)
ICT (GRIDS)	ICT (GRIDS)	1) Development of network resources to allow national researchers to have access to High Performance Computing 2) Development of techniques for accelerating scientific computing 3) Education of the next generation of scientists and engineers in High Performance Computing	<i>Universidad de Chile</i> , National Laboratory of High Performance Computing, <a href="http://www.nlhpc.cl/about-nlhpc/">http://www.nlhpc.cl/about-nlhpc/</a>
	Biodiversity	1) To include the value of the Biodiversity in key economic sectors 2) Protection of priority regional systems 3) Promoting effective governance and environmental policies	Inter-American Development Bank, Biodiversity and Ecosystem Services <a href="http://www.iadb.org/es/temas/medio-ambiente/plataforma-de-biodiversidad/plataforma-de-biodiversidad/bid-biodiversidad-servicios-ecosistemas-america-latina,7721.html">http://www.iadb.org/es/temas/medio-ambiente/plataforma-de-biodiversidad/plataforma-de-biodiversidad/bid-biodiversidad-servicios-ecosistemas-america-latina,7721.html</a>

As we can observe, the study allowed us not only to update the more relevant topics for the region (i.e. biodiversity, which had not been identified in 2009, appeared to be a priority theme in the new analysis), but also to identify their scope. Special attention was paid to those high interest specific topics for the academic community in the region.

This information will allow us to orient the efforts toward the promotion and support of those academic communities dealing with those priority themes identified.



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## 2.2 Participation in the National Research and Education Networks

To define the order of priorities of the 15 priority themes identified in the study already mentioned, a strong work of consultation was made with the NRENs of RedCLARA. Participation and commitment of NRENs is connected to two specific goals. In first place, to validate - along with the national networks and their members - the identification of the priority research themes. In second place, to guarantee the implication of the national networks in the development of communities. These actions are meant to assure a stronger implication of the national networks in the call for local researchers, facilitating their participation since the topics are connected with the national needs.

Thus, according to the priority themes identified in the survey "Comparative analysis on regional interest topics for Latin America 2014", we created a "List of regional themes to be highlighted by each NREN of RedCLARA". Invitations were sent to directors of the 11 national networks active in RedCLARA<sup>1</sup> to analyse this list according to the interests of their NRENs and their members.

The survey was conducted between July and September 2014 in order to facilitate the interaction between the national networks and their members. Up to the moment, we have information from four countries (Argentina, Mexico, Brazil and Venezuela) and we are still waiting for further data from other NREN. Chart 2 presents the results collected from the survey conducted in each country.

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<sup>1</sup> INNOVA RED (Argentina), RAU (Uruguay), RNP (Brazil), RENATA (Colombia), RedCONARE (Costa Rica), REUNA (Chile), CEDIA (Ecuador), RAICES (El Salvador), RAGIE (Guatemala), CUDI (Mexico) and CENIT (Venezuela)



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Chart 2: NREN Regional Priorities Survey Results

Temáticas	CUDI (Mexico)	INNOVA RED (Argentina)	RNP (Brazil)	REACCIUN (Venezuela)
e-Health	1	1	1	1
Education	1	9	2	1
Nanotechnology	3	6	13	3
Economic growth, Equality and Welfare	5	10	14	2
Environment and Natural disasters	1	4	8	2
Food Security	5	14	15	1
Water sector	5	12	17	2
Renewable energy	2	13	16	2
E-Government	5	15	12	1
Digital Libraries	1	2	4	3
Biotechnology	3	5	11	3
Astronomy	3	3	9	4
Archaeology and Cultural heritage	3	11	10	4
ICT (GRIDS)	1	7	3	3
Biodiversity	3	8	7	2
Other			5 (Remote Viewing and Very High Resolution Video Transmission )	
Other			6 (The internet of the future)	

It is worth mentioning that we still need to complete the data collection process from all the national networks in RedLARA, in order to have a representative idea of the priority research themes in the region.



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## 2.3 Orientations to consolidate Key Research Communities

The third stage in the development of Key Research Communities consists in establishing directions and defining requisites that lay the foundations for a successful community. Academic communities are groups of people that share a common interest and/or a group of problems regarding certain issue, and that strengthen their knowledge and expertise in this area through a continuous interaction. In this sense, the goal of an academic community is to identify, analyse and search for solutions to a particular problem through the exchange of experiences, knowledge and skills. For that purpose, a collaborative approach is used along with a virtual platform and a broadband connection.

