Institute for Applied Cancer Science launches

A New Day for Drug Discovery

Sam Davenport cycles for a cure

INFINITY AND BEYOND
MD Anderson is building an industrial-strength bridge across the treacherous landscape that lies between basic science discovery and approval of new drugs for cancer patients by creating its new Institute for Applied Cancer Science (IACS).

Only 5-10% of potential cancer drugs survive the journey through the present drug development ecosystem, with many failing late in the process after years of work and millions of dollars spent.

“That’s a staggeringly unacceptable high rate of failure,” says Ronald DePinho, M.D., president of MD Anderson.

“Recent transformative scientific and technological advances provide the tools for improving drug discovery and development, but applying them requires a new organizational model,” he says. “Our institute will rely on industry-seasoned scientists to secure the knowledge needed to fully understand key drug targets and develop a clear clinical path for new therapies.”

The IACS, established last year after DePinho was appointed as MD Anderson’s fourth president, is much like a biotechnology company embedded in an academic medical center.

By the end of 2012, IACS director Giulio Draetta, M.D., Ph.D., expects to have 70 senior scientists on board, “people from pharmaceutical research and development who know how to make drugs.”

“We’re building a professional drug development infrastructure that can tap into MD Anderson’s strengths: outstanding clinical care, a strong clinical trial infrastructure, great basic science and a fundamental commitment to translational research,” says Draetta. “We can discover drugs and bring candidates to clinical trial, all within a single institution.”

In traditional drug development, pharmaceutical companies take basic discoveries from academia through the preclinical developmental steps required to advance a new drug to phase I clinical trial. Pharmaceutical companies are abandoning this model, Draetta notes, while academic institutions, MD Anderson a leader among them, are taking on more translational research.

Swift, thorough process to kill projects

Fully bridging that gap requires a goal-oriented culture and scientists with expertise in genomics, computational biology, deep cancer biology, model systems and applied sciences such as medicinal chemistry.

“The institute will define and rapidly conduct key validation and drug discovery studies that allow for rapid decision making, regardless of the complexity involved,” says Lynda Chin, M.D., IACS scientific director. “It’s a design to weed out weak ideas early in the process. That differentiates us from other research labs and, for that matter, from my own academic lab.”

Culling projects is critical because more than half of candidate drugs that make it to phase III clinical trials fail at that final step. Chin and Draetta envision the institute generating a robust drug development pipeline by characterizing and evaluating candidate drug ideas from MD Anderson scientists, as well as other academic institutions and private companies.

The institute’s goal-oriented industrial approach, combined with MD Anderson’s academic expertise, unique infrastructure and sheer critical mass, will provide an advantage over competitors in industry and academia, they say. It’s this integration of discovery and applied science that will enable MD Anderson to move swiftly from research discoveries to drug development to clinical application and ultimately make a real difference in the lives of patients.
The IACS goal is to develop at least one clinical drug candidate by the end of Fiscal Year 2013 and advance it into a phase I clinical trial during FY2014, with more to follow. Its present capacity allows it to evaluate three projects at a time.

Draetta and Chin developed this model with DePinho at the Belfer Institute for Applied Cancer Science in Boston, which DePinho led before coming to MD Anderson. The first 18 scientists hired at the IACS came from the Belfer Institute.

**A self-sustaining financial model**

MD Anderson has committed a maximum of $15 million per year for five years to the institute, as well as space, technology and support services.

The IACS is expected to achieve significant financial performance metrics, such as raising $2.5 million from philanthropy during its first year, and over time attract additional funds from corporate alliances, research grants, philanthropy and revenue generated by drugs and diagnostics it develops.

“As we generate compounds, we’ll have the opportunity to monetize those assets with the ultimate goal of becoming self-sustaining,” says Eric Devroe, Ph.D., executive director, strategic alliances.

**Experienced leadership team**

Among experts moving to the IACS from industry and the Belfer Institute:

- Philip Jones, Ph.D., head of drug discovery, led several of Merck’s oncology drug discovery programs. He took two Merck ideas from program initiation to candidate drug in fewer than 16 months each.
- Carlo Toniatti, M.D., Ph.D., head of research, has more than 20 years of experience in basic research, drug discovery and clinical development for biotech and pharmaceutical companies. He’s led preclinical drug discovery programs from target identification and validation to phase I and II clinical trials.
- Eric Devroe, Ph.D., executive director, strategic alliances, previously was vice president of business and strategy development at Metamark Genetics, where he completed 20 license and partnership agreements, including a major alliance with Janssen Biotech Inc.

