News from the University of Arizona Cancer Center

Our mission is to prevent and to cure cancer.

May 2018

On the Air  Across the State
Carlos Herrera from KGUN channel 9 visited Donato Romagnolo, PhD, on March 8 to talk to him about the health benefits of the Mediterranean diet. View the Video

Later in the month, on March 22, Mr. Herrera came back to talk to Daniel Persky, MD, about the drawbacks of the “right-to-try” legislation that had just been passed by the House of Representatives. View the Video

In late April, KJZZ 91.5 in Phoenix talked to Megha Padi, PhD, about how bioinformatics helps us analyze big data to make big steps forward in medicine. Dr. Padi is the new director of the Bioinformatics Shared Resource. Listen to the Story

The Association of American Cancer Institutes recognized 10 pediatric practices across the nation for exceptionally high rates of HPV vaccination. In the U.S. Department of Health and Human Services' Region 9, the honor went to the Navajo Area Indian Health Service Unit in Chinle. Their HPV vaccination completion rate was 82.7 percent -- astronomical compared to the state average of around 50 percent.

The University of Arizona Cancer Center presented the award to Chinle Service Unit staff. Margaret Briehl, PhD, leader of the training core for the Partnership for Native American Cancer Prevention (NACP), and Tiffani Begay, MPH, NACP Training program coordinator, traveled to Chinle for the award ceremony. Read Full Story

Welcome New UA Cancer Center Members

Xinxin Ding, PhD, was recruited late last year to serve as the department head of the University of Arizona College of Pharmacy's Department of Pharmacology and Toxicology, and has recently joined the UA Cancer Center.

Dr. Ding has broad research interests, including drug metabolism, chemical carcinogenesis, mechanistic toxicology and their applications in drug treatment.
development, disease prevention, and precision medicine. Of particular interest is his research into the role of human CYP2A13 and mouse P450 enzymes in tobacco-induced lung cancer.

Juanita L. Merchant, MD, PhD, is a new member of the cancer biology program, with research focuses in:

- Sonic hedgehog and gastric cancer: Studies from her lab focus on the role of bacterial colonization and the development of type B chronic atrophic gastritis in a mouse model.
- Regulation of GI growth and homeostasis by ZBP-89: Dr. Merchant's lab is also actively investigating the role of a zinc finger transcription factor in the regulation of cell growth.
- Mechanisms of gastrinoma development: Her lab has developed a mouse model of gastrinoma by crossing the villin-Cre mouse to the floxed menin mouse.

Jeong-Yeol Yoon, PhD, is a professor of biomedical engineering and a new member of our cancer imaging group. He received his second PhD in biomedical engineering from UCLA, working on lab-on-a-chip and biomaterials. Dr. Yoon joined the faculty at the UA in 2004, and currently holds split home appointments in the Department of Biomedical Engineering and the Department of Agricultural and Biosystems Engineering. He is currently directing the Biosensors Lab.
“How can we get the Cancer Center folks and the engineering folks to talk to each other more?” That was a key question posed by Jennifer K. Barton, PhD, director of the University of Arizona BIO5 Institute, during her opening remarks on March 30 at a joint seminar to promote collaboration between engineers and cancer researchers. “It’s not like we’re strangers, but I think there’s a lot more opportunity that we haven’t tapped.”

Packing the Sabino Room at the Student Union nearly to capacity, researchers from the University of Arizona Cancer Center and the College of Engineering discussed their work, highlighting areas of shared interest. Many audience members stayed longer for an extended Q&A session.

UA Cancer Center Director Andrew S. Kraft, MD, praised the University of Arizona’s deep pool of talent and expressed optimism that cancer researchers could draw from it to enhance their own research.

“The strength of this campus is clearly a lot to do with the engineering that we’re all so proud of,” Dr. Kraft said. “We hope we could intermix that. The goal is to get engineers, clinicians and cancer scientists interacting.”

Read Full Story
Head & Neck Cancer Awareness Event a Success

The Head and Neck Team's first Head and Neck Cancer Awareness event on Saturday, April 28, was a huge success! Three presenters (Steven Wang, MD, Julie Bauman, MD, MPH, and Shethal Bearelly, MD) educated dental professionals and members of the general public with information on treatment, screening, and this cancer's shifting epidemiology. Survivors also spoke to the audience about their experiences.
Afterward, UA Cancer Center physicians provided free cancer screenings for the public, and were shadowed by dental professionals who were there to learn how to provide this screening in their own practices.

