

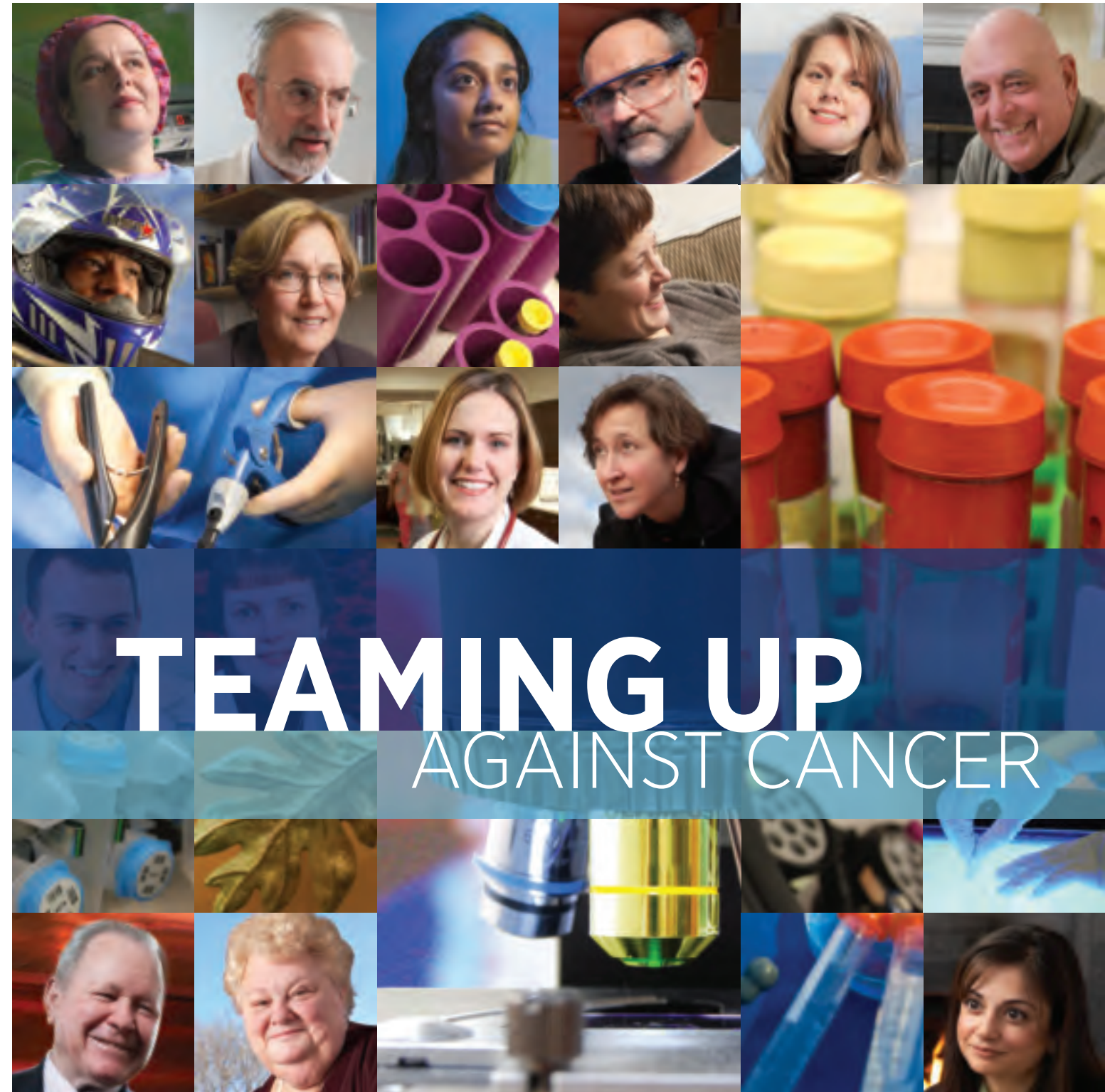
# FOX CHASE CANCER CENTER

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TEAMING UP AGAINST CANCER

**Fox Chase Cancer Center**  
Annual Report 2009



Fox Chase Cancer Center Annual Report 2009

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**“What I find exciting about my job is the pace of development of new treatment options, and that I can assure my patients that we can look forward to many new and effective therapies in our lifetime.”**

*Mitchell R. Smith, Medical Oncologist*

## WHAT IS FOX CHASE?

There are many ways to measure Fox Chase Cancer Center: by the number of patients it serves, the discoveries made by its researchers, the square feet occupied by its buildings. But Fox Chase is, more than anything, defined by the people it touches and is touched by: The doctors and scientists who come to work motivated by the possibility of saving lives. The patients themselves, many of whom face the challenge of a lifetime. And the friends and supporters whose generosity and caring create new hope for the future. Together, these individuals make up the team that is Fox Chase.

**THESE ARE THEIR STORIES.**



## Cancer is a complex problem.

It will take a diverse community of individuals with a formidable array of talents, from doctors and laboratory scientists to behavioral researchers and philanthropists, to solve that problem. That's why Fox Chase takes the team approach, bringing top experts in various fields together to share knowledge and generate ideas. By collaborating across disciplines, they can more quickly bring us closer to the answers, closer to the cures. ■ Anyone who has experienced cancer, on whatever level, can tell you it isn't something you deal with alone. Just ask the Fox Chase nurses who spend their days caring for patients—not just administering medications, but also keeping spirits up, for both the patients and each other. Ask the dedicated scientists who rely on collaboration and cooperation to carry out the exacting research studies that promise to reveal new understanding. Most of all, ask the patients—or perhaps you don't need to. If you have had cancer, you know: It is when you're facing severe adversity—like cancer—that you realize just how much you need other people. ■ Like a painting composed of a thousand individual dots of color, Fox Chase is made up of a rich mosaic of individual people and their stories. These pages introduce just a few: The gifted surgeon for whom patients are like family; the marathon runner who is back on the track after a diagnosis of stage IV breast cancer; the donor and former patient who honors her parents' memory by giving back, year after year, to the place where they were cared for. ■ The courage, compassion, and perseverance embedded in these stories solidify my hope and conviction that we will, indeed, solve the cancer problem—together. If you are not already part of the Fox Chase team, I invite you to join us.

Sincerely,

A handwritten signature in blue ink that reads "Michael Seiden". The signature is fluid and cursive.

MICHAEL V. SEIDEN, M.D., Ph.D.

President and Chief Executive Officer

# FACULTY & PATIENTS



**“At no other cancer center will you find such a unique and intense set of collaborations—cross-disciplinary efforts in which ideas, inspiration, and insight flow from lab bench to bedside and back again.”**

*Michael V. Seiden, President and Chief Executive Officer*



HANDS  
**AND HEART**

## Surgeon Rosalia Viterbo brings finely honed technical skills—and a lot of caring—to the patients she calls “family.”

One afternoon in October, a group of surgeons, anesthesiologists, and nurses, still clad in operating-room scrubs, gathered around a cake decorated with a robot to celebrate a milestone: the completion of Fox Chase’s 1,000th robotic surgery. Among them, wearing a colorful bouffant surgical cap, was urologic surgeon Rosalia Viterbo, whose recent operation on a kidney had brought the Center to the landmark tally.

Since her arrival in 2007, Viterbo has helped make Fox Chase one of the leading hospitals in the country in the use of robotic surgery, as well as other minimally invasive techniques, to treat cancer. At 35, she has performed hundreds of the operations, including innovative, organ-sparing kidney and bladder procedures.

“Patients experience a lot of benefit with the robot-assisted approach,” Viterbo says, “including shorter hospital stays and less scarring.” For some, she adds, the technology can mean the difference between a functioning kidney and a lifetime of dialysis.

“The robot”—officially, the da Vinci® Surgical System—allows the surgeon to view the surgical field on a monitor while sitting at a console and using controls to manipulate instruments that are inserted into the patient’s body through small incisions. The system enhances precision by magnifying the surgical site and presenting it in three dimensions, as well as filtering out hand tremors.

Useful as it is, the robot is just one of Viterbo’s many tools. She also performs hands-on laparoscopic techniques (shown at left) and is equally comfortable undertaking conventional surgery when needed. “I use my entire armory,” she says. “The bottom-line goal is getting rid of the patient’s cancer.”

Viterbo glimpsed early on the powerful potential of medicine. After arriving in the United States from Italy at 10, she was the first in her family to master English, and the logical choice to accompany family members on doctor visits—especially her grandmother, who suffered with respiratory disease. “Whenever my grandmother came home with a good response to treatment,” she recalls, “everyone—nine children and 20 grandchildren—would be relieved and joyful. I thought to myself, it would be amazing to be able to make that happen.”

She credits some of her physician’s aptitudes to her parents: “I come from passionate people with good hand skills,” she says, noting that her mother was a seamstress, her father a carpenter.

Viterbo takes an empathetic approach to her patients that she believes is particularly important in her specialty, which covers the urinary system and male reproductive organs. As she puts it, “You’re taking care of personal things in private areas. I tell all my patients: ‘Once I take care of you, you’re family.’ I think they do better knowing someone is treating their situation in a personal way.”

### THE TEAM:

#### The Department of Surgery

Rosalia Viterbo and her colleagues in the department of surgery represent some of the top cancer surgeons in the country. All Fox Chase surgeons are fellowship-trained, meaning they have up to four years of additional training after their residency that focuses on the complex techniques involved in cancer surgery, including minimally invasive procedures.

“Fox Chase is among only a handful of institutions worldwide using minimally invasive surgery to treat patients with nearly all types of cancer,” notes Robert G. Uzzo, department chairman. “Our surgeons not only know how to use the technology, but they have more experience using it for cancer surgery than most surgeons in the country.”

Minimally invasive surgery, which involves operating with special instruments and very small incisions, typically results in less bleeding, fewer complications, and faster recovery for patients. If surgery is the first step of a multi-stage treatment plan, the patient can move forward more quickly to the next step.

Minimally invasive techniques have not completely replaced open, or conventional, surgery, which remains the best solution for many complex cases. Working with the other members of the patient’s treatment team, Fox Chase surgeons determine the best approach for each individual case.