The virtual environment in which RedClara's communities take place, facilitates their creation and provides a set of advantages for their work. It allows an asynchronous work and, this way, time flexibility for the members of a community as well as time saving (due to the reduction of face-to-face meetings and conferences). The use of broadband internet increases the exchange of resources and inputs that facilitate analysis and problem-solving.

Four factors and requisites that allow to establish a successful academic community in RedCLARA have been identified.

- a) The community should deal with a topic connected to any of the priority thematic areas. RedCLARA also accepts communities working with other thematic areas, though they may have less researchers interested.
- b) The community should be integrated by participants coming from at least three different countries. The goal of this requisite is to guarantee a regional



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approach for the theme, a proper distribution of work and a team that manages to foster the participation of other people interested. RedCLARA recommends that communities are created after gathering at least eight people. This initial group constitutes the foundation and leading force of the community, since at least for certain period of time, it will be the only team of people until it gets organized and planned.

- c) Having a leader or coach of the community, with experience in its field, and with ability to co-ordinate an academic team. As Gilbert Probst and Stefano Borzillo<sup>2</sup> suggest, a good leader structures a community in a way that optimizes its work. At the same time, he will be responsible for organizing and coordinating the action plan of the community, fostering the exchange of experiences, skills, practices and knowledge among the members. Besides, he will help to build a motivated team, and promote an attractive work for future members.
  
- d) Having a Work Plan that presents and develops the objectives of the community, the work methodology and the goals and specific short and mid-term projects.

### 3. Key elements in innovative academic communities

In the last five years, RedCLARA has developed experience in the promotion and support of academic communities, and the design and implementation of mechanisms for their development as well. Along with collaborators working

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<sup>2</sup> Gilbert Probst y Stefano Borzillo, Why communities of practice succeed and why they fail, European Management Journal, 2008, No. 26, p. 345.



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closely to research groups, it has identified three key elements in the conformation of innovative academic communities:

- a) Innovative academic communities focus on regional issues that attract the interest of research groups disseminated along the continent (i.e E-Health Latin American Community).
- b) These communities attract new talents and the strength of new young researchers building science (i.e. CEVALE2 Community).
- c) Communities consolidate their scientific production focusing in the study of wealth and issues related to the natural elements of their region (i.e. Biodiversity Community of Latin America).

These aspects are present in three emerging communities introduced in this report. It is worth highlighting that these three communities are in different stages of development. In first place, the E-Health Latin American Community has just started its development process. This community has already managed to integrate and organize a group of researchers and professors that has identified thematic nodes of work and the key elements for the action plan. The Community is ready to establish its work plan on these foundations, and to implement the mechanisms for the exchange of information and organization of joint activities.

In second place, the community CEVALE2 - the Virtual Center for High Studies in High Energy - is a very consolidated one, integrated by young researchers in Physics, willing to promote the knowledge of their discipline through courses, lectures and the distribution of specific materials. It has managed to extend its scope of work throughout Colombia, Venezuela and Costa Rica and thanks to



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RedCLARA's COLABORATORIO has found important tools for its activities and dissemination.

Finally, the Community for Biodiversity in Latin America is in its early development stage. It may take as an advantage the expertise and experience of RedCLARA in developing the other communities, what will help it turn into a Key Research Community very soon.

### 3.1 E-Health Latin American Community

As it can be observed in the identification work of the priority research topics in Latin America, the e-health area is one of the most important in the region. Information gathered through the identification of transversal topics for the NRENs of RedCLARA shows that this area appears to be the highest-priority one for them all.

The importance and enthusiasm E-Health arouses had already been verified in RedCLARA, since many academic activities that are promoted through its services and mechanisms are connected to experiences and work in this field. This way, making a list of the initiatives related to Health & ICT that have taken advantage of RedCLARA's resources, we found the opportunity to unify diverse groups and communities working in this field in only one: The Latin American Community of E-Health

This objective was also enhanced after the discussions that were previous to the work toward the conformation of this new community: a high interest and support



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was shown by different research groups, such as the DVTS Telemedicine Technology Group (Mexico, Chile, Japan) or the University Network for Telemedicine (Brazil), that considered important launching a call to get to know each other and others' activities as well. This was considered an opportunity to generate a higher impact in the region through collaborative efforts in research activities.

