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Precision medicine involves looking at each person’s tumor to find the best treatment. Illustration by Ajay Peckham

A new screening program can give people at high risk for lung cancer peace of mind.

The Zukin brothers’ commitments include hard work, fun and regular support of the John Wayne Cancer Institute.
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Director of Immuno-Oncology and Clinical Research

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Assistant Professor of Thoracic Surgery

Decio Rangel, MD
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Steven Vasiliev, MD
Professor of Gynecologic Oncology

Timothy Wilson, MD
Professor and Chief of Urology
Director of the Urologic Oncology Research Program

Junbao Yang, PhD
Assistant Professor of Translational Immunology

Venkata M. Yenugonda, PhD
Associate Professor of Translational Neuro-Oncology and Neurotherapeutics

Donald L. Morton, MD
Faculty Emeritus

*Deceased

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Stanley A. Brosman, MD
Urology

Sant P. Chawla, MD
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Alistair Cochran, MD
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David Elashoff, PhD
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Assistant Professor of Thoracic Surgery

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Ronald C. O’Day, MD
Professor of Medical Oncology

Mark J. Paller, MD
Professor of Neurology

Janet Pollo, MD
Professor of Pathology

Richard Essner, MD
Professor of Surgery

Richard Frieder, MD
Assistant Professor of Clinical Cancer Genetics

Simon Gabriel, MD
Assistant Professor of Radiology

Melanie Goldfarb, MD
Assistant Professor of Surgery
Director of the Endocrine Tumor Program

INNOVATIONS
This past month, the John Wayne Cancer Institute Auxiliary held their annual Odyssey Ball. Looking over the room that night, I saw many superheroes: true friends, doctors, colleagues and partners. Our dedication to clinical and translational research is absolute and we know we can’t fail with you by our side. We will not rest until cancer is history.

That night, we honored a man of science, medicine and the personification of compassion. He means so much to our family because he took care of my dear sister, Toni, like she was family. This man is Dr. Steven J. O’Day, “The Duke” Special Service Award winner for 2017.

Dr. O’Day recognizes that a diagnosis of cancer is in its truest form, a family diagnosis. Patients frequently tell me they feel “seen” as a whole person as opposed to a diagnosis. This reminds them that, while cancer is something that is happening in their lives, it does not define them.

Dr. O’Day is the consummate physician with a perfect approach to patient care. He does his best knowing that his patients are enduring one of the most challenging times of their lives.

We are so very grateful to have him.

Patrick Wayne
Chairman
Board of Directors
LETTER FROM THE CHIEF EXECUTIVE

Each January, the American Cancer Society releases an annual report on cancer statistics in the United States. This year’s report described how the death rate from cancer in the U.S. has fallen over the past two decades—a full 25% from 1991 to 2014. That’s 2.1 million lives saved. Still, we all know that too many people suffer from cancer and that this disease is still a leading cause of death. At the John Wayne Cancer Institute, we will not waver in our determination to cure more people of cancer and ease their lives with more tolerable treatments.

In this issue of Innovations, you can read about one avenue of cancer treatment that is yielding promising results. Precision therapy aims to identify the genetic cause of cancer and fix what’s wrong, leading to better outcomes. Precision therapy medications may mean that some people won’t need harsher treatments, like chemotherapy and radiation. Our faculty is home to many experts in precision medicine who are pushing the frontiers of medicine every day on behalf of their patients. I think you’ll find the story on precision medicine, beginning on page 22, compelling.

Earlier this year, a study published in the journal JAMA Oncology showed that only 3.9% of people who could benefit from lung cancer screening actually get those tests. The authors of the report suggested that many people at high risk for the disease, such as heavy smokers, don’t know they are candidates for lung cancer screening. Institute physicians are trying to reach out to people who could benefit from screening. On page 18, you can read about our new lung cancer screening program at Providence Saint John’s Health Center using low-dose computed tomography (CT). In 2013, the United States Preventive Services Task Force (USPSTF) issued recommendations encouraging certain people at high risk for lung cancer to undergo low-dose CT screening. Studies show screening saves lives, and we are proud to offer it as part of our growing department of thoracic oncology.

The Institute is deeply grateful for the support of the Saint John’s Health Foundation and our many generous friends and donors for making such progress possible. With your help, we can continue to probe the complexities of cancer and increase the number of lives saved from this challenging disease.

Happy reading!

With utmost respect,

Marcel Loh
Chief Executive
Providence Saint John’s Health Center and John Wayne Cancer Institute

VIEWPOINT ON CANCER

Should Integrative Holistic Oncology be the Modern Standard of Care?

The current treatment paradigm in oncology is built on the 17th-century Cartesian model of a separation of mind and body. This model lends itself to a “one problem with one direct physical solution” approach that works well for acute or urgent care.

For example, you break a bone and the orthopedic surgeon fixes it. You get an infection with a particular bacterium, and you receive a specific antibiotic to cure it. However, this approach does not work as well when trying to prevent or treat chronic or degenerative conditions like cancer and cardiovascular disease.

There is no single cancer-defeating “magic bullet,” and there never will be. This is because even the same types of cancers (for example, ovarian cancer) are genomically very different, act differently in different people, and the very people who are affected by it are even more diverse as hosts. This is the underlying reason for a widespread and erroneous public perception that the war on cancer is failing. While we have identified magic bullet drugs to cure many diseases, this has not occurred in cancer treatment in the 45 years since President Nixon declared the “war” in 1971.

Cancer is now being diagnosed earlier, minimally invasive robotic surgeries are ever more effective and targeted treatments are being developed. Survivorship is ever-lengthening. Yet individual journeys differ markedly.

The scope, severity and duration of side effects vary. Overall health generally falters. The psychological and stress impact of disease and its aftermath is highly taxing. The very meaning of life is often deeply questioned and can rattle the strongest of spiritual convictions.

Integrative medicine brings the very best of mainstream therapies in alignment with evidence-based natural and holistic support to address the whole patient’s needs. Many 21st-century sciences address a convergence between mainstream cancer treatment and natural support, including epigenetics, nutrigenomics, nutrigenetics, proteomics, metabolomics, psycho-neuro-immunology and microbiomics.

The environment, what we eat, what we drink, and even what we think and how we emote constantly chit-chat with our DNA. Multiple biochemical signals are then sent to our organs and tissues, which either help normal cells flourish or allow cancer cells to develop and grow.

At the very least, integrative medicine promotes natural physical, mental and spiritual health. At best, provocative research suggests that optimal nutrition, lifestyle choices, mind-body support and connectivity with providers, family and friends can lead to better outcomes and possibly even help defeat cancer by helping avert recurrence. It’s time every cancer patient receive integrative care to optimize recovery and quality of life.

Steven A. Vasilev, MD
Professor & Director, Gynecologic Oncology Research
John Wayne Cancer Institute
AT THE FOREFRONT

BEYOND OUR WALLS: COMMUNICATING THE INSTITUTE’S RESEARCH AROUND THE WORLD

Members of our Institute staff publish research findings on a regular basis and present their data at scientific conferences. Here’s a look at some of their recent presentations and publications.

Steven J. O’Day, MD, was a grand rounds speaker at Mount Sinai Hospital in New York City in February. Dr. O’Day spoke on the revolution in immunotherapy treatments in melanoma and other types of cancer. He also spoke on the topic at a major cancer meeting in Siena, Italy, in October. Dr. O’Day is coauthor of a paper in the Journal of Immunotherapy on outcomes of patients receiving the immunotherapy pembrolizumab.

Santosh Kesari, MD, PhD, is a coauthor of a study published in January in the journal Nature Reviews Neurology entitled “Mechanisms of radiotherapy-associated cognitive disability in patients with brain tumors.” The paper explores cognitive problems that can occur as a result of radiation treatment to the brain in patients with primary or metastatic brain tumors. The paper describes evidence that central nervous system inflammation occurring soon after radiation may lead to cognitive decline.

Melanie Goldfarb, MD, is the senior author of a paper coming out in JAMA Oncology showing that secondary cancers in children and adolescents and young adults (AYA) are far deadlier than they are in adults over 40, which may partially account for the relatively poor outcomes of AYA cancer patients overall. The study also found that survival rates for almost all types of cancers are much higher when they occur as a primary cancer than if they are a second cancer, which is most pronounced in patients under the age of 40. In the past year, she was also the senior author on multiple other young-adult cancer papers, among them one describing patterns and outcomes of colon cancer in young adults and another on breast cancer in young males.

Dave S.B. Hoon, PhD, is senior author and Dr. Marzese is coauthor of a paper in the journal Clinical Cancer Research on the role of ubiquitins in the development of melanoma. Ubiquitins are molecules that can change the way proteins function and survive, thus impacting the developing of cancer. Other contributors to the study include Nobel Prize laureate Aaron Ciechanover of Israel.

