

De CLARA

Cooperación Latino Americana de Redes Avanzadas

BULLETIN

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TICAL
culminates
with success

BELLA II
stands out
at TICAL

TICAL 2024
Poster Contest

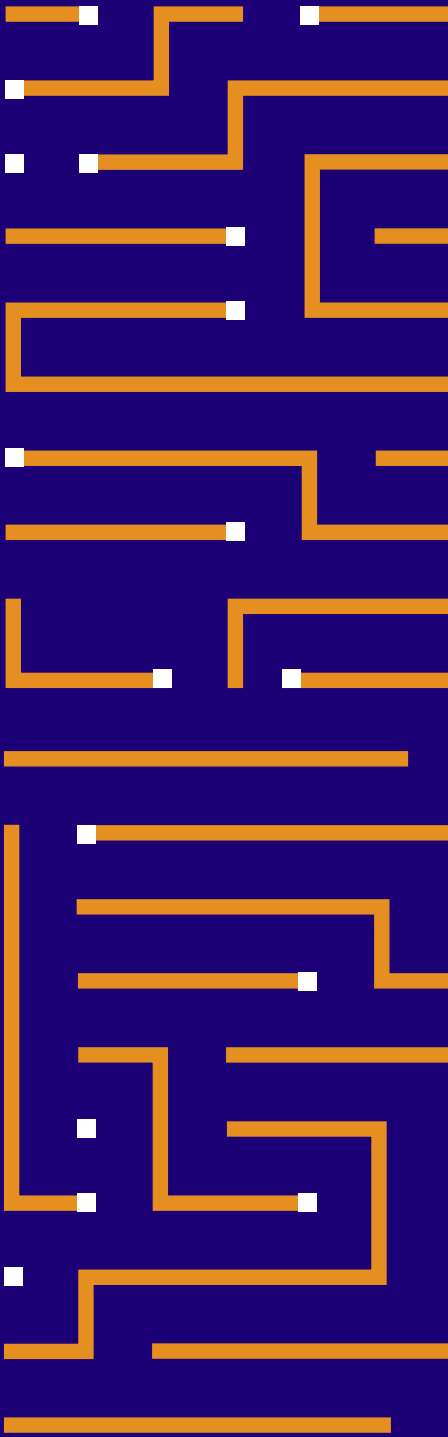
Red **CLARA**

Cooperación Latino Americana
de Redes Avanzadas



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Editorial



Luis Eliécer Cadenas Marín
Executive Director RedCLARA

During 2024, we have continued the process of strengthening the Latin American and Caribbean digital ecosystem to support science, technology, innovation, and education. This work of co-construction, which has already reached several decades, has been able to progress thanks to the spirit of cooperation and collaboration that characterizes our community. This way of doing that is in the DNA of their organizations, in the national networks of research and education that make up RedCLARA and in many other organizations linked to our work.

One of the areas where this cooperative capacity is manifested is in our annual conference, TICAL. This year's TICAL in Rio de Janeiro was for me the best of all that I have experienced during my time as RedCLARA executive director. The event was full of interesting content for our networks and, as I was told by some of its directors, with the perfect balance between presentations and spaces to meet and work.

TICAL 2024 was also a perfect space to honor and celebrate Nelson Simões who will retire from the leadership of RNP, the Brazilian network, one of our founding members, in the first months of next year. Nelson has been a guide and example to follow for many of us. His leadership and management skills have yielded many fruits, one of the most important being the state in which he will leave RNP after his retirement.

An organization that today carries out activities that strengthen very important Brazilian organizations related to education, science, technology and innovation.

Nelson, during the days of TICAL, shared with us a metaphor of our work taken from a beautiful poem by Thiago de Mello that I would like to reproduce here:

With a river

To be able, like a river that carries only the canoe that is tired, to serve as a way for hope. And wash away the unclean of the stain, as the river that carries, and washes.

Grow to deliver in the quiet distance a power of song, as the river deciphers the secret of the earth. If it is time to descend, keep the gift of strength without ceasing to continue.

And even disappear to, underground already, learn to rise up and fulfill, in full course, the profession of wanting.

Like a river, accept those unforeseen waves made of impure waters that float the truth from the depths.

Like a river, born of others, knowing to continue existing alongside others and extending in others and building the encounter with the colossal waters of the infinite ocean.

In motion, change, but still the same being that changes.

Like a river.

I think our community and our organizations can be very well reflected in these words. Our work has been long and fruitful, but as the poem indicates, it has had its ups and downs. The most important thing is that, despite the difficulties that may arise along the way, we are aware that we are born of others and are part of a whole that is much bigger and more powerful than each one of us. And that there, in that union, lies our greatest strength. It is a great lesson dear friend that you have given us with your way of working and your dedication.

We will continue to work together to make this river union a powerful stream that helps strengthen our region. I wish you all a very happy and prosperous 2025.



TICAL 2024: Paving the way for digital transformation in Latin America and the Caribbean.

The 13th TICAL Conference, held under the theme “Connecting Knowledge: AI and Data as Catalysts for Academic and Social Transformation”, concluded successfully in Rio de Janeiro, Brazil.

Ixchel Pérez

The event brought together over 200 participants from 19 countries across Latin America, the Caribbean, and Europe, including technology experts, academic leaders, and representatives from key institutions. Discussions focused on the transformative impact of Artificial Intelligence (AI), blockchain, open science, and cybersecurity on education, research, and health.

