Joaquin Ruiz Starts New Chapter With Focus on Global Research Partnerships

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Joaquin Ruiz jokes that his "whole life has been accidental."

After serving as dean of the University of Arizona College of Science for nearly 20 years, Ruiz recently stepped into a new role as the University’s vice president for global environmental futures. In that position, he is focused on building international research collaborations on environmental science and global climate change. He’ll also continue to serve as director of Biosphere 2.

But if you’d asked a much younger Ruiz what he’d be doing now, he wouldn't have pegged himself a scientist.

"I wanted to be a philosopher, actually," he says.

Ruiz grew up in Mexico City knowing he would one day work at a university. His mother and father were intellectuals, even though neither of them attended college and his father didn't finish high school.

When the time came for Ruiz to pursue a degree, he planned to take the entrance exam for the philosophy program at the National Autonomous University of Mexico. However, he missed the test date due to illness and had to shift gears. He decided to study chemistry instead, with the idea that he could focus on the history of science.

Little did he know he would end up falling in love with the science itself.

Ruiz enrolled in the chemistry program at the University of Miami with urging from his cousin, an art history student who was studying murals in pyramids south of Mexico City. She wanted Ruiz's help determining the age of the structures.

"She convinced me to go to Miami, because they had a carbon-14 facility, to go date some of her samples, and that's where I fell in love with geochronology," Ruiz says.

Ruiz earned bachelor’s degrees in chemistry and geology from the University of Miami and went on to get his master's and doctorate in geology from the University of Michigan. He taught for a year at Miami before joining the University of Arizona faculty in 1983.

Seventeen years later, in 2000, Ruiz was named dean of the College of Science. He became a fixture on campus – a coffee- and tequila-loving, blue jeans-wearing dean, with an easy laugh and lots of big ideas.

His new role, which he officially assumed on Oct.1, represents the next chapter in Ruiz's university life. The position reports to Senior Vice President for Research and Innovation Betsy Cantwell.
and directly supports three pillars of the University's strategic plan [3]: Grand Challenges, Arizona Advantage and Arizona Global. Following Ruiz's transition, Elliott Cheu, associate dean of the College of Science, began serving as the college's interim dean.

Ruiz talked with Lo Que Pasa about what he envisions for his new role and for the future of environmental research at the University of Arizona.

**What is your primary focus in your new position?**

What I'm trying to do with this job is connect the many extraordinary environmental programs we have into some focused international programs, in particular using Biosphere 2 as an icon of possibilities.

We already have a spectacular program with Mexico City in which we're helping them be more sustainable with their farming, and whatever programs we create there will be at scale for other megalopolises and Third World countries. We've also created an institute in southern Israel, where they have some amazing water technologies. Here, we have technologies in agriculture that they don't have— for growing mushrooms and crickets and all sorts of high-protein food. And they have technologies in water that we don't, so that is a great partnership.

There also are amazing outreach programs in Africa, in particular in Kenya, that focus on how to deal with droughts, and we'd like to import those educational programs here and use them locally. There are two other programs that I think are very exciting. One of them is with the Ellen MacArthur Foundation [4], and it's on circular economy— how do you recycle and make money out of it? We have another program with the French government on life in extreme environments, which mostly means the desert.

That gives a flavor of what I'm trying to create. All of these partnerships are truly university partnerships. They include Eller (College of Management) and they include engineering and they include agriculture and they include social and behavioral sciences and they include science.

**Why is international collaboration in this area so important?**

Two things. First, the environmental issues we have are global; they're not just in Southern Arizona. Second, there's a tremendous amount of leadership around the world on various aspects of the environment, and if we find the right niches for what we're really strong in with other collaborators across the U.S. and internationally, that's terrific. There's an amazing amount of need and interest in partnerships internationally. It's also a very quick way of elevating the brand of the University of Arizona and the environment.

**How does Biosphere 2 fit in with your vision?**

You have to think of Biosphere 2 in three components. One of them is that it's a laboratory that is truly unique in the world because of its size and its capability for controlling very large experiments. There are many international collaborations at the Biosphere because the problems we're addressing are international, so that will continue? finding ways to use the Biosphere as a unique laboratory.
Second, we get more than 100,000 people visiting the Biosphere each year, so we have an obligation to teach those people about global climate change. Most people show up because they want to find out ‘what’s this crazy building in the middle of nowhere?’ But it’s our obligation to teach them something about the environment.

The third part of the Biosphere is that we have a conference center where we have rooms to sleep 100 people. We use the conference center for different organizations and having the Biosphere there really does change the meetings and the conversations in the meetings.

What I want to do is make Biosphere 2 the intellectual leader in a particular part of environmental research. We’re still figuring out what that is, but just imagine it being the Aspen Institute for fill in the blank. If we do that, it would be absolutely terrific because it means that world leaders studying whatever that area becomes will be coming to the UA, and then it would be our obligation to spark their imagination for broader partnerships.

**Will you continue with your own research?**

Yes. I’m a geochemist, and I’ve been interested in the geological evolution of the Earth. I am working on a couple of things. One of them is trying to understand the evolution of ore deposits in Mexico, and I’ve been getting more and more into environmental issues - tracing where the sources of environmentally negative elements are coming from.

**What personally drives you in your work?**

I love the University of Arizona and I’m really anxious about environmental issues and I am concerned about the social injustice of environmental issues. I love the architecture of putting together programs in which the strengths of everybody in the program make it stronger than the pieces. That’s one of the things I loved the most when I was dean of the College of Science: connecting people.

**Why should the general population care about the work the University is doing in this area?**

I think we’ve already passed the tipping point in climate change. There are going to be issues about sustainability and resiliency everywhere. There are going to be more and more huge consequences of climate change everywhere, and it excites me to be able to really make a difference globally.

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