

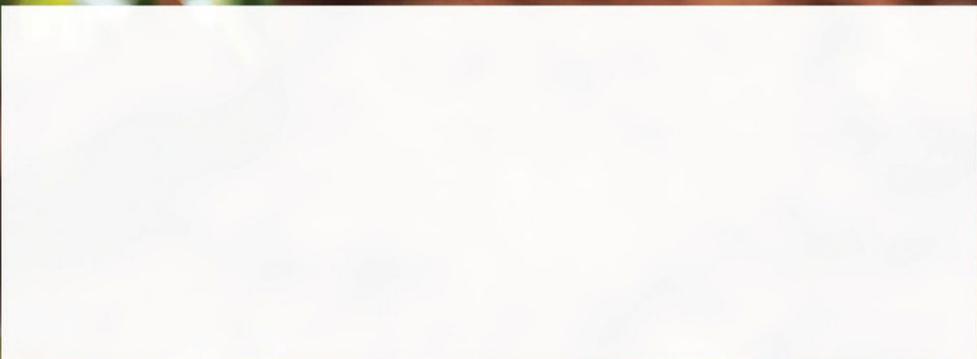
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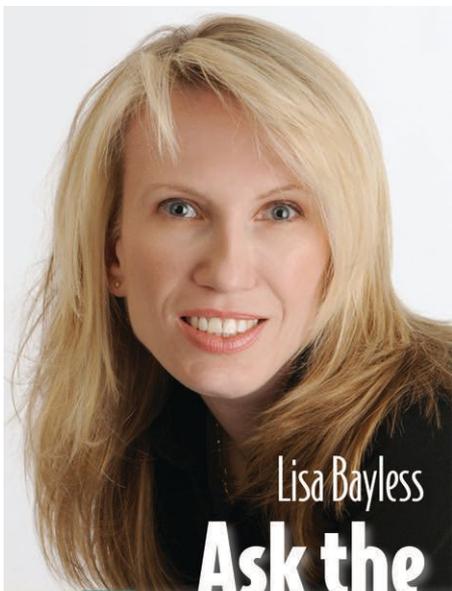
# Desert Leaf

The Catalina Foothills Magazine

## Winemakers' Secret Ingredient

—Plus—  
Hat Tricks





Lisa Bayless

## Ask the Expert

### Buy, Buy, Buy...

In real estate, the key phrase has historically been location, location, location. That phrase is now being replaced with **buy, buy, buy...** In both the Foothills & Oro Valley, **closings are up while inventories are low.** Buyers who have been sitting on the sidelines are now purchasing homes. Below find some of the reasons why.

**Interest rates:** Mortgage interest rates have fallen to levels not available in over 40 years.

**Foreclosures:** In Pima County, 1st quarter 2013 foreclosures hit at a 5 year low. Consequently, distressed home sales have been declining.

**Price:** Home prices are at levels not seen since the early 2000s. That said, **there has been an uptick in prices and values are projected to rise.** In the Foothills, the median price of sold homes was \$298,500 in March of 2013, up 8% since March 2012. In Oro Valley, the median price of sold homes was \$241,500 in March of 2013, up 9% since March 2012. According to Fiserv Case-Shiller projections, home prices in Tucson will see growth of 6.7% between the first quarters of 2013 and 2014.

**Supply vs. Demand:** Supply is down and demand is up. In Oro Valley inventory (homes for sale) was down 40% and sales were up 3% in March 2013 compared to March 2012. In the Foothills, inventory was down 10% and sales were up 15% during the same periods. Go demand!

Who knows what the future will bring. If you are looking to buy a home and planning on staying there for 5 years or more hop off the fence and buy, buy, buy... With my coupon I can show you how to **save \$1,000 when buying a home.** Call for details.

Considering buying or selling a home? Contact Lisa Bayless for a free market analysis.

### Featured Listing



This custom contemporary home, designed by Premier Southern AZ Architect Ron Robinette, sits high on a ridge and offers breathtaking mountain & city views. Conveniently located on a cul-de-sac in the gated community of Canada Hills Estates, enter through a private courtyard into a great room that offers floor to ceiling windows maximizing the stunning mountain & city views. This gracious split floor plan offers a formal dining room, wine cellar, a 3 car garage & more. \$750,000, MLS#21306054



Please email Lisa your questions.

