

Journal of Latin American Sciences and Culture

www.journalasc.org

Vol. 7. N°11

December 2025



ISSN 2788-8991

<https://revistas.univalle.edu/index.php/jlsc>



2024 • 2033
International Decade of
Sciences for Sustainable
Development



Journal of Latin American Sciences and Culture (JLASC)

JLASC promotes the Science Culture Construction (SCC), and the exchange of knowledge. It fosters the sharing of information that echoes on the construction of a community of shared future for mankind.

JLASC is open to the world. It crosses the geographic, cultural and linguistic barriers. Popularizing science can contribute to the development of society and improve the well-being and well living of people in harmony with nature.

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Journal of Latin American Sciences and Culture (JLASC)

Journal Information

www.journalasc.org

<https://revistas.univalle.edu/index.php/jlsc/about/contact>

Journal of Latin American Sciences and Culture (JLASC)

Tel: (86) 18518415088

Beijing, China

ISSN 2788-8991

Publisher Information

<https://revistas.univalle.edu/index.php/jlsc>

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Aims and Scope

Introduction

The Journal of Latin American Sciences and Culture (JLASC) is an international journal seeking to promote the scientific landscape in Latin America by pushing conventional boundaries to include issues, perspectives, and methods relevant to education, science, technology, and culture. JLASC thus intends to truly internationalize these areas through the journal's attention globally.

JLASC seeks to explore not only the diversity and richness of Latin American scientific issues, but perspectives, research methods, and evidence of the many creative flows of influence that exist between Latin America, Sino-American cultures, and other peripheries, therefore, education, science, technology can be powered by wide-ranging ideas from many cultures and research areas.

JLASC welcomes submissions that focus on empirical research, theoretical analyses, or literature and book reviews. Proposals for special issues are actively encouraged and should be discussed with the Editor-in-Chief or a member of the Senior Editorial Team of the journal.

The JLASC promotes scientific literacy, the popularization of science, science popularization, media and information literacy (MIL) following the guidelines UNESCO. The JLASC also promotes the exchange of knowledge and the dissemination of information for the development of society in science, technology, innovation, education, culture. Special attention is given to the use promotion of Spanish for these purposes, as the Cervantes Institute is one of our collaborators. We also count on the support of Chaoxuan Intelligent Research Institute and Elektro High Tech Co. Ltd for the promotion of Science and Technology advances that can be beneficial for the world.

Editorial Policies (Part One)

JLASC is a peer-reviewed journal published in English, Spanish and Chinese by Universidad Privada del Valle (UNIVALLE),

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Those submissions deemed by the Editor-in-Chief and the Senior Editorial Team to be of the world-class will be published regardless of authors' ability to pay the Article Publication Charges (APCs), which are US\$600/£460/€530. Waivers for APCs can be requested by all authors regardless of background and will be appraised by the Publisher and the Editors based on individual circumstances and the ability to pay. Those who are truly unable to afford the APCs will receive full waivers. This includes many Latin Americans, as well as graduate students, independent researchers, and researchers from around the globe who do not have grants or other funds to cover publication costs.

Authors submit their manuscripts through the UNIVALLE website, Website Customization by: OpenJournalSystems.com (journal homepage: www.journalasc.org and submission site: www.revistas.univalle.edu), and receive an acknowledgment

of submission. The Editorial Team assesses the manuscript and the author is notified that the manuscript has either been rejected or that it is to be sent out for double blind external review.

Peer Review Policy

All submitted manuscripts are subject to initial appraisal by the Editors, and if found suitable for further consideration, to peer review by independent, anonymous expert referees. The Editors are supported by an active Editorial Board and an International Advisory Board. All refereeing is double blind. Submissions can be made online at: editorial@journalsac.org

Publishing Ethics

The Journal adheres to the world class standards of publishing ethics, with rigorous

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Read the Instructions for Authors for information on how to submit your article in <https://journalsac.org/author-instructions/>

Journal information

Online ISSN: 2788-8991

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About this topic

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- Acknowledgments
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A data repository is a storage space for researchers to deposit data sets associated with their research. And if you're an author seeking to comply with a journal data sharing policy, you'll need to identify a suitable repository for your data. Read our guide to choosing a data repository which includes some generalist repositories you may wish to consider.