PATIENT



# FULL THROTTLE



## Her experience with breast cancer gave Tijuana Smith a new outlook on life.

**“**I used to say, ‘One of these days...’ Well, ‘one of these days’ is today.”

That’s the credo of Tijuana Smith, a 37-year-old wife, mother, and breast cancer survivor. As soon as she finished her months-long course of treatment at Fox Chase, the fit and energetic Smith fulfilled her lifelong dream of earning her motorcycle license and buying a bike—a Suzuki GS500, to be exact.

Her “live-for-today” attitude is a change from the heaviness she felt when she was diagnosed in 2007. That weight began to lift with her first appointment at Fox Chase, a meeting that included medical oncologist Ramona F. Swaby, surgeon Richard J. Bleicher, and plastic and reconstructive surgeon Sameer A. Patel, all members of the breast cancer treatment team.

“Everybody was right there,” Smith recalls. “They all knew my case. The doctors explained things to me in a way I could understand; they broke everything down and made it easier for me to focus on my health.”

The Center’s coordinated approach reassured her. “When I first got my diagnosis, I was at a different hospital,” she explains. “When I was told what I would need to do to beat this cancer, they left me to find my own resources.” That included undertaking the time- and energy-consuming tasks of finding her own specialists and coordinating with her insurance company.

At Fox Chase, she says, everyone is clued in: “I go to one appointment, and they already know what time my next appointment is. When I get there, my information is already there.”

As part of her treatment, Smith opted for a mastectomy with reconstruction. Bleicher and Patel worked together to accomplish both procedures in a single operation. For the reconstruction, Patel used the state-of-the-art “free TRAM flap” procedure. TRAM—*transverse rectus abdominus myocutaneous*—refers to using tissue and fat from a woman’s stomach (a “tummy tuck”) to build a natural-looking and natural-feeling breast.

“Dr. Patel’s reconstructive surgery made me look even better than before,” says Smith, who has since logged beach time in a two-piece bathing suit. “That’s how good he is.”

During her chemotherapy, Smith notes, she appreciated the “total care” she received from both clinicians and administrators, from attending to the side effects of chemo to helping coordinate her insurance benefits. She calls those extra-mile efforts “golden.”

Since finishing treatment, Smith has resumed working—and working out, lifting weights to rebuild the upper-arm strength she lost during treatment. And when the weather is nice, it’s a good bet you’ll find her heading for the garage, helmet in hand, not wanting to waste a minute.

### PART OF A POSITIVE OUTCOME

**Specialists in the plastic and reconstructive surgery program at Fox Chase tailor reconstruction procedures to the needs and desires of each patient. “The restoration of the breast is an integral part of treating women for breast cancer,” notes program chief Neal S. Topham. Fox Chase surgeons have expertise in leading-edge reconstruction options, including advanced techniques like the “free TRAM flap” procedure, which uses a patient’s own abdominal tissue. Says Topham: “Each woman’s circumstances will be different, and choosing the procedure that is right for the individual is critical to a positive outcome.”**



AT THE  
**FOREFRONT**

## Shelly B. Hayes brings the latest technology together with personalized care as director of Fox Chase's new satellite radiation treatment center.

If it weren't for her being such a "people person," Shelly B. Hayes might have gone into bioengineering. As it was, she chose radiation oncology as her career—and Fox Chase, a recognized leader in the field, for her residency training.

Last year, Hayes returned to the Center from private practice in Virginia to take on a new role as director of Fox Chase's recently opened satellite radiation treatment facility. Located in Buckingham, Pennsylvania, some 20 miles north of the main Fox Chase campus in Philadelphia, the facility offers the latest in radiation therapy technology—with a personal touch.

"I'm very patient-focused," Hayes notes. "I believe each patient comes in with a unique set of concerns and needs; my goal is to meet those needs." She works with a team of expert radiation physicists and dosage specialists to develop an individualized treatment plan for each patient.

Hayes discovered her aptitude for working with people when she was an undergraduate majoring in bioengineering. While she liked the intellectual rigor of physics and math, she realized she didn't want to spend the rest of her life "behind a computer." So she decided to become a doctor.

In medical school, she had another epiphany. When students were offered the

opportunity to do rotations in various clinical settings, she chose radiation oncology, thinking she would get a glimpse of a field she wasn't likely to specialize in. To her surprise, she found it fascinating. "It's very diverse," she says. "We treat both men and women of all ages and do lots of different procedures." She also discovered that treatment planning involved the same kind of problem-solving skills as physics and math.

At Fox Chase Cancer Center Buckingham, Hayes works with such leading-edge technology as the CyberKnife®, a robotic system that can be used to treat cancer anywhere in the body. An imaging system tracks the tumor to correct for movement, such as occurs with the patient's breathing. Because it is so precise, the CyberKnife can deliver a high dose of radiation in fewer treatments.

"The CyberKnife is one of the tools at the forefront of radiation technology," Hayes says. "It allows us to treat patients more effectively, with fewer side effects and in a shorter period of time, and it has opened up new possibilities for patients who previously had few options."

Hayes is excited by the prospect of making world-class radiation treatment available to more patients. And she has found a new use for her "people skills": serving as her facility's ambassador as she spreads the word to area physicians and patients.

### THE TEAM:

#### The Department of Radiation Oncology

Radiation therapy is a critical component of treatment for many cancer patients, and Fox Chase's radiation oncology program—which includes radiation oncologists specializing in specific cancers, as well as radiation therapists, dosage specialists, and physicists—is one of the largest and most advanced in the country.

"Radiation oncology is a technology-based specialty," notes department chairman Eric M. Horwitz, "and Fox Chase is expert at integrating state-of-the-art technology into treatment."

The Center has pioneered some of medicine's most effective radiation therapy technologies, from intensity-modulated radiation therapy, or IMRT, to ultrasound- and radiofrequency-guided targeting. These tools can precisely target even a moving tumor and deliver radiation tailored to its unique contours and density with minimal effect on surrounding healthy tissue.

Because its radiation oncologists work with the foremost medical physicists and makers of medical equipment to develop new or improved applications of their technology, Fox Chase often can provide new treatments to patients before they're available at other facilities.

A middle-aged man with a grey beard and glasses is wearing a white lab coat over a light blue shirt and a red tie with white polka dots. He is looking slightly to his right with a thoughtful expression. On his lab coat, there is a blue logo that says "CASE CENTER" and a name tag that says "Cohen, M.". The background is a clinical setting with a window and a person's shoulder in a floral patterned garment visible on the right.

LOOKING  
AHEAD

## As director of Phase I clinical trials, Roger Cohen cares for the cancer patients of today while creating new hope for those of tomorrow.

**M**edical oncologist Roger B. Cohen took a nontraditional path to his position as director of Fox Chase's Phase I clinical trials program. Having trained as a physician, he spent nearly a decade doing laboratory research, then joined the Food and Drug Administration's Center for Biologics Evaluation and Research as a medical officer in 1989. It was at the FDA, while reviewing the results of clinical trials in patients with advanced cancer, that he was struck by the potential of biologics, a new type of drug made from living organisms.

"I thought they offered real hope for the future," Cohen recalls. "I said to myself, 'I would much rather be participating in the process than watching it.' So after completing a fellowship in medical oncology at the National Cancer Institute, he embarked on a new career path that landed him at Fox Chase in 2001. Today, Cohen treats patients with a variety of cancers, including lung, breast, thyroid, and head and neck, in addition to researching the development of new therapies.

In Phase I trials, experimental drugs are tested for the first time in people, often patients with advanced cancer who lack standard treatment options. While the primary goal of the trials is to assess the drugs' safety, researchers also look for effectiveness against the cancer.

"Phase I trials are really quite complex from an emotional and ethical standpoint," Cohen says. "Our primary responsibility as doctors is to treat people and try to make them better, but in Phase I we are also conducting an experiment." The reality of the situation can weigh on a physician who cares about each of his patients, as Cohen does.

Progress is slow when it comes to developing new therapies. More than 85 percent are eliminated after Phase I, and Cohen advises "realistic expectations." Still, he has seen significant improvements in patient outcomes and quality of life over the past two decades and believes there eventually will be cures, or long-lasting remissions, for many cancers that currently are difficult to treat.

In the meantime, he continues to find hope and inspiration in his work. "Oncologists are optimists," he says. "When I offer a clinical trial to a patient, I am hopeful that the drug is going to prove beneficial."

He is hopeful, too, that his difficult work will pay off for future patients. "There are few things more gratifying than to watch a drug you gave in a Phase I study 'grow up' and help large numbers of people live better and longer," he says. "That's why I do this."

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### THE TEAM:

#### The Clinical Trials Program

Staying at the forefront of cancer care means continually seeking new and better treatments. That's why Fox Chase is a leader in clinical trials—studies that evaluate experimental therapies, as well as new diagnostic tests and other technologies. The Center has approximately 225 trials under way at any given time, giving its patients access to the latest promising drugs.

Because there are few effective treatments available for sarcoma, a cancer that affects bone and other connective tissues, medical oncologist Margaret von Mehren regularly turns to the Center's clinical trials for novel therapies. "For patients diagnosed with these cancers, clinical trials are a vital source of hope," says von Mehren, director of the sarcoma program.

Clinical trials involve four phases: Phase I evaluates safety; Phase II measures effectiveness; Phase III compares the new therapy to a current one; and Phase IV, conducted after the drug is approved for sale, includes long-term safety studies. Though its Phase I program is its most active, Fox Chase participates in all phases.

The Center strives to ensure that patients can maintain their relationships with their own physicians while participating in clinical trials, von Mehren notes. As a result, she says, "they don't feel abandoned...and as providers, we can continue to follow our patients and get a sense of what a new drug is about, so we feel more invested in the trials."



LEADING  
**MAN**

## John Roley is an active guy, and he wasn't about to let kidney cancer slow him down.

**T**he jolts of pain in his stomach were excruciating. So much so that John Roley, who rarely goes to the doctor, checked himself into the emergency room.

The pain turned out to be a blessing in disguise when tests revealed the unexpected: Roley had golf ball-sized, cancerous masses on each of his kidneys. "If the pain had gone away, I would have never known," the 78-year-old says, adding that after getting over the initial shock of hearing he had a potentially life-threatening disease, he was determined to beat it.

A father, grandfather, and great-grandfather, Roley is a man of many talents and pursuits. He sings, dances, exercises, and co-owns a fiberglass manufacturing company—and he wasn't ready to give any of it up. "I remember saying to the doctor, 'OK, I have cancer. Now how do I get rid of it?'" he says.

