

In this issue:

Protect your skin • All in the family • Orange Grove Campus
Under the microscope • Highlights in giving



Breaking new ground

Director's message



Research grants are the lifeblood for the important work we do at The University of Arizona Cancer Center, always with the goal to prevent and cure cancer.

During the summer months, The University of Arizona Cancer Center had several important grants renewed and awarded, and this funding will enable us to make advances in our laboratories.

The National Cancer Institute recently awarded \$6.8 million to continue funding drug development research for five years. Timothy Bowden, PhD, professor emeritus and former UACC chief scientific officer, and I are the project's co-principal investigators.

The goal of the grant is to develop small drug molecules for topical administration to treat severely sun-damaged skin and precancerous lesions, called actinic keratoses.

A \$4.8 million grant from the NCI will fund novel randomized controlled trials to measure the effect of the dietary mineral supplement selenium in preventing colorectal adenomas (polyps) and advanced colorectal adenomas, the benign precursors to most colorectal cancers. Colorectal cancer is the second most-common cause of death from cancer in men and women combined. The study also will determine if selenium supplementation increases risk for pre-diabetes or Type 2 Diabetes.

The study will be led by Peter Lance, MD, FRCP, the UACC's Chief Cancer Prevention and Control Officer, and Patricia Thompson, PhD, a member of the Cancer Center's Gastrointestinal Cancer program and an associate professor of cellular and molecular medicine.

Sincerely,

David S. Alberts, MD
The University of Arizona
Cancer Center Director

On the cover

Dr. Dino Stea stands outside the new University of Arizona Cancer Center — Orange Grove Campus. Read more on page 4.

Photo by www.csrichards.com



said her family bonded with Dr. Stea because of his sensitivity to the family's distress and his commitment to provide the best possible care and state-of-the-art treatment.

"Of all the doctors we had worked with, I personally felt Dr. Stea was the doctor we had the most confidence was doing all he could to get my dad healthier, despite the remote possibility he would be cured," she said.

Tom Brown was Tucson's most successful high-tech entrepreneur and founder of Burr Brown Corporation, but he received the same care as all of Dr. Stea's patients — the best. And Dr. Stea manages to do this while at the same time mentoring residents and demonstrating best practices.

Smallhouse said her family decided to direct memorial gifts to Dr. Stea's research after her father passed away. Later, the family foundation that carries out Tom Brown's legacy, The Thomas R. Brown Family Foundation, gave a research grant to help support Dr. Stea's work. The research was focused on developing technology that corrects for motion when a patient is receiving radiation to the lung (where the target is moving because the patient cannot stop breathing during the procedure). The improved technique will assist radiation oncologists target delivery more precisely, and thus do less damage to surrounding healthy tissue.

"My dad would have been excited about combining engineering and medicine, so this seemed like a good place for us to both help Dr. Stea and honor my dad's legacy," Smallhouse said.

Smallhouse said Dr. Stea and his team made Laura, then a student at Salpointe Catholic High School, very comfortable, so much so that Laura told her mother it wasn't necessary for her to drive across town and sit with her while she waited for her radiation treatment. "That speaks volumes about the rapport he has with his patients and the organization he has put together." (Smallhouse points out that it also says something about her daughter!)

Smallhouse recalls one instance when she telephoned Dr. Stea with a question — he had provided his mobile number to her and told her to call any time there was a question. "I called him one day — just dialed seven digits — and he answered in a surprised tone and asked how I was able to get through to him. He told me he was visiting Pompeii, Italy, with his mother. He laughed, and then answered my question."

Having a physician who was "so available and pleasant" helped the Smallhouses as Laura continued her treatment. "We were fully aware of the demands on him professionally — carrying a clinical load, teaching and conducting his research."

Smallhouse said from her family's experience, the caliber of care provided by the University of Arizona Cancer Center is "exceptional. It's not fully appreciated by our community. Hopefully over time, that will be remedied."

Now a sophomore at the University of Southern California studying civil engineering, Laura Smallhouse has regular MRIs which "show nothing new," her mother said. There is some scar tissue, but her youthfulness is a factor in Laura's favor. "She doesn't seem to have any side effects from her therapy."