Diego Marzese, PhD, is senior author of a genomics and epigenomics study of triple-negative breast cancer performed entirely in the Institute’s department of translational molecular medicine and published in the journal Genomics Data in February. This study was supported by the Associates for Breast & Prostate Cancer Studies (ABCs), the Fashion Footwear Association of New York (FFANY) and the AVON Breast Cancer Crusade foundations and describes the genome-wide effect of an epigenetic therapy focused on re-programming triple-negative cancer cells, one of the most aggressive types of breast cancer.

Mark B. Faries, MD, is a coauthor of a paper published online in December on assessment of the laparoscopic surgical skills of practicing physicians prior to enrollment in a surgical trial of a new laparoscopic procedure. The review is important because the outcomes of clinical trials are influenced by the expertise of the surgeon. The paper concludes that assessment of surgeon skills prior to participating in a trial is feasible. The paper is published in the journal Surgical Endoscopy.
The Institute’s Faculty Grows
The John Wayne Cancer Institute staff has expanded at a rapid pace over the past few years. Recently three new members joined the organization.

Jennifer Lin, MD, Assistant Professor of Surgery
Dr. Jennifer Lin is a breast cancer surgeon, researcher and an instructor of the Institute’s surgical oncology fellows. She is an alumna of the breast surgical oncology fellowship at the Institute and now serves as director of the breast center at Kaiser Permanente Los Angeles Medical Center. At Kaiser, she supervises Institute fellows during their rotations there.

Dr. Lin grew up in the San Francisco Bay area and attended college at Johns Hopkins University. She completed medical school at Columbia University College of Physicians and Surgeons in New York City and stayed on for a general surgery residency program.

Her fellowship at the Institute focused her interest on breast cancer, she says. “Breast surgical oncology is a constantly evolving field. There are new advances being made every year that directly impact how we treat our breast cancer patients. It is great to be able to provide breast cancer patients with more effective and less debilitating treatment options compared to even five years ago.”

At Kaiser Permanente, Dr. Lin helps operate the High Risk Breast Clinic, where a specialized team assists patients with BRCA mutations or other inherited high-risk conditions. She has a special interest in skin-sparing and nipple-sparing mastectomies as well as oncoplastic techniques for breast conservation surgery.

Osita Onugha, MD, MBA, Assistant Professor of Thoracic Surgery
Dr. Osita Onugha is a native of Los Angeles and is very much at home in his new position at the Institute. He received his medical education at the University of California, Los Angeles, and completed an internship and residence in general surgery at Stanford followed by a cardiothoracic surgery fellowship at UCLA. He also possesses an MBA at the University of Cambridge Judge Business School.

Cancer research and treatment, however, has his heart. “I have been inspired by countless patients who battle against cancer every day,” Dr. Onugha says. “The pursuit of new answers to difficult cancer questions can not only provide hope but gets us closer to a cure for cancer.”

His special interest is in research that changes the way physicians and surgeons practice medicine to improve patients’ lives. He founded “The Innovation Lab” at the John Wayne Cancer Institute to focus on surgical innovation and novel cancer diagnostics and therapeutics. The focus of his research includes using 3-D printing for chest wall reconstruction after surgical resection, using wearable technology as a diagnostic preoperative/postoperative tool, using machine learning to better understand lung cancer, and studying the uses of circulating tumor cells, circulating tumor DNA and micro RNA (liquid biopsy) in lung cancer.

In his free time, Dr. Onugha loves to learn about technology and is a fan of basketball and other sports.

Marlon G. Saria, PhD, RN, Assistant Professor
Dr. Marlon G. Saria begins each day motivated by cancer patients and their family members who “stare cancer straight in the eye” as well as the clinicians and scientists who contribute to their care. Saria, an advanced practice cancer nurse, recently joined the Institute as an assistant professor. He is also director of the center for quality outcomes and research, translational neurosciences & neurotherapeutics, at the Pacific Neuroscience Institute at Providence Saint John’s Health Center.

Dr. Saria was born in the Philippines, and received his bachelor’s degree from the University of the Philippines before moving to California. He earned a master’s degree and PhD, both in nursing, from the University of California, Los Angeles. He credits his mentor, Santosh Kesari, MD, PhD, for helping him develop his career in cancer research and care. Dr. Saria’s research focuses on providing a comprehensive approach to patient care in an oncology setting.

“My doctoral dissertation explored caregiver burden within the context of brain metastases, and I am expanding the research to address the lack of information on protective factors and neglect in addressing the difficulties experienced by caregivers of patients diagnosed with cancer,” he says. “In addition, I am interested in studies exploring the patient’s quality of life, specifically, in managing the symptoms associated with cancer treatment and novel agents used in cancer clinical trials.”

Dr. Saria also serves as an officer in the Nurse Corps of the U.S. Air Force Reserve where he is a flight commander in the 452nd Aerospace Medicine Squadron at March Air Reserve Base in California.
Veteran translational researcher Dave S.B. Hoon, PhD, is overseeing a renaming and reorganization of his department at the John Wayne Cancer Institute that reflects the expanded capabilities and promise of translational molecular medicine. The research unit will now be known as the Department of Translational Molecular Medicine.

Under the new structure, Dr. Hoon and his team will perform translational research—studies that involve the movement of information from the patient’s bedside to the laboratory and back to the patient to improve care and spur innovation. The department will also oversee the Institute’s sequencing center. This laboratory analyzes blood and tissue samples to glean molecular/genetic information that may be important to a patient’s treatment and research.

Moreover, the department’s focus is no longer limited to cancer. Besides ongoing work on solid tumors such as lung, melanoma, gastrointestinal, brain, prostate and breast cancers, Dr. Hoon and his colleagues will work with physicians at the Pacific Neurosciences Institute and Providence hospitals on neurological benign diseases, including stroke, multiple sclerosis and epilepsy. They will also partner with John M. Robertson, MD, and Nicole Weinberg, MD, to support translational molecular medicine in cardiovascular diseases.

The department’s focus is no longer limited to cancer. Besides ongoing work on solid tumors such as lung, melanoma, gastrointestinal, brain, prostate and breast cancers, Dr. Hoon and his colleagues will work with physicians at the Pacific Neurosciences Institute and Providence hospitals on neurological benign diseases, including stroke, multiple sclerosis and epilepsy. They will also partner with John M. Robertson, MD, and Nicole Weinberg, MD, to support translational molecular medicine in cardiovascular diseases.

The same types of molecular assay approaches that help physicians decipher the causes of cancer and the best way to treat disease can be useful in noncancerous benign neurological and cardiovascular diseases, Dr. Hoon says.

“Oncology has had the strongest impact in translational molecular medicine and genome sequencing,” he says. “But it can have an important role in these other benign diseases by helping with earlier detection of disease, unraveling potential drug targets, identifying drug resistance, monitoring patients during treatment and identifying different classifications of benign disease at a molecular/genetic level.”

For example, he says, women with cardiovascular disease may have differences compared to men that become apparent when examining the disease at a molecular level. In addition, it’s well known that specific chemotherapies can have a toxic impact on some patients’ neurological and cardiovascular systems. Dr. Hoon and his team will develop approaches to monitor these early events before they become serious.

“Most solid tumors have molecular subtypes that are important to treatment,” he says. “Hopefully, with other benign diseases such as cardiovascular and neurovascular diseases, they can also be molecularly sub-typed for better treatment approaches. They shouldn’t all be treated the same way. This is a different avenue in translational medicine.”

Dr. Hoon is a pioneer in molecular medicine and has ties with researchers in the U.S. and around the world.

Institute Program Expands to Include a Range of Non-Cancer Diseases

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Saint John's Health Center Foundation Commits $1.1 Million to Community Health Programs

Saint John's Health Center Foundation distributed more than $1.1 million through its Affiliation Endowment Fund (AEF) to Westside community health partners serving vulnerable and underserved populations. The AEF Fund was created when sponsorship of Saint John's transitioned in 2014 from Sisters of Charity of Leavenworth to Providence Health & Services. The Foundation does not accept grant requests to the AEF; the AEF committee identifies and reviews candidates for funding based on community needs and organizational capability and capacity.

The AEF community advisory committee, chaired by Saint John's Health Center Foundation trustee Carl W. McKinzie, awarded a grant to the John Wayne Cancer Institute Surgical Oncology Fellowship Program, which trains the next generation of highly specialized surgical oncologists to develop research and treatment programs around the world. Other grants were awarded to the Catholic Big Brothers Big Sisters, Children's Bureau, Clare Foundation, Community Health Partnership, Didi Hirsch Mental Health Services, Homeless Care Navigation Program, OPCC, Saint John's Health Center's Child and Family Development Center, Santa Monica-Malibu Education Foundation, UCLA Family Resource and Well-Being Center, UCLA Sound Body Sound Mind and the Westside Food Bank.

“We are pleased to make these investments in better health and better lives for so many people in need,” Carl says. “These funds will do an enormous amount of good in our local communities by increasing access to health care and supportive services for many vulnerable populations.”

The staff, faculty and friends of the John Wayne Cancer Institute mourn the passing of Jacqueline “Jackie” Banchik, a longtime Institute supporter and member of the John Wayne Cancer Institute Auxiliary. Jackie passed away on December 28 after a seven-month battle with pancreatic cancer. She was 73.