Held from December 3 to 5, the conference was organized by RedCLARA, the BELLA II project, and Brazil's National Research and Education Network (NREN), RNP. Prominent sponsors such as NOKIA, Calriz, Ruckus, SheerID, Q13, and the Escola Superior de Redes supported the event, further driving digital innovation in the region.

The conference stood out as a hub for consolidating alliances, exploring innovative solutions, and shaping a shared vision for the digital transformation of the region. In the opening remarks and during a presentation on the BELLA II Project, Luis Eliécer Cadenas, Executive Director of RedCLARA, emphasized the importance of regional collaboration as a tool for bridging the digital divide and fostering economic and social development.

“Regional cooperation is our greatest strength. Our achievements are the result of collective work, with long-term goals that drive social and economic progress,” stated Cadenas. He also highlighted this as a pivotal moment for RedCLARA and the region’s NRENs, given the untapped technological and human potential. “We are ready to unlock this potential and make a lasting impact. The future is built today, with collaboration and purpose,” he concluded.



Cadenas underscored the transformative potential of BELLA II, a project implemented by RedCLARA and co-financed by the European Union (EU), which aims to reduce the digital divide and strengthen the regional digital ecosystem by expanding connectivity to support developmental projects.

Nelson Simões, General director of RNP, echoed these sentiments, emphasizing that collaboration strengthens technological infrastructure and creates inclusive opportunities for academic, educational, and social development. He highlighted projects like BELLA II, which enhances regional connectivity and opens new pathways for open science and knowledge exchange. “Every time we meet, we plan and achieve what once seemed impossible together. TICAL2024 represents our vision of the future, with cooperation as our most powerful tool,” Simões added.



Throughout the event, attendees participated in 30 conferences, roundtables, and interactive sessions, sharing success stories and discussing solutions to current challenges across seven thematic areas: e-Health, e-Science, Sustainability, Infrastructure, Security, Services, and Culture. Among the central commitments was the need to develop inclusive and accessible infrastructures, a key focus for the leaders present.

Notable international experts led discussions, including Dr. Seiji Isotani from the University of São Paulo and Prof. Ulises Cortés from the Barcelona Supercomputing Center, who explored the transformative potential of AI in education and science. Other critical topics included cybersecurity, digital sustainability, and open science, with contributions from NRENs, RedCLARA, GÉANT, and allied entities.

The conference also featured heartfelt moments, such as the recognition of Tania Altamirano, Academic Relations Manager at RedCLARA, for her leadership in the Latin American Telemedicine University Network (RUTE-AL). Thomas Fryer, Head of International Relations at GÉANT, was honored for his impactful career, as was Nelson Simões, whose invaluable legacy will continue as he concluded his term as RNP’s General director next year.

The event concluded with panels highlighting the impact of emerging technologies on areas such as personalized education and scientific data management. Discussions emphasized how these tools could transform traditional processes while addressing ethical, energy-related, and technological implementation challenges.



TICAL2025 will focus on strengthening public-private partnerships and fostering collaborative projects that amplify the social impact of ICT in Latin America. The next conference will take place in Costa Rica, where participants will continue working toward a digitally inclusive and innovative future.





BELLA II project in the spotlight at TICAL2024

On the TICAL2024 conference, which gathered over 200 participants from 19 countries, Luis Eliécer Cadenas, Executive director of RedCLARA, presented the achievements and objectives of the BELLA II project, highlighting its contribution to bridging the digital divide, promoting meaningful connectivity and building a robust and sustainable digital ecosystem in Latin America and the Caribbean.

Ixchel Pérez

Cadenas stressed that BELLA II, beyond its goal of expanding regional connectivity, is redefining the very concept of connectivity by using technological infrastructure at the service of socio-economic development. "Meaningful connectivity is not just about cables and networks; it is about creating a digital environment that transforms lives, connects people, and drives innovation," he stated.

According to RedCLARA's Executive director, BELLA II focuses on creating a real and sustainable impact by putting knowledge and innovation, driven by education and research institutions, at the service of communities and productive sectors.

A key aspect of the presentation was the emphasis on regional cooperation as a cornerstone of the project. Cadenas

highlighted the collaboration between the "quadruple helix" - governments, academia, business, and civil society - as essential to creating opportunities and maximizing the social impact of technology in the region. "Our true strength lies in our ability to work together to build a digital ecosystem that strengthens science, education, and innovation," he stated.

Cadenas also underscored the importance of maximizing resource use through shared infrastructures and creating synergies. This approach, he affirmed, is not only efficient but also essential for bridging digital divides and ensuring that technological tools reach all sectors of society.

The presentation on BELLA II, a project implemented by RedCLARA and co-funded by the European Union, was part of a panel dedicated to infrastructure as a pillar of digital transformation. The panel also discussed artificial intelligence, blockchain, and high-performance computing initiatives.

BELLA II, whose objective is to reduce the digital divide and consolidate the digital ecosystem of Latin America and the Caribbean by fostering relationships among diverse stakeholders to propose solutions for sustainable development challenges, is one of the four pillars of the EU-LAC Digital Alliance. Its potential and benefits for the region were highlighted by various panelists and participants throughout the event.

TICAL2024 was organized by RedCLARA, the BELLA II project, and Brazil's National Research and Education Network (NREN), RNP, with the support of sponsors including NOKIA, Calriz, Ruckus, SheerID, Q13, and the Escola Superior de Redes.

