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## Andean Science Diplomacy: Interview with Chile’s Ambassador to the U.S., Ambassador Silva

Ambassador Alfonso Silva Navarro leads Chile’s Embassy to the United States since September 2018. His extensive diplomatic career includes being the Chilean Ambassador to Canada, India, and Jamaica, as well as being the Director General on Foreign Affairs at Chile’s Ministry of Foreign Affairs.

Ambassador Silva spoke with Kim Montgomery, Director of International Affairs and Science Diplomacy and Executive Editor of *Science & Diplomacy*, on Chile’s science diplomacy initiatives. This is the fourth interview as part of the Ambassador Interview Series.

**Kim Montgomery (Interviewer):** *Thank you, Ambassador Silva for the opportunity to speak with you as part of the Ambassador Interview Series initiative. Chile and the U.S. are strategic partners and have had a science and technology cooperation agreement in place since 1992. What can you tell us about Chile’s priorities today with the bilateral relationship with the United States?*

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**Ambassador Alfonso Silva Navarro:** Thank you, it is a great question. Yes, Chile has had almost 20 years of cooperation with the U.S. via the formal agreement that you mentioned. Yet, our cooperation started long before that and includes both bilateral cooperation and collaboration with states. For instance, we have had an agreement with the state of California since the 1960s that we relaunched in 2011.

We have been working with the U.S. in multiple areas, including climate change, astronomy, oceans, and energy, which is very important because of the need to move toward clean energy. The pandemic has shifted our priorities to support our country navigating these new challenges, such as securing vaccines from U.S. companies for Chile. We recently had a workshop conducted by the National Institutes for Health (NIH) and Johns Hopkins University for researchers in Chile focused on improving genomic sequencing capacity, so we can be ready for a new virus and COVID-19 variants. This program is critical to us and we were able to invite other countries, including from Costa Rica and in Trinidad and Tobago, to join.

**Montgomery:** *What common interests do you see between both countries where science can play an important role?*

**Ambassador Silva:** One that quickly comes up is clean technologies. Chile and the U.S. are pursuing their decarbonizations paths, so we need more innovation in this area. For this reason, we developed the Chilean Clean Technologies Institute in Chile, which will be operated by Associated Universities Inc. (AUI), a well-known consortium of U.S. universities among other Chilean partners. This Institute will be in Antofagasta, Chile's mining capital, which is now leading the incorporation of non-conventional renewable energies. Along with the energy sector, we are working together on green hydrogen, space-related industries, and life science projects.

**Montgomery:** *You recently launched the Chile-U.S. Council for Science, Technology, and Innovation, focused on strengthening science, technology, and innovation partnerships between the two countries. What was the rationale for creating such a council and what are its goals?*

**Ambassador Silva:** First, I have to pay homage to former U.S. Ambassador to Chile Carol Perez who was the one with the vision to create the Council on Science, Technology and Innovation in Santiago. When I arrived here, we thought we should have a mirror entity in the U.S. and we were able to start that initiative last year.<sup>1</sup>

Our goal is that this council will work as a platform to promote innovation, technology transfer, education, human capital development, and scientific creativity for the benefit of Chile's development goals. Members are organized in three working groups: one group focuses on space sciences, where we have the opportunity to influence a new National Space Policy and Satellite System: as you know, the location of Chile is very strategic in terms of space observation not only on astronomy, but also as it relates to satellites.

A second group is working on natural laboratories, a decades-old concept in Chile based on the idea that Chile's geographic singularities are an opportunity for world-class science. For instance, our dry desert and clear skies are unique and we also have strong astronomical infrastructure: a significant proportion of the world's astronomical observation is done from Chile, which will be even a greater proportion after the Giant Magellan telescope and the Vera C. Rubin observatory are completed.

Finally, the third group is working with health science. Given the current pandemic, we are discussing now how to improve our research capabilities and preparedness, particularly in collaboration with the U.S.

**Montgomery:** *As you mentioned, Chile has a unique geographical location and natural resources that have made it attractive for large-scale scientific facilities. I was hoping you could tell us more about initiatives where Chile has collaborated, like the ALMA radio telescope and how they helped advance diplomatic objectives?*

**Ambassador Silva:** This is a two-way street: we provide scientists with the possibility to establish themselves to practice astronomical science, and in return, Chile can develop national interest in science. Every research facility that is established in Chile provides observation time for Chilean science. Two or three decades ago, very few students focused on Astronomy in Chile; today we have hundreds of young Chileans interested in studying this field because we have the tools now.

ALMA is an excellent example of international collaboration. Many other mega telescopes require this scheme, where no country could do it alone. Another example is the Giant Magellan Telescope that has support from the U.S., Brazil, South Korea, Australia, and likely more countries to come.



*Ambassador Silva and U.S. National Science Foundation Director, Dr. Panchanathan after a private meeting in December 2020, where they discussed NSF's activities in Chile.  
Credit: Chilean Embassy to the U.S.*

**Montgomery:** *You have had an extensive diplomatic career that includes being the Ambassador of Chile in India and Canada before becoming the Ambassador of Chile in the U.S. What has been the role of international scientific cooperation throughout your career and what do you see for the role of science to play in diplomacy in the future?*

**Ambassador Silva:** My time in India was a great opportunity for me to see how that country developed innovation. Bangalore is a well-known innovation hub, but it replicated itself and now India has points of innovation all over the country. So it was an opportunity for us to look at the experience creating innovation hubs, improving human capital, and developing highly technological industries.

