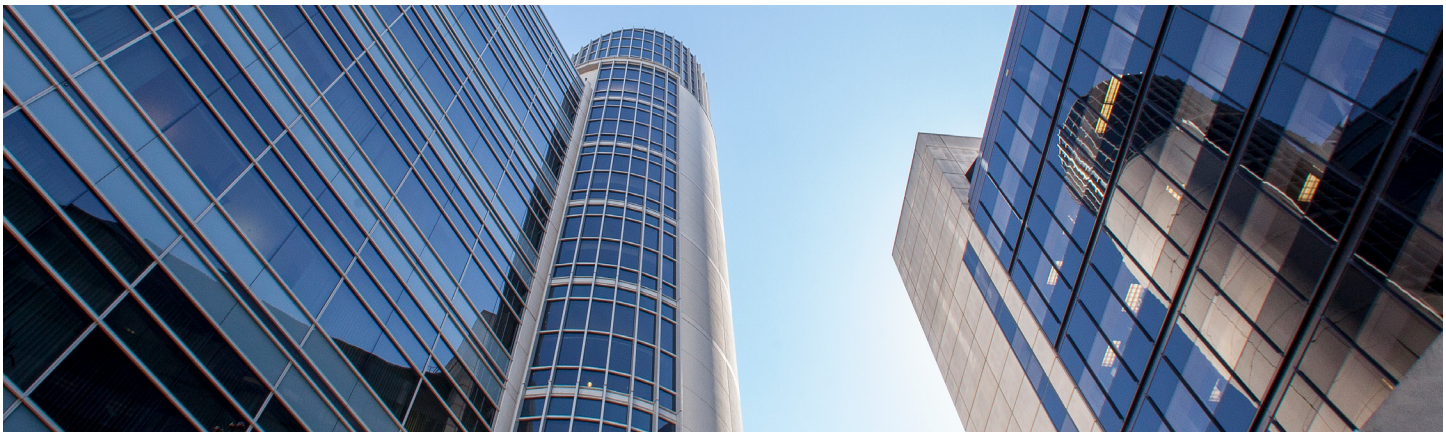
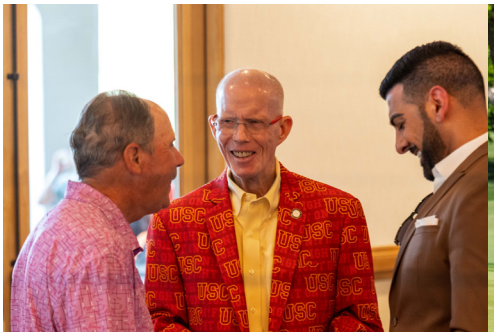
USC Norris Comprehensive Cancer Center
Keck Medicine of USC

March/April 2025, Issue 27

COMMUNITY for a CURE



10th Annual Quinn Brady Memorial Swing Against Cancer Golf Tournament



Each year, Bill Poland—tournament chair and prostate cancer survivor—along with his wife, Lynn, and the Swing Committee, hosts the annual Quinn Brady Swing Against Cancer Golf Tournament. Originally founded by Quinn Brady, Larry Dickenson, and Mike Bambauer, the event brings people together for an afternoon of golf, dining, and entertainment. This year's event took place on April 7, 2025, at the La Quinta Country Club, raising funds for lifesaving cancer research.

This year, the event raised over $250,000, a new record, with proceeds benefiting cancer research and the development of new cancer therapies at the USC Norris Comprehensive Cancer Center as well as Keck Medicine of USC's Urology and Hematology divisions.

> **"Thanks to USC Norris and Keck Medicine of USC, I have survived both prostate and bladder cancer,"** said Bill. **"This is my way of giving back—to continue raising funds for research, make cancer a disease of the past, and give people more time!"**

The most recent event featured thoracic medical oncologist Jorge Nieva, M.D., as the physician speaker who provided updates on his cutting-edge work at USC Norris, and a patient testimonial from Janet McAllister, a cancer survivor who received treatment at the Cancer Center.