Sarah Smallhouse now considers Dr. Stea as a friend. "He always seemed genuinely glad to see us, even during hard times. I kind of feel like he is part mine now," she said with a laugh.

- By Sara Hammond

Around the center

Faculty from The University of Arizona Cancer Center Skin Cancer Institute (SCI) tour the Biosphere 2 campus.



'Protect Your Skin' program helping to deliver sun safety information throughout Southern Arizona

More than 1 million visitors to five Tucson-area attractions are benefitting from a program that is providing sunscreen and sun safety information.

The Skin Cancer Institute at The University of Arizona Cancer Center is working with Biosphere 2, Pima Air and Space Museum, Reid Park Zoo, Tohono Chul Park and Tucson Botanical Gardens to install sunscreen dispensers in public restrooms at each venue, and to provide sun safety information for guests, staff and volunteers.

"One in five Americans will develop skin cancer in their lifetime. Most skin cancer is caused by overexposure to the sun's powerful rays, for which visitors to Tucson attractions may be

unprepared," said Heather Hiscox, the Skin Cancer Institute's program development coordinator.

The Protect Your Skin program is being funded by a \$10,000 grant from the University of Arizona's Community Connections Grants program. Hiscox said there are no other Arizona cancer-related organizations working with outdoor venues to prevent skin cancer, and the five organizations have not regularly provided sun protection for their guests.

"This program can serve as a model for future connections with other community agencies and as an example of a citywide campaign targeting outdoor venues," Hiscox said.

- By Sara Hammond

A FAMILY AFFAIR

Feeling like your physician is "on your side" can make a patient and her family confident to face a cancer diagnosis, treatment, recovery and survival.

Tucsonan Sarah Smallhouse and her husband, David, felt a measure of relief when they learned Baldassarre "Dino" Stea, MD, PhD, would be their daughter, Laura's, radiation oncologist for post-surgical therapy following removal of a rare brain tumor. Laura was 16 at the time.

Laura's surgery was to be performed at Barrow Neurological Institute in Phoenix, but the Smallhouse family wanted Laura's follow-up care to occur in Tucson so her school schedule would have as little interruption as possible.

Laura's diagnosis was a shock to the family. "It was the last thing you would suspect in a healthy adolescent. And we, as her parents, were completely responsible to make sure everything we could do for her happen," Sarah Smallhouse said. The surgeon recommended chemotherapy and radiation to follow the surgery, "to be sure." So that is what was decided, and her parents started investigating.

"I started inquiring about therapy options in Tucson, specifically at the Cancer Center and University Medical Center. I asked about Dr. Stea because of our family's positive experience with him previously," Smallhouse recalled.

"Dr. Stea's reputation was golden in the Phoenix medical circles. Everyone we asked knew him, and some had worked with him directly. All endorsed his overseeing our daughter's care. When we learned Dr. Stea could fit Laura into his patient load, we were thrilled."

Six years earlier, Dr. Stea had treated Smallhouse's father, Tom Brown, for lung cancer. Sadly, he lost his battle, but Smallhouse

For more information, visit: azcc.arizona.edu/sci



Baldassarre “Dino” Stea, MD, PhD, FASTRO, and patient Elia G. Mereno share a laugh during Elia’s treatment at The University of Arizona Cancer Center – Orange Grove Campus.

Photo by www.csrichards.com

them where they’ll be treated. We do all we can to alleviate their fears and make them as comfortable as possible.”

“You never want to be in a hurry when you see a patient. You never want to be pressed for time. You want to have all the time in the world.”

- Dr. Baldassarre Stea

It’s that philosophy that drove the construction of the radiation oncology facility at The University of Arizona Cancer Center - Orange Grove Campus.

The 12,000-square-foot expansion, located at 1891 W. Orange Grove Rd., complements the services already offered at the University Campus location, but brings a more inviting aesthetic.

Since the Orange Grove radiation oncology expansion opened in June, Dr. Stea said roughly one-quarter of The University of Arizona Medical Center – University Campus patients have transferred their care there, with nearly 25 patients per day receiving treatment.