Clockwise from top: At the Institute for Applied Cancer Science, Maria Alimova, senior research scientist; Meredith Singer, associate scientist III; and Shuping Zhao, research investigator, go about the business of identifying and validating cancer targets to enhance the drug discovery process. Photo illustration by Kailye Sanford and F. Carter Smith
Campaign surpasses $1.2 billion goal

Ambitious fundraising effort destined to transform cancer care

By Sarah Watson

MD Anderson has completed its largest fundraising campaign. Thanks to the generosity of supporters across the globe, Making Cancer History: The Campaign to Transform Cancer Care has raised $1.215 billion for:

- research initiatives in cancer prevention and risk assessment, basic science, cancer care excellence, personalized cancer therapies, early detection and targeted treatments
- an endowment to educate and train the next generation of cancer research specialists
- a new 600,000-square-foot research facility to support personalized cancer care and accelerate the pace of pancreatic cancer research; and
- support of other key areas within the institution.

The campaign reached its original $1 billion mark in August 2010, more than two years ahead of schedule, during the tenure of John Mendelsohn, M.D., who stepped down as president of MD Anderson in August 2011. To fund still-unmet needs, a 19-member campaign executive committee, chaired by Harry J. Longwell of Dallas, recommended increasing the goal to $1.2 billion, with a shortened target date of Dec. 31, 2011.

“The campaign’s early completion gives MD Anderson researchers and clinicians the means to make significant progress in the fight against cancer,” says Ronald DePinho, M.D., president of MD Anderson. “With the philanthropic support of those who share our passion, we’ll make major progress in preventing, detecting and treating cancer. Together, we have the opportunity to do great good for humanity.”

Barbara and George H.W. Bush, both members of the MD Anderson Cancer Center Board of Visitors, were honorary chairs of the campaign. President Bush chaired the Board of Visitors from 2001 to 2003.

Some 200 donors contributed more than 70% of the total, says campaign chair Longwell.

“Philanthropy is a key component in the lifeblood of MD Anderson. “We all are proud to have been a part of this pivotal effort to transform cancer care and truly make a difference in the lives of cancer patients everywhere.”

Philanthropic support generates an invaluable return on investment for each dollar donated, says Patrick Mulvey, MD Anderson’s vice president for development. It often provides seed money that enables researchers to pursue novel ideas, gather data and successfully compete for federal funding.

“The generosity of all who supported our efforts, regardless of gift size, translates to enormous benefits for thousands of patients, their families and friends, now and for generations to come,” says Mulvey. “Every gift plays a significant role in bringing us closer to a future free from cancer.”

Video: youtube.com/mygivingtomdanderson

Center’s new name pays tribute to institution’s third president

By Sarah Watson

A major building on MD Anderson’s campus now bears the name of John Mendelsohn, M.D., honoring his leadership of the nation’s largest cancer center over 15 years. Signs for the John Mendelsohn Faculty Center were installed in February.

Mendelsohn, a pioneer in the field of personalized cancer therapy, served as the institution’s third full-time president from 1996 to 2011. During his tenure, MD Anderson marked a number of milestones, including the launch and early completion of the $1.2 billion fundraising campaign, the most ambitious in MD Anderson’s history (see above story).

Following a sabbatical at Harvard and Massachusetts Institute of Technology to hone his research skills, Mendelsohn returned to MD Anderson in March as co-director of the Sheikh Khalifa Bin Zayed Al Nahyan Institute for Personalized Cancer Therapy.

He will continue the clinical and translational research he started more than 30 years ago. In addition, he joins Rice University’s James A. Baker III Institute for Public Policy as the L.E. and Virginia Simmons senior fellow in health and technology policy.

“My greatest joy as president of this great institution was getting to know and work with the unsurpassed employees and volunteers who contribute to the MD Anderson mission. To be honored in this way is indeed humbling and gratifying,” says Mendelsohn.

