

Perspective

Challenges and potential of science diplomacy in Latin America: A focus on neurosciences[☆]

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Science Diplomacy: Focus on Latin America and the Caribbean

Science Diplomacy (SD) is a strategic area of knowledge between science, policy, and society. Although it has long-lasting roots as a tool to deal with challenges and contribute to the relationship between nations and countries, it was not conceptualized until 2010 (Boutros-Ghali, 1992; The Royal Society, 2010). It includes three dimensions: science in diplomacy, which involves integrating scientific knowledge and expertise into foreign policy; diplomacy for science, in which diplomacy fosters international scientific cooperation; and science for diplomacy, which uses science to enable and/or strengthen diplomatic relations (The Royal Society, 2010). SD is a multidimensional framework for addressing pressing global problems through international cooperation to contribute to the United Nations (UN) 2030 Agenda for Sustainable Development (UN, 2015), responding to health crises as demonstrated by the COVID-19 pandemic and, more recently, promoting brain and mental health.

Most of the intellectual foundations and practical applications of SD come from the Global North Gual Soler (2021). According to the author, SD still plays a secondary role in policy in general, and foreign policy in particular, in Latin America and the Caribbean (LAC), overlooking the Global South (GS) difficulties and needs of the GS, while disregarding GS experts and locally created knowledge (Pai et al., 2024). However, an early event in the history of LAC SD was the creation of United Nations Educational, Scientific and Cultural Organization (UNESCO) Regional Office in Montevideo, soon after the UNESCO foundation (UN, 1947), for promoting scientific collaboration and diplomacy in the region. This was followed by the creation of several organizations and activities to promote SD in LAC (Fig. 1). Some involve bilateral or multilateral actions such as The Antarctic Treaty System (1959), which stands out as a model of SD in all its dimensions (Berkman et al., 2011). Thereafter, some LAC countries, such as Panamá, Colombia, Costa Rica, Brazil and Chile have, explicitly or implicitly, already instrumented SD strategies. In turn, Argentina and Cuba made use of science for diplomacy whereas Ecuador, Peru, and Uruguay have been actively contributing to international science collaboration (Gual Soler, 2021).

Despite those initiatives, LAC remains the most unequal region (Gasparini and Cruces, 2021; Inter-American Development Bank, 2023). It is crucial to strengthen collaboration between LAC countries to address shared challenges including the increasing incidence of neurological and mental disorders (Murray, 2024; GBD, 2024), estimate health concerns related to our genetics, and take advantage of the contributions of neuroscience to these and other challenges, prioritizing

LAC and GS issues to influence on national policies and regional diplomatic cooperative spaces.

Some of the identified LAC barriers include: i) gaps in the coordination between scientific and political entities, limiting the role of science in diplomacy and hindering the translation of scientific collaboration into concrete diplomatic outcomes, despite the existence of multilateral scientific cooperation initiatives in LAC; ii) insufficient and unequal science budgets and access to national and international grants, which negatively impact the adequate valorization and support for scientists, research infrastructure and regional collaboration mechanisms. Furthermore, these challenges ultimately reduce scientific productivity and exacerbate brain drain (Ciocca & Delgado, 2017; Ochang, et al., 2023; Red de Indicadores de Ciencia y Tecnología -RICYT-, 2023).

In this context, integrating SD with neuroscience, technology, and society, constitutes a strategy to address complex issues such as mental health throughout life. The decrease in the science budget despite the role of science in coping with the COVID-19 pandemic, and the detection of a weakness in the required multidisciplinary training –including SD– of the scientific community, motivated the organization of Postgraduate Courses on SD focused on Neuroscience: the first in 2021 for LAC (UNESCO, 2021a), and the other two for the GS in 2022 and 2023 (UNESCO, 2023a; UNESCO, 2023b), co-organized by UNESCO Montevideo and the Program for the Development of Basic Science (PEDECIBA, 2023), with the support of International Brain Research Organization Global Engagement Initiative (IBRO, 2023).