TICAL2024 showcased the commitment of academic networks to sustainability, security, and digital infrastructure in a rapidly evolving world. The discussions concluded that connectivity and regional collaboration are essential to turning global challenges into opportunities for growth and innovation.





11 Projects Selected in the TICAL 2024 Poster Call

Jenny Flores

The TICAL 2024 poster call successfully closed on November 22, with notable participation from researchers and students. Its goal was to promote the visibility of innovative, high-impact projects in key areas, such as digital health, sustainability, and technology, while highlighting the contributions of the academic and scientific community in the region.

We are pleased to announce the results of the call and congratulate the selected projects. We sincerely thank all participants for sharing their initiatives, contributing to the creation of a space that fosters collaboration and knowledge exchange among professionals from various disciplines.

Selected Projects:

Poster Name: Digital Transformation Architecture—UCUENCA Pablo Pintado (Ecuador)—University of Cuenca

PosterName: Educational Sustainability in the University Technological Ecosystem Jhondert Jaimes Rodríguez (Colombia), Universidad Libre

Poster Name: Development and Implementation of an eHealth System at the Medical Center of the Escuela Superior Politécnica de Chimborazo Riobamba Hernán Darío Centeno Aulla (Ecuador), Escuela Superior Politécnica de Chimborazo

Poster Name: Comprehensive Approach to Mitigating Security Gaps in Production Applications at the Escuela Superior Politécnica de Chimborazo Juan Carlos Díaz (Ecuador)—Escuela Superior Politécnica de Chimborazo

Poster Name: TADEO: The PMO Virtual Assistant with AI that Revolutionized Project Management at RNP Francisco Adair dos Santos Junior (Brazil) -- RNP

Poster Name: FUTl, Women in the IT Universe Luciana Batista (Brazil) - RNP

Poster Name: Hackers do Bem (Good Hackers). Rômulo Silva Pinheiro (Brazil) - RNP

Poster Name: Educational Consultancy Paulo Duque (Brazil) - RNP/Proative-se

Poster Name: Resistant Bacteria—Truth or Challenge? Sania Ortega-Andrade (Ecuador), Universidad Técnica del Norte


Poster Name: Bibliographic Analysis of the Impact of Artificial Intelligence in Organizations Alvaro Felipe Lopez Russi (Colombia), Universidad Católica de Colombia



Poster Name: Intelligent Analytics for Managing Amphibian Data in Ecuador Alexander Guevara-Vega (Ecuador): Universidad Técnica del Norte

During the coffee breaks at the TICAL 2024 conference, which will take place from December 3-5 in Rio de Janeiro, Brazil, the authors of the selected posters will have the chance to share their work and experiences with attendees. Additionally, the three-day event will feature the posters, offering continuous exposure for their valuable initiatives and research.

This space for visibility and collaboration offers a key opportunity to continue driving innovation, knowledge, and exchange among researchers and the academic community in Latin America and the Caribbean.



For more information about the conference and related activities, visit <https://tical2024.redclara.net/en>



Strategic meetings and bootcamps drive innovation in services and cybersecurity

Ixchel Pérez

Held in Rio de Janeiro from December 3 to 5, the TICAL 2024 Conference reaffirmed its status as a key platform for strengthening and fostering collaboration among Latin America's National Research and Education Networks (NRENs). This gathering provided experts and leaders in technological services and cybersecurity with an opportunity to share knowledge, explore joint solutions, and advance a regional agenda in these critical areas.

Preceding the conference, on December 2, annual strategic meetings on Cybersecurity and Services for NRENs took place. These meetings gathered key stakeholders to exchange experiences

and collaboratively address regional challenges. The sessions focused on best practices and emerging trends in implementing technological services that add value to educational, scientific, and innovation communities.

The program for these meetings, co-designed by RedCLARA, the Brazilian network RNP, and technical teams from participating networks, tackled pressing topics such as service innovation, tools, and strategies to combat emerging threats like ransomware. These discussions bolstered network capabilities and fostered regional cooperation in incident management.

The activities culminated in the creation of a strategic agenda for NRENs, outlining collaborative efforts and development priorities in cybersecurity and technological services. This agenda identified joint priorities, collaboration areas, and shared goals to address current challenges effectively.

RedCLARA, RNP, and GÉANT co-organized the Security Baseline Bootcamp, a two-day intensive workshop, on December 6 and 7, following the conference. This bootcamp offered participants an in-depth analysis of their cybersecurity capabilities and supported the design and implementation of policies, procedures, and strategies to strengthen their institutions.

Based on GÉANT's successful model, the bootcamp covered essential topics such as risk management, incident prevention, and establishing baseline security controls. Participants engaged in practical exercises and situational analyses to identify strengths and areas for improvement within their networks.

Carlos González, Services Manager at RedCLARA, remarked, "The bootcamp not only allowed us to assess the cybersecurity maturity of participating networks but also had a practical impact by providing tools to enhance standards and build a more resilient community against digital threats."

The Security Baseline Bootcamp stood out for its replicable approach, enabling participants to return to their countries equipped with tools and knowledge to implement and adapt within their own institutions, amplifying the event's impact.

TICAL 2024 fulfilled its mission to promote innovation, regional cooperation, and capacity building, leaving a significant legacy for Latin America's NRENs and marking an important step toward a more secure and interconnected region.





