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RedCLARA

Cooperación Latino Americana de Redes Avanzadas

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Editorial

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Director Ejecutivo RedCLARA

RedCLARA and its member networks have built, over their years of existence, a unique space for digital cooperation in research, education, and innovation in the Latin American and Caribbean region. The infrastructure connected by RedCLARA and its networks is valuable and available to support many development and digital transformation agendas—not only in the mentioned fields but also with the potential to foster and support the region's economic and social development through its links with businesses and governments.

RedCLARA's transformation process has been evident recently. Initiatives aimed at cost reduction, the development of projects that enhance its international relevance, strategic changes in communication, and alliances with global organizations are fundamental pillars for its growth and consolidation. However, to materialize this potential, RedCLARA must adapt its strategy to optimize resource utilization in fulfilling its mission.

RedCLARA faces an environment filled with opportunities and challenges. To adapt to this reality, the new strategy we are implementing aims to concentrate efforts on initiatives with the greatest potential to impact this ecosystem effectively. This strategy focuses on two main areas: strengthening our value proposition and enhancing our capacity to design and implement cooperation projects, such as BELLA II.

Another key element of this strategy is expanding RedCLARA's reach, allowing it to connect directly with universities and research centers in countries lacking a national research and education network. This expansion will bring RedCLARA's multiple benefits to universities and research centers across the region, enriching and strengthening its digital ecosystem.

During our working meeting in Santiago, Chile, we addressed these topics and outlined an increasingly solid action plan to achieve our goals. To reach these objectives, RedCLARA must make significant progress in its organizational development, integrating this transformation as an essential part of its goals. Transformation processes are always challenging, but they are the only path to evolution and adaptation.

I am convinced that our strategy is the right one, and I trust that, together, we will move forward in building the RedCLARA we all envision—an organization that strengthens its members and serves as a source of impact and development for the region.

Peru and RedCLARA strengthen cooperation in telecommunications and technology

With the goal of strengthening the digital ecosystem and promoting innovation in Latin America and the Caribbean, Peru's Ministry of Transport and Communications (MTC) and RedCLARA signed a Memorandum of Understanding (MoU) focused on the development of communications and information technologies (ICT).

Jenny Flores

The agreement aims to foster the exchange of information, ideas, and proposals in the fields of telecommunications and ICT, as well as to promote cooperation in key initiatives. The most immediate and highly significant of these is the BELLA II project, which seeks to expand RedCLARA's digital infrastructure in the region and connect Latin America and the Caribbean with Europe through advanced technologies.

The signing took place at the MTC headquarters and was carried out by Carla Paola Sosa Vela, Vice Minister of Communications of Peru, and Luis Eliécer Cadenas, Executive Director of RedCLARA. Narcisa Vladulescu, representing the Delegation of the European Union in Peru, participated as a witness to the signing.

Regarding the agreement, the Vice Minister of Communications of Peru stated, "We are convinced that meaningful connectivity is key to the country's socio-economic development. Driving this requires coordinated efforts among multiple stakeholders, and this agreement strengthens our commitment to academic and research networks, facilitating access to advanced digital infrastructure to enhance science, education, and innovation in Peru."

For his part, the Executive Director emphasized that the Memorandum of Understanding signed today marks the beginning of a closer collaboration between the two institutions, with the aim of strengthening Peru's connection to RedCLARA and its digital ecosystem supporting science, education, and innovation. He also highlighted that direct connectivity with Europe not only expands opportunities for cooperation but also facilitates access to Europe's vast research and educational capacities.

RedCLARA, a key player in the development of advanced networks in Latin America, leads the BELLA II project, co-financed by the European Union. The project aims to reduce the digital divide and support the development of the necessary infrastructure to consolidate and expand a digital ecosystem for science, technology, education, and innovation. It seeks to strengthen and expand the regional digital ecosystem, enabling relationships and exchanges between businesses, research centers, educational institutions, and national research and education networks, aligning with the strategic objectives in education, science, technology, and innovation of LAC and Europe.

This memorandum establishes a roadmap for the development of collaborative projects, with a commitment to promoting education, research, and innovation.

The MoU will have an initial duration of two years, with automatic renewal to ensure the continuity of efforts in ICT development and to position the region as a leader in technology and innovation.

Bella II makes the HPC testbed available to drive innovation

Can you imagine running complex climate simulations or processing large volumes of data in just minutes? This is made possible by the HPC (High-Performance Computing) testbed of the BELLA II project, implemented by RedCLARA and co-funded by the European Union (EU). RedCLARA designed this specialized environment to experiment, develop, and evaluate applications requiring intensive computational performance.

Jenny Flores

It is a high-performance regional platform that was built on top of the strong infrastructure of SCALAC (Advanced Computing System for Latin America and the Caribbean). It lets researchers, scientists, governments, companies, and innovators run complex simulations, look at large datasets, and process complex models in a safe setting.

SCALAC is a consortium of scientific and high-performance computing centers across Latin America and the Caribbean. It offers services in infrastructure, platforms, applications, training, and consulting for research, development, and innovation using advanced information technologies. Currently, it has associated centers in Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Uruguay, and Venezuela.

The BELLA II HPC testbed not only provides high-performance resources, but it also offers specialized technical support from RedCLARA and SCALAC to make sure users get the most out of the infrastructure. With its scalable capacity, users can tailor computational power to their project's needs, from small-scale tests to large-scale simulations.

In this way, the HPC testbed strengthens the region's technological capabilities, fosters innovation, boosts global competitiveness, and contributes to the socioeconomic development of Latin America and the Caribbean. SCALAC and RedCLARA continue to enhance research and collaboration infrastructure, promoting scientific advancement and innovation.

