Interview with Dr. Oris Sanjur Acting Director Smithsonian Tropical Research Institution (STRI) Panama, Republic of Panama

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Dr. Sanjur graduated from the University of Panama in 1991 and completed her Ph.D. in molecular biology at Rutgers University in 1998. Her duties include maintaining a high standard of operational support for STRI researchers. Dr. Oris Sanjur is the Acting Director of the Smithsonian Tropical Research Institute, a unit of the Smithsonian Institution headquartered in Panama City, Panama. The Institute furthers the understanding of tropical nature and its importance to human welfare, trains students to conduct research in the tropics and promotes understanding of present and past biological diversity by increasing public awareness of the beauty and importance of tropical ecosystems. Dr. Sanjur oversees more than 400 employees, an annual budget of $35 million, and the Institute's research facilities throughout Panama and field sites in Africa, Asia and the Americas. In addition to its resident scientists, the Institute's facilities are used annually by some 1,400 visiting scientists, pre- and postdoctoral fellows and interns from academic and research institutions around the world. Dr. Sanjur's relationship with the Smithsonian Tropical Research Institute spans three decades.

In 1989, she was a research assistant for two years working on her undergraduate thesis project. After earning a B.S. in Biology from the University of Panama, she completed a PhD in Cell and Developmental Biology at Rutgers, the State University of New Jersey. She returned to STRI as a postdoctoral fellow in 1998, studying the relationships between wild and domesticated crops such as squash and pumpkin.

She then spent ten years as manager and researcher of the Molecular Evolution laboratory, after which she took on her most recent role as Associate Director for Science Administration at STRI. In this position, she became responsible for maintaining high standards of scientific operational support for the Institute's research programs throughout a decade.

Figure 1. Dr. Oris Sanjur.
Fuente: https://www.cienciaenpanama.org/dra-oris-sanjur-como-directora-del-instituto-smithsonian/

She has also represented STRI in national and international events, highlighting the value of science and the importance of the research being conducted at STRI to increase our understanding of tropical ecosystems. Dr. Sanjur's commitment to the advancement of science has marked her entire career. She has published more than a 20 peer-reviewed articles and presented more than 20 papers at scientific meetings. She has sponsored postdoctoral students, advised predoctoral students, served on the Advisory Committee of master and doctoral students, and served as a mentor of more than a 100 undergraduate and predoctoral students from various countries. From 2006 to 2009, she served as President of the Panamanian Association for the Advancement of Science and currently serves on the board of the City of Knowledge Foundation, the Coiba National Park Biological Station, the National Scientific Researchers System and the Institute for Scientific Research and High Technology Services (INDICASAT AIP). In 2013, she was selected as one of the ten pioneering women in science in Panama; in 2014, as one of the nine members of the National Electoral Board for the Panamanian Presidential elections; and she was honored as "Distinguished Woman of the Year 2015" by the Panamanian Association of Business Executives. In 2019, she was included in the book "Those Who Inspire – Panama". She is currently a member of Ciencia en Panamá (CeP), the Panama Director's Association (ADP) and the International Women Forum (IWF).

According your knowledge and scientific professional expertise, what recommendations could you give to young women who are considering developing a scientific career? What are the challenges that women face in science and technology? In your experience, what actions do you recommend to governments, universities and society in general to increase scientific vocations in women?

A: It is a well-known fact that there are challenges for women that would like to pursue a career in science and technology. Some of those challenges have been documented in various publications. In 2018, Panama's National Bureau for Science, Technology, and Innovation (SENACYT) funded and published a report that provided relevant data about the situation of women in science in Panama. The study revealed that, at the undergraduate level there is a higher percentage of women who are interested in pursuing scientific careers. However, the proportion of women drops significantly as they progress from undergraduate to higher academic levels. This a phenomenon known as the "scissor effect". Some of the factors that contribute to this phenomenon include perceived stereotyping, work/life balance concerns, and internalized gender norms. The 2018 SENACYT report also identified some key elements that contribute to the success of women in science, such as having a good mentor, having a scientist mother, a favorable financial situation, the support of the family, personal empowerment, among others.

For young women interested in science, I would start by suggesting to find ways to build self-confidence and trust in yourself. You do so by surrounding yourself with people that can help you grow, who give you good advice, and good mentors. It is also important to give yourself space to dream, even when those dreams seem unattainable. Dreaming opens your mind to possibilities. My mother who is a very wise woman once told me, "Dream of flying like an eagle because, even if you don't not reach all your dreams, the important thing is that you learn to open your wings and fly." But to be successful, those dreams must be turned into actions, and that's where one needs to take the time to come up with a plan. Think about what actions should I take to achieve what represents success to me? It is not an easy road and it requires perseverance and resilience. And you will find yourself facing many fears. Fear will always haunts us. It is important to overcome fear.

