

The University of Tennessee

**WEST**  
Cancer Center

Methodist Healthcare Family

**WEST CANCER CENTER**

2014 Annual Report

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## CANCER EXECUTIVE COUNCIL

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**Lee S. Schwartzberg, MD, FACP**

Director, *West Cancer Center*,  
Hematologist/Medical Oncologist

**Kurt Tauer, MD, FACP**

Chief of Staff, *West Cancer Center*,  
Medical Oncologist

**Bradley Somer, MD**

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*West Cancer Center*

**Sylvia Richey, MD**

Hematologist/Medical Oncologist,  
*West Cancer Center*

**Todd Tillmanns, MD**

Gynecologic Oncologist,  
*West Cancer Center*

**David Stern, MD**

Executive Dean, College of Medicine,  
Vice Chancellor Clinical Affairs,  
*The University of Tennessee Health  
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**L. Darryl Quarles, MD**

Associate Dean of Research,  
Director of the Division of Nephrology,  
*The University of Tennessee Health  
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**Martin Fleming, MD**

Chief of Surgical Oncology, Associate  
Professor of Surgery, *The University of  
Tennessee Health Science Center*

**Erich Mounce**

Chief Executive Officer,  
*West Cancer Center*

**Gary Shorb**

Chief Executive Officer,  
*Methodist Healthcare*

**Michael Ugwueke**

President and Chief Operating Officer,  
*Methodist Healthcare*

**Chris McLean**

Chief Financial Officer,  
*Methodist Healthcare*

**Donna Abney**

Executive Vice President,  
*Methodist Healthcare*

## FROM OUR DIRECTOR

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On behalf of the entire West Cancer Center staff, I am pleased to present the 2014 West Cancer Center Annual Report. This report provides an opportunity to not only reflect on the accomplishments of our physicians and staff, but also the chance to distinguish our objectives and goals in the coming years. Our goals are bigger – and our reach is wider – than ever before. This is a transformative time in the history of West Cancer Center, as we continue to make Memphis a destination for adult cancer care and research.

The achievements presented in the following pages are but a small representation of the life-saving efforts that take place throughout West Cancer Center, every day. These tangible and quantifiable accomplishments are the result of our exceptional physicians, researchers and associates, singular in their mission to provide quality cancer care and research to our patients. Their unwavering dedication to advancing our knowledge of cancer, discovering more effective and precise treatment plans, and supporting the lives of our patients and their loved ones is unparalleled, and their devotion to our mission and vision is the heart of West Cancer Center.

As we enter the fourth year of our partnership with Methodist Healthcare and the University of Tennessee Health Science Center, West Cancer Center is positioned as the region's comprehensive leader in adult cancer research. This focus on groundbreaking research and clinical trials is the key to providing our patients with the most effective, individualized care possible. It is what sets us apart – and it is why patients from throughout the region and 33 states across the country choose West Cancer Center as their trusted partner in their cancer journey.

To provide patients with personalized approaches in clinical trials and life-saving research, philanthropy has never been more critical. Our new non-profit, the University of Tennessee/West Institute for Cancer Research, will begin to focus on four "Translational Centers for Excellence": Drug Discovery and Development, Cancer Immunotherapy, Women's Cancers and Community Outcomes. This focus on translational research is at the heart of a comprehensive cancer center, with a goal of taking discoveries from the lab bench directly to the bedside and back again so West Cancer Center patients can be among the first to advance improvements in cancer care.

We stand at the precipice of a new era of cancer research, harnessing the unique knowledge of the genetic makeup of an individual's own cancer to fashion precision treatment. Here at the West Cancer Center, we are making strides – leaps, in fact – to ensure that we are providing the next level of cancer care. We are hiring scientists and researchers, while organizing the best medical, surgical and radiation oncologists into a team-based approach to care; ensuring patients have access to the best minds. But there is much more work to do. And while our goals are certainly lofty, our collective purpose and singular mission remain clear. It is with enthusiasm and energy that we continue this journey, as our destination remains unwavering: a changed landscape in the way the world treats cancer.

Sincerely,  
Lee S. Schwartzberg, MD, FACP  
*Executive Director, West Cancer Center*



**Lee S. Schwartzberg, MD, FACP**  
*Executive Director, West Cancer Center*

# OUR EVOLUTION

## Coming Together to Advance Cancer Care

West Clinic joined forces with Methodist Healthcare and the University of Tennessee Health Science Center (UTHSC) in 2012 to create West Cancer Center. This innovative partnership brings together leaders in education, research and patient care to enhance the study and treatment of cancer.

### Through the partnership, we have:

- Developed a state-of-the-art single site for outpatient care that will provide patients the opportunity for comprehensive treatment and care, all under one roof.
- Expanded clinical trials to give our patients the newest treatments and advanced care options.
- Added genetic testing to support customized treatments.
- Recruited new cancer experts to Memphis.
- Expanded our research program under the leadership of a nationally renowned cancer researcher.
- Secured the next generation of cancer care through oncology fellowships with UTHSC.
- Created the patient navigators program to assist patients throughout their cancer journey.
- Became an early adopter in the “whole-person care” for cancer patients.

Bringing together a world-class cancer center with the Best Hospital in Memphis as recognized by *U.S. News & World Report* and a well-respected, 100-year-old academic institution creates an ideal environment for cutting-edge research and advancing cancer treatment in adult patients.



Methodist Memphis Hospitals have been named the Best Hospitals in Memphis once again by *U.S. News and World Report*. In 2014, Methodist was also recognized as high performing in nine medical specialties, including cancer.



[www.methodisthealth.org](http://www.methodisthealth.org)



Founded in 1911, UT Health Science Center has educated and trained more than 57,000 health care professionals in academic settings and health care facilities across the state.



[www.uthsc.edu](http://www.uthsc.edu)

# LEADERS IN CLINICAL AND TRANSLATIONAL RESEARCH

## **Ari VanderWalde, MD, MPH, MBioeth**

Ari VanderWalde, MD, is Director of Clinical Research at West Cancer Center and Associate Vice Chancellor of Clinical Research and Assistant Professor in the Division of Hematology/Oncology at the University of Tennessee Health Science Center. With expertise in clinical research, immunotherapy, molecular-targeted therapy, and melanoma, Dr. VanderWalde chairs the Research Subcommittee of the Executive Cancer Council and the Multidisciplinary Cutaneous Cancer Conference, and co-chairs the Molecular Oncology Tumor Board. He is responsible for managing the portfolio for all clinical research studies occurring at West Cancer Center, and serves as Primary Investigator or Subinvestigator on all externally sponsored trials.



*Ari VanderWalde*

## **Daruka Mahadevan, MD, PhD**

Daruka Mahadevan, MD, PhD, is the Director of the New Therapeutics Program and Associate Director of Research. He is also a Professor of Medicine with the Division of Hematology/Oncology at the University of Tennessee Health Science Center. Dr. Mahadevan has built the New Therapeutics Phase I Program and Translational research at West Cancer Center. As Director, he has conducted first-in-human clinical trials with novel drugs for patients with all solid tumor types and patients with chronic lymphocytic leukemia, non-Hodgkin lymphoma and myelodysplastic syndrome. Dr. Mahadevan brings a wealth of experience and academic rigor as an experienced physician-scientist.



*Daruka Mahadevan*

## **Ramesh Narayanan, PhD**

Ramesh Narayanan, PhD, is the Director of the Center for Cancer Drug Discovery and Associate Professor of Hematology/Oncology at the University of Tennessee Health Science Center. With a primary focus on small molecular drug discovery and translational oncology research, his expertise includes identification of novel therapeutic targets, as well as discovering new chemical entities for oncology indications. In addition to his work in discovering new therapeutics for breast cancer and ovarian cancer, Dr. Narayanan was the co-discoverer on a proprietary selective androgen receptor degrader (SARD) technology to treat prostate cancer. This new technology has entered into an exclusive worldwide agreement with GTx, Inc.