Roley was ready to take that doctor's advice and undergo a two-phase procedure that would have required large incisions on each side of his midsection, many weeks of recovery, and possibly even dialysis, until his fiancé Lucy Hooper encouraged him to consider other options. The couple's desire for a second opinion led them to Fox Chase and one of the top kidney surgeons in the country: Robert G. Uzzo, chairman of the department of surgery, who specializes in robot-assisted minimally invasive surgery.

Fox Chase is among just a handful of institutions worldwide using robotics to treat a wide array of cancers, and after meeting with Roley, Uzzo suggested using the state-of-the-art technology to remove the tumors on his kidneys.

The surgery would require two small incisions and leave very little scarring, and Roley's recovery time would be less than half that required by open surgery. Convinced this was the way to go, Roley underwent surgery on his left kidney in March 2008 and returned three months later to have the procedure performed on his right kidney.

"Two days later, I was discharged from the hospital at 5 p.m. and by 9, I was at a dance," he says. "Sure, I was sitting on the sidelines, but I was there and I felt good."

Today, cancer-free, Roley is busy running his business, escorting Lucy to weekend ballroom dances, and planning a spring wedding. Positive thinking and prayers helped him move beyond cancer, he says, as did the caring staff at Fox Chase.

"The people are so friendly," Roley says. "They make you feel good about life and living."

### THINK TWICE

**Questioning a doctor's initial recommendation can be a good idea, especially when it comes to a step like major surgery. "If a patient is advised to have their entire kidney removed, their first question to the doctor should be, 'Why can't my kidney be saved?' says urologic surgeon Robert G. Uzzo. "In the vast majority of localized kidney cancers, the tumor can be cured and the kidney can be saved, usually using a minimally invasive technique. Patients should challenge their doctors to achieve these goals or refer them to someone experienced in doing so."**



PREVENTION  
**PIONEER**



## Medical oncologist Veda Giri leads a pioneering effort to get the jump on prostate cancer.

The early detection and prevention of disease had interested Veda N. Giri since she was a medical student, so when her mentor encouraged her to do research in prostate cancer genetics during her fellowship at the University of Michigan, she leapt at the opportunity. The experience proved life-changing.

Not only did Giri develop an interest in prostate cancer—a relatively unusual specialty for a woman—but her mentor became Giri’s role model for combining a clinical practice and research with a family life. Today, Giri is director of prostate cancer risk assessment at Fox Chase—and the mother of two children, ages 6 and 9.

Giri isn’t sure whether she provides a model of work-life balance but figures “just going through the process—seeing patients, doing bench work, writing grants, publishing, and raising a family—might set an example.”

Her busy work life focuses on efforts to better understand—and prevent—prostate cancer. Established in 1996, the prostate cancer risk assessment program currently follows nearly 800 men ages 35 to 69 who are at heightened risk for prostate cancer because of family history or race; African Americans are particularly prone to the disease. The men receive screenings, access to genetic counseling, and education about lowering their risk.

Because some families share a hereditary risk not only for prostate cancer but for other cancers as well, participants’ relatives may also undergo risk assessment. For that reason, Giri works hand-in-hand with physicians who specialize in evaluating risk for breast, ovarian, and colorectal cancer.

When she’s not in the clinic, Giri is often in the lab. Unlike with other cancers, there is no widely accepted genetic test for prostate cancer, so she researches genetic markers that indicate a heightened risk of the disease, using blood samples donated by program participants. (See “*Genetic Marker*” article on page 35.) She also works closely with urologists, radiation oncologists, and medical oncologists to determine the best approaches to early detection.

So far, about 10 percent of the men enrolled in the program have been diagnosed with prostate cancer—a higher incidence than those the same age in the general population. In about a quarter of the cases, the cancer was aggressive.

The patients’ cancers were caught at a curable point, Giri believes, thanks largely to their being in the program and under the watchful eyes of Fox Chase physicians.

“These were men who were only in their late 40s, early 50s,” she notes. “For prostate cancer, that’s young. It’s very satisfying that we were able to make a difference.”

### THE TEAM:

#### The Risk Assessment Program

Fox Chase has long been a pioneer in cancer prevention and risk assessment. In 1991, the Center established the Margaret Dyson Family Risk Assessment Program—one of the first initiatives of its kind in the country—to provide personalized prevention and detection services to women at heightened risk of breast or ovarian cancer. Since then, the Center has expanded its efforts—now collectively known as the Risk Assessment Program—to include prostate cancer, gastrointestinal cancers, melanoma, and lung cancer.

The program’s holistic approach includes family members. “Instead of a collection of blood samples, we have a collection of people with their histories and experiences,” says founding director Mary B. Daly. “We follow them over the years and conduct follow-ups to see whether their health has changed.” Besides providing screening, counseling, and education, the program has compiled a wealth of information on more than 150,000 individuals. More than 6,000 families are enrolled.

The program includes research into the factors that influence cancer risk—efforts that draw on laboratory scientists, as well as clinicians, epidemiologists, and biostatisticians across the Center. In one lab, researchers might work with a pulmonologist to develop new imaging techniques to detect early-stage lung cancer, while in another, they consult with a gastroenterologist about using a botanical product to treat ulcerative colitis, a potential risk factor for colon cancer. “We’re very much a team,” Daly says.

## Nurse practitioner Karon Martyn helps keep the treatment process running smoothly in the all-important infusion room.

### THE TEAM:

#### The Department of Nursing

Nurses are on the front lines when it comes to caring for cancer patients, and Fox Chase's nursing department has earned a national reputation for the quality of its care. The department recently earned Magnet status—the American Nurses Association's highest honor—for the third consecutive time.

"This award is especially significant because studies have shown a correlation between Magnet status and better patient outcomes," notes Joanne Hambleton, vice president for nursing and patient services. "The fact that only 2 percent of the hospitals in the country have received Magnet re-designation speaks to the magnitude of this accomplishment." Fox Chase was the first acute-care hospital in Pennsylvania, and the first cancer hospital in the nation, to earn the designation.

Despite the challenges inherent in oncology nursing, Hambleton says, nurses like working at Fox Chase—a phenomenon she attributes to the Center's supportive environment and the fact that "they know they are part of a team dedicated to making a positive difference in patients' lives."

In Fox Chase's busy infusion room, a white-coated figure stands out among the rainbow of nurses' scrubs: nurse practitioner Karon Martyn keeps a watchful eye on patients receiving their chemotherapy treatments, ready to lend a hand if needed.

Infusion room nurses play a critical role: administering drugs, monitoring patients, and providing comfort and support over months or even years of therapy. Martyn strives to ensure both patient safety and efficiency.

"We're always trying to streamline the process while also improving care," she says. "In addition to minimizing treatment delays, we've been able to increase the rate of some infusions and safely do in 30 minutes what used to take 90."

Martyn was connected to Fox Chase—and the infusion room—long before she became an employee. Her aunt, Catherine Toomey, has been an infusion room nurse for the past 40 years. The two are exceedingly close. "She raised me," Martyn says. "She's like my mom."

Twelve years ago, as an undergraduate working toward her bachelor's degree in nursing, Martyn obtained an externship caring for medical and surgical patients at Fox Chase. After graduating, she was offered a full-time position on the staff and later joined her aunt as part of the infusion room nursing team.

Martyn subsequently returned to school to earn her master's degree, which enabled her to become certified as a registered

nurse practitioner. She then took up a newly created position at Fox Chase: infusion room nurse practitioner. "They figured I would be a good fit," says Martyn, who has held the position since November 2008. "I know how this room works."

As a nurse practitioner, Martyn specializes in managing the side effects that can occur with cancer treatment. She collaborates with the Center's medical oncologists, who sometimes request pre-infusion exams for patients or consult with her on the administration of particular drugs. If a patient runs into complications during treatment, Martyn can provide immediate help, as she has the authority to prescribe symptom-relieving drugs.

Patients receive other support as well. Martyn believes the infusion room has a "special vibe" because of the close-knit friendships among its nurses. "We're like family," she says. And those relationships bolster efforts to make patients' experience as positive as possible. "We try to keep things light," Martyn says, noting the nurses sometimes use humor to draw patients into their lively circle. "We know everyone is here with a serious illness, and we want our patients' treatment time to be as free of stress as possible. It's what we do to lessen their burden."



AT THE  
**READY**



AGAINST  
**THE ODDS**

## When ovarian cancer stacked the odds against her having another child, Missy Dougherty placed her bets with a Fox Chase surgeon.

Life has thrown Missy Dougherty many curveballs—and possibly one miracle. At 31, after spending a frustrating, funk-inducing summer slogging to the doctor's office looking for answers, Dougherty finally discovered what was causing her persistent fatigue and nausea: She had ovarian cancer.

"That summer was just awful," recalls Dougherty, a mother, graduate student, bartender, and high school basketball coach. "I felt like I had been hit by a truck. I knew something was wrong, but I didn't know what."

Still, the diagnosis, revealed after she insisted on surgery to remove a lemon-sized cyst from her ovary, surprised both Dougherty and her gynecologist.

"Two days after my surgery, she called and said, 'The pathology wasn't what we thought. The cyst is malignant.' At that point, I was listening to her but not really listening to her," Dougherty says. "I handed the phone to my husband and whispered. 'Something is really wrong.' It was definitely a punch in the face."

Soon after, a specialist was recommending a radical hysterectomy. However, Dougherty and her husband, Brendan, were hesitant. Unconvinced that the cancer was in the late stages, the pair—whose only child, Brendan Junior, was 2—didn't want to shut the door on another pregnancy.

After a friend suggested Fox Chase, the couple found hope in Mark A. Morgan, chief of gynecologic surgical oncology, who had preserved the fertility of other women with ovarian cancer. Dougherty put her faith in him and went back into the operating room, where the surgeon removed one ovary and left the other intact. She woke from surgery to see her husband crying. "He told me my cancer was caught early and we might be able to conceive another child," she says.

Just months after completing chemotherapy, Dougherty learned she was pregnant. Molly Elizabeth Dougherty, born in July 2009, has been called a miracle. To her mother, the baby is something else: Proof that life can continue after cancer. "Now I tell people, 'You can have a positive outcome. You can move forward and make it to the other side,'" says Dougherty, who went on to appear on the "Dr. Oz" television show to raise awareness of ovarian cancer.