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Where community-endorsed mandates exist for submission of data to public repositories, authors should submit the datasets to the appropriate repositories and provide the accession numbers (where available) in the paper. Examples of repositories community-endorsed public repositories include:

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	ArrayExpress
Genetic polymorphisms	dbSNP (NCBI)
	dbVar (NCBI)
	European Variation Archive (EVA)
Linked genotype and phenotype data	dbGaP (NCBI)
	European Genome-Phenome Archive (EGA)
Protein sequences	UniProt
Proteomics data	PRIDE
	PeptideAtlas
Metabolomics data	Metabolomics Workbench
3-D printable models	NIH 3D Print Exchange
Neuroimaging data	OpenNeuro
	NeuroVault
Macromolecular structures	Biological Magnetic Resonance Data Bank (BMRB)
	Electron Microscopy Data Resource (EMDB)
	Worldwide Protein Data Bank (wwPDB)
	RCSB Protein Data Bank (PDB)
Crystallographic data	Cambridge Crystallographic Data Centre (CCDC)
	Crystallography Open Database (COD)
Earth and environmental science data	PANGAEA
	NERC Data Centres
	World Data Center for Climate (WDCC)
	Knowledge Network for Biocomplexity (KNB)
	EarthChem
High Energy Physics Data	HEPData
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- Supporting the journal's authors and reviewers,
- Maintaining and improving the journal's reputation in collaboration with the journal's wider editorial team and Universidad Privada del Valle (UNIVALLE).

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- Peer review manipulation
- Plagiarism
- Text-recycling/self-plagiarism
- Undisclosed competing interests
- Unethical research

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Articles published in Universidad Privada del Valle (UNIVALLE) journals (including its imprints) undergo thorough peer review and the *Journal of Latin American Sciences and Culture* (JLASC) endorses COPE guidelines for reviewers. Journals may operate

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- Single-anonymous peer review (also called 'single-blind peer review')
- Double-anonymous peer review (also called 'double-blind peer review')
- Open peer review

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Every Universidad Privada del Valle (UNIVALLE) journal publishes a statement describing the model of peer review used by the journal within the journal homepage. Generally, comments from a minimum of two independent experts are required to ensure complete assessment of the article. The details of the comments as well as the overall recommendations by peer reviewers will be considered by the Editor when making a decision, but ultimate responsibility for acceptance or rejection lies with the Editor. In accordance with COPE recommendations on ethical editing for new Editors, Editors will assign any submissions they cannot handle (e.g. if they are the author of an article submitted to their own journal) to a member of the Editorial Board or a guest editor. The majority of journals at Universidad Privada del Valle (UNIVALLE) do not permit you to recommend peer reviewers. If you wish to suggest potential reviewers this information can be included in the covering letter, but it is at the discretion of the Editors to consider these reviewers or not. Providing any false information about potential reviewers may lead to rejection of the article.

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A preprint, also known as the Author's Original Manuscript (AOM), is your article before you have submitted it to a journal for peer review. Preprint servers are online repositories that enable you to post this early version of your research paper online. If you upload your AOM to a non-commercial preprint server, you can subsequently submit the manuscript to a

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All research published in Universidad Privada del Valle (UNIVALLE) journals must have been conducted according to international and local guidelines ensuring ethically conducted research.

