

In this issue:

Cox Media teams up to build awareness • Imaging program looks to the future



The Phoenix Friends
Scholar Program takes flight

Director's Message



The Arizona Cancer Center took a major step forward when construction began in January of an expansion to the Arizona Cancer Center's UMC at Orange Grove clinic. The expansion – to be completed in early 2011 – will bring care closer to our patients in Northwest Tucson and Pima County.

The 12,000-square-foot clinic addition will house a radiation oncology facility with state-of-the-art precision technology that can treat as many as 40 patients a day. The expansion will add to the existing offices on West Orange Grove Road, which currently house a hematology/oncology facility where eight of our physicians hold clinics.

In other news, we are thrilled to partner with Sam Fox – a Tucson native, founder of Fox Restaurant Concepts and member of the Arizona Cancer Center advisory board – for a lecture series on cancer prevention at Sam's new True Food Kitchen – with his partner Dr. Andrew Weil – at Biltmore Fashion Park, 2502 E. Camelback Road in Phoenix.

Arizona Cancer Center members will give the talks, which include buffet-style appetizers and beverages by True Food Kitchen. See the complete schedule, including lecture topics and speakers, at our web site: <http://azcc.arizona.edu/truefood>.

Sincerely,

David S. Alberts, MD
Arizona Cancer Center Director

On the cover

Arizona Cancer Center physician-scientists and the 2009 Phoenix Friends Scholars (from left): Daruka Mahadevan, MD, PhD; Lee Cranmer, MD, PhD; Rachel Swart, MD, PhD.

Photo by Chris Richards

Around the Clinic



VanZyll "Brightens Up the Place"

The Arizona Cancer Center at UMC North is a beautiful building with a warm, welcoming feeling. Part of its friendly atmosphere is due to the efforts of Marianne VanZyll who has been a volunteer at the Arizona Cancer Center for the past 17 years helping nurses and comforting patients.

Last summer VanZyll began distributing flowers throughout the clinic each week. She picks up bouquets from a Trader Joe's where she has befriended the assistant manager whose wife was treated at the Cancer Center.

"The flowers brighten up the place," she said as she arranged the blooms.

"I just try to bring smiles to the patients and help in any way I can"

- Marianne VanZyll

VanZyll also distributes cookies to patients, which are donated by Paradise Bakery, and collects and recycles soda cans from the clinic and Gold's Gym, where she works out, and contributes the proceeds to buy lunch for patients who cannot afford it.

With her dedication and enthusiasm, VanZyll has also recruited new Cancer Center volunteers.

"My husband passed away from cancer, but that's not really why I began volunteering here," she said. "My son was dating a lovely girl at the time and she was volunteering at the Center. One day she asked if I would like to join her and I've never stopped since."

The reason for her long-term volunteering is simple.

"I just try to bring smiles to the patients and help in any way I can," she said.

- By Sarah Mauet

BUILDING AWARENESS

At the Arizona Cancer Center, we act against cancer every day. However, one need not be a physician or researcher to do so.

In fact, Cox Media is acting against cancer by helping increase the Arizona Cancer Center's visibility statewide.

Last summer, Cox Media and the Cancer Center met to discuss a corporate partnership. The two organizations have a lot in common, said Michael Dunne, director of media relations for Cox in Southern Arizona.

"The Arizona Cancer Center is a statewide facility and we are a statewide organization," he said. "The idea of not only a healthy Tucson and healthy Southern Arizona but a healthy state is very critical for us. It's where our customers live - it's where our employees live."

Cox Media's investment to help build awareness of the Cancer Center has included online advertising and will also include commercials to air in the coming months on the Comcast and Cox Cable TV networks. At the same time, the Cancer Center put the Cox logo on the new Act Against Cancer billboards, which are in Tucson and around the state.

"The nice thing is that the Cancer Center is also trying to help Cox be successful in its endeavors as a business," said Lisa Lovallo, Cox Communications vice president for Tucson and Southern Arizona. "We're trying to build a partnership for the long haul."