Her own persistence likely helped save her life, but Dougherty credits Fox Chase and its staff for giving her hope. "It's a place that exudes positive energy," she says. "They never let you think anything other than that you are going to beat the cancer, and that's a good feeling."

### LEADING EFFORTS

**Ovarian cancer, which affects more than 20,000 women in the United States each year, has been called a silent killer because its symptoms can mimic other conditions. Fox Chase is leading efforts to better understand and treat the disease; Center researchers developed the chemotherapy regimen that is the current worldwide standard for treating the disease and are taking part in a national clinical trial of a therapy with the potential to further revolutionize treatment. To learn more about ovarian cancer research and treatment at Fox Chase, visit [www.fccc.edu/cancer/types/gynecological/ovarian](http://www.fccc.edu/cancer/types/gynecological/ovarian).**

## Social worker Anjali Albanese helps patients and families navigate the many challenges that can come with a cancer diagnosis.

### THE TEAM:

#### The Department of Social Work Services

While Fox Chase's expert clinicians concentrate on treating disease, its dedicated social workers assist patients and their families with a wide range of needs, from emotional support to finding a place to stay.

Fox Chase made the commitment decades ago to address not just the disease itself, but also its emotional and social impact, says Luanne Chynoweth, director of the department of social work services. "This holistic approach is embedded in our philosophy of care," she says.

The department's nine specialists are all degree-holding social workers with years of training. Individual counseling is a key component of the services they provide. "Getting a cancer diagnosis can knock the wind out of people," says social worker Anjali Albanese. "We teach them how to breathe again." The department also offers a variety of support groups, including Kids' Night Out for children of cancer patients.

In addition, the social workers conduct classes for patients, staff, and the community and help patients with logistical issues that can seem overwhelming during treatment, from transportation and lodging to insurance and financial matters. They have little trouble keeping busy: About 500 people seek help from the department each month.

"When I was 10, I didn't know what cancer was," says social worker Anjali Albanese, "and suddenly there was someone in my house going through chemotherapy." That someone was her grandmother, who stayed with Albanese's family while undergoing treatment.

The illness and her grandmother's death two years later challenged the entire family. "I remember wondering, who helps people with this?" she says. "I vowed that if I could, one day I would make it a different experience for some other family."

From then on, Albanese prepared to become a social worker. If she had to do a project for school, she wrote about cancer and its impact on people's lives. In college, she focused on psychology and public health. The final piece of the puzzle was a master's degree in social work, which she completed in 1999. "Professionally, I never vacillated," she says. "I always knew what I wanted to do."

Now a 10-year Fox Chase veteran, Albanese works with her colleagues in the department of social work services to provide counseling and other assistance to patients and their families.

In counseling sessions, she searches out people's strengths. "I ask about the kinds of things that got them through rough situations in the past," she says. By drawing on those relationships, activities, and

beliefs, patients often realize they can face their current difficulties. Sometimes, all they need is a sounding board. "When people get to talk about their situation," she says, "they often realize, 'It's okay. I can do this; I can figure this out.'"

Besides counseling, Albanese has been active in patient education. Along with nurse Kathleen Smith, she developed and continues to teach a class designed to prepare patients for chemotherapy. "It tells people what to expect, both physically and emotionally, and patients generally find it reduces their anxiety," she says. She also helped to create "Facing Forward," a lung cancer awareness program for which, each November, she organizes panel discussions including medical experts, social workers, and patients in honor of Lung Cancer Awareness Month.

Albanese appreciates Fox Chase for confronting not only cancer itself, but also the emotional and psychosocial needs associated with the disease. "What would it mean to be a comprehensive cancer center," she says, "if you treated less than the whole person?"



TREATING  
**THE WHOLE  
PERSON**



# MAKING A DIFFERENCE



## As director of nursing research, Andrea M. Barsevick works to improve life for cancer patients and survivors.

**G**rowing up with a sister who had chronic renal failure meant Andrea M. Barsevick spent a lot of time in hospitals. She recalls the special assistance her family received during those long, difficult days.

“We were almost always hooked up with a social worker or nurse who was charged with working with people dealing with chronic disease,” she says. “My sister died at 25, and when I look back at that experience, those people made a big difference. I decided that’s the kind of person I wanted to be.”

Barsevick became a registered nurse and worked at hospital bedsides for a dozen years. During that time, she earned a master’s degree in psychiatric nursing and moved to the general medical floor of a university hospital, where she supplemented her clinical work by helping other nurses deal with the psychological and quality-of-life issues—such as pain, depression, and fatigue—that many patients experience during treatment. Seeing a need for greater understanding of such issues, she obtained a doctorate in nursing research and shifted her focus to science and teaching.

Today, as Fox Chase’s director of nursing research, Barsevick studies quality of life in cancer patients and survivors. Her research constitutes an important component of the Center’s growing survivorship program, as it demonstrates the long-term impact of cancer and its treatment. For example, studies show that about a third of survivors experience increased fatigue that continues at least a year after treatment ends.

“Quality of life is defined as people’s subjective ideas about what’s happening to them,” Barsevick notes. “It’s not something you can measure biologically or observe. It really is about an individual’s perception of what their life is like and how it’s been affected by their illness and treatment.”

Working with colleagues across the country, Barsevick studies the experiences of patients and survivors and works to develop guidelines for alleviating their suffering through psychosocial measures. This work has led Fox Chase and other cancer hospitals to implement efforts such as teaching survivors ways to conserve their energy while managing tasks. Her contribution, she believes, is a fitting tribute to her sister.

“I got into this work because of my sister,” she says, “but my determination is reinforced all the time by being around cancer patients and being able to say that the work I’m doing is making a difference. We really can help people.”

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### **THE TEAM:** **The Survivorship Program**

Because the effects of cancer and its treatment don’t always end when therapy ends, Fox Chase’s full spectrum of care includes a growing focus on survivorship. The estimated 11 million-plus cancer survivors living in the United States face many physical, emotional, and psychological challenges, from chronic pain to fatigue and depression.

“These issues are unique to those facing life after cancer and can vary over time,” says medical oncologist Crystal S. Denlinger. “Our goal is to provide care that includes appropriate cancer surveillance and preventive measures, as well as attention to the psychosocial aspects of survivorship, all of which are important to the health of our growing survivor population.”

In the Center’s survivorship clinics, specially trained clinicians provide services ranging from exams and diagnostic work to counseling to address survivors’ health needs and maximize their quality of life. They also work with physicians to ensure patients’ smooth transition from active treatment to survivorship.

The program is a collaborative effort among clinicians, behavioral researchers, and laboratory scientists. “We work together,” Denlinger says, “to further survivorship research and build a clinical program that meets the needs of today’s cancer survivor.”

## STRENGTH IN WOMEN'S CANCERS

Newly diagnosed breast cancer patients can consult with a team of specialists and develop a personalized treatment plan during a one-day visit to the Breast Evaluation Center, now part of the new Women's Cancer Center. Building on Fox Chase's historical strength in women's cancers, the Women's Cancer Center brings research, treatment, and prevention programs for breast and gynecologic cancers together under one roof.

# Margaret Zuccotti has put miles between herself and a diagnosis of advanced breast cancer.

**M**argaret Mauran Zuccotti knows what it takes to run a marathon. Strength. Energy. Endurance. The avid athlete mustered all those attributes when she was diagnosed with stage IV inflammatory breast cancer—an advanced, aggressive form of the disease—at 37. She knew that fighting the cancer would not be a sprint, but a new kind of marathon.

The mother of three young children, Zuccotti was prepared to go the distance to tackle her illness; as it turned out, she didn't have to go far from her home in the Philadelphia suburbs. Physicians in her family, both on staff at a New York City-based comprehensive cancer center, recommended Fox Chase.

When she met medical oncologist Lori J. Goldstein, director of the Breast Evaluation Center, Zuccotti already knew the fear and doubt that can accompany a cancer diagnosis. And there was more grim news to come. Tests showed her cancer to be a fast-growing type that already had spread to her liver, and possibly her skull. Goldstein developed a treatment plan that included seven months of chemotherapy. "It sounded like an awfully long time," Zuccotti recalls. "I found myself wondering 'What does my future look like?'"

Goldstein and the other members of her treatment team helped her see past the fear, Zuccotti says: "They reinforced that I was in the right place, doing the right

thing, and helped me realize I would not be waging this battle alone."

One year after her diagnosis, the chemotherapy was proved successful: Follow-up tests detected no cancer in her body. Zuccotti faced a decision. Together with her team, she elected to undergo a mastectomy to reduce the chance of recurrence. "My husband and I believe that if and when my cancer comes back, we'll only feel comfortable if we know we have done everything to combat it," she says.

Zuccotti calls Fox Chase "the perfect place" for her ongoing care. "As a stage IV breast cancer patient, I am well aware that I will be in treatment for the rest of my life," she says. "I've learned to accept my status as a long-term patient largely because of this hospital. Its doctors and staff have given me the confidence to believe I can overcome my challenge."

For now, Zuccotti keeps running—and skiing, and playing lacrosse, and saltwater fly-fishing. Competing in Philadelphia's Susan G. Komen Race for the Cure in 2008 and 2009, she was the first runner in the survivors' division to cross the finish line—two years in a row.

She figures she has miles to go.



STAYING  
**ON**  
TRACK



CAUSE  
AND  
EFFECT

## Scientist David Wiest wants his research on blood-cancer genetics to have a positive impact on patients.

**A**t the beginning of his career, immunologist David L. Wiest had little interest in doing clinically oriented research. He planned to focus on purely basic science—laboratory work that investigates fundamental concepts and is more concerned with advancing knowledge than creating immediately useful tools. But to get to his lab during his postdoctoral fellowship at the National Institutes of Health, Wiest had to walk past pediatric cancer patients, many of them in wheelchairs, their hair gone, their bodies ravaged. It was an experience that touched him deeply.

“That’s hard to look at and not be changed,” he says. “After experiencing that time and time and time again, the seeds were planted that made me want to do research that would benefit patients in a more direct way.”

During his 15 years as a Fox Chase researcher, Wiest has combined his love of basic science with his desire to have a positive impact on cancer patients. As co-leader of the Blood Cell Development and Cancer Keystone Program, he spearheads efforts to identify the genes most important to the development of blood cells—knowledge that could provide physicians with powerful tools in the fight against blood cancers, which are caused by genetic mutations.