And then, if you like Science, think about what you would like to do. Read about it, find a university that teaches what you like, learn more about that topic, talk to people who can guide you in the process. During that process you will learn a great deal of information that can help you find sources of inspiration and potential sources of financial help, if needed.

Regarding recommendations to increase scientific vocations in women, I would say that we need to promote more role models of women who are currently doing science, and men who support those women. We need to create more awareness in our communities, schools, universities, and engage stakeholders at all levels. Promote activities among young women and be very inclusive.

The issue of gender equality in science has been discussed in various forums, and various initiatives have been promoted. However, there is still much to be done, so gender equality issues cease to be an issue, and there is more equality in all areas. I consider that any approach we take, should include both men and women. I want to also highlight the importance of education in any approach we take.

In these times, humanity needs leadership and solidarity. How can women in science and technology contribute to the management, mitigation measures and finally to the eradication of this disastrous pandemic. What role do you think women scientists should play in this pandemic?

A: It has been well documented that adding women on any working group or team, increases productivity and provides solutions that are more inclusive and with different perspectives.

In a moment where humanity is living unprecedent times, we need the contribution of everyone to be able to take this crisis under control. Throughout the world, it has been made evident that women have played, are playing, and will continue to play a key role in finding solutions to address the challenges caused by this pandemic. Scientific knowledge has been key to provide solutions to the many health problems, and women scientists have greatly contributed and continue to contribute with their hard work to solve these challenges. Think of the doctors, nurses, scientists, who have worked non-stop to help others, and who continue to do research to find way to keep people healthy.

I would like to mention that the contribution of women, not only scientists, but women from all walks of life, has proven to be invaluable during these difficult times.

The COVID-19 pandemic is the greatest global health crisis of our time. This pandemic is causing a severe social, economic, political and environmental crisis. The Smithsonian Tropical Research Institute was founded with the purpose of increasing and sharing knowledge about the past, present and future of tropical ecosystems and their relevance to human welfare. Could you share with our readers a brief summary of the actions or projects in education and research carried out by the Smithsonian Institute as a consequence of the covid-19 Pandemic?

A: The Smithsonian Tropical Research Institute remains closed to all researchers and public visitors to support the effort to contain the spread of COVID-19. The Smithsonian's priority is to protect the safety and health of its staff, volunteers and visitors. All general scientific and public visits to all STRI facilities are suspended until further notice.

The scientific activity carried out by our institute requires access to laboratories and being able to do field work. However, while in quarantine, our scientists continue to work on scientific articles, and through digital media, we hold webinars, meetings, and stay in communication with our fellowship and intern community. Our communications department keeps posting information on social media, we also hold webinars for the public and that allows us to continue our mission of spreading science. In addition, we are developing digital and virtual material that can be used to support the academic curriculum at schools.

During this time, we have been able to launch a few important initiatives like the Mission Manatí, a collaboration between STRI, Technological University of Panama, and ENSEIRB-MATMECA in France. The team has developed a monitoring system based on hydrophones, which detects in real-time the underwater calls these animals make to communicate with each other.

Could you share some experiences that have been especially memorable in your scientific or professional career?

A: I have been blessed with many opportunities and experiences that have allowed me to grow as a scientist and have shaped me as a person.

One great experience was the opportunity to study abroad. It provided me with a different perspective and vision, and allowed me to learn, meet, and work with people from around the world. That opened my mind to other ways of thinking and made me humble and grateful. This was while I was doing my doctorate work. And having access to great laboratories and being able to do research in anything I wanted was just a fantastic experience.

Another unique experience was to visit a deep-sea site named Rainbow in the middle of the Atlantic Ocean. I was able to go down 2400 mts in a submarine called Alvin, property of Woods Hole Oceanographic Institute. Being able to see the bottom of the ocean and see where earth plate clash was such an amazing experience.

Serving as a mentor and helping students from all the world has been another great experience and has taught me so much. I strongly believe in mentorship and have had the honor and pleasure to mentor more than a hundred students, many of them are now in key position at various institutions around the world. This has been a source of pride and accomplishment for me, one that I am very

Being able to support scientific work and strengthen the science platform at the institutional level is something that has been very rewarding. Even though I am not at the bench collecting data, I continue to do science through the collaboration and support we provide to national and international scientists. Science is also done when generation of knowledge is facilitated.