The University of Arizona Department of Pediatrics has been awarded a $44 million, six-year contract to participate in the National Institutes of Health’s National Children’s Study, a major effort to investigate the interaction of genes and the environment on children’s health.

At a briefing in October, NIH officials named the UA one of 36 new and existing study centers that will recruit study volunteers from a total of 72 locations. The UA will recruit participants from Pinal and Apache counties in Arizona.

When fully operational, the study is expected to include 36 to 50 study centers in the planned 105 study locations throughout the United States.

The principal investigator for the UA portion of the study is Fernando Martinez, MD, professor of pediatrics and director of the UA’s Arizona Respiratory Center. Lead investigators for the counties are: Sydney Pettygrove, PhD, assistant professor, UA Mel and Enid Zuckerman College of Public Health; Francisco Garcia, MD, MPH, associate professor, UA Department of Obstetrics and Gynecology, and Mari Wilhelm, PhD, associate professor, UA Norton School of Family and Consumer Sciences.

“I am convinced that this study, if successful, will be remembered for years to come as one of the most important scientific enterprises ever started regarding children’s health,” Dr. Martinez says.

“This study is unique in its interdisciplinary nature by bringing together expertise from the Department of Pediatrics, the Arizona Respiratory Center, the Center of Excellence in Women’s Health, the College of Agriculture and Life Sciences and the UA Mel and Enid Zuckerman College of Public Health,” says Dr. Garcia.

The National Children’s Study will follow a representative national sample of 100,000 children from before birth to age 21. Study volunteers will be recruited throughout the United States, from rural, urban and suburban areas; from all income and educational levels; and from all racial groups. The study will investigate factors influencing the development of such conditions as autism, cerebral palsy, learning disabilities, birth defects, diabetes, asthma and obesity.

“The study will determine which genetic and environmental factors predispose for or protect against these and other diseases. As a result, we will know much better which children should avoid certain exposures to prevent disease, and in which children other exposures foster well-being and promote better health,” Dr. Martinez says.

NIH officials say the study will yield health information throughout its 25-year span. Within a few years, it will provide information on disorders of pregnancy and birth, including preterm birth. More than 500,000 premature infants are born each year in the United States. Infants born prematurely are at risk for early death and a variety of health problems, such as cerebral palsy, mental retardation and learning disabilities. Health-care costs for preterm infants total $26 billion per year.

Authorized by Congress in the Children’s Health Act of 2000, the National Children’s Study is being conducted by a consortium of federal agencies. Additional information is available at www.nationalchildrensstudy.gov.
Arizona high school students teach the new CPR
Members of Tucson's Catalina Foothills High School drama club show how to perform Chest-Compression Only CPR in a video distributed to 1,800 middle and high schools across the state. The video and a PocketCPR® device for practicing effective chest compressions make up a training kit for an educational campaign, "Your Hands – Their Heart," which aims to teach the new CPR to 6th through 12th graders and their families throughout Arizona. The video also is online at www.heart.arizona.edu

UA Cares provides giving ways for employees
The UA Cares campaign is under way, offering an easy, convenient way for individuals to donate to a nonprofit organization and/or a UA program of their choice. UA Cares partners with United Way of Tucson and Southern Arizona and the UA Foundation. Employees can donate by way of their paper pledge sheet or online through Employee Link, giving a one-time gift or giving periodically through payroll deduction. The campaign ends Nov. 26. For more information, visit www.uacares.arizona.edu or contact Holly Altman, (520) 626-4671.

The Tucson Marathon and Better Than Ever join to battle cancer
The Arizona Cancer Center’s fitness training program, Better Than Ever (BTE), has been named the official beneficiary of all Tucson Marathon events. A portion of each race registration will be donated to the BTE research grants for women's cancer research at the Arizona Cancer Center. Since its inception in 2000, BTE has raised more than $1.3 million for women's cancer research. The Tucson Marathon events take place Dec. 7.

Stress Differences Between the Sexes
While his wife wants to talk about the latest misdoings of their children, the downturn in the economy or a similar stressful event, her husband simply wants to punch a hole in the wall.
Why is the reaction so different? A researcher and professor at the UA College of Medicine – Phoenix in partnership with ASU is seeking answers in the effects of hormones on stress responses. www.medicine.arizona.edu/news/story.cfm?ID=1391