Watch the video about the HPC testbed: https://youtu.be/ILD1JHNyYD4?si=XX039BCpuXq8zWfZ

To use the testbed, contact us: https://encuestas.redclara.net/index.php/164148

Winning Initiatives of the Ideathon Propose Innovative Environmental Solutions for Guatemala

The virtual Ideathon "Proactive Risk Management in the Motagua River Basin" concluded with the selection of three winning projects proposing innovative solutions to mitigate the effects of environmental degradation in the region. Over the course of a week, more than 90 participants, organized into seven teams, developed proposals to use satellite data from the European Union's (EU) Earth observation program, Copernicus, for water management, waste disposal, and ecosystem conservation. Five speakers, seven mentors, and pitch sessions supported the process by providing feedback and refining the solutions.

Jenny Flores

The first-place award went to Team 7, comprised of students from the University of San Carlos of Guatemala (USAC), the University of the Valley of Guatemala (UVG), and Mariano Gálvez University (UMG). Led by Laura Monroy, the team presented the initiative "Implementation of an Integrated Environmental Satellite Monitoring and Phytoremediation System to Reduce Pollutants in the Motagua River."

The project aims to improve water quality and ecosystem health by using satellite imagery to identify contamination hotspots and applying phytoremediation techniques with native plants to restore the landscape and conserve biodiversity. The proposal involves the Ministry of Environment and Natural Resources (MARN), the Water Ministry, and the National Institute of Forests (INAB) of Guatemala. As part of their award, the team will present their project at the Motagua Forum, organized by the EU Delegation in May.

Second place was awarded to Team 4 for their proposal "Identification of Plastic Waste in the Motagua River Basin and Action Strategies Based on Copernicus Satellite Data." The team, consisting of members from USAC's Faculty of Engineering (FIUSAC), the

University Center of Izabal (CUNIZAB), MARN, UVG, and the University Center of Nororiente (CUNOR-USAC), combined artificial intelligence and machine learning with satellite imagery to detect critical contamination points. The information generated will support regional municipalities and promote waste collection enterprises. The team will receive three specialized mentorship sessions from Copernicus to strengthen the technical aspects of their project.

Third place went to Team 6 for their proposal "Detection Systems for Sources of Contamination in the Motagua River," comprised of students from CUNOR-USAC and FIUSAC. The project analyzes environmental indicators such as turbidity, temperature, and cyanobacteria presence, cross-referencing this data with information on human settlements, deforestation, and illegal landfills to identify contamination sources. The team will receive support from specialized professionals to further develop their proposal.

Key Impact

"RedCLARA's leadership and Guatemala's key role in the sustainable management of the basin are essential to advancing the recovery of this ecosystem," stated Jorge Cabrera from CopernicusLAC Panama Centre and member of the jury during the awards ceremony.

Claudia Barillas, representative of the EU Delegation in Guatemala, referred to the support that the winning team will receive: "The Motagua Forum, scheduled for next May, will be a closed high-level event with investors interested in river basin recovery projects. It will be an opportunity to bring the first-place team's initiative to fruition," she said.

Laura Castellana, RedCLARA's Academic Projects Coordinator, explained that the winning teams

will receive mentorship and have the opportunity to participate in a hackathon as the next step, with the possibility of accessing funding to implement their projects. Mark Urban, Director of International Cooperation, Academic Relations, and Communications at RedCLARA, highlighted that this initiative marks the beginning of projects that will contribute to improving not only the region's environmental conditions but also its socioeconomic conditions.

Representing the mentoring team, Ana Victoria Rodríguez from MARN emphasized that "tools like Copernicus allow us to identify, monitor, and prevent environmental problems in the long term." Additionally, Stephane Ourevitch from the EU's Copernicus Program Support Office stressed the importance of "training experts, especially young students, in Earth observation using free, high-quality data certified by the EU."

The Ideathon was organized by the Copernicus Academy Committee in Guatemala, composed of the National Secretariat of Science and Technology (Senacyt), the Guatemalan Advanced Network for Research and Education (RAGIE), the University of the Valley, the EU Delegation in Guatemala, the European Union's Copernicus Program, and RedCLARA, with support from the BELLA II project, led by RedCLARA and co-financed by the EU.

TICAL returns to Costa Rica in its 2025 edition

Costa Rica will host the next edition of TICAL, taking place from November 10th to 14th, 2025, reinforcing its role as a key hub for digital transformation in Latin America and the Caribbean. This event will bring together experts, academics, and technology leaders, promoting collaboration and knowledge exchange between academic and scientific institutions across the region.

Jenny Flores

The fourteenth edition of RedCLARA's flagship event, TICAL2025, will be supported by RedCONARE, the Advanced Network for Research and Education of Costa Rica's National Council of Rectors, which actively supports the strengthening of digital capabilities and technological innovation in the country. The event will offer a high-level environment to foster strategic alliances and drive innovative projects in key areas such as education, science, and technology.

Since its inception in 2011, TICAL has become a benchmark for regional collaboration, bringing together hundreds of experts and leaders at each edition. After the success of

TICAL2024 in Rio de Janeiro, Brazil, Costa Rica is preparing to continue the tradition of excellence in TICAL2025, with the support of key institutions and a renewed focus on digital transformation, aiming to make a positive impact on the region. Costa Rica is one of the priority countries within the BELLA II project, which seeks to strengthen and expand the digital ecosystem in Latin America and the Caribbean, facilitating the exchange and collaboration between companies, research centers, educational institutions, and academic networks in the region and Europe, in order to support the development of education, science, technology, and innovation in the region.

In 2017, Costa Rica hosted TICAL for the first time, and during that event, the conference shared its stage and call for participation with the ION Conference and the Latin American e-Science Meeting, expanding its reach and strengthening the links between various technological and academic sectors.

This event will be a crucial platform to address current challenges in educational technology, digital sustainability, and regional cooperation, as well as to strengthen research and technological innovation in Latin America.