Two tumors could look identical under a microscope, Wiest explains, but if they are genetically different, they might respond differently to treatment. “By determining whether there are differences in the particular sets of genes tumors express, we can better arm the clinician with a strategy to combat each tumor,” he says. “We start by asking whether genetic differences can help us understand how that cancer is going to respond to therapy. Then we ask, can that gene be targeted therapeutically? Does it code for an enzyme that we can target with a drug or possibly a molecule that the immune system can be harnessed to attack?” An example of the latter, he notes, is the therapeutic antibody rituximab, which is effective in treating particular blood cancers with few side effects.

Wiest notes that the Keystone program, which brings together researchers and physicians, bridges Fox Chase’s strengths in laboratory-based science and clinical expertise. In effect, the program gives translational impact to the work of basic researchers.

“As scientists, we publish papers in journals describing our new findings, and that’s great because it pushes our field forward,” he says. “But at some point, I wanted to know that what I was doing would have a lasting impact, that it would really help people.”

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### THE TEAM:

#### The Keystone Program

The Blood Cell Development and Cancer Keystone Program is one of several Keystone programs at Fox Chase whose interdisciplinary approach links bench scientists with clinicians in the pursuit of key cancer questions. Molecular geneticist Jennifer Rhodes, an investigator in the blood cell program, says the keystones demonstrate Fox Chase’s expertise in using advances in basic science to drive the development of new diagnostic and therapeutic tools.

“A lot of places will say, yes, we have a great hospital, we have great researchers, and we have the potential to take what’s going on in the lab and put it in the clinic, but the Keystone programs help fund projects to really make that happen,” says Rhodes, who studies the development of blood cells in zebrafish, which have the same type of blood cells as humans.

The Blood Cell Development and Cancer Keystone Program identifies the genes essential for blood precursor cells to give rise to the many distinct blood cell types, a critical step toward understanding blood cancers and improving the treatment of patients with leukemias and lymphomas. The other Keystone programs are in personalized risk and prevention, epigenetics and progenitor cells, personalized kidney cancer therapy, and head and neck cancer.



# THE YEAR IN REVIEW

## HIGHLIGHTS OF 2009



**“What makes Fox Chase unique, I believe, is the sense of a common mission among all its employees. In a cancer center that sees many patients each day, we are constantly reminded of our singular emphasis.”**

*Glenn F. Rall, Immunologist*

## THE YEAR IN REVIEW

### NEWS IN BRIEF



#### Women's Cancer Center Treats 'Whole Woman'

The new Women's Cancer Center brings every aspect of cancer care for women, from risk assessment and prevention to actual treatment and support for survivors, together under one roof. Opened in August, the center aims to provide not only leading-edge treatment, but also wellness resources and a supportive, nurturing environment.

"The idea is to treat the whole woman, not just the disease," explains director Robert A. Burger, an ovarian cancer specialist. "Cancer demands clinical attention, of course, but because cancer isn't all of who the patient is, it won't be the sole focus of her care."

The center is distinctive in its comprehensive approach: Despite commonalities between breast and ovarian cancer, most cancer centers treat them separately. Fox Chase is thought to be the first National Cancer Institute-designated cancer center to unify its research and treatment approaches in an entity that addresses the full spectrum of women's cancers.

The center builds on Fox Chase's historical strength in women's cancers. Among other distinctions, it is one of only five institutions in the country to receive a prestigious National Cancer Institute-sponsored grant for a Specialized Program of Research Excellence, or SPOR, in the prevention, diagnosis, and treatment of ovarian cancer.

#### Satellite Facility Broadens Access to Radiation Treatment

More patients now have convenient access to Fox Chase's world-class radiation therapy, thanks to a facility that opened in July. Fox Chase Cancer Center Buckingham, the Center's first satellite radiation therapy facility, is located about 20 miles north of the main Fox Chase campus in Philadelphia.

The facility offers the latest in radiation technology, including a CyberKnife® Robotic Radiosurgery System. *(For more about the Buckingham facility and its director, Shelly Hayes, see page 8.)*

#### Institute Takes 'Personal Approach' to Treatment

The Institute for Personalized Medicine, launched in May, seeks to leave the "one size fits all" approach to cancer treatment behind in favor of a more customized method. Using leading-edge technology to expand the understanding of cancer genetics, the institute aims to match emerging, targeted drug therapies to the unique genetic profiles of individual patient tumors on a much larger scale than previously possible.

"This initiative will significantly expand our understanding of cancer at the individual and genomic level," says institute director Biao Luo. "We will then

use that comprehensive knowledge to develop personalized cancer therapies.

"Personalized medicine has been talked about for some time, but now we are at a stage where we can develop personalized therapies in a systematic way, thanks to breakthroughs in areas like DNA sequencing technology."

Fox Chase is well-suited to pursue such an approach. The Center long ago earned a reputation for its expertise in cancer genetics, and its already substantial biosample repository provides a wealth of genetic information to build on.

#### Fox Chase Recognized as Center for Complex and Rare Cancers

The Blue Cross and Blue Shield companies named Fox Chase a Blue Distinction Center for Complex and Rare Cancers. The designation recognizes the institutions offering the best practices and highest standards in various medical specialties.

The distinction recognizes the Center for providing high-quality patient assessment and treatment planning, inpatient care, and major surgical treatment, all delivered by teams with expertise and training in complex and rare cancers. Fox Chase earned the designation for soft tissue sarcoma and esophageal, pancreatic, gastric, rectal, bladder, thyroid, and head and neck cancers.



### Program in Head and Neck Cancer Added to Keystone Roster

A new program joined the Center's innovative, team-based Keystone Programs for Collaborative Discovery in August. The Keystone Program in Head and Neck Cancer brings clinicians and scientists together to apply knowledge about the genetics and biology of head and neck cancer to the treatment of the disease.

Head and neck cancer, which includes cancers of the nasal cavity, mouth, throat, and voice box, affects more than 45,000 people in the United States alone and has a survival rate of about 50 percent.

Fox Chase physicians are recognized leaders in the field.

Like the other Keystone programs, the initiative is led by an interdisciplinary team: medical oncologist Barbara Burtness, molecular biologist Erica A. Golemis, and head and neck surgeon John A. "Drew" Ridge.

The program was selected for Keystone status through a competitive external peer review process, making it eligible for at least \$5 million in support over five years. Keystone programs are funded primarily through private philanthropy.

### New Department Expands Prevention Efforts

The recently created department of clinical genetics takes Fox Chase's pioneering work in cancer prevention a step further.

The department consolidates the clinical components of the Center's existing risk assessment programs—which target people at heightened risk of breast, ovarian, gastrointestinal, prostate, and lung cancers, as well as melanoma—into a single comprehensive service that includes screening, genetic testing, counseling, and clinical intervention.

"We have gotten to the point as an institution where our risk assessment programs warrant a full-fledged clinical department, allowing us to expand the services we can offer and, in time, the types of hereditary cancer disorders we assess," says chairwoman Mary B. Daly.

The department's staff of 30 includes physicians, physician assistants, genetic counselors, nurses, and health educators.

### Federal Stimulus Funds Support Research

Fox Chase research benefited from "stimulus funding" made available through the American Recovery and Reinvestment Act. Among the initiatives funded:

Andrea M. Barsevick, director of nursing research, received a grant of nearly \$218,000 in May to support research on quality-of-life outcomes in cancer treatment. Her project aims to define guidelines for managing the symptoms many patients experience during treatment, such as fatigue, insomnia, pain, and depression.

The Center received an \$8 million grant from the National Center for Research Resources of the National Institutes of Health toward construction of a comparative medicine research facility that will support advanced research into the biological processes underlying cancer, paving the way for the development of new treatments.

### Nursing Department Sets Record with National Award

For the third time in a row, Fox Chase's nursing department was awarded Magnet status, the nation's highest recognition for nursing excellence and patient care.

Fox Chase is the first acute-care hospital in Pennsylvania and the first specialty hospital in the country to receive Magnet status. The Magnet program recognizes excellence in areas including the management philosophy and practices of nursing services; adherence to standards for improving patient care; and attention to the cultural and ethnic diversity of patients and their significant others. Research has shown patients at Magnet hospitals to have better outcomes.

### Marshall Elected Board Chairman Della Penna Becomes Vice Chairman

David G. Marshall took office as chairman of the Fox Chase board of directors in



February. A board member since 1994, Marshall succeeded William J. Avery.

Marshall is chairman and chief executive officer of Amerimar

Realty Company, which he founded in 1987. Amerimar has commercial and residential holdings throughout the country and is particularly well known for its successful development of The Rittenhouse, which includes condominiums and hotel and restaurant facilities, in Philadelphia.

Louis E. Della Penna Sr., a board member since 2007, was tapped to succeed Marshall as a vice chairman.

#### THE POWER OF PARTNERSHIP

Through the Fox Chase Cancer Center Partners program, the Center works with select community hospitals to help them provide the latest in cancer prevention, treatments, and diagnosis, as well as access to clinical trials. In 2009, 25 hospitals participated in the program. For more information, visit [www.fccc.edu/Partners](http://www.fccc.edu/Partners).

## THE YEAR IN REVIEW

### NEWS IN BRIEF

#### Young Steps Down as Chancellor

After 20 years of distinguished service and leadership at Fox Chase, former president Robert C. Young stepped down as chancellor in July.



At a ceremony commemorating the occasion, president and chief executive

officer Michael V. Seiden noted, "Dr. Young has served as a compassionate and generous mentor and advisor as I have worked to serve the Center during these challenging economic times and as we navigate numerous transitions. I know I speak on behalf of many when I extend my gratitude for his invaluable counsel."

Young served as Fox Chase's president for 18 years, resigning in 2006 and taking up the role of chancellor. His legacy includes the creation of the first comprehensive program of cancer prevention research, the Research Institute for Cancer Prevention.

#### Physicians Named 'Top Docs'

Twenty-nine Fox Chase physicians were included in the eighth edition of America's Top Doctors, issued in January. Featured doctors are peer-nominated and screened by physician-led research teams based



on criteria such as qualifications, including education; professional reputation; hospital appointment; and experience.

The guide represents the top 1 percent of doctors in the nation, according to publisher Castle Connolly, a health-care research and information company. The listing led to 27 of the physicians also being featured in *Philadelphia* magazine's annual "Top Doctors" issue, published in April.