A generous individual and talented leader, Jackie joined the auxiliary in the 1970s and also worked as a volunteer in the clinic. She became the fourth president of the auxiliary, and during her tenure the Institute moved from UCLA to Saint John’s Health Center. Jackie and her dear friend and fellow auxiliary member Diane Feldman started the “Circles of Distinction” project to honor and recognize Institute donors.

“Jackie was extremely warm and welcoming to new members,” Diane says. When the Institute moved from UCLA to Saint John’s in 1991, Jackie stayed on as the auxiliary president for a second term to ensure a smooth transition. “Had Jackie not stayed on as president, we might have lost our continuity. But we were able to adhere to our goals and keep things going. She stepped up at a really crucial time.

“Jackie had the capacity to make everyone she was with feel important and special.”

Jackie and her husband, Howard, started the Banchik Family Library, a place where families can access information about cancer. She also served on the Institute’s board of trustees and was a former patient and close friend of the Institute’s cofounder, the late Donald L. Morton, MD. She is survived by her husband, two children and six grandchildren.
Joyce Green, a former senior vice president of business development at the John Wayne Cancer Institute, passed away on January 22. Joyce was a champion of the Institute’s work, helping lead fundraising efforts.

Joyce became involved in cancer research in 1976 when her husband, Jack, was diagnosed with the disease and was treated by Donald L. Morton, MD, at the University of California, Los Angeles. Joyce worked with Dr. Morton to raise money for cancer research. The John Wayne Cancer Institute was founded at UCLA under Dr. Morton. But in 1981, Joyce worked closely with Dr. Morton and others to bring the Institute to Saint John’s.

As the Institute’s senior vice president of business development, Joyce was dedicated to the physicians, researchers and fellows, and in 2007 received “The Duke” Special Service Award at the Auxiliary’s Odyssey Ball.

“Joyce Green was there when the idea of the Institute was conceived,” says Patrick Wayne, chairman of the Institute board of directors. “She is an integral part of the culture and character of the Institute and was of equal importance to the founding doctors. I am truly fortunate to have known her, learning from her wisdom and sharing in her friendship and love.”

Joyce graduated from Beverly Hills High during World War II and attended Stanford University as a political science major. There, Joyce met Jack Green, a field artilleryman who fought in the Invasion of Normandy. Jack became Joyce’s partner in marriage and in business. Joyce began her career in the medical field by establishing an insurance billing company, MEDI-SEC.

During the polio epidemic of 1954, Joyce became paralyzed and spent five months at a rehabilitation center in Santa Monica. Polio altered Joyce’s perspective on life, giving her insight into the impact of chronic and disabling illness.

Joyce also served as director of development for the Cancer Support Community Benjamin Center. As a two-time breast cancer survivor, she was a strong advocate of the psychosocial support services which CSC, first known as The Wellness Community, provides.

“Joyce always took immense pride in knowing that she was able to help support breakthroughs in cancer care and the training of future leaders in surgical oncology,” says Anton J. Bilchik, MD, PhD, professor of surgery and chief of the gastrointestinal research program at the Institute. “She always considered Dr. Donald Morton a close friend and an inspirational leader. Joyce will mostly be remembered for her empathy, kindness, sense of humor and resilience.”

Joyce is survived by her son, Neal, his wife, Pamela, and her grandsons, Josh and Brad.
Committee Formed to Advance Brain Cancer Research and Treatment

A committee to advance the research and treatment of brain and metastatic cancers has been formed under the leadership of Santosh Kesari, MD, PhD, professor of neurosciences and chair of the department of translational neurosciences and neurotherapeutics. Dubbed the Brain Trust Committee, Dr. Kesari formed the group to foster collaboration throughout the John Wayne Cancer Institute and the Providence St. Joseph Health network.

By utilizing the rich resources of the network, the committee hopes to lower barriers and accelerate the pace of clinical trials as well as integrate laboratory research with patient care. Ultimately these actions could lead to the development of innovative, efficient and transformational treatment strategies for people with brain tumors, Dr. Kesari explains.

Potential research projects include studies on emerging immunotherapies; targeted therapies; stem cell therapies for the treatment of cancers and brain disorders; and neuro-protective strategies to protect patients from the toxicities related to chemotherapy and radiation therapy. The committee will explore avenues to promote research, faculty development and industry ties.

The field is ripe for innovation due to the development of genetic and molecular science that can identify precise biological characteristics that contribute to disease and target therapies to address those mechanisms, Dr. Kesari says.

“We need to think differently about brain cancers from the beginning a patient is diagnosed and incorporate our knowledge of tumor biology to develop innovative treatment strategies that will transform their care,” he says. “We are working with Providence-wide scientists and physicians to accelerate these paradigm-shifting approaches.”

Research Grants
The Fashion Footwear Association of New York, FFANY, has provided the Institute with three grants of $91,000 for breast cancer research in 2017. FFANY is a longtime friend and supporter of the Institute. Its FFANY “Shoes on Sale” fundraiser has raised more than $50 million for breast cancer research. The projects include:

- Research aimed at early detection of breast cancer recurrence. The grant will support studies that use a blood sample to look for a pattern, or signature, of cells (called circulating microRNAs) that provide the earliest possible clues that cancer may have returned. The research is being performed by Dave S.B. Hoon, PhD, Matthew Salomon, PhD, and Matias A. Bustos, PhD, all in the department of translational molecular medicine.
- A study exploring inflammatory breast cancer, a particularly challenging form of the disease. These studies will be under the direction of Diego Marzese, PhD, Javier Orozco, MD, and Dr. Hoon.
- A study examining the likelihood to decrease the metastatic potential of aggressive breast cancer.

The Institute will also fund two breast cancer research projects under the direction of Venkata M. Yenugonda, PhD, focusing on the development of a novel image-guided therapy for patients with triple-negative breast cancer and precision therapies for triple-negative breast cancer.

The Associates for Breast and Prostate Cancer Studies (ABCs) have made three grants of more than $81,000 each to fund Institute research including:

- A study on a noninvasive urine DNA test for early detection and targeted therapy of prostate cancer. This pioneering research will be directed by Jennifer Linehan, MD, Jennifer Lin, MD, and Dr. Hoon.
- A study examining the likelihood to decrease the metastatic potential of aggressive breast cancer.
- Work by Dr. Hoon and Dr. Lin on a liquid biopsy for assessing breast cancer recurrence risk using a novel blood-based DNA biomarker.
Faculty in the News

Institute faculty members are often recognized for their work or are asked to join organizational boards or research partnerships. Here are some of the recent developments involving several of our esteemed physicians and scientists.

GARNI BARKHOUDARIAN, MD, assistant professor of neuroscience and neurosurgery at the John Wayne Cancer Institute, is a member of a Congress of Neurological Surgeons panel that recently issued important treatment guidelines regarding the care of patients with nonfunctioning pituitary adenomas (NFPAs). The multidisciplinary task force was charged with conducting a systematic review of the medical literature to write evidence-based guidelines for care, particularly regarding technological adjuncts for surgery of these patients. The guidelines were published in the October issue of the journal Neurosurgery. NFPAs are quite common and can cause numerous symptoms including headaches, hormone dysfunction and vision loss. The first line of care is surgical resection of the tumor. Since the advent of the surgical microscope and X-ray fluoroscopy, the endonasal approach for these tumors has become increasingly safe and effective. Currently, there are numerous technologies that have been developed to improve surgical outcomes, including endoscopy, intra-operative MRI and neuronavigation. This analysis helps guide the neurosurgeon as to the available evidence in the published literature assessing these adjuncts in surgery. Such guidelines can also help standardize the technological requirements for pituitary centers of excellence while simultaneously reducing cost to the patient and the hospital system.

DAVE S.B. HOON, PHD, professor and director of translational molecular medicine, chief of scientific intelligence and director of the genomics sequencing center, announced that the Institute has formed a research partnership with Singapore-based Clearbridge BioMedics to establish a Circulating Tumor Cell Center of Research Excellence. The center will focus on microfluidics technology to improve cancer diagnosis, treatment and patient monitoring. Circulating tumor cells (CTC) are shed from tumors and circulate in the bloodstream. Dr. Hoon has been a pioneer of CTC studies at the Institute since the early ‘90s. Often referred to as a liquid biopsy, this kind of blood test can detect low amounts of cancer cells spreading and identify cancer progression and recurrence at the molecular level. Clearbridge’s ClearCell® FX System is one of the world’s first automated CTC retrieval systems.

DANIEL F. KELLY, MD, professor of neuroscience and neurosurgery, director and founder of the Pacific Neuroscience Institute, and director of the Pacific Brain Tumor and Pacific Pituitary Disorders Centers, was awarded the 2016 Hospital Physician Leadership Award by the Los Angeles County Medical Association at its fifth annual Los Angeles Healthcare Awards ceremony, November 3, in Beverly Hills. Each year the association, which represents more than 6,500 physicians, recognizes individuals and institutions for exemplary contributions to improving access to quality health care in Los Angeles County. Dr. Kelly is an internationally recognized expert in the field of minimally invasive and endoscopic keyhole surgery for brain, pituitary and skull base tumors. Dr. Kelly received Vitals’ 2016 Patient Choice Award as well as the Compassionate Doctor Recognition for the 6th year in a row. He was also recently named to Castle Connolly’s 2017 Top Doctors list.

