

# Q&A

## with Dr. Navin Twarakavi

By Callie Thomas

*"Imagination is more important than knowledge."  
— Albert Einstein*

**A**S CHILDREN, IT'S EASY FOR US TO BECOME FASCINATED BY the smallest of things, like tossing a stone into the water and watching as the rings ripple and fade into infinity. 89074 resident Dr. Navin Twarakavi has taken his fascination with water into adulthood and his career to become the Associate Professor at the Desert Research Institute. His research focuses on understanding how water, nutrients and energy move between plants, soil and atmosphere. He is particularly keen on developing sustainable solutions for agriculture in arid regions.

Navin's strong belief in education, particularly with children, is essential to building a productive and aware society that collectively make decisions for generations to come while facing changing environments and limited resources. Navin has taken his quest to the elementary level grade school children in the valley to educate them on the value of water resources.

The Farm Lab is a social network based learning module that Navin runs and has taken to the students in the community to become "virtual farmers" that grow food (vegetables and fruits) based on decisions that are made among a student group. They get advice from the pros (local agricultural professionals and Desert Research Institute scientists) to develop their parcels of the virtual farm. Their decisions are communicated through a web interface and the virtual farmers are able to see changes in their plants above and below ground. Navin is also an active participant in the Desert Research Institute's Green Power Program, which promotes and supports the education of Nevada's K-12 students to encourage advancements in hydroponics. The busy professor took a few minutes to talk about his passion for research, his vision for a sustainable future and his other loves: his wife and two year old daughter.

**What do you believe inspired you to become passionate about water and sustaining this integral resource?**

"I was inspired as a kid to study the movement of water in the global water cycle while growing up in India, living on an island with water resources that were stressed to adequately serve the community. I find that same stress in the Las Vegas Valley, which motivates me to find solutions for efficient and optimal usage and conservation of available water resources."

**Tell us about the Desert Research Institute's Green Power Program.**

"Its mission is to promote the advancement of hydroponics – the method of growing plants using mineral nutrient solutions, in water, without soil. I have participated in a Skype lesson with Sandy Miller Elementary School students to help guide their hydroponics project. They then showcased the "fruits" of their labor to the medalist, Dr. Nina Fedoroff, a leading geneticist and molecular biologist who is a pioneering researcher in the field of plant genetics."

**What is it like working with the children in the programs?**

"I always find that children can come up with seemingly simple questions but are actually very profound and tough to answer! Children have an inherent appreciation of the value of natural resources that seems to fade away as they grow up. As educators and the current torch bearers for our planet, we need to put in a better effort to nurture this intrinsic quality."

**You instill this appreciation for nature in your own daughter?**

"Yes. Everything that my two year old daughter learns from me is one of my proudest and most gratifying accomplishments. My wife and my daughter are the most important to me."

**After a long day, how do you unwind?**

"I enjoy playing with my daughter and playing guitars."

**Any other hobbies?**

"I love running, brewing beer and listening to TED Talks."

**What does giving back mean to you?**

"Giving back to the community is a responsibility and not an option. We are what we are because of the community in which we live."