Dr. Stea and his team have a rotating schedule in place to run both facilities, but starting next year, Krisha Opfermann, MD, will assume leadership of the Orange Grove center.

“The Orange Grove location really offers patient-centered care,” Dr. Stea said. “We will work side-by-side with medical and surgical oncologists so patients can get chemotherapy there, walk a few steps and then get radiation. It’s truly multidisciplinary care.”

In addition to benefiting from a team approach to treatment, patients at the Orange Grove location will have access to novel clinical trials and some of the most advanced precision technology available.

Dr. Stea calls it one of the most exciting developments in his 26 years as a member of The University of Arizona Cancer Center.

“The Orange Grove facility is just beautiful,” he said. “We have 25-foot-high ceilings, natural light, convenient parking and a terrific atmosphere. Our patients really seem to be responding well.”

It’s that response that provides the greatest reward for a physician. Those who have the inclination and disposition for such intensive physical and emotional care develop bonds with their patients that last a lifetime.

“You develop these personal connections with your patients,” Dr. Stea said. “You see them every day for six or seven weeks, then you see them when they come in for follow-ups. You see them so often that it strengthens your personal connection with them. You don’t feel attracted to this field if you don’t have it in you.”

- By Nick Prevenas

CONNECTING WITH PATIENTS ON A PERSONAL LEVEL

At The University of Arizona Cancer Center, one of the highest compliments a radiation oncologist can receive is that he or she is an exceptional “rounder.” What does that mean? Let’s have Baldassarre “Dino” Stea, MD, PhD, FASTRO, explain.

Dr. Stea is the head of radiation oncology at The University of Arizona College of Medicine and clinical leader of Radiation Oncology at The University of Arizona Cancer Center.

“I don’t know if we invented the term ‘rounding’ or not, but it’s something we take a great deal of pride in,” Dr. Stea said. “We spend a lot of time with our patients not necessarily doing clinical work, but instead checking on their mental well-being – chatting with them about their life, getting to know them on a personal level.”

Think of it like a general practitioner making the “rounds” in a hospital ward. Dr. Stea and his team believe cancer recovery isn’t simply a physical challenge. It’s a mental one, as well. Therefore, keeping a patient’s spirits high is of the utmost importance.

“We have a very personalized approach,” Dr. Stea said. “We’re super selective in who we bring on board. We don’t take people who lack an empathetic approach, nor do they even apply.”

By the time a patient sees Dr. Stea or one of his colleagues, he or she has often absorbed the initial shock of the cancer diagnosis, but the fear has yet to subside. Just the word “radiation” alone is enough to drive up a patient’s anxiety level.

“A big part of what we do is educate patients and tell them exactly what the process is going to be,” Dr. Stea said. “We’re not spraying the entire body with radiation.”

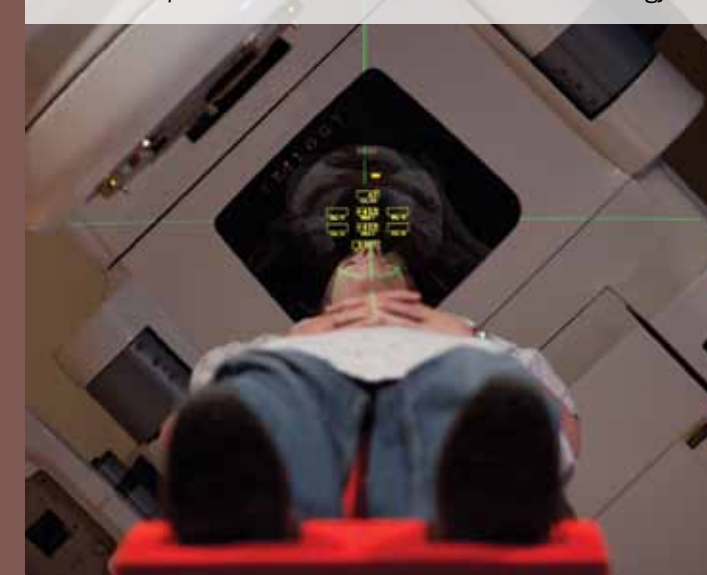
Instead, the procedure involves a focused beam aimed at the specific tumor from multiple directions. In order to put the patient at ease, it’s vital to know exactly what the doctors plan on doing. It’s a conversation that can’t take place in a 20-minute window in a doctor’s jam-packed schedule, which is why Dr. Stea and his team reserve at least 90 minutes – often more – for every appointment.

