

Enhancing Collaboration and Support for the French Scientific Diaspora in the United States

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Executive Summary: The French scientific diaspora in the United States (US) is a diverse community of professionals, essential for France and the host country. Their contribution to science and innovation, in both nations, stem from bilateral collaborations and knowledge exchange. Yet, while living abroad, this group of scientists faces multiple obstacles that can interfere with their productivity and influence. This report highlights the necessity of determining how numerous stakeholders can support and actively engage with this diaspora. To identify the needs of the French scientific community in the US, data was collected during seven interviews with diaspora network managers and analyzed various aspects defining the landscape of the community: the challenges and concerns it faces, the benefits of engaging in a diaspora network, and the opportunities to support these networks. These findings enumerate the difficulties encountered by the diaspora members and the networks themselves, ranging from lack of funding and administrative roadblocks to visibility and long-term sustainability issues. Moreover, the report underscores that involvement with other international diaspora networks considerably expands and diversifies professional connections, facilitating the exchange of experiences and best practices between networks. This analysis emphasizes the needs of the French scientific diaspora and the incentives and actions for supporting it, facilitating the establishment of a set of strategic recommendations for the European Union (EU), France, and the US. Furthermore, it proposes a series of measures to improve communication and collaboration, among French scientific diaspora networks and their international counterparts. Ultimately, by providing an in-depth comprehension of the French scientific diaspora in the US and establishing recommendations to foster these networks, this report paves the way for a more interconnected future, extending beyond the scientific sphere. Additionally, this study can serve as a guide for other scientific diasporas in the US or other regions of the world.

I. Introduction

A diaspora describes the relocation of a community from their native country to a different one, establishing ties with both their homeland and the host nation (Echeverría-King et al. 2022). While abroad, expatriates tend to maintain and build ties with people from the same country of origin, and form diaspora networks. Similarly, highly educated and skilled scientists frequently leave their home country to expand their educational and career opportunities (Anand, Hofman, and Glass 2009; Netz, Hampel, and Aman 2020) and form scientific

diaspora networks (Burns 2013; Ciumasu 2010; Meyer 2001). These networks foster integration, career and networking opportunities, and gather professionals from diverse scientific disciplines and career-stages, ranging from students to established academics, innovators and entrepreneurs to industry and technology experts.

The US constitutes one of the top centers of mobility for many foreign-born highly skilled workers (Regets MC. 2007). According to the National Science Foundation (NSF), data from the US Census Bureau's

(2020a) 2019 American Community Survey revealed that the percentage of immigrants constituting the scientific workforce in the US increased from 17% in 2010 to 19% in 2019 (Okrent and Burke 2021). For years, this migrational flow of scientists has been considered a “brain drain” for the countries of origin that primarily benefits host countries. Recently, a paradigm shift has occurred, understanding that these scientific actors can help build important bridges between societies and mutually advantage both the host and home nations (Echeverría-King et al. 2022; Bonilla et al. 2023). Scientific diasporas have made groundbreaking discoveries, contributed to prestigious academic institutions or private industries, and nurtured collaborative partnerships (Lopez-Verges et al. 2021; Palacios-Callender and Roberts 2018; Barrios-Guzmán and de la Cruz 2022; Anand, Hofman, and Glass 2009; Prieto and Scott 2022; Burchardi et al. 2020). Thus, this group plays a pivotal role in promoting scientific excellence, fostering innovation, cross-cultural understanding, and international cooperation.

The French scientific diaspora in the US is an integral part of the research and innovation landscape of the country. In 2010, a study called “Gone for Good? The Expatriates of French Higher Education in the US” (Kohler 2010), conducted by the Institut Montaigne, showed an acceleration of French scientific relocation to the US in the last few decades. Indeed, researchers made up a higher proportion of all French immigrants between 1996 and 2006 (27%) compared to between 1971 and 1980 (8%). Additionally, in 2023, over 150,000 French citizens were listed in the register of French nationals established in the US, according to the French Minister for Europe and Foreign Affairs. If the representation of researchers among French immigrants stayed constant since 2006, that would represent at least 40,000 French scientists across all categories considered (e.g., academic and industry researchers, engineers, entrepreneurs) working in the US. Similar numbers were confirmed by the National Survey of College Graduates, conducted by the NSF in 2019 to analyze the distribution of foreign-born science, technology, engineering, and mathematics (STEM) workers in the US. France was ranked in the third position, after Germany and the United Kingdom, among European countries with the most STEM workers in the US. In total, France accounted for 1% of the overall foreign-born STEM

workforce in the US. Despite the small size of this diaspora, numerous French scientists have made significant discoveries and won prestigious awards during their research in the US or following their training there. For instance, the French scientist Gérard Mourou shared the Nobel Prize in Physics in 2018 for his research on lasers, which was mostly conducted in the US. Similarly, the 2020 Nobel Prize-winning breakthrough discovery of the CRISPR/Cas9 genetic scissors was made in part by Emmanuelle Charpentier who trained and conducted research in New York and Memphis after her doctoral studies. Moreover, the US is France's leading scientific partner, with more than 21,000 co-publications in 2021 and numerous bilateral research agreements and exchange programs (Pierre-Bruno Ruffini 2020; CNRS 2021). Yet, like other diasporas, the French one faces challenges that can hinder its scientific progress and impact (Anand, Hofman, and Glass 2009; D. Butler et al. 2022; D. L. Butler et al. 2022; Diplomacy Network 2023; CLDD Team 2023). These obstacles require attention and action to maximize the diaspora potential and contributions.

This report aims to understand how to better support and collaborate with the French scientific diaspora in the US. Its goal is to provide an extensive analysis and concrete solutions to enhance the community integration, networking, and contributions for both countries. Through interviews conducted with managers of seven French diaspora networks that have members in the US, this study gathers the expertise of individuals deeply involved in these groups and sheds light on their perspectives, experiences, and feedback. First, it identifies the challenges and concerns these scientists and their networks encountered. Secondly, it explores the benefits and opportunities of engaging with and supporting them. Finally, it provides a series of recommendations and actionable steps to strengthen and help this community. Overall, this report provides a comprehensive overview of the diaspora's situation in the US and offers a framework to improve its experience and impact on research, innovation, and diplomacy.

Recognizing and tackling the obstacles encountered by the French scientific diaspora in the US is important for supporting the scientific community on both sides of the Atlantic. Moreover, beyond the

diaspora itself, these networks have a strong impact on international collaboration, knowledge and technology transfer, and can enhance diplomatic ties. Therefore, effective support and inclusion of French networks in governmental and non-governmental events and initiatives should help fuel innovation, strengthen research partnerships, and promote a deeper mutual understanding between the US and France.

