

*Challenges to  
reciprocity and equitable  
scientific collaboration between Europe,  
Africa, Latin America, and the Caribbean*

REPORT OF THE

# High Level Workshop

ON THE EUROPEAN RESEARCH AREA

29–30 November 2023

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# Colophon

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# Introduction

This report presents a summary of the dialogue sessions and main conclusions of two events that took place as part of the 2023 High Level Workshop, co-organised by the Spanish National Research Council (CSIC), the Spanish Ministry of Science, Innovation and Universities (MCIU), and Science Europe. The event was hosted by CSIC, in Madrid, on 29–30 November, under the auspices of the Spanish Presidency of the Council of the EU.

Addressing the broad topic ‘Challenges for Reciprocity and Equitable Scientific Collaboration Between Europe, Africa, Latin America, and the Caribbean,’ the High Level Workshop gathered 135 participants from 30 countries, including 31 speakers. Heads of research funding and research performing organisations, political authorities, policy makers and researchers participated in the events.

The High Level Workshop focused on four aspects of international co-operation in research and innovation (R&I), reflecting on current and future needs for policy tools fostering reciprocity and equity:

- ✧ Challenges for reciprocity and equitable multilateralism in scientific collaboration
- ✧ Academic freedom, scientific integrity, and equitable treatment in scientific collaboration
- ✧ Instruments for scientific collaboration: funding, mobility, and reciprocity
- ✧ The role of global scientific networks in achieving positive societal change

A satellite event, also hosted by CSIC, MCIU, and Science Europe, took place on the afternoon of 30 November. This event contributed to the debate on global R&I co-operation from the perspectives of leading researchers, bringing together over 30 principal investigators engaged in international collaborative research projects. The four areas outlined above were examined through two areas of research: ‘Research Co-operation on Cultural and Natural Heritage,’ and ‘Sustainable Value-Chains in New Materials.’

Initial impact of the outcomes of the High Level Workshop events has been already noted: a [statement with recommendations](#) addressed to high-level authorities was published on 7 December 2023. It emphasised the importance of including mechanisms for reciprocity and equity in international scientific co-operation. The statement also fed into Science Europe’s input to the draft [Ministerial Declaration on Principles and Values for International Co-operation in Research & Innovation](#), which was published following the Ministerial conference that took place on 16–17 February 2024 under the Belgian Presidency of the Council of the EU. Furthermore, the outcomes of the High Level Workshop will lay the groundwork for addressing equality and reciprocity in partnerships at the upcoming UN Science Summit in September 2024.

This report includes the main points raised in each session of both the High Level Workshop and Satellite Event. The section on conclusions synthesises the outcomes of both events, and is followed by a final section outlining how these outcomes will be taken up in upcoming policy discussions on international R&I co-operation.



*Marc Schiltz (Science Europe), Raquel Yotti (MCIU), and Eloísa del Pino (CSIC)*

## Welcome Addresses

**T**op representatives from the co-hosting organisations and government authorities welcomed participants and provided their opening addresses regarding reciprocity in global R&I co-operation, and their expectations regarding the Workshop.

**Eloísa del Pino**, President of the Spanish National Research Council (CSIC), emphasised the importance of global research collaboration in the face of planetary challenges, and the need to discuss the improvement of science policy and of science policy tools.

**Marc Schiltz**, President of Science Europe, supported her comments and stressed the vital importance of collaboration with the Global South, and the need to identify the challenges that hinder collaboration. He expected that the discussions in the workshop would contribute to this objective.

Representing the European Commission, **Signe Ratto**, Deputy Director-General for Research & Innovation, pointed out the necessity of fostering trusted environments for researchers, to allow science and technology to thrive. She confirmed that the EU will reinforce its commitment to openness, on the basis of shared principles and values.

This point was echoed by **Raquel Yotti**, Secretary General for Research at the Ministry of Science, Innovation, and Universities in Spain. In her welcome speech, she also emphasised the importance of academic values to foster the conditions for reciprocal research collaborations. She added that the Spanish Presidency of the Council of the EU had science and innovation among its priorities, especially the use of research outputs to inform policy making, and looked forward to the conclusions of the High Level Workshop to input subsequent dialogue at European and global levels.





# Report of the High Level Workshop

## Challenges for Reciprocity and Equitable Multilateralism in Scientific Collaboration

The opening address by **Francisco Javier Moreno Fuentes**, Vice-President for International Affairs of the Spanish National Research Council (CSIC), highlighted that science is strongly embedded in the political, social, and economic context in which it is developed. For example, the European Organization for Nuclear Research (CERN), a key infrastructure in the map of scientific international collaborations, demonstrates that scientific institutions are social constructs, when looking at the evolution of its participants and the links between them in the development of research experiments over the years. CSIC itself was profoundly affected by the political events marking Spanish society during the 20th century, from its origins in the 1920s and its experiences under the Franco regime that tried to accommodate Catholic values and science, to the transformation it underwent since Spain's transition to democracy.

In addition, the evolution of social attitudes towards science is not independent from the socio-political context. On the one hand, science is increasingly considered to be part of the reason current global challenges have emerged: for example, the perception that global warming and environmental degradation have been caused by industrial development built on scientific and technological developments, has led to a growing rejection of science among certain sectors of the population. On the other, science is still considered the fundamental hope of humankind to address those very same challenges, such as the rapid scientific response to the Covid-19 pandemic clearly illustrated. Currently, international collaboration is increasingly viewed as a zero-sum game, with countries seeking to gain economic advantage over others through scientific discoveries. This complicates the

establishment and running of international scientific partnerships; this mindset needs to be reversed to build more fair and equitable scientific collaborations.

The subsequent discussion further explored the challenges for reciprocal and equitable collaboration in research. Since we live in a fast-paced world, science and innovation are crucial in finding sustainable solutions to common challenges. All panel members expressed in two principles how to build more reciprocity:

- ✂ International collaboration is essential, as evidenced by the fact that SDG 17 specifically aims to enhance North–South and international cooperation in science, technology, and innovation.
- ✂ Achieving stronger collaboration between the Global South and Global North will require ownership and accountability from Africa and Europe to develop sustainable partnerships.

The discussion also highlighted how specific challenges for reciprocity in scientific collaboration stem from complex factors. The lack of opportunities to discuss science policy at the international level was one of the challenges mentioned by **Felix Garcia Lausín**, Co-ordinator of the Ibero-American Knowledge Area at the Ibero-American General Secretariat. While there are many funding instruments in Europe to support collaboration between Europe and Latin America, there is a need for a forum allowing regular discussions on research policy priorities. Such regular exchanges would help to highlight the input of researchers from the south in European instruments and policies. Two strategic actions were proposed:



- ✂ Create opportunities to discuss priorities, for example a permanent political forum for the European Commission and the Community of Latin American and Caribbean States.
- ✂ Create additional opportunities for collaboration where all large regions participate on an equal basis.