“You never want to be in a hurry when you see a patient,” he added. “You never want to be pressed for time. You want to have all the time in the world. Sometimes, a patient can feel a little bit claustrophobic, so we’ll take them on a tour to show

Orange Grove Campus — cutting-edge treatment

At The University of Arizona Cancer Center – Orange Grove Campus, patients receive treatment in open, light-filled spaces where they can visit with other patients, family members and friends, watch TV or move into a private courtyard. The nurse-to-patient ratio never exceeds one-to-four and the facility has an on-site laboratory and pharmacy services.

Patients at The University of Arizona Cancer Center – Orange Grove Campus are treated with state-of-the-art technology.

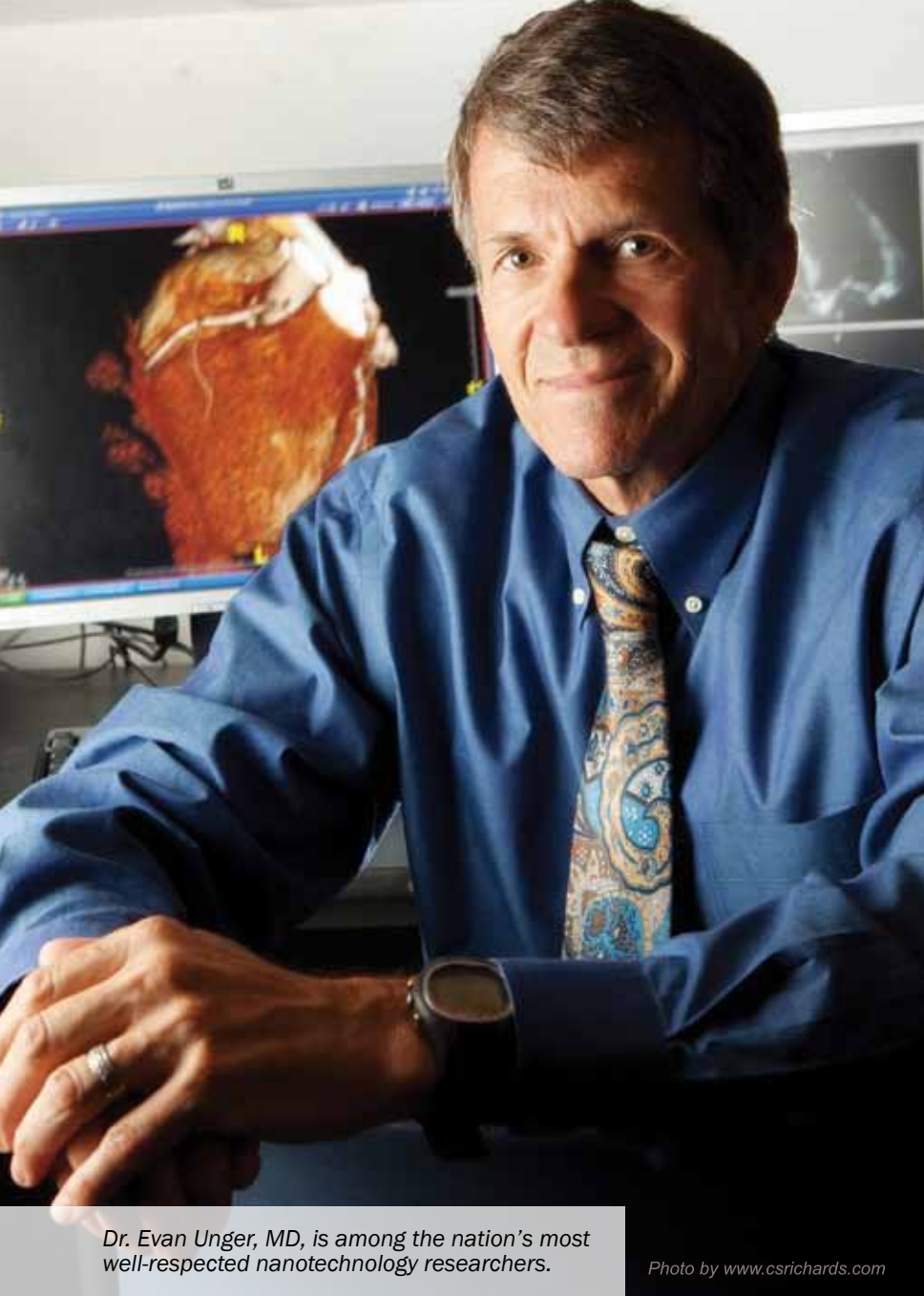


With the June 2011 completion of a 12,000-square-foot expansion, patients can also now receive cutting-edge radiation oncology treatment with state-of-the-art precision technology closer to home. The Orange Grove location has a PET-CT Simulator, a state-of-the-art imaging machine that does both PET and CT scan at the same time for the best accuracy possible, and the Trilogy Stereotactic System, an innovative linear accelerator – the device that delivers radiation – with CT image guidance capability that verifies within a millimeter that the treatment will be delivered on target and extremely quickly – in about three minutes.

Patients at the Orange Grove Campus also have access to leading-edge clinical trials, a complete multidisciplinary team and supportive resources, including psychosocial oncology, social workers, financial counselors, high-risk clinics and American Cancer Society patient navigators.

The University of Arizona Cancer Center – Orange Grove Campus is a partnership between The University of Arizona Medical Center and The University of Arizona Cancer Center, a National Cancer Institute-designated Comprehensive Cancer Center.

*To make an appointment, call
(520) 694-8900*



Dr. Evan Unger, MD, is among the nation's most well-respected nanotechnology researchers.

Photo by www.csrichards.com

What does this development mean for cancer research? Dr. Unger says it may turn a few untreatable forms of cancer into a thing of the past.