Mendelsohn led MD Anderson as it quadrupled in budget and tripled in space. The institution’s work force and number of patients served doubled, and private philanthropy increased almost tenfold.

“John Mendelsohn is one of the preeminent leaders in modern cancer medicine,” says Ronald DePinho, M.D., president of MD Anderson. “Thanks to his vision and leadership, MD Anderson is the place with the best hope for cure. It’s fitting that the John Mendelsohn Faculty Center will bear his name in honor of his myriad contributions not only to our institution but also to the field of oncology and, ultimately, to cancer patients and their families everywhere.”

Mendelsohn and his colleagues developed a monoclonal antibody that could find, bind to and block the activation of the epidermal growth factor receptor, which is known to stimulate cancer. “That monoclonal antibody, now marketed as Erbitux®, was approved by the U.S. Food and Drug Administration to treat colon cancer and head and neck cancers.”

“This naming opportunity is a small token of appreciation to the man whose dedication, commitment and accomplishments embody the words ‘Making Cancer History!’” says Francisco Cigarroa, Ph.D., chancellor of The University of Texas System.

The John Mendelsohn Faculty Center, 1400 Holcombe Blvd., opened in the fall of 2000. The 13-story, 225,000-square-foot building provides space for nearly 1,500 faculty and staff representing more than 30 departments, plus ancillary and support functions.
A message from Ronald DePinho, M.D.

Nov. 28, 2011, was a great day for cancer patients and a dark day for cancer. For those of us in the standing-room-only crowd at MD Anderson’s South Campus, it also was a historic day as state officials — including Gov. Rick Perry, The University of Texas System Chancellor Francisco Cigarroa, Ph.D., and UT System Board of Regents Chairman Gene Powell — joined us to announce an unprecedented initiative, the Institute for Applied Cancer Science.

Blending the best of academia and industry, this new research and drug development institute is a no-holds-barred response to the poor performance of the nation’s current cancer drug development system. The institute will identify and validate cancer targets, convert that knowledge into new cancer drugs entering into clinical trials survive to become approved treatments. Still worse, more than half of those fail in phase III clinical trials, the final step of development. This scorecard is unacceptable.

The Institute for Applied Cancer Science, with its growing roster of seasoned industry experts with impressive scientific credentials, will change that dismal scorecard by expediting the creation and delivery of new, highly effective drugs designed to hit critical targets identified in patients. This approach is destined to make a significant difference in the lives of cancer patients everywhere.

Recent advances in science and technology make this a time of enormous opportunity to solve the cancer problem. With your support, we can harness the formidable infrastructure and talent of MD Anderson, the world’s premier cancer center, to make an industrial-strength assault on this dreaded disease. Thanks to your generosity and commitment to MD Anderson, history will write that together we truly lived up to our mission: Making Cancer History.”

Survivors Say

Donna McNulty Reinbolt is the patient advocate for MD Anderson’s lymphoma SPORE and co-founder and president of the Houston chapter of the Lymphoma Research Foundation. The National Cancer Institute selected her to serve as the national lymphoma advocate at its July 2011 Translational Science Meeting in Washington, D.C.

“In 2007, I was diagnosed with Hodgkins lymphoma. I recall sitting in the waiting room at MD Anderson — bone thin, no hair, crazy nauseated with a warm blanket wrapped around me and thinking, ‘If I ever get out of this place alive, I’m going to do something to help those folks who come after me.’

With the daily care of the attentive professionals at MD Anderson, I came through my illness beautifully and spent the following year traveling and visiting with friends and family. But I never forgot my promise.

Together with Drs. Anas Younes and Peter McLaughlin and others, I co-founded the Houston Chapter of the Lymphoma Research Foundation. Dr. Younes invited me to serve as the patient advocate for the MD Anderson lymphoma SPORE (Specialized Programs of Research Excellence, an initiative of the National Cancer Institute). It’s been my great honor to serve the medical professionals, lymphoma patients and their families these past few years. What was one of the worst crises of my life has transformed into one of the most rewarding experiences of my life: supporting MD Anderson’s research and its remarkable patients and staff.

Promise invites cancer survivors to share their reflections. Email Promise@mdanderson.org.

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ON THE COVER: Infinity and Beyond founder Sam Davenport takes the scenic route to cancer awareness. Story on page 3.

