

## Gerardo Avalos

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### *1. Please share with us your life trajectory and how you came into the field of plant physiological ecology and conservation.*

I grew up on my family's coffee farm and had a happy childhood. The coffee plantation was wooded, so there were many birds and trees. I grew up eating fruit from these trees, climbing them, and playing soccer. My background is humble. My father was a factory worker and my mother a housewife. The only scarce things in my childhood were books, which I learned to appreciate and valued so much that I read everything I could get my hands on. One time, I received a very valuable Christmas gift which was a microscope. Although it was a toy, it allowed me to observe pollen and butterfly wings. My scientific curiosity exploded. My parents always supported me in studying at the university. I also had an uncle who always took me to the forest to explore. The University of Costa Rica (UCR) had an excellent scholarship system that allowed me to obtain my bachelor's degree in biology. Through UCR, I got scholarships to study in the United States, first at the University of Colorado, and then at the University of

Missouri-St. Louis. I did my Ph.D. thesis almost 50 m above the ground, using a construction crane to explore the canopy of a Panamanian jungle, doing plant physiological ecology on lianas. After that, there was no turning back. I decided to return to Costa Rica and train new scientists despite the tough funding conditions. I work for UCR, one of the best public universities in Latin America, and for the School for Field Studies, a study-abroad organization that offers courses to American students on sustainability, environmental, and social studies. What a wonderful place to try to change the world through education! I have no regrets. It has been a wonderful career full of amazing experiences, students, and peers.

### *2. How did you learn about GLH and what motivated you to partner with the organization?*

I was preparing a textbook on plant biology and writing a chapter on Gymnosperms, specifically on Ginkgo biloba, an incredible millennial tree that coexisted with the dinosaurs. It was then that I came across a news piece revealing that some

**Gerardo Avalos obtained his Ph. D and master's degree on plant ecophysiology and conservation from the University of Missouri – St. Louis and University of Colorado- Boulder. He is currently a professor of Ecology at the University of Costa Rica and serves as the Director of the Center for Sustainable Development studies. At the university he teaches Botany, Ecology, Natural History and Multivariate Statistics. His interests lie in photosynthetic acclimatization of lianas, and biomechanics, carbon sequestration, and ecology of functional traits in palms, ecology of invasive plants, and functional dynamics of food webs in hummingbirds.**



ginkgo trees had survived the atomic bombing of Hiroshima. Intrigued, I found a BBC YouTube video featuring Tomoko Watanabe and Nassrine Azimi, and that was the turning point. I realized that trees could be instrumental in changing the world, helping us to restore hope. This was in 2020, amid the COVID-19 pandemic when Costa Rica was in turmoil and in a desperate need of a ray of hope. Without hesitation, I contacted Nassrine Azimi, and she granted the donation of ginkgo seeds, and I was thrilled to be a part of this remarkable initiative.

### *3. You have conducted various programs regarding GLH and the A bomb trees with members of your community, from students to senior citizens. What has been their reaction and what have you learnt through it?*

People yearn for symbols of peace and hope, and these sacred trees embody those ideals. They serve as a reminder of humanity's greatest follies, but also of nature's incredible capacity for renewal and regeneration. There is so much to be learned from them. We must strive to



build a culture of peace - one that is not merely the absence of war, but a society that is fair and just. Such a society provides all its citizens with the opportunity to pursue happiness, regardless of their race, religion, sexual orientation, political beliefs, or age. It is an inclusive society that teaches collaboration and sees differences as a strength, not a reason to compete and defeat others. People of all ages have responded with hope, a desire for restoration, and a willingness to build a better, more egalitarian society when they learn about these trees and the values they represent.



An educational project aimed at senior citizens about the ginkgo from Hiroshima at the University of Costa Rica.