Though this began as a business arrangement, it also quickly became personal. Shortly after the first meeting, Shannon Ortiz, a beloved Cox employee, was diagnosed with breast cancer. Lovallo urged her to go to the Arizona Cancer Center.

"The whole reason I went to the Cancer Center was because of Lisa," said Ortiz, who praised her physicians, Drs. Leona Downey and Setsuko Chambers. "I'm incredibly pleased. I just love it there."

Seeing Ortiz, a sales team leader who has been with the company 20 years, receive personalized, quality care made Lovallo and others

at Cox feel that the Cancer Center partnership went beyond a corporate giving arrangement.

"Right at the time these billboards were going up we had an entire organization rooting for an employee who has been here forever, so we had a tremendous amount of pride in our partnership with the Cancer Center," Lovallo said. "It's a beautiful partnership with a personal tie to our company."

Ortiz, a mother of three, successfully finished chemotherapy in January. That - more than marketing or community outreach - is what the partnership is all about, Lovallo said.

"It was not about sponsorships," she said. "It was about getting the word out so more people get care."

"The ultimate goal is to save lives," she added. "That's the purpose of it. Our job is to get behind these visionaries and ensure they accomplish their goals faster. That, for me, is success."

- By Sarah Mauet



From left: Lisa Lovallo and Shannon Ortiz

A circle of influential friends awaits your company.

Join the Corporate Partners at the Arizona Cancer Center today and contribute to the prevention and cure of cancer. To learn more, call (520) 626-5521.

Westbrook Charity Challenge

After the residents of the Westbrook Village Community in Peoria, Ariz., held the inaugural Westbrook Charity Challenge on Jan. 31, the first question they asked was, "How can we possibly top this next year?"

Organizers Pete Riedel, Paul Brown and Bonnie Franco brought together the homeowners association and golf club members to launch this first community-wide event, which raised more than \$25,000 for cancer research.