*Ramesh Narayanan*

## **Gustavo Miranda-Carboni, PhD**

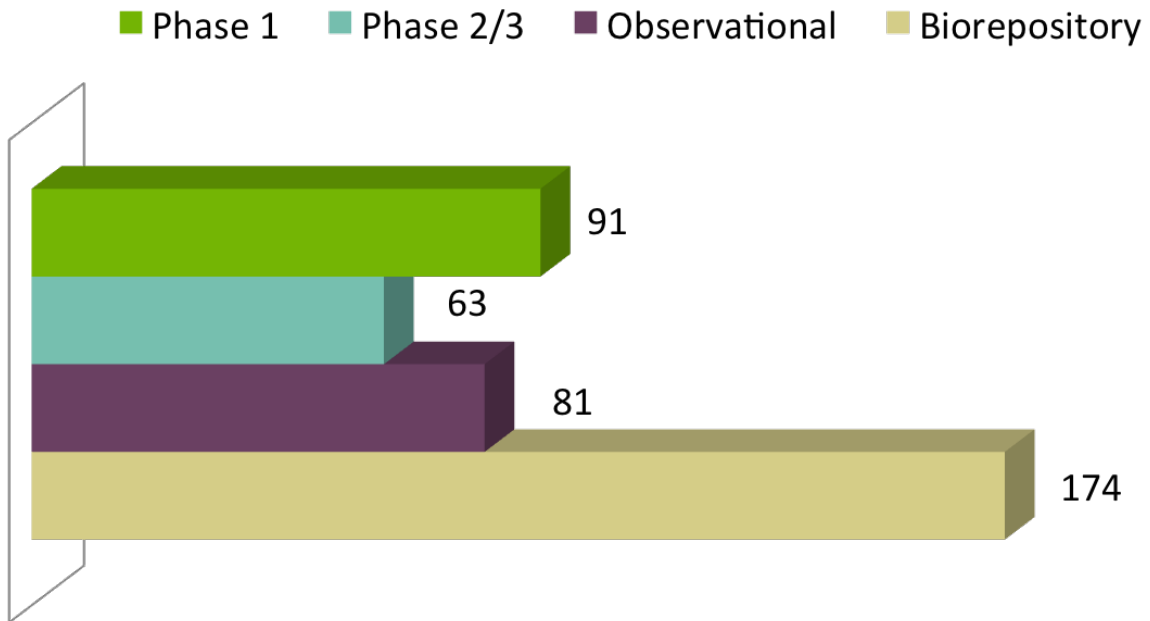
Gustavo Miranda-Carboni, PhD, is an Assistant Professor in Hematology/Oncology at the University of Tennessee Health Science Center. With research primarily focused on the signaling pathways associated with metastasis in triple negative breast cancer, Dr. Miranda-Carboni received a grant in 2014 from the National Cancer Institute to develop targeted therapeutics to treat or prevent lung metastasis for triple negative breast cancer patients. In addition to his ongoing research in biomarker characterization for aggressive breast cancer in African-American women at high risk for TNBC, Dr. Miranda-Carboni's lab is also leading research efforts in addressing cancer health disparities.



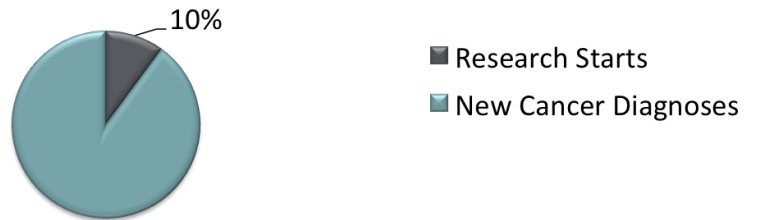
*Gustavo Miranda-Carboni*

# CLINICAL RESEARCH METRICS

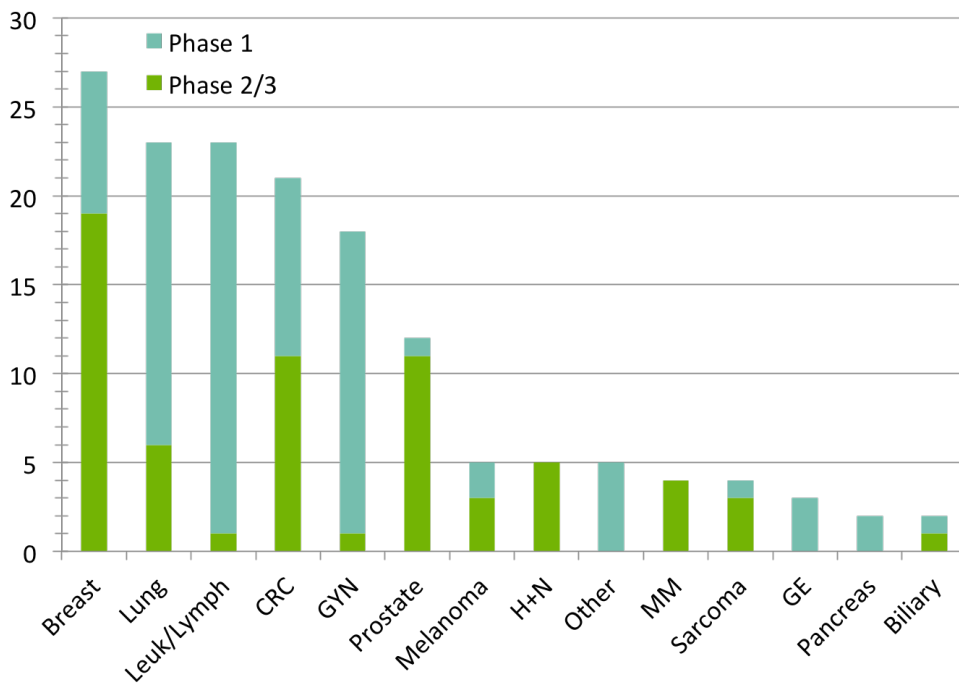
## Total new clinical trial patients in 2014



## Study accrual as proportion of new cancer diagnoses



## Patients on Therapeutic Trials by Cancer Type



## FDA APPROVALS



**35**

anti-cancer drugs later approved for use by the FDA were tested prior to approval in clinical trials at West Cancer Center since 2004.

This translates into early access to approximately 50% of all anti-cancer drugs later approved by the FDA.