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All research studies on humans (individuals, samples or data) must have been performed in accordance with the principles stated in the Declaration of Helsinki. Prior to starting the study, ethical approval must have been obtained for all protocols from the local institutional review board (IRB) or other appropriate ethics committee to confirm the study meets national and international guidelines for research on humans. A statement to confirm this must be included within the manuscript, which must provide details of the name of the ethics committee and reference/permit numbers where available. This includes:

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- Research on indigenous communities
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Studies involving vertebrates or regulated invertebrates (e.g. cephalopods), field studies and other non-experimental research on animals must have been carried out after obtaining approval from the relevant institutional ethics committee or the institutional animal use and care committee. Research procedures must be carried out in accordance with applicable national or international guidelines. In field studies, authors must have also obtained any necessary permits for access to lands. Authors must include a statement within the manuscript to provide details of the name of the ethics committee(s) which approved the

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Research should be communicated in a way that supports verification and reproducibility, and as such we encourage authors to provide comprehensive descriptions of their research rationale, protocol, methodology, and analysis. To aid authors in this, a number of study-design-specific consensus-based reporting guidelines have been developed, and we recommend you use these as guidance prior to submitting your manuscript. A comprehensive list of reporting guidelines for medicine and health research can be accessed via the EQUATOR network website, and for biosciences research via the MIBBI Foundry portal.

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JLASC is affiliated and supported by the Andean Road Countries for Science and Technology (ARCST), the Universidad Privada del Valle (Bolivia), and Elektro High Tech Co. Ltd.

About our Supporting Organizations

1. Andean Road Countries for Science and Technology (ARCST)



Mission: ARCST is an international scientific organization founded in 2018 based on the general principles of “joint consultation, joint effort and joint sharing” and the promotion of shared development and achievement of the UN SDGs. ARCST members include national academies of sciences, universities, research institutes, and international organizations. ARCST is committed to playing an effective role in catalyzing and implementing innovative international science initiatives to build a community of the whole humankind with a shared future. Science, Technology, Innovation, and Capacity building (STIC) is essential to the progress and welfare of human societies and ARCST is particularly keen to cooperate and partner with those who want to collaborate in these endeavors. Promoting the popularization of Science, the exchange of knowledge, the diffusion

of information, mutual learning, and collaboration.

Vision: To become an international science organization of global impact in catalyzing and implementing concrete innovative programs, initiatives and actions in Science, Technology, Innovation, and Capacity Building (STIC) for the promotion of shared development and the advancement of the UN Sustainable Development Goals (SDGs). We welcome you to join ARCST!

2. Elektro High Tech Co. Ltd.



Mission: To improve people’s lives through meaningful innovation.

Vision: To inspire the world with innovative technologies, products, and design that enrich people’s lives and contribute to social prosperity by creating a new future.

3. Universidad Privada del Valle (UNIVALLE)



Founded on October 4, 1988 by Dr. Gonzalo Ruiz Martinez; Univalle has been projected as a synonym for academic excellence in Latin America with more than 32 undergraduate degree programs. Currently, about 14,000 national and foreign students carry out their higher studies in the university infrastructure with the greatest technological advance in Bolivia. In these 33 years of academic trajectory, Univalle has trained more than 16,000 professionals at the undergraduate and postgraduate levels in its four locations, which are located in Cochabamba, La Paz, Sucre and Trinidad. And soon in the new headquarters located in Santa Cruz. Our

history reflects the fact that ... “We are the Scientific Answer to the Future”.

4. International Green Science Center for Latin America and the Caribbean (IGSCLAC)



The **International Green Science Center for Latin America and the Caribbean (IGSCLAC)**, established in 2023 in Colombia, is a key institution driving scientific innovation and sustainability in the region. Founded through a collaboration between the Andean Road Countries of Science and Technology (ARCST) and Unidad Central del Valle del Cauca (UCEVA), its mission is to address environmental challenges through a new paradigm of development known as **Science Culture Construction (SCC)**. IGSCLAC's prominence aligns with a significant moment for Colombia, which has officially assumed the presidency of **COP16** (the UN Convention on Biological Diversity). This positions the Center as a core player in the region's efforts to achieve global biodiversity goals under Colombia's environmental leadership. To mark this historic moment, IGSCLAC has unveiled its official logo. The emblem features a symbolic bird native to Colombia, representing the nation's rich biodiversity. This bird embodies the Center's core values of **resilience, adaptability, and a harmonious balance between nature and scientific progress**, visually defining IGSCLAC's vision for a greener future.