These actions, built upon a strong Uruguayan SD and neuroscientific tradition initiated by the renowned neuroscientist and primary school teacher Clemente Estable -Santiago Ramón y Cajal's disciple-, have constituted the appropriate niche for creating a collaborative network on SD, neuroscience, technology, and society (DICIENTS network, by its initials in Spanish), driven by a regional vision and a commitment to contributing to global well-being (Fig. 2). It was proposed at the Instituto de Investigaciones Biológicas Clemente Estable (Montevideo, Uruguay) in December 2023, and its kickoff virtual meeting took place in January 2024.

Science Diplomacy, Neuroscience, Technology and Society network

The DICIENTS network emerges from prior scientific interests and efforts in the region and is aligned with the strategic goals of global SD. The network brings together professionals and students from multiple disciplines and backgrounds, affiliated with institutions from various

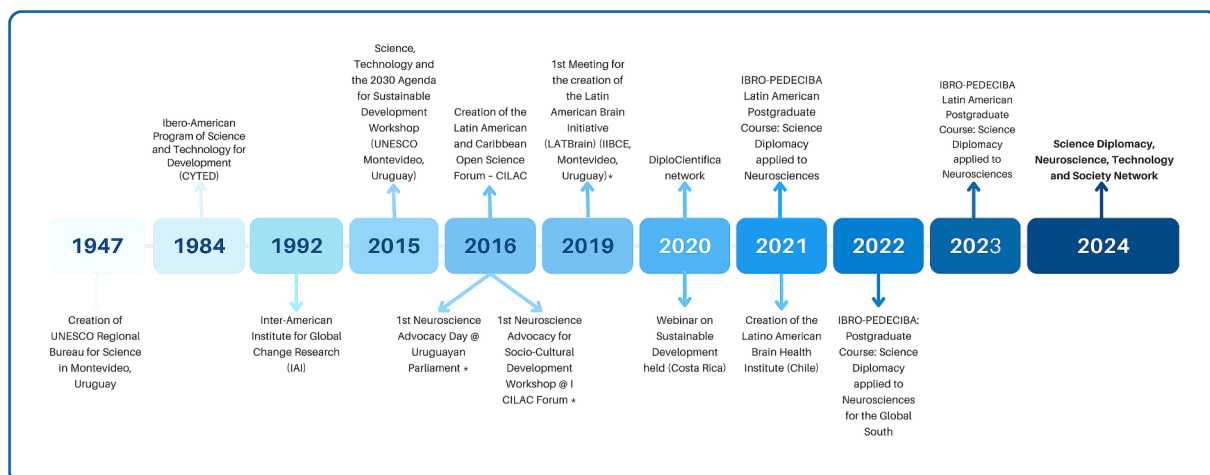


Fig. 1. Timeline of SD-related events in Latin America and The Caribbean. *Organized by María E. Castelló and other members of the Uruguayan Society for Neuroscience.