Costa Rica: A leader in sustainability and technology

Costa Rica has gained international recognition for its commitment to sustainability, being one of the countries with the highest percentage of renewable energy in its energy matrix. The World Bank has published several reports on energy sustainability

in Costa Rica, highlighting that the country has become a global leader in renewable energy use. Additionally, Costa Rica is positioning itself as an innovation hub, with a growing tech industry and a constant focus on improving its telecommunications infrastructure, making it a strategic partner in the technology sector in Latin America.

The World Economic Forum has included Costa Rica in its global competitiveness reports, highlighting its capacity in technological innovation, digital infrastructure, and sustainability. This report ranks Costa Rica prominently in terms of infrastructure and sustainability.

TICAL2025 will feature activities that will showcase innovative projects from the region's academic and scientific community. The interested public is invited to stay tuned for upcoming updates on TICAL2025, to learn more about how to participate, as well as the activities and conferences to be held at this anticipated event.

SPIDER opens a call for proposals to leverage BELLA's connectivity

As part of the digital cooperation between Latin America, the Caribbean, and Europe, the SPIDER project, in collaboration with RedCLARA, launched an innovative call to promote the strategic use of the BELLA infrastructure. The goal of this initiative is to speed up the creation of solutions based on AI, cybersecurity, and the use of digital resources. This will help both regions become more digitally competitive and transform.

Jenny Flores

The call is addressed to startups, research centers, universities, large scientific infrastructures, and government entities that wish to develop innovative proposals leveraging the connectivity capacity of BELLA.

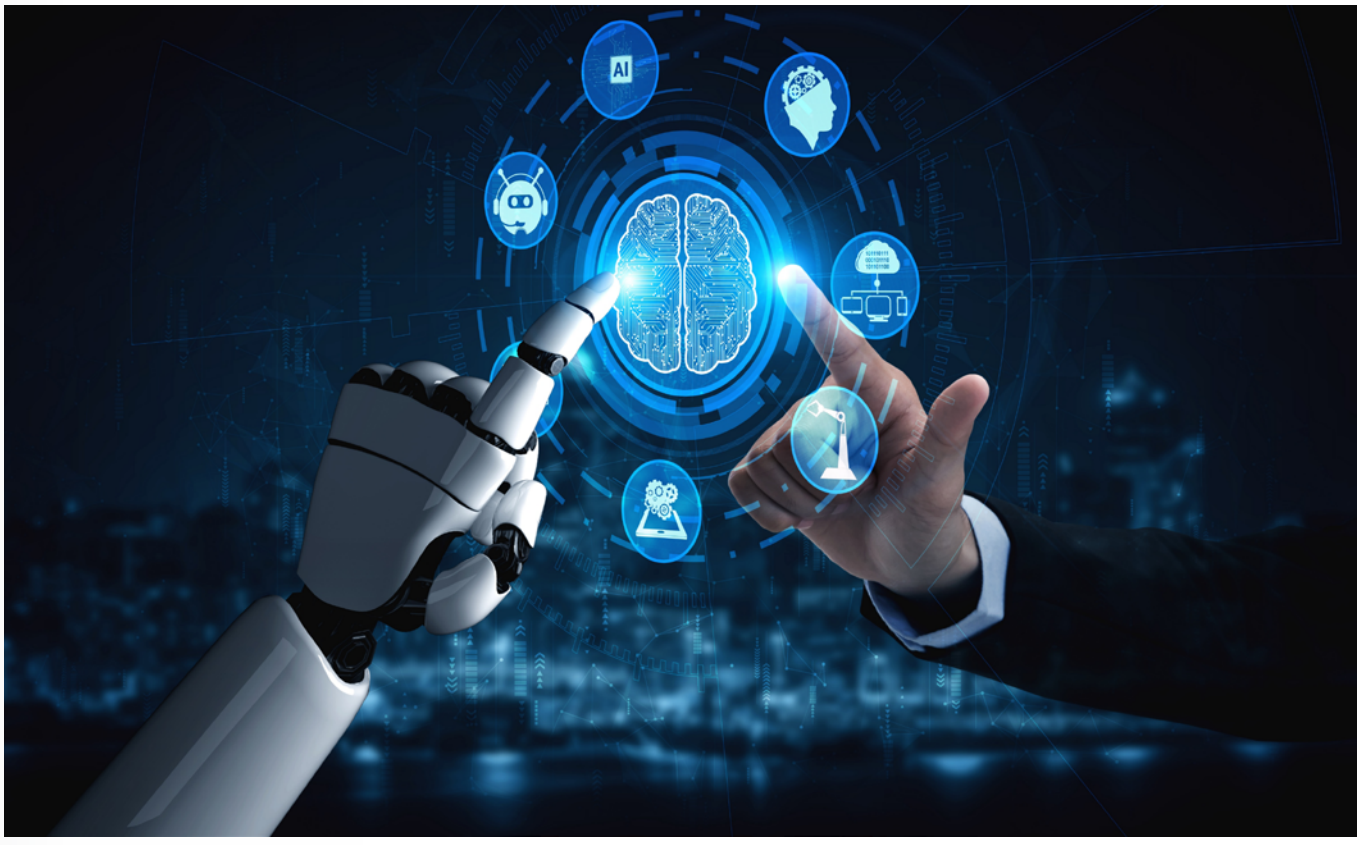
Participants are required to submit a concept note that answers the question: How can the digital ecosystem and entrepreneurship be improved using BELLA through AI solutions, cybersecurity, and the use of digital resources in Latin America, the Caribbean, and Europe?

Selected proposals will receive visibility, access to specialized mentoring, connection with investors, and the opportunity to present their ideas at a final pitching event (brief presentation).