Chaoxuan Intelligent Research Institute



Research Institute is a leading technology and mode research and development institution set up by Chaoxuan Group. The Institute brings together academicians and experts in various fields, and has an academic committee and some expert committees. Focusing on the industry's pain points and social development needs, the Institute carries out theoretical research, industry research, model design, technology application, standard compilation and international exchanges, providing strong support for economic and social development.

Chaoxuan is a group enterprise integrating research, operation and service, includes research institute, intelligent technology, vocational education, human resource service, industrial operation, financial capital and other business segments, and is committed to the top-level construction and systematic service of ecological scene. Focusing on the strategic deployment of the State, Chaoxuan adheres to the concept of selecting the better of the best and open interconnection, gathers expert resources and leading enterprises, takes research as the lead, takes Digital Twin and other IOT as the support, takes vocational education and human resources services as the core, collaborates with ecological platform, helps with capital and together with public welfare. Chaoxuan has taken the lead in the construction industry and rural revitalization and achieved remarkable results, promoting the transformation and upgrading of traditional industries and promoting sound economic and social development. Chaoxuan has national high-tech, Zhongguancun High-tech, vocational education, labor dispatch, human resources

service licensing, radio and TV program production and more than 200 intellectual property rights such as patents, Copyrights, trademarks and so on.

6. UNESCO Media and Information Literacy (MIL) Alliance



Our brains depend on information to work optimally. The quality of information we engage with largely determines our perceptions, beliefs and attitudes. It could be information from other persons, the media, libraries, archives, museums, publishers, or other information providers including those on the Internet. People across the world are witnessing a dramatic increase in access to information and communication. While some people are starved for information, others are flooded with print, broadcast and digital content. Media and Information Literacy (MIL) provides answers to the questions that we all ask ourselves at some point. How can we access, search, critically assess, use and contribute content wisely, both online and offline? What are our rights online and offline? What are the ethical issues surrounding the access and use of information? How can we engage with media and ICTs to promote equality, intercultural and interreligious dialogue, peace, freedom of expression and access to information? Through capacity-building resources, such as curricula development, policy guidelines and articulation, and assessment framework, UNESCO supports the development of MIL competencies among people. Free and open online courses are available for self-paced learning about MIL. Through media and information technologies, the Organization facilitates networking and research through the Global Alliance for Partnerships on MIL

(GAPMIL) and MIL University Network. The recently-launched MIL CLICKS social media initiative is also part of UNESCO's strategy to enable media and information literate societies.

7. Mega Science



Science popularization means to bring science to the general public, to disseminate knowledge and to foster a scientific way of thinking among people. In particular, science popularization refers to the understanding of science and public engagement. In this way science popularization is a powerful tool and a strategic measure to build a modern society, not only disseminating useful knowledge and skills but spreading a general approach and a common culture.

In general, conflicts between science community and public opinion are connected to people's distrust but also to scientists' prejudice. In some cases, science is not correctly understood by non-scientist due to the use of technical jargon and wrong communication. We believe that every topic can be the object of science popularization; it only depends on the communication skills of who is in charge of the dissemination and the way to disseminate it. That is why we are glad to cooperate with Mega Science, the first platform of science popularization that creates and shares content in three languages and in diverse areas of science. Scan the following QR code to know more about it.



Our framework

Science as a Human Right: Building a New Culture of Inclusive Knowledge for Latin America and the Caribbean

By: Advisory Board JLASC



Fig. 1.- Official logo of the Science Culture Construction (SCC)

A foundational, yet often overlooked, article of the Universal Declaration of Human Rights proclaims that “everyone has the right freely to... share in scientific advancement and its benefits.” For decades, this powerful statement remained a largely aspirational ideal. Today, a dynamic movement across Latin America and the Caribbean, spearheaded by the Andean Road Countries for Science and Technology (ARCST) and its collaborators, is working to make this right a tangible reality. This movement is the Science Culture Construction (SCC), a paradigm that redefines science not as a privilege for the few, but as a fundamental human right and a shared cultural heritage for all. The SCC paradigm is built on the conviction that access to science is a multifaceted right. It is not merely the right to consume pre-packaged scientific facts. It is the right to participate in the scientific process, to contribute to the creation of knowledge, and to have that knowledge equitably address the needs of one's community. It is about shifting science where diverse voices and forms of knowledge are not only welcomed but are seen as essential.

