

Up Front

NOTABLE

WEB NEWS

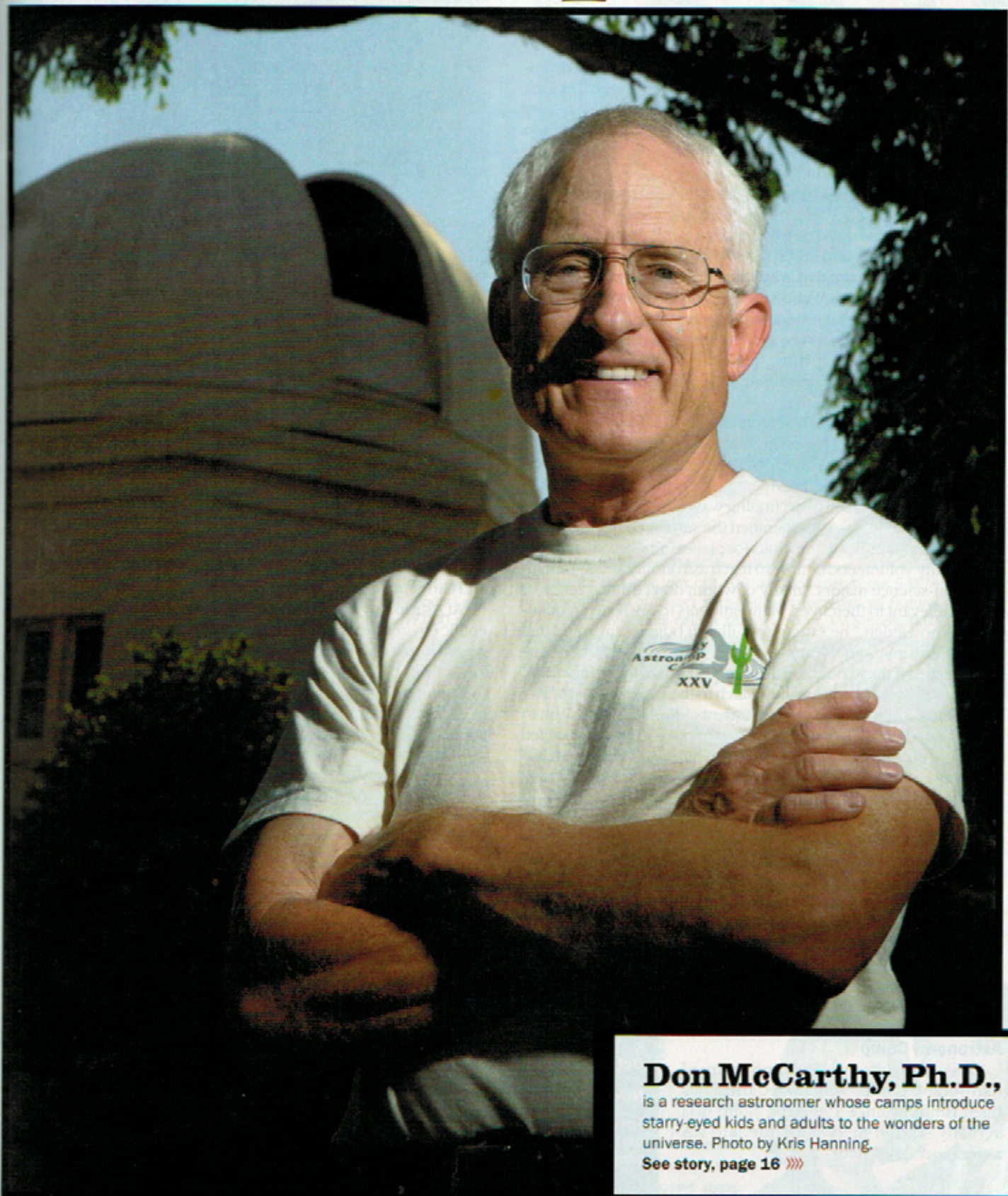
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TALK



Don McCarthy, Ph.D.,

is a research astronomer whose camps introduce starry-eyed kids and adults to the wonders of the universe. Photo by Kris Hanning.

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Sky Guy

"EVEN IN THIRD GRADE I WAS READING ASTRONOMY BOOKS," recalls Don McCarthy, Ph.D. "I was in high school during the missions to the moon and the satellite program, and that was so inspirational to me." McCarthy graduated from Princeton with a degree in physics and received his Ph.D. in astronomy from the University of Arizona. Today, he is a research astronomer and lecturer with UA Steward Observatory; he also is the director of Astronomy Camp, Arizona's longest running science camp.

McCarthy designs and builds scientific equipment used in Tucson as well as space telescopes, including cameras and spectrometers that allow sharp photos to be taken in the infrared range from both ground and space-based telescopes. He is part of an international team that is building the Near-Infrared Camera (NIRCam) for the James Webb Space Telescope that will be a million miles from earth; it is scheduled to be launched in 2018.

McCarthy also conducts research. "I am part engineer and part abstract scientist," he explains. "I like the combination of doing something that is both physically and mentally challenging, and I like exploring.