"We're focusing on cancers that are hypoxic," Dr. Unger said. "Hypoxia is a condition where an area is deprived of oxygen. A hypoxic cancer can't be treated with radiation because the way that treatment works is by creating individual oxygen atoms, or singlets. Oxygen, of course, is O₂, so the radiation splits the oxygen molecule apart and creates free radicals, which then kills the tumor. If a tumor is in a low-oxygen or no-oxygen area, then it is resistant to the radiation."

How does it work? Billions of tiny nanodroplets, less than 1/20 the diameter of red blood cells, are injected intravenously. The nanodroplets form into microbubbles as they circulate through blood vessels in the lungs absorbing oxygen. The oxygen-carrying microbubbles will circulate in a patient's bloodstream near the cancerous area. Each microbubble is about one micron, or 1/1000 of a millimeter, in size. If properly administered, these microbubbles give the area enough oxygen to proceed with radiation treatment.

"The average cancer patient undergoes roughly 28 radiation treatments, so we're also hoping this oxygen therapy allows patients to undergo far fewer treatments and recover much faster," Dr. Unger said.

In addition to cancer treatments, Dr. Unger and his team have found great success using microbubble technology to treat strokes and hemorrhagic shock.

It's this sort of out-of-the-box thinking that led The University of Arizona to recognize Dr. Unger with the 2011 Technology Innovation Award — an honor given annually in recognition of exemplary innovative achievement in translating original ideas from the laboratory to the marketplace.

Prior to his work developing these drug- and oxygen-delivery systems, Dr. Unger was brainstorming ways to get stronger, sharper internal images, while reducing a patient's exposure to radiation.

"As a contrast agent, this technology is much safer and much more effective than a CAT scan or an MRI," Dr. Unger said. "Those tests use either use radiation or contrast agents that can cause kidney damage. But the microbubbles use ultrasound, which causes no kidney damage and is much cheaper for patients."

While this technology is currently used in the United States for cardiology, it is still awaiting FDA approval for cancer imaging. It is, however, being used with great success in Canada, Japan and parts of Europe.