520.668.8293  
lisabelongrealty.com



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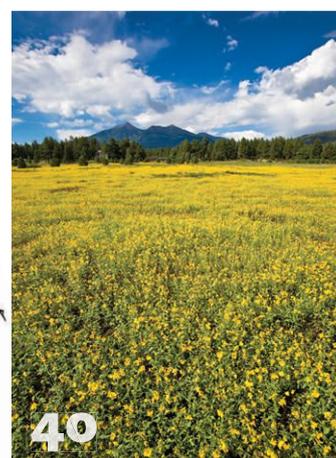
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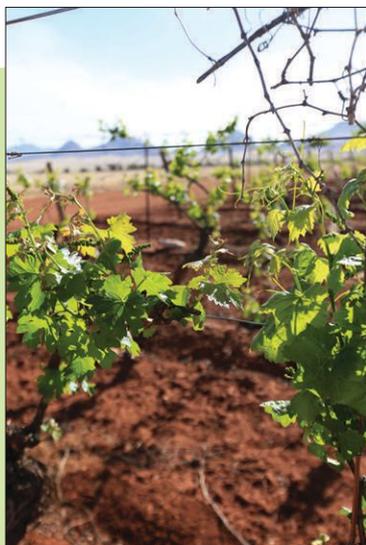
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Early in the 2013 growing season, Cabernet Sauvignon and Petit Verdot vines sprout leaves at Callaghan Vineyards in southern Arizona.



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(520) 881-5188 • FAX: 881-5388  
E-mail: info@desertleaf.com

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**Publisher:** Mary A. Swiergol, [mary@desertleaf.com](mailto:mary@desertleaf.com)

**Editorial Staff:** Karen Nystedt, Bill Norman

**Art Director:** Mike McPherson

**Office Manager:** René Roessler

**Staff Photographer:** Robin Stancliff

**Account Executives:**

Mike Lotenero, [mlootenero@desertleaf.com](mailto:mlootenero@desertleaf.com)

Eliza Epifano, [eliza@desertleaf.com](mailto:eliza@desertleaf.com)

**Contributors**

Lee Allen, Linda Brewer, Michael Chamberland, Lorraine A. DarConte, Jesse Greenberg, David Hatfield, Jan Henrikson, Katherine Jacobson, Judith Baigent King, Elaine Markoutsas, Sharon Mosley, Doug Moss, Bill Norman, Alan M. Petrillo, Claire Rogers, Bob Rogers, Alison Rosen, Roddy Scheer, John D. Smith, Dale Stephen Sparks, Robin Stancliff, Sam Swift, Diana Turner

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The Catalina Foothills





Asked if he could be described as a “mad” scientist, Chuck Higgins, associate professor of neuroscience at the University of Arizona, responds, “Well, I’m a scientist, and in my case, ‘mad’ is always in question.”

Higgins was one of 10 not-so-bashful University of Arizona College of Science researchers who participated in a “speed dating” with journalists experiment last fall called Scitini [*DesertLeaf*, April 2013]. The event’s basic goal was to get two kinds of creative minds—those of scientists and journalists—together in the same room, let them mix and mingle over a martini, and see what story ideas ensued that would give the public a better idea of UA research projects under way.

Higgins caught my attention because not only is he a fast talker, he’s also a smooth talker when it comes to explaining his dreams about building intelligent entities.

“Given adequate time and funding,” he says, “I’d like to make a robot that could go to Mars on a spaceship, build a colony there and terraform the planet so that by the time humans arrived, everything would be ready to go—environmentally safe habitation entirely built by androids.”

But first, it’s the old crawl-before-you-walk-before-you-run sequence, and the 46-year-old scientist is preparing for his dream goal by studying brains and computer applications.

“Right now our understanding of brains is primitive, so I’m taking a living brain—from an insect—and hooking its output into my computer to drive a system. At the moment, I’m using the vision system of a dragonfly that allows a robot to ‘see’ through the fly’s eyes. It’s a way of understanding how the brain’s circuitry works, because I want to tap into those reflexes to allow my robot to perform the same response.”