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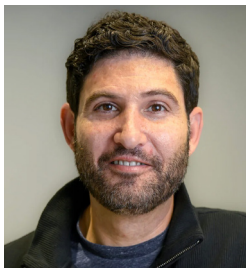
The invaluable contributions of Bill and Lynn Poland, and the entire Swing Against Cancer Committee for the last ten years are immeasurable. Their invaluable support and selfless dedication has been pivotal in advancing our mission to foster and integrate high impact research, education, community engagement, and personalized cancer care and make cancer disease a disease of the past. Thanks to their support, we will continue to generate groundbreaking research that will help countless patients and their families for years to come.

Honors and Recognitions

We are pleased to announce the appointment of Dr. Tirzah Petta as the Director of the USC Norris Molecular Genomics Core (MGC), effective April 1, 2025. The mission of the MGC is to provide services for industry-standard and state-of-the-art molecular and genomic assays in support of USC Norris investigators working across the continuum of basic, translational, clinical, and population sciences. The MGC scientific leadership works with USC Norris investigators on the planning, design, conduct, analysis, and reporting for molecular cancer research studies.

Dr. Petta is a cancer biologist and educator with expertise in molecular genetics, DNA damage response, and translational oncology. Her research focuses on the molecular mechanisms underlying cancer progression, with a particular emphasis on DNA repair pathways and their implications in tumor development and therapy resistance. Dr. Petta's work bridges basic science and clinical relevance, aiming to identify biomarkers and therapeutic vulnerabilities that can improve outcomes for patients with aggressive and rare cancer types.

With strong expertise in genomics, Dr. Petta is dedicated to advancing the mission of MGC through her leadership. She looks forward to promoting services and providing scientific support for cutting-edge research projects within our community.



Congratulations to Dr. Adam Leventhal, member of the USC Norris Cancer Control Research program and founding executive director of the USC Institute for Addiction Science, who was named a University Professor, one of USC's highest academic honors. Dr. Adam Leventhal, now a professor in the Department of Population and Public Health Sciences, is a clinical psychologist, public health scientist, educator, policy advisor, and university administrator specializing in addiction.

Congratulations to Dr. Bodour Salhia, co-leader of the USC Norris Epigenetic Regulation in Cancer Program, who has been appointed as the interim chair of the new Cancer Biology department at the Keck School of Medicine of USC. The new department is committed to advancing fundamental and translational research on the molecular and cellular mechanisms of cancer driving tumor initiation and progression. By integrating multi-omic approaches, computational biology, and innovative model systems, the department aims to uncover key biological processes underlying cancer and to identify novel therapeutic targets and biomarkers. In addition to its research mission, the department is deeply committed to education and training. It will house the master's programs designed to equip students with expertise in molecular biology, bioinformatics, and translational oncology, and will also interact closely with the PhD program in cancer biology and genomics.

Congratulations to Dr. Yali Dou, Associate Director for Basic Research at USC Norris, for being elected as a fellow of the American Association for the Advancement of Science (AAAS). Election as an AAAS fellow reflects the high regard in which a scientist is held by their peers. Dr. Dou is one of seven USC faculty members that joins the prestigious ranks of AAAS fellows who are being recognized for their pioneering research. She is a recognized leader in the study of epigenetics, the mechanisms that enable the singular instructions in DNA to be expressed as myriad cell and tissue types. Learn more **HERE**.

Last month, the Keck School of Medicine of USC Staff Council hosted its first annual Staff Awards and Recognition Ceremony, honoring outstanding team members for their dedication and service. A huge shoutout to Isabel Lora, Special Projects Manager for USC Norris Administration, for receiving the inaugural Team Player Keck School Staff Award!

We also proudly recognize Melba Ragasa (10 years), John Johnson (30 years), and Lupe Tovar (35 years) for their incredible years of service. Your commitment to our mission is truly inspiring!

Congratulations to all!