The call for proposals opened on March 10. Inspiring talks for interested participants were held on March 19 and 26. The registration period closed on April 4, and the deadline for submitting proposals was April 9. From April 10 to 25, the evaluation and selection of ideas will take place. Finally, the selected ideas will be published on April 28.

The Potential of BELLA

Since 2021, the BELLA Program (Building the Europe Link with Latin America), implemented by RedCLARA and co-financed by the European Union, has strengthened digital connectivity between Europe and Latin America.



Through the BELLA-S project, a 6000 km undersea fiber-optic cable was deployed, directly connecting both continents for the first time, complemented by terrestrial infrastructure through the BELLA-T project, strengthening RedCLARA's backbone in South America.

The BELLA II project, which began in 2023, aims to consolidate the digital ecosystem of Latin America and the Caribbean by expanding connectivity to as many countries as possible, with priority on Peru, Costa Rica, Guatemala, El Salvador, and Honduras. Additionally, it seeks to increase the adoption and use of digital transformation technologies to develop solutions addressing the region's main challenges.

SPIDER is a project designed to maximize the impact of BELLA on the digital transformation of Latin America and the Caribbean, promoting international collaboration and the development of emerging technologies in strategic sectors. Through this call, it aims to stimulate the creation of innovative solutions that enhance connectivity and knowledge exchange in the region.

Motivational Talks

As part of the call for proposals, expert-led talks were held for interested participants. These sessions, focused on the thematic areas of artificial intelligence, cybersecurity, and the use of digital resources, aimed to inspire attendees to actively engage by sharing experiences and knowledge.

The first talk, "AI for Borderless Scientific Discovery: The Case of the ALeRCE Astronomical Broker", was delivered on March 19 by Francisco Forster, Associate Professor in the Department of Astronomy at the University of Chile and Regular Fondecyt Fellow.

The second session was held on March 26 and delivered by Carla Osthoff, coordinator of the National High-Performance Computing Center (CENAPAD) at the National Laboratory for Scientific Computing (LNCC) in Brazil. The talk, titled "The Brazilian Supercomputing System in the HPC and AI Landscape in Latin America and Europe," highlighted the work being done in the country in the area of high-performance computing, its significant support for the scientific community, and the impact of the initiative on the development of advanced technological solutions.

For more details about the call, interested parties can contact info@spidernetwork.org or colaboracion@redclara.net.

Visit the website:
[Call for ideas] SPIDER launches a call for ideas to expand the use of BELLA - SPIDER

LA Referencia/RedCLARA and OpenAIRE sign a new agreement

OpenAIRE, a leading European infrastructure supporting Open Science, together with LA Referencia and RedCLARA, the Latin American federated network for open academic communication, has signed a Memorandum of Understanding (MoU) to formalize and deepen their decade-long collaboration in promoting Open Science and interoperability between Europe and Latin America.

Publicação tomada de LA Referência.

For over ten years, LA Referencia has actively participated in OpenAIRE projects, integrating its collection, adopting metadata standards, and incorporating technologies developed by OpenAIRE. This new MoU establishes a more formal and structured framework to expand the joint development of technologies, enhance interoperability standards, and share open science training resources.

This alliance brings significant benefits to researchers, institutions, and decision-makers by increasing the visibility of publicly funded research.

Currently, LA Referencia connects 10 countries and brings together over 5.5 million open-access research outputs from approximately 2,000 repositories and journals. By joining forces with OpenAIRE, this extensive collection will gain greater international visibility, ensuring more equitable access to knowledge worldwide.

This strategic agreement highlights the shared mission of OpenAIRE, LA Referencia, and RedCLARA to promote open science and improve global access to knowledge.

Key Areas of Cooperation

Through this agreement, OpenAIRE, LA Referencia, and RedCLARA commit to:

- **Strengthening Open Science infrastructure:** Collaborating on technical development to improve metadata aggregation, repository interoperability, and data exchange mechanisms.
- **Promoting Open Access regionally and globally:** Increasing the visibility and accessibility of scientific results in Latin America and Europe.
- **Aligning Open Science policies:** Working together to integrate national Open Science policies and promote common metadata standards.
- **Enhancing training and capacity building:** Sharing training resources and expertise to improve Open Science literacy among researchers and institutions.

RUTE-ALC Kicked Off Its 2025 Virtual Meeting Series

The Latin American and Caribbean University Telemedicine Network (RUTE-ALC) launched its 2025 virtual meeting series with the session "Cybersecurity in Healthcare: Protecting Data and Critical Systems." The event was moderated by Yuri Alexandro Ferreira, Data Protection Officer (DPO) at RNP Brazil.

Jenny Flores

Panelists also included Ivan Tasso Benevides, Security Operations Manager at Brazil's advanced network RNP, and Adriana Abad, representative of the Ecuadorian Ministry of Public Health. Together, they addressed the growing digital threats in the healthcare sector, focusing on personal data protection and medical system security to ensure patient trust. The session also explored innovative strategies and solutions to mitigate risks and safeguard healthcare information.

Strengthening knowledge exchange and regional cooperation.

Supported by RedCLARA and its National Research and Education Network (NREN) members, RUTE-ALC will hold this virtual meeting series from March to November

2025, featuring two sessions per month.

The main goals are to enhance knowledge exchange and foster collaborative projects in telemedicine.

Each session features the participation of experts and academics, who share their experiences to promote regional cooperation and improve access to and the quality of healthcare through innovative solutions.

"Regional collaboration is essential to tackling the common challenges of digital health in Latin America and the Caribbean. This meeting series presents a unique opportunity to share knowledge, build joint solutions, and advance toward a more secure and accessible healthcare future for our region," stated Tania Altamirano, Academic Relations Manager at RedCLARA.

Check the full calendario de encuentros 2025 aquí.