**50%**



**60%**

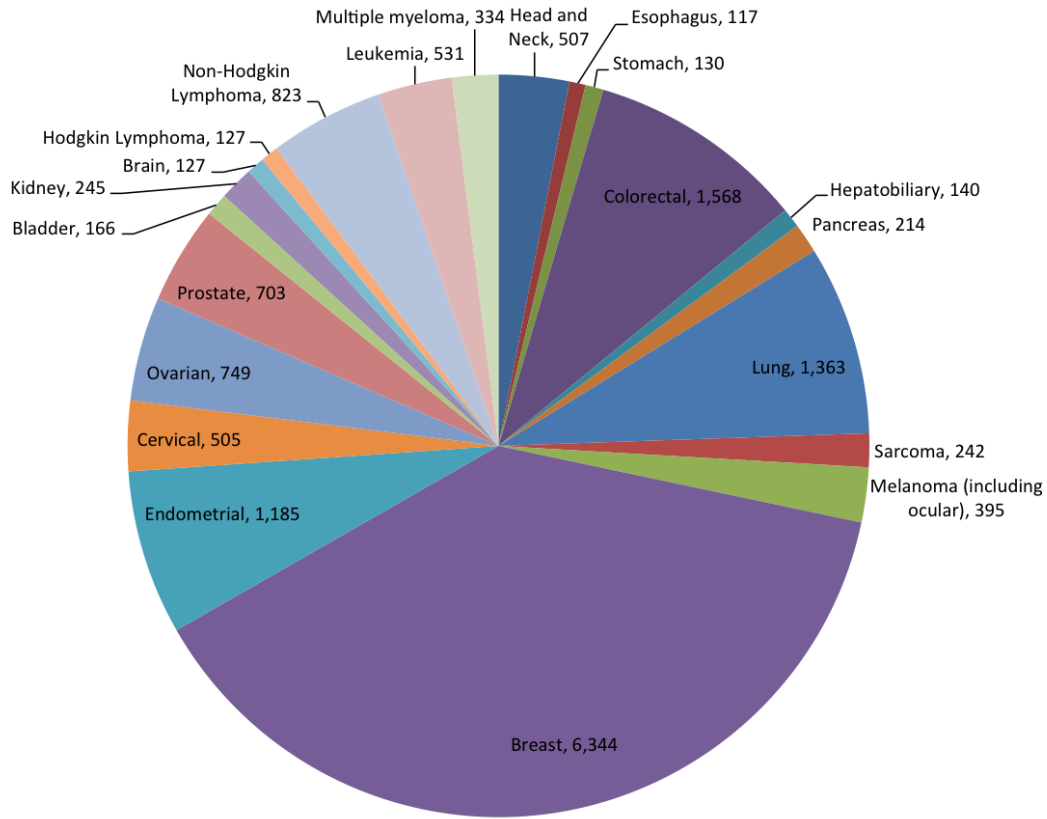
of anti-cancer drugs approved in 2014 were tested prior to FDA approval at West Cancer Center.



West Cancer Center is a previous recipient of ASCO's Clinical Trials Participation Award, which recognizes practices for excellence in trial participation and accrual.

# CLINICAL METRICS AND THE PATIENTS WE SERVE

## Highest Volume Cancer Types Treated in 2014 - New and Existing Cases



Total number of patients treated by West Cancer Center: **33,099**

Surgical Oncology Cases in 2014: **3,830** | Cancer-Related Hospital Visits: **16,068**

Total number of treatments administered by Radiation Oncology: **25,747**

**Total New Cancer Cases**  
2013 v. 2014

2013: 4,328

2014: 5,361

That is a **23.9%** increase in cancer cases treated at West Cancer Center in one year

**Highest Volume of Newly Diagnosed Cases By Type in 2014**

Type of cancer	New Cases in 2014	Percent of increase from 2013
Breast	1,086	20.3%
Gynecology	717	13.4%
Lung	493	9.2%
Colorectal	468	8.7%
Prostate	217	4.0%
Head & Neck	193	3.6%
Non-Hodgkin's Lymphoma	184	3.4%
Kidney/Renal	157	2.9%
Leukemia	122	2.3%
Pancreas	109	2.0%

**Cancer Cases Across the Mid-South in 2014**

Patients treated by West Cancer Center are from counties across the region.

46 counties in TN

52 counties in MS

46 counties in AR

We treated patients from 33 states in 2014.



# ADDRESSING DISPARITIES: A CALL TO ACTION

Despite significant advancements in cancer screening, diagnosis, treatment and prevention over the past several decades, addressing cancer health disparities in certain populations is an area where progress has not kept pace. This remains a significant challenge across the country, and particularly within Memphis and its surrounding communities. As a result, Community Outcomes was named as one of the four Centers of Excellence within the University of Tennessee/West Institute for Cancer Research.

## 2014 Racial Disparity in Breast Cancer Mortality Study: Key Findings

Memphis has the largest racial disparity ratio in breast cancer mortality among major U.S. cities. Between 2005 and 2009, the African-American mortality rate in Memphis was 44.3 and the white rate was 21.0, producing a statistically significant rate ratio of 2.11.

*Source: Increasing Black:White disparities in breast cancer mortality in the 50 largest cities in the United States; Bijou R. Hunt, Steve Whitman, Marc S. Hurlbert*

## The Susan G. Komen Foundation: Screening & Diagnostic Mammograms

In 2014, West Cancer Center partnered with Methodist Healthcare's Congregational Health Network to provide screening and diagnostic mammograms for uninsured and underinsured women in Shelby County. These services were made possible with funding from the Memphis Affiliate of the Susan G. Komen Foundation and proceeds from the annual Cancer Center Luncheon hosted by Methodist Healthcare and West Cancer Center. Through this combined funding, West Cancer Center has been able to provide meaningful and life-saving impact in the community.

**800:** number of women reached who might not have previously had access to these services

**304:** number of completed appointments

**357:** number of procedures performed, including **241** screening mammograms, **89** diagnostic mammograms, and **27** ultrasounds

## Beyond Breast Cancer

Our community efforts center on a common goal of improving access to care. Through research and evaluation of success in addressing breast cancer disparities, we are developing a model for research and access in the community that can be duplicated for different cancers, including lung cancer, colorectal cancer and prostate cancer. Research provides the foundation for addressing these and other outcome disparities in the Memphis community, allowing us to develop scientific perspectives and effective solutions for understanding and eliminating these disparities in cancer outcomes.

## PATIENT SPOTLIGHT: ELLEN CROUSE

A neuropsychologist at the Veterans Affairs Medical Center, Ellen Crouse, 55, understands science – in fact, she loves it. A self-proclaimed “research geek,” Ellen’s passion for unifying science and clinical service has led her to devote her life to serving others – a devotion that transitioned her from a job as a labor/delivery RN to a career as a neuropsychologist. “I’m a really strong believer that research informs clinical practice, and clinical practice informs research,” said Ellen. “It’s a great synergy that develops between those two.”

This love for research manifested in a new way for Ellen in late August of 2014. After several lumpectomies and “scares” over more than 25 years of mammograms and screenings, Ellen noticed something in her breast – something that looked – and felt – different from previous self-checks. “I glanced in the mirror and noticed what looked like a dent in my breast. I thought – ‘that’s something weird,’” said Ellen. “I just had this feeling that it was cancer.”

A diagnostic mammogram confirmed what Ellen already knew: she had breast cancer. After a consultation with her primary care physician, Ellen was directed to Dr. Michael Berry, a breast surgical oncologist at West Cancer Center. In the midst of her impending double mastectomy and upcoming post-surgical treatment, research was still at the forefront of her priorities. “One of the first things I said to Dr. Berry was, ‘Can this be used in research?’” said Ellen. “Regardless of what happens I want something good to come of this.”

As a HER2 Positive breast cancer patient, Ellen qualified for numerous clinical trials – welcome news for the self-proclaimed research geek. In addition to immediately enrolling in an available Phase III clinical trial, Ellen also requested that a portion of her cancer tissue be utilized in the laboratory setting; as a result, her tissue was sent to the University of Tennessee Health Science Center for use in ongoing scientific research.

“What strikes me is that when you participate in research, you are part of this river – this legacy – and you’re handing down a gift to somebody else. You don’t know what this gift is going to be,” said Ellen. “You just want to do something for somebody else that’s in the same situation. Why wouldn’t you?”

Today, Ellen is grateful to Dr. Schwartzberg, Dr. Berry and the entire staff at West Cancer Center – a staff whose ability to reconcile compassionate bedside manner with scientific forethought and research is unparalleled, said Ellen. “I love the idea that I’m working with Dr. Schwartzberg, who is very much aware of what’s going on in research,” said Ellen. “Because then I feel like I’m getting the best possible care.”