The Journal of Latin American Sciences and Culture (JLASC) stands as a direct embodiment of this commitment. Its very existence is a collaborative effort, made possible by the visionary framework of ARCST, the

academic dedication of institutions like the International Green Science Center for Latin America and the Caribbean (IGSCLAC), Universidad Privada del Valle (Univalle), Unidad Central del Valle del Cauca (UCEVA), and the private and public contributions of researchers and institutions across the world. By providing a platform for science communication, we are actively fulfilling the “right to share in scientific advancement.” We are ensuring that the groundbreaking work conducted here is visible, accessible, and integrated into the global scientific conversation.

This approach is particularly transformative for a region endowed with immense biodiversity and cultural wealth. The SCC paradigm actively dismantles the outdated model where the Global South is a passive subject of study. Instead, it positions our nations as vibrant generators of knowledge. It shows the idea that the path to sustainable development is paved with scientific innovation that is culturally resonant and locally relevant. The establishment of the International Green Science Center for Latin America and the Caribbean (IGSCLAC) is a flagship initiative in this regard. It serves as a hub where the right to science is operationalized, fostering research that directly addresses regional environmental challenges while empowering a new generation of scientists.

As we move forward the connection between the human right to science and the preservation of biodiversity becomes ever clearer. We cannot protect our natural heritage without a scientifically literate and engaged citizens. The SCC is our strategic pathway to build this engagement from the ground up. It is an invitation to every citizen to claim their right to be a part of the scientific solution. By constructing a robust scientific culture, we are not just advancing knowledge; we are upholding a fundamental human right and building a more just, informed, and sustainable future for all.

Our ambassador

Biopochito's Journey: Spreading the Seeds of Green Science Across a Continent



Fig. 2.- Cover of the presentation of Biopochito utilized during the workshops and capacity building activities with Biopochito and Biopochito AI

In the realm of science diplomacy, we often speak in terms of treaties, joint declarations, and high-level conferences. These are essential, yet the most profound diplomatic victories often begin in the wide-eyed wonder of a child. This is the story of **Biopochito**, a humble yet powerful ambassador of green science, whose journey across more than 12 countries is quietly forging a generation of environmental stewards and bringing the vision of Science Culture Construction to life.

Developed by the International Green Science Center for Latin America and the Caribbean (IGSCLAC) in collaboration with the Andean Road Countries for Science and Technology (ARCST), Biopochito is far more than an educational kit; it is a portable ecosystem of inspiration. At its heart, it is a simple, accessible tool, often a small biosphere or a seed-growing kit featuring native plants, designed to fit in a child's hands. But within its unassuming frame lies a profound mission: to inspire a tangible, emotional love for green science and to plant the seeds of a lasting scientific culture in the minds of our youth.

The genius of Biopochito, a name which evokes a small, living treasure (*bio-* meaning life, *-pochito* suggesting something small and

cherished), is its experiential nature. Children are not just told about photosynthesis or biodiversity; they witness it. They care for it. They are entrusted with the miracle of a sprouting seed, a microcosm of the very ecosystems we are striving to protect. This direct engagement fosters a sense of connection and responsibility that no textbook alone can ever achieve. It transforms abstract concepts like "sustainability" and "biodiversity" into a personal, cherished relationship with a living thing.

Biopochito has travelled across nine countries, from the Andes to Asia, Europe, central America and Africa, is a masterclass in grassroots diplomacy. In each nation, the program is adapted in coordination with local educators and communities, incorporating cultural elements and connecting to local environmental contexts. This respect for local knowledge is a cornerstone of the Science Culture Construction paradigm; it is not an imposition of knowledge, but a sharing and co-creation of it.