#### FACULTY AND STAFF: WELCOME TO NEW MEMBERS

##### Breast Cancer Specialist Heads Department

Noted breast cancer clinician and researcher Massimo Cristofanilli, formerly



of the University of Texas M.D. Anderson Cancer Center, was appointed chairman of the department of medical oncology.

Cristofanilli, who joined Fox Chase in early 2010, specializes in treating patients with locally advanced, inflammatory, and metastatic breast cancer. He also focuses on translational research, including the use of molecularly targeted agents in imaging and therapeutics; breast cancer stem cells; the delivery of gene therapies for regional recurrences; and the role of circulating tumor cells in inflammatory breast cancer.

Cristofanilli will play a leadership role in the Women's Cancer Center and the women's cancer research program. He holds the G. Morris Dorrance Jr. Endowed Chair in Medical Oncology.

##### Longtime Fundraiser Joins Center

Robert G. Wilkens Jr., a veteran fundraiser for cancer centers and other academic medical institutions, became Fox Chase's



new senior vice president and chief development officer in September. He succeeded Jill A. Marsteller.

Previously, Wilkens led the development programs at Memorial Sloan-Kettering Cancer Center in New York City and the Ohio State University's Comprehensive Cancer Center—James Cancer Hospital and Solove Research Institute. Most recently, he was executive director for development and philanthropy

for Memorial University Medical Center in Savannah, Georgia, where he worked closely with the Curtis and Elizabeth Anderson Cancer Institute.

##### Radiation Oncologist Directs Satellite Facility

Shelly B. Hayes joined Fox Chase in July as director of its new satellite radiation treatment facility, Fox Chase Cancer Center Buckingham. Hayes, who did her residency at Fox Chase, returned from Virginia Radiation Oncology Associates in Richmond to take on the leadership role. Hayes has a particular interest in breast, gynecologic, prostate, and lung malignancies, as well as brain and spinal cord tumors. She earned her M.D. at Temple University School of Medicine. (*For more information, see profile on page 8.*)

##### Geneticist Leads Institute

Molecular geneticist Biao Luo, formerly of the Broad Institute of the Massachusetts Institute of Technology and Harvard University, became director of the new Institute for Personalized Medicine in September. Luo also has an appointment as research assistant professor in the cancer biology program. Luo earned a Ph.D. in biological chemistry and molecular pharmacology at Harvard in the laboratory of Jeffrey Sklar, followed by a postdoctoral fellowship at the Whitehead Institute for Biomedical Research in the laboratory of Harvey Lodish.

## PROMOTIONS

### Clinical Care

J. Robert Beck assumed the role of chief medical officer in June. He also continues in his role as chief academic officer. "As chief medical officer, Dr. Beck works with physicians and nurses to improve the delivery of clinical care in both the inpatient and outpatient departments," notes president and chief executive officer Michael V. Seiden. Beck also works with clinical department chairs and senior administrative leaders to improve processes, quality, and safety in all patient-related areas.

### Radiation Oncology

Eric M. Horwitz accepted the position of chairman of the department of radiation

oncology in October. He had been serving as acting chairman, during which time he continued to distinguish himself as an expert in the management of localized prostate cancer and the delivery of brachytherapy, as well as a productive clinical researcher. Horwitz also holds the Gerald E. Hanks Endowed Chair in Radiation Oncology.

### Clinical Genetics

Mary B. Daly was appointed chairwoman of the new department of clinical genetics. A medical oncologist, Daly focuses on the hereditary patterns of cancer and founded one of the first cancer risk assessment programs in the country, the Margaret Dyson Family Risk Assessment

Program at Fox Chase. She directs the Center's Risk Assessment Program and holds the Timothy R. Talbot Jr. Endowed Chair in Cancer Research.

### Scientific Leadership

Jonathan Chernoff assumed the dual positions of vice president and deputy scientific director, in which roles he works closely with senior vice president and chief scientific officer Jeff Boyd to direct Fox Chase's scientific research. A molecular oncologist, Chernoff focuses on the factors that control cell growth and movement, including oncogenes and tumor-suppressor genes. He also holds the Stanley P. Reimann Chair in Oncology Research.

## ACCOLADES

### Physicians Assume National Leadership Positions

- Eric M. Horwitz, chairman of radiation oncology, became president of the American Brachytherapy Society in the spring. Founded in 1973, the nonprofit society seeks to provide insight and research into the use of brachytherapy—radiation treatment given by placing radioactive material directly in or near the target or tumor—for malignant and benign conditions.
- John A. "Drew" Ridge's national leadership in head and neck cancer was recognized by the leading professional society in the field. At the annual meeting of the American Head and Neck Society in May, the surgeon was elevated to society president. The American Head and Neck Society is the largest organization in North America dedicated to the advancement of research and education in head and neck oncology.

### American Cancer Society Recognizes Oncologist

Medical oncologist Paul F. Engstrom, senior vice president of extramural research programs, was honored in November with the American Cancer Society's Distinguished Service Award.

The award recognizes major achievements and commitment in the cancer field. An expert in treating gastrointestinal cancers, Engstrom was honored for furthering the understanding and treatment of cancer through his clinical practice, research, and volunteer work.

### Nursing Researcher Honored by Academy

Andrea M. Barsevick, director of nursing research, was selected to become a fellow of the American Academy of Nursing in November. Fellows are selected based on evidence of significant contributions to nursing and health care.

"Fellowship in the Academy of Nursing is a top honor and major accomplishment," notes Joanne Hambleton, vice president of nursing and patient services. "We are very pleased that Andrea was recognized for her contributions to the science of symptom management for cancer patients and survivors."

### Geneticist Receives Research Award

Geneticist Joseph R. Testa received the 2009 Scientific Research Award from the Pennsylvania Division, Southeast Region, of the American Cancer Society in October. The award recognizes his work in advancing the scientific understanding of how genetics and cell signaling underpin cancer, particularly in the study of AKT, a protein activated in many forms of cancer, including mesothelioma, an asbestos-related disease that often affects the lungs.

## THE YEAR IN REVIEW

### ADVANCES IN SCIENCE & MEDICINE

From the laboratory to the operating room, a sampling of the ways the Fox Chase team is expanding the understanding of cancer and improving treatments.

#### Protein Shown to Support Aggressive Breast Cancer

Fox Chase researchers have demonstrated that a protein called NEDD9 may be required for some of the most aggressive forms of breast cancer to grow—a finding that could aid the development of improved tools for diagnosing and treating the disease.

The study, published in October in *Cancer Research*, showed that reduced levels of NEDD9 in mice limit the appearance of aggressive metastatic breast cancer.

“This was the first study to address the question of what happens in breast cancer if this protein isn’t around,” says molecular biologist Erica A. Golemis. “And the answer is that we see more moderate cancer development, which speaks volumes about the role of the protein in aggressive breast tumors.”

The protein could serve as a biomarker, or indicator, of aggressive forms of breast cancer, Golemis says. It also could provide the basis for the development of new drugs against the disease.

The Golemis laboratory identified NEDD9 in 1996. In recent years, scientists worldwide have contributed to research showing how excess amounts of the protein contribute to metastasis in cancers including melanoma, lung cancer, and a type of brain tumor called glioblastoma.

*Funding for this research was provided by the National Cancer Institute, National Institutes of Health, Israel Cancer Association, Stanley Abersur Research Foundation, Ben-Gurion University of the Negev, Pew Charitable Trusts, and the Commonwealth of Pennsylvania.*

#### Experimental Breast Cancer Drug Comes ‘Full Circle’ to Fox Chase

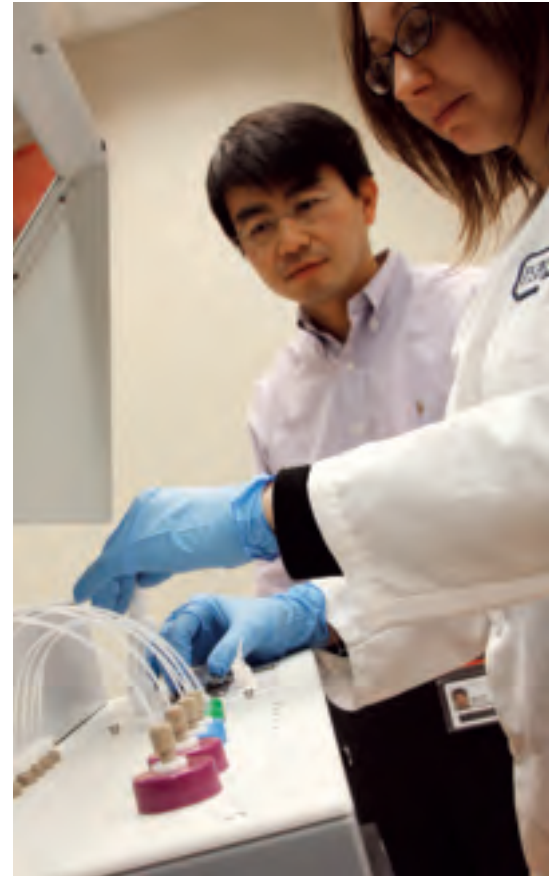
Given the time it takes for scientific discoveries to travel from “bench” to “bedside,” laboratory researchers rarely get to see their work affect patients—but that’s exactly what happened over the summer when Fox Chase became one of just two sites in the country to take part in a clinical trial of a unique drug shown to slow the growth of breast cancer.

Known as MM-111, the drug is based on the molecule ALM, which was developed at Fox Chase in collaboration with researchers at the University of California, San Francisco. The two institutions partnered with Merrimack Pharmaceuticals Inc., which refined ALM for use as a drug in humans. The result was MM-111.

“It is a rare and wonderful thing to see a clinical trial begin at the place where the concept underlying the drug was conceived,” notes medical oncologist Crystal S. Denlinger, who heads the MM-111 trial at Fox Chase.

MM-111 resembles an antibody—a protein the immune system uses to confront invading pathogens such as viruses or bacteria. However, unlike most antibodies, which bind to only one target at a time, MM-111—like ALM—attaches to two targets simultaneously: the signaling proteins ErbB2 and ErbB3. The proteins are believed to work in tandem on the surface of many cancer cells, including those involved in head and neck cancer and drug-resistant breast cancer, to promote cancerous cell growth. The drug latches on to ErbB2 and, using that connection as a foothold, blocks ErbB3 from transmitting molecular signals.