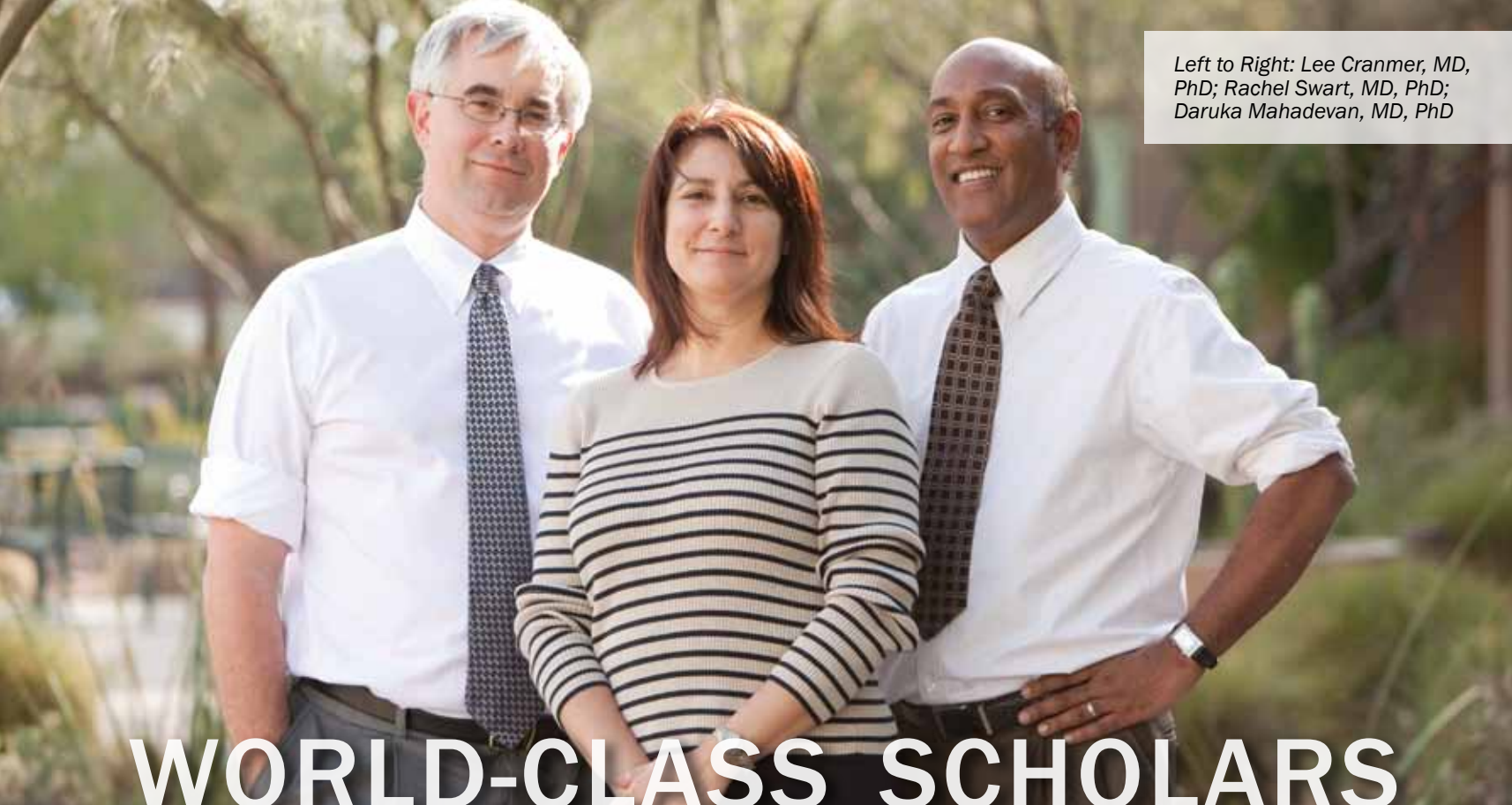
The event included a golf tournament at the Lakes and Vistas Golf Courses, a 5K walk and 15K bike ride as well as a vintage car show, raffle and auction. The event's major sponsor was The Groundskeepers, a landscape services company of Tucson

and Phoenix. Jason's Deli, Baby's Steak and Lemonade and Simply Grand Catering, all of Peoria, generously sponsored a luncheon for participants.

In 2008, the Westbrook Village 18 Hole Ladies Golf Association held the Putt and End to Cancer Golf Tournament supporting the Arizona Cancer Center. This year Westbrook Village wanted to spur community spirit while also supporting cancer research.

"We are all touched by cancer," said Riedel. "All of us can make a difference and the event is our way of helping the Arizona Cancer Center, our community and Arizona fight this disease."

- By Keri Valdes



Left to Right: Lee Cranmer, MD, PhD; Rachel Swart, MD, PhD; Daruka Mahadevan, MD, PhD

WORLD-CLASS SCHOLARS

Since 1986, the Phoenix Friends of the Arizona Cancer Center have supported scientific research at the Arizona Cancer Center to help transform the future of cancer care. In the past, funds raised by the Friends have gone toward new laboratory equipment, patient support materials, endowed chair positions and more. Last year, the funds were used for a new program: the Phoenix Friends Scholar Program.

The Phoenix Friends Scholar Program supports world-class physician-scientists who show extraordinary potential for significantly advancing cancer treatments. The 2009 Phoenix Friends Scholars are Lee Cranmer, MD, PhD; Daruka Mahadevan, MD, PhD; and Rachel Swart, MD, PhD. In addition to seeing patients, each of the Scholars is actively involved in novel drug development and translational research aimed at taking laboratory discoveries to clinical treatment settings.