SANTOSH KESARI, MD, PHD, professor of neurosciences and chair of the department of translational neurosciences and neurotherapeutics, has been appointed to the scientific advisory board of Creative Medical Technology Holdings, a biomedical company that is developing a stroke treatment program that utilizes adult stem cells. Stem cells hold promise for other neurological disorders, including Alzheimer’s disease, Parkinson’s disease and traumatic brain injury. Dr. Kesari’s vast experience with the execution of clinical trials and deep understanding of neurobiology will aid the company in the product development.

A research project by ACHAL SINGH ACHROL, MD, director of neurovascular surgery and chief of the glioma surgery program, has qualified for consideration for the First Annual Spotlight Award by Frontiers, the publisher of a prestigious family of open-access science journals. Dr. Achrol’s research topic, "Personalized Medicine and Neurosurgery," will be judged along with other entries on international reach, subject novelty and coverage, interdisciplinary character and academic excellence. The winner will be announced later this year. The winning entry will receive a $100,000 award to organize an international scientific conference at the SwissTech Convention Center of the Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland, early in 2018.
Noninvasive Brain Modulation Technology

For the first time in more than a decade, patients with glioblastoma have a noninvasive treatment option shown to increase survival with minimal adverse events. Physicians at the John Wayne Cancer Institute were among the first to embrace technology that uses alternating electrical fields, called tumor treating fields, within the human body to disrupt dividing cancer cells.

The alternating electrical fields are applied to the brain through electrodes placed on the scalp. The device is worn continuously. One device, Optune®, a portable unit developed by Novocure, is approved by the Food and Drug Administration. As a leader in enrolling patients to clinical trials of the device, Santosh Kesari, MD, PhD, is opening an investigator-initiated clinical trial of Optune in combination with chemotherapy for patients with low-grade gliomas.

Dr. Kesari and Garni Barkhoudarian, MD, are also examining an alternate non-thermal, battery-operated, investigational medical device, called the Nativis Voyager™ System, that takes a similar noninvasive approach. Dr. Barkhoudarian is the principal investigator of that clinical trial, which is also for patients with glioblastoma.

Neuro-Regeneration

Stem cells are unique types of cells that have the ability to renew, creating identical copies of themselves as well as the ability to divide and form cells that make up every type of tissue found in the body. Stem cells are the topic of intense scientific focus for a variety of diseases, such as stroke. Millions of people live with lingering side effects linked to stroke, such as paralysis, difficulty speaking or cognitive problems. Stem cells may be able to help repair brain tissue that was damaged by stroke.

Achal Achrol, MD, and Dr. Kesari are investigators of a Phase II clinical trial, sponsored by San Bio, Inc. and Sunovion, examining whether bone marrow-derived stem cells can be used safely and effectively in people with chronic motor deficits resulting from ischemic stroke. These investigational cells are directly injected into the cranium, and participants are monitored for safety and functional outcomes.

Dr. Achrol is a coauthor of a 2016 paper, published in *Frontiers in Neurology*, exploring the various sources for cell-based therapies and how to select the optimal source for stem cells. Dr. Achrol is also coauthor of a 2016 paper exploring the potential for stem cells to be used in treatments for glioblastoma.

Neurosciences and Neurotherapeutics

Brain-based disorders are among the most challenging conditions to treat. However, the neurosciences faculty at the John Wayne Cancer Institute is at the forefront of some of the most promising and innovative approaches in treating brain tumors and other neurological conditions. Here’s a roundup of some of the Institute’s projects.
Family Caregiver Burden

Cancer frequently exacts a heavy toll on the family members of patients. Studies show, however, that family support can influence patient outcomes, and it’s important to understand the role of family members and target resources to help them cope. Marlon Saria, PhD, RN, director of the Center for Quality Outcomes Research, is studying how to advance the care of patients and their caregivers through data-informed interventions. Dr. Saria has published papers on the burden of caregivers of patients with brain metastasis and on how cognitive dysfunction in these patients influences caregiver resilience and coping.

Currently, Dr. Saria is conducting a study of caregiver burden among family caregivers of cancer patients. The study will look at the distress and coping behavior of family caregivers of patients with cancer to see how future intervention studies can be developed to reduce caregiver burden and improve outcomes for the many individuals caring for family members with cancer. He is also preparing a study to assess the effects of integrating family caregiver support into cancer clinical trials on the well-being of the caregiver, the care recipient and on the cancer clinical trial system.

Radiogenomics

Over the past few decades, oncologists have learned that cancer patients can respond to medications differently depending on the specific genetic characteristics of that patient’s cancer. Now the same concept is being applied to the field of imaging and radiation therapy. The field is called radiogenomics—or imaging genomics—and Institute researchers are exploring the concept in order to improve patient care. Studies have shown that images taken of a tumor, such as an MRI, can reveal characteristics that suggest a tumor’s particular genetic subtype.

Dr. Achrol is actively involved in this emerging field and is a coauthor of several studies establishing a radiogenomic map—a link between image features and underlying molecular data or markers—that has potential to provide a noninvasive assessment of the underlying molecular characteristics of a glioblastoma tumor, information that can help steer treatment decisions. His work has demonstrated that image-based biomarkers of glioblastoma subtypes can be differentiated and may be a substitute for intensive molecular analysis of the tumor in a laboratory. An image-based approach would avoid the risks of biopsy.

Dr. Achrol’s work on imaging genomics earned him the prestigious Mahaley Award for Best Neuro-oncology Research from the Congress of Neurological Surgeons and National Brain Tumor Society in 2015.

Neuro-Innovation and Surgical Techniques

Some types of skull-base and brain tumors can be treated by using minimally invasive endoscopic surgery. This type of surgery reduces the risk to patients and hastens recovery because tumors are removed through small openings in the skull or through a natural orifice, such as the nose.

Institute physicians are leaders in the use and evolution of innovative neurosurgical advances. As director of the Brain Tumor Center Skull Base Microdissection Anatomy Laboratory at the Pacific Neurosciences Institute, Dr. Barkhoudarian conducts research to expand the understanding of surgical anatomy and keyhole approaches and on evaluating outcomes of pituitary and brain tumor surgery. He is a coauthor of a 2016 paper on evidence-based guidelines on surgical techniques and technologies for the management of patients with nonfunctioning pituitary adenomas, published in the journal Neurosurgery.

He is also involved in the biomarkers research program for pituitary adenomas, meningiomas and metastatic brain tumors, as well as evaluating potential mechanisms and markers that may suggest how a tumor may progress.

For more information on supporting the department of translational neurosciences and neurotherapeutics, please contact Mary Byrnes in the Office of Development at 310-582-7102.
Brooke Vuong, MD
Dr. Vuong, a first-year surgical oncology fellow, presented a study examining the extent of lymphadenectomy recommended for gastric cancer at the Southern California Chapter meeting of the American College of Surgeons in Santa Barbara.

Trevan D. Fischer, MD
Dr. Fischer, the Ruth and Martin H. Weil Fellow and co-chief administrative fellow in surgical oncology, is the first author of a manuscript submitted for publication to the *Journal of the American College of Surgeons*. The paper reviews the use of multi-modal therapy for adults with rhabdomyosarcoma. He also presented a review of paragangliomas at the Southern California Chapter of the American Cancer Society and in March reported at the Society for Surgical Oncology meeting on how mood states can affect outcomes in melanoma.

Daniel W. Nelson, DO
Dr. Nelson’s research project entitled “Is Time Really of the Essence? Impact of Time between Diagnosis and Sentinel Lymph Node Biopsy on Outcomes in Cutaneous Melanoma,” was selected for podium presentation at the 88th annual meeting of the Pacific Coast Surgical Association.

Shrawan Gaitonde, MD
Dr. Gaitonde presented a talk entitled “Gender-specific differences in colon cancer when quality measures are adhered to: results from International, prospective, multicenter clinical trials” at the Western Surgical Association Annual Meeting in Coronado, California. He also presented the poster “Young age, disparities, and survival in gastric adenocarcinoma: Implications for screening strategies” at the 2017 Gastrointestinal Cancers Symposium in San Francisco.

Emily Ho, MD
A poster by Dr. Ho was on display at the American Society of Breast Surgeons 18th annual meeting. The presentation was entitled “Freezing Instead of Resection Of Small Breast Tumors (FROST Trial): A Study of Cryoablation in the Management of Early Stage Breast Cancer.” Dr. Ho also presented a poster at the Society of Breast Imaging/American College of Radiology Breast Imaging Symposium on “Breast Imaging: What the Surgeon Wants You to Know.”