While this report initially focused on the French scientific diaspora, the identified challenges, benefits, and opportunities are actually shared by multiple nationalities immigrating to the US. Consequently, by using France as a case study, the recommendations and strategies proposed here can be tailored and expanded to encompass virtually any scientific diaspora in the US, and ultimately, worldwide.

II. Methods

i. Network selection

To determine the list of active French network organizations to interview, our initial approach involved conducting a targeted search for French scientific diaspora networks established in the US. We identified four distinct networks which represented multiple categories of scientists including academic and industry researchers, scientific entrepreneurs, and alumni from a French engineering school. To broaden our collection, we incorporated one network comprising international scientists of various nationalities but focused our interview on a leader of French origin within this organization. Additionally, we also included two networks whose management was based in France and served a broader membership but discussed primarily their French scientist members located in the US. Overall, seven French diaspora networks were selected for this study: D-Fi USA, Fr@NIH, French Bio Beach, Fulbright France, INet (French representative), Polytechnique Alumni (Los Angeles branch), and Sorbonne Alumni.

ii. Network interviews

The managers of the seven selected networks were recruited by email and interviewed with a set of open-ended questions: 1) What are your members' main challenges and/or needs while they are working or living in the US?; 2) What are the

contributions and/or benefits of engaging with a diaspora group for your members' personal and career development?; 3) How can the EU facilitate the European scientific diaspora abroad?; 4) How can your home country further facilitate your scientific diaspora in the US?; 5) How can the host country (US) help and support these scientific diasporas?; 6) How does engaging with other diaspora networks enhance the career development of your members?; and 7) What actions, ideas or models can be initiated to help you connect more with other European scientific diasporas and improve communication between diaspora networks and within your network?

These questions were previously determined, in the context of a survey and research on focus groups conducted by EURAXESS North America. EURAXESS is a pan-European initiative delivering information and support services to professional researchers. The North America hub promotes mobility, career development and cooperation to scientists of all nationalities, all disciplines, and at all career stages in the US and Canada and supports the European scientific diasporas established in this region.

Video-conferencing was used to conduct interviews and the audio and transcripts were recorded, following verbal consent. All interviewees were assured that their responses would be anonymous, with a randomized number assigned to each.

iii. Analysis

To analyze the data obtained from the interviews, transcripts were first used to summarize accurately the answers from each interviewee. Subsequently, all responses were intersected per question, to identify common and distinctive themes between interviews, through a cross-comparison analysis.

III. Challenges and concerns

i. Challenges faced by the French scientific diaspora members

The French scientific diaspora in the US encounters several challenges that can hinder their full integration into the American scientific community. These challenges are multi-faceted and impact various aspects of their lives and careers.

Interviewees discussed the various challenges that the members of their diaspora networks face while settling and living in the US. They mentioned difficulties that could be grouped into six categories:

Challenge 1: Immigration and administrative complexities (Interviewees 1, 3, 5, 6, and 7)

Scientific professionals face administrative hurdles related to immigration, insurance, and taxes, which are particularly challenging for those unfamiliar with the US system. Finding employment in the US can be difficult, as newcomers do not know the job searching strategies, and not all employers are willing or able to sponsor visas. For instance, for researchers without a green card, transitioning from academia to non-academic jobs (such as in industry) or to tenure-track academic positions, is very complex due to visa restrictions. Additional visa constraints, such as the J-1 visa's intent to encourage the recipient's return to their home country, can make staying in the US quite challenging. The lack of dedicated online resources to inform on immigration processes further exacerbates these difficulties, leaving individuals searching for guidance. Similar challenges arise for those willing to transition back to European countries.

Challenge 2: Difficulties to return back home (Interviewees 1, 2, 3, 5, and 7)

International scientists who want to return to France encounter challenges in finding job opportunities, largely due to limited visibility of available positions. Their primary struggle lies in balancing career advancement in the US while maintaining connections with their home country. Therefore, concerns about losing touch with France-based networks often leads to hesitation to stay for extended periods in the host country. Striking the right balance between career growth and preserving connections is a pivotal issue. Moreover, job security is relatively similar in both countries, and the opportunities for scientific research, innovation, and career advancement can be limited in France compared to America, making the decision to return home complex (OECD 2018; Kohler 2010). Additionally, the income gaps between the two nations can pose challenges for those envisioning returning to France, as it will be hard to maintain their standard of living and achieve financial stability. When they decide to return to Europe, these scientists also face difficulties in identifying

suitable funding opportunities for their professional pursuits. Maintaining ties with their home country's scientific network is emphasized as crucial for facilitating a smooth transition back home.

Challenge 3: Financial obstacles (Interviewees 1, 3, 5, 6, and 7)

French scientists expatriated in the US are confronted with multiple financial hurdles. For instance, depending on their citizenship status, researchers may face significant challenges related to their research funding, including limited access to grants, fellowships, and opportunities. There is also a lack of understanding and visibility on how the EU can support individuals abroad, including opportunities for fellowships or funding, both for personal endeavors and collaborative work with European universities or companies. Insurance, healthcare, family matters (such as schools and childcare), and retirement planning also represent financial obstacles when relocating, as they are all more complex and costly compared to France. For example, lack of financial aid for scientists with children attending private schools is a monetary burden associated with childcare and education. Additionally, newcomers often struggle to rapidly access financial services (such as credit cards) and understand the complex economic system in the host country.

Challenge 4: Adaptation and isolation (Interviewees 1, 2, 5, and 6)

International scientists often battle with feelings of isolation and homesickness, yearning for a close-knit community and the comforts of their home country's culture. Living in the US presents typical adjustment challenges associated with life abroad, with adaptation capability varying among individuals (Mesidor and Sly 2016). Broader issues encompass language barriers, cultural adjustments, and working conditions in North America. Moreover, those arriving with children can also seek support in connecting with French-American local schools to preserve their native language and facilitate community assimilation.

Challenge 5: Family-related challenges (Interviewees 1, 4, 5, and 6)

Members traveling with their families encounter numerous challenges, including visa complexities, finding suitable schools and employment

opportunities for their dependents. Securing visas and work authorization for family members is often a protracted process on which it is difficult to find clear and accessible information. Additionally, both scientists and their spouses can have issues securing a job in their respective field of expertise due to the lack of recognition of certain French degrees in the US (not considered equivalent to the US diplomas or not perceived as prestigious as they are in France). Scientists also worry about access to education for their children, for multiple reasons listed in the paragraphs above (see “Challenge 3: financial obstacles” and “Challenge 4: adaptation and isolation”).