Nelson Simões: A Legacy of Innovation in Brazil's Academic Connectivity

Jenny Flores

“When you have the opportunity to do what you’re passionate about, innovate, and create alongside people who share your curiosity, it’s a privilege,” reflects Nelson Simões, who will conclude his tenure as General Director of the Brazilian National Research and Education Network (RNP) next year, a position he has held since 2002. Over more than two decades, Simões has been a pivotal figure in advancing academic connectivity and digital development in Brazil and Latin America, leaving a lasting legacy for advanced networks.

Simões joined RNP in 1993 as a network engineer and has since played a crucial

role in transforming the organization into a benchmark for education and research network infrastructure. His leadership has driven innovation and strengthened regional collaboration, directly impacting education, research, and technology development.

His journey into advanced networks began with curiosity. Graduating in Computer Engineering in 1990 from the Pontifical Catholic University of Rio de Janeiro, Simões recalls the early steps of his career with enthusiasm. Initially drawn to electronics, he found his calling in networks during the Internet boom of the 1980s. “Everything was new;

there was incredible energy for testing, configuring networks, and deploying applications. It was an exceptional school for knowledge and collaboration,” he says.

This passion led him to the university’s Supercomputing Center, where he worked for a decade before joining the emerging RNP. At that time, the organization was laying the groundwork for Brazil’s first Internet infrastructure. “I arrived in 1993, coinciding with the activation of the first national backbone.” It was a fortunate coincidence; I was in the right place with the right people,” he recalls.

One of Simões’ most significant milestones was leading RNP’s transformation from a research project into a formal corporation in 2002. This shift established strong connections with the academic community and defined a clear mission: to build innovative infrastructures to support higher education and research in Brazil.

“Defining who we are, whom we serve, and our purpose was crucial. We built something of outstanding value for the country and the community,” Simões highlights. This visionary approach laid the foundation for RNP’s expanded impact and major projects.

Throughout his tenure, Simões faced substantial challenges, including expanding the network to connect 900 points in Brazil’s remote regions. This effort required strategic partnerships with energy companies and other private institutions. “These connections not only delivered infrastructure but also development and opportunities to

previously isolated communities,” he explains.

The COVID-19 pandemic posed another critical challenge, accelerating the demand for digital services. Within weeks, RNP scaled its platforms to support thousands of new users. “It was a decisive moment. We proved our ability to adapt quickly and provide effective solutions in a critical context,” he emphasizes.

Simões also underscores the value of RNP’s research projects, which fostered experimentation and gave rise to companies and services that today contribute to Brazil’s technological development.

A Vision for the Future

Looking ahead, Simões champions regional collaboration and the adoption of emerging technologies like artificial intelligence, blockchain, and quantum computing. “The role of academic networks is to stay at the forefront, anticipating the impacts of these technologies and exploring how they can benefit education and research,” he reflects.

He also sees enormous potential in RedCLARA, the regional network for Latin America, to enhance the digital capabilities of countries with established national networks and support those lacking consolidated infrastructure. “I hope to see new national networks emerge in the coming years, consolidating connectivity as a cornerstone of regional development,” he asserts.



Simões views his journey at RNP as a unique and enriching experience. “Working with passionate people, innovating, and overcoming challenges has been extraordinary. I feel fortunate to have contributed to connectivity development in Brazil and beyond,” he concludes.

As he steps away from his leadership role, Nelson Simões intends to continue contributing as a specialist. His commitment to innovation and digital development remains steadfast, albeit from a different perspective.

To young professionals, he offers simple but profound advice: “Be curious. Aim for the stars and work on what truly excites you. Curiosity is the engine of innovation,” he concludes.

Quick Takeaways

Country: Brazil

Connectivity: People

Future: Bright

Idea: Innovative

Brazil: Land (arid regions)

TICAL: Gathering



BELLA: A Key Driver of Connectivity and Supercomputing in Latin America

Jenny Flores

During its participation in the SC24 International Conference in Georgia, USA, from November 17 to 22, RedCLARA reaffirmed its leadership in strengthening the digital ecosystem of Latin America and the Caribbean.

At this global forum, the organization highlighted the transformative impact of the BELLA and BELLA II projects, co-funded by the European Union (EU). These initiatives have expanded digital interconnection capacity, promoted scientific collaboration, and strengthened open science and advanced technologies in the region.

During the “HPC Collaboration in the Americas” session, RedCLARA’s Executive Director, Luis Eliécer Cadenas, emphasized the critical role of the BELLA





Program in connecting Latin America with Europe through high-capacity networks. This session, co-hosted with SCALAC (Latin American and Caribbean Advanced Computing System), Internet2, and CANARIE, underscored how the different phases of BELLA have built a robust foundation for global cooperation and the advancement of emerging technologies like artificial intelligence and Earth observation.

Cadenas also highlighted that BELLA II, with an expected total investment of €28 million, is extending its reach to Central America and Peru, with plans to expand to the Caribbean. This project not only connects universities and research centers but also fosters innovation in areas such as blockchain

and high-performance computing (HPC), revolutionizing the technological landscape of the region.

In September, BELLA II, in partnership with LACNET, SCALAC, Ciberlac, and the University of the Republic (Udelar) in Uruguay, launched two operational testbeds utilizing blockchain and HPC technologies. A third testbed focusing on cybersecurity is under development, further driving innovation and technological growth in the region.

Supported by SCALAC's robust infrastructure, these testbeds enable researchers, scientists, businesses, and governments to conduct complex simulations, analyze large datasets, and test advanced processing models in a secure and specialized environment.