Maris S. Jones, MD
The co-chief administrative fellow and Harold McAlister Charitable Foundation Fellow, Dr. Jones presented her work entitled “Pregnancy Associated Melanoma is Not Associated with Adverse Outcomes” at the 2016 Western Surgical Association Annual Meeting in Coronado. She also had a manuscript entitled “The Impact of Smoking on Melanoma Sentinel Node Metastases: Analysis of Two Multicenter Clinical Trials” accepted for publication in the *Annals of Surgical Oncology*.

Bradley C. Bandera, MD
Dr. Bandera is a coauthor of a study presented at the Southern California Chapter American Cancer Society Annual Scientific Meeting 2016 entitled “Anatomic location is the primary determinant of survival for paragangliomas: a review of the National Cancer Database.” Additionally, he is a co-author of three other studies with Institute colleagues, including a paper on multimodal therapy in adolescents and young adults with rhabdomyosarcoma.
A Surgical Fellow Discovers the Soft Side of Her Job
WRITTEN BY SHARI ROAN

When Maris Jones, MD, was a teenager growing up in El Cerrito, California, she watched in dismay as her beloved grandmother battled thyroid cancer. The family expected her to receive treatment and recover. But that’s not what happened. Instead the treatment failed to help, leaving the patient and family devastated.

“The family initially thought she’d have surgery and radioactive iodine, and this would help extend her life. The opposite happened,” says Dr. Jones. “She got sicker and more and more miserable.”

As a surgical oncology fellow at the John Wayne Cancer Institute, Dr. Jones uses that experience to remind herself of the importance of developing not only sterling technical skills but becoming a compassionate and communicative physician.

“It’s important to not only have the ability to be an excellent surgeon,” she says. “We have to be able to communicate our plans with the patient and family.”

Dr. Jones, who is the co-chief administrative fellow and the Harold McAlister Charitable Foundation fellow, says her fellowship is helping her do just that. Now in her second year of the program, she is faced with complex surgical oncology cases that require detailed discussions with patients and family members.

“To be the best cancer surgeon, you have to have the best interpersonal skills,” she says. “I think that is what drew me to oncology. Those were the patients and families I kept gravitating to during medical school. I would sit and talk to these families.”

Dr. Jones attended Stanford University before earning her medical degree at the University of Illinois of Chicago. She pursued a fellowship at the Institute after a mentor at the University of Nevada (where she completed residency) told her about the program. Daniel Kirgan, MD, was an Institute fellow in the ‘90s and spoke highly of his training at the Institute and its mission, Jones says.

The experience has not disappointed her, she says. The Institute’s surgical oncology fellows benefit from being part of a multidisciplinary group of physicians and surgeons, including geneticists, radiologists, medical oncologists, pathologists and others. The exposure to such a broad range of specialists, and seeing how they work as a team, has been an illuminating part of her fellowship.

“Everyone is putting their heads together to solve this complex puzzle. You always learn more when exposed to different viewpoints,” she says.

Dr. Jones has taken a special interest in melanoma research. Last year she presented data at the Western Surgical Association meeting showing that pregnant women with melanoma are not at increased risk of death from the disease compared to other melanoma patients.

She says she will always value being the McAlister Fellow and the opportunities it has brought her.

“At the Institute, we really depend on donors and respect the individual missions of each of these foundations, such as the McAlister Foundation,” she says. “It was a great honor to carry on that tradition and fulfill their commitment to cancer research.”

For more information on how to support the Surgical Oncology Fellowship Program, please contact Michael Avila in the Office of Development at 310-829-8351.
Saint John’s Offers
LOW-DOSE CT SCREENING
to Detect Lung Cancer
Lung cancer takes the lives of more Americans than any other type of cancer. But a new program at Providence Saint John’s Health Center is aimed at reducing death rates from lung cancer by identifying cancers at much earlier stages. The program, staffed by physicians from the John Wayne Cancer Institute, utilizes low-dose CT (computed tomography) to, at regular intervals, screen people who are at high risk for lung cancer.

Although low-dose CT screening for lung cancer is a newer type of cancer screening, it has been endorsed by major medical groups, such as the American Cancer Society, and last year was approved for reimbursement by the Centers for Medicare & Medicaid Services (CMS).

“There are only a small number of medical centers nationally that are Medicare-approved, which our screening program is,” says Robert J. McKenna Jr., MD, professor and chairman of thoracic oncology at the John Wayne Cancer Institute.

The CMS has issued guidelines for screening, and centers that are CMS-certified must follow these criteria, such as employing radiologists specially trained in reading CT scans of the lung.

Lung cancer screening is done with low-dose CT scans that take detailed pictures of the chest and lungs. While traditional chest X-rays have not been shown to be helpful in detecting lung cancer in early stages, studies of low-dose CT scan screening demonstrate its benefits. The National Lung Screening Trial, a study of more than 50,000 people aged 55 to 74 who were current or former smokers with at least a 30 pack-year history of smoking, found that people who underwent low-dose CT had a 20% lower chance of dying from lung cancer than those who received chest X-rays.

The radiation dose is small enough that the screening itself is not considered dangerous, says Osita Onugha, MD, a board-certified surgeon at Providence Saint John’s Health Center and assistant professor of thoracic surgery at the John Wayne Cancer Institute.

“The primary concern associated with low-dose CT scanning is from radiation,” he says. “The radiation exposure is higher with a standard CT scan. But low-dose CT delivers much less radiation because you get fewer images. With a low-dose CT scan, the radiation is 20-50% of a standard CT.”

The screening is aimed at people who are at high risk for lung cancer. Lung cancer can develop without producing any obvious symptoms until it has reached a late stage. Late-stage lung cancers are challenging to treat and the cure rate is low. The objective with low-dose CT screening is to diagnose lung cancer early when the chances of a cure are high, says Dr. McKenna.

“You have to balance the benefits and the risks,” he says. “The amount of radiation people are exposed to with low-dose CT is very low, and the risk is very low. But if you wait until lung cancer becomes symptomatic, the chances of a cure are enormously smaller compared to someone who has a screening test and catches it early.”

If you wait until lung cancer becomes symptomatic, the chances of a cure are enormously smaller compared to someone who has a screening test and catches it early.”
Low-dose CT screening for lung cancer is primarily focused on patients who are over 55 years old and have a 30 pack-year smoking history. A pack-year is defined as smoking an average of one pack of cigarettes per day for one year. For example, a person could have a 30 pack-year history by smoking one pack a day for 30 years or two packs a day for 15 years.

The technology has a low rate of false positives (an indication of cancer when there is no cancer) and false negatives (missing cancer), Dr. Onugha says. If nothing suspicious is found during screening, a high-risk patient would be advised to undergo screening every year. If something is found or looks suspicious, a patient may be advised to have a follow-up screening in three months or six months to watch any suspicious lesion or be referred for further testing and treatment.

Low-dose CT screening should be offered as part of a comprehensive program, Dr. McKenna notes. Saint John’s has created a multidisciplinary program offering low-dose CT screening, a smoking cessation program and a comprehensive program to diagnose and treat lung cancer. If low-dose CT lung screening leads to a cancer diagnosis, the patient will be treated. Every patient in the screening program will be followed as part of a surveillance program.

“We have experienced radiologists, and we review all CT scans in a weekly medical conference,” he says. “We have all the appropriate medical specialties involved in our program, including radiology, oncology, pulmonary medicine and thoracic medicine.”

For more information on low-dose CT screening for lung cancer call 310-829-8686.
July and August

Premier Girls Fastpitch Softball Tournament

Orange County, CA

John Wayne Cancer Institute representatives will attend a tournament featuring top youth softball players from around the country at the Premier Girls Fastpitch Softball Tournament. PGF is a longtime supporter of the Institute. Each year, Institute representatives attend the tournament to share information on skin cancer prevention and to thank the players, parents and coaches for their support.

Fall 2017

Planned Giving Recognition Luncheon

Luxe Sunset Hotel

The Guardians of the Future will gather for its annual luncheon and update on the latest news and research at the Institute and Saint John’s Health Center. The Guardians of the Future consists of individuals who have provided support for the Institute through their estate plans or other charitable gift planning. The luncheon also honors Friends for the Future, comprised of individuals who have remembered the Health Center through planned giving.

October 17

John Wayne Cancer Institute Auxiliary Annual Membership Luncheon and Boutique

The Beverly Hills Hotel

This fun-filled annual awards luncheon and boutique helps support the Institute Auxiliary, which has raised more than $19 million for the Institute over the past three decades.

October 21

Saint John’s Health Center 75th Anniversary Gala Celebration

Culver City, CA

To mark this incredible milestone, the Saint John’s Health Center Foundation will host a one-of-a-kind event to honor the heritage of Saint John’s and celebrate its bright future.

November 1

Board of Advocates Fall Luncheon

Luxe Sunset Hotel

Friends and patrons of John Wayne Cancer Institute and Saint John’s Health Center comprise the Board of Advocates. They serve as ambassadors to the community, encouraging support for various projects and programs in need. Attendees to the luncheon will receive Institute and Health Center updates.