*Ellen Crouse*

**“What strikes me is that when you participate in research, you are part of this river – this legacy – and you’re handing down a gift to somebody else.**

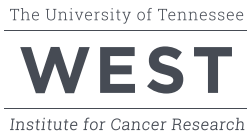
**You don’t know what this gift is going to be; you just want to do something for somebody else that’s in the same situation. Why wouldn’t you?”**

-Ellen Crouse

# PHILANTHROPY: A FOUNDATION FOR DISCOVERY

## The University of Tennessee/ West Institute for Cancer Research

The University of Tennessee/  
West Institute for Cancer Research is a not-for-profit, 501(C)(3) public charity dedicated to raising funds for adult cancer research. The UT/West Institute for Cancer Research solicits grants and donations to be utilized to broaden cutting-edge research programs, develop novel cancer treatments, and strengthen patient-focused care. Funds donated to the UT/West Institute are focused on research in four major areas of emphasis: Drug Discovery and Development, Cancer Immunotherapy, Women's Cancers and Community Outcomes.



## The Plough Foundation: A Catalyst for Innovation

The Plough Foundation strives to address the many pressing social and economic needs in the Memphis community. With a dedication to effective change, The Plough Foundation announced a \$2.5 million gift to the UT/West Institute, providing the much-needed seed funding for the Drug Discovery and Development Center of Excellence. The support of The Plough Foundation and generous benefactors provide the necessary resources to translate discoveries – bringing treatment from bench to bedside at West Cancer Center.



PLOUGH  
FOUNDATION

## Ride to Fight On: More than a Ride

The Bluff City Blues 100 – Ride to Fight On is the signature fundraising event for West Cancer Center. One of the largest cycling events in the region, this annual event raises funds restricted to research and education at West Cancer Center. With more than \$500,000 raised in 2014, the Bluff City Blues 100 – Ride to Fight On is both a celebration of patients and survivors and an affirmation of West's dedication to innovative patient care and groundbreaking research. This event is held each year in the fall.



## Dr. William H. West: A Vision for Cancer Care



A Harvard undergraduate degree coupled with a medical degree from the prestigious Johns Hopkins School of Medicine meant that Dr. William H. West could go anywhere, do anything – yet he returned to his hometown of Memphis. His mission was clear: to provide world-class cancer treatment and research capabilities in his hometown. In 1979, this goal became reality, and the doors of what would become West Clinic officially opened.

Today, Dr. West's vision remains the foundation for a singular and collective purpose: to change the way the world treats cancer. As the Chair of the Capital Campaign, Dr. West leads the Founders group, an esteemed group of community leaders and West Cancer Center advocates, in raising the funds necessary for impactful research and innovation.

**“Cancer research is making rapid progress. With this exciting advancement, however, comes great challenge. How do we keep Memphis at the forefront of adult cancer treatment? How do we ensure our lab discoveries translate to innovative treatment and care? Philanthropy is the foundation for discovery, and the need for private funding has never been more critical.”**

*–William H. West, MD*

# PRECISION ONCOLOGY

In 2014, West Cancer Center solidified its leadership in precision oncology with a groundbreaking attempt to genetically characterize a majority of advanced cancers seen in the clinic and guide treatment based on these genetic findings.

Precision oncology is the understanding of how changes in cellular genes can ultimately drive the development of cancer. Knowledge of tumor genetic makeup is increasingly recognized as a potential means to determine therapies that may be likely to work against those tumors. Precision medicine promises a means of specifically tailoring therapy to individual patients, such that physicians can predict which therapies are most likely to work.

At West Cancer Center, patients diagnosed with metastatic cancer are offered the opportunity to have a tumor biopsy for extensive molecular testing, including evaluation of protein expression, genetic amplifications, and sequencing of genes commonly associated with cancer.

West Cancer Center initiated a dedicated Molecular Tumor Board in 2014 to comprehensively evaluate the results of these extensive tests. Meetings are led by Dr. Lee Schwartzberg, Executive Director of West Cancer Center, and Dr. Ari VanderWalde, Director of Clinical Research. All new molecular reports are reviewed bi-weekly with the relevant patient medical history, and recommendations are sent to the patient's physician. Common recommendations include consideration for an available clinical trial, treatment with an approved anti-cancer drug, and even recommendations for genetic counseling and genetic testing for cancer syndromes.

Clinical research is the main means in which precision medicine can translate into the clinic at the current time. West Cancer Center has made it a priority to pursue and initiate clinical studies specifically in precision oncology.

Rather than separating clinical studies by disease type, West Cancer Center has opened a series of clinical trials based on a tumor's molecular abnormalities regardless of disease type.

This reflects a novel understanding of cancer biology in which the cancer site of origin plays less of a role, while particular abnormalities in the cancer genome serve as the primary driving force behind the development and spread of malignancy. Treating the genetic abnormality rather than the site of disease may result in a broader understanding of therapeutic options.

West Cancer Center is excited about future opportunities to continue to change the way we think about cancer, and increase the availability of novel therapies that target each specific individual's tumor.



## WEST CANCER CENTER

- **Created one of the first Molecular Tumor Boards in the country**
- **Profiled more than 350 cancers for actionable genetic alterations for clinical trials and care**

# IMMUNOTHERAPY

West Cancer Center continues to build its expertise in cancer immune therapy through the expansion of both basic and clinical research.

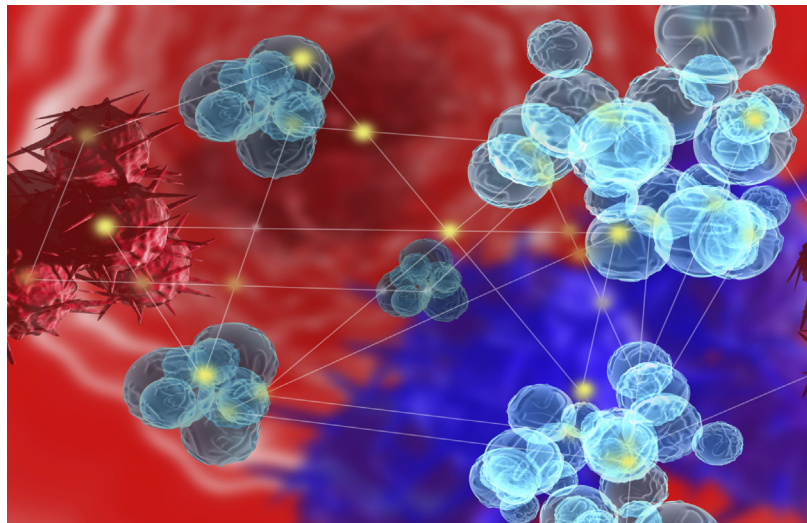
It has been known for more than a century that one of the ways cancer is able to develop, grow and spread is by evading the body's healthy immune system. Because cancer cells look so much like normal cells, in effect, cancer is able to "hide in plain sight" from an immune system whose goal is to attack and destroy foreign material, while leaving the body's own cells alone.

Likewise, we know that an activated immune system can sometimes recognize cancer as foreign. Patients with cancer who receive vaccination or develop infections have very occasionally shown short-lived tumor shrinkage. Cases of advanced melanoma have spontaneously regressed. Therapies such as interferon and interleukin-2, which stimulate the immune system, have been associated with prevention of recurrence and long-term responses.

More recently, therapies have been developed that specifically target immune cells, by either removing the brakes that prevent the cells from recognizing cancer, or causing directed activation of parts of the immune system that can attack, destroy, and, most importantly, remember cancer cells. At least three such therapies have been approved since 2011 alone, and all have demonstrated a survival benefit.

While only one avenue of cancer treatments, the reason immune therapy is so attractive is because of the ability of the body's immune system to remember the cancer. As such, immune therapy has the promise of not only causing tumors to shrink, but to maintain remission for much longer than traditional therapies, sometimes without the need for further treatment.