Challenge 6: Housing challenges (Interviewees 1, 6, and 7)

Navigating housing in cities without employer-provided options can be difficult. Renting apartments is a challenge due to waiting lists, income and guarantors’ criteria. Moreover, for international newcomers, securing a mortgage without credit history can be a significant obstacle in the housing journey.

Conclusion on challenges

French scientists moving to the US encounter a myriad of challenges that span immigration complexities, complications in returning to France due to limited job opportunities and maintaining connections, financial hurdles, feelings of isolation, cultural adjustments, and family- and housing-related concerns. Notably, none of these challenges are exclusive to France; rather most are faced by any diasporas (Diplomacy Network 2023; CLDD Team 2023).

Hence, finding solutions for visa complexities, enhancing access to funding, providing career support, and members and family adaptation are critical steps in ensuring that the French or any scientific diasporas can thrive in the US. Additionally, promoting cultural exchange and building stronger connections within the diaspora can contribute to the successful integration and career development of its members. Thus, addressing these obstacles is essential and requires collaborative efforts from various stakeholders, including governments, academic or private institutions, and the diaspora networks themselves.

ii. Concerns of the French scientific diaspora networks

While the French scientific diaspora confronts various hurdles in the US, the scientific diaspora networks and their leaders also encounter significant concerns and challenges. These issues range from organizational obstacles to government support and resource allocation, adding layers of complexity and demand to the network’s operations and objectives.

Concern 1: Lack of financial and logistical support (All interviewees)

Diverse forms of logistical support and financial assistance are necessary to enable the activities of diaspora networks. Organizing events for the diaspora network members (such as networking or career-development events) often requires funding and finding suitable event venues within limited budgets. Similarly, providing helpful tools and resources to members can be challenging, especially if they require paid subscriptions. The logistical concerns of these networks also extend to the provision of comprehensive administrative guidance and information. Offering adequate administrative guidance and ensuring members have easy access to accurate and pertinent information can be quite demanding and time-consuming. Indeed, keeping information up to date is a complex task, and typically not within the scope of network managers who often volunteer their time for these roles and may lack the necessary expertise.

Concern 2: Lack of organizational support and sustainability (All interviewees)

There is a pressing need for improved guidance in organizational matters to ensure sustainable and effective growth of the networks and their initiatives. The central challenge, to maintain the vitality of diaspora networks and expand them, revolves around the high turnover of people in leadership positions within the organizations. These networks often rely heavily on volunteer efforts and unpaid managers, who may have other professional commitments. These leaders also frequently face inadequate training in essential areas such as communication skills, social media proficiency, and administrative capabilities. For instance, recruiting members and defining incentives that encourage continued membership is a difficult task. This is further exacerbated by the low visibility and weak

online presence of diaspora networks, making it challenging to generate awareness about the networks' activities. Moreover, the absence of advisory support from experienced professionals and guidance on best organizational practices compound these issues. Consequently, enhancing the credibility and impact of network events, and facilitating the transfer of knowledge and skills from departing network leaders to their successors, is of paramount importance to retain members, avoid institutional memory loss, and guarantee the sustainability of these networks.

Concern 3: Lack of communication between networks (All interviewees)

Leaders often face limited opportunities to engage with other network's managers, share experiences, tackle shared challenges, and cultivate best practices. The scarcity of effective communication channels and mechanisms for sharing information exacerbates this situation and can lead to redundant efforts among networks. Therefore, there is a critical demand for enhanced communication avenues between diaspora networks and their leaders to streamline networking and collaboration while also addressing common challenges.

Concern 4: Limited engagement of the governments (Interviewees 1, 2, 3, and 4)

Concerns exist regarding the US, the EU, and France's involvement in supporting French scientific diaspora networks in the US. Leaders of French scientific diaspora networks expressed uncertainty towards the direct interest of the US government in these networks. The government has numerous global priorities and budget constraints, potentially limiting its immigration policies and allocation of resources to support scientific diaspora networks, including French networks. To ensure the sustained recruitment and retention of international scientists, these restrictions impacting their careers must be examined in light of the changing needs within research and innovation fields. For instance, recent years have shown a decrease of biomedical researchers willing to take an academic postdoctoral position in the US and the need to define the fundamental issues affecting these workers (see the Request for Information issued by the National Institute of Health, Notice number NOT-OD-23-084). Similarly, the EU's involvement in supporting French scientific diaspora networks in the US was perceived

as limited, despite its potential to provide valuable resources and opportunities. Effective allocation of resources to support the scientific diasporas while managing various other priorities represents a complex task for the EU. Balancing support for these networks from different countries and addressing global challenges requires careful coordination among member states to align with broader goals. Lastly, ensuring effective communication between the French government and the scientific diaspora networks is essential to address their needs and concerns. Network leaders voiced some apprehension regarding the French government's potential prioritization of senior scientists over early-career ones (including students) in the diaspora when allocating interest, support, and resources. Engaging younger generations of scientists is crucial, as their collaborations can yield long-term benefits for both France and the US.

Conclusion on concerns

To address these concerns, collaborative efforts and strategic approaches among the diaspora networks, organizations promoting scientific mobility, and governments must be taken. This will help provide proper support and foster a conducive environment for the French scientific diaspora in the US, as well as for any nationalities sharing similar concerns.

IV. Benefits and opportunities

i. Benefits for individuals of engaging with a scientific diaspora network

Engaging with a scientific diaspora network, from any country of origin, offers a range of benefits that can significantly enhance the experiences and career development of its members and help address the challenges they face while working in the US. These advantages can extend beyond the individual level and traditional diaspora network's platform (such as scientific gatherings and professional networking) to positively impact academic institutions, industries, and governments. Here are some key benefits:

Benefit 1: Professional connections and collaborations (Interviewees 1, 2, 3, 4, 5, and 7)

Diaspora networks hold paramount importance for international scientists, as they allow them to build and maintain a professional network, by extending existing connections and offering additional avenues for networking. This can help scientists secure

sponsorships, explore entrepreneurial ventures, and find job opportunities. These networks can also provide an informal set up to emphasize access to broad and specific scientific information and enable scientists to interact in novel contexts, thus fostering a diverse scientific network abroad. The similar professional background and national culture shared within these networks facilitates communication and collaboration, fostering collaborative projects. Moreover, alumni can invest back into the network by continuing to support it afterwards as ambassadors, and developing partnerships with other institutions, leading to new opportunities and collaborations. The networks are also valuable for those planning to return to their home countries, as they facilitate reestablishing connections and networks.