The impact is palpable. Biopochito has become a catalyst for excitement. It has sparked school-wide gardening projects, inspired science fair entries, and ignited dinner-table conversations about nature. It is building a transnational community of young learners who share a common language: the language of curiosity, care, and green science. They are not just learning biology; they are living the principles of resilience, interdependence, and sustainable growth.

Biopochito's voyage is a powerful testament to IGSCLAC's and ARCST. Biopochito is ensuring the foundation for those agreements remains strong for decades to come by cultivating the values in the next generation. It is a vivid demonstration that the future of our planet depends not only on the policies we enact today but on the love for nature we nurture in the children of today. This little ambassador is proving that the most sustainable resource we have is the inspired curiosity of a child, and it is diligently sowing that resource across the continent, one seed at a time.

Editorial Note

The *Journal of Latin American Sciences and Culture* is a critical, interdisciplinary platform dedicated to exploring the rich interface between scientific endeavors and cultural expression in a global context. We operate from the conviction that science is profoundly shaped by, and in turn shapes, the historical, social, and epistemic landscapes from which it emerges.

This current volume exemplifies our mission, featuring insights from leading experts across both the natural and social sciences. Their discussions engage with some of the most pressing topics of our time, with a special focus on **AI technologies, green science, education, and the Sustainable Development Goals (SDGs)**. By intentionally convening voices from a diverse, global community of scholars, this issue serves as a powerful reminder that science has **no frontiers and no edges**; it is a fundamentally collaborative and transnational pursuit of knowledge.

Our ongoing mission is to publish high-quality research that examines how scientific knowledge is produced, negotiated, and represented worldwide. We welcome submissions from all fields that:

- Contextualize science within specific regional, national, or cultural frameworks.
- Foster dialogue across disciplinary boundaries.
- Engage with local, Indigenous, and plural knowledge systems.
- Challenge hegemonic narratives by centering underrepresented perspectives in the history and philosophy of science.
- Examine cultural and artistic representations of science and technology.

We invite scholars, researchers, and cultural analysts from around the world to contribute to this vital conversation. **We welcome your submissions** to our journal as we continue to build an essential forum for rethinking the global geography of knowledge.

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Nota Editorial

La *Revista de Ciencias y Cultura* es una plataforma crítica e interdisciplinaria dedicada a explorar la rica interfaz entre los quehaceres científicos y la expresión cultural en un contexto global. Partimos de la convicción de que la ciencia se moldea profundamente por—y a su vez moldea—los paisajes históricos, sociales y epistémicos de los que emerge.

El presente volumen ejemplifica nuestra misión, presentando perspectivas de expertos líderes tanto de las ciencias naturales como de las sociales. Sus análisis abordan algunos de los temas más urgentes de nuestro tiempo, con un **énfasis especial en las tecnologías de IA, la ciencia verde, la educación y los Objetivos de Desarrollo Sostenible (ODS)**. Al convocar intencionalmente voces de una comunidad global y diversa de académicos, este número sirve como un recordatorio poderoso de que la ciencia **no tiene fronteras ni límites**; es una búsqueda fundamentalmente colaborativa y transnacional de conocimiento.

Nuestra misión permanente es publicar investigación de alta calidad que examine cómo se produce, negocia y representa el conocimiento científico a escala mundial. Recibimos contribuciones de todos los campos que:

- Contextualicen la ciencia dentro de marcos regionales, nacionales o culturales específicos.
- Fomenten el diálogo a través de las fronteras disciplinarias.
- Dialoguen con sistemas de conocimiento locales, indígenas y plurales.
- Cuestionen narrativas hegemónicas situando en el centro perspectivas subrepresentadas en la historia y filosofía de la ciencia.
- Examinen las representaciones culturales y artísticas de la ciencia y la tecnología.

Invitamos a académicos, investigadores y analistas culturales de todo el mundo a contribuir a esta conversación vital. **Agradecemos y damos la bienvenida a sus envíos** a nuestra revista, mientras continuamos construyendo un foro esencial para repensar la geografía global del saber.

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