The BELLA II project strengthens the digital ecosystem for science, technology, education, and innovation across Latin America and the Caribbean. It fosters collaboration between businesses, research centers, educational institutions, and national research networks, aligning with the region's strategic goals. It is also a cornerstone of the EU-LAC Digital Alliance and the EU's Global Gateway strategy, whose impact will continue to expand in the coming years.

At the HPC Illumination Pavilion, a space showcasing key HPC initiatives and collaborations, Carlos González, RedCLARA's Network Services Manager, discussed how the organization's projects are bridging the digital divide in Latin America. González highlighted these initiatives as vital to promoting inclusion and technological development in the region through key infrastructure investments.

HPC is an essential resource for the region's science, education, and innovation ecosystem, enabling the tackling of complex challenges such as climate change, food security, and air pollution. Collaboration is critical to maximizing its effectiveness.

"RedCLARA facilitates collaboration among researchers, allowing them to address these challenges from diverse perspectives. Moreover, it fosters cooperation to identify joint solutions or provide the necessary resources for research. RedCLARA acts as a neutral regional agent, interconnecting stakeholders, ensuring fast and secure data transmission, and facilitating the collaborative processes needed to generate new solutions," González explained.



BELLA II: Driving Digital Connectivity at the High-Level Dialogues and the IX Ministerial Conference on the Information Society

Jenny Flores

In November, Santiago, Chile, hosted a pivotal conversation about the digital future of Latin America and the Caribbean.

During Digital Week, government officials, private sector representatives, civil society leaders, the technical community, and international organizations gathered for two key events: the High-Level Policy Dialogues of the EU-LAC Digital Alliance on Connectivity and Artificial Intelligence and the IX Ministerial Conference on the Information Society. The BELLA II project stood out as a tangible example of the benefits of intercontinental collaboration.

The events, organized by the Economic Commission for Latin America and the Caribbean (ECLAC) and the Government of Chile, facilitated valuable exchanges of experiences and best practices between regions. The Dialogues, co-chaired by the EU, aimed to define a roadmap based on shared priorities, setting actionable goals ahead of the EU-CELAC Summit in 2025.

The IX Ministerial Conference on the Information Society of Latin America and the Caribbean—renamed for future editions as the Ministerial Conference on the Information Society and Digital Transformation of Latin America and the Caribbean—brought together over 350 representatives from 41 countries, including 23 Latin American and Caribbean nations. The conference culminated in the Digital Agenda for Latin America and the Caribbean (eLAC2026),

which outlines regional policy priorities and actions for the next two years.

Across these platforms, BELLA II, implemented by RedCLARA and financed by the European Union, was highlighted for its potential to meet shared objectives, particularly in closing the digital divide and strengthening the regional digital ecosystem.

During the Dialogues, RedCLARA's Executive Director, Luis Eliecer Cadenas, emphasized BELLA II as a successful example of international collaboration in connectivity, enabling robust connections between research and education networks in Europe and Latin America.

"BELLA II has proven the viability of complex co-investment projects, with the participation of multiple stakeholders and an efficient governance model to consolidate investments," said Cadenas. He also shared insights on other connectivity initiatives led by RedCLARA and the region's National Research and

Education Networks (NRENS), including the Humboldt Submarine Cable project to connect Antarctica (supported by the Chilean national network REUNA) and digital highways in the Amazon, spearheaded by Brazil's RNP in collaboration with the Brazilian Ministry of Science and Technology. These efforts underscore BELLA II's role as a cornerstone in enhancing connectivity.

Félix Fernández-Shaw, Director for Latin America and the Caribbean at the European Commission, highlighted the essential role of the BELLA program in improving intercontinental connectivity and noted BELLA II's capacity to further enhance collaboration between Europe and Latin America.

At the Ministerial Conference, Cadenas participated in the panel "Reducing Inequality and Promoting Inclusion: Digital Technologies as Tools for Empowerment," emphasizing the importance of multi-sectoral cooperation in tackling digital inclusion challenges. "Access to technology is



a tool for inclusion—not just in terms of connectivity, but as a driver for transforming societies and ensuring no one is left behind,” he stated, highlighting connectivity as a catalyst for social inclusion.

He pointed out BELLA II’s role in connecting remote communities and fostering scientific, educational, and social collaboration between Europe and Latin America. This project is pivotal in building a digital ecosystem for science, technology, education, and innovation that supports inclusive development in the region.

Cadenas also showcased other successful connectivity initiatives driven by NRENs in collaboration with RedCLARA. Notable examples include Brazil’s RNP program “Hackers do Bem” (Hackers for Good), which focuses on cybersecurity training, and REUNA’s cybersecurity projects in Chile, illustrating the networks’ impact on digital innovation.

Another groundbreaking initiative is the use of LACNet’s blockchain network in Belize to promote a token-based economy supporting sustainable agriculture in vulnerable communities. As the world’s largest public permissioned blockchain network, LACNet exemplifies how technology can drive economic and social development in underserved regions.

Cadenas proposed establishing a regional group to promote cooperation and digital inclusion across Latin America and the Caribbean, ensuring that the benefits of digital transformation reach everyone.

At the close of the Ministerial Conference, Cadenas reaffirmed the importance of a collaborative, multi-stakeholder approach to addressing digital inclusion challenges and ensuring that digital initiatives extend to every corner of the region. “BELLA II is just one example of how cooperation can transform the digital landscape, creating opportunities for scientific and social collaboration that benefit everyone,” he concluded.