In this context, RedCLARA started the development activities for the new E-Health Latin American Community, understanding that high experienced communities with a high impact record are only feasible if - and only if - the community project is proper for its members and they manage to attract more actors.

The activities for the constitution of the E-Health Latin American Community started with the identification and organization of a list of working groups, communities and researchers/professors that work in E-Health related topics and that work or may potentially work with the advanced network.

At the same time, RedCLARA took advantage of the contacts and initiatives that had already promoted in the area of e-Health in order to integrate them in a database. This was the starting point for the conformation of a collaboration environment through which this new community was articulated. The appendix presents a preliminary list of contacts for the conformation of this community.

The execution of these two activities allowed to identify the thematic nodes common to the members of the community. Besides it let us define the working orientations and the action plan for the community cohesion. These elements - as already mentioned - are key for the conformation of a regional high impact community.



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These three activities are in their final stage. Part of the information gathered has been obtained through online interviews to researchers in the field. This let us not only to inform about their research lines and the state of the art advances, but also to identify and contact other E-Health groups and researchers in the region.

The following steps in the conformation of the Latin American Community for E-Health consist of designing, leading and promoting meetings and exchange activities for its members.

Finally, the conformation of this community will finish with the foundations for the collaboration among its members, so that it becomes autonomous and continues fostering collaborative activities.

### **3.2 CEVALE - Virtual Center for High Studies in High Energy**

In the last year, we have observed the importance given by our peers working closely to research groups to the inclusion of young researchers in their activities. When we commented and discussed about the final users with higher possibilities for the use and appropriation of the services of RedCLARA (such as the collaborative tools to the contacts networks we offer), there is a shared conclusion among the directors of NRENs and Senior Researchers: in Latin America young researchers are the ones that need the widest support and present a stronger leadership potential.

This conclusion gets stronger once we observe that one of the elements present in innovative communities is the recruitment of new talents and the strength of young researchers in science promotion. Thus, RedCLARA brings support to a self-



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promoted community that enhances the wide participation of young researchers in its activities.

Community CEVALE2 -Virtual Center for High Studies in High Energy - is a group of students and researchers from diverse areas of Physics that aim at collaborating virtually in the development of this field of knowledge. Inside this community there is a group of researchers from Venezuela, that gave birth to CEVALE2VE, which joins efforts in the creation and offer of free virtual training for new generations of physics professionals in the field of High Energy Physics.

This initiative from the Venezuelan diaspora in the European Organization for Nuclear Research (CERN) promotes scientific dissemination of fundamentals of Physics in Venezuela and Colombia, contributing this way in the modernization of teaching in this field in the region. A distinctive element is not only this kind of initiative, but also that this group is integrated by high ranked young researchers (<http://www.cevale2ve.org/quienes-somos>).

With the support of Luis Núñez, Academic Advisor of RedCLARA, the activities of this community were also offered to the public in Colombia, Venezuela and Costa Rica, preparing an e-learning course on Physics of Particles for the students of these countries. With this first activity, the community CEVALE2 got part of the COLABORATORIO of RedCLARA, and now uses this environment, and the videoconferences services as well, as a meeting point for researchers of Europe and Latin America.

These first activities of the community, promoted by RedCLARA consisted of a training course on Physics of Particles in three segments:

<http://www.redclara.net/indico/evento/FisicaParticulasActo1>

<http://www.redclara.net/indico/evento/FisicaParticulasActo2>



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<http://www.redclara.net/indico/evento/FisicaParticulasActo3>

The fourth activity consists of another e-learning course on the same issue, but oriented this time at graduate students from the following universities: Universidad Industrial de Santander (UIS), Universidad Antonio Nariño (UAN), Universidad de Tolima (UTOLIMA) and Universidad del Norte de Barranquilla (UNINORTE) in Colombia and Universidad de los Andes (ULA) and Universidad Central de Venezuela, in Venezuela.

By integrating this community in the COLABORATORIO of RedCLARA, we aim at supporting the expansion of this initiative throughout Latin America, while we encourage these young researchers to use the services of the advanced network. Through them, we hope they will reach a wider public and stimulate other collaborations and activities by other young researchers in the region.