Photo courtesy of Sam Davenport

This publication was not printed at state expense.

LEARN MORE AT mdanderson.org/gifts
IBC research gets boost from annual Texas Hill Country event

By Johnny Rigg

On Sept. 13, 2000, Karen Cottrell heard the news: Her doctors had found inflammatory breast cancer, or IBC, a rare, aggressive disease. It’s often misdiagnosed because of its uncharacteristic symptoms such as swelling or a rash instead of the usual lump.

Karen’s condition, however, was recognized, and she had the advantage of beginning treatment early — within 24 hours of her diagnosis.

To create awareness of the disease and raise money for MD Anderson’s Morgan Welch Inflammatory Breast Cancer Program and Clinic, she and her husband, David, who live in Horseshoe Bay in the Texas Hill Country, established a nonprofit organization called TeamKaren.

“IBC kills hundreds of women every year,” Karen says. “Fortunately, I went to the doctor as soon I felt something was wrong. I was even more fortunate because my doctors had experience with IBC and reacted immediately. The day after my diagnosis, I began chemotherapy and what would be the fight of my life.”

In 2009, Karen learned that her cancer had returned, and her fight continues.

Walk, run, live

TeamKaren began in 2009 as a 5K run and children’s relay race in Marble Falls, west of Austin. Momentum grew as more than 300 participants signed up when a 10K run was added the next year and the event moved to a larger venue at Reveille Peak Ranch in Burnet, Texas. The third annual event in October 2011 finished with a spaghetti dinner and a silent auction, raising $26,000 for MD Anderson and the Morgan Welch Inflammatory Breast Cancer Program and Clinic.

The Cottrells say they feel strongly about supporting MD Anderson’s IBC research because of the institution’s ability to make significant progress in creating awareness and finding new treatments for the disease.

Philanthropy fuels the effort

TeamKaren received good news recently when two anonymous donors agreed to match every dollar raised by the organization.

Private philanthropy is important for the research of rare diseases because pharmaceutical companies are less likely to fund lesser-known initiatives, says Vicente Valero, M.D., a professor in MD Anderson’s Department of Breast Cancer Medical Oncology and clinical director of the Morgan Welch IBC Program.

“They’re looking for diseases that are more common and have a larger market,” Valero says.

Over the years, TeamKaren has raised almost $100,000. Karen and David are planning their biggest event yet to take place next October.

“We’ve been taking it one year at a time,” David says. “As always, we hope to raise awareness of the disease along with as much money as possible to make a difference in the lives of IBC patients.”

For information on the fourth annual TeamKaren event, visit teamkaren.com.

At a reception honoring major supporters of the 2011 San Antonio Living Legend, Jan Donaldson, from left, Ronald dePinho, M.D., Cokie Roberts and Sam Donaldson thank Lowry Mays (seated) for serving as honorary chairs of CNN News Group. Photo by Pete Baatz

Students from First Baptist Christian School in Marble Falls are all energy and enthusiasm at the 2011 TeamKaren children’s relay race, where they helped raise $26,000 for the Morgan Welch Inflammatory Breast Cancer Program and Clinic at MD Anderson. Photo by Cassi Sultemeier, RadioActive Elephant Photography

PHILANTHROPY IN ACTION

A TEAM EFFORT

By Johnny Rigg

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Events quadruple success of MD Anderson fundraiser

Community leaders in Houston, Dallas, Fort Worth, Las Vegas and San Antonio, Texas, and Atlanta, Ga., raised more than $1,725,000 through four A Conversation With a Living Legend® events in Fiscal Year 2012. Over the years, the popular luncheon-interview format, which originated in Dallas in 1990 and has spread as far as Washington, D.C., and Atlanta, Ga., has raised more than $14 million for cancer research and patient care initiatives at MD Anderson.