Eight innovations secured support at the InnovalInvest Copernicus 2024 edition

Jenny Flores

RedCLARA, the European Union (EU), and Panama’s National Secretariat of Science and Technology (SENACYT) supported the Innovation Hub of the BELLA II project, which organized the first edition of InnovalInvest in Panama City on October 23-24. The event, in collaboration with the Copernicus Academy for Latin America and the Caribbean, provided a key space to foster innovation and entrepreneurship based on the use of Earth observation data.

During the opening, Izabela Matusz, EU Ambassador to Panama, highlighted the importance of the European Union (EU)–Latin America and Caribbean (LAC) Digital Alliance and the EU’s Earth observation program, Copernicus, which provides access to essential satellite data for resource management and decision-making on climate change. Alberto De Ycaza, Director of Business Innovation at SENACYT, underscored the relevance of the event in connecting funding opportunities with projects based on scientific data. Paola Arellano,

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Edición Copernicus



Executive Director of REUNA, stressed the importance of creating synergies between companies, research centers, and institutions.

Various regional organizations will receive technical support and mentoring to accelerate the implementation of three innovative initiatives and five concept notes presented at the InnovalInvest Copernicus Edition. These proposals emerged from the Copernicus Ideathon and Hackathon, held in 2023.

Laura Castellana, Academic Projects Coordinator at RedCLARA, highlighted the securing of funding and collaboration with key stakeholders such as the Andean Development Corporation (CAF), the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC), and the Inter-American Institute for Cooperation on Agriculture (IICA). "This meeting not only served as a platform to showcase innovation

processes in research groups in the region but also facilitated the creation of synergies among different actors, reflecting RedCLARA's DNA within the BELLA II project framework," she said.

The eight initiatives will receive specialized training, technical mentoring, access to advanced tools and funding platforms, as well as the opportunity to participate in bootcamps focused on the development and implementation of their projects.

The initiatives presented included Cosechas 4.0, a web platform by CATHALAC Panama that measures moisture indices for family farming, allowing farmers to mitigate losses caused by climate change, even without internet connectivity. Also presented was the Fire Prevention System (SPI) from Argentina, which uses artificial intelligence to monitor climatic variables and predict fires, with plans for scalability

at the regional level through a mobile application. Additionally, a project by the Humboldt Institute and WCS Colombia, winner of the 2023 BELLA II Hackathon, was showcased, aiming to improve the adaptability of vicuñas by collecting climatic and ecosystemic data.

As for the concept notes, they include VentanaCopernicus, the Geospatial Data Portal for Public Policies in Development and Climate Change Resilience in Rural Communities (from Colombia, Ecuador, Nicaragua, and Uruguay), the Dashboard for Monitoring the Spatial-Temporal Distribution of Vegetation in the Region for the Protection and Sustainable Management of Biodiversity, a platform for climate data visualization and interpretation aimed at supporting family farming in the Dominican Republic and El Salvador, and Applications of Remote Sensing for the Conservation of Forest Ecosystems in Central-Western Mexico.

Carlos González, Services Manager at RedCLARA, announced plans for future editions of InnovalInvest, aiming to continue supporting innovative initiatives in the region. "A process that began in 2023 with the Copernicus Ideathon and Hackathon culminates in this first edition." We plan to carry out new versions that address the challenges of Latin America and the Caribbean. Currently, we are working on articulating collaboration plans between organizations and winning teams," he stated.

Conferences

The event included conferences on the innovation process, the BELLA II project, the Copernicus program, and entrepreneurship financing. Esteban Meneses, from Costa Rica's National Center for High Technology (CENAT), representing the Advanced Computing

System for Latin America and the Caribbean (SCALAC), spoke about the potential of human talent in Latin America and collaboration with European countries in supercomputing. Óscar Vega, Panama Manager, shared his company's experience in empowering other organizations through the use of geolocation, improving decision-making efficiency and sustainable planning.

During the conferences, Rodolfo Javier, from the Development Bank of Latin America and the Caribbean (CAF), highlighted the institution's financing process and investment portfolio, which includes innovative and smart capital for entrepreneurs. "Due to its focus on green development and sustainable and inclusive growth, aligning with the SDGs, CAF aims to make innovative projects viable through investments in infrastructure, the green economy, and climate change," he said.

Entrepreneur mentor and influencer Mayra Roa emphasized that a venture achieves robustness through several phases: demonstrating its value, experimenting, seeking stability, and finally scaling. "Every venture must cross the valley of death; it is part of the process and the only way to stabilize a project," she assured.

RUTE-AL 2024: Innovation and Collaboration in Digital Health

RedCLARA, in coordination with the Latin American Telemedicine University Network (RUTE-AL), successfully concluded its 2024 webinar series on November 27.

Jenny Flores

The final event, titled “Digital Health in Latin America: The Vision of International Organizations” and organized in collaboration with RECAINSA, featured renowned experts such as Navile León (Ministry of Health, Dominican Republic), Leonardo Rojas (Ministry of Health, Peru), and Gianluca Cafagna (World Bank). The session explored strategies to strengthen the digital transformation of health systems across the region.

Throughout the year, RUTE-AL organized 14 webinars that attracted over 1,200 participants. Topics covered included telehealth, interoperability, data governance, public policies, and social challenges such as the coexistence of obesity and hunger. The event “Health Data Governance in Latin America and the Caribbean,” which focused on efficient data management as a foundation for designing effective public policies, was one of the highlights.