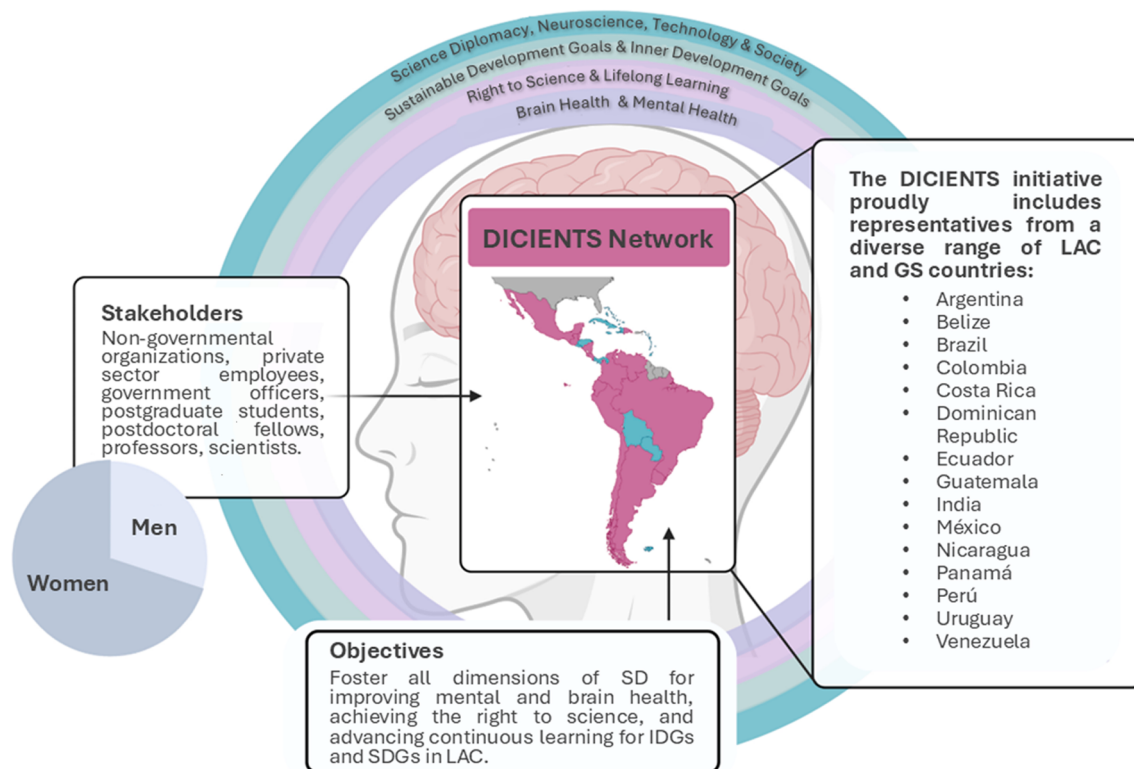


Fig. 2. The multi-stakeholder Science Diplomacy, Neuroscience, Technology, and Society (DICIENTS) network, aims to address public health challenges in neuroscience and technology. It focuses on capacity building in the LAC region using SD as a tool to create outputs in neuroscience, mental health, and inner development goals from a lifelong learning approach. *Data gathered by self-reported surveys of DICIENTS members in October 2024.

geographical locations and belonging to multiple ethnicities. DICIENTS network is now in the consolidation phase as a community of practice.

The vision of DICIENTS is to become a regional leading network for articulating SD with neuroscience and technology, to enhance their impact as tools for addressing societal challenges such as brain and mental health, and fostering lifelong learning for well-being, inner development, and Sustainable Development Goals (SDGs).

The main objective is to foster all dimensions of SD to improve mental and brain health, achieve the right to science, and advance continuous learning for inner development goals (Inner Development Goals, 2025) and SDGs in LAC.

According to its mission, the DICIENTS network is a multidisciplinary, collaborative, and evidence-based community of practice committed to promoting the ethical and equitable advancement of neuroscientific research and related technologies. Guided by humanistic values, the network democratizes scientific knowledge and prioritizes underrepresented groups according to the intersectionality perspective -including cultural, gender, and generational dimensions- (Muñoz, 2017; United Nations Development Program - UNDP, 2023; UNESCO, 2006; UNESCO, 2024), aligning with global frameworks such as the right to science (United Nations, 1948), the 2030 SDGs Agenda (UN, 2015), UNESCO's recommendations on Open Science (UNESCO, 2021b) and the UNESCO International Decade of Sciences for Sustainable Development (UN, 2024). Through these efforts, DICIENTS seeks to strengthen critical thinking, promote lifelong learning, and nurture a

culture of peace.