Collaboration with African countries in certain fields – such as health or the transition to wired electricity – was deemed to not be prioritised enough in collaboration and European instruments.

**Victor Konde**, Scientific Affairs Officer at the United Nations Economic Commission for Africa, underlined

## Ministers' input

Science Europe High Level Workshops include the views from Ministers of Science on the topic of the event. On this occasion, eight Ministry representatives from the countries where Member Organisations of Science Europe are based, explained their views and support for international research collaboration. Their contributions can be summarised as follows:

**Radka Wildová**, Director General for Higher Education, Science and Research in the Czech Republic, said that international collaboration can present challenges and that addressing them comprehensively is a long-term commitment and requires prioritising long-term engagement. Science diplomacy can facilitate mutual understanding, and we should work towards developing a common framework for science diplomacy.

**Jens Brandenburg**, Parliamentary State Secretary at the German Federal Ministry for Education and Research, highlighted that increasing research collaboration is key to addressing global challenges. Liberal and democratic values are questioned worldwide, and we must find a good balance between openness and safe international collaboration.

the need for better definition of the problems that international collaboration aims to address and the importance of starting from the ground up, based on community feedback. The imbalance of funding and human resources in international collaborative research projects should also be considered when addressing the challenges of reciprocity.

One example of such an imbalance was provided by **Bi Irie Vroh**, Interim Director of the African Observatory of Science, Technology and Innovation: to ensure reciprocity, Europe and Africa should work with flexibly adapted timeframes when preparing projects, as limited human resource capacity means Africa needs more time.

**László Lengyel**, Vice President of the National Research, Development, and Innovation Office in Hungary, said that his country is working to expand its research and innovation capacity. He remarked that Hungary has several universities and research institutions that could participate in EU programmes and that he found the country being cut off from Horizon Europe funding unfair.

**Anne Line Wold**, Director-General at the Ministry of Education and Research of Norway, emphasised that international collaboration is more important than ever. She highlighted that responsible research collaboration, based on the shared values promoted by the March 2022 Marseille Declaration, would help address the challenges to an open approach to international co-operation in research and innovation.

**Susanne Caarls**, Head of the Department for International Co-operation and Societal Impact in the Ministry of Education, Culture and Science of the Netherlands, said that open international collaboration is at the core of excellent research. Collaboration must be based on shared values – such as the freedom of academic research, open science, or reciprocity – to be really effective for society.



**Ivana Vukašinović**, Assistant Minister for International Co-operation and European Integration in Serbia, highlighted that global challenges and the SDGs – like science – do not have any borders. She emphasised that international collaboration must be based on mutual respect and common values, including academic freedom, equitable treatment, and integrity.

**Raquel Yotti**, Secretary General for Research at the Ministry of Science, Innovation, and Universities in Spain, said that talent from the countries we are collaborating with must remain in these countries. Building capacity early is a crucial pillar to avoiding brain drain. Global challenges have different regional dimensions that we need to learn and consider, which requires us to design together the tools that

we are going to use together. It is always useful to create new structures, she added, but we could also use the structures we already have more efficiently.

**Michael Gerber**, Ambassador, Director General for International Programmes and Organisations, at the Swiss State Secretariat for Education, Research, and Innovation, echoed that science cannot thrive without international collaboration, and the benefits need to be shared equally. Shared principles guide the Swiss approach to international co-operation – including openness, excellence, a bottom-up approach, and scientific autonomy. Switzerland applies these principles in its collaboration with the EU and countries from the Global South.

## Summary

Overall, the key messages and possible ways forward to tackle the challenges identified can be summarised as follows:

- ✂ Countries are often benchmarked against each other by international organisations (such as the World Bank, or the Organisation for Economic Co-operation and Development), which use inappropriate indicators to reflect their R&I performance. Unfortunately, these metrics can be detrimental for some countries to be considered relevant R&I partners.
- ✂ Visa issues that hinder the mobility of researchers from the Global South create impediments not only to mobility, but also to trust and reciprocity. A lack of global reciprocity is also a bottleneck to mobility. Potential solutions could be more dispensations for researchers such as the research equivalent of a Schengen visa, or twinning mechanisms between countries that facilitate mobility.
- ✂ Geopolitical tensions and the nature of diplomacy can erode trust: there is an inherent tension, for instance, between global science diplomacy and the national drive to safeguard national capabilities.
- ✂ Academic freedom is of paramount importance for science. However, it is sometimes very difficult to ensure that it is respected. Many examples exist of scholars who have faced sanctions for speaking at international events or conferences. In that context, strong advocacy and safeguards are needed, for example, guaranteeing a special status for researchers similar to that held by the Red Cross.
- ✂ Research infrastructures, especially in Africa, are still underdeveloped, further reinforcing inequality between the Global South and the Global North. There is a high retention rate of African scientists in North America and Europe, partly due to better facilities, infrastructure, and salaries.









# Academic freedom, Scientific Integrity, and Equitable Treatment in Scientific Collaboration

The keynote address provided by **Helena Groot de Restrepo**, Full Professor in the Biological Sciences Department and the Medicine School at Universidad de los Andes, Colombia, brought forward an structural lack of sufficient support for scientific research among public institutions, hindering their capacity to design adequate, evidence-based research policies. Groot de Restrepo illustrated this by highlighting the importance of political will for structural support, as government cuts in funding for research have not always been the norm in Colombia. She also advocated the need for a shift in culture in scientific method among young scientists, to pave a better way to awaken scientific curiosity and to identify new research challenges. Curiosity-driven research often exemplifies the highest standards of scientific quality.

Emphasising the ‘universality’ of science, Professor Groot indicated that principles of integrity and reciprocity should be deeply embedded in all research activities and policies. Pre-ethical analysis and assurance of equitable treatment among all researchers should be the norm. In her concluding remarks, she called for more systematic sharing of successful experiences between countries, to foster good practices and more ambitious collaborations.

In the subsequent panel discussion, different views and experiences showed ways to integrate principles of academic freedom, scientific integrity, and equitable treatment in scientific collaboration:

**Gerardo Herrera**, Seconded National Expert at the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs at the European Commission, presented an overview of the EU strategy on raw materials supply chain, which is a strong commitment to long-term sustainable partnerships across the R&I chain. Collaborations needed to bring long-term impact for all partners, he said, and reality

shows that challenges to identifying the right partners to sustain collaboration remain.

Indeed, as expressed in the discussion, some countries are tempted to use restriction of access to their resources as a weapon, thereby preventing opportunities for collaboration. This is why the principle of mutual benefit should always guide research international co-operation. **Solomon Benor**, CEO for Research and Community Engagement Affairs at the Ethiopian Ministry of Education, explained that initial co-operation at the agenda-setting stage is always beneficial to establish trust between partners, especially in research areas that might be culturally sensitive, and to maintain a culture of academic freedom.