Paulo Lopes, a representative of RNP, emphasized the working model implemented through Special Interest Groups (SIGs). This approach, which spanned from defining themes to organizing sessions, enhanced trust and cooperation among National Research and Education Networks (NRENS).

A Model for Regional Collaboration

RUTE-AL, established in 2020 through the joint efforts of five academic networks in Latin America—CEDIA (Ecuador), CUDI (Mexico), RENATA (Colombia), REUNA (Chile), and RNP (Brazil)—has created national chapters in these countries, consolidating its reach and representation.

Tania Altamirano, the Academic Relations Manager at RedCLARA, received recognition for her contributions to the development of

RUTE-AL at the TICAL 2024 event, which took place in Brazil from December 3-5. Altamirano highlighted collaborations with international institutions such as GÉANT (Europe) and RECAINSA (Central America), stating:

“RUTE-AL is a bridge connecting knowledge, technology, and collaboration to transform education and health in Latin America.”

She also emphasized the development of innovative tools, including a health collaboration network management system and a content repository, essential for promoting knowledge exchange and facilitating regional cooperation. Altamirano announced that RUTE-AL is working on updating framework agreements to integrate more countries and consolidate strategic actions starting in 2025.

Looking ahead, RUTE-AL plans to expand its interest groups, engage decision-makers, and strengthen its strategic impact in the region. Future activities include developing new digital tools, broadening international partnerships, and implementing agreements to incorporate additional countries into this regional collaboration initiative.

18 years of transformative digital health

RUTE-AL continues the legacy of Brazil's Telemedicine University Network (RUTE), which celebrated 18 years of innovation in digital health this year.

According to the Revista Latinoamericana de Telesalud, RUTE has been a catalyst for transforming digital health in Brazil and Latin America, inspiring scientific cooperation models across the region.

One of its most notable milestones was the live broadcast of four high-definition (4K) surgeries from Brazil to the United States in 2013, showcasing its technical capabilities and potential to foster international medical collaboration. This achievement inspired the creation of similar networks in Chile, Mexico, Colombia, and Ecuador.

RUTE remains a prime example of how technology and collaboration can improve equitable access to digital health services, cementing telehealth as a pillar for innovation and equity in Latin America and beyond.



Read the full article:

[Perspective on 18 years of collaboration in digital health and its expansion to RUTE-AL.](#)

Strategic meetings in Peru to strengthen international cooperation

Jenny Flores



As part of the BELLA II project, RedCLARA held a series of strategic meetings in Peru to continue advancing the establishment of a National Research and Education Network (RNIE). The meetings involved key stakeholders from the scientific and educational sectors, including the European Union Cooperation Office in Peru, the National Strategic Planning Center (CEPLAN), the National Commission for Aerospace Research and Development (CONIDA), the National Council of Science, Technology, and Innovation (CONCYTEC), and the National Telecommunications Program (Pronatel).

“These meetings are fundamental to RedCLARA’s mission, as they enable progress in building a National Research and Education Network in Peru. The

integration of these stakeholders is key to enhancing the region’s development, aligning efforts with the BELLA project and Peru’s National Development Strategic Plan (PEND),” emphasized Cecilia Ortiz, Manager of Engagement with RNIEs at RedCLARA, who led the meetings.

The meetings aimed to identify collaboration opportunities to strengthen advanced connectivity and access to shared resources, facilitating Peru’s inclusion in the regional network of RedCLARA and the BELLA II project. Additionally, the meetings sought to coordinate efforts to enhance connectivity and leverage advanced technologies, such as the Copernicus program, which would promote scientific research and address socioeconomic challenges in both Peru and Latin America.

“The establishment of an RNIE in Peru would represent a strategic step towards strengthening science, education, and innovation in the country, in line with the objectives of the PEND. These meetings reaffirm the commitment of Peruvian authorities to regional collaboration, consolidating a long-term relationship with RedCLARA and generating a solid platform for academic, scientific, and technological development that will benefit both Peru and the region,” Ortiz added.



Bolivia takes steps toward establishing a National Research and Education Network

Jenny Flores

In an effort to boost education, science, technology, and innovation in Latin America, RedCLARA is strengthening the digital ecosystem in the region through the creation and consolidation of National Research and Education Networks (NRENs).

The Bolivian Telecommunications and Transport Regulatory Authority (ATT) and RedCLARA signed a Memorandum of Understanding (MOU) on October 17. This agreement establishes a framework

for cooperation to promote the creation of an NREN in Bolivia, facilitating collaboration among key stakeholders, including universities, research centers, businesses, non-governmental organizations, and civil society, with the goal of maximizing the use of advanced networks.

This memorandum represents a significant step forward for the development of Bolivia’s digital, educational, scientific, and innovation

ecosystem. The document was signed by Luis Eliécer Cadenas, Executive Director of RedCLARA; Néstor Ríos, Executive Director of ATT; Alan Borda, from ATT's International Relations; and Roberto Zambrana, advisor to the ISOC Foundation, who acted as a liaison with the Bolivian chapter of the Internet Society (ISOC).

ATT will play an active role in formalizing the NREN in Bolivia, facilitating collaboration among key players in the use of advanced networks. In addition, it will promote the services and benefits provided by RedCLARA, encourage research projects linked to academia and innovation, and facilitate the participation of researchers and students in RedCLARA's communities. RedCLARA will support ATT in developing the identified activities and action areas, assist in the consolidation of the NREN in Bolivia, and provide ATT and the country's higher education and research institutions access to CLARA's activities and those of its partners.