November

Associates for Breast and Prostate Cancer Studies (ABCs) Annual “The Talk of the Town” Gala

The Beverly Hilton Hotel

The Associates for Breast and Prostate Cancer Studies (ABCs) host this special evening each year to honor individuals who have made a difference in the fight against cancer. The black tie event attracts more than 800 guests. Celebrities and supporters alike gather to raise funds for the Institute’s breast and prostate cancer research. The evening includes dinner, dancing, premiere entertainment, a boutique, and live and silent auctions.

For more information on any of the events, please call 310-315-6111.
One person, one cancer
When Nicole Saldivar was diagnosed with the brain tumor glioblastoma at age 16, her parents Alfredo and Kathia Saldivar took her to a pediatric cancer center where her doctors followed the standard protocols for her treatment. But chemotherapy and radiation did nothing to stop the tumor’s rapid growth.

Nicole soon lost the ability to speak and walk as the tumor grew, and her doctors said they were out of options. Her parents took her to cancer centers throughout Los Angeles, desperately searching for a miracle cure that could save their daughter’s life. But the answer was always the same: There’s nothing we can do.

Then one day in October 2015, a copy of the John Wayne Cancer Institute’s Innovations magazine showed up in the Saldivars’ mailbox with a profile inside of Santosh Kesari, MD, PhD, director of neuro-oncology at Providence Saint John's Health Center and chair of the Institute’s department of translational neurosciences and neurotherapeutics. Nicole’s father made an appointment the same day, and Dr. Kesari did something none of her other doctors the family had seen across Los Angeles did: He analyzed the genetic profile of her tumor.

“She had a mutation of the PI3K gene, one of the oncogenes for glioblastoma,” Dr. Kesari says. “We knew that a medication called everolimus is approved for this mutation in breast cancer and renal cancer, so we believed it could work for her glioblastoma.”

This outside-the-box thinking paid off. Within two months of starting treatment with everolimus, Nicole’s tumor had shrunk by 50%, and a year later it was 93% gone. She’s currently undergoing occupational and speech therapy to regain her speech and motor functions. “I can’t wait to ride a bike and run again,” she says.
THE NEW PARADIGM IN CANCER CARE

Nicole’s experience is a textbook example of a new paradigm in cancer care called precision medicine, in which physicians use genetic testing to identify mutations in individual patients’ cancers and treat them with therapies targeted to those mutations rather than following standard protocols for broad therapies based on cancer type.

“Nicole shows what precision medicine can do,” Dr. Kesari says. “If we can understand the critical drivers in the mutations of each patient’s tumor to find out how that tumor is vulnerable,” explains Steven J. O’Day, MD, director of immune-oncology and clinical research at the Institute, who is collaborating with Dr. Kesari on several precision medicine trials for a variety of tumor types.

Dr. O’Day has had notable success applying targeted immunotherapies and molecular therapies to the treatment of melanoma. “Melanoma, historically, was one of the worst-prognosis cancers,” he says. “Now in the span of five years it has become one of most treatable types of cancer because we found a key mutation that we can block, and we found ways to activate the immune system against the cancer.”

“Glioblastoma is where melanoma was 10 years ago,” Dr. O’Day adds. “It’s resistant to chemo, the patients are young, and they often die quickly. We need to find those vulnerable mutations and molecular targets. Dr. Kesari and I are collaborating to figure out ways to do that, and melanoma is the model. What Dr. Kesari does is really scrutinize the cancers to see if they have mutations found in other diseases that are vulnerable to targeted therapies.”

In the coming years, I think we will profile more and more tumors. We’ll know what the vulnerabilities are.”

PRECISION MEDICINE REQUIRES INDUSTRY-WIDE COLLABORATION

Precision medicine is the way of the future for oncology. But today’s doctors have only a fraction of the information they need, which is why most patients’ tumors aren’t genetically profiled—at least not during the first line of treatment.
“If a disease has mutations that have been shown to have therapies that help that patient, then we’ll profile the tumor at baseline. But we must be careful about not overemphasizing mutations that may not be relevant,” Dr. O’Day says. “Even if they are relevant, we may not have a treatment yet. But in the coming years, I think we will profile more and more tumors. We’ll know what the vulnerabilities are.”

That’s why there’s a huge push for widespread, collaborative efforts on a national and international scale to build a database of all vulnerable mutations, cross-referenced with any targeted therapies known to be effective.

“All the human genes have been mapped in the Human Genome Project, so now it’s a matter of doing the same thing for these cancer driver mutations,” Dr. O’Day says.

President Obama took a big step in that direction when he announced the Precision Medicine Initiative in his 2015 State of the Union Address. The initiative allocated $215 billion to biomedical research through the National Institutes of Health and other agencies, including the Beau Biden Cancer Moonshot Initiative led by Vice President Joe Biden, whose son Joseph “Beau” Biden III died from brain cancer like Nicole’s.

“It’s going to take a huge effort to pinpoint all the critical mutations,” Dr. Kesari says. “We also don’t have drugs for all the mutations, so we need to keep developing new drugs as well.”

**THE INSTITUTE AT THE FOREFRONT OF PRECISION MEDICINE**

Over the last 25 years, the Institute has been one of the pioneering cancer centers that helped make precision medicine part of the national conversation. “We’ve been working on precision medicine since the early 1990s, and now everybody is starting to do it,” says Dave S. Hoon, PhD, director of the Institute’s translational molecular medicine department.

Dr. Hoon’s lab has been instrumental in developing molecular/diagnostic blood and tissue assays to detect minimal residual disease as well as the process known as liquid biopsy (also called blood biopsy and urine biopsy), which will dramatically change how oncologists diagnose, monitor and treat certain patients—especially those with tumors that are hard or impossible to biopsy surgically. Liquid biopsy involves collecting and analyzing tumor cells, DNA, micro RNA and other biomarkers that tumors shed into the blood and urine rather than requiring a solid tissue biopsy from the tumor itself. Dr. Hoon is currently studying the use of blood biopsies for melanoma, prostate cancer and glioblastoma, and urine biopsies for prostate, urological and lung cancers.

“This allows us to do real-time tests without constantly biopsying the tumor. We can identify mutations that are potentially targetable by certain therapies, but we can also use them as biomarkers for detection and prognosis,” Dr. Hoon says. “This benefits early diagnosis and progression, so we can evaluate and treat it earlier.

We can also tell if patients are responding to treatment, and we can quickly switch treatment if the findings suggest there is no response. That will spare people from the side effects of therapies that don’t work and prolong survival. That’s the end game.”

In other words, not only can these biomarkers be used to genetically profile a patient’s cancer from a simple blood or urine sample, but doctors can take samples daily or weekly to create a comprehensive data set that allows them to watch the cancer’s progress over time and know right away if a treatment isn’t working or how the cancer is growing or evolving.

“Liquid biopsy used to be on the fringe. Now it has the attention of the oncology world,” Dr. O’Day says. “The ability to diagnose cancer as well as monitor response to the treatment and to immediately stop or switch therapies if the tumor starts to develop resistance will be a huge part of precision medicine.”

The Saldivars feel incredibly lucky they found Dr. Kesari and that they didn’t give up hope when other doctors said there was nothing left to do. Because research on targeted therapies for glioma is in an early phase, there was no guarantee that profiling Nicole’s tumor would lead to the discovery of a treatable mutation—or even that everolimus would have any effect on the mutation.

“She was part of an N-of-1 study,” meaning a single-patient study, Dr. Kesari says. “We need to study this in a much broader way so more patients can benefit.”

For more information on supporting precision medicine, please contact Mary Byrnes in the Office of Development at 310-582-7102.
A Brotherly Tradition

Robert Zukin and Joseph Zukin have been giving to the Institute for more than 30 years.

WRITTEN BY LAUREL DIGANGI
PHOTOGRAPHED BY MARC BLONDIN
Single acts of generosity are great, but unwavering philanthropy that continues over three decades—as practiced by Robert Zukin and Joseph Zukin—is rare. Since 1982, when the brothers lost their mother, Helen, to cancer, they have consistently made yearly contributions to the John Wayne Cancer Institute.

“Some philanthropic efforts you don’t stick with,” says Joe, 91. “But this was important because it was in my mother’s memory, and we wanted to do something to find the ultimate cancer cure. That was our motive.”

Helen, who was diagnosed with melanoma, was a patient under the care of renowned oncologist Donald L. Morton, MD. “This was in the early days of melanoma treatment,” says Bob, 89. “After Dr. Morton operated on her, she was with us for another five years. That was a long time for the late-’70s.”

“She adored Dr. Morton,” says Joe, “and she was very comfortable with her care and all of the doctors who attended to her.”

Helen herself had a long history of altruism. During World War II she volunteered as a Gray Lady for the Veteran’s Hospital in Los Angeles. She also was a long-time volunteer at UCLA Medical Center, managing the hospital’s gift store. “She was always a very vivacious, very helpful person,” says Bob.