Fifth Annual A Conversation With a Living Legend® Houston

When: Nov. 1, 2011
Where: Hilton Americas-Houston
Legend: Katie Couric, broadcast journalist, best-selling author and cancer activist
Interviewer: Sanjay Gupta, M.D., CNN chief medical correspondent
Chairs: Sheridan and John Eddie Williams
Honorary chairs: Katie and Harry Cullen Jr., Rose and Harry Cullen Sr., Kathy and Jody McCord
Major sponsors: Barbara and Charles Hurwitz, Patsy and Gregory Fourticq, Aileen Gordon, Joan Schnitzer Levy and Irvin Levy, Frann Lichtenstein, Cyvia and Melvyn Wolff, FirstSouthwest Company, Sheridan and John Eddie Williams
Total raised: More than $340,000

Inaugural A Conversation With a Living Legend® Las Vegas

When: Nov. 4, 2011
Where: Encore Hotel
Legend: Franco Harris, football legend
Interviewer: Larry King, former CNN anchor
Chairs: Rosey and Ray Park
Host committee: Lovee and Bob Arum; Donna and Sheldon Cloobeck; Myra and Brian Greenspun; Parvin Modaber Jacobs, M.D.; Susan and Irwin Molasky; Elaine Newton; Elaine and Dan Park; Camille and Larry Ruvo; Jane and Marc Schorr
Major sponsors: Lovee and Bob Arum, Claude F. Kronk, A. Malachi Mixon III, The Park Foundation, Dan and Elaine Park, Piper Park and The Park Academy
Total raised: More than $205,000

Charline and Red McCombs
Co-Chairs: Courtney and Brad Duphorne, Jolie and Meade Flavin, Heather and Judd Kraft, Margye and McCann Northington
Major sponsors: Jane Cheever Powell and Thomas Powell Jr., KCI, Mays Family Foundation, McCombs Foundation
Total raised: More than $205,000

In Houston, Katie Couric, flanked by chairs Sheridan and John Eddie Williams, received MD Anderson’s Making Cancer History® Award in recognition of her contributions to colon cancer awareness. The award is given periodically to people who demonstrate MD Anderson’s core values of caring, integrity and discovery. Photo by Pete Baatz

In Las Vegas, Franco Harris proudly wears his four Super Bowl rings. Program design by Kellye Sanford

In San Antonio, Jan Donaldson, from left, Ronald DePinho, M.D., Cokie Roberts and Sam Donaldson thank Lowry Mays (seated) for serving as one of the event’s honorary chairs. Photo by Marks Moore
DONORS MAKE A DIFFERENCE

Straight to the heart of the matter

Couple helps those who help others

By Victor Scott

Linda and Joe Penland of Beaumont, Texas, give from the heart. And it’s from the heart that, in return for the care the couple received at MD Anderson, they’re giving back to the institution in a big way.

Linda received treatment for breast cancer at MD Anderson in 2005, and Joe was treated for kidney cancer in 2009. The special attention from staff during the couple’s surgeries, rehabilitation and follow-up appointments inspired the couple to fund the Heart of MD Anderson Award, a monthly peer-selected award for employees who exemplify the institution’s core values of caring, integrity and discovery. What’s more, they decided to increase the cash prize from $200 to $1,000 per month.

“The people at MD Anderson are just so nice,” says Penland. “It doesn’t matter what your needs are, everyone is genuine. There’s nothing you could ask of the staff that they wouldn’t do to help you or your family feel more comfortable. And it’s always with a smile.”

Empathy abounds

Alfred Raven, for example, is a nursing assistant who cared for Penland during a 17-day stay after surgery at MD Anderson.

“I try to put myself in the patient’s situation,” says Raven. “They’re already dealing with the burden of cancer, so you need to be as helpful and positive as possible. Being a good listener goes a long way.”

When the Penlands asked how they might recognize such excellence in employees and learned about the Heart of MD Anderson Award, they were pleasantly surprised when they opened the award packet and saw a photo of Raven as the January 2011 recipient.

“It sent a chill up my spine,” says Penland. “We decided that the award is definitely something we need to fund and that the winners deserve to receive more money.”

Paying it forward

In September 2011, the Penlands made a donation that would increase the cash award to $1,000 monthly. They insisted that each of the previous winners for that year be given a retroactive gift of $800.

“When it was announced at Managers Forum, a meeting of managers throughout the institution, the first reactions were gasps from the audience followed by murmurs and then applause,” says Kathy Lang, employee recognition specialist and coordinator of the Heart of MD Anderson Award. “Since then we’ve had more than twice the number of nominations. This is an award that can have an impact on all our employees and really lift their spirits.”

The Penlands, who say they’re blessed in their business and family, employees and friends, are glad to reward “the best of humanity.”