DICIENTS's Network Action Plan

Cooperation in science and technology can promote sustainable development and resilience in the face of global challenges, as well as catalyze economic development. Through sustained diplomatic efforts, LAC could transform the landscape of neuroscience, for brain health, mental health, and societal outcomes for future generations. LAC also has the opportunity to close the gap in access to neuroscience knowledge and cutting-edge technologies and address ethical concerns. Some of the driving ideas of the DICIENTS's Action Plan on the future of SD to foster the balanced advancement of neuroscience and technology, improve societal well-being, and position LAC on equal terms in the global neuroscience arena are shown in Table 1.

DICIENTS network priorities outlined in Table 1 focus on LAC-specific needs and context, and may be synergic with other regional initiatives such as the Latin American Brain Initiative (LATBrain) and the Latin American Brain Health Institute (BrainLat). DICIENTS efforts are not isolated but align with and can contribute to broader global initiatives, such as IBRO, the International Brain Initiative, and the Inner Developmental Goals Initiative. By actively engaging with these initiatives and aligning regional priorities and global agendas, DICIENTS can leverage LACs unique strengths and expertise to contribute to the global advancement of neuroscience and brain health while benefiting from

Table 1

DICIENTS's network SD Action Plan: Integrating Neuroscience and Technology into Public Policy.

Driving idea	Priorities	Concrete actions	References
Promoting South-South cooperation to address LAC disparities in the degree of access to neuroscience knowledge, and neuroscience-related technologies.	Training in neuroscience and neuroscience-related technologies through regional and international collaborations.	Organize LAC postgraduate courses and workshops on neuroscience and neuroscience-related technologies.	Butcher (2015) ; Camacho (2024) .
	Fostering technology-sharing agreements and resources exchange.	Create alliances with regional and international organizations and networks to promote LAC technology hubs and ensure their equitable access across the region.	Seydel (2024) ; Some regional examples: Brazilian Center for Research in Energy and Materials (CNPEN), in Campinas (SP, BR). Latin America Bioimaging. FALAN Technological Facilities in Latin America.
Promoting public science literacy.	Open Science.	Organize: i) workshops on neuroscience and neuroscience-related technologies, using open-access educational resources and low-cost, do-it-yourself (DIY), do-it-with-others (DIWO), and bring-your-own-device (BYOD) technologies; ii) hybrid public talks and “scientific coffees” on neuroscience, neurotechnologies, and brain and mental health; iii) hackathons on SD, neuroscience, and neurotechnologies; iv) art, neuroscience, and technology expressions.	Some international examples of open-access technologies: Allen Institute (n.d.) ; Backyard Brains (n.d.) ; Foldscape Instruments (n.d.) . Gathering for open science hardware (GOSH: Global Open Science Hardware, 2025); Neurotorium (Neurotorium, n.d.) . Open-neuroscience (Neuroscience, 2025).
Integrating neuroscience into public policy.	Promoting actionable scientific knowledge for evidence-based policies, and fostering interdisciplinary partnerships.	Elaborate briefs on SD, neuroscience, technology, and their intersection with society. Promote spaces for SD at international initiatives, forums, and scientific events. Promote the widespread creation of “Science Attachés” for LAC diplomats and policymakers. Promote the creation of a “Network of Science Attachés”. Elaborate toolkits for policymakers on neuroscience and neurotechnologies and their ethical use.	Gual Soler (2021) . Science for/in diplomacy for addressing global challenges (Science for/in Diplomacy for Addressing Global Challenges - S4D4C, 2024).
Engaging society from a systemic and multidimensional integrative perspective.	Enhancing communication channels to foster the sharing, understanding, and active engagement in knowledge, integrating gender and intersectionality perspectives, including revaluing indigenous knowledge systems.	Organize round tables/debates on neuroscience, neurotechnologies, and society, including the participation of academics, decision-makers, diplomats, civil society representatives, etc. Create a blog on SD, neuroscience, technology and society. Elaborate open-access educational resources for life-long learning. Public campaigns to promote brain and mental health awareness. Promote the engagement of indigenous communities/native populations. Generate recommendations and roadmaps on neuroscience and technology communication. Develop training programs and workshops for scientists and policymakers on effective science communication and public engagement strategies, focusing on neuroscience and neurotechnology. Promote the coordination and collaboration between DICIENTS members' initiatives aiming at engaging society.	UNESCO (2019) ; UNESCO (2021b) ; Canadian (2022) .