Moreover, when assessing how to ensure equitable treatment in scientific co-operation, it is important to listen to the perspective of scientists on the ground. **Sirio Canós-Donnay**, Researcher for the Institute of Heritage Sciences at the Spanish National Research Council, discussed the topic of community engagement, an area in which EU-based researchers could learn from other regions of the world. She explained that when it comes to collaboration, it is also the researcher’s responsibility to care for reciprocity. One should consider the value of the important learning opportunities that stem from scientific co-operation. Undertaking research with international partners helps to broaden a researcher’s vision and to question one’s processes, which is an enriching experience.

Another important ingredient of reciprocity is to be mindful of diverging capacities and priorities when engaging in international R&I projects. **Obed Ogega**, Programme Manager at the African Academy of Science in Kenya, emphasised that research processes themselves should be very equitable, acknowledging the differences. He illustrated this with the example of the ARISE (African Research Initiative for Scientific



Excellence) pilot programme, aiming to support the build-up of a critical mass of role models for African researchers, in the framework of the AU–EU Innovation Agenda. This kind of collaboration requires agenda-setting with African countries from the start, so that challenges relevant to African priorities are properly addressed.

On the issue of safeguarding academic freedom, collaboration among stakeholders can be seen as a way to further develop a bottom-up approach that encourages the freedom of scientific enquiry, as compared to research supported by national priorities only. Helena Groot de Restrepo even added that potentially having non-governmental actors involved in the financing of research could further help in bringing this flexibility.

Furthermore, ensuring reciprocity in co-operation, coupled with equality of access to funding and resources, should figure among main priorities for R&I international collaboration strategies. Addressing the need to strengthen researchers' skills and to provide more fair access to scholarly visas, would greatly benefit international scientific co-operation. Open science was also a matter of discussion during the panel, where it was agreed that the so-called 'predatory journals' are a threat to many African researchers. This issue should be addressed urgently to create better conditions for an even playing field.

Overall, the panel agreed that even in a challenging and highly competitive geopolitical landscape, there are concrete steps that can be taken to ensure the safeguarding of scientific integrity, academic freedom, and equitable treatment in scientific co-operation.

## Summary

The following key elements and possible ways forward concerning Academic Freedom, Scientific Integrity, and Equitable Treatment in Scientific Collaboration were raised:

- ✂ Stronger advocacy and safeguards are needed to enhance and protect researchers' academic freedom.
- ✂ Embedding jointly agreed ethical standards (impartiality, respect of local customs, transparency, and so on) within the evaluation processes underpins trust and reciprocity.
- ✂ Joint agreements must be undertaken in a genuine and equitable fashion from the start. Projects designed in the Global North tend to have limited impact in the Global South.
- ✂ Together with networks, local social scientists could help to evaluate how to apply research outputs to local contexts – some institutions in Brazil, for instance, already do so. Furthermore, young researchers in developing countries should be better informed about opportunities abroad.
- ✂ The issue of bad practices in scientific publications, such as the so-called 'predatory journals', are detrimental to science and have a specific strong influence in the Global South, particularly in Africa. Tackling predatory journals and ensuring equitable access to indexed Open Access journals will be essential for the region.









# Instruments for Scientific Collaboration: Funding, Mobility, and Reciprocity

**T**ransnational collaboration is urgently needed to tackle global challenges such as tropical deforestation, global warming, threats to biodiversity or pandemics, said keynote speaker **Ricardo Magnus Osório Galvão**, President of the National Council for Scientific and Technological Development (CNPq) in Brazil. The North/South divide needs to be bridged to thwart “parachute research” – the practice whereby research carried out in and about certain countries does not involve researchers from those countries.

Additionally, European funding schemes remain fragmented and largely based on European priorities, even if the research takes place in the Global South.

The lack of reciprocity in such funding schemes is reflected in the lack of funding instruments for European participation in Global South-led projects. This reinforces inequity in research: while Global South researchers are invited to participate in projects, they are rarely given the opportunity to do so on an equal basis. Their input is sought at the later stages of a project, when they have little opportunity to influence research agendas. Galvão concluded that better balanced systems and funding instruments are needed to redress the imbalance, noting that his agency has established partnerships with organisations in 44 different countries, and granted fellowships to more than 600 Brazilian students to study in Europe.

## Panel Discussion

The subsequent panel discussion raised several points concerning reciprocal scientific collaboration:

To redress the imbalance of expertise, an exchange of good practices on programmes from different regions can help to raise the level of investments. Countries in the Global North could also contribute to create a more balanced situation by contacting diaspora scientists on relevant initiatives. This practice would favour the engagement of researchers from the Global South in scientific agenda-setting. This practice should be extended to local communities that are typically excluded from agenda-setting, even for scientific and funding instruments tailored to Global South countries, stated **Margaret Jesang Hutchinson**, Associate Vice-Chancellor for Research, Innovation and Enterprise of the University of Nairobi, Kenya.

Indeed, funding structures are not equitable for African and European instruments: while African students can study at European universities, they pay three to four times higher fees than European students. These practicalities not only hinder mobility, but erode trust and respect amongst researchers

from the Global North and Global South. In a context where inequitable technology transfer and intellectual property remain obstacles, there needs to be sustainable mechanisms to deliver excellence, impact, and sustainability.

How to address these challenges? The key impediment, explained **Thierry Damerval**, President and CEO of the French National Research Agency, is building mutual understanding between different parties: starting early is crucial, and can help transform institutional partnerships into meaningfully co-created projects.

Asked how they conceived value co-creation – the ‘win-win’ that scientific collaboration ought to provide – panelists listed strategies including the joint launch and supervision of collaborative projects between agencies and co-financing of projects. Co-creation must run for the whole value chain to ensure equity, Margaret Hutchinson pointed out – not only for the research, but also for the delivery of its results. This would avoid situations such as the ‘vaccine apartheid’ generated when Covid vaccines were





not shared with Africa even though African scientists had contributed to the research that produced them.

Still according to Hutchison, a question to identify the main factors driving collaborative instruments design, such as curiosity-driven research, societal or economic needs, financial needs, revealed that ‘relevance’ is key to define priorities. The ‘curiosity’ of the scholar adds an element of innovation that pushes the frontiers of knowledge. Once again, mobility was highlighted as key to building trust for successful partnerships: it enables Global South researchers to

be known to the Global North, thus breaking down the lack of trust by the Global North scientific establishment.

Finally, the importance of funding was reiterated as a means of promoting mobility and the research endeavour itself. Innovative financial mechanisms could be explored, such as multilateral funding schemes. Hutchison ended the session saying that one day, equity amongst research systems would not need to be spoken about at conferences, because it would have become reality.