"I have colleagues at the Institut Gustave-Roussy [Europe's largest oncology center] using these ultrasound contrast agents, and they tell me that they can gauge a patient's response to treatment way before they could tell on a CAT scan," Unger said.

As the scope of Dr. Unger's research grows at an exponential rate, the technology continues to shrink. The future of cancer imaging and treatment may rest with these bubbles that are smaller than specks of dust.

- By Nick Prevenas

Highlights in giving



Westbrook Charity Challenge

In just three years, the 4,000-home Westbrook Village Community in Peoria, Ariz., has become one of The University of Arizona Cancer Center's most enthusiastic supporters.

Pete Riedel says the best is yet to come.

"We feel like our relationship with The University of Arizona Cancer Center has given us a bit of an identity here at Westbrook," Riedel said. "We're all retired and we're all looking to give something back."

The fundraising effort began in 2009 with a small-scale members-only golf event, put together by the Westbrook Ladies Golf Club. Even though the event was held on a Tuesday, that tournament raised an impressive \$8,000.

Riedel's wife, Jill, was among those instrumental in putting together that first tournament. When Pete became a director on the Westbrook Village Golf Board, the Riedels joined forces with their friends the Browns (Paul and Leslie) and the Francos (Al and Bonnie) to form the non-profit Westbrook Charity Association as a way reach more people.

At first, Riedel — a Westbrook resident since 2005 — assumed he was going to be running a simple golf tournament. He's delighted to report that hasn't been the case.

"Out of our 4,000 homeowners, only 700 of them are golfers," Riedel said. "So our golf board got together with our homeowners association and brainstormed ways to make this an even bigger event."

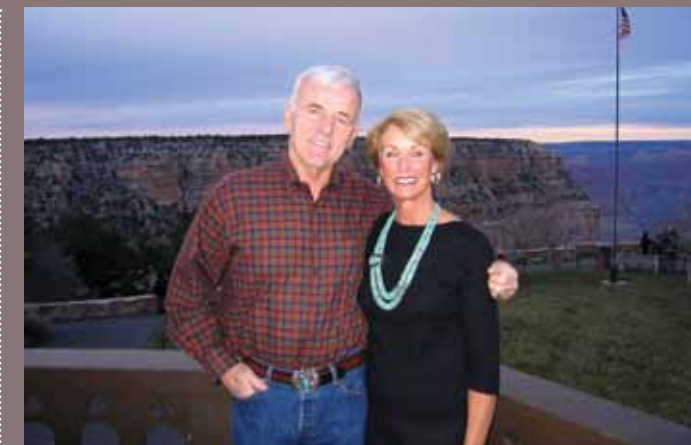
Through golf tournaments, pickleball events, tennis matches, classic car shows, silent auctions, and bingo tournaments, the Westbrook Charity Association has generated nearly \$80,000 for the Cancer Center, which has been directed to the research and education initiatives where it is needed most.

THE THIRD ANNUAL WESTBROOK CHARITY CHALLENGE

January 28-29, 2012
Peoria, Ariz.

Visit www.westbrookcharity.org
for more information.

Contact Person:
Pete Riedel (623) 693-3246



Support from the Hornadays

Nobody can predict how he or she will react in the face of unspeakable tragedy.

Phoenicians Tom and Ruth Ann Hornaday were already instrumental contributors to The University of Arizona Cancer Center. Tom had joined the advisory board in 1985, and Ruth Ann was among the community's most passionate cancer education advocates.

But in 1990, the disease struck their daughter, Kristi, in the prime of her life. The Hornadays turned to their friends at the Cancer Center for help.

"We knew that the Arizona Cancer Center had some of the finest doctors you'll find anywhere," Tom Hornaday said.

Kristi was working at the IBM offices in New York when she was diagnosed with melanoma. Tom turned to his close friends, Drs. Sydney Salmon and David Alberts, for advice on how to help Kristi get better.

Kristi received treatment from several physicians at a number of different cancer centers, but succumbed to the disease in 1993 at the age of 26. The Hornadays saw something special during her treatments in Tucson.

"The Cancer Center doctors were simply terrific," Hornaday said. "They gave Kristi incredible care and did the very best they could for her."