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Table 1 (continued)

Driving idea	Priorities	Concrete actions	References
Addressing ethical challenges and human rights.	Promoting ‘live experience experts’ participation in discussions about neuroscience’s ethical and societal implications.	Create training programs for LAC ‘live experience experts’.	Muchamore et al. (2024)
	Collaborating in the widespread inclusion of neuroethics and neurorights issues in LAC’s social and political agendas, as well as in the curricula of universities and research institutions.	Organize a hackathon on neurotechnology and human rights aimed at young people. Organize a symposium on the subjects with the participation of academics, politicians and diplomats. Develop a roadmap on neuroscience, neurotechnology and human rights, with recommendations for ethics committees, universities and government.	Andorno (2023); UNESCO (2022); Ienca & Andorno (2017); Yuste et., al. (2017); Muraccione (2024). Regional example: III Simpósio De Neuroética I Simpósio Neuroética América Latina (Neuroética América, 2021).
Building capacity on science diplomacy, neuroscience, and technology.	Initial and continuous training of human resources at the intersection of SD, neuroscience, technology, and society for building regional capacity for addressing the region’s specific needs and tackling complex problems such as mental health with the involvement of local stakeholders.	Generate recommendations and roadmaps on neuroscience and technology communication. Develop training programs and workshops for scientists and policymakers on effective science communication and public engagement strategies, focusing on neuroscience and neurotechnology. Organize the First postgraduate school on SD, neuroscience and technology for academics, policymakers, and diplomats from LAC and GS. Develop an exchange program to support the training of science diplomats and promote regional and international collaborations. Propose Symposiums on Science Diplomacy, Neuroscience and Technology in Academic International Events.	Dawson et., al. (2023); Science for/in Diplomacy for Addressing Global Challenges - S4D4C (2024) Also see the postgraduate courses before the DICIENTS Network creation (Fig. 1).

knowledge exchange, resource sharing, and collaborative opportunities. This interconnectedness will enhance the impact of neuroscience research and diplomacy in LAC and position the region as a valuable contributor to the global scientific community.

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Miriam Ileana Argueta de Sáenz: Writing – review & editing, Writing – original draft, Supervision, Conceptualization. Eileen Brennan: Writing – review & editing. Juliana B. De Salles Andrade: Writing – review & editing. José Luis Jácome Guerrero: Writing – review & editing. Graciela L. Mazzone: Writing – review & editing. María del Mar Monti: Writing – review & editing, Writing – original draft, Supervision. María Lizbeth Murillo: Writing – review & editing, Writing – original draft, Supervision, Conceptualization. Romina Porreca: Writing – review & editing, Writing – original draft, Supervision, Conceptualization. María Rosana Ramirez: Writing – review & editing. Avid Roman-Gonzalez: Writing – review & editing. Marisa Russo: Writing – review & editing. Perla Berenice Sánchez Reyna: Writing – review & editing. Alcibiades E. Villarreal D.: Writing – review & editing. María E. Castelló: Conceptualization, Formal analysis, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Allen Institute, n.d. Education resources. Retrieved December 23, 2024, from <https://alleninstitute.org/education/>.
Andorno, R., 2023. Neurotecnologías y derechos humanos en América Latina y el Caribe: Desafíos y propuestas de política pública. UNESCO, París.