### 3.3 Community for Biodiversity in Latin America

Like in the field of E-Health, Biodiversity is also one of the highest priority topics for Latin America. Though in the case of this field, its relevance is slightly less unanimous among the NRENs (check chart 2), it appears as one of the eight main options in the survey about priority themes. According to the study of regional priority themes already presented, and also taking into consideration the interest of some researchers and professors from countries such as Costa Rica, Mexico and Brazil, we acknowledge the growing importance of this field in the region. We are also aware of the interest of several researchers in collaborating toward getting more and new knowledge in this area.



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Besides this interest, RedCLARA recognizes a fundamental element that leads to the support of the conformation of a Community for Biodiversity in Latin America as one of the Key Research Communities. This particularity consists of the scientific production focused in the study of the wealth and specific problems of the natural elements of the region.

As is well known, and is also highlighted by the United Nations Environment Program, "Latin America and the Caribbean is the region with the widest biological diversity on the planet and hosts several of the megadiverse countries in the world. The region has almost half of the tropical forests of the world, 33% of all the mammals, 35% of the reptiles, 41% of the birds and 50% of the amphibious".<sup>3</sup> For instance, Brazil is member of the 17 megadiverse countries with the richest biodiversities in the world. Costa Rica has one of the highest indexes in biodiversity per area, hosting around 4% of the biological diversity of the world. Regarding Mexico, it has the 5th place in biological and ecological diversity, and a good part of this diversity is exclusive of this country.

In this context, it is imperative that the study and academic production of biodiversity in one of the most biological diverse regions in the world is supported.

Though the conformation of the Community for Biodiversity in Latin American is still in a preliminary stage, at RedCLARA we are going through the procedure to establish a Key Research Community in this field. We have already started gathering information regarding communities and research groups dealing with this issue, and - like in the case of the E-Health community - we have prepared a list of all contacts of RedCLARA interested in this area. As we can observe in Chart 3,

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<sup>3</sup> PNUMA – United Nations Environment Program. <http://www.pnuma.org/biodiversidad/>



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there is a high chance of creating a community of high impact and collaboration. In the first activities developed, we have identified 17 research groups in the field, from which 10 belong or are related to institutions connected to NREN from RedCLARA.

*Chart 3. Latin American research groups in Biodiversity*

<b>Regional research groups or communities</b>	<b>Country</b>	<b>Advanced Network Connection</b>
INBio - National Biodiversity Institute	Costa Rica	Not connected
CRIA - Reference Center on Environmental Information	Brazil	RUTE
I3N - Invasives Information Network, Facultad de Química y Biología, Universidad de Santiago de Chile	Chile	REUNA
CONABIO - National Commission for Knowledge and Use of Biodiversity	Mexico	CUDI
Instituto de Investigación de Recursos Biológicos Alexander von Humboldt	Colombia	Not connected
Universidade de São Pablo	Brazil	RUTE
Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (MACN-CONICET)	Argentina	INNOVARED
Instituto de Ciencias Naturales (ICN), Universidad Nacional	Colombia	RENATA
Instituto de Ecología y Sistemática (IES)	Cuba	Not connected
Herbario QCA, Escuela de Ciencias Biológicas, Pontificia Universidad Católica del Ecuador	Ecuador	CEDIA
Instituto de Biología, Universidad Nacional Autónoma de México (UNAM-UNIBIO)	Mexico	CUDI
Museo Entomológico de León (MEL)	Nicaragua	Not connected
Museo Nacional de Historia Natural (MNHN)	Uruguay	Not connected



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Museo del Instituto de Zoología Agrícola Francisco Fernández Yopez (MIZA)	Venezuela	REACCIUN
CIEBREG - Genetic Resources and Biodiversity Research and Studies Center	Colombia	RENATA
ACEBIO- Asociación para la Conservación y el Estudio de la Biodiversidad	Costa Rica	Not connected
Instituto Hórus de Desenvolvimento e Conservação Ambiental	Brazil	Not connected

Along with these activities, and in order to attract diverse groups and communities researching this topic to this initiative, we have established connections with groups in Latin America and the world that are well known for their activities and scientific production. We are speaking about the Reference Center for Environmental Information (CRIA - Brazil) and the National Institute for Biodiversity (INBio - Costa Rica). They have been our case studies in order to disseminate good practices in scientific production in Latin America. Through the promotion of CRIA and INBio case studies, we aim at illustrating the work of two communities that are internationally active, while we try to attract and integrate other groups and researchers in the new collaborative environment under construction. (Check image 1)

Image 1. Biodiversity in AL communities collaborative environment





Another element that supports the conformation of this new community is that it will be take advantage of the experience developed by RedCLARA in the development of the E-Heath Latin American Community. Good practices, expertise of RedCLARA´s team and success factors that are being identified will benefit the conformation of the new community. A shorter path that assures success and the launching of a Key Research Community in the field of biodiversity in Latin America.