Benefit 2: Mentorship and support (Interviewees 1, 2, 3, 5, 6, and 7)

Members of the diaspora network derive significant benefits from its support system, drawing on the experiences of peers who have encountered similar professional and personal challenges. They provide valuable connections with people from the same home country who have faced similar situations, which help individuals adapt to new places and ease their transition. Experienced members, including long-term residents in the US, serve as valuable mentors. They share their experience and offer guidance on practical questions including navigating bureaucratic processes, understanding work culture, and advancing their careers. The diversity of jobs held by members can also serve as a platform for exploring various career paths. This is particularly helpful for scientists transitioning outside of academia. Networks can also actively support their members by organizing events and seminars on various topics, including strategies for returning to one's home country and immigration and visa processes. They can even provide services through partnerships with firms (such as discounted legal assistance) or through subgroups to connect people with common interests and share information and events (such as parenting groups).

Benefit 3: Community building and cultural connection (Interviewees 1, 2, 3, 4, 6, and 7)

A diaspora network is invaluable for establishing and nurturing social connections. It creates a sense of community among members and alumni by

offering social networking opportunities; allowing individuals to initiate events and meet new people; and fostering discussions, exchanges, and learning. It also helps members maintain a strong connection to their French roots and culture while living abroad, thus providing a sense of familiarity. Finally, having a shared country connection allows members to effectively convey their educational experiences and degrees. This is particularly valuable for schools with less-established brands or for degrees not well-recognized in their new country.

Benefit 4: Skills development (Interviewees 1 and 6)

Actively engaging with the diaspora organization presents opportunities for skill development, across various capacities. These networks are instrumental in facilitating career growth; they provide virtual and in-person events along with seminar series, offering guidance on foundational and specialized topics (such as work and fellowship opportunities in Europe, career paths, CV building, and interview strategies). They can also organize workshops primarily targeting board members and volunteers within the diaspora networks, to enhance their leadership skills, through topics covering communication and event organization. Importantly, these workshops can serve as motivation for general members to get involved, knowing they have access to such training opportunities.

Conclusion on benefits for individuals

In summary, interviewees highlighted that engaging with the French or other country's scientific diaspora groups provides members with a wide range of benefits. These advantages include networking, professional development, collaborative opportunities, support, cultural exchange, leadership experience, and fostering a sense of belonging and collective empowerment among the network's members. They not only enhance individual career prospects but also contribute to the overall growth and advancement of the scientific community.

ii. Benefits for scientific diaspora networks of engaging with other networks

The valuable insights and experiences shared by interviewees underscored the importance of actively engaging with other diaspora networks, whether European or not, transcending borders and cultural differences in pursuit of common goals. This engagement is driven by a multitude of reasons, all

promoting the creation of an interconnected community of scientists:

Benefit 1: Diversifying network and collaboration (Interviewees 2, 3, 4, 5, 6, and 7)

Engaging with diverse diaspora networks offers numerous opportunities for networking, as it creates a more extensive and diverse professional network and facilitates international collaborations. This larger interconnected community is highly valuable because it broadens horizons, by offering exposure to diverse sectors, connections, and collaborative prospects. In fact, such engagement can lead to partnerships, joint research, and innovation efforts, but also business opportunities, with scientists from various countries. Thus, it can foster interactions between multiple domains, such as academia, industry, and business and spark innovation and growth, ultimately elevating the collective potential of members.

Benefit 2: Share experience, support and resources (Interviewees 3, 4, 5, 6, and 7)

Collaborating with other diaspora networks can promote sharing of experiences and a collective problem-solving capacity, as challenges faced by one community may have already been effectively addressed by another. Indeed, it can enhance the members' professional development by opening up new avenues, including exposure to expertise, learning opportunities and access to grants or job opportunities. Similarly, members can rely on each other for support and advice on various matters and get access to specialized information and resources not otherwise available within their own network. Overall, this can lead to the exchange of innovative ideas and solutions and the development of new strategies.

Benefit 3: Creation of a super network and collective empowerment (Interviewees 3, 6, and 7)

Creating a "super network" that brings together diverse diaspora groups, promotes collective empowerment and amplifies their impact. In fact, combining efforts increases the influence of the individual networks, as it can leverage the strengths and experiences of each of them. Therefore, this unified network reaches more people and encourages greater community involvement, providing opportunities for larger gatherings and initiatives. Moreover, it helps ensure that the quality

of a network's events aligns with the broader standards and meets the community's expectations, which is critical for it to remain relevant and effective.

Conclusion on benefits for networks

In summary, for any diaspora, engaging with other networks fosters the enrichment and expansion of opportunities that in turn create innovation and growth across the scientific community. More specifically, it accelerates professional development, facilitates exposure to various sectors, promotes multicultural exchanges, and increases international collaborations.

iii. Opportunities for countries in engaging with the diaspora networks

Engaging with the French scientific diaspora networks in the US can present a host of opportunities for the US, France, and the EU. These opportunities extend beyond the diaspora itself and encompass diplomatic, economic, and scientific domains. While the interviews did not explicitly inquire about opportunities (refer to Methods), insights regarding these were gleaned from the interviewees' responses to other questions and are presented here:

Opportunities for the US and France: Access to exceptional talent pool and enhanced research and innovation (Interviewees 2, 3, and 4)

For the US, engaging with French scientific diaspora networks provides access to a pool of highly skilled and diverse scientific talent, coming from various disciplines and contributing significantly to American research, innovation, and industries. From the perspective of France, the country benefits from the expertise of its diaspora members and their valuable soft skills, including cross-cultural communication and international experience. Engaging with the diaspora group also expands France's global network, providing connections to professionals and scientists across various sectors. This promotes knowledge and technology transfer, opportunities, and international collaborations with French organizations, thereby enhancing their competitiveness and visibility. This enhancement of scientific cooperation can lead to partnerships and joint research projects in various fields. The resulting groundbreaking research projects and technological advancements can foster innovation

and strengthen scientific ties between the two nations. This can bolster their position as global leaders in scientific innovation and discovery and benefits both countries' academic institutions, research centers, and industries.

Opportunities for the US and France: Opportunities beyond science (Interviewee 4)

Engaging with the French scientific diaspora can benefit various sectors, serving as a soft power tool to foster positive diplomatic relations between the US and France. These stronger connections not only help in addressing global science challenges (such as climate change, healthcare, and biosecurity), but they also stimulate economic growth through trade agreements and business opportunities between the two nations. Therefore, this collaboration benefits both sides by creating more jobs and support for French entrepreneurs in the host country, while also attracting foreign investment and businesses back in France. Moreover, these bilateral relations can enhance cultural diplomacy efforts by fostering cultural exchange, educational opportunities, and understanding which in turn promote tolerance and deeper appreciation of each other's cultures and traditions.