Although Higgins’ interests pro-

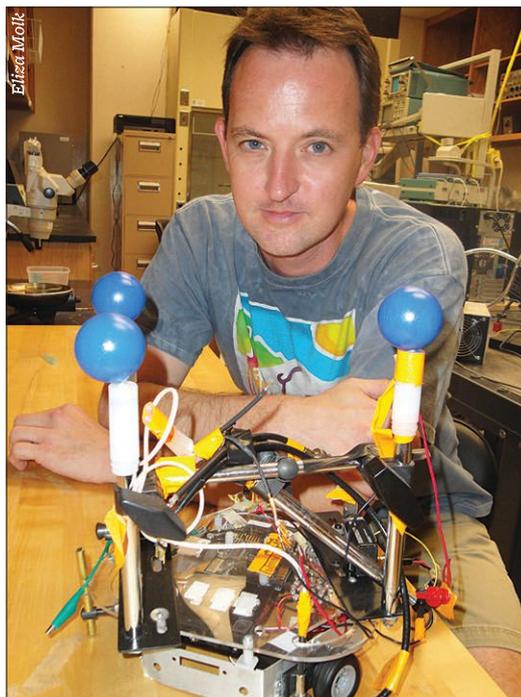
pelled him toward computers and their myriad applications, his involvement with insects was dictated more by circumstance.

“There are ethical concerns involving brain experimentation with humans and there are no extra, live human brains lying around, so that avenue leads us to learn what we can about human brains by using non-human brains, like those of flies, dragonflies, bees and hawk moths,” explains Higgins. “Flies don’t have a [political] lobby. They’re below the threshold of ethical concern, so they can be bred, raised, experimented on and disposed of.”

Take a moment to consider how the mind of this Louisiana native works. “My earliest memories are those of taking things apart to figure out what was inside them...how the internal, working mechanisms operated in order to do what they did,” he recalls.

Now, decades later and armed with a Ph.D in electrical engineering, Higgins gets to take a dragonfly, open up its spinal cord and use that to control a robot.

“I probe living insect brains to



University of Arizona Associate Professor Charles “Chuck” Higgins studies insect brains to help him build a better robot.

understand their stimulation signals so I can reverse-engineer an artificial system that will do the same thing [as the insect brains]. We’ve got some awesome ideas about how brains work and those ideas came from studying insect brains. I want to build a robotic brain that will eventually be as good as a human one.”

Quickly warming to the subject possibilities, Higgins expounds: “There are situations in which a robot could save lives—like repairing a malfunctioning nuclear power plant. An intelligent android could repair the problems, just like a human would, but then when the robot became radioactive, it could be scrapped. Or what about a robot driven by a human with joysticks, to help defuse bombs? Or a robot that can withstand a bullet blast?”

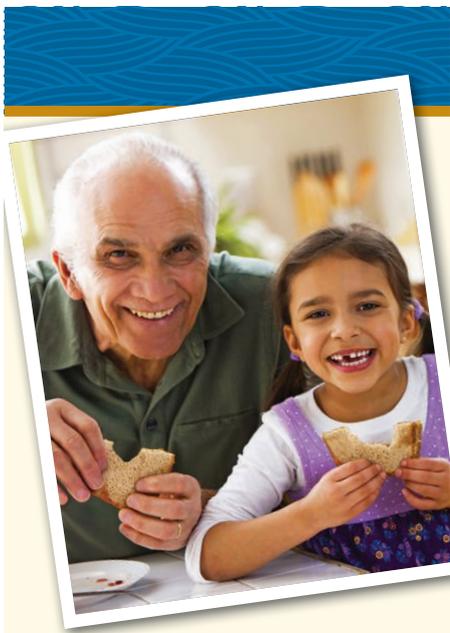
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**Dragonfly brains in this research lab may be a link to intelligent robots that can provide better living through technology.**