West Cancer Center investigators continue to develop strategies to harness the power of the body's immune system to fight cancer. With funding awarded in 2014 to a laboratory project exploring immune behavior of melanoma, other researchers at West Cancer Center continue to explore the utility of tumor vaccine use.



West Cancer Center also oversaw the initiation of the Melanoma Research Group, a monthly conference of both researchers and clinicians focusing predominantly on immunotherapeutic approaches in treating cutaneous and ocular melanoma.

In addition, West Cancer Center continues to be a leader in clinical trials of immunotherapy. West Cancer Center participated in or conducted more than 10 immunotherapy clinical trials involving breast, lung, prostate, gastric, bladder, head and neck, and melanoma cancers. West Cancer Center was also chosen as a leader in immunotherapy in cancer by a number of companies focusing on the development of immunotherapeutics.

West Cancer Center will continue its leadership in the field of oncology immunotherapy with Dr. Jason Chandler, Associate Director of the Phase 1 Program, Assistant Professor of Hematology/Oncology at UTHSC, and West Cancer Center's champion in this emerging field.

## ACCREDITATIONS AND MEMBERSHIPS

### The National Comprehensive Cancer Network®

The National Comprehensive Cancer Network® (NCCN®) is a not-for-profit alliance of 26 of the world's leading cancer centers – including prestigious organizations such as the Stanford Cancer Institute, the University of Texas MD Anderson Cancer Center, Memorial Sloan Kettering Cancer Center, and the Dana Farber Cancer Center – devoted to patient care, research, and education and dedicated to improving the quality, effectiveness and efficiency of cancer care. Through the leadership and expertise of clinical professionals at NCCN Member Institutions, NCCN develops resources that present valuable information to the numerous stakeholders in the health care delivery system. As the arbiter of high quality cancer care, NCCN promotes the importance of continuous quality improvement and recognizes the significance of creating clinical practice guidelines appropriate for use by patients, clinicians, and other health care decision-makers. In addition to this prestigious recognition as one of the elite 26 Member Institutions, several West Cancer Center oncologists serve on NCCN boards and committees. Lee S. Schwartzberg, MD, FACP, Executive Director of West Cancer Center, serves on the NCCN Board of Directors, as well as the Breast Cancer Panel and Myeloid Growth Factors Panel.



National  
Comprehensive  
Cancer  
Network

### The National Committee for Quality Assurance

The National Committee for Quality Assurance is a private, not-for-profit organization dedicated to improving health care quality. NCQA designated organizations must pass a rigorous, comprehensive review and annual report on performance. The NCQA seal is a reliable indicator that an organization is well-managed and delivers high quality care and service. West Cancer Center is recognized as a Patient-Centered Specialty Practice, and is one of only eight oncology practices nationwide to receive Level 3 recognition, the highest recognition level awarded by the NCQA. Practices that receive this designation demonstrate patient-centered care and clinical quality through streamlined referral processes and care coordination with referring clinicians; timely patient and caregiver-focused care management; and continuous clinical quality improvement. NCQA Patient-Centered Specialty Practice Recognition distinguishes West Cancer Center as an organization that communicates, collaborates and integrates care in ways that patients want and that improve quality. West Cancer Center continues to meet and exceed national standards for communicating with primary care clinicians to exchange key information and establish coordinated care; providing timely access to care and clinical advice based on patient need; using a systematic approach to track referrals and coordinate care; and for measuring and improving performance over time.



### Quality Oncology Practice Initiative®

ASCO's Quality Oncology Practice Initiative® (QOPI®) is an oncologist-led, practice-based quality assessment and improvement program. The QOPI program provides practices with quality measures that were developed by world-renowned practicing oncologists and quality experts using clinical guidelines and published standards, such as the National Initiative on Cancer Care Quality (NICCCQ), ASCO/NCCN Quality Measures, and ASTRO/ASCO/AMA PCPI Oncology Measures. A rigorous qualification process, practices are evaluated on 26 separate measures and are required to score above the 75% threshold in each particular measure in order to be eligible for application. Quality metrics are assessed based on a variety of measurement topics, including documentation; communications; delivery of chemotherapy; appropriateness of drug selection; attention to supportive care; patient-related outcomes; survivorship; and end of life issues. Additional core quality standards evaluated include treatment planning; staff training and education; patient consent and education; and monitoring and assessment of patient well-being. West Cancer Center was one of the first sixteen practices nationwide to receive this recognition, and has since been recertified for this initiative based on an even more broad set of quality standards.



# ACCREDITATIONS AND MEMBERSHIPS

## Foundation for the Accreditation of Cellular Therapy

The Foundation for Accreditation of Cellular Therapy (FACT) establishes standards for high quality medical and laboratory practice in cellular therapies. Organizations that achieve FACT accreditation have a foundation of high quality practices that result in cell products and patient care that are sought after by physicians and patients. The accreditation process involves the submission of documentation to demonstrate compliance with the standards and a subsequent on-site inspection conducted by inspectors qualified by training and experience in cellular therapy. Accredited organizations have met rigorous standards, as defined by the leading experts in the field and based on the latest knowledge of the field of cellular therapy product transplantation. Organizations are accredited for the types of transplants they perform or the services they provide. Through the Methodist Healthcare Blood and Marrow Transplant Program, led by Yasser Khaled, MD, West Cancer Center has demonstrated compliance with the FACT-JACIE International Standards for Cellular Therapy Product Collection, Processing and Administration, and earned FACT Accreditation for Adult Autologous Hematopoietic Progenitor Cell Transplantation; Peripheral Blood Cellular Therapy Product Collection; and Cellular Therapy Product Processing with Minimal Manipulation.



## The Joint Commission

The Joint Commission accredits and certifies more than 20,500 health care organizations and programs across the United States. Joint Commission accreditation and certification is recognized nationwide as a symbol of quality that reflects a commitment to meeting certain performance standards. It is also the nation's oldest and largest standards-setting and accrediting body in health care. Joint Commission certified organizations are required to pass standards that serve as the basis of an objective evaluation process that can help health care organizations measure, assess and improve performance. With more than 250 qualifying measures for accredited organizations, these standards focus on important patient, individual, or resident care and organization functions that are essential to providing safe, high quality care. Standards evaluated by The Joint Commission address everything from patient rights and education, infection control, medication management, and preventing medical errors, to how the organization verifies that its doctors, nurses, and other staff are qualified and competent, how it prepares for emergencies, and how it collects data on its performance and uses that data to improve itself. These state-of-the-art standards set expectations for organization performance that are reasonable, achievable and surveyable.



## Commission on Cancer®

The Commission on Cancer® (CoC) is a consortium of professional organizations dedicated to improving survival and quality of life for cancer patients through standard-setting, prevention, research, education, and the monitoring of comprehensive quality care. West Cancer Center is accredited through the CoC as an Academic Institution, recognized for excellence in our team-based, multidisciplinary approach to treating our patients. In addition, CoC-accredited programs are required to offer patients numerous standards of therapy qualifications and services, including quality care close to home; comprehensive care; information and education; patient-centered services; options for genetic assessment and counseling and palliative care services; care monitoring and quality improvement; treatment planning based on evidence-based national treatment guidelines; clinical trials and new treatment options; follow-up care including a survivorship care plan; and patient tracking through the cancer data system.



# SCIENTIFIC RESEARCH AND UTHSC

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## Translating Research Into Cure

Promising discoveries in the fight against cancer are under way at the University of Tennessee Health Science Center (UTHSC), where research teams are conducting studies to better understand cancer and to develop new diagnostic tests and treatments. In the Mid-South, as elsewhere, the overwhelming majority of cancer cases (90 percent) are diagnosed in adults, according to Lawrence Pfeffer, PhD, Interim Vice Chancellor for Research at UTHSC and Director of the UTHSC Center for Cancer Research (CCR).