Opportunities for the EU (Interviewees 4 and 5)

For the EU and its member states, strengthening connections with the French diaspora offers benefits and opportunities ranging from improving the research and innovation ecosystems to enhancing diplomacy with the US (as described above for France). Additionally, the EU can leverage these diaspora networks to promote its initiatives globally and emphasize its role as a major research and training entity. It can establish a strong connection with the networks' members and remind them of their European identity, underscoring its commitment to fostering scientific excellence, promoting innovation, and facilitating cross-border collaboration.

Conclusion on opportunities

Engaging with the French scientific diaspora networks offers numerous advantages to the US, France, and the EU, strengthening their global presence in science and beyond. These opportunities encompass talent acquisition, innovation, diplomacy, economic growth, and cultural exchange, ultimately benefiting their scientific community and economy.

Comparable benefits can be foreseen for other countries concerning their respective diaspora communities.

V. Recommendations for support

In light of the valuable insights provided by the interviewees and offering perspective on the needs, aspirations, and potential of these networks, we have devised the following recommendations for the EU, France, and the US. These recommendations span diverse areas (including financial support, administrative guidance, raising awareness and visibility, and improving the visa process) and collectively aim to strengthen and cultivate support for scientific diaspora networks. They also serve the dual purpose of benefiting both these communities and their country of origin or the nation that welcomed them.

i. Recommendations for the EU

Recommendation for the EU 1: Increasing funding opportunities (Interviewees 1, 2, 3, 4, and 5)

Target: The EU Commission and European Program Administrators

Actions: The need for increased funding and financial support is a recurring theme, both for members of scientific diaspora networks and their leaders, to facilitate work, transitions, and network activities. For the members, funding opportunities co-funded by the EU Commission and the US Department of State (such as the Fulbright-Schuman program) would be valuable. Expanding research fellowship opportunities, like the Marie Skłodowska-Curie fellowship, and extending their eligibility window and criteria, to include more scientists in the US, would greatly help. Additionally, raising awareness of available funding opportunities, streamlining the application process of intricate European programs (such as those offered by Horizon Europe), and distinguishing them from support provided by individual countries or institutions, is essential to facilitate collaboration between the EU and US. For the networks, the EU could create tailored funding schemes specifically designed for scientific diaspora networks to support their activities, events, and initiatives as well as leadership training, which will enhance their growth and reach.

Summary:

- Coordinate with the US Department of State to co-fund more exchange programs
- Expand the European fellowships to include more US-based scientists
- Increase awareness of available funding opportunities
- Simplify application processes to European Programs
- Create funding schemes to support diaspora networks

Recommendation for the EU 2: Providing support and sustainability (Interviewees 2, 5, 6, and 7)

Target: The European Commission's Directorate-General for Research and Innovation (DG-RTD) and Directorate-General for International Partnerships (DG-INTAP)

Actions: The EU's involvement in diaspora networks is pivotal in establishing a framework for support and growth. Through diverse initiatives, such as or similar to EURAXESS and the EU Global Diaspora Facility (EUDiF), the EU could create a centralized platform for information and resources available for network members, and encourage newcomers to join local diaspora groups. To ensure continuity and stability of the networks, this should be maintained and updated by dedicated support. Moreover, this platform should help address common network challenges, by fostering knowledge exchange among networks and through the sharing of best practices, experiences, and insights. It could also support the recruitment and the maintenance of up-to-date contact information for members, by exploring solutions to automate this process. The creation of a network gathering diaspora leaders from multiple European countries could be another way to enhance networking opportunities and coordinate joint events. This would encourage collaboration and cross-checking among existing diaspora networks, preventing duplication of efforts and optimizing resource utilization. Annual meetings of network leaders could also serve as a platform for knowledge exchange and network promotion. Overall, the aim is to establish a robust framework that does not rely solely on individual leadership and allows networks to consistently thrive and expand. To enhance diaspora support, contact points could be designated at regional, city, or major institution levels to offer guidance, answer queries, and facilitate networking.

These contact points could be official EU representatives or volunteers (like students or early-career scientists). The turnover of volunteers could be addressed through a structured and official EU mentorship program or fellowship providing volunteers with leadership development opportunities.

Summary:

- Create a centralized platform compiling resources for members and promoting support for network leaders
- Establish a network of diaspora leaders and facilitate annual meetings between them
- Designate contact points to provide guidance to the diaspora

Recommendation for the EU 3: Raising awareness and visibility of the networks (Interviewees 3, 5, and 7)

Target: The Delegation of the EU to the US and the EU External Action Service

Actions: EU diplomatic representatives should directly engage with diaspora networks and work on collaboration strategies to promote their visibility and activities. Initially, they could organize joint events and use their influence to invite recognized keynote speakers that would offer global insights. This co-organization of events would establish long-lasting communication channels and maximize the networks' visibility and awareness. Additionally, they could provide legitimacy and increase engagement, by simply having official representatives come to events organized by the networks. They could also help by establishing a strong online presence for diaspora networks on EU websites and publications. This presence should highlight their contributions, showcase collaborative efforts in research, education, and innovation, and generate awareness about their activities and achievements.

Summary:

- Engage directly with diaspora networks by organizing joint events
- Send officials to networks' events to promote legitimacy
- Create a strong online presence for the networks on the EU's communication channels

*ii. Recommendations for France**Recommendation for France 1: Increasing communication and awareness*

Target: The Office for Science and Technology (OST) of the Embassy of France in the US, the Campus France agency, and the Directorate-General for Research and Innovation (DGRI) of the French Ministry of Higher Education and Research

Actions for the diaspora members (Interviewees 1, 2, 5, and 7)

French governmental representatives should facilitate the communication and visibility of the scientific diaspora network members. They should organize more frequent activities to maintain connections with the home country and facilitate networking. These events should target all categories of scientific professionals and be widely accessible online or in-person. For instance, they should keep organizing recruitment fairs with European and French companies, such as the MIT-European Career Fair in Boston and expand them to more cities and institutions in the US. They could also co-organize these events with French universities or schools, such as the Brazil Career Fair jointly organized by the French Ecole Centrale Group and Brazilian Universities. This would provide networking opportunities for diaspora network members to connect with potential employers and explore career prospects. They could also organize an annual conference, similar to the one of the German Academic International Network (GAIN), targeting scientists and involving high profile attendees, such as university leaders and politicians, to showcase opportunities in France for expatriates. Such an event would encourage scientists who have worked abroad to consider returning to France, facilitating reconnection with French institutions and contacts and learning about job opportunities. The representatives could also help increase the visibility of diaspora members abroad by broadcasting the successes and contributions to science of both experienced and early-career scientists. While it is tempting for France to prioritize scientists already established in the US in higher positions, students and young scientists likely represent the majority of French scientists in the US and the future of research and innovation. Therefore, even though investing in established scientists might be more prone to foster immediate collaborations

aligning with the French embassy's mission, it is important for France to build connections with these early-career scientists during their time in the US, as these connections can lead to long-term collaborations. Thus, France should aim for a balanced approach that considers both short-term gains from supporting senior scientists and the long-term benefits of nurturing connections and investments in young leaders, for the country's scientific advancement and collaboration.