Backyard Brains, n.d. *Neuroscience for everyone!* Retrieved January 3, 2025, from <https://backyardbrains.com/>.
Berkman, P.A., Lang, M.A., Walton, D.W.H., Young, O.R. (Eds.), 2011. *Science Diplomacy: Antarctica, Science, and the Governance of International Spaces*. Smithsonian Institution Scholarly Press.
Boutros-Ghali, B., 1992. An agenda for peace: preventive diplomacy, peacemaking and peace-keeping. *International Relations* 11 (3), 201–218. <https://doi.org/10.1177/004711789201100302>.
Butcher, N., Kanwar, A., Uvalic-Trumbic, S., 2015. *Guía básica de recursos educativos abiertos (REA)*. UNESCO Publishing. <https://books.google.com.co/books?id=11UoDwAAQBAJ&printsec=frontcover&hl=es#v=onepage&q&f=false>.
Camacho, R., Cumba, L., Galvis, L., Echeverría-King, L.F., Pantovic, B., Alarcon-López, C., Suarez, V., Figueroa, P., Torres-Atencio, I., Widmaier, C., Fraga, T., Benavides, S., 2024. The needed link between open science and science diplomacy—A Latin American perspective. *Front. Res. Metr. Anal.* 9, 1355393. <https://doi.org/10.3389/frma.2024.1355393>.
Ciocca, D.R., Delgado, G., 2017. The reality of scientific research in Latin America; an insider’s perspective. *Cell Stress & Chaperones* 22 (6), 847–852. <https://doi.org/10.1007/s12192-017-0815-8>.
Dawson, W.D., Booi, L., Pintado-Caipa, M., Okada de Oliveira, M., Kornhuber, A., Spoden, N., Golonka, O., Shallcross, L., Davidziuk, A., Cominetti, M.R., Vergara-Manríquez, M., Kochhann, R., Robertson, I., Eyre, H.A., Ibáñez, A., 2023. The Brain Health Diplomat’s Toolkit: supporting brain health diplomacy leaders in Latin America and the Caribbean. *Lancet Regional Health. Americas* 28, 100627. <https://doi.org/10.1016/j.lana.2023.100627>.
Foldscope Instruments, n.d. *Foldscope: The paper microscope*. Retrieved January 3, 2025, from <https://foldscope.com/>.
Gasparini, L., and Cruces, G., 2021. The Changing Picture of Inequality in Latin America: Evidence for Three Decades. UNDP LAC Working Paper No. 01. Background Paper for the UNDP LAC Regional Human Development Report 2021. <https://www.undp.org/latin-america/publications/changing-picture-inequality-latin-america>.
The Global Burden of Disease Study (GBD), 2024. Global, regional, and national burden of disorders affecting the nervous system, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. *Lancet Neurol.* 23(4). [https://doi.org/10.1016/S1474-4422\(24\)00038-3](https://doi.org/10.1016/S1474-4422(24)00038-3).
Global Open Science Hardware, n.d. *GOSH: Global Open Science Hardware*. Retrieved January 3, 2025, from <https://openhardware.science/>.
Gual Soler, M., 2021. Science diplomacy in latin america and the caribbean: current landscape, challenges, and future perspectives. *Front. Res. Met. Anal.* 6. <https://doi.org/10.3389/frma.2021.670001>.
Ienca, M., Andorno, R., 2017. Towards new human rights in the age of neuroscience and neurotechnology. *Life Sciences, Society and Policy* 13 (1), 5. <https://doi.org/10.1186/s40504-017-0050-1>.
Inner Development Goals, n.d. *Inner Development Goals*. Retrieved January 3, 2025, from <https://innerdevelopmentgoals.org/>.