MM-111 is believed to be the first drug that operates in this way—as a “bispecific” antibody—to enter clinical development.



#### CLINICAL TRIALS

With approximately 225 clinical trials under way at any given time, Fox Chase offers access to the latest lifesaving medical advances, sometimes years before they become widely available. For more information on the Center’s clinical trials, visit [www.fccc.edu/cancer/clinicalTrials](http://www.fccc.edu/cancer/clinicalTrials) or call 1-888-FOX CHASE (1-888-369-2427).

## 'Disorder' within Proteins Is Anything But, Study Finds

Sections of proteins previously thought to be useless may have an unexpectedly important biological role, providing certain proteins with a way to deactivate themselves, according to structural biologist Heinrich Roder.

In the May issue of the journal *Structure*, Roder and his colleagues described this phenomenon in a protein called NHREF1, which is crucial to cells' ability to receive chemical signals. By comprehending the protein's structure, Roder believes, scientists will better understand how the protein functions—or malfunctions—in diseases such as breast cancer and cystic fibrosis.

"Here we have a molecule that serves an important role in how cells function and survive, but it contains these puzzling 'junk' sequences that don't have any apparent purpose," he says. "Our work suggests that this disorder is really a way of creating flexibility, allowing the protein to function as a molecular switch, a process that goes wrong in certain diseases."

NHREF1 serves as an adapter that allows molecular messages from outside the cell to trigger changes within it. The "disordered" sections of the protein allow it to flex and block its own active site as a means of self-regulation. The discovery, made with the help of an innovative application of nuclear magnetic resonance spectroscopy—a technique that determines a protein's shape by measuring how individual atoms interact with an intense magnetic field—was the first successful attempt to determine the structure of this type of protein.

*Funding for this research was provided by the National Cancer Institute, the National Institutes of Health, and the American Cancer Society.*



## Genetic Marker May Predict Early Onset of Prostate Cancer

A preliminary Fox Chase study has identified a genetic marker associated with the early onset of prostate cancer in Caucasian men with a family history of the disease. The findings could help clinicians provide targeted screening to those at highest risk.

Medical oncologist Veda N. Giri, director of prostate cancer risk assessment, presented the data in May at the annual meeting of the American Society of Clinical Oncology.

"The genetic basis of prostate cancer is not yet as well understood as it is for breast, ovarian, and colon cancer," Giri says. "Markers such as this one may help clinicians distinguish men who are at risk for earlier onset of disease at a point when intensive screening can be discussed. Men who do not carry genetic markers of risk may not need such measures."

More than half of all prostate cancer patients carry a particular "fusion gene," a hybrid gene formed by the rearrangement of genetic information. Recently, researchers have pinpointed a specific allele, or form, of the gene that is more strongly associated with prostate tumors.

To find out if the allele is clinically relevant in men at high risk for prostate cancer, Giri and her colleagues genotyped 631 men with a family history of the disease who were enrolled in the risk assessment program. Overall, the allele did not appear to contribute significantly to disease in the 400 African American men or 231 Caucasian men. The researchers then evaluated the marker in the 183 Caucasian men undergoing prostate cancer screening. They found the allele was associated with a 2.5-fold increased risk of being diagnosed with the disease and that men carrying the allele tended to develop the disease earlier.

Giri notes that the findings may also hold true for African American men, who are particularly prone to prostate cancer. However, the study population was too small to test that theory. "This was a pilot study," she says. "Our future research will investigate whether this association holds up in a larger Caucasian population, and we plan to collaborate with other institutions to test whether this marker is informative in African American men."

## Surgeon Performs First Successful Pancreas Surgery Using Robotic Technology

In March, a Fox Chase physician performed the world's first successful minimally invasive distal pancreatectomy—the removal of part of the pancreas—using a robotic system that improves surgeons' control and precision.

The case constituted the first time the ViKY® robotic compact laparoscope holder—developed in France and tested on thousands of patients in Europe—was used in a cancer case in the United States.

Minimally invasive surgery, which involves only small incisions, offers patients a shorter hospital stay, faster recovery, and less scarring than conventional open surgery. During such procedures, surgeons typically use both hands to manipulate the surgical tools and need an assistant to handle the laparoscope—a thin, lighted tube equipped with a camera that allows the surgeon to view the surgical field.

The ViKY system “acts as an extra hand during surgery, giving me stability and steadiness,” says Andrew A. Gumbs, the surgeon who performed the procedure. With the ViKY system, the laparoscope moves according to the surgeon's orders, either through voice recognition or footswitch control. Gumbs, who specializes in minimally invasive hepato-pancreatic and biliary, or HPB, surgery, performed the procedure on a 65-year-old man with two pancreatic cysts, one of which was deemed potentially cancerous.

Gumbs, who joined Fox Chase in 2008, was the first American surgeon to complete a minimally invasive HPB fellowship at the Institut Mutualiste Montsouris in Paris, where the first published case of a single-incision laparoscopic gallbladder removal was performed using the ViKY system. He is responsible for bringing the system to Fox Chase and is training fellow surgeons in its use.



### PARTICIPATE IN DISCOVERY

To learn more about Fox Chase research, including how to support research efforts, visit [www.fccc.edu/research](http://www.fccc.edu/research). Information on charitable giving is also available by e-mailing [giving@fccc.edu](mailto:giving@fccc.edu) or calling 215-728-2745.

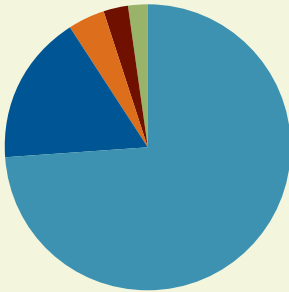
# THE YEAR IN REVIEW

## FOX CHASE AT A GLANCE

### Financial Overview

#### OPERATING REVENUES

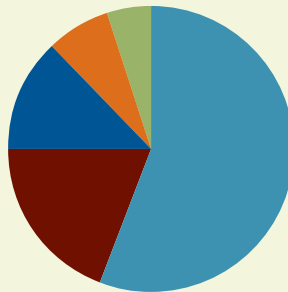
- Patient-care Revenue 74%
- Research Grants and Commercial Support 17%
- Fund-raising Support 4%
- Governmental Appropriation 3%
- Investment and Other Support 2%



Total Revenues: \$329.6 million

#### OPERATING EXPENSES

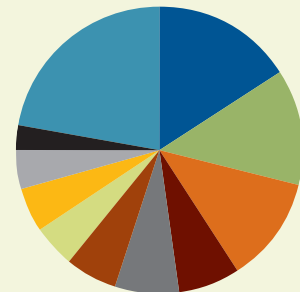
- Salaries and Benefits 56%
- Supply and Drug Costs 19%
- Purchased Services 13%
- Capital-related Costs 7%
- Other 5%



Total Expenses: \$338.2 million

### Types of Cancer Treated

- Prostate 16%
- Breast 13%
- Lung 12%
- Head and Neck 7%
- Kidney 7%
- Colorectal 6%
- Bladder 5%
- Lymphoma 5%
- Skin 4%
- Pancreatic 3%
- Other 22%



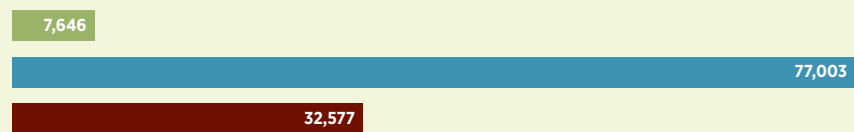
\*Data apply to new patients treated in 2008.

### Patient Care

NEW PATIENTS **7,646**

OUTPATIENT VISITS **77,003**

TOTAL PATIENTS SEEN **32,577**



### Fox Chase by the Numbers

**106** years treating cancer patients    **262** registered nurses  
**2,483** total employees    **2** Nobel prizes earned by scientists  
**46** countries of origin of employees    **8** operating rooms



## A MESSAGE FROM THE CHAIRMAN OF THE BOARD OF DIRECTORS

### **How do you express appreciation for expert, compassionate care?**

How do you make a contribution to medicine without going to medical school? How do you honor a community of researchers, physicians, and nurses who inspire you?

The more than 800 individuals and organizations listed on the following pages have answered these questions through their generous support of Fox Chase. Their giving reflects gratitude and appreciation—and something more: confidence in a vision of what is possible with the right resources, and a personal commitment to the mission and values that animate Fox Chase and its dedicated faculty and staff.

These special partners—patients, family members, and friends—constitute an important part of the Fox Chase team, and I am proud to join them in supporting the Center. Like so many, I have been personally affected by cancer: My mother and all five of her sisters died of the disease. I am not in a position to find the cure, but I am determined to do whatever I can to help Fox Chase do so. As donors, we are united in the common cause of supporting uncommon excellence.

Included in the following pages are stories illustrating how gifts have made a difference at Fox Chase and the meaningful ties that bind these donors to the Center. I know you'll enjoy reading about the siblings who carry on their parents' decades-long legacy of supporting cancer research; a patient who continues to demonstrate her abiding appreciation for the care she and her parents received at Fox Chase more than a decade ago; and an advocate who came to Fox Chase as a supportive husband and who has since become a champion for esophageal cancer research.

The common thread throughout these stories—and many more that I have been privileged to hear—is a hopeful outlook on the future. What breakthroughs might the next gift make possible? Where will today's advances take us tomorrow? As donors, we all participate in this exciting cycle of discovery and hope. Few investments yield a return as deeply satisfying as extending, improving, and saving lives. A gift could hardly do more.

On behalf of the board of directors, I am inspired by and grateful to all of our donors for partnering with Fox Chase in its effort to improve cancer medicine for all.

Sincerely,

A handwritten signature in black ink, appearing to read "David G. Marshall".

DAVID G. MARSHALL



# FRIENDS & SUPPORTERS



**“This is an extraordinary time of opportunity in cancer research. Answers are within reach of our talent, passion, and expertise. Our only limitation is in having the resources to realize our shared vision.”**

*Michael V. Seiden, President and Chief Executive Officer*



## Carol Elfant

### Coming Home

Carol Elfant remembers 1997 as a year of health crises: She and her parents all became patients at Fox Chase. Her mother was diagnosed with lung cancer, while her father, already being treated for prostate cancer, moved to Fox Chase when his condition worsened. Several months later, while caring for both of them, Carol herself was diagnosed with endometrial cancer.