Summary:

- Organize conferences and networking events to connect the French expatriate scientists between them and with opportunities in France
- Increase visibility and recognition of scientists
- Balance between supporting experienced scientists and young leaders

Actions for the diaspora networks (Interviewees 3, 4, 5, and 7)

To raise awareness about the diaspora network's significance and ensure that scientists have access to relevant opportunities and programs, it is crucial to improve communication and partnerships between network leaders and science attachés at the French Embassy. These representatives play a pivotal role, as they can initiate and support scientific diaspora networks, and have the capacity to define clear incentives to encourage and maintain membership. One potential approach to increase the visibility of diaspora networks and help them reach a broader audience would be to integrate their promotion with consulate registration processes. This would encourage registrants to consider joining relevant local diaspora networks and build stronger connections between diaspora members and their home country. The embassy should also provide advice to networks' leaders on how to encourage memberships and maintain interest of the members, through for instance facilitating workshops on communication. France could extend a gesture of goodwill to support individuals in building diaspora networks, similar to how La French Tech (a French government initiative to encourage the country's startup ecosystem) has actively endorsed French startups internationally. This endorsement would provide a valuable stamp of approval from France, aiding in the quest for sponsorship and funding.

Additionally, the embassy and consulates should keep providing venues, official branding for events, and increase the number of events they support, as these appreciated efforts considerably enhance the credibility and impact of networks. Such support from France and its diplomatic missions can significantly contribute to the success and growth of diaspora networks.

Summary:

- Improve communication with networks and encourage their membership
- Endorse networks to support their growth
- Increase the organizational support of events

Recommendation for France 2: Providing administrative guidance and support (Interviewees 1 and 6)

Target: The French Ministry for Europe and Foreign Affairs and the Consular services of the Consulates General of France in the US

Actions: There is the need for administrative guidance, visa information, and support networks for individuals moving between France and the US. France could provide more comprehensive information and guidance on complex paperwork involved in these transitions, such as obtaining visas before departure, US social security documents, and access to banking once in the host country. The embassy already has online resources, offering essential information and practical tips on part of the paperwork needed. It should keep improving them by expanding the topics and the details provided, increasing the visibility of this guidance, and providing contact points for direct assistance. This should be similar for the online resources readily available on the website of the French Ministry for Europe and Foreign Affairs, for those returning to France. They provide essential details and should keep being improved to facilitate the transition back home. Additionally, the French Embassy or consulate could establish and coordinate a mentorship-like system or support network comprising experienced French individuals who have successfully transitioned to the US, serving as points of contact to offer insights and assistance to newcomers. To further enhance their support, France should keep collecting data and conducting studies on scientists abroad to understand their experiences, career paths, and needs.

Summary:

- Provide more extensive, comprehensive, and visible information to support individuals transitioning between France and the US
- Establish a mentorship system to assist expatriates
- Gather additional data on scientists abroad to better define their needs

Recommendation for France 3: Fostering collaborations and helping with funding (Interviewee 1)

Target: French Research Funding Agencies (e.g., Agence Nationale de la Recherche (ANR)), the DGRI of the French Ministry of Higher Education and Research, the OST of the Embassy of France in the US, Pôle emploi of the French Ministry of Labor and the Association Pour l'Emploi des Cadres (APEC)

Actions: France should support the French scientific diaspora through better advertising of existing collaborations between US universities or companies and France (such as the four bilateral funds and the Transatlantic Research Partnership already in place). Increasing the visibility of the annual calls for proposals of cooperation projects and the mobility grants available would emphasize opportunities for French scientists to collaborate and move abroad. Additionally, it could increase individual funding opportunities for French scientists already in the US (such as postdoctoral fellowships and grants for researchers) and provide additional bilateral research and innovation funding to foster collaborations between French and American institutions. To aid scientists during their transition back home, France could provide transition funds such as personal grants to relocate or startup packages to help academic researchers opening a laboratory. Finally, it could also sponsor visits back home for job interviews, through public employment services such as Pôle emploi (providing practical and financial assistance to unemployed individuals seeking jobs) or private non-profit organizations such as the APEC (specifically for executives in search of employment).

Summary:

- Increase advertisement of existing bilateral scientific collaborations
- Increase funding opportunities for scientists to move to the US
- Provide funding opportunities to support transitions back to France

*iii. Recommendations for the US**Recommendation for the US 1: Maintaining connections and providing financial support (All interviewees)*

Target: Local academic institutions, private companies, foundations and philanthropists

Actions: Maintaining strong connections between France and the US, especially within the scientific community, is critical. To promote these connections, partnerships between French scientific networks and American partners should be encouraged. Indeed, fostering strong connections within the local scientific ecosystem, including universities and companies, promotes a sense of belonging and encourages long-term involvement and retention of international talent. These local academic institutions and private organizations could provide support, through financial aid for events organization or by providing event space. Partnerships between the networks and US corporate sponsors could be incited, in exchange for networking opportunities and the sponsors' exposure during diaspora network events. Finally, the US could also facilitate scientific funding opportunities, advocating to French and American foundations or philanthropists to provide funds for scientific collaborations between the two countries and collaborative initiatives like fellowships or grants, akin to the Philippe Foundation, an American non-profit focusing on Franco-American scientific and medical exchanges.

Summary:

- Foster partnerships and collaborations with scientific diaspora networks and local scientific institutions
- Support events and provide financial assistance to diaspora networks
- Offer research and innovation funding and collaborative initiatives between the two nations

Recommendation for the US 2: Improving visa process (Interviewees 1, 2, 3, 5, 6, and 7)

Target: The Bureau of Consular Affairs within the US Department of State and the Office of Policy and Strategy within the US Citizenship and Immigration Services (USCIS)

Actions: Streamlining and reforming the immigration process could greatly benefit scientists and the US government in attracting international talents. For instance, in academic and private research, evolving needs in research fields and recent deficits in scientists willing to fill postdoctoral positions could impact the US government's approach to attracting researchers. Suggestions encompass simplifying the transition between J-1 visas and other visas or green cards essential for work outside of academia in the US, changing the current lottery system for H-1B visas towards a merit-based process to recruit skilled professionals, and expediting the visa renewal processes. These changes would make it easier for international talents to remain in the US and engage in scientific endeavors in the country and abroad without disruptions. Supporting the immigration process for accompanying spouses, such as accelerating, simplifying, and increasing work authorizations is also considered essential and would considerably ease financial burdens. The US could also provide direct governmental support for French diaspora networks, through assistance in obtaining visas for network leadership employees.