For more information and registration, visit: https://rcc.rnp.br/RUTE-ALC/aovivo

RUTE-ALC: Expansion & Regional Cooperation

This year, the network took a significant step by expanding into the Caribbean, officially becoming the Latin American and Caribbean University Telemedicine Network (RUTE-ALC). This growth solidifies its position as a leading initiative in digital health cooperation across the region.

RUTE-ALC is a collaborative initiative led by academic networks in partnership with RedCLARA to promote scientific and educational cooperation in healthcare. Its members include CEDIA (Ecuador), CUDI (Mexico), RENATA (Colombia), REUNA (Chile), RNP (Brazil), and now RedCONARE (Costa Rica). Through RedCLARA's global academic network connections, participating institutions can collaborate with specialists from Latin America, Europe, Asia, Australia, the United States, BRICS nations, and Portuguese-speaking countries.

Healthcare, research, and education institutions are invited to join these sessions, providing a valuable opportunity to foster collaboration and build a more accessible and efficient healthcare system across the region.

Webinar on Collaborative Strategies for DNS Security

As part of its commitment to strengthening cybersecurity in academic and research environments, RedCLARA, together with the Regional Cybersecurity Group of Research and Education Networks of Latin America and the Caribbean (eduLACSeg), organized the webinar, "Implementing pDNSSOC: Strategies for DNS Security through Collaboration." Institutions associated with National Research and Education Networks (NRENs) in Latin America and the Caribbean were the target audience for this exclusive event.

The webinar was led by Alejandro del Brocco, a renowned technology and security expert from Argentina's Association of University Interconnection Networks (ARIU), along with his team. The session included a practical case study on the implementation of pDNSSOC and shared effective strategies to strengthen cybersecurity within participating institutions.

pDNSSOC is a collaborative tool designed to detect cyber threats in DNS traffic—the system responsible for translating domain names into IP addresses. pDNSSOC helps find possible infections on the devices that are sending these queries by analyzing DNS queries and comparing them with lists of known malicious domains and IP addresses. Its adoption not only enhances internal

security but also protects the broader educational and research ecosystem regionally.

The webinar highlighted the benefits of pDNSSOC in threat detection and prevention, showcased ARIU's practical strategy in Argentina, and fostered collaboration among NRENs across the region.

This initiative aligned with commitments made during TICAL2024 and discussions held in December 2023 among EduLACSeg participants interested in deploying this tool. CUDI, Mexico's national research and education network, also supported and coordinated the event.

Participation was exclusively open to NREN-affiliated institutions interested in the MISP/pDNSSOC project. RedCLARA invited networks and their members to join this initiative to build a safer and more resilient digital environment against growing cyber threats.

Latin American Women Pave the Way for Supercomputing in the Region

In Latin America and the Caribbean, women are 1.6 times less likely to develop advanced digital skills and hold only 3 out of 10 jobs in the information and communication technology sector. Despite representing 40% of STEM (Science, Technology, Engineering, and Mathematics) graduates, their participation in the labor market remains limited, according to United Nations data.

To highlight the role of women in supercomputing and promote their inclusion in the scientific and technological fields, the virtual talk, Latin American Women in HPC, was held. This initiative follows up on the actions proposed during the Workshop Women on HPC at the CARLA 2024 conference.

CARLA is the annual event of the Advanced Computing Network of Latin America and the Caribbean (SCALAC), bringing together the high-performance computing (HPC) community in the region to foster collaboration and technological development. The talk, organized in collaboration with RedCLARA, addressed the challenges and opportunities for women in this field.

The event, moderated by Tania Altamirano, RedCLARA's Academic Relations Manager, gathered over 70 participants and featured distinguished HPC experts from the region, including Paola Buitrago (Researcher at the Pittsburgh Supercomputing Center, USA), Paula Verghelet (Professor and Researcher at the University

of Buenos Aires, Argentina), Carla Osthoff (Researcher at the National Laboratory for Scientific Computing, Brazil), Carmen Heras (Professor at the University of Sonora, Mexico), Cristina Boeres (Professor at the Fluminense Federal University, Brazil), Patricia Tissera (Professor at the Pontifical Catholic University of Chile), Aletéia Araújo (Professor at the University of Brasília, Brazil), Genoveva Vargas-Solar (Researcher at the French National Centre for Scientific Research, France), and Gina Maestre (Professor at the University of Antioquia, Colombia).

The discussion opened with two key questions directed at the audience: How many women leaders in HPC in Latin America do you know? How can we provide them with support? Only 29% of attendees said they knew at least five female leaders in this field in the region. Regarding support strategies, the most highlighted were visibility, followed by mentorship, education, funding, and networking.

Supercomputing with a Gender Perspective

For Gina Maestre, the challenges of applying HPC to smart city development are enormous. These cities use technology and data analytics to optimize urban services such as transportation, energy, and security. Implementing these advancements without considering gender perspectives could potentially deepen and perpetuate existing inequalities.

"Only 20% of leadership positions in smart city governance are held by women, and they are rarely included in decision-making processes regarding digital infrastructure, mobility, and security," she emphasized.

Maestre also highlighted the importance of increasing the inclusion of girls and women in STEM, noting that female representation in these fields at universities remains low. "The challenge is to encourage girls and women to pursue STEM careers and achieve greater inclusion. There are still very few female students in these areas," she stated.

Cristina Boeres pointed out that, while other regions have progressed with gender equity in HPC, Latin America still faces barriers that discourage female participation. Initiatives like Include Meninas in Brazil aim to reverse this trend by fostering girls' and young women's interest in computing from elementary school to university.

The approach to increasing women's participation in HPC seeks to ensure that technology is used transparently and equitably to solve social problems. Genoveva Vargas-Solar, for example, is developing a Justice Index to assess whether data centers adhere to equity principles and to propose fairer ways of allocating resources.