Valley Fever Awareness Week, Nov. 10-16, Features Events for Scientists and the Community
Gov. Janet Napolitano has designated Nov. 10-16 Valley Fever Awareness Week (VFAW) in recognition of the seriousness of valley fever and Arizona's position as a focal point for research and quality clinical care.
VFAW events scheduled this year offer a full agenda for both the scientific community and the general public. Two events will be of special interest to both audiences. On Wednesday, Nov. 12, the Valley Fever Center for Excellence and the UA Mel and Enid Zuckerman College of Public Health will present an epidemiology mini-symposium titled, "Valley Fever: How Much, What It Costs and Who Cares.” Scheduled from 11 a.m.-1 p.m. in Kiewit Auditorium, the event will feature five 15-minute presentations by researchers from the UA and the Arizona Department of Health Services.
On Sunday, Nov. 16, 1-4 p.m., in DuVal Auditorium, UA College of Medicine valley fever experts Neil Ampel, MD, John Galgiani, MD, Susan Hoover, MD, and David Nix, PharmD, will join staff members from the Arizona Department of Health Services to present a preview of an educational documentary on valley fever, “Valley Fever, Impact on Arizonans.” The panel will field questions about the disease and current research and treatment.
Of interest to the scientific community is the annual Farness Lecture. Steven Holland, MD, chief, Laboratory of Clinical Infectious Diseases, NIAID, NIH, will present, “Peering into Intracellular Infection: Mycobacteria and Beyond,” Thursday, Nov. 13, 12:30 p.m. to 1:45 p.m., in the Thomas W. Keating Bioresearch building, Room 103.
Other events during VFAW include a Pediatrics Grand Rounds at St. Joseph's Hospital; a VA management conference at SAVAHCS; a half-day CME course for the primary care physician at the College of Medicine – Phoenix; and a Frontiers in Medical Research seminar and a Department of Immunobiology seminar on the AHSC campus. For more information about these and more events of interest to the general public, please visit www.vcfe.arizona.edu, call (520) 629-4777, or e-mail vfever@email.arizona.edu
Manhattan Foundation Joins Valley Fever Fight

N. Galgiani, MD, and his research team at the Valley Fever Center for Excellence. The project is focused on the development and testing of nikkomycin Z as a possible cure for valley fever, which impacts Arizona more than anywhere else in the country.

F. Richard Hsu, LLD, chairman of the board for the J.T. Tai and Company Foundation, is no stranger to battles. He was a WWII P-51 pilot trained in Arizona in the 1940s. Fifty years later he has returned to Arizona and joined forces to fortify the search for a cure for valley fever. His tactics are clear when it comes to support for this research. “Valley fever is an orphan disease shunned by pharmaceutical companies because it is often mistakenly believed to affect a relatively small number of people in a limited region. This project is highly significant, not only for the southwest region but for people worldwide – we have a real chance at a treatment.”

Valley fever is primarily a disease of the lungs that is common in the southwestern United States and northwestern Mexico. It is caused when spores from the fungus Coccidioides spp. become airborne and are inhaled. Within the lung, the spore grows into a larger structure called a spherule. The spherule grows and bursts, releasing endospores, which develop into more spherules. Valley fever symptoms generally occur within three weeks of exposure and include fatigue, cough, chest pain, fever, rash and head- and joint aches. It is estimated that 150,000 people become infected every year; 60 percent of those have a mild case and do not seek treatment, and 40 percent have cases that range from moderate to severe. About 100 persons annually have fatal infections.

“Without the support of Dr. and Mrs. Hsu and the board of the J.T. Tai and Company Foundation we would not be able to conduct the very basic work on this promising treatment,” says Dr. Galgiani. “In the 12 years of the Center’s existence, this is the most generous charitable investment in the battle against valley fever, and we are deeply grateful for the progress that has been possible.”

From Dr. Hsu’s perspective the commitment of the foundation is the right thing to do and will make a difference for Arizonans. “Our foundation over the years has provided support to research efforts at several major medical schools. I hope that this gift to help solve Arizona's problem with valley fever will have a rallying effect. Of all our grants this is, by far, the one that makes me most proud.”
Hometown:
I was born in Newport Beach, Calif., and grew up in San Jose, Calif.

Joined UA faculty:
I was hired as an assistant professor in ophthalmology and pharmacology in October of 1998.

Professional Interests:
My primary area of interest is the pathophysiology of glaucoma, with the goal of developing better therapies for this blinding disease. My other professional interest is teaching. I enjoy teaching undergraduate, graduate and medical students in both the classroom and laboratory.

Mentors:
I have been lucky to have many: As a graduate student my mentors were Dr. Bob Snyder, Dr. Hank Yamamura and Dr. John Regan. Both Dr. Snyder and Dr. Yamamura were very supportive of my career, and their enthusiasm for research and discovery were infectious. My PhD advisor, Dr. Regan, taught me how to be a solid scientist. During my fellowship at Duke I worked with Dr. David Epstein and learned about glaucoma, translational science and professional networking. As a faculty member here at the UA, I have learned a tremendous amount from my colleagues.

Outside Interests:
I like to golf and fly fish. In Arizona golf is everywhere, but for fly fishing I go to the White Mountains and on the Colorado River at Lee’s Ferry. Luckily, trout live in beautiful places, which also takes me all over the country and world.

Advice to Students:
I tell students to figure out what they love to do, so that each morning you cannot wait to go into work. Turn to as many people as you can to help you figure this out. Have numerous mentors, matching mentors with personal deficiencies. I encourage my students to work in other labs so they can broaden their experiences and exposure to science.