In addition to several current grants focused on cancer, Dr. Pfeffer and UTHSC researchers are investigating new strategies to fight glioma, the deadliest brain cancer. Most glioma patients die within two years of diagnosis;

surgery helps only a few. Knowing that interferon, a protein produced by the immune system, has the potential to rally the body's defenses against glioma, researchers

aimed to understand how interferon works at the molecular level to improve its effectiveness.

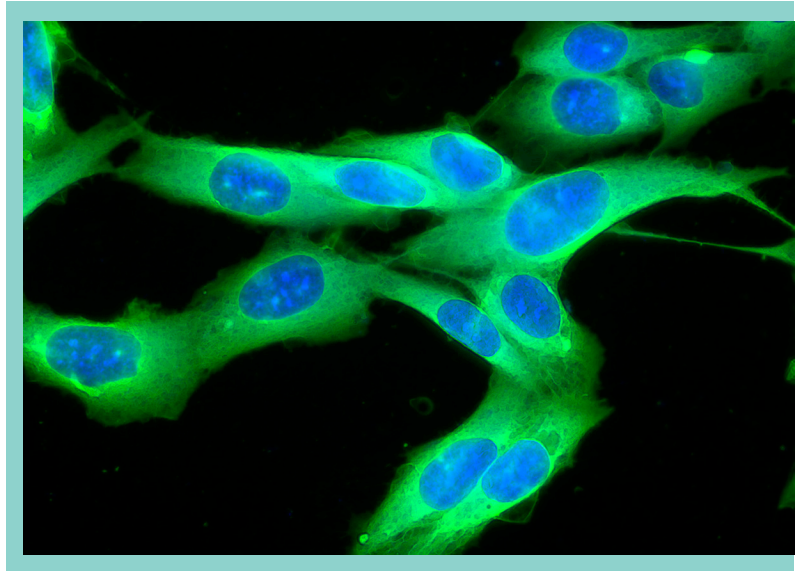
The team looked at pathways involved in controlling interferon action and determined that, for some reason, the pathways went haywire – preventing the drug from doing its job. They discovered ways to circumvent the blocked pathway so interferon can be an effective cancer killer. Dr. Pfeffer's study is now moving into its next phase, testing his discovery in human clinical trials.

According to West Cancer Center Director of Clinical Research Dr. Ari VanderWalde, advances in research, novel drug therapies and improvements in clinical care are also moving breast cancer toward becoming a disease one can live with. With the combined expertise and dedication of researchers and clinicians, as well as the patience and optimism of breast cancer patients, Dr. VanderWalde believes this goal could be achieved in his lifetime.

Drs. Tiffany Seagroves, Ramesh Narayanan and Gustavo Miranda-Carboni stand on the front lines of breast cancer research. They point to advances in genetic testing of tumors that have revolutionized treatment, allowing for targeted therapies. The three PhDs were drawn to Memphis by the unique West Cancer Center collaboration, which they believe will help turn the possibilities of research into real advances toward a cure. And while there is no single treatment out there applicable to all patients with this disease, there have been great advancements in figuring out the correct combination of treatments for each individual patient, according to Dr. Seagroves.

Researchers are focusing attention on Triple Negative Breast Cancer (TNBC), a highly aggressive and highly metastatic form of the disease that is more common in young black women, said Dr. Narayanan, an Associate Professor and Director of the Center for Cancer Drug Discovery at UTHSC. Although this breast cancer has eluded targeted drug therapies in the past, there are several new approaches in development for treatment of TNBC.

Dr. Miranda-Carboni is researching the signaling pathways associated with metastasis in TNBC. According to Dr. Miranda-Carboni, researchers at West Cancer Center are wholeheartedly committed to conducting translational cancer biology, allowing for implementation of a true bench to bedside model – a model that is already seeing great success as part of this collaborative effort. Dr. Narayanan believes we are making a true impact, as the survival rate for cancer-affected patients continues to rise.





# SCIENTIFIC RESEARCH AND UTHSC

## UTHSC Center for Cancer Research

**Lawrence Pfeffer, PhD**, is the interim Vice Chancellor for Research at UTHSC; Muirhead Professor and Vice Chair, Department of Pathology; and Director of the UTHSC Center for Cancer Research (CCR). His research is highly translational, moving from the lab bench to the patient bedside in studies on prostate cancer, glioma and melanoma. Dr. Pfeffer is active in various professional societies and his work has been funded without interruption since he started his independent laboratory at the Rockefeller University in 1984 and joined the faculty of UTHSC in 1991.

**Tiffany Seagroves, PhD**, is an Associate Professor at UTHSC and Director of the Gerwin Small Animal Imaging Center. As the leader of the Seagroves Laboratory, Dr. Seagroves and her team's primary focus is to understand transcription factors in normal mammary gland development and in transgenic mouse models of breast cancer, particularly the oxygen-sensitive Hypoxia-Inducible Factor (HIF)-1alpha protein.



# SCIENTIFIC RESEARCH AND UTHSC

## The UTHSC Cancer Research Building

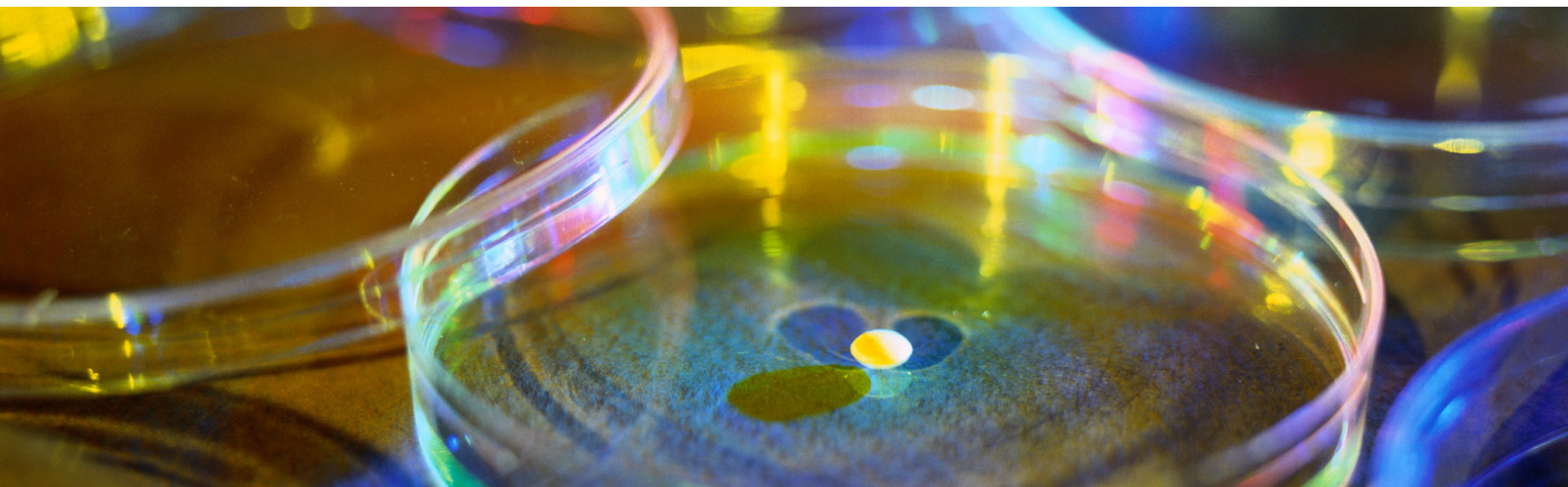
Built in 2007, the Cancer Research Building was the first new research building to be constructed on the UTHSC campus in 17 years. The \$25.2 million facility has more than 90,000 square feet, housing 32 research laboratories, offices and a 60-seat auditorium.