Summary:

- Streamline and reform visa processes to facilitate the recruitment of French scientists in the US
- Support accompanying spouses' immigration processes of French scientists
- Assist in obtaining work visas for employees of the network leadership

Recommendation for the US 3: Enhancing administrative support (Interviewees 3, 5, 6, and 7)

Target: The Wage and Hour Division (Department of Labor), the Centers for Medicare & Medicaid Services (Department of Health and Human Services), the Bureau of Consular Affairs (Department of State), and the Office of Policy and Strategy (USCIS)

Actions: The US should offer comprehensive administrative support to scientists, including information on rights, benefits, healthcare, credit history, grants, work, and residence permits, to facilitate international talent retention and engagement. Creating supportive resources and making them available through online platforms would be highly valuable for international researchers and aid in information dissemination and providing assistance. The US could also provide governmental assistance to diaspora networks to obtain non-profit status so that they could receive donations.

Summary:

- Create a comprehensive administrative support to scientists moving in the US
- Promote information dissemination and assistance through online platforms
- Provide assistance for diaspora networks' non-profit status

iv. Conclusion on recommendations

These recommendations aim to provide comprehensive support to the French scientific diaspora, using collaborative efforts between multiple stakeholders to address challenges and leverage opportunities of diaspora members in the US.

Overall, extending these recommendations to any nationalities would offer practical and constructive strategies to address various challenges, opportunities, and strengthen the bonds between scientific diaspora networks and their host and home countries, ultimately nurturing scientific collaboration and international knowledge exchange.

VI. Actions to improve communication and collaboration

To facilitate greater connectivity and communication within French scientific diaspora networks and between them and their international counterparts, a series of actions, ideas, and models can be initiated based on the responses provided by interviewees. Effective communication and collaboration are essential for the success and cohesion of these networks. The overarching objective is to promote a more vibrant and interconnected diaspora community, resulting in a cohesive, mutually supportive ecosystem. The following initiatives

target organizations promoting scientific mobility, such as EURAXESS, but also leaders of scientific diaspora networks, and have the potential to significantly enhance these vital aspects:

i. Communication platform and trainings (All interviewees)

Organizations facilitating scientific mobility could help create a dedicated communication platform, such as Slack or an intranet, tailored to the preferences of diaspora leaders, in order to promote direct messaging and the sharing of best practices between networks. Additionally, these entities could also offer training to enhance communication within and between different networks. The training sessions should cover effective network management, community organization, and social media skills and include strategies for facilitating connections, managing conferences, fostering collaboration, and addressing communication challenges. The training should also focus on how to engage members effectively, helping define the specific interests and needs of the members and providing accurate and tailored information to them. For instance, learning how to leverage existing platforms (instead of developing new ones), such as LinkedIn, for recruiting, networking, and communication would be crucial, especially for less organized networks or individuals. Additionally, supporting administrative processes, like becoming a nonprofit organization and training for other administrative tasks, could benefit diaspora networks.

ii. Inter-networks meetings (Interviewees 1, 2, 3, 5, and 6)

Inter-network communications can be facilitated through organization of frequent meetings among leaders of diaspora networks, to help them become more effective and interconnected. While initiatives, such as the Annual Meetings of the European Scientific Diasporas in North America organized by EURAXESS, facilitate connection among network leaders, their sporadicity limits ongoing communication and knowledge exchange. Thus, regular gatherings should provide an opportunity for leaders to share their experiences and address common challenges, leading to the development of best practices and exploration of potential collaborative projects. Institutions providing financial and logistical support for such events that

facilitate dialogue and knowledge exchange would demonstrate commitment to collaboration. Entities fostering scientific mobility, as facilitators of diaspora network interactions, could start these meetings or enhance those that already exist. They should ensure that these events strike the right balance between diplomacy, inviting government representatives, and genuine networking, with some events comprising only network leaders. By fostering a mix of formal and informal meetings, these agencies could create a practical space where members freely share their thoughts, experiences, and ideas. They could organize special diaspora events or invite multiple networks to participate in significant scientific and corporate events, thereby expanding the opportunities for networking and collaboration. Creating specialized subgroups and meetings, based on members' common experiences and interests across multiple networks, could also promote a stronger sense of identity and community. For instance, uniting individuals who have worked in the US with European funding can enhance their connections and showcase the appeal of European initiatives.

iii. Supporting sustainability and organizational Guidance (Interviewees 1, 3, 4, 6, and 7)

Sustainability and organizational guidance are critical, and agencies promoting scientific mobility could use their platform to showcase success stories from networks and provide guidance on managerial best practices. They could facilitate workshops based on successful case studies of diaspora networks. Mentorship or advisory support from these organizations could assist network founders in navigating challenges and planning for the future. They could also offer substantial support, by providing financial assistance for in-person events and helping leaders effectively communicate about them or provide memberships to online communication tools such as Premium Zoom account or other useful resources for a network. Moreover, providing venue spaces as in-kind donations would significantly benefit outreach efforts and network activities. Additionally, ensuring easy access to accurate and relevant information is crucial, so having a permanent office or a centralized point of contact could provide immediate support and information. Developing a chatbot to assist members and organizing annual orientation events for newcomers are other avenues to explore in this

context. These entities supporting scientific mobility could also centralize information related to frequently asked questions, for instance moving and settling in the US, covering essential topics including visa processes and housing. Even minor assistance, such as web support, could help in transitioning the network towards becoming a more self-sustaining organization.

iv. Enhancing visibility and promotion (Interviewees 3, 5, 6, and 7)

Organizations facilitating scientific mobility can play a pivotal role in promoting and increasing the visibility of diaspora networks. Showcasing the benefits and significance of these networks, either online or during meetings, can encourage more individuals to participate and contribute, ensuring their continuity and growth. These agencies should consider providing a seal of approval or support for events organized by the networks, or directly set up collaborative events with them, potentially also involving high-profile individuals or influential members to attend. Such actions could attract more community members and elevate the networks' impact and reach.

v. Creating a representative council and network directory (Interviewees 1, 6, and 7)

Creating a representative council or network of ambassadors consisting of members from various diaspora networks is another idea to consider. This group should coordinate joint events and collaborations and organize meetings with local and international agencies supporting scientific mobility or with the foreign delegations to the US. It could allow for discussions about common challenges and potential solutions and serve as a central coordinating body, ensuring that the interests and concerns of various networks are represented effectively. Establishing a comprehensive and accessible directory of all existing diaspora networks and their leaders' contact information would facilitate easier connections and collaboration. It would streamline the process of identifying potential partners possessing particular expertise or skills, facilitating knowledge exchange, and fostering collaborative initiatives. In addition, having a central point of contact for community leaders, from various alumni networks in a city, could further enhance connections and coordination. This centralized hub should act as a bridge between different diaspora

networks, promoting synergy and collaboration. To ensure up-to-date information, a dedicated coordinator could manage the directory, making it a reliable tool for networking and collaboration among diaspora networks.

vi. Conclusion on actions

By incorporating these proposed actions and concepts with the help of organizations fostering scientists' mobility, the French scientific diaspora networks in the US can become more sustainable. This should also increase their efficiency by enriching the depth of networking experiences, and amplifying career development opportunities for their members. Furthermore, these ideas can be extended to multiple diasporas and aim at improving engagement among all networks to advance the mission of building a globally interconnected community.