"It really is an honor," Dr. Cranmer said. "It was a contribution to what we're doing and it made us feel very valued. We're in the trenches and it was tremendous for them to say, 'we're going to support you in a very practical way.' The Phoenix Friends are making our ideas happen. We are incredibly appreciative of the opportunity that the Phoenix Friends have made possible."

Lee Cranmer, MD, PhD

Dr. Cranmer is an assistant professor of clinical medicine at the University of Arizona College of Medicine and a medical oncologist who treats Arizona Cancer Center patients with complicated and advanced forms of skin cancer or bone and soft tissue sarcomas. He also practices general internal medicine, general hematology and inpatient adult bone marrow/stem cell transplant.

Dr. Cranmer conducts clinical research in melanoma and sarcomas and maintains an extensive panel of active therapeutic clinical trials for patients with these disorders. In the laboratory, his research examines novel drugs to treat sarcomas. He also investigates the biology of melanoma, with special interest in the treatment of melanoma that has spread to the brain.

Thanks to the Phoenix Friends, Sherif Morgan, PhD, is joining Dr. Cranmer as a post-doctoral research fellow in translational cancer research. Together, they hope to move the research efforts forward.

"While I have many great ideas, I do not have the time to move them forward all by myself," Dr. Cranmer acknowledged.

"Additionally, isolation is poor for research. Research in an intellectually collaborative environment leads to unanticipated synergism. Dr. Morgan and I plan to be the core of a research team focused on bench-to-bedside efforts for the melanoma/sarcoma program at the Cancer Center."

Dr. Morgan began working with Dr. Cranmer in August 2009 after completing the Cancer Biology Graduate Interdisciplinary Program at the Arizona Cancer Center. He's currently working with Dr. Cranmer studying drug sensitivity in sarcoma patients and the biology of brain metastasis in melanoma.

"We're using clinical specimens to conduct laboratory research and hopefully it makes the full circle and translates back to the clinic," Dr. Cranmer said. "It's a more applied approach to lab research."

Patients will ultimately be the ones to benefit from this collaboration, as they will be able to take advantage of the new treatments developed.

"The common theme is that there's a clinical question," Dr. Cranmer said. "Everything we're working on has a tie to the clinical work we do here."

Daruka Mahadevan, MD, PhD

Dr. Mahadevan is the director of Drug Development and Translational Research and the director of the Phase I Clinical Trials Program at the Arizona Cancer Center. He is also an associate professor of medicine at the University of Arizona College of Medicine and he specializes in medical oncology and internal medicine. He has a mixed clinic, which consists of patients with pancreatic cancer, gastrointestinal stromal tumors, chronic lymphocytic leukemia, lymphomas and myelodysplastic syndrome, and he also sees patients participating in clinical trials.

With a PhD in structural biology, Dr. Mahadevan is able to use patient biopsy samples to discover novel therapeutic targets and design drugs to the targets using a structure-based drug discovery algorithm.

"We identify and validate targets, for which we can go ahead and build 3-D structures of proteins and come up with drugs that block them," he explained. "We've done it quite well for several targets. We've discovered and developed drugs and patented them."

As part of the Arizona Cancer Center's Specialized Program of Research Excellence (SPORE) in lymphoma, Dr. Mahadevan began working on T-cell lymphoma, which is a very aggressive disease and has no standard of care. With the help of a medicinal chemist, he designed a molecule called MP470, a c-Kit/PDGFR tyrosine kinase inhibitor.

"We tested our compound in T-cell lymphoma and we see wonderful activity, great activity," he said. "We think it's a great drug that will work for T-cell lymphoma."

In a Phase I trial, MP470 demonstrated safety and activity in solid tumors. He's now working to take it to a Phase II trial in aggressive T-cell lymphomas. Dr. Mahadevan has several other compounds in development, including one that he thinks holds great promise as a general cancer-fighting drug.

"We have shown that this particular drug works for lots of different cancers, including pancreatic cancer, at least in the lab," he said.