Inaugural Team Player Staff Award - Keck School of Medicine of USC
Isabel Lora, Special Projects Manager for USC Norris Administration

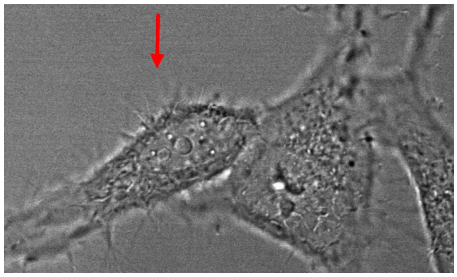
Years of Service:

Lupe Tovar (**35 years**)

John Johnson (**30 years**)

Melba Ragasa (**10 years**)

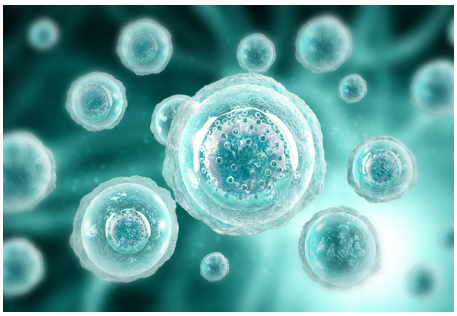
Scientific Advances and Discoveries



Wave Proteins Found to be The Key to HPV16 Entry

Human papillomavirus type 16 (HPV16), a major cause of several cancers, needs to enter cells to start an infection. It does this by being pulled into the cell through a unique process that involves the cell's internal skeleton, specifically a protein called actin. However, scientists didn't fully understand how the virus gets the cell to rearrange its actin to help it get inside. Published in the journal ***Viruses***, Dr. W. Martin Kast, co-leader of the Tumor Immunology and Microenvironment Program, along with first author DJ Fernandez and their team, found that two proteins, WAVE1 and WAVE2, actually "wave" to HPV, to assist the virus to get into human cells. After HPV enters these cells, it usually makes more copies of itself; but, occasionally, it transforms normal cells into cancer cells, which can lead to cervical and throat cancer. When these proteins were removed, the virus had a much harder time getting into the cells. The team also demonstrated that WAVE1, WAVE2, actin, and HPV16 all gather at the same spot on the cell surface before the virus enters. These findings suggest that WAVE1 and WAVE2 play a key role in helping HPV16 enter cells by altering the cell's shape. To see this demonstrated, click **HERE**.

> **"Human papillomavirus causes cervical and throat cancers," said Dr. Kast. "Despite decades of research, we still don't fully understand how this virus enters cells. Our discovery shows that WAVE proteins help 'wave' the virus into cells. This knowledge could be used to block HPV and other viruses that use the same entry process, potentially preventing the diseases they cause."**



ER Stress Uncovers New role for GRP78 as a Gene Regulator in the Nucleus

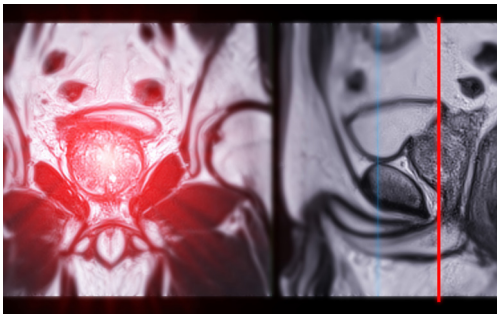
GRP78 is a protein that normally helps other proteins fold correctly inside a part of the cell called the endoplasmic reticulum (ER). But in stressed or cancerous cells, GRP78 can move into the cell's nucleus and take on a completely new role, helping control which genes are turned on or off.

Published in the ***Journal of Biological Chemistry***, USC Norris member Dr. Amy Lee and her team found that the processed version of GRP78, one that has already passed through the ER, is the form that ends up in the nucleus and actively influences gene activity. In contrast, when Dr. Lee and her team created a version of GRP78 that skips the ER and goes straight to the nucleus, it couldn't regulate gene activity like the processed version. They also discovered that for GRP78 to function properly in the nucleus, it needs to bind to both energy molecules and other proteins. Lastly, they found that another ER protein, GRP94, can also move into the nucleus during stress and appears to work alongside GRP78.