With Canada, we have a wide relationship. One area I was interested in was learning more about how Canada renewed sites that had been contaminated by mining. The Canadians were fast in controlling the issue of acid rain, but they also produced technology to clean lakes that are now productive and replenished with fishes. This was an area incredibly important to Chile.

In summary, yes, my career has been closely related to science and technology in the last decades. For a country like Chile, this is probably one of the best tools for self-development. Chile, like other countries in Latin America, did not have the technology and financial support to join the industrial revolution, but we are focusing on the economy of knowledge and utilizing innovation, technology and science as the platform for Chile to become a developed country.

**Montgomery:** *Earlier this month, I had the privilege of participating in a course on science diplomacy that was organized by your Embassy along with the U.S. Embassy in Chile and MIT. Why did you decide to organize a course on science diplomacy? What were the goals in launching this workshop?*

**Ambassador Silva:** The workshop was our first event with high-level panelists on this topic including you, so thank you for participating. The idea was to build upon the existing cooperation between Chile and the U.S. in science and technology. The public showed more interest than we expected, so we decided to open it up to participants from the U.S. and all Latin American countries. There were about 80 participants from a variety of Latin American countries, not just from Chile and the U.S.

The main goal was to learn about the new challenges and opportunities in science diplomacy. When I began my career, we were called generalists. Today, diplomats need to focus on specific areas, and science is worldwide important, but is crucial for a country like Chile that must make the jump towards development and progress. Additionally, science and technology are moving at an incredibly fast pace. Technology that we use today maybe a year from now will be obsolete.

During the workshop, we also provided an overview of the STI ecosystem and science diplomacy in Chile and the U.S., we explored a new approach on how to internationalize institutions through STI cooperation, analyzed science funding mechanisms in Chile and the U.S. and finally, focused on how to build and leverage relationships amongst our participants.

**Montgomery:** *It is interesting to think about the speed at which things are changing and try to think about the areas where science diplomacy will be focused on in 30, 40 years from now.*

**Ambassador Silva:** It is scary. Parallel to the speed of things changing and the incredible number of new technologies that are coming out, we need to think about the frameworks and regulations that are not yet in place. We have cyberattacks, the malignant use of social media networks and scientific data, among other threats—this is a big issue, and we need to be ready to respond.

**Montgomery:** *Using different skills, diplomats and scientists try to find solutions to fundamental problems in their countries, regions, and the world. Given your experience as diplomat, what advice would you give to someone who is interested in pursuing a career in science diplomacy where you work to build bridges between the scientific and foreign affairs communities?*

**Ambassador Silva:** The need of focusing on science must be considered in the schools of diplomacy and in the Ministry of Foreign Affairs. I have been very lucky to have the support of people like Camila Garcia Perez and other colleagues in Santiago and in different ministries that have provided adequate support to what we are trying to do. Every Ministry of Foreign Affairs in every country should have a division focused on promoting science diplomacy: this should be an area as important as any other.

Today, the tool of exchanging scientific knowledge will benefit everyone. Projects that allow unique possibilities for research have implications beyond their scientific results. For instance, the Subantarctic Center that is being created in Puerto Williams, Chile with support by the Chilean government, the University of North Texas, and the Interamerican Development Bank. It will provide unique insights on conservation from a transdisciplinary perspective and it is not only investment that comes from overseas. It has to do with decolonization, with providing with new clean energy that, once it reaches a cost-effective point, it will not only be an abstract matter, but it will impact people. This is what science diplomacy has to do with: it is not a romantic thing, it is real. It provides benefits for the people and countries.

**Montgomery:** *Thank you for all your time and participating in the interview series. Before letting you go, I would love to get your suggestions about places to visit in Chile – both from a scientific and tourist perspective – once travel is more feasible.*

**Ambassador Silva:** In Chile, there is the saying that when the world was being made, there was a lot of leftover material—mountains, lakes, deserts, glaciers—the creator then said, ‘what do I do with all of this? I’m going to put it somewhere in the corner of the world’ and then dumped it in Chile.

From North to South, you have a wide variety of areas and you can relate everything to science. In the North in the Andes, you can see pink flamingos flying from over 4,000 meters altitude, incredible geysers, and the clearest skies in the world. In the Atacama Desert, you have the Chinchorro mummies that have been there for thousands of years, older than the Egyptian ones.

In the center of the country, I would suggest you go to a nice vineyard and then, in the Valley of Santa Cruz, visit the Colchagua museum that is like a small Smithsonian that has everything, including Chilean prehistoric fossils, pre-Columbian art, and historical artifacts.

Finally, if you go South to the Magallanes region, you cannot miss what I mentioned before, the Subantarctic Research Center and once COVID-19 is under control, you can visit Antarctica where we are working with the U.S. on studying climate change. **SD**

## **Disclaimer**

*This interview has been edited for length and clarity.*

## **Endnotes**

1. AAAS is a member of the Chile-U.S. Council on Science, Technology and Innovation.