Challenges

Balancing personal life with a career in supercomputing remains a challenge, and some panelists brought this issue to the forefront. Astrophysicist Patricia Tissera, a specialist in galaxy formation and leader of the CIELO project (the chemo-dynamical properties of galaxies and the cosmic web), shared her experience of how it is possible to thrive in science without sacrificing family life. CIELO is an initiative focused on studying galaxy formation in the field, with a particular emphasis on their chemo-dynamical properties and interaction with the cosmic web.

Her work combines HPC and advanced algorithms to model galaxy evolution based on observations from ground-based and satellite telescopes. But

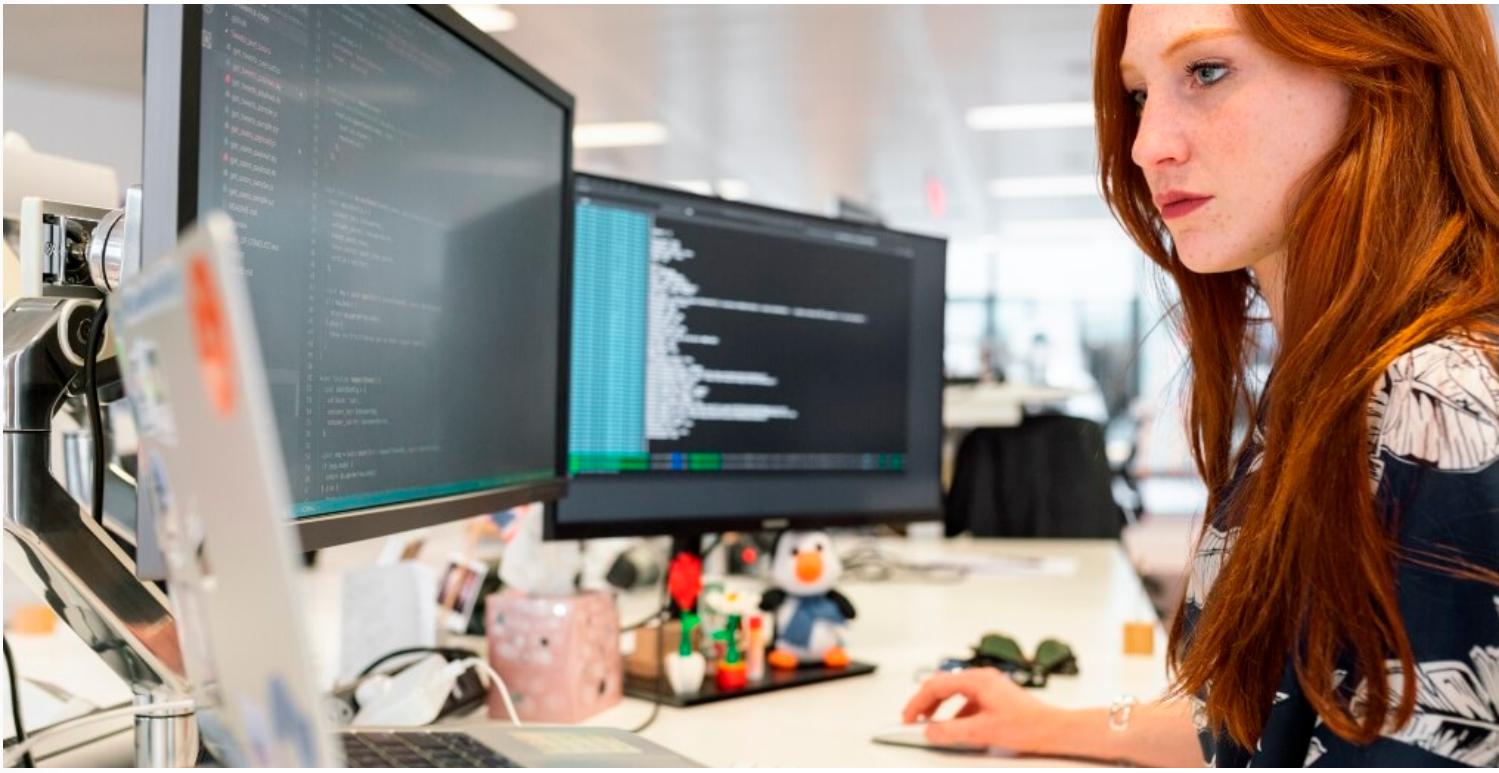
beyond technology, Tissera called for transforming the sector's culture, advocating for greater investment in HPC infrastructure, the strengthening of computing ecosystems, and, most importantly, a real commitment to equity in science. She stressed that achieving this is not solely women's responsibility and that men's involvement in family care is also crucial to building a more equal future in the scientific field.

Other panelists agreed on the importance of inspiring and mentoring girls and young women to join the world of supercomputing. They emphasized that representation and access to female role models are essential to changing the perception that HPC is an exclusive space for men. Among the strategies mentioned to build a more inclusive future in science and technology were early education, the creation of mentorship networks, and ensuring equitable conditions in academia and the workplace.

Carmen Heras pointed to another key challenge: "The enrollment of women in science, mathematics, and engineering declines over time. This is not just a trend but the result of economic factors, marriage, and other obstacles that persist. We must continue to encourage, support, and create opportunities for more women to stay and advance in STEM. Equity in science is essential for innovation and progress," she emphasized.

Latin American Women in HPC will continue during the CARLA 2025 conference, which will take place in September in Jamaica, further strengthening the visibility and participation of women in the sector.