Thanks to the programs Dr. Mahadevan leads, Arizona Cancer Center patients who have failed traditional therapies are able to take advantage of new, targeted drugs well before they are available to the general public.

"We're finding better targets; we're finding better drugs," he said. "I'm interested in discovering new drugs in the lab and partnering with drug companies to bring the best possible drugs to our patients here."

Rachel Swart, MD, PhD

Dr. Swart is an assistant professor of medicine at the University of Arizona College of Medicine. Her clinical practice at the Arizona Cancer Center at UMC North and UMC Orange Grove focuses on all stages of breast cancer and Phase I clinical trials. She is currently conducting two clinical trials studying the safety and effectiveness of new drug combinations for patients with metastatic breast cancer and other solid tumors.

In the laboratory, Dr. Swart's research interests include new drug development and discovering ways to know in advance whether a patient will benefit from a specific treatment. She wants to be able to determine the effectiveness of a treatment well before current tests can tell us. The goal is to know from a blood test what particular treatments will work for a patient, saving valuable time and ultimately lives.

"How do we know who will have a response earlier rather than just waiting around and doing CAT scans in 12 weeks? That's really where we're pushing things," she said. "How do we know a targeted drug is working and who should we be giving that drug to?"

Dr. Swart is working on the identification of predictive and prognostic markers on circulating tumor cells (CTC) and circulating endothelial cells (CEC), which are found in the blood stream and play a role in metastasis and tumor growth. She uses blood samples from patients with metastatic breast cancer and other women's cancers to study CTCs and CECs in order to look for new ways to identify response to therapy.

"It's pretty much on the forefront of where personalized medicine is going to go."

- Rachel Swart, MD, PhD

"The idea is to find out who is responding to the treatment by using a biomarker," she said. "That's what our lab is focusing on - trying to correlate a biomarker to see who is going to respond to treatment, because if you can figure that out, then you know what treatment to give them."

Dr. Swart's research is on the leading edge of the push for targeted health care.

"This whole concept of CTC and CEC is still very young and upcoming," she said. "It's pretty much on the forefront of where personalized medicine is going to go."

- By Sarah Mauet



This original artwork by Timothy Chapman is one of the items up for auction.

Join the Phoenix Friends of the Arizona Cancer Center for their 24th annual fundraising event: **An Evening with the Friends 2010**

What: A gourmet dinner, hosted bar and dancing as well as a silent auction for luxurious trips, trendy and vintage jewelry, inspiring art, sports and spa packages and more.

When: 6 p.m. Saturday, March 27

Where: JW Marriott Desert Ridge Resort & Spa, 5350 E. Marriott Dr., Phoenix

Tickets: \$250 per person or \$2,500 per table of ten

Fundraising: The net proceeds from this event will benefit the 2010 Phoenix Friends Scholar Program at the Arizona Cancer Center.

More Information: www.phoenixfriends.org

Mark "Marty" Pagel, PhD, works on contrast agents in the CAMEL.



IMAGING PROGRAM LOOKS TOWARD THE FUTURE

Arizona Cancer Center scientists are conducting research that they expect will lead to earlier and faster monitoring of a patient's response to cancer treatments.

Researchers at the University of Arizona's Contrast Agent Molecular Engineering Lab (CAMEL) say their work could hone diagnostic imaging procedures that would show oncologists how their prescribed treatment is attacking a tumor and provide the physicians with information to quickly change chemotherapy protocols. The expectation is that response to treatment could be determined in 24 to 72 hours versus the current standard of as much as two to three weeks from the time a treatment is administered to a patient.

"These rapid evaluations may relieve the anxiety in waiting for critical test results, and may accelerate a physician's ability to change the therapeutic regimen in order to tailor the therapy to the patient's condition," said Arthur Gmitro, PhD, co-director of the Cancer Imaging Program, one of the Arizona Cancer Center's five primary scientific research programs. He is also a professor of radiology in the Department of Radiology and professor of optical sciences in the College of Optical Sciences at the University of Arizona.