## Summary

The following key elements and possible ways forward were raised regarding instruments for reciprocal collaboration:

- ✂ All relevant actors should be involved in the research value chain from the start, including policy makers and representatives of local communities. Participants wondered whether this involvement would be best done at the project or programme level.
- ✂ Researchers tend to favour bilateral agreements over EU-funded international projects, since the sustainability of this projects is not guaranteed.
- ✂ Despite a focus on large funding instruments, international small-to-medium project funding facilitates collaborations, and it is easier to disseminate knowledge at local level. It is worth dedicating medium-size budgets to carry out a ‘scaffolding’ project that would build trust between different parties, particularly from different cultures.







# The Role of Global Scientific Networks in Achieving Positive Societal Change

The keynote address of this session was delivered by **María Esther Orozco Orozco**, Emeritus National Professor, Department of Infectomics, Centre for Research and Advanced Studies, México and Former Minister of International Co-operation in Science and Technology at the Mexican Embassy in France. She focused on the countries' capacity, through science, to co-operate instead of competing with each other. Science, she stated, is an instrument of peace that has not been sufficiently explored.

This capacity is enhanced through recent technological developments: ChatGPT and other emerging technologies are changing our reality and have a profound impact on science. There is much to be celebrated in these developments: knowledge helps transform lives, generally for the better: antibiotics and, more recently, vaccines (such as those against Covid-19)

are both good examples. Nevertheless, Orozco noted that most discoveries have been attributed to men from wealthy countries. It was time to change that trend, and reinforce co-operation in science and technology between Europe, Africa, the Americas, and Caribbean countries.

While the creation of social networks on the internet has already revolutionised collaboration, co-operation between regions and researchers can be increased. The principle of reciprocity should also come into play since researchers from Africa and the Americas have made significant contributions to science. Reflecting on the previous day's discussion, she concluded that ethical values, respect, and trust are the necessary foundation for successful and sustainable collaborations.

## Panel discussion

The subsequent panel discussion with experts on global networks brought forward the following points:

Research, when looked at globally, has the potential to bring about significant transformations. What is at stake in science, beyond a research topic, is its future impact – especially in the case of climate change-related research. Indeed, the anthropogenic nature of climate change has been identified through data and modelling, mentioned **Thelma Krug**, Chair of the Global Climate Observation System (GCOS). However, working groups on global research challenges rarely have a balanced participation of developing and developed countries; Global North countries are generally over-represented, even when the research topic is of direct relevance to those in the Global South. This imbalance is typically justified by pointing to the lack of capacity of non-European countries.

To remedy the situation, research funding criteria should be updated to embed reciprocity as a key value. A change in research funding models is also required. **Jackson Njau**, Associate Professor of Paleoanthropology at the University of Dar Es Salaam, Tanzania, highlighted that global challenges such as climate change have brought questions of collaboration and equitable reciprocity to the fore. There is no greater topic of relevance to the public than human evolution and climate change. How did climate change drive human evolution? How can we best understand those global changes? These questions, by their vastness, require responses from different perspectives, disciplines, and knowledge; they rely on the integration of data and resources from different parts of the world. As such, they raise the question of how to forge fair collaborations between the Global North and South without perpetuating modes of exploitation or the continuation of a colonial past.



**Eudy Mabuza**, Science Counsellor to the European Union, South African Department of Science and Innovation, outlined how South Africa has harnessed its geographical position and substantial scientific knowledge to collaborate on global challenges. Exploiting its geographical location as a prime setting for astronomy, South Africa has brought the Square Kilometer Array, the world's largest radio telescope, to the region. Once built, the SKA will investigate the biggest questions about humanity's existence and the universe. South Africa has also harnessed its knowledge in farming and agriculture to influence policy development on these topics. Its expertise in the field of pandemics and vaccines attracted philanthropic funding and has allowed South Africa to play a central role in sequencing the Covid-19 virus. These achievements are possible thanks to South Africa's active role in science and in science networks.

For her part, **Milica Đurić-Jovičić**, Acting Director of the Science Fund of the Republic of Serbia (SFRS), drew on Serbia's post-war trajectory to show how the country had successfully forged both national and international networks in science. The end of the war in Serbia brought with it an opportunity to build new institutions, which required trust from the scientific and government sectors. It did so through collaboration, reaching out to other countries' institutions to find out how to build good research funding and programmes that would contribute to societal challenges. In addition, it reached out to the diaspora of Serbian scientists around the world to collaborate on the task and appointed scientific ambassadors.

Using panel experts to gather feedback on project proposals has also enabled Serbia to strengthen its institutional research procedures while developing trust and collaborations with researchers abroad. In addition, to harness the full power of its networks, Serbia organises annual events that bring together its national talent from around the world. These meetings convene scientists, artists, actors from industry, technology, and sports to connect best practices and results. These events also serve as an opportunity

to ask people with expertise and credibility in their fields to convey strong messages for governments and companies with whom they interact – a practice that has yielded strong impact.

Asked what was needed now for networks to achieve positive change, the panel discussed the importance of communication in science. A first axis is to go from incremental to transformative research: we need to communicate how science can be embedded into everyday life. Communicating the imperative of halting climate change, for instance, is promoting changes in daily life behaviours. A second axis of communication is science for policy: to foster involvement of scientists in this area and to define appropriate strategies, research organisations might consider the example of the SFRS, where researchers are asked to consider whether part of their research project can make a policy contribution or be useful for industry. Supporting researchers in thinking about the societal application of their research promotes changes in research culture.

Collaboration, the panel noted, boosts the contributions that science can make to policy, by bolstering knowledge exchange between countries, for instance by sharing data that is not always freely available. Engaging in and cultivating collaborative networks is crucial in this respect: the recent pandemic demonstrated at a global scale how vital information sharing is to advancing science. Mobility offers another important strategy to forge networks and collaboration between regions.

Finally, the panel turned to the question of who benefits from the knowledge generated by discovery and collaboration. We must ensure that the benefits of these processes filter down to all societies, and that Global North researchers do not become 'research tourists' in the Global South.



## Summary

Overall, the following key elements concerning the role of global research networks in achieving positive societal change were raised:

- ✂ Global scientific networks can bring long-term opportunities for researchers. Taking advantage that networks foster connections between researchers and scientists with international reputations, networks could take the role of informing researchers in developing countries of opportunities abroad.
- ✂ Normally, countries with less resources derive less benefit from the advantages that networks offer, and these inequalities should be addressed. New measures granting quicker visa access for researchers could be one step in this direction; organising events in Global South countries is another.
- ✂ Global scientific networks can be useful in changing organisational research culture, for instance by bringing diverse perspectives to peer review panels.
- ✂ Policy development based on research knowledge is a major nexus between science and society. It offers a means of harnessing scientific outputs to create positive social change. Communication with ministries and other policy makers should be enhanced. This public-facing dimension could also be embedded into researcher training and research assessment.
- ✂ Participants proposed a role for Science Europe in building global networks through continued co-operation with the Global Research Council. Moreover, as researcher mobility is often hindered by visa restrictions and the limited compatibility between funding schemes, Science Europe could advocate programmes for increased global mobility, such as Erasmus.