Read Full Story
Shared Resource Highlight: Flow Cytometry

The Flow Cytometry Shared Resource (FCSR) at the University of Arizona Cancer Center supports the research needs of all Cancer Center members by providing state-of-the-art instrumentation for data acquisition, analysis, and cell sorting, and the technical expertise to interpret results and develop methods. We offer information about new techniques, and applications of flow cytometry through workshops and seminars, and provide training to interested facility users who wish to run their own samples. Individual consultation services are available to discuss the specifics of each project.
Under the direction of Amanda Baker, PhD, and Caroline Garcia, associate vice president for research, the FCSR is operated and administered as a partnership between the University of Arizona Cancer Center and Arizona Research Laboratories, Division of Biotechnology.

Flow cytometry is a powerful tool that measures the functional and structural characteristics of heterogeneous mixtures of cells and particles in suspension based on their ability to scatter light. The cell sorting function separates these cells physically into their different classes. Researchers have the capability to analyze and sort cells by differences in physiology, metabolism, morphology and other characteristics. The ability to distinguish different cell types is limited only by the ability to attach specific fluorescent markers to the cells.

**Instruments available for use:**
- The FACScanto II (BD Biosciences, San Jose, CA) is an analyzer capable of acquiring and analyzing data from six fluorescence parameters and has two lasers: 488nm and 640nm.
- The FACSAnia III (BD Biosciences, San Jose, CA) is a cell sorter equipped with 5 lasers: 488nm, 633nm, 561nm, 405nm and 355nm, and offers 17 fluorescence detectors. The sorting function of this instrument enables the researcher to physically separate the individual cells and particles from a mixed population. Viable cells can be recovered for further study or culture. The addition of a Baker BioProtect III biosafety cabinet, in which the Aria is housed, allows for sorting of certain live human tissue and BSL2 agents.
- The LSRII (BD Biosciences, San Jose, CA) is an analyzer capable of acquiring and analyzing data from 16 fluorescence parameters and has five lasers: 355nm, 405nm, 488nm, 532 nm and 640nm.

For more information, visit the [Cytometry Core Facility](#)

**Shared Resources to Enhance Research Efforts**

The University of Arizona Cancer Center supports eight Shared Resources funded by the Cancer Center Support Grant and two other resources funded by other sources, intended to provide access to technology that enhances the research productivity of the Cancer Center and provides a basis for scientific interaction and consultation, as well as access to services that facilitate the research and strengthen the administrative and organizational cohesion of the center.

The University of Arizona Cancer Center Shared Resources:
- **Analytical Chemistry**
- **Behavioral Measurement and Interventions**
- **Bioinformatics**
- **Biostatistics**
National Conversation

- **The Problem With Miracle Cancer Cures (New York Times):** By blurring the line between cure and comfort — and between hope and hopelessness — have the "miracles" promised by targeted and immune therapies disrupted the fragile equilibrium that we doctors have long taken for granted?

- **‘Desperation Oncology’: When Patients Are Dying, Some Cancer Doctors Turn to Immunotherapy (New York Times):** What are the clinical and ethical implications for giving immunotherapy to dying patients, even when there are few or no indications it would be beneficial?

- **Zimbabwe moves to protect women from spiraling cervical cancer rates (The Guardian):** Cervical cancer disproportionately affects the developing world, where HPV vaccination programs are desperately needed. More than 800,000 girls will be vaccinated in Zimbabwe, where cervical cancer is the most common women's cancer.

- **UM scientists invent pill to diagnose breast cancer (Michigan Radio):** University of Michigan researchers have invented a pill that contains a combination of a dye and a molecule that targets breast cancer cells. They hope it will light up cancer cells under infrared light. A sensitive, pill-based diagnostic test could become an alternative to mammography.

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Send contributions to the next newsletter to Anna C. Christensen at achristensen@email.arizona.edu.

Do You Have a Publication Coming Up?

The UA Cancer Center communications office can work with you to put together a press release to announce important, interesting, or high-impact publications. Press releases can be scheduled on or shortly after your paper's publication date. We can also send out press releases to announce any grants you have been awarded for your studies and research projects.

We hope to work with you and your home department to put together a press release that explains your study and the greater implications of your work to the general public. Contact Anna C. Christensen at achristensen@email.arizona.edu.

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