This individualized diagnostic therapy is called "theranostics," a term used to describe the proposed process of diagnostic therapy for individual patients - to test them for reaction to a new medication and to tailor a treatment for them based on those test results.

Scientists use magnetic resonance imaging (MRI) to examine molecules in a tumor to see what changes occur as cancer treatment commences. The Arizona Cancer Center team is developing chemical agents to improve the contrast between healthy and diseased tissue.

"We are looking at how quickly a tumor's blood vessels are being shut down," said Mark "Marty" Pagel, PhD, who directs CAMEL. Cutting off a tumor's blood supply curtails its growth.

The contrast agents being developed at CAMEL improve those molecular observations. The initial research is being directed at aggressive metastatic breast cancers that are treated with novel anti-cancer drugs under development by industry partners. CAMEL has also developed MRI methods that measure the acidity of the tumor tissue. Due to their altered metabolism, tumors tend to be more acidic than normal tissues, which enhances their ability to migrate into surrounding areas and spread to distant tissues. These acidic tumors are often more resistant to standard chemotherapies. Thus, measuring the acidity of a tumor can provide useful information for determining whether aggressive treatment is needed, and which type of treatment will work best.

Enzymes are the "workhorses" of tumor biology, but detecting whether enzymes are actively working in tumors can be a challenge, Dr. Pagel said. CAMEL has patented a novel method for detecting enzymes with MRI and is developing this method to detect enzymes that degrade normal tissues around rapidly growing tumors. This method is also used to evaluate the effects of chemotherapies.

"Just as students at the University of Arizona are graded on their performance on tests and are not simply graded on attendance, CAMEL's imaging tests that measure the performance of working enzymes in tumors are expected to be a more accurate assessment than the current biochemical tests that simply measure the amount of enzymes," Dr. Pagel explained.

Because many chemotherapies can cause adverse reactions in patients, there is interest in using nanotechnology to create "nanocarriers" that deliver therapies only to tumors. CAMEL has developed MRI methods to simultaneously track many nanocarriers through the body, which may be used to identify the nanoparticle that shows the best drug delivery within each patient.

This new diagnostic process, which would work best for solid tumors, would involve a patient undergoing an imaging test to take a "snapshot" of the molecular composition of the tumor just before receiving a chemotherapy drug. The results would provide the physician with the knowledge to select the best therapy for that tumor.

Immediately after a patient received chemotherapy drugs, he or she would receive a second imaging test to ensure that the drugs were successfully delivered to the tumor. After an overnight stay or a return visit the next day, a third test would show how the molecules in the tumor were being affected by the chemotherapy.

"The CAMEL has found an ideal home in the desert."

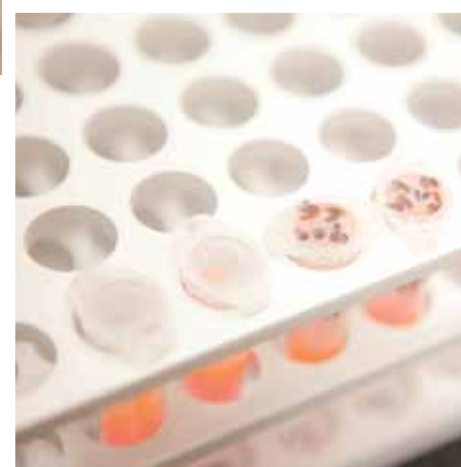
- Mark "Marty" Pagel, PhD

The patient and physician would then have great confidence that the tumor was successfully treated even before the tumor began to change in size. If the delivery or effect of the therapy was shown to be unsuccessful, the patient and physician could immediately plan for a different therapy, saving valuable treatment time.

CAMEL occupies a large chemistry laboratory in the Arizona Cancer Center, which is surrounded by laboratories and research programs led by cancer biologists and clinicians. This interdisciplinary research environment has been critical in focusing CAMEL's expertise in biomedical engineering and chemistry on the development of new tools for cancer studies.