# Report of the Satellite Event to the 15th High Level Workshop on ERA

EU–Global South International Cooperation based on reciprocity:  
Contribution to the debate from the perspective of researchers



# CSIC

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

**B**ack-to-back with the 15th High Level Workshop on ERA, a satellite event provided the opportunity for an in-depth discussion on policies and instruments for reciprocity and equitable scientific co-operation from the perspective of researchers. Its two sessions focused on concrete cases of R&I collaboration: Cultural and Natural Heritage, and Sustainable Value-chains in New Materials.

The sessions were introduced by two keynote speakers from the European Commission (EC), Jean-Michel Sers (DG for International Partnerships), and Gerardo Herrera (DG Internal Market, Industry, Entrepreneurship & SMEs), followed by panel discussions.

The following sections summarise the main points brought forward by the keynote speakers and those in the subsequent discussion panels.

The new Global Gateway Initiative, an EU global strategy promoted by the European Union to invest in infrastructure projects and establish economic partnerships was introduced by **Jean-Michel Sers**. This strategy follows the ‘Team Europe’ approach, and is in line with EU priorities for investments. Of special interest for the audience were the Global Gateway in Sub-Saharan Africa, and the Global Gateway in Latin America and the Caribbean.

In the case of Africa, the Africa-Europe Investment Package has a budget of €150 billion. Jean-Michel Sers recommended checking the official Global Europe documentation to learn about the priorities for each country and region, as well as contacting the EC delegations in each country. Priorities for this area are set through discussions between the European Commission and regional entities.



# Co-operation on Cultural and Natural Heritage

The session consisted of a panel discussion and debate with the audience on the following questions:

- ✧ What is the role of institutions and researchers in fostering spaces for collaboration and networks?
- ✧ What role do career development and mobility play in fostering collaboration?
- ✧ What are the difficulties in conducting projects involving different countries?
- ✧ How do you effectively and fairly manage the funding allocated to the collaborative projects?

The main points raised during the discussion panel and debate were:

- ✧ Creating and maintaining networks of researchers that include scientists from Africa, Latin America, and the Caribbean is crucial to building efficient and lasting partnerships.
- ✧ It was emphasised that one of the main challenges in developing co-operation is the availability of partners. One of the most important aspects that should be reflected in the training of pre- and post-doctorate researchers is working abroad. It is crucial that funding agencies, policy makers and research organisations support the two-way mobility of researchers. European researchers need to travel to African, Latin-American, and Caribbean countries, and vice versa. In relation to this, it was mentioned that Global South researchers need to be able to go abroad in Global North institutions without facing challenges related to mobility or visas.
- ✧ Scholarships play an important role in building better societies, and diversity and equality should be valued during their allocation.

✧ In the context of international co-operation, training students, researchers, and staff is essential. Transfer of skills is an important factor to prepare the new generation of students and researchers. Capacity building includes skills related to working with local communities, not just those that are relevant to the implementation of research projects in labs.

✧ Sharing lessons learned with the participation of the whole research system in the countries (researchers, society, policy makers, and industry) is extremely useful. It can help prevent mistakes and misunderstandings, and provide opportunities to learn from the successes of others. Many factors contribute to the success of international field projects. The contributions of local researchers, especially from the Global South, need to be recognised.

✧ Access to national funding by African universities and research institutions is sometimes difficult due to a lack of institutional trust by research funders.

✧ The evolution of the African research landscape in 25 years' time was also discussed, with a growing population cited as an important factor. A growing imbalance between African countries is expected, with countries such as South Africa, Kenya, Egypt, and Ethiopia taking the lead in African science.

✧ Collaboration between researchers and local communities was agreed to be essential, especially in an area such as natural and cultural heritage, as well as the need to strengthen this collaboration and ensure the participation of regional entities. Research findings can lead to practical outcomes to ameliorate the daily life of local communities.



✂ The needs, uses and situation of African, Latin-American, and Caribbean countries must be kept in mind when designing research projects, funding, and activities such as communication and dissemination. These include, for example, challenges of money transfers, different levels of digital technology development and usage, dissemination activities not always being digital, and so on.

✂ Work to build excellence in African historical research and the inclusion of African historians in global collaborations is highly needed, since most of the research projects on themes relevant to African historians are led by European and American researchers, especially on topics such as the Atlantic War, or the involvement of slaves in the history of World Wars.

✂ The steps taken by the University of the North in Colombia to enhance diversity and equity in its approach and research portfolio were highlighted. A new research area that will open in the Faculty of Social Sciences of that university in 2024, focusing on the study of racism, was also presented. It was explained that research projects can serve to open new areas of research, and lead to a scientific approach at the organisational level.

The keynote presentation by **Gerardo Herrera** explained the importance of value chains in developing policies regarding the sustainable exploitation of raw materials, as the EU depends on a few countries to ensure continuous supply. It is expected that the gap between supply and demand will increase and, consequently, the EU needs to diversify its providers, as well as increase domestic production and supply, while fostering circular exploitation of raw materials (the value chain for raw materials involves extraction – processing – recycling).

To face these challenges and taking account of current geopolitical tensions, the European Commis-

sion is developing the EU Critical Raw Materials Act (CRM). The Act includes four main chapters:

- I.** Strengthening the Value Chain
- II.** Risk Monitoring and Mitigation
- III.** Ensuring the free movement of CRMs with a high level of environmental protection
- IV.** Diversify EU CRM imports to reduce strategic dependencies.

Expected to be adopted in early 2024, this Act will set up priorities to increase EU capacity to monitor and mitigate risks of disruption of CRM supply, and to strengthen the value chain, reduce strategic dependencies, and to improve circularity of natural resources.

Strategic projects in the EU will be defined and linked to urgent national priorities. The EC will monitor risks, trade flows and track supply/demand evolution at Member State level. The EC will define measures for materials' circularity, and develop certification schemes to recognise good practices in sustainability of CRMs.

The European Commission is already developing strategic partnerships on sustainable raw material value chains with third countries based on reciprocity, which will also create local added value and quality employment (in particular in Canada, Chile, Democratic Republic of Congo, Ukraine, Kazakhstan, Namibia, Argentina, and Zambia).

The Global Gateway Initiative will be key in supporting the Act. This strategy will be delivered through the Team Europe approach, bringing together EU Member States with their respective financial and development institutions. It also seeks to mobilise the private sector to leverage investments for a transformational impact. During the Horizon 2020 programme the European Commission invested €600m in projects related to raw materials, and more will be invested in the future.