The brothers grew up in Brentwood Heights with Helen and their father, Joseph, a Russian immigrant who worked in the Los Angeles garment industry. Both brothers attended University High School in West Los Angeles. Joe graduated from Stanford in 1949—although his college career was interrupted by World War II and a stint in the army. Bob served in the Navy for six months, graduated from UCLA, then rejoined the Navy in the Korean War.

Both men eventually became entrepreneurs. Joe moved to the San Francisco Bay area, invested in self-serve gas stations and car washes and founded San Jose’s beloved amusement park, Frontier Village. When the park closed in 1980, Joe’s interests moved to the outdoor sign business. Meanwhile, Bob married his wife, Joan, moved to Malibu and built a successful management business. Bob’s wife passed away recently from a stroke after the couple celebrated 58 years of marriage. Today Bob lives in Montecito and has five “awesome” grandchildren.

Recently Bob had a couple small melanomas removed, reminding him of the great progress that’s been made in cancer detection and prevention. “We haven’t conquered it yet, but we’ve come a long way in the past 35 years due to the perseverance of the medical community.”

They credit the Institute for remaining steadfast in its quest to find cures.

“This was important because it was in my mother’s memory, and we wanted to do something to find the ultimate cancer cure.”

“The John Wayne Cancer Institute is one of institutions around the country doing a workman-like job of finding cures and remedies for cancer,” Joe says. “There are so many charitable foundations that are looking for contributions. But if somebody asked me if I knew a good place to make a donation to help mankind, I would certainly list the Institute at the top of my donation list.”

And of course, such progress could not be made without people like Bob and Joe. 

find out more

Please contact Michael Avila in the Office of Development at 310-829-8351.
Medicine was in the cards—or maybe the genes—for Jay S. Orringer, MD, as he comes from a long line of physicians. A nationally recognized plastic surgeon, Dr. Orringer practices at Providence Saint John’s Health Center and is a member of the adjunct faculty of the John Wayne Cancer Institute.

He did general surgical residency at the University of Michigan Affiliated Hospitals, plastic surgical residency at the UCLA Medical Center and microsurgery fellowship with emphasis on breast reconstruction at the New York University and Bellevue hospitals. During his general surgical residency, he was deeply affected by the impact of the traditional mastectomy deformities, and his desire to restore wholeness on behalf of these patients became a professional passion. “And in 35 years, that interest has only grown as even younger women at high risk for cancer undergo prophylactic mastectomies,” he says.

Since coming to Saint John’s from a university practice in 1990, Dr. Orringer has participated in an impressive evolution in breast reconstruction. Reconstructive techniques and materials have greatly improved. In addition, nipple-sparing mastectomy has
tended to produce more natural results. During the past 25 years, Dr. Orringer has developed an algorithm that attempts to optimize incisional aesthetics based largely upon nipple position, vascular anatomy and techniques shared with cosmetic breast surgery.

During his 28 years in practice, he has been deeply inspired by his many patients and their extraordinary dedication to helping others, including actress Angelina Jolie.

“Several years ago, I actively worked on behalf of National Breast Reconstruction Awareness and had the privilege of sharing in her care,” he says. “Her altruistic, selfless willingness to discuss her rationale for, and experience with, her preventative mastectomies and reconstructions has already saved lives. Patients have directly expressed this. Her profoundly positive impact has only continued to grow. Existing patients in my practice bring tremendous support to newly identified high-risk and breast cancer patients as a sisterhood of true heroes.”

He recently attended the American Cancer Society 2016 Giants of Science Awards with his patient, Shannen Doherty, who received the Patient of Courage Award. “Ms. Doherty demonstrates that living a positive, vibrant, productive and caring life is possible even while undergoing treatment. Her spirit truly brings inspiration.”

He is quick to point out that he works as a part of a superb health care team. “Optimal care today is based on the health care team concept. The patient is captain of the team and my colleagues at the Providence Saint John’s community, who comprise that team, are extraordinary.”

To support breast cancer research at the Institute, please contact Mary Byrnes at 310-582-7102.
Fighting the Good Fight

Ken Johnson honors his wife’s tenacious spirit.

WRITTEN BY NANCY SOKOLER STEINER

Within weeks after his wife, Joan, passed away last year, Ken Johnson honored her fighting spirit and the institution that helped her wage her four-year battle with cancer. Ken, joined by his son, Travis, 25, and daughter, Sabrina, 20, gave a $100,000 gift to the Saint John’s Health Center Foundation.

The gift recognizes “the care that the doctors gave and the decency they showed in miserable times,” Ken says. “We also wanted to honor Joan and make a statement that the fight against cancer matters.”

The funds will support the creation of educational materials for patients as well as research into how medical professionals can best communicate with patients. In recognition of the Johnson family’s generosity, the patient education room in the Margie Petersen Breast Center is now named in honor of Joan Brierton Johnson.

Ken has a PhD in electrical engineering and mathematics and works in advanced space technology development at Raytheon. He met his wife of nearly 26 years at a professional conference. Joan, who received a dual degree in physics and mathematics, worked at Hughes Aircraft as an algorithm designer for radars.

“She was very intelligent,” Ken says. “That’s one of the reasons I fell in love with her.”

The couple lived in the hills of Topanga Canyon, where they raised their two children and enjoyed a 180º view of the San Fernando Valley.

Ken stressed how much Joan’s physicians at the John Wayne Cancer Institute at Saint John’s Health Center meant to her and the family. Hematologist-oncologist Sean Fisher, MD, “fought right alongside her when others had given up,” says Ken. “She would have passed away two years earlier if not for him.”

Dr. Fisher’s treatment granted Joan a welcome remission, during which she felt good enough to ride her bike along the beach for 20 miles a day. And Ken described pulmonologist Wenchao Woo, MD, who treated Joan’s lung cancer, as “a great man, very communicative and compassionate.”

He also expressed gratitude to internal medicine and nephrology physician Morris Grabie, MD, pain management specialist Gerald Sacks, MD,
obstetrician/gynecologist Amy Rosenman, MD, and Rebecca Crane-Okada, RN, PhD, director of the breast cancer navigation and integrative therapies programs. Several of them spoke at Joan’s memorial service.

Ken, Travis and Sabrina say they are pleased that his gift will support the work of Dr. Crane-Okada, who counsels patients at all stages of breast cancer. “Her research will have an immediate impact and each year will touch hundreds of women and their families,” Ken says.

Ken, a history buff, co-authored the just-published book *Warriors of the 106th*, describing the heroism of infantry division members who fought on the front lines of WWII’s Battle of the Bulge. He admires the fighting spirit in the soldiers he profiled, as well as in his wife, who exhibited tenaciousness even before facing cancer.

Joan successfully worked to change the warning label of a children’s pain reliever after Sabrina, when she was 6 years old, suffered an allergic reaction to the medicine and lost her vision for several years. She and Sabrina testified before the Food and Drug Administration, which mandated the labeling change. Joan also championed her daughter through seven years of medical treatments that enabled Sabrina to regain her vision.

Travis says his mother never gave up, in order to teach her children the value of persevering. Their donation, he says, aims to amplify that message. “Our hope is to teach others that they should fight to the end. There’s a value to the fight itself. I think she would want that as her legacy.”

“We also wanted to honor Joan and make a statement that the fight against cancer matters.”
MEMORABLE EVENTS

JOHN WAYNE CANCER INSTITUTE AUXILIARY ODYSSEY BALL

More than 500 guests attended the festive, annual John Wayne Cancer Institute Auxiliary Odyssey Ball on March 25 at the Beverly Wilshire. The event honored award-winning actor, producer and screenwriter Vince Vaughn with the “True Grit” Humanitarian Award and internationally recognized medical oncologist and Institute faculty researcher Steven J. O’Day, MD, with “The Duke” Special Service Award. The Best is Yet to Come casino-themed gala was organized by John Wayne Cancer Institute Auxiliary ball co-chairs Martha Harper and Shirley Lipstone. The event grossed more than $700,000 to benefit the John Wayne Cancer Institute including a $100,000 donation from Dr. Miriam and Sheldon Adelson in memory of Donald L. Morton, MD, who co-founded the Institute, and a $50,000 donation from Ruth Weil, John Wayne Cancer Institute Auxiliary board member and past president. Over the years, the auxiliary has raised more than $19 million for the Institute. Odyssey Ball special guests included Anita Swift, auxiliary president; Patrick Wayne, chairman of the Institute board of directors; Bobby Herbeck, event emcee; Nic Pizzolatto, award-winning executive producer and writer of HBO’s hit series True Detective; Berry Gordy; Bruce Boxleintner; Ted McGinley; Michael Nouri, Marcel Loh and Robert Klein.
MEMORABLE EVENTS

Dr. Steven J. O’Day and his medical staff

Vince Vaughn

Dr. Melanie Goldfarb and Dr. Jennifer Linehan

Lewis Lipstone, Shirley Lipstone, Vince Vaughn and Martha Harper

Patrick Wayne and guests

John Gebbia and Gloria Gebbia

Dr. Daniel Kelly, Dr. Timothy Wilson, Dr. Steven J. O’Day and Dr. Jennifer Linehan