State-of-the-art laboratories and equipment provide resources and tools to support research on experimental therapeutics for treating adult cancer – making the “bench to bedside” model of translational research a reality. The Cancer Research Building is also home to the Molecular Resource Center, which offers access to the latest technologies for exploring molecular bases of disease and basic biological processes. With the new UTHSC Translational Science Research Building, which will open in 2015, the Cancer Research Building represents the latest in design and planning for multidisciplinary research facilities and services.



*The Cancer Research Building on the University of Tennessee Health Science Center's Memphis campus offers more than 90,000 square feet, including 32 laboratories and a 60-seat auditorium. It houses more than 75 researchers dedicated to finding new treatments to cure cancer.*

## SCIENTIFIC OUTPUT AND EDUCATION



As experts in their respective fields, West Cancer Center physicians and researchers represent a unique ability to consistently reconcile clinical care and scientific innovation – a dual approach that provides patients with access to cutting-edge treatment and care. Our physicians and researchers collaborate with their peers and colleagues, sharing their findings through numerous scientific abstracts, publications, and presentations throughout the year.

### **West Cancer Center physicians and researchers participated in a combined 140 presentations, publications and abstracts in 2014:**

- 58: Total Number of Published Articles
- 24: Total Number of Poster/Presentations
- 58: Total Number of Abstracts

### **2014 Publication and Presentation Highlights**

**Dr. Lee Schwartzberg** was the lead author on a phase II study titled “PEAK: a randomized, multicenter phase II study of panitumumab plus modified fluorouracil, leucovorin, and oxaliplatin (mFOLFOX6) or bevacizumab plus mFOLFOX6 in patients with previously untreated, unresectable, wild-type KRAS exon 2 metastatic colorectal cancer,” published in the July edition of *The Journal of Clinical Oncology*.

**Dr. Daruka Mahadevan**’s poster presentation, “Novel Receptor Tyrosine Kinase Targeted Combination Therapies for Imatinib-Resistant Gastrointestinal Stromal Tumors (GIST),” received Best Poster Award at the 12th International Congress of Targeted Anticancer Therapies.

**Dr. Noam A. VanderWalde** was the lead author on a study published in *The International Journal of Radiation Oncology*, the official journal for the American Society for Radiation Oncology. The study, titled “Effectiveness of Chemoradiation for Head and Neck Cancer in an Older Patient Population,” compared chemoradiation therapy (CRT) with radiation therapy (RT) only in an older patient population with head and neck squamous cell carcinoma (HNSCC).

**Dr. Larry Pfeffer and Dr. Meiyun Fan** with the Cancer Research Team at UTHSC were authors on a study identifying metastasis-associated genes/signaling pathways in basal-like breast tumors. The abstract, titled “Systematic analysis of metastasis-associated genes identifies miR-17-5p as a metastatic suppressor of basal-like breast cancer,” was published in the *Breast Cancer Research and Treatment* journal.

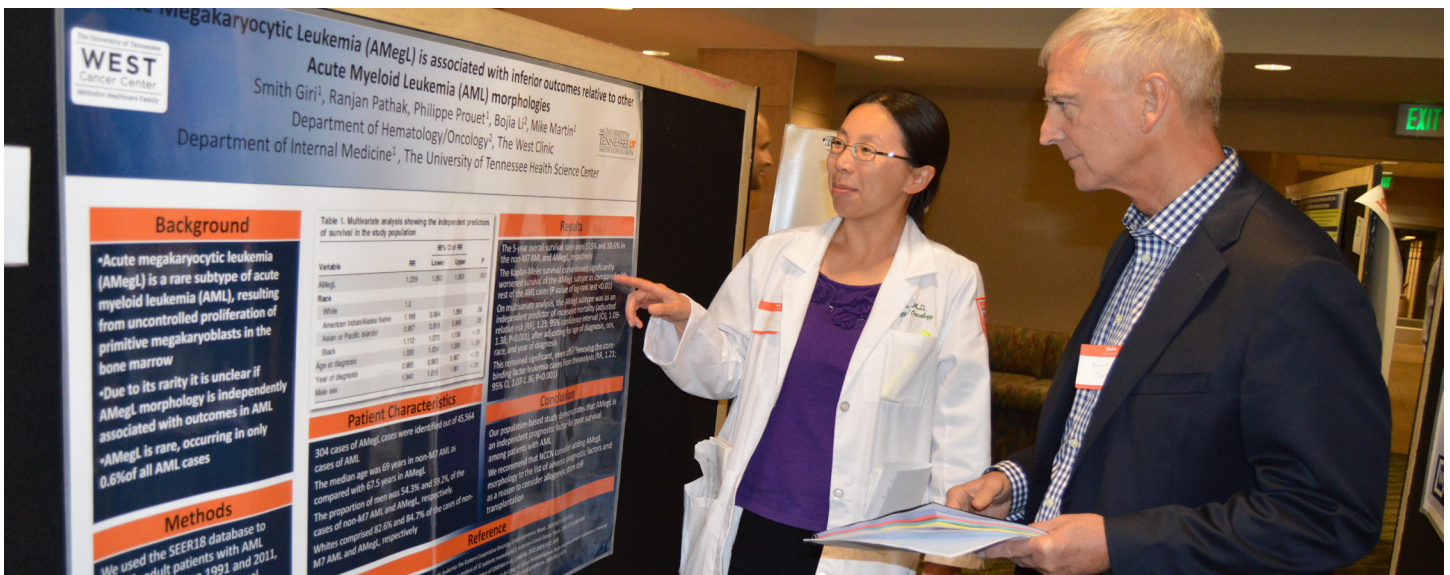
# SCIENTIFIC OUTPUT AND EDUCATION

## West Cancer Center Conferences and Symposiums

As the region's foremost leader in cancer education, research and clinical care, West Cancer Center offers CME educational conferences and symposiums for the area's practicing health care community. Conferences hosted by West Cancer Center in 2014 include:

- Forum on Cancer for the Primary Care Provider
- Research Symposium
- Resolving Controversies in Breast Cancer Care Symposium

## Hematology and Oncology Fellowship Program



*Bojia Li, MD, a Hematology/Oncology Fellow, presents her research to Kurt Tauer, MD, Chief of Staff at West Cancer Center.*

In conjunction with the University of Tennessee Health Science Center, West Cancer Center is developing the next generation of world-class hematologists and oncologists through the Hematology and Oncology Fellowship program. Led by Program Director and West Cancer Center oncologist Alva B. Weir, MD, FACP, the Hematology and Oncology Fellowship carries fellows through a rigorous training system that excites them about the science and practice in the fields of oncology and hematology and prepares them for the future of their educational dreams.

*“Our job as faculty is to get you to these points of success and beyond them to a career in Hematology and Oncology. I, personally, have never spent a day without learning something new and exciting from my work. The world of science is constantly unfolding before us and we get to be front line observers, at the same time caring for suffering people at a time of their greatest need.”*

*– Dr. Alva B. Weir, Program Director*

# **SURGICAL EXCELLENCE**

West Cancer Center's dedication to comprehensive care ensures that our patients can easily navigate the complex system of oncology care through an integrated and multidisciplinary team approach to their treatment. A critical piece of this initiative is providing the patient with expertise in surgical intervention for the treatment of their specific cancer type. West Cancer Center is home to some of the best trained and experienced experts in both Surgical Oncology and Thoracic Surgical Oncology who bring unparalleled surgical skills and training to further the development of effective treatment protocols and prevention programs.