# Sustainable Value-chains in New Materials

The session consisted of a panel discussion and debate with the audience on the following questions:

- ✧ How can 'science' help the raw materials value chain?
- ✧ What about social acceptance of the raw materials value chain?
- ✧ How can Science Diplomacy help to build reciprocity in research cooperation?
- ✧ What impact can global scientific networks have?

The main topics raised during the discussion panel and debate were:

- ✧ Extraction, use and recycling of raw materials is of increasing geopolitical importance. Research on the raw materials value chain is highly essential to make the processes sustainable and based on circularity of materials. The knowledge generated through research projects should be adequately used in 'science diplomacy' processes to accelerate the take up of new technologies and ways to extract, process and recycle raw materials.
- ✧ Addressing issues concerning raw materials value chain is a complex matter and requires adequate, coherent funding across the whole value chain.
- ✧ From the part of the EC, agreements on raw materials value chain will be co-created bilaterally with every country. Projects will be monitored, including social acceptance of activities. The ways to measure social acceptance and reciprocity will depend on the countries' circumstances, opportunities, and challenges.

✧ Historical backgrounds, local 'indigenous' knowledge, and local languages play an important role in the effectiveness of a given collaboration. In this sense, collaboration between CSIC and Spanish-speaking Latin American research institutions is facilitated by using Spanish as the main working language.

✧ Putting value in local knowledge is an effective way to establish collaboration within good 'reciprocity.'

✧ Sometimes there are inappropriately long or difficult legal processes for simple actions to be implemented in a research project. For example, it can take a very long time to receive an official permit to extract samples.

✧ The dialogue between researcher organisations and government agents is crucial to facilitating the use of research results to address local needs. For example, Addis Ababa University reported problems implementing available technology to address societal needs. It was a very slow process, since authorities took a long time to react.

✧ Specialist support for communication activities at the interface between science and policy is essential.

✧ Human resources capacity and access to research infrastructures in less developed countries need to be enhanced. This is essential to match the level of skills and competences requested to establish good and reciprocal relationships.





# Conclusions and Use of Outcomes of High Level Workshop and Satellite Event

## Conclusions

Both the High Level Workshop and Satellite Event shed light on how to make R&I co-operation at the international level more reciprocal and with benefits for all actors involved. It also analysed main issues hindering reciprocity and how to address them. The following conclusions can be drawn from these dialogues:

- ✂ The universality of science and its benefits in shaping evidence-based policies that can address multifactor global challenges should be continuously promoted.
- ✂ It is crucial to design more equitable funding programmes that facilitate the full participation of Global South researchers in European projects, as well as more reciprocal modes of collaboration involving both parties in the early stages of development, allowing for the elaboration of shared standards of trust and excellence in research.
- ✂ Structural conditions of research and innovation in the Global South – including limitations on academic freedom, influence of predatory journals, or lack of modern infrastructures, should be tackled to provide an even playing field.
- ✂ Valorising research results can have benefits for the local population, and this should be included as an impact, co-designed by the partners in collaboration.
- ✂ Links between the research sector and sectors such as policy making and industry should be strengthened to boost the role and value of science in and for society, for instance by better using scientific insights to policy making and creating stable platforms for discussion between researchers and policy makers, with integrity and honesty.
- ✂ Enhancing mutually beneficial international co-operation requires better communication with society, by engaging the public in conversations and dissemination of the benefits of science for people's well-being.
- ✂ Researchers' capacity building and skills development are crucial for building successful projects and international co-operation activities.
- ✂ Creating easier administrative processes to issue visa policies for researchers coming from outside of the EU would reduce delays in documentation and facilitate equality of opportunities in researchers' mobility.
- ✂ The inclusion of local researchers and communities from the very beginning of the research process is crucial to guaranteeing successful and ethical projects that are beneficial for all participants. It is important to effectively communicate and interact with local communities to address concerns about research projects' interests in using natural resources.
- ✂ Field trips and face-to-face meetings are essential for understanding local, regional, and national needs and realities. Research projects and activities, including dissemination and communication, should adapt to these.



In his concluding remarks, President of Science Europe **Marc Schiltz** looked forward to a future of increased reciprocity, open science, and sustainable global partnerships: “We all learned about the challenges, but also about the opportunities. This con-

ference was really revealing. We have much to learn about how science is organised and how funding agencies and research performing organisations work together and interact in the Global South.”



## Use of outcomes

As a first result of the High Level Workshop discussions, CSIC, MCIU, and Science Europe published a statement highlighting the importance of reciprocity and equity for stronger research collaboration between Europe, Africa, Latin America, and the Caribbean. The statement calls on European institutions and national governments to build long-term research collaborations, guided by a shared commitment to principles of academic freedom, scientific integrity, and non-discrimination.

Science Europe will take forward the conclusions of the 2023 High Level Workshop and will collaborate with Member States along the lines outlined in the [declaration published on 16 February 2024](#), follow-

ing the Ministerial Conference on Principles and Values for R&I International Collaboration, under the Belgian Presidency of the Council of the EU.

Furthermore, the dialogue on reciprocity in R&I cooperation will be further advanced at global level, specifically in the framework of the Global Research Council, of which many Science Europe Member Organisations are participants, and as one of the central topics in the 2024 UN Science Summit at the United Nations General Assembly (UNGA 79); further promoting the sharing of good practices between Science Europe Member Organisations and research funding and research performing organisations globally.



# Talking Science: Fostering International Collaboration

## BOILING STONE

International collaboration between Europe, Africa, and Latin America to combat fluorosis due to water pollution. Demonstrates the impact of global scientific networks involving the public and private sector to achieve societal change.



Spanish National Research Council



## NORWAY-SOUTH AFRICA BILATERAL RESEARCH PROGRAM

Norway and South Africa have a long history of research collaboration, with good results in Horizon 2020 and Horizon Europe. The current programme focuses on oceanic research, a priority for both countries.



## AFRICAN RESEARCH LEADERS

This Fellowship scheme funds exceptionally talented early-to-mid-career researchers in sub-Saharan Africa to support excellent research and research leadership. This has resulted in increased collaboration between the UK and Africa.



UK Research and Innovation



On the occasion of the 2023 High Level Workshop on ERA, Science Europe organised the communications campaign ‘**Talking Science: Fostering International Collaboration**’. This campaign showcased a selection of initiatives and collaborations with Africa, Latin America, and the Caribbean that exist(ed) within Science Europe Member Organisations.

The goal of the campaign was to support the objectives of the High Level Workshop to promote further dialogue, discuss best practices, and share challenges and opportunities related to international scientific collaboration with the regions mentioned. On one

hand, it did this by providing Members with awareness of good practices and examples that already existed, encouraging mutual learning. On the other, it did so by promoting the range of activities that Science Europe Members carry out to a wider network of stakeholders and the interested public.