**4. Please share with us your hopes for your project 'Trees of peace of Hiroshima' that you are currently working on in collaboration with GLH and other partners.**

Our main challenge is to secure the successful growth and acclimation of Ginkgo biloba, a temperate tree adapted to changing seasons, to the tropical climate of Costa Rica. We have managed to achieve successful germination, with seedlings whose leaves have lasted for over a year. Currently, our seedlings have lost their leaves, but we are hopeful that new leaves will emerge soon. In addition to Ginkgo biloba, we are also experimenting with another species, the Camphor tree (Cinnamomum camphora), which has been previously planted in Costa Rica. There is an old Camphor tree growing in the heart of the capital city, San José. To ensure the long-term survival and accessibility of these trees for all the people of Costa Rica, we have secured the commitment from UCR and Lankester Botanical Gardens to provide perpetual shelter for them. This project is now officially sanctioned by UCR. I am fortunate to have the collaboration of the educators Lorena Chaves and Daniela Rodriguez, as well as of the horticulturist Jorge Wagner. My dream is that one day people will sit under the shadow of these trees and be inspired by the values they represent.

**5. Costa Rica has made progress on creating and ensuring peace post-civil war. How do you think initiatives like GLH help promote it and what more can be done to sustain peace?**

Costa Rica is facing significant challenges. The country is politically divided and

polarized, and there are various pressures threatening the social and environmental achievements of the past. There are interests to sacrifice the integrity of protected areas to oil and natural gas explorations, nature tourism is being overexploited in some places, and the government has sanctioned trawling fishing, one of the most destructive fishing techniques that was forbidden but is now back. The public education and public health systems are overwhelmed and at risk. Instead of strengthening public institutions that have been the pillars of social progress, there are political interests to privatize these generational achievements. This highlights the importance of both Peace and Justice, which must go hand in hand. It shows how fragile our social system can be. The achievements of the past can be easily lost in a matter of years due to greed and corruption. Likewise, we need to remember the atomic bombing of Hiroshima as a warning, not as a distant memory. The bombing serves as a reminder of the human madness that can result in catastrophic consequences. We live under the



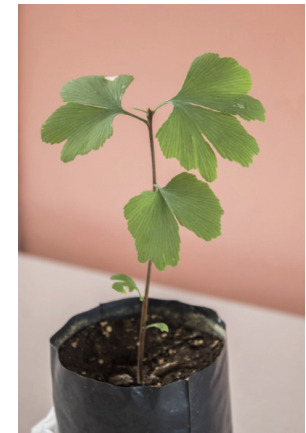
Gerardo Avalos and his students with the ginkgo at the University of Costa Rica.

shadow of the atomic bomb and should work towards the eradication of weapons of mass destruction, but at the same time strive for a global culture of Peace based on solidarity, empathy, and kindness. The most pressing challenges that humankind faces, such as global warming, are the result of human greed, which is a form of violence. Thus, we must take immediate action to address these issues, and the first step is to work towards a more just and peaceful society. The trees of the Green Legacy Hiroshima Initiative are such a powerful symbol. Species such as Ginkgo biloba, which have the potential to live for a thousand years, offer us a unique sense of time and legacy. They allow us to connect with nature on a deeper level, not only the natural world, but with our own humanity as well. Touching a descendant of a tree that survived the atomic bombing has a profound meaning - one of rebirth, restoration, and hope for a brighter future. It reminds us that positive change can happen, that we can make a better world for our children to inherit, one tree at a time.

**6. Costa Rica is one of the lead countries in world biodiversity conservation, and its environmental policies. How do you think GLH can learn from such approaches to reach out more effectively to the public to sensitize them to Nature and trees?**

If we fail to appreciate and understand the natural world, we will lack the motivation to protect it. Our welfare is inherently tied to the health of the planet. Even though Costa Rica is one of the most diverse places per unit area on Earth, has reverted deforestation, and has set aside more than a quarter of its territory as protected

areas, this diversity holds no value if the public does not see practical benefits, or if nature is considered solely as an obstacle to economic development. It is crucial to acknowledge the invaluable environmental services, such as clean air and water, and to secure the integrity of protected areas while managing tourism sustainably. We must strengthen the environmental and social achievements of the past that are currently at risk due to corruption and greed. Therefore, it is crucial to spread the word about the trees of Peace from Hiroshima. They show the powerful symbolism of nature's capacity for restoration, of the immanent value of biodiversity, and of our deep connection and dependence on the natural world. This can only be done through education, fostering contact with the trees, and spreading the word about GLH's message.



The ginkgo plant at the University of Costa Rica.