- Inter-American Development Bank, 2023. *The complexities of inequality in Latin America and the Caribbean*. Inter-American Development Bank. <https://www.iadb.org/en/news/complexities-inequality-latin-america-and-caribbean>.
- International Brain Research Organization – IBRO, 2023. *Global Engagement Initiative: 10 years of worldwide outreach and advocacy*. Retrieved January 3, 2025, from <https://ibro.org/global-engagement-initiative-10-years-of-worldwide-outreach-and-advocacy/>.
- Muchamore, I., Karanikolas, P., Gooding, P., 2024. Lived experience expertise shapes research and development in digital mental health - A review of literature and Insights. <https://wellcomeopenresearch.org/documents/9-373>.
- Muñoz, M., 2017. El enfoque intergeneracional: del contexto global al contexto local de Alcobendas. *Revista De Educación Social* 25, 113–133. <https://dialnet.unirioja.es/servlet/articulo?codigo=6421921>.
- Muracciole, B., 2024. Corte Suprema de la República de Chile. Caso Emotiv Inc. Breve comentario desde Uruguay. En: *defensa de los neuro derechos*. Sánchez, M., Colombara, C, y Monti, N. (Eds). Kamanau.org. <https://defensaneuroderechos.org/>.
- Murray, C.J., 2024. Findings from the global burden of disease study 2021. *The Lancet* 403 (10440), 2259–2262.
- Neuroética América Latina, 2021. III Simposio de Neuroética y I Simposio de Neuroética en América Latina. Retrieved January 3, 2025, from <https://www.youtube.com/watch?v=Cpm6C4Dn9Z4https://sites.google.com/view/neuroetica-americalatina/evento?authuser=0>.
- Neurotorium. (n.d.). *Neurotorium: The platform for neuroscientists*. Retrieved January 3, 2025, from <https://neurotorium.org/>.
- Ochang, P., Eke, D., Stahl, B.C., 2023. Towards an understanding of global brain data governance: ethical positions that underpin global brain data governance discourse. *Frontiers in Big Data* 6, 1240660. <https://doi.org/10.3389/fdata.2023.1240660>.
- Open Neuroscience. (n.d.). *Open Neuroscience*. Retrieved January 3, 2025, from <http://open-neuroscience.com/en/>.
- Pai, M., Bandara, S., Kyobutungi, C., 2024. Shifting power in global health will require leadership by the Global South and allyship by the Global North. *Lancet* 24, 02323–02327. [https://doi.org/10.1016/S0140-6736\(24\)02323-7](https://doi.org/10.1016/S0140-6736(24)02323-7). S0140-6736(24)02323-7.
- Programa para el Desarrollo de las Ciencias Básicas - PEDECIBA, 2023. *Diplomacia científica para el sur global con foco en las neurociencias (tercera edición) - Curso de posgrado híbrido*. Retrieved January 3, 2025, from <https://www.pedeciba.edu.uy/es/curso/diplomacia-cientifica-para-el-sur-global-con-foco-en-las-neurociencias-tercera-edicion-curso-de-posgrado-hibrido/>.
- Red Iberoamericana de Indicadores de Ciencia y Tecnología (RICYT), 2023. El estado de la ciencia. Principales Indicadores de Ciencia y Tecnología Iberoamericanos / Interamericanos 2023. Ciudad Autónoma de Buenos Aires, Argentina: Altuna Impresores S.R.L. <https://www.ricyt.org/>.
- Science for/in Diplomacy for Addressing Global Challenges - S4D4C, 2024. *Science counsellors, attachés, advisers and envoys in embassies*. Science Diplomacy for Global Challenges. Retrieved December 23, 2024, from <https://www.s4d4c.eu/topic/2-4-3-science-counsellors-attaches-advisers-and-envoys-in-embassies/>.
- Seydel, C., 2024. Bioimaging for all. *Nat Methods* 21, 1581–1586. <https://www.nature.com/articles/s41592-024-02397-1>.
- The Royal Society, 2010. New frontiers in science diplomacy: navigating the changing balance of power. Retrieved December 23, 2024, from <https://royalsociety.org/news-resources/publications/2010/new-frontiers-science-diplomacy/>.