Over the summer of 2023, the Science Europe Office collected these examples from Science Europe Member Organisations and [showcased them on its website](#). In the weeks leading up to and following the High Level Workshop, they were also being promoted on social media and through a video campaign.



# Annex 1

## High Level Workshop Programme

Wednesday 29 November 2023

**09.00–09.10** **Welcome**

- ✂ Eloísa del Pino, President of the Spanish National Research Council (CSIC)
- ✂ Marc Schiltz, President of Science Europe

**09.10–09.30** **Opening**

- ✂ Signe Ratso, Deputy Director-General for Research & Innovation, European Commission (*online*)
- ✂ Raquel Yotti, Secretary General for Research at the Ministry of Science, Innovation, and Universities of Spain

**09.30–11.00** **Challenges for Reciprocity and Equitable Multilateralism in Scientific Collaboration**

**Keynote speaker**

- ✂ Francisco Javier Moreno Fuentes, Vice-President for International Affairs, Spanish National Research Council (CSIC), Spain

**Panellists**

- ✂ Bi Irie Vroh, Interim Director of the African Observatory of Science, Technology and Innovation, African Union, Ethiopia
- ✂ Félix García Lausín, Co-ordinator of the Ibero-American Knowledge Area, Ibero-American General Secretariat (SEGIB)
- ✂ Victor Konde, Scientific Affairs Officer with the United Nations Economic Commission for Africa (UNECA), Ethiopia

**Authorities' input**

3-Minute contributions by European research ministers/their high-level representatives.

-  **CZECH REPUBLIC:** Radka Wildová, Director General for Higher Education, Science and Research
-  **GERMANY:** Jens Brandenburg, Parliamentary State Secretary at the Federal Ministry for Education and Research (*video*)
-  **HUNGARY:** László Lengyel, Vice President of the National Research, Development and Innovation Office
-  **NETHERLANDS:** Susanne Caarls, Head of Department for International Cooperation and Societal Impact, Ministry of Education, Culture and Science
-  **NORWAY:** Anne Line Wold, Director-General at the Ministry of Education and Research (*video*)
-  **SERBIA:** Ivana Vukašinović, Assistant Minister for International Cooperation and European Integration
-  **SPAIN:** Raquel Yotti, Secretary General for Research at the Ministry of Science, Innovation, and Universities





🇨🇭 **SWITZERLAND: Michael Gerber**, Ambassador, Director General International Programmes and Organisations at the State Secretariat for Education, Research and Innovation (*online*)

Moderator: **Lidia Borrell-Damián**, Secretary General of Science Europe

**11.00–11.20** *Coffee break*

**11.20–12.30** **Academic Freedom, Scientific Integrity, and Equitable Treatment in Scientific Collaboration**

**Keynote speaker**

✂ **Helena Groot de Restrepo**, Full Professor in the Biological Sciences Department and the Medicine School at Universidad de los Andes, Colombia

**Panellists**

✂ **Solomon Benor**, CEO for Research and Community Engagement Affairs, Ministry of Education, Ethiopia

✂ **Obed Ogega**, Programmes Manager at the African Academy of Sciences, Kenya

✂ **Gerardo Herrera**, Seconded National Expert at the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, European Commission

✂ **Sirio Canós-Donnay**, Researcher for the Institute of Heritage Sciences at the Spanish National Council (CSIC), Spain

Moderator: **Francisco Javier Moreno Fuentes**, Vice-President for International Affairs, Spanish National Research Council (CSIC), Spain

**12.30–14.00** *Lunch*

**14.00–15.10** **Instruments for Scientific Collaboration: Funding, Mobility, and Reciprocity**

**Keynote speaker**

✂ **Ricardo Magnus Osório Galvão**, President of the National Council for Scientific and Technological Development (CNPq), Brazil

**Panellists**

✂ **Thierry Damerval**, President and CEO of the French National Research Agency (ANR)

✂ **Jamila El Alami**, Director of the National Centre for Scientific and Technical Research (CNRST), Morocco

✂ **Margaret Hutchinson**, Associate Vice-Chancellor for Research, Innovation and Enterprise of the University of Nairobi, Kenya

Moderator: **Balázs Gulyás**, President of the Hungarian Research Network (HUN-REN)

**15.15–16.35** **Break-out Panels**

Parallel sessions corresponding to the topics of the day. An opportunity to discuss closely with the speakers of the sessions.

**16.40–17.15** **Panels Report and Wrap-up Day 1**





## Thursday 30 November 2023

### 09.00–10.10 **The Role of Global Scientific Networks in Achieving Positive Societal Change**

#### **Keynote speaker**

- ✂ **María Esther Orozco Orozco**, Emeritus National Professor, Department of Infectomics, Center for Research and Advanced Studies, México – Former Minister of International Cooperation in Science and Technology at the Mexican Embassy in France

#### **Panellists**

- ✂ **Jackson Njau**, Associate Professor at the University of Dar Es Salaam, Tanzania
- ✂ **Eudy N. Mabuza**, Minister Counsellor for Science and Innovation at the Embassy of the Republic of South Africa in Brussels, South African Department of Science and Innovation
- ✂ **Milica Đurić-Jovičić**, Acting Director of Science Fund of the Republic of Serbia (SFRS)
- ✂ **Thelma Krug**, Chair of the Global Climate Observing System (GCOS), Brazil

Moderator: **Isabel Martínez**, Head of the Cabinet of the President of the Spanish National Research Council (CSIC)

### 10.15–11.15 **Break-out Panels**

Parallel sessions corresponding to the topic of the day. An opportunity to discuss closely with the speakers of the session.