VII. General conclusion

The French scientific diaspora in the US is a group of professionals which greatly contributes to advancements in science and innovation, in both the host country and France, and promotes international cooperation between these two countries. However, its members face obstacles while living abroad that must be tackled to maximize their productivity and impact.

Using interviews with network managers from seven French scientific diaspora networks, the report studies various aspects of this diaspora, including its challenges and concerns but also benefits and opportunities. Moreover, it emphasizes the fundamental role of this group in international scientific exchanges and its capacity to drive positive outcomes in research, innovation, and diplomacy.

More specifically, this research has highlighted the following key insights:

- The challenges faced by the members of these diaspora networks are diverse and include issues related to immigration and administrative support, adaptation and isolation, difficulties in returning to France, financial obstacles, family-related challenges, and housing challenges. Notably, these difficulties are not unique to French scientists but are generally encountered by

many diasporas living abroad, scientific or not (Diplomacy Network 2023; CLDD Team 2023).

- These obstacles present hurdles for French and other foreign-born scientists in their pursuit of scientific excellence and cross-cultural integration. To address these challenges, collaborative efforts from various stakeholders are essential, including governments, local institutions, and diaspora networks themselves.
- Multiple concerns from the leaders of the French scientific diaspora networks have been voiced about the network sustainability and effectiveness, with the need for financial, structural and governmental support. Some of these obstacles were similar to the challenges described by scientific diaspora network organizations representing other countries (D. L. Butler et al. 2022; D. Butler et al. 2022). Such challenges can hinder the growth and continuity of these networks, making it imperative to seek practical solutions and support mechanisms to overcome them, in collaboration with governments, other diaspora networks, and other relevant stakeholders.
- The benefits for the members of these networks are tremendous. They range from career development opportunities and knowledge exchange to fostering international collaborations and supporting the scientific endeavors of the diaspora community.
- The importance for diaspora networks to engage with other networks from various countries is also very high as it creates a "super network" and diversifies the connections, generating opportunities for international collaborations between multiple scientific sectors. Cross-network interactions also facilitate sharing experiences between leaders, which can lead to more impactful networks.
- While not extensively studied in this report, the opportunities arising from engaging with the French scientific diaspora are significant for the US, France, and the EU. They include access to exceptional talent pools, enhanced innovation and research, strengthened diplomatic relations, economic and trade

opportunities, and cultural and educational exchange. The transfer of knowledge and technology, talent, and collaborative efforts can lead to groundbreaking research projects, technological advancements, and soft power diplomacy that extend beyond science into politics and economics, ultimately contributing to a more interconnected and prosperous world.

The input gathered from the networks' managers allowed for the devising of various recommendations addressed to stakeholders and policymakers at multiple levels:

- **For the EU:** it is essential to create or extend existing financial support to the members and networks, help with the visibility and sustainability of these networks and provide a centralized platform, in order to nurture international collaborations and scientific exchange.
- **For France:** Direct help to the members of the diaspora, for instance by providing administrative support or financial aid to work in the US or come back to France, would highly benefit the community and ensure that the individuals remain connected and invested in their home country. France could also support the diaspora networks themselves by increasing their visibility and awareness, engaging in partnerships with them and endorsing some of their activities. These actions would strengthen the connections between France and its scientific diaspora.
- **For the US:** As a host nation, it should focus on improving its immigration processes and administrative assistance, while offering funding opportunities to encourage collaborations. These actions would help attract international talent, and increase the scientific and technological influence of the US internationally.

In addition to these recommendations, a series of actions and ideas were proposed to increase communication among the French scientific diaspora networks and their international counterparts. These suggestions target organizations promoting scientific mobility and managers of scientific

diaspora themselves and include establishing a communication platform, conducting training and inter-network meetings, supporting sustainability and organizational guidance, enhancing visibility and promotion, and creating a representative council and network directory.

While some of the aspects mentioned in these recommendations and proposed actions might already be partially in place (such as some funds, organizational support, or administrative guidance), there is a real need to keep improving the number, access, and visibility of the resources readily available and put in place new ones to complement them.

In general, stakeholders should draw on compelling case studies from successful diaspora networks or governmental examples that effectively addressed several aforementioned obstacles. One such success story is the German network GAIN, established by three major research funding organizations in Germany and supported by the Federal Ministry of Education and Research (BMBF). GAIN conducts actions to maintain and build international networks while facilitating transatlantic mobility and cooperation. Its initiatives cover the entire spectrum of the German research landscape and extend to members across over forty US states through its network chapters.

Since 2022, the French Embassy in the US started to constitute its first official scientific network, progressively gathering new members from all over the country. This network has the ability to bring together thousands of members and will represent a powerful tool to foster French-American scientific cooperation. It should work in concert with the existing diaspora networks in the nation to provide a full umbrella of opportunities to the community and leverage its influence to systematically census and collect data on French scientists abroad.

Overall, supporting and engaging with the French scientific diaspora in the US offers numerous benefits and opportunities that are not limited to the individual level, and addressing its challenges and concerns is a task that requires multiple stakeholders. Moreover, helping this community goes well beyond the diaspora itself and contributes

not only to the scientific landscape but also to the cultural and economic relations between nations.

In conclusion, this report could be used as a roadmap to deploy the full potential of any scientific diaspora, as putting into action the proposed solutions could benefit the US scientific ecosystem and foreign-born scientists, by enhancing their integration, networking, and contributions in the host country. Indeed, it is important to acknowledge that members and scientific networks of diasporas from countries other than France face similar

challenges and obstacles (Diplomacy Network 2023; CLDD Team 2023; D. L. Butler et al. 2022; D. Butler et al. 2022). Consequently, the recommendations and actions outlined here have the potential for broader application, benefiting scientific diasporas of multiple nationalities established in the US or elsewhere. Ultimately, incorporating these strategies could also promote a more globally interconnected scientific community, strengthen diplomatic ties, and advance the field of science and beyond.

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