*Benny Weksler, MD, Chief of Thoracic Surgery Division, consults with a patient.*

## **Surgical Oncology**

The Division of Surgical Oncology is committed to providing excellence in surgical care for patients requiring complex surgical intervention for the treatment of their cancer. Instrumental in the development of individualized treatment plans, West Cancer Center's Surgical Oncologists collaborate in a multidisciplinary team-setting, working with pathologists, medical oncologists, radiologists, radiation oncologists and other specialists to determine the best treatment plan for each patient. With a dedication to research and training, the Division of Surgical Oncology is led by Martin Fleming, MD, FACS, Division Chief and Associate Professor at UTHSC.

## **Thoracic Surgical Oncology**

The Division of Thoracic Surgery is dedicated to the practice of thoracic surgery with a special emphasis on minimally invasive and robotic thoracic surgery to treat thoracic cancers and diseases of the esophagus and chest cavity. The program is led by Benny Weksler, MD, an internationally recognized physician who has been selected for inclusion on lists of America's Top Doctors by both Castle Connolly and *U.S. News and World Report*. In addition to providing unparalleled expertise in minimally invasive and robotic thoracic surgery, the physicians of the Division of Thoracic Surgery are also dedicated to research efforts in prevention of surgical complications through the use of preoperative nutritional therapy, lung cancer screening, smoking cessation and programs addressing health care disparities.

# RADIATION ONCOLOGY: AN INVESTMENT FOR THE FUTURE

West Cancer Center further solidified its designation as a comprehensive cancer center with the establishment of an integrated Radiation Oncology Department. The department, newly integrated with existing partner capabilities, offers a wide range of treatment options with external beam radiation therapy and internal brachytherapy techniques, including stereotactic body radiation therapy (SBRT), comprehensive brachytherapy, conventional radiation, intensity-modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT), and volumetric modulated arc therapy (VMAT). In addition to comprehensive radiation oncology techniques, the department also features two multidisciplinary clinics: the Head and Neck Clinic and the Senior Adult Radiation Oncology Clinic.

Leading the growth of the Radiation Oncology Department is Matthew T. Ballo, MD, Director of Radiation Oncology at West Cancer Center and founding Chairman of West Cancer Center's Department of Radiation Oncology at the University of Tennessee Health Science Center. An internationally recognized leader in Radiation Oncology, Dr. Ballo previously served as the Director of Radiation Oncology and Professor in the Department of Radiation Oncology at the University of Texas MD Anderson Cancer Center in Houston, Texas. Plans for department expansion include additional radiation specialists and the development of a Radiation Oncology residency program, in addition to advancing clinical excellence.



## West Cancer Center Divisions: A Full Spectrum of Care

A dedication to individualized treatment coupled with comprehensive care, West Cancer Center offers a full spectrum of divisions and specialties to meet the needs of our expanding patient population. Our physicians are respected leaders in their fields – providing both clinical expertise and scientific focus that ensure our patients are not only treated with compassion, but also have access to groundbreaking and life-saving research and clinical trials.

### Specialties & Services Include:

- Clinical Psychology
- Comprehensive Breast Center
- Diagnostic and Interventional Radiology
- Genetics
- Gynecologic Oncology
- Hematologic Oncology
- Medical Oncology
- Nutrition
- Pain Management
- Palliative Medicine
- Phase 1 Clinical Trials Program
- Radiation Oncology
- Rehabilitation
- Surgical Oncology
- Thoracic Surgical Oncology

# WEST CANCER CENTER FACULTY

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## **Medical/Hematologic Oncology**

Alva Weir, III, MD  
Ari Vanderwalde, MD  
Arnel Pallera, MD  
Arun Rao, MD  
Benton Wheeler, III, MD  
Bradley Somer, MD  
Daruka Mahadevan, MD  
David Portnoy, MD  
Gary Tian, MD  
Gregory Vidal, MD  
Jarvis Reed, MD  
Jason Chandler, MD  
Junfeng Wang, MD  
Kurt Tauer, MD  
Lee Schwartzberg, MD  
Michael Martin, MD  
Moon Fenton, MD  
Osarenren Ogbeide, MD  
Robert Johnson, MD  
Ronald Lawson, MD  
Sonia Benn, MD  
Stephen Besh, MD  
Sylvia Richey, MD

## **Radiation Oncology**

Matthew Ballo, MD  
Enrique Izaguirre, PhD  
Holger Gieschen, MD  
Lillian Rinker, MD  
Micah Monaghan, MD  
Michael Farmer, MD  
Nilesh Dubal, MD  
Noam Vanderwalde, MD  
Todd Stockstill, MD

## **Diagnostic and Interventional Radiology**

Bill Lankford, MD  
Daniel Powell, MD  
Scott Baum, MD

## **Blood and Marrow Transplant Program**

Yasser Khaled, MD

## **Clinical Psychology**

Janice Pazar, PhD

## **Gynecologic Oncology**

Joseph Santoso, MD  
Linda Smiley, MD  
Mark Reed, MD  
Todd Tillmanns, MD

## **Comprehensive Breast Center**

Michael P. Berry, MD  
Richard E. Fine, MD  
Roy M. Oswaks, MD  
Elizabeth Pritchard, MD

## **Surgical Oncology**

David Shibata, MD  
Martin Fleming, MD  
Jeremiah Deneve, DO  
Paxton Dickson, MD

## **Thoracic Surgical Oncology**

Benny Weksler, MD  
Jennifer L. Sullivan, MD

## **Pain Management and Palliative Medicine**

Clay Jackson, MD  
Seth Kaufman, MD

## **Genetics**

Lauren Bokovitz, MS  
Rachel Covington, MS, CGC

## **UTHSC Cancer Research**

Gustavo A. Miranda-Carboni, PhD  
Junming Yue, PhD  
Lawrence M. Pfeffer, PhD  
Len Lothstein, PhD  
Meena Jaggi, PhD  
Meiyun Fan, PhD  
Ramesh Narayanan, PhD  
Ronald Larabee, PhD  
Subash Chauhan, PhD  
Susan A. Miranda, PhD  
Tiffany Seagroves, PhD  
Vanessa Morales-Tirado, PhD  
Yi Lu, PhD  
Zhaohui Wu, PhD

# OUR LOCATIONS

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## TENNESSEE

100 N Humphreys Blvd  
Memphis, TN 38120  
901-683-0055

1588 Union Ave  
Memphis, TN 38104  
901-322-0251

West Breast Center  
8000 Wolf River Blvd, Suite 100  
Germantown, TN 38138  
*(Relocating to 7945 Wolf River Boulevard  
in November 2015)*  
901-692-9600

7945 Wolf River Blvd, Suite 100  
Germantown, TN 38138  
901-683-0055

Methodist Germantown Hospital  
7691 Poplar Avenue  
Germantown, TN 38138  
901-516-6000

Methodist University Hospital  
1265 Union Avenue  
Memphis, TN 38104  
901-516-7000

1211 Union Avenue, Suite 300  
Memphis, TN 38104  
901-448-2918

1500 W. Poplar, Suite 304  
Collierville, TN 38017  
901-850-1456

322 Hospital Blvd  
Jackson, TN 38305  
731-668-1668

240 Grandview Drive  
Brighton, TN 38011  
901-475-0678

1290 Kelley Drive  
Paris, TN 38242  
731-644-3522

## MISSISSIPPI

7668 Airways  
Southaven, MS 38671  
662-349-9556

2001 State Drive  
Corinth, MS 38834  
662-286-3694

## ARKANSAS

300 Carson Street  
Jonesboro, AR 72401  
870-336-1512

For more information, visit [www.westcancercenter.com](http://www.westcancercenter.com).



The University of Tennessee

**WEST**  
Cancer Center

Methodist Healthcare Family