"When people think of research, they often think that means going to the library and looking for an answer in a book. But with real research, the answers are not in any book," McCarthy says. "You are exploring the unknown.

"My most fun discovery was finding waves in the atmosphere of Pluto," he says. He also has examined the surface characteristics of moons and asteroids, and he looks for planets around other stars.

McCarthy volunteers his time to teach astronomy at UA, primarily to non-science majors, "many of whom don't think science or math is relevant to their lives. Many students today have no quantitative knowledge," he says regretfully. "It boggles my mind that college honor students cannot draw a graph, or do fractions or percentages. If they could see the practical use of these functions, that would change the value they attach to these skills.

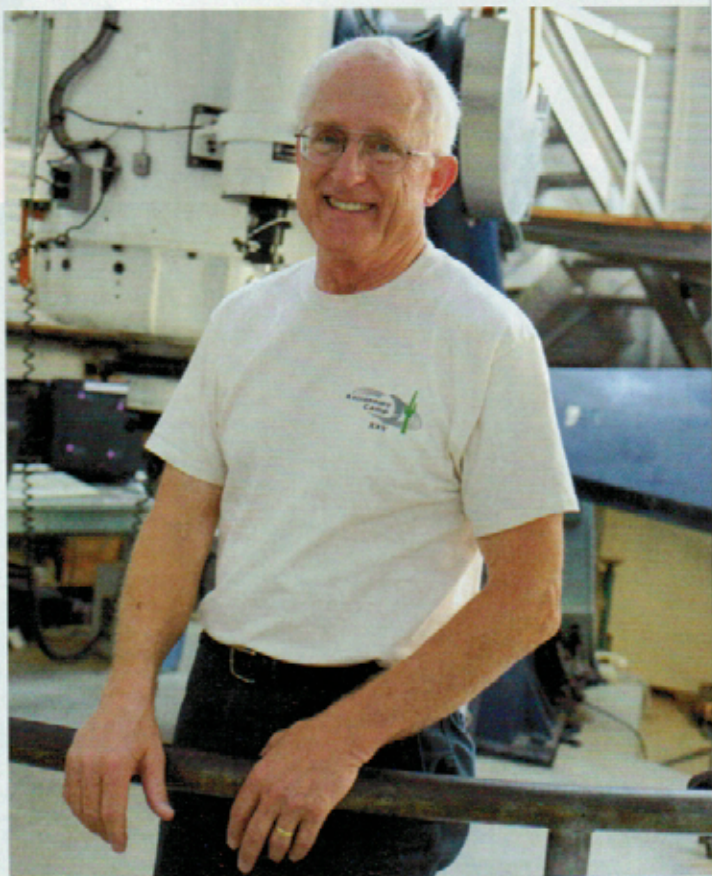
"We must motivate and inspire students," he stresses. "I want to accomplish quantitative literacy and make our society more skilled in arithmetic. People need to know the difference between a billion and a trillion. On a scale of one to a trillion, a billion is right next to the number one!

"The goal of my astronomy course is for all the students to become better citizens, and to be able to use and understand numbers," he reflects. "If they learn astronomy I am delighted, but if they learn to be better thinkers, I am really happy.

"When you teach someone a sport, you don't just lecture — you put them on the field so they can learn for themselves. It should be the same way in science. I like to tinker and build and many of my students like to see things in action. So I use common objects such as Slinkys, film cans or egg cartons in experiments."

Astronomy Camp

This year marks the 25th anniversary of Astronomy Camp, which McCarthy has been running since 1989 (the camp was actually started in 1988 by the late UA astronomer Ray White).



Don McCarthy. Photo by Kris Hanning.

The Astronomy Camp is sponsored by the UA Alumni Association, but is open to interested teenagers, adults, educators and Girl Scout leaders.

"At Astronomy Camp, the campers are totally immersed in a scientific environment," McCarthy explains. "They live in the astronomers' dorms on Mount Lemmon or Kitt Peak; they look through telescopes, take photos, take measurements and interact with astronomers."

There is no requirement for a prior astronomy background to attend camp, but advanced-level campers actually will do research projects.

"We are totally self sufficient and survive on tuition and donations," McCarthy explains. Teenage camp costs around \$990 and adult camp \$700 (scholarships are available).

"I am so proud of what our camp alumni have accomplished in the past 25 years," McCarthy says. "They have become leaders in all walks of life."

McCarthy attributes his success to "perseverance, innate curiosity, and parents, teachers and role models who encouraged and invested in education."

In 2012, McCarthy received the 2012 Education Prize from the American Astronomical Society. He and Carolyn, his wife of 40 years, have two grown children — Debbie and David. When not working, McCarthy likes to do masonry; he has built a backyard wall and a barbecue, and enjoys long-distance bicycling. "But I am always working," he laughs. — *Wendy Sweet*

Upcoming Astronomy Camps:

Oct. 19-21 - Adult Girl Scout Leaders

Nov. 2-4 - Adult Camp

For information on registering for these or 2013 Camps, visit www.astronomycamp.org.