Luis Eliécer Cadenas expressed his gratitude to the attending authorities and highlighted the importance of the agreement: "With the signing of this memorandum, we are taking a crucial step toward the creation of Bolivia's first National Research and Education Network. This effort will not only drive the country's development but also strengthen regional collaboration in

science, education, and innovation, establishing an unprecedented advanced connectivity network in this country. We hope this relationship endures for many years to come."

The next steps involve forming a multisectoral working group to collaborate on the NREN's implementation and to define its governance and sustainability model. We will hold an initial meeting with ATT, ADSIB, CEUB, ANUP, and MédulaNet to set the objectives and joint actions.

The Copernicus Academy Guatemala Ideathon

Jenny Flores

From January 20 to 29 of the upcoming year, the Copernicus Academy Guatemala will host a virtual Ideathon to develop innovative solutions aimed at preventing risks in the Motagua River Basin. Leveraging satellite data from the European Union's (EU) Earth Observation Program, Copernicus, the event will address challenges such as water management, waste management, and ecosystem restoration and conservation, seeking to promote effective and sustainable strategies in these areas.

The Motagua River Basin, spanning territories in Guatemala and Honduras, is vital for regional biodiversity and water resources. However, it faces significant challenges, including pollution, deforestation, and water management issues. The Ideathon's goal is to generate proposals that help mitigate these risks and foster the ecological restoration of the basin.

Titled "*Proactive Risk Management in the Motagua River Basin*," the Ideathon will take place virtually and will include training sessions, mentorships, and collaborative workshops for idea development. Academia Copernicus Guatemala invites public, private, and academic institutions to participate by forming multi-stakeholder teams to develop innovative proposals. Once registration closes, selected teams will gain access to the Ideathon's communication platform to continue developing their projects.

A panel of experts will evaluate the strategic concept notes produced by each team. The top three ideas will receive recognition and prizes. Additionally, the results will contribute to a roadmap for risk



management in the Motagua River Basin, aligned with regional priorities.

The Copernicus Academy Guatemala aims to enhance capacity-building and knowledge management in Earth observation, promoting the use of Copernicus program data in new sectors and bridging the gap between local expertise and advanced technologies.

The Copernicus Academy Organizing Committee in Guatemala, in collaboration with the BELLA II project, brings together the National Secretariat of Science and Technology (Senacyt), the Guatemalan Advanced Network for Research and Education (RAGIE), Universidad del Valle, the Delegation of the European Union to Guatemala, the Copernicus Program, and RedCLARA to organize the Ideathon.

The European Union co-finances this event as part of the RedCLARA-led BELLA II project.

More details and precise event information will be available soon on the official Ideathon website: <https://redcopernicus.gt/>.



CARLA successfully concludes its 2024 edition

Jenny Flores

The Advanced Computing Network of Latin America and the Caribbean (SCALAC), in collaboration with RedCLARA, has successfully concluded the latest edition of the Latin American High-Performance Computing Conference (CARLA). The region's leading forum for high-performance computing (HPC), this international event serves as a crucial platform for exchanging innovative ideas, technological advancements, and applications in this field.

Since its first edition in Valparaíso a decade ago, CARLA has been instrumental in strengthening the HPC community in Latin America. The Center for Mathematical Modeling and the National Laboratory for High-

Performance Computing (NLHPC) supported the event's return to Chile this year at the Faculty of Physical and Mathematical Sciences of the University of Chile.

Aisén Etcheverry, Chile's Minister of Science, Technology, Knowledge, and Innovation, highlighted the importance of conferences like CARLA, emphasizing the relevance of computing infrastructure and collaboration in the region. She pointed out that these events are essential for addressing regional challenges such as climate change, health, and strengthening democracy. She also congratulated the organizers and thanked all those involved for bringing CARLA to Chile and facilitating key discussions on technology.

The 2024 edition featured five thematic workshops, six advanced tutorials, five discussion panels, and participation from more than 30 prominent international speakers. Additionally, the event saw a notable increase in the quality and quantity of scientific papers, with 42 papers received, representing a 68% increase compared to the previous edition, according to the organizers. A total of 17 of the most prominent companies in the HPC sector supported the conference, underscoring its global significance.

The success of CARLA 2024 was highlighted by Philippe Navaux, President of SCALAC, who stated, "Clearly, we could see in the meetings, talks, and among the sponsors present the interest in the conference." Researchers, students, and companies attended the conference, seeing it as an opportunity to showcase their new machines and systems. We were in a fascinating moment where all countries, especially in Latin America, were exploring the development of HPC driven by artificial intelligence. CARLA catalyzed this attraction and collaboration between companies and researchers for development in the region."

Tania Altamirano, RedCLARA's Manager of Academic Relations, participated as a panelist in the Women in HPC workshop, where she presented the topic, "Connections that Transform: Challenges and Strategies for Articulation in RedCLARA." In her presentation, she shared key strategies for strengthening academic networks in Latin America and promoting international collaboration, underscoring the fundamental role these connections play in the technological and social advancement of the region. "This experience was a valuable opportunity to exchange ideas with other leaders in high-performance computing and reaffirm RedCLARA's commitment to equity and innovation in the academic field," she said.

CARLA continues to solidify itself as the reference space for the advancement of HPC in Latin America, driving the growth of this discipline in the region and promoting cooperation between researchers, companies, and universities.

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