In addition, CAMEL collaborates with the Research Radiology Institute and the strong optical sciences community at the University of Arizona in order to integrate these world-class scientific programs with cancer research in the Arizona Cancer Center. This outstanding interdisciplinary and collaborative research environment was instrumental in attracting CAMEL to move from Case Western Reserve University in Cleveland to Tucson in 2008, Dr. Pagel said.

"The CAMEL has found an ideal home in the desert," he said.



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www.arizonacancercenter.org

March

Colorectal Cancer Awareness Month

9 Putting the 'Person' back into 'Personalized' Medicine - with Scott J. Leischow, PhD. \$25 per person, includes buffet-style appetizers and beverages. 3:30-5 p.m. True Food Kitchen. Reservations required. (480) 751-2176

10 Arizona Cancer Center Clinic lecture: Melanoma - with Lee Cranmer, MD, PhD. 10-11 a.m. AZCC at UMC North

15 Better Than Ever fitness training program registration deadline
www.arizonabte.org

17 Green Valley Community Lecture: Skin Cancer - with James Sligh, MD, PhD. 10-11 a.m. West Center

23 Diet and Cancer Prevention - with Cynthia A. Thomson, PhD, RD. \$25 per person, includes buffet-style appetizers and beverages. 3:30-5 p.m. True Food Kitchen. Reservations required. (480) 751-2176

27 An Evening with the Friends - 24th annual gala event presented by the Phoenix Friends of the Arizona Cancer Center. A dinner and silent auction benefiting cancer research at the Arizona Cancer Center. 6 p.m. JW Marriott Desert Ridge Resort & Spa, 5350 E. Marriott Dr., Phoenix
www.phoenixfriends.org

April

National Cancer Control Month

6 Cervical Cancer Prevention: What's New and What's True - with Francisco A. Garcia, MD, MPH. \$25 per person, includes buffet-style appetizers and beverages. 3:30-5 p.m. True Food Kitchen. Reservations required. (480) 751-2176

10 An Evening with Stanton Lanier - The Atlanta-based pianist-composer will present his first Arizona concert to an intimate 120-seat audience, who will enjoy peaceful melodies, interactive composing demonstrations and life stories behind the music. Arizona Cancer Center patients will receive donated CDs as an offer of hope and healing. Presented by Steinway Piano Gallery, 3001 E. Skyline Dr., Tucson. Doors open at 6:45 p.m. with presentation at 7:30 p.m. Tickets are \$30 per person. (888) 325-9797

20 What Can Clinical Trials Do for You? - with Amanda F. Baker, PharmD, PhD. \$25 per person, includes buffet-style appetizers and beverages. 3:30-5 p.m. True Food Kitchen. Reservations required. (480) 751-2176

May

Melanoma/Skin Cancer Detection and Prevention Month
Cancer Research Month

1-2 Living in Harmony with the Sun - a weekend of events to promote sun safety, awareness and skin cancer prevention presented by the Arizona Cancer Center's Skin Cancer Institute. 10 a.m.-3 p.m. Arizona-Sonora Desert Museum, 2021 N. Kinney Road, Tucson. (520) 626-1037

4 How You Can Prevent Skin Cancer - with David S. Alberts, MD. \$25 per person, includes buffet-style appetizers and beverages. 3:30-5 p.m. True Food Kitchen. Reservations required. (480) 751-2176

10 Director's Circle Reception - with Lee Cranmer, MD, PhD, and Clara Curiel, MD, of the Arizona Cancer Center's Skin Cancer Institute. 6-8 p.m. By invitation

COMMON LOCATIONS:

AZCC at UMC North = Arizona Cancer Center at UMC North, 3838 N. Campbell Ave., Tucson

True Food Kitchen = Biltmore Fashion Park, 2502 E. Camelback Road, Phoenix

West Center = 1111 Via Arco Iris, Green Valley