“Linda and I are so grateful for all that we have,” says Penland. “We see the best of humanity in the employees who work here. It’s in their hearts and souls to do good, and they truly are the heart of MD Anderson.”

Make a donation to the Heart of MD Anderson Award and other recognition programs at mdanderson.org/gifts.

Video: youtube.com/mygivingtomdanderson

Linda and Joe Penland made their contribution to the Heart of MD Anderson Award retroactive to benefit all 2011 recipients: from left, Meide Liu, Christopher Carrizal, Janice Schwartz, Marilyn Dawlett, Creola Brown, Eliane Sayeghe, Alfred Raven, Reginald Phipps, Elsy Pulhenparampil, Sherri Patterson, Kimberly Williams and Linda Duggan. Photo by John Everett
Cyclist pedals cancer awareness

By Victor Scott

Barely able to walk and 700 miles from home, Sam Davenport was forced to accept defeat. But the severe pain from riding his bicycle thousands of miles and pushing his body beyond its physical limits didn’t end his personal quest to fight cancer.

Davenport’s inaugural 4,300-mile bicycle ride last spring throughout the eastern United States was a means to promote his nonprofit organization, Infinity and Beyond. It may have ended a few hundred miles short, but it fully met his goals to raise money for cancer research at MD Anderson.

In May 2010, Davenport was completing a degree in marine biology at Texas A&M University in Galveston. His dad, a nonsmoker, was diagnosed with non-small cell lung cancer. After graduation, Davenport decided to put his career on hold and establish Infinity and Beyond to fund cancer research and help cancer patients with expenses not covered by medical insurance.

“I wanted to do something to give back and fight cancer based on what I could do,” says Davenport. “I scuba dive, I sail, I surf. I love the outdoors. This was something to share my love of adventure and to help people.”

The long journey begins

Last May, he said goodbye to his family in Argyle, Texas, near Dallas, and cycled north. Over the next four months, Davenport made stops in Chicago, Cincinnati and Pittsburgh before arriving in New York. Then he headed down the East Coast to Washington, D.C., to Virginia Beach, Va., through the Outer Banks of North Carolina and on to Atlanta. He was 90 miles east of Memphis, in Corinth, Miss., when he was forced to stop riding due to painful injuries to his Achilles tendons.

Though Davenport didn’t finish in Galveston as he’d planned, he’s proud of the awareness he generated along the way, plus more than $27,000 through 5K fun runs, an outdoor concert, a golf tournament and other activities. Davenport donated funds to 11 cancer patients he met during his ride and delivered a $5,000 check to MD Anderson in October.

“I want to inspire people to act,” says Davenport. “Hopefully, everybody doing a little can add up to something big.”

Davenport’s dad, Jim, is pleased that his son is dedicated to raising funds and awareness to help cancer patients and their families.

“I did my research and decided to come to MD Anderson,” he says. “It’s a place of hope.”

Video: youtube.com/mygivingtomdanderson

Strength in numbers

Project rallies hundreds for underfunded cancer

By Will Fitzgerald

Betsy Vincent, of Dallas, knew she had no real answers when her 6-year-old son, Garrison, asked, “Mom, what’s being done for your cancer?”

Vincent, diagnosed with leiomyosarcoma, an aggressive cancer originating in the smooth muscle tissue, could only reply, “Not much,” and determined that this fact had to change.

Vincent asked her oncologist, Joseph Ludwig, M.D., assistant professor in Sarcoma Medical Oncology, what was limiting progress in leiomyosarcoma research. He cited lack of funding as the culprit.

“We have 50 sarcoma subtypes, so it’s challenging to fund each equally,” Ludwig says.

Determined to alter this paradigm, Vincent asked for a figure. With $200,000, Ludwig said, he could hire two physician-scientists dedicated to leiomyosarcoma research. With that, the Betsy Project was born.

In an effort as grassroots as they come, Vincent established a website and held a three-day phone-a-thon with assistance from family and friends. Neighbors held bake sales, sent emails, created yard signs and hosted a hot chocolate party during a rare snowstorm. Vincent’s former school in Alabama jumped in and sold T-shirts.

Within a year, more than 800 people had donated contributions ranging from $5 to $20,000, totaling $355,000.