### 11.20–11.35 **Wrap-up & Conclusion**

### 11.35–11.45 **Concluding words by CSIC and Science Europe Presidents**





# Annex 2

## Satellite Event Programme

Thursday 30 November 2023

- 14.30–14.40** **Welcome**  
✧ Isabel Díaz, Deputy Vice-president for International Co-operation, CSIC
- 14.40–15.00** **Keynote Speech**  
✧ Jean-Michel Sers, DG for International Partnerships, European Commission
- 15.30–15.10** **Video on Cultural Heritage Research Projects**
- 15.10–16.30** **Session 1: Research Co-operation on Cultural and Natural Heritage**
- Discussion Panel** (5 min each)
- ✧ Antonio Rosas, MNCN-CSIC, Spain  
✧ Maximiliano Fero, Universidad Nacional de Guinea Ecuatorial, Equatorial Guinea  
PROJECT: *Tesoros Naturales de Guinea Ecuatorial (Natural Treasures of Equatorial Guinea)*
- ✧ Andreu Martínez d'Alòs-Moner, INCIPIT-CSIC, Spain  
✧ Worku Derara Megenassa, Addis Ababa University, Ethiopia  
PROJECT: *Pathways to Statehood: Authority, Legitimacy and Social Diversity in the Horn of Africa*
- ✧ Consuelo Naranjo Orovio, IH-CSIC, Spain  
✧ Yvonne Molinares, Universidad del Norte, Colombia  
PROJECT: *CONNECCARIBBEAN. Connected worlds: the Caribbean, origin of modern world*
- Moderator: Peggy Oti-Boateng, Executive Director, African Academy of Science
- Debate**
- Posters**
- Bio-geographical aspects of early human migrations*  
Ignacio de la Torre, IH-CSIC, Spain, and Jackson Njau, University of Dar Es Salaam, Tanzania
  - New Kingdom Scribes Project: documentation and preservation of funerary chambers in Luxor*  
Lucía Elena Díaz Iglesias Llanos, ILC-CSIC, Spain, and Supreme Council of Antiquities, Egypt
  - Archaeological Landscapes*  
Sirio Canos Donnay, INCIPIT-CSIC, Spain, and Université Cheikh Anta Diop de Dakar, Senegal
  - Developing macroecological models of biodiversity dynamics from incomplete data*  
Joaquín Hortal, MNCN-CSIC, Spain, and Ana Claudia Malhado, Universidad Federal de Alagoas, Brasil
  - Land use change and the dynamics of culpeo fox distribution in the Patagonian shrubsteppe*  
Alejandro Rodríguez, EBD-CSIC, Spain, and Gabriela P. Fernández, Centro de Investigaciones y Transferencia del Noroeste de la Provincia de Buenos Aires, Argentina



**16.30–17.00** *Coffee Break*

**17.00–17.10** **Video on Sustainable Value-chains in New Materials research projects**

**17.10–17.30** **Keynote Speech**

✧ Gerardo Herrera, DG Internal Market, Industry, Entrepreneurship & SMEs, European Commission

**17.30–18.50** **Session 2: Sustainable Value-Chains in New Materials**

**Discussion Panel** (5 min each)

✧ Francisco Javier González Sanz, IGME-CSIC, Spain

✧ Flor de María Harp, Servicio Geológico Mexicano, México

PROJECT: *EU-LAC Partnership on Raw Materials*

✧ Patricia Álvarez Rodríguez, INCAR-CSIC, Spain

✧ Amadeu Carlos Dos Muchango, Universidade Eduardo Mondlane, Mozambique

PROJECT: *Mozambican resources to prepare 2D/3D graphene materials for industrial wastewater purification*

✧ Yonas Chebude, Addis Ababa University, Ethiopia

PROJECT: *Natural zeolites for water purification*

Moderator: Isabel Díaz, Deputy Vice-President of International and Cooperation, CSIC

**Debate**

**Posters**

1. *Mapping geological resources of Angola*

José Luis García Lobón, IGME-CSIC, Spain, and Geological Institute of Angola

2. *Innovative Exploration in Critical Raw Materials: Knowledge Transfer to Africa*

Ramón Carbonell and Fernando Tornos, GEO3BCN and IGEO CSIC, Spain, and University of Zambia

3. *Optimization of the production of nanostructured materials by sustainable methods for biomedical applications*

Lidia Martínez, ICMC-CSIC, Spain, and Jorge Luis Cholula, Instituto Tecnológico de Monterrey, México

4. *Promotion of socioeconomic and environmental development through the circular economy in Mozambique*

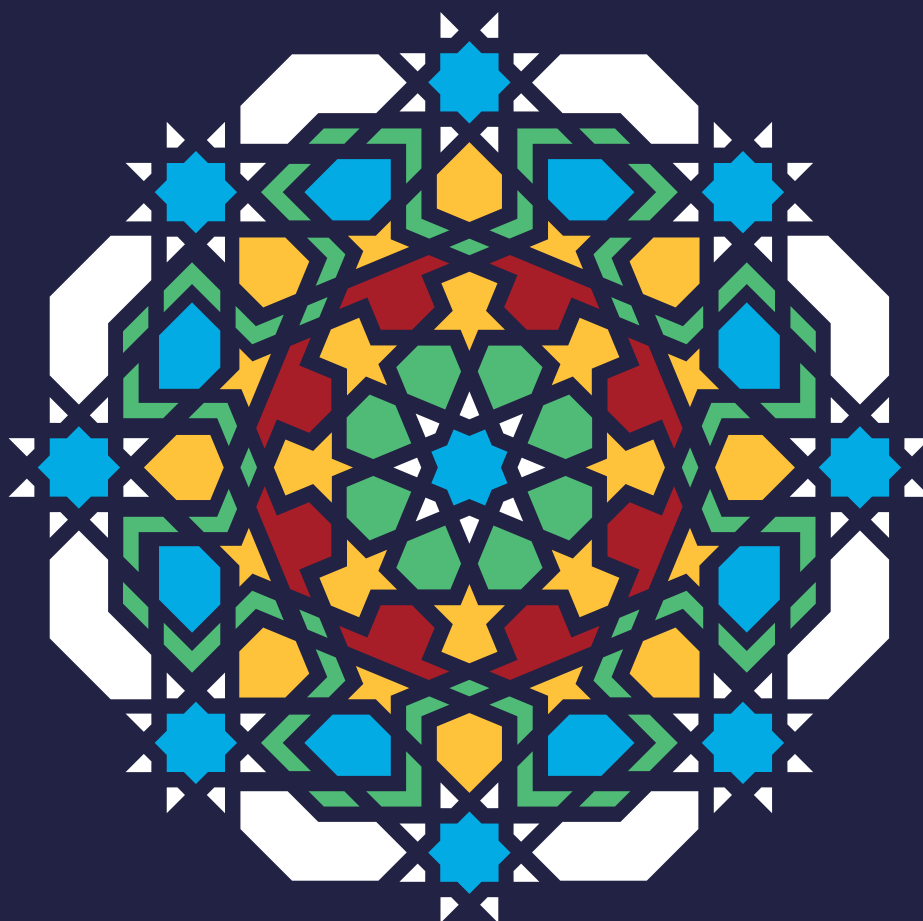
Moisés Frías and Ana Guerrero, IETCC-CSIC, Spain, Holmer Sabastano, Universidade Sao Paulo, Brasil, and Mozambique

5. *New construction with lower carbon footprint from industrial waste in Latin America*

Alicia Pachón and María Criado, IETCC-CSIC, Spain, and Willian A. Aperador Chaparro, Universidad Militar Nueva Granada, Colombia

**18.50–19.00** **Wrap-up**

**19.00–19.15** **Conclusion by Science Europe and CSIC**



*The ERA refers to a unified European Research Area in which researchers are free to move around, perform their research, and work together with researchers from other countries.*

*Creating the ERA requires the harmonisation of various rules, requirements, and regulations, and closer international collaboration within the EU.*

*The High Level Workshop on ERA offers an annual platform for Science Europe Member Organisations, national ministries, and EU institutions to discuss progress, specific aspects, and future development of the ERA.*



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