Watch the full event: https://www.youtube.com/live/Uyv5uOCpaSs?si=CHeVgVQjYwC4DFV3



On the way to the EU-ALC Academic Summit

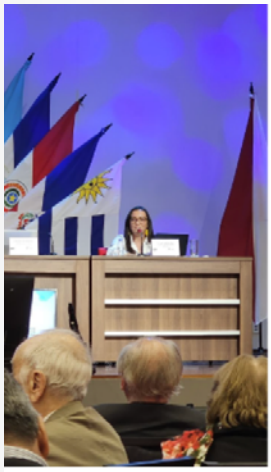
RedCLARA participated in the Preparatory Seminar for the VI Latin America and the Caribbean–European Union (ALC-EU) Academic Summit, held in Costa Rica. This meeting was crucial for advancing the creation of a common space for higher education, science, technology, and innovation between both regions, with the goal of developing an academic integration agreement.

The event brought together representatives from academic, scientific, and innovation institutions from around the world. Its main objective was to analyze the current and future situation of higher education, science, and technology in both regions. Participants shared ideas and proposals to strengthen cooperation between Europe, Latin America, and the Caribbean in preparation for the VI ALC-EU Academic Summit to be held this year, within the framework of the IV CELAC-EU Summit.

"RedCLARA's participation in this seminar demonstrates our commitment to academic, scientific, and technological cooperation in the region. One of the main objectives of the VI Academic Summit in 2025 will be to create an Academic Integration Agreement between ALC and the EU," said Laura Castellana, academic projects coordinator.

Three key moments highlighted RedCLARA's participation. First, in the strategic dialogues prior to the meeting on global challenges, the Academic Projects Coordinator presented the digital ecosystem between ALC and Europe as a collaboration platform. Castellana explained RedCLARA's role, the BELLA project, the Copernicus Academy, and the methodology used in innovation activities.

In the second session, during the panel "The Future of Higher Education in the Face of Global Challenges," José Palacios, member of RedCLARA's Board of Directors and president of REUNA, Chile, addressed topics such as the future of work, digital transition, and the impact of artificial intelligence on academia and research. Finally, Laura Castellana moderated the reflection group "Challenges and Perspectives of AI in Academic and Research Activities,"



sharing insights on the use of emerging technologies to foster international collaboration.

The preparatory seminar follows up on the agreements from previous academic summits: Chile (2013), Brussels (2015), Córdoba (2018), Bucharest (2022), and Alcalá (2023). These meetings have been key in the development of Chapter 9 on Higher Education in the CELAC-EU Action Plan 2015, as well as in subsequent declarations, including the 2023 Santo Domingo Declaration.

RedCLARA's participation reaffirms its commitment to academic, scientific, and technological cooperation in the region. The creation of an ALC-EU Academic Integration Agreement will be one of the main objectives of the VI Academic Summit in 2025, a key event for the future of collaboration between the two regions.

The VI ALC-EU Academic Summit is shaping up to be a key event for the future of academic, scientific, and technological collaboration in both regions.

LACNet: The Blockchain Revolution That Is Transforming Latin America And The Caribbean

LACNet is the world's largest permissioned public blockchain infrastructure.

Blockchain has ceased to be a futuristic promise and has become a key tool in building digital bridges for innovation and development in Latin America and the Caribbean. With an ecosystem that is becoming more connected and the need for safe, open, and scalable solutions, LACNet, the world's largest permissioned public blockchain infrastructure, has become a regional standard for this type of network.

This project was started three years ago by RedCLARA, the Internet Address Registry for Latin America and the Caribbean (LACNIC), and the Inter-American Development Bank (IDB)'s innovation lab, BID Lab. It has helped more than 100 solutions in 23 countries make a real difference in key areas, which has helped more than 9 million people. Education, digital identity, government transparency, and financial inclusion are

just some of the areas where it is making a difference.

For Luis Eliécer Cadenas, Executive Director of RedCLARA, the work carried out over the past three years by LACNet has been fundamental, especially in building capacities in the use of blockchain technology for the common good. In addition to infrastructure and technological platforms, the value proposition has improved. This effort has opened new possibilities for developing solutions that have a positive impact on the region," he emphasized.

In the agricultural sector, AgroWeb3, an initiative of BID Lab and the International Fund for Agricultural Development (IFAD), is an innovative solution that uses blockchain and Web3 technologies to connect small farmers with global markets, improving their access to business opportunities and contributing to climate change adaptation. Another emblematic case is Ward, an application that started in Colombia and has revolutionized the way digital evidence is collected and stored securely and immutably in cases of violence and crime. The tool records evidence discreetly, leaving no trace on the phone, and certifies it on the blockchain, ensuring it cannot be altered or deleted. This way, victims can present verifiable and protected evidence, increasing their chances of obtaining justice.

These examples show the effect of LACNet, the blockchain network where the LACChain Ecosystem projects are set up and which makes it easier for key industries to adopt this technology. Since its inception, its model has allowed governments, universities, and companies to develop blockchain solutions with a balance between security, transparency, and digital inclusion. Its permissioned, multi-purpose public network provides a real and secure environment for application execution, aligned with current regulations.

A Reliable Digital Highway

In just three years, LACNet has established itself as a key pillar in the digital transformation of Latin America and the Caribbean, providing reliable technological infrastructure and promoting innovative solutions.

Blockchain technology is characterized by its security, traceability, transparency, and sustainability. Information storage is decentralized, meaning it is distributed across multiple interconnected nodes so that if one fails, the others continue operating, preventing data loss. Its validation system prevents information from being altered, as any modification attempt would be rejected by the other nodes, which have identical copies of the data. In terms of transparency, the information is visible to those with access but without revealing user identities. For example, knowing a digital wallet code allows viewing transactions but not identifying the person behind them.

Mariana Kotik, Chief Commercial Officer of LACNet, highlights that blockchain technology has enormous potential, although it is often confined to specific uses. While initially associated mainly with cryptocurrencies, today its applications span multiple areas with social and environmental impact. "Digital identity management, credential and diploma certification, and ensuring transparency, immutability, and cost reduction are just some of the benefits this technology offers," she emphasizes.