Kyla Weber and Vince Vaughn

(From left) Lois Rosen, Ilene Eisenberg, Hollace Brown, Ruth Weil, Anita Swift, Shirley Lipstone, Diane Feldman and Roberta Novick

Dr. Steven J. O’Day and his medical staff
ASSOCIATES FOR BREAST AND CANCER STUDIES (ABCs) ANNUAL “THE TALK OF THE TOWN” GALA

The annual “The Talk of the Town” Gala was held November 19 at the Beverly Hilton hotel. Sponsored by the Associates for Breast and Prostate Cancer Studies (ABCs), this annual gala drew 500 attendees and honored friends of the John Wayne Cancer Institute. Honorees included Dame Joan Collins, who received the Spirit of Entertainment Award, and Academy Award-winning actress, director and author Anjelica Huston, who received the Spirit of Hollywood Award. Marcel Loh, chief executive, Providence Saint John’s Health Center and John Wayne Cancer Institute, was honored with the Spirit of Hope Award. The ABCs have raised more than $14 million for breast and prostate cancer research at the Institute.
TUSTIN BREWERY
In honor of its 20th anniversary, Tustin Brewing Co. hosted a party on August 28 to thank its friends and patrons. The day was filled with unlimited tastings, commemorative gifts, live music, raffle prizes and more. Owner Jason Jeralds lost his father, Greg Jeralds, to melanoma in January 2004. The anniversary party raised money for the John Wayne Cancer Institute in memory of Greg.

Tustin Brewery owner Jason Jeralds at the John Wayne Cancer Institute Auxiliary Membership Luncheon in 2016.
PACIFIC NEUROSCIENCE INSTITUTE (PNI) LAUNCH EVENT

The Pacific Neuroscience Institute (PNI) Launch Event, sponsored by Saint John's Health Center Foundation with Foundation trustee Jae Goodman, was held January 19. Supporters, patients, medical specialists and Providence leadership met at Creative Artists Agency to celebrate the launch of PNI at Saint John’s. After several years of planning and with the Foundation’s support, this outstanding group of physicians and researchers unveiled the Pacific Neuroscience Institute, an extraordinary and transformative collaboration that creates a remarkable Institute not only at Saint John’s but for the entire region. The PNI founders, Daniel F. Kelly, MD, Chester F. Griffiths, MD, Howard R. Krauss, MD, and Santosh Kesari, MD, PhD, gave attendees an inside look into the compassionate care and patient-focused values that are the embodiment of all that PNI has been founded on. Using a team approach featuring multidisciplinary specialties, PNI is devoted to the care of patients with a wide spectrum of neurological and skull base disorders and provides state-of-the-art care with a focus on minimally invasive surgical and interventional techniques as well as novel targeted therapies that aim to restore and maintain quality of life.
The Benefactors Appreciation Reception was held March 5 at the home of Donna Schweers, chair of the Saint John Health Center Foundation Board of Trustees, and her husband, Tom Geiser, chair of the board of directors, Providence Saint John’s Health Center. One extraordinary group of benefactors was recognized from two unique institutions: John Wayne Cancer Institute and Saint John’s Health Center Foundation. This year’s celebration brought together donors from the highest levels of giving to personally thank and recognize all that has been made possible through the decades because of their support. Attendees enjoyed a beautiful reception and the opportunity to mingle with Health Center physicians, Institute faculty and researchers, leadership, Wayne family members and other friends.
MEMORABLE EVENTS

BOARD OF ADVOCATES FALL LUNCHEON

The Board of Advocates held its biannual luncheon on November 2 at the Luxe Sunset Boulevard Hotel. The attendees heard presentations from Jennifer Linehan, MD, and Steven A. Vasilev, MD, about the growing urological and gynecologic programs at the Institute and Saint John’s. The Board of Advocates is comprised of friends and patrons of the Health Center and Institute who serve as ambassadors in the community and encourage the support of programs deemed to be of the highest priority by the Health Center and Institute leadership.

CATHY CLASSIC

The annual Cathy Classic golf event was held November 12 at the Kissimmee Bay Country Club in Kissimmee, Florida. The tournament benefits melanoma research at the Institute and is organized by the Hasselberger family, led by Larry, Ann and David Hasselberger, in memory of David’s sister, Cathy.

MARTIN M. COLLINS GOLF TOURNAMENT

The 11th annual Martin M. Collins Charity Golf Tournament was held February 27 at the Red Rock Country Club in Las Vegas. The event, which is held in memory of Martin M. Collins, benefited the research of Timothy Wilson, MD, and the urologic oncology research program at the John Wayne Cancer Institute.
SEAN HUNTER: RESEARCH IN ACTION WALK
The Sean Hunter Research in Action Walk was held February 12 at Corpus Christi Church in Pacific Palisades. The event was created by family and friends of Sean Hunter after he was diagnosed with an inoperable brain cancer. The walk attracted dozens of local sponsors and grossed $250,000. Proceeds from the walk will support brain cancer research at the John Wayne Cancer Institute under the direction of Santosh Kesari, MD, PhD. The event speakers included Sam Lagana, Monsignor Liam Kidney, Dr. Kesari, Michele Hunter and Robert Klein. Marcel Loh and Dr. Don Larsen also attended.

THE CROSSROADS OF TEXAS FILM FESTIVAL
The Crossroads of Texas Film Festival in Waxahachie, Texas, hosted a Veterans Day 2016 screening of Sands of Iwo Jima followed by a dinner and dance benefiting the John Wayne Cancer Institute. The event was sponsored by the Waxahachie Partnership, Inc., and raised more than $12,000. Anita Swift, John Wayne Cancer Institute Auxiliary president, attended the festival.
A New York Estate of Mind
Attorney Michael Connors helps fight cancer with his counsel.

Cancer research is something that’s close to the hearts of Michael Connors and his wife, Beth. The New York City attorney and radio talk show host has seen several colleagues stricken with the disease, and Beth’s family has experienced multiple cases of cancer. As an expert in legal estate planning, Michael is an expert in charitable giving and frequently counsels his clients about the benefits of philanthropy and the selection of reputable charities.

“People like to leave their assets to institutions that will make a difference, and they want to feel reassured that their wishes will be honored,” says Michael, a long-time friend of the John Wayne Cancer Institute.

Michael is among the many John Wayne Cancer Institute supporters who reside outside California but have made tight connections with the Institute. His law firm, Connors & Sullivan, has been helping New York families with estate planning for more than 30 years. He also hosts a radio talk show on The Answer AM 970 and The Mission AM 570 WMCA in which he leads discussions on trust and estate law for listeners.

His radio show evolved out of the desire to help people understand the benefits of estate planning, Michael says. Leaving money to charities is appealing to many people. But, he says, “For a lot of people, estate planning is overlooked until the last minute.”

Michael and Beth are avid fans of movies made by John Ford and starring John Wayne. A club based on this film genre, called The Searchers Club, meets in New York City to view and discuss films. They met Patrick Wayne, chairman of the Institute board of directors, about eight years ago in New York at an auction of John Wayne memorabilia and took an interest in the Institute.

“We are so fortunate for their genuine friendship and support,” Patrick says. “Even though they live across the country, they have made the time to understand our mission and support what we do. Michael is a wise and thoughtful expert in estate planning and provides a valuable service with his show.”

Michael expresses confidence in the work of the Institute and its handling of philanthropic gifts.

“Sometimes charities act more like bookkeepers. You don’t get that feeling with the John Wayne Cancer Institute,” he says. “You feel part of a family. We’re all in this together—to try to find a cure for cancer. They are great people, and I trust them. I trust them on how they will handle our clients’ money.”

Proper estate planning can help individuals direct funds to their charitable interests, diverting money that might have gone to pay estate taxes—without reducing the amount left to heirs. Estate plans can also protect people from the chaos that can ensue when one dies intestate. A key element of an estate plan is leaving a will and appointing an individual to oversee the estate, he says. “Most families take great solace from knowing that their assets will be distributed according to their specific wishes.

“And the knowledge that you may be contributing to future treatments for cancer is a comfort as well,” Michael says. “Everyone is touched by cancer.”

Our experienced staff can work with you and your financial advisors to prepare personalized, confidential information and customized illustrations without any commitment. Please contact Andy Trilling, vice president of principal gifts at 310-449-5246.
Would you like to support the John Wayne Cancer Institute and receive income for life?

Secure Your Future & Help Put an End to Cancer with a Charitable Gift Annuity:

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*Rates as of April 2017

+ Fund a gift with as little as $10,000 in cash or securities
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Please call Andy Trilling, Vice President of Principal Gifts at (310) 449-5246 or email Andy.Trilling@StJohns.org for more information and a personalized illustration with no obligation.

You can also visit www.SaintJohnsFoundation.PlanMyLegacy.org as resource for your overall charitable estate planning.
In Memoriam

The Institute remembers Joyce Green. page 11

Neuroscience

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INNOVATIONS is made possible by the generous support of The Juels Eisenberg Fund.

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