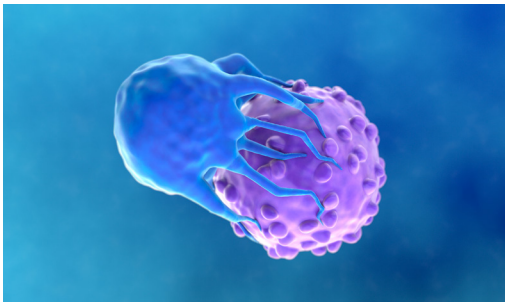
> **"These findings suggest that some form of ER processing of GRP78, in addition to cleavage of the ER signal peptide, is critical for its nuclear activity and that in stressed cells, ER chaperones may assume new functions in the nucleus yet to be explored," said Dr. Lee**

New Grants

Diffuse intrinsic pontine glioma (DIPG) is a deadly pediatric brain cancer. Despite radiation treatment, the current standard of care, almost all children diagnosed with the disease succumb to it with a median survival of 12 months. There have been few advancements in treatment, and current treatment has no curative intent. **Thanks to an award from the Alex's Lemonade Stand Foundation, Dr. Jessica Tsai, a member of the USC Norris Cancer Control Research Program, will work to develop new therapeutic strategies to improve the terrible outcomes for these children and improve quality of life for patients and their families by looking at the FOXR2 gene, a gene that is turned on in DIPGs.** To help us understand how we can therapeutically target the FOXR2 gene, she will investigate how this gene contributes to grow in DIPG cells. Click **HERE** to learn more.



Prostate cancer risk is influenced by genetic differences people inherit from their parents. Scientists have already identified over 450 common genetic changes (known as single nucleotide variants, or SNVs) that may increase the risk of prostate cancer. However, another type of genetic change, known as copy number variants (CNVs), hasn't been studied as much in inherited prostate cancer risk. CNVs happen when sections of DNA are either deleted or duplicated, and they can have significant effects on health given their relatively large sizes. **Thanks to a major grant from the National Institutes of Health, Dr. Fei Chen, member of the USC Norris Cancer Epidemiology Program, will apply various statistical methods to detect CNVs of all sizes and frequencies across the genome.** This study aims to find genetic differences that may increase the risk of prostate cancer, especially aggressive disease, in men of African and European ancestry. Since previous research hasn't focused much on CNVs, this study could provide new insights into how they contribute to prostate cancer risk. This research could lead to the discovery of new genetic risk factors, improve our understanding of the disease, and improve the prediction of prostate cancer risk for people of different backgrounds.



Congratulations to Dr. John Murad, Assistant Professor of Research in the laboratory of Dr. Saul Priceman, USC Norris member and Founding Director of KSOM/NCCC Center for Cancer Cellular Immunotherapy Research. Dr. Murad was recently awarded the Tower Cancer Research Foundation Career Development Award. This award will aid in the development of new therapies for patients with ovarian cancer, a leading cause of cancer-related deaths among women in the U.S. Despite available treatments, many patients with advanced ovarian cancer experience relapse associated with a poor prognosis, highlighting the need for novel and effective therapies. Chimeric antigen receptor (CAR)-engineered T cell immunotherapy is a promising approach to targeting solid tumors, including ovarian cancer. To improve the effectiveness of this therapy, the group is developing more human-relevant lab model systems that replicate the gene mutations seen in human ovarian cancer, allowing them to study how different mutations affect disease progression and responses to CAR T cell therapies.

This approach will help them refine CAR T cell designs in efforts to improve their function, modify the tumor microenvironment, and improve survival for patients with this disease.

Patient Perspective Series

Receiving a cancer diagnosis and undergoing treatment can be a life-altering experience, and often a patient's family members or friends play a vital role in providing emotional and practical support and coordinating care. But these informal caregivers can face significant challenges and are frequently in need of resources and support themselves.

In the most recent Patient Perspective series, titled "I Love You. Your Cancer…not so much," led by Mary Aalto and held in April, longtime family caregivers Ed Gallagher, Cyndi Tomlinson, and Frances Fitzgerald shared their deeply personal stories on caring for beloved family members with cancer along with their strategies for finding balance and resilience amid the stress and uncertainty that a cancer diagnosis brings.

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Contact Us

Have something to contribute to Community for a Cure? Send it to Hinde.Kast@med.usc.edu

To learn more about giving to USC Norris, please contact Minhaal M. Nathani, Senior Executive Director of Development, at Minhaal.Nathani@med.usc.edu

Learn more about the USC Norris Comprehensive Cancer Center on our website:
https://uscnorriscancer.usc.edu