"We like to think of LACNet as a bridge between regions, as many use cases

require connectivity with countries like those in the European Union or the United States. To achieve this, it is essential to have technological infrastructure aligned with international standards. In this regard, LACNet offers a secure environment that complies with current regulations, enabling traditional Web 2.0 entities to take their first steps in blockchain and Web3," Kotik states.

The expert adds that one of the main challenges in expanding blockchain's impact in the region is eliminating prejudices and fears surrounding its use while promoting a better understanding of its benefits. A new invention is a post-quantum resistance solution that was created with the help of other groups. It provides an extra layer of defense against possible future threats from quantum computers.

"Quantum computers could jeopardize the security of many systems, including blockchain. It's not a question of if it will happen, but when. That is why at LACNet, we have developed a solution that protects our network from these threats. Additionally, we help projects obtain certification and demonstrate their reliability, building trust among both investors and users," Kotik notes.

The CCO of LACNet adds that "the key to the mass adoption of blockchain lies in traditional sectors, perceiving it as a familiar and user-friendly technology capable of solving their challenges. In that sense, our focus on building a strong and collaborative ecosystem is fundamental for its growth and consolidation."

A Key Alliance

As a novel technology, it is essential to create learning spaces where people can understand its fundamentals and practical applications. In this effort, RedCLARA has been a strategic ally in promoting digital inclusion and facilitating the integration of advanced technologies in the region.

"The vision of BID Lab and LACChain to create a solid ecosystem is something we deeply value at RedCLARA. Therefore, RedCLARA is committed to supporting, strengthening, and promoting this effort, recognizing its potential to achieve the important goals ahead," says Cadenas.

"Together with RedCLARA, we promote blockchain adoption in universities and national research and education networks (NRENs), as well as in professional development and learning spaces, whether through working groups or hackathons, providing future professionals with the tools to thrive in the industry. Additionally, solutions such as the Diploma Project and digital identity systems expand opportunities in educational environments, an effort we will continue to drive forward together," Kotik emphasizes.

As part of this alliance, efforts are also being made to promote blockchain use through the creation of a secure space to test, validate, and refine key technological solutions to accelerate innovation adoption. Within the framework of the BELLA II project, implemented by RedCLARA and co-financed by the European Union (EU), the creation of a testbed based on LACNet's Pro-Testnet network is being developed.

Researchers, business owners, and companies can use this platform to try out new ideas and build and test apps in areas like digital identity, smart contracts, and supply chain traceability in a safe space that meets international standards. Beyond technological development, the testbed strengthens the training of specialized talent, promotes innovation, and expands digital capabilities in the region, creating new opportunities for economic and social growth.

"Our goal with this testbed is to facilitate access to blockchain technology, allowing more actors to experiment with its potential and generate solutions tailored to the region's challenges," says Carlos González, RedCLARA's service manager.

The expert also highlights that the collaboration between LACNet and RedCLARA has already yielded results over these three years in the adoption of blockchain in the region. "This alliance has opened new opportunities in digital identity, information traceability, and administrative process transparency," says González.

For example, the Diploma Project, implemented within this alliance, has revolutionized digital certification in Latin America, ensuring the authenticity, transparency, and accessibility of academic credentials. Its working model connects universities, NRENs, and technology providers, facilitating the efficient and reliable issuance and verification of digital diplomas.

This technology allows graduates to receive secure and verifiable digital degrees while universities can validate their authenticity within seconds, without intermediaries, reducing fraud risk and expediting hiring processes and international academic recognition.

Unstoppable

The results achieved so far inspire continued expansion of blockchain use in the region. In the near future, LACNet is spearheading significant initiatives related to carbon credits, such as a hackathon that could showcase the winner in November. "This is a project we are strongly investing in this year. These initiatives are open to the general public, and RedCLARA also helps us promote and extend their reach," explains Kotik.

"Blockchain has the potential to increase transparency in environmental initiatives, such as carbon credit traceability, improving the effectiveness of climate response strategies," adds González.

Looking ahead, LACNet and RedCLARA will continue to strengthen the region's blockchain infrastructure, advancing strategic partnerships that enable adoption in priority sectors such as education, public administration, and business.

CARLA 2025 is to be held in Jamaica

In its 2025 edition, the Latin American High-Performance Computing Conference (CARLA), organized by the Advanced Computing System for Latin America and the Caribbean (SCALAC), will take place in September in Kingston, Jamaica. This annual event has become a key meeting point for researchers, academics, and experts in advanced computing, artificial intelligence, and high-performance applications across the region.

CARLA 2025 will bring together decision-makers, scientists, and professionals to discuss the latest advances in supercomputing, data storage, modeling, and simulation, as well as the impact of high-performance computing on artificial intelligence, data science, and technological innovation. Additionally, it will foster collaboration between universities, research centers, and industry to strengthen the digital ecosystem in Latin America and the Caribbean.

Since its first edition in 2014, CARLA has been a fundamental platform for knowledge exchange and collaborative projects. The 2025 edition in Kingston, will be a unique opportunity to strengthen the Caribbean's presence in the supercomputing community and promote technological infrastructure development in the region.

In the coming months, SCALAC will announce the opening of registrations, the call for papers, and program details. The event is expected to feature renowned researchers and international experts, as well as presentations of cutting-edge studies that drive high-performance computing advancements in the region.

As a strategic partner of RedCLARA, SCALAC plays a key role in regional cooperation for supercomputing and advanced technology. Its infrastructure and expertise help expand access to high-performance computing resources, driving scientific and technological innovation in Latin America.

For more information and updates on CARLA 2025, visit the official website https://carlaconference.org/ or follow its social media channels: https://www.facebook.com/ccarlaorg .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