“Among the three of us, we were inpatients on almost every floor,” she recalls. The silver lining, she says, was that “we knew we were getting the best treatment possible; we felt cared for every step of the way.”

Elfant lost both her parents the following year. Just months later, she made her first gift to Fox Chase, splitting her support among patient care, lung cancer research, and prostate cancer research. “Everyone at Fox Chase is amazing—so dedicated and so supportive,” she says. “I got so much from them, and I wanted to give back.”

Thirteen years later, Fox Chase remains Elfant’s philanthropic focus. Her annual gifts to the Center convey “the trust I have in Fox Chase,” she says, and she has expanded her support to include nursing development and education, as well as Coventry House, an apartment complex that provides patients with affordable housing during treatment.

“I have so many positive memories of Fox Chase that I give as much as I can, whenever I can,” she says. “Now when I come for my follow-up appointments, I feel like I’m coming home.”

**The memory of her parents, both of whom were Fox Chase patients, remains strong for donor Carol Elfant. Because of the care her family received, ‘I wanted to give back,’ says Elfant, herself a former patient.**

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*continued on page 45* ►

**Frank Gianforte**

## A Husband's Story

**F**rank Gianforte supports esophageal cancer research at Fox Chase for two important reasons: He feels he's continuing the legacy of his wife Dale, who died of a rare form of the disease in 2008, and—appreciating the fact that progress in science is “incremental”—he wants to play a role in advancing the understanding of the disease and improving treatment options.

“This is exactly what Dale would have wanted,” Gianforte says. “To know that in some small way, we are having an impact on other people's lives.”

The Dale Douglass Gianforte Fund for Esophageal Cancer—established with gifts from Dale and Frank, as well as friends and family members—provided seed money for research into IGF-1R, a cellular receptor that has been found to stimulate esophageal cancer growth. Fox Chase researchers are investigating the anti-cancer effects of an IGF-1R inhibitor when administered in combination with chemotherapy for patients with metastatic esophageal cancer.

“We were always impressed with the opportunities at Fox Chase for access to new treatments and clinical trials—that's simply not possible without investing in research,” Gianforte says.

He notes that while the life expectancy for people diagnosed with the form of esophageal cancer that his wife had is only a few months, “we had Dale for 22 months. We like to think something was learned from her cancer.”



**Frank Gianforte, whose wife Dale died of esophageal cancer, is gratified by the knowledge that her legacy could save someone else's life. The Dale Douglass Gianforte Fund for Esophageal Cancer supports research on the disease, which has a low survival rate.**



Overseen by Bernard A. and Rebecca S. Bernard, researcher Greg Adams peruses the results of a recent study. Funding from the Bernards' foundation supported his laboratory's development of a molecule that shows promise in diagnosing and slowing breast cancer.

## The Bernard A. and Rebecca S. Bernard Foundation Thinking Beyond Themselves

**B**ill Bernard still remembers his grandmother's battle with breast cancer in the early 1940s, which culminated with her death at age 47. That experience inspired his father, Bernard A. "Bernie" Bernard, to establish a foundation that has supported Fox Chase research for decades. "My father wanted to help all people through research," Bill recalls. "He always thought beyond the moment and beyond himself."

Since the senior Bernard's death in 1988, the foundation has been led by Bill and his sisters, Estelle Solomon and Marlyn Bernstein. Bill's wife Joan also shares a connection to Fox Chase: The Center successfully treated her mother for metastatic melanoma more than 20 years ago.

The family is excited that research they have helped to support may prove a boon to cancer care. A molecule developed by

researcher Gregory P. Adams and his team in the Bernard A. & Rebecca S. Bernard Laboratory, established with a leadership gift in 1990, may provide a means of slowing cancer's spread and delivering more aggressive drugs directly to cancer cells. The molecule, nicknamed "ALM," has been shown to halt the growth of breast cancer cells in laboratory tests and may also provide a means of early detection. The findings were published in the *British Journal of Cancer* in November 2008. An experimental drug based on the molecule is now in clinical trials. (See story on page 34.)

"We feel strongly about Fox Chase and its research," Estelle says. "It's making a difference for the future, and that's one of the most meaningful things we can do."

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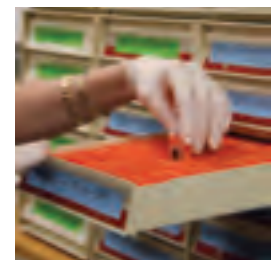
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*For more information or to make a tax-deductible gift, visit [www.fccc.edu/helpingFoxChase](http://www.fccc.edu/helpingFoxChase) or call the Office of Institutional Advancement at 215-728-2745.*



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#### Honoring a Vision

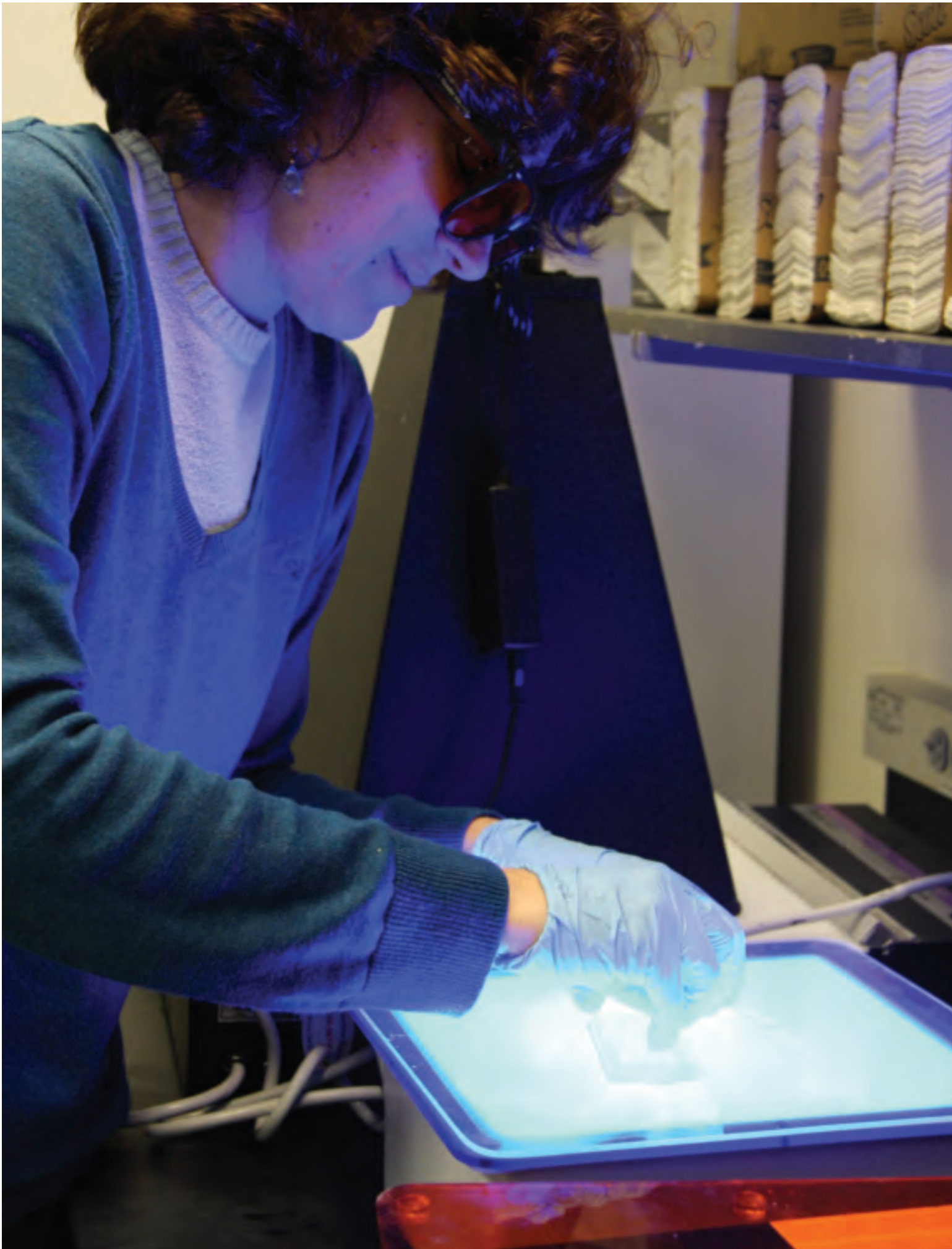
In 2009, Fox Chase established the Elizabeth Anderson Society to honor the thoughtful patients and friends who have made gifts to the Center as part of their financial planning. The gifts have taken multiple forms, including bequests, gift annuities, charitable trusts, life insurance policies, retirement accounts, and real estate.

The society is named for a generous early benefactor. In 1906, the fledgling cancer hospital that would become Fox Chase was only two years old, but patient Elizabeth Anderson, a friend of a trustee, had such confidence in the people there that she bequeathed \$40,000—the equivalent of \$900,000 today—to support the facility. She gave to support a vision of progress, hope, and discovery against a dreaded and poorly understood disease.

The Elizabeth Anderson Society pays tribute to Fox Chase friends who make a commitment to progress in cancer science and medicine by making planned gifts to Fox Chase. For more information on the society or on making Fox Chase part of your estate plans, contact the Office of Institutional Advancement at 215-728-2745.

**“I put myself in the shoes of my mom’s [health-care] team. They spend their lives helping other people who are struggling, and I wanted to do something to help them.”**

*Zach Herr, 14, donor and son of a patient*



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**“Technology doesn’t revolutionize medicine; people do. And places like Fox Chase are where the revolution is happening.”**

*Robert G. Uzzo, Chairman, Department of Surgery*

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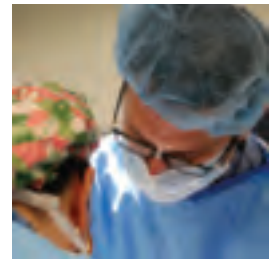
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*Fox Chase Cancer Center is one of the leading cancer research and treatment centers in the United States. Founded in 1904 as one of the nation's first cancer hospitals, it was also among the first institutions to earn the prestigious comprehensive cancer center designation from the National Cancer Institute.*

NCI A Comprehensive Cancer  
Center Designated by the  
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NCCN National  
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