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## 4. APPENDIX

### Prospective Contact List Establishment of the Latin American e-Health Community

	Researcher	Research Topic	Country	Interviewed
1	Paulo Lopes	Estándares en Informática Médica / Telemedicina	Brasil	Entrevista
2	Luiz Ary Messina	Proyecto e-Endoscopia APAN	Brasil	Entrevista
3	Alaneir Fátima dos Santos	Telesalud	Brasil	Entrevista
4	Verônica Abdala	Bireme	Brasil	
5	Vanessa Lima	Información en Salud / Evaluación / Telemedicina	Brasil	
6	UERJ IT team	Proyecto e-Endoscopia APAN	Brasil	
7	Thiago Lima Verde	Proyecto e-Endoscopia APAN	Brasil	
8	Sandra R. Gomes	Proyecto e-Endoscopia APAN	Brasil	
9	Paulo Sakai	Proyecto e-Endoscopia APAN	Brasil	
10	Monica Pena	Telemedicina	Brasil	
11	Magdala de Araújo Novaes	Telesalud	Brasil	
12	Luiz Roberto	Telesalud	Brasil	
13	Leonardo Frajhof	Proyecto e-Endoscopia APAN	Brasil	
14	Janaína Nogueira	Telemedicina	Brasil	
15	Iara Machado	Proyecto e-Endoscopia APAN	Brasil	
16	Humberto José Alves	Telesalud	Brasil	
17	Fatima Figueiredo	Proyecto e-Endoscopia APAN	Brasil	
18	Fabio Nascimbeni		Brasil	
19	Fabio Carneiro de Castro	Proyecto e-Endoscopia APAN	Brasil	
20	Eduardo Moura	Proyecto e-Endoscopia APAN	Brasil	
21	Edson Ide	Proyecto e-Endoscopia APAN	Brasil	
22	Edson Diniz	Proyecto e-Endoscopia APAN	Brasil	
23	Diogo Miranda	Telesalud	Brasil	
24	Daniela Brauner	Proyecto e-Endoscopia APAN	Brasil	
25	Cleinaldo de Almeida Costa	Telesalud	Brasil	
26	Chao Lung Wen	Telesalud, Informática Médica	Brasil	
27	Carlos Kiyoshi Furuya Junior.	Proyecto e-Endoscopia APAN	Brasil	
28	Bruno Krause	Proyecto e-Endoscopia APAN	Brasil	
29	Alexandre Taleb	Telesalud	Brasil	



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30	Alexandre Sztajnberg	Proyecto e-Endoscopía APAN	Brasil	
31	Alexandra Monteiro	Proyecto e-Endoscopía APAN	Brasil	
32	Alex Araujo	Proyecto e-Endoscopía APAN	Brasil	
33	Alessandra Monteiro	Telesalud	Brasil	
34	Aldo Von Wangenheim	Telesalud	Brasil	
35	Roque Saenz	Proyecto e-Endoscopía APAN	Chile	
36	Ricardo Sanhueza Berríos	Proyecto e-Endoscopía APAN	Chile	
37	Paulina Lopez	Proyecto e-Endoscopía APAN	Chile	
38	Jose Hermosilla	Proyecto e-Endoscopía APAN	Chile	
39	Ignacio Robles Guić	Proyecto e-Endoscopía APAN	Chile	
40	Dani Fochesato	Proyecto e-Endoscopía APAN	Chile	
41	Antonio Rollán	Proyecto e-Endoscopía APAN	Chile	
42	Alex Navarro	Proyecto e-Endoscopía APAN	Chile	
43	Alejandro Lara M.	Proyecto e-Endoscopía APAN	Chile	
44	Albert Astudillo	Proyecto e-Endoscopía APAN	Chile	
45	Daniel Capurro	Informática Médica	Chile	
46	Dago Hernando Bedoya Ortiz	Bioinformática	Colombia	Pendiente
47	Sandra Paola Botero	Proyecto e-Endoscopía APAN	Colombia	
48	Raúl Ramos Pollan	Imágenes médicas distribuidas	Colombia	
49	Rafael Gonzalez	Proyecto e-Endoscopía APAN	Colombia	
50	Pablo García	Proyecto e-Endoscopía APAN	Colombia	
51	Martha Lucia Montes	Proyecto e-Endoscopía APAN	Colombia	
52	Jose Nicolás Rocha	Proyecto e-Endoscopía APAN	Colombia	
53	Jose Fernando Flores Arango	Informática Médica / Telemedicina	Colombia	
54	Jaime Alberto Reinoso Castillo	Proyecto e-Endoscopía APAN	Colombia	
55	Gilberto Villa S	Proyecto e-Endoscopía APAN	Colombia	
56	Elias Forero	Proyecto e-Endoscopía APAN	Colombia	
57	Eduardo Romero	Universidad Nacional de Colombia	Colombia	
58	Camilo Barrera Valencia	Tele-Educación en Salud	Colombia	
59	Andres Ernesto Salinas	Proyecto e-Endoscopía APAN	Colombia	
60	Ana Milena Yoshioka	Proyecto e-Endoscopía APAN	Colombia	
61	Jorge Vélez	Telemedicina	Colombia	
62	Luis Espinoza	Proyecto e-Endoscopía APAN	Costa Rica	
63	Gabriel Rodriguez	Proyecto e-Endoscopía APAN	Costa Rica	
64	Alvaro de la Ossa O	Proyecto e-Endoscopía APAN	Costa Rica	
65	Villie Morocho	Imágenes Médicas / Telemedicina	Ecuador	