From that point forward, the Hornadays took it upon themselves to become one of this area's most generous and hard-working supporters of cancer research. They remain active in every facet of the Cancer Center's philanthropic activities, and their son, Jim, joined his father as a member of the advisory board.

Thanks to their successes in Phoenix's real estate development market, the Hornadays are among the Cancer Center's major benefactors. Most recently, their contributions have gone toward the educational materials budget, where they have supported the production of various prevention and outreach materials, including reprinting the Cancer Center's updated cookbook.

But it's not necessarily the facilities or the equipment that set The University of Arizona Cancer Center apart in the Hornadays' minds. It's the people.

"We don't know the technical medical answers, but we do know the people who know those answers," Hornaday said. "There's a group of institutions trying to solve the same problems. They're all trying to save lives. We've learned a lot from the folks at the Cancer Center and we've met some of the best people we know."

- By Nick Prevenas

Produced by the Office of Public Affairs

Public Affairs Director

Sara Hammond

Associate Editor

Nick Prevenas

Designer

Kayla Coe, MA

Printer

AlphaGraphics Commercial Printing Services

The media is welcome to quote from this publication and is
asked to provide credit. Correspondence or inquiries should be
addressed to:

The University of Arizona Cancer Center, Office of Public Affairs
1515 N. Campbell Ave., P.O. Box 245024
Tucson, AZ 85724-5024

e-mail: azcc@azcc.arizona.edu

All contents © 2011 Arizona Board of Regents. The University of
Arizona is an EEO/AA – M/W/D/V Employer. Volume III, Issue 2.

Scan this QR code with
your smartphone for
more information



www.arizonacancercenter.org

EVENTS CALENDAR

October

Breast Cancer Awareness Month

22 **¡VIDA! The Sixth Annual Mujer Latina Breast Cancer Conference:**
8 a.m. - 1 p.m. A collaborative community effort
that will offer bilingual Spanish/English breast
health information. Advanced registration
suggested: Please call (520) 626-0331 or e-mail
avalencia@azcc.arizona.edu.

22 **Pink Ribbon 7K Run/Walk:** Hosted by Tagg
Running Events, taggrun.com.
A portion of proceeds will benefit The University of
Arizona Cancer Center Better Than Ever grants to
fund research for women's cancers.

23 **CATwalk 5K and 10K, 8:30 a.m. at The
University of Arizona:** Benefitting the UACC.
For more information, please call (520) 621-8046.

25 **Director's Circle Tucson:** Reception and
lecture, 6-8 p.m. at Arizona Inn.
By invitation.

November

Lung Cancer Awareness Month Pancreatic Cancer Awareness Month

13 **Eighth Annual Take a Hike for BAG IT:**
7 a.m. Registration is \$80 and proceeds
benefit BAG IT in its continued efforts to provide
cancer support to newly diagnosed patients.
More information at bagit4u.org or contact:
sherri@bagit4u.org.

16 **Director's Circle Phoenix:** Reception and
lecture, 6-8 p.m. at Desert Botanical
Gardens. By invitation.

18 **Second Annual Coulter Cadillac
Invitational Golf Tournament:** To benefit
the UACC through the Phoenix Friends of the
Arizona Cancer Center. Enjoy a great BBQ, raffles
and fun prizes at this special event at the Arizona
Biltmore Golf Club.

26 **Gamer's Gauntlet 5K and 10K Obstacle
Run:** Proceeds will benefit the UACC Better
Than Ever grants to fund research for cancer, with
emphasis on women's cancers.
More information: gamersgauntletaz.com.

December

6 **Palo Verde LGA presents Putting Fore
Prevention:** Palo Verde Golf Course, Sun Lakes,
Ariz. Call Cheri for more information at
(480) 305-0548 or almondc@msn.com

10 **Tucson Marathon Events:** Benefiting the
UACC's Better Than Ever research grants.
More information at tucsonmarathon.com.

January

Cervical Cancer Screening Month

28-29 **The Westbrook Village Community
presents the Third Annual Charity
Challenge:** More information on page 7 and at
westbrookcharity.org.