No targeted therapies exist for leiomyosarcoma. But with support from the Betsy Project, researchers are developing noninvasive tests to assess tumors, uncover molecular abnormalities and eventually translate this knowledge into new treatments.

For Ludwig, the funding speaks volumes about the difference one person can make.

“It’s nothing short of amazing that the Betsy Project raised so much money so quickly from so many,” he says.

In a disease as complex as it is malicious, the line separating progress from the status quo is marked with great opportunity. While progress requires effort and dedication — traits of the hundreds of Betsy Project supporters — it begins with a clear vision. For Vincent, that vision is a world without leiomyosarcoma.
Scientists find possible colorectal connection

The molecular connection between chronic inflammation and DNA methylation, a process that shuts down cancer-fighting genes, may eventually lead to more effective therapies for treating and preventing colorectal cancer, according to an MD Anderson study that appeared in Nature Medicine. Senior author Raymond DuBois, M.D., Ph.D., provost and executive vice president at MD Anderson, says that before this study, “nobody had made a molecular connection between inflammatory mediators and changes in gene expression or silencing of genes through effects on DNA methylation.” The study used two drugs approved for human use, Celebrex® and Vidaza®, in animal models. Researchers found that prostaglandin E2, a chemical that promotes inflammation, accelerates colorectal cancer by shutting down genes that suppress tumors and repair DNA.

Funding was from the National Institute of Diabetes and Digestive and Kidney Diseases, the National Cancer Institute and the Cancer Prevention and Research Institute of Texas.

Pancreatic cancer study finds ‘vicious cycle’

MD Anderson scientists have connected the dots between mutated versions of Kras, a gene that acts as a molecular on-off switch, and heightened activity of a protein complex that controls gene activation in cases of pancreatic cancer. The study, headed by Paul Chiao, Ph.D., a professor in MD Anderson’s Department of Molecular and Cellular Oncology, identified a “vicious cycle” of molecular activity and a new potential target for drugs.

The research suggests interleukin-1 alpha as a potential therapeutic target, says Chiao. The study shows that mutationally activated Kras triggers a chain reaction, which activates inhibitor-blocking proteins. This in turn cycles back, perpetuating the loop.

Grants from the National Cancer Institute, including MD Anderson’s Cancer Center Core Support Grant, funded the research.

Blood-thinning drugs may increase survival

Highly elevated platelet levels fuel tumor growth and reduce the survival of ovarian cancer patients, reports an MD Anderson-led international team of researchers in the New England Journal of Medicine.

By pinpointing a powerful cause-and-effect relationship at the heart of a century-old clinical observation, the team has revealed a new factor in cancer progression and new potential approaches for treatment.

“Our collaborative study not only identified a mechanism that explains platelet count elevation, but also connects this state, called thrombocytosis, to the severity of ovarian cancer,” says senior author Anil Sood, M.D., a professor in MD Anderson’s departments of Gynecologic Oncology and Reproductive Medicine and Cancer Biology. “This suggests drugs that interfere with coagulation might be a useful addition to conventional therapies.”

Sood and colleagues drew on clinical data from ovarian cancer patients and followed up with mouse model experiments and a clinical trial.

Funding for this research came from the Gynecologic Cancer Foundation’s Gail MacNel Koh Research Award, the National Cancer Institute, a Program Project Development Grant from the Ovarian Cancer Research Fund, the U.S. Department of Defense, the Baylor College of Medicine and MD Anderson Cancer Center Multidisciplinary Research Program, the Anne and Henry Zarrow Foundation, the Marcus Foundation Inc., the estate of C.G. Johnson Jr., the United Kingdom Medical Research Council, the Blanton-Davis Ovarian Cancer Research Program, the Laura and John Arnold Foundation, the RGK Foundation and the Bettyann Asche Murray Distinguished Professorship in Ovarian Cancer Research.

Study blames DNA-damaging agents in testicular risk

Male fetuses of mothers exposed to radiation during early pregnancy may have an increased chance of developing testicular cancer, according to an MD Anderson study in mice.

The study is the first to find an environmental cause for testicular germ cell tumors.

“This discovery launches a major shift in the current research model, placing DNA-damaging agents in the forefront as likely mediators of testicular cancer induction,” says