- UNESCO, n.d. Event details. Retrieved January 3, 2025, from <https://events.unesco.org/event?id=1269768993&lang=1033>.
- UNESCO, n.d. *Open educational resources (OER)*. Retrieved January 3, 2025, from <https://www.unesco.org/es/open-educational-resources>.
- UNESCO, 2006. Convención sobre la protección y promoción de la diversidad de las expresiones culturales. París, 20 de octubre de 2005. Periferica 7. <https://doi.org/10.25267/periferica.2006.i7.26>.
- UNESCO, 2019. *Pueblos indígenas: Salvaguardia del patrimonio cultural inmaterial* [Brochure]. Retrieved January 3, 2025, from <https://ich.unesco.org/doc/src/Brochure-indigenous-people-201904-ES.pdf>.
- UNESCO, 2021a. Finalizó el curso de postgrado de Diplomacia Científica aplicada a las Neurociencias. Retrieved January, 2025 from <https://www.unesco.org/es/articles/finalizo-el-curso-de-postgrado-de-diplomacia-cientifica-aplicada-las-neurociencias>.
- UNESCO, 2021b. UNESCO Recommendation on Open Science. <https://doi.org/10.54677/MNMH8546>.
- UNESCO, 2022. Ethical Issues of Neurotechnology. Report of the International Bioethics Committee of UNESCO (IBC) on the Ethical Issues of Neurotechnology. <https://unesdoc.unesco.org/ark:/48223/pf0000383559>.
- UNESCO, 2023a. Diplomacia científica aplicada a las neurociencias: Una oportunidad de formación para el sur global. Retrieved January 3, 2025, from <https://www.unesco.org/es/articles/diplomacia-cientifica-aplicada-las-neurociencias-una-oportunidad-de-formacion-para-el-sur-global>.
- UNESCO, 2023b. Finalizó la segunda edición del curso de posgrado de diplomacia científica aplicada a las neurociencias. Retrieved January 3, 2025, from <https://www.unesco.org/es/articles/finalizo-la-segunda-edicion-del-curso-de-posgrado-de-diplomacia-cientifica-aplicada-las>.
- UNESCO, 2024. UNESCO Call to Action: Closing the gender gap in science. <https://unesdoc.unesco.org/ark:/48223/pf0000388641>.
- UNESCO Canadian Commission, 2022. *Introducción a la Recomendación de la UNESCO sobre la Ciencia Abierta*. Recuperado el 23 de diciembre de 2024, de https://unesdoc.unesco.org/ark:/48223/pf0000383771_spa.
- United Nations, 1947. Constitution of the united nations educational, scientific and cultural organization. *The American Journal of International Law* 41 (1), 1–10. <https://doi.org/10.2307/2213903>.
- United Nations, 1948. Resolution NR0/046/82. Retrieved January 3, 2025, from <https://documents.un.org/doc/resolution/gen/nr0/046/82/pdf/nr004682.pdf>.
- United Nations Development Program - UNDP, 2023. What is intersectionality and why is it important for gender equality? Bosnia and Herzegovina. Retrieved December 29, 2024, from <https://www.undp.org/bosnia-herzegovina/blog/what-intersectionality-and-why-it-important-gender-equality>.
- United Nations, 2015. Document N15/291/89. Retrieved January 3, 2025, from <https://documents.un.org/doc/undoc/gen/n15/291/89/pdf/n1529189.pdf>.
- United Nations, 2024. United Nations Decade of Science for Sustainable Development. Retrieved January 3, 2025, from <https://www.un-sciences-decade.org/en> <https://www.un-sciences-decade.org/en>.
- Yuste, R., Goering, S., Arcas, B.A.Y., Bi, G., Carmenta, J.M., Carter, A., Fins, J.J., Friesen, P., Gallan, T.J., Huggins, J.E., Illes, J., Kellmeyer, P., Klein, E., Marblestone, A., Mitchell, C., Parens, E., Pham, M., Rubel, A., Sadato, N., Sullivan, L. S., Teicher, M., Wasserman, D., Wexler, A., Whittaker, M., Wolpaw, J., 2017. Four ethical priorities for neurotechnologies and AI. *Nature* 551 (7679), 159–163. <https://doi.org/10.1038/551159a>.