# Neuroscience From Bugs & Bots

by Lee Allen



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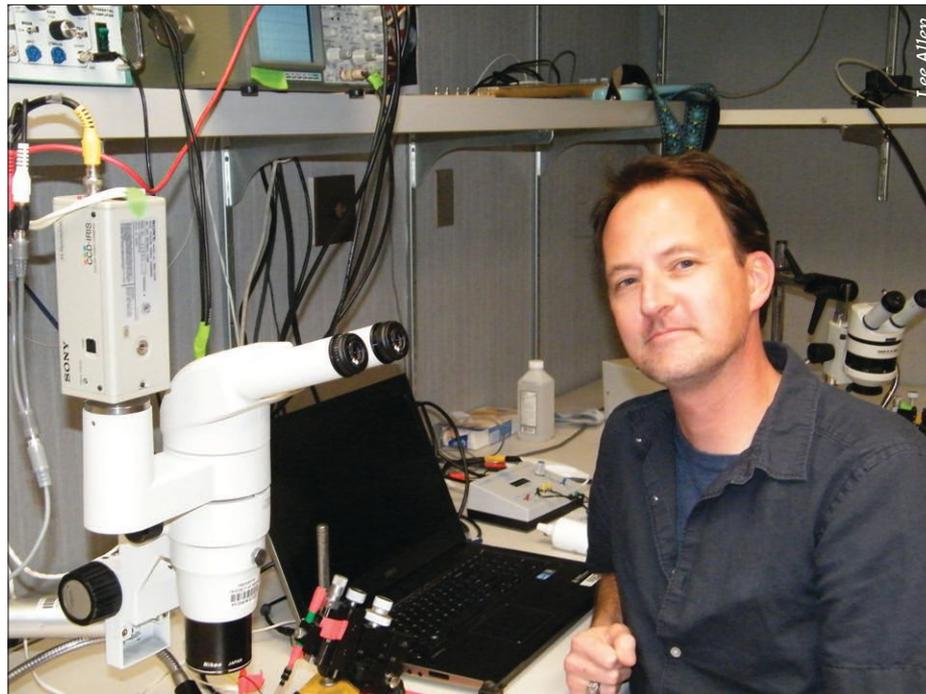
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## BUGS & BOTS continued



Charles Higgins, Ph.D., in his laboratory, where researchers incorporate living insects into robots.

You could send it into hostage situations and even if the bad guys shot at it, they couldn't stop it. An intelligent robot would just take their guns and walk away letting the police take over at that point. It would be really nice if we had robots that could be put into situations where humans would be endangered."

Artificial intelligence already abounds. Witness the biggest-selling robot on the planet, in terms of numbers—the Roomba vacuum cleaner. "This isn't futuristic technology; it's already here and we've got a lot of robots in the house already in the form of appliances," says Higgins.

For the more adventurous, there are many places where you can just pull off the forest roads and camp. There are no amenities, but it is free. If you do that, I suspect you might not see another vehicle or person for an entire day.

As the weather mellows in the spring and fall, we like the Hilltop Campground near Prescott and the Ponderosa Campground just east of Payson. Neither have showers, but are close to towns with lots of things to see and do that are not normally part of our camping itinerary.

Getting back to nature soothes the mind and spirit. Whatever problems at home that may cause restless sleep, camping puts things into better perspective.

**DL**

*John D. Smith is a local freelance writer. Comments for publication should be addressed to letters@desertleaf.com.*

tools a surgeon might have. Most exciting to Higgins is the fact the process can be used at a distance.

"It seems silly that patients have to travel to a surgeon who possesses a unique capability," says Higgins. "With robotics, if you're in Tucson and need an operation but are too sick to travel, a surgeon in Phoenix or Atlanta could do the surgery with a machine. Why not allow this particular surgeon to sit in a clinic somewhere and do lots of operations around the world, without any travel?"

Dragonfly brains in this professor's research lab may be a link to intelligent robots that can provide better living through technology, and Higgins is hopeful his studies will uncover that relationship. A lot of his work is funded by government grants, and he's hopeful his discoveries will have significant ramifications.

"What taxpayers should want is for research to turn into a product where someone makes money and then pays taxes to the government," says Higgins. "Taxpayers ought to want me to create a profit-making entity that repays funds used to do the research that made it possible. You get back your investment with dividend and a new product.

"It's all good," he says, heading back to his laboratory, with hopes of making that scenario come true.

**DL**

*Lee Allen is a local freelance writer. Comments for publication should be addressed to letters@desertleaf.com.*

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