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66	Monica Ordoñez	Proyecto e-Endoscopía APAN	Ecuador	
67	Claudio Chacon	Proyecto e-Endoscopía APAN	Ecuador	
68	Ricardo José Silva Bustillos	Informática Médica	Ecuador	
69	Moisés Chen Criz	Telemedicina	Guatemala	
70	Mariana Melendez	Tele-educación en Salud / Telemedicina	México	Entrevista
71	Itcoatl Armando Estaño Fuentes	Educación en Salud / Transmisión de Video de Alta Calidad	México	Entrevista
72	Elia Lara Lona	Informática aplicada a la Salud / Epidemiología / Marco Legal	México	Entrevista
73	Antonio Razo	Bibliotecas Digitales, Geoinformática	México	Entrevista
74	Gabiñe Saruwatari Zavala	Bioética	México	Pendiente
75	Víctor Ríos Cortázar	Tele-educación en Salud	México	
76	Rodolfo Méndez	Educación en Salud	México	
77	Miguel Tanimoto	Proyecto e-Endoscopía APAN	México	
78	Miguel González Mendoza	Informática aplicada a la Salud / Aplicaciones Semánticas	México	
79	Luis A. Ibarra	Proyecto e-Endoscopía APAN	México	
80	Luis A Medina	Proyecto e-Endoscopía APAN	México	
81	Jesús Cruz	Imágenes médicas	México	
82	Harold de Dios	DVTS para transmisión de imágenes médicas	México	
83	Edelmira Galvan	Proyecto e-Endoscopía APAN	México	
84	Azucena García	Tele-educación en Salud	México	
85	Azael Fernandez Alcantara	Proyecto e-Endoscopía APAN	México	
86	Alejandro Avalos Bracho	Informática Médica / Telemedicina	México	
87	Pedro Ramos Contreras	Telemedicina	México	
88	Jesús Favela	Informática Médica	México	
89	Joaquín Azpiroz Leehan	Imagenología Médica	México	
90	Heather Zornetzer	Salud móvil	Nicaragua	
91	Walter Curioso	Informática Médica / Telemedicina	Perú	Pendiente
92	Lady V Murrugarra Velarde	e-Prevención	Perú	Pendiente
93	Réiner Campillo	Proyecto e-Endoscopía APAN	Republic of Dominica	
94	Jose Diaz	Proyecto e-Endoscopía APAN	Republic of	



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			Dominica	
95	Júlio Carrau	Informática Médica	Uruguay	
96	Alberto Odor	Informática Médica	USA	Pendiente
97	Hector Arrechedera	Telemedicina	Venezuela	Entrevista
98	Paula Cortiñas		Venezuela	
99	Mabel Pardo	Informática Médica / Telemedicina	Venezuela	
100	Jesianna Zabala Vilchez	Toxicología	Venezuela	
101	Elizabeth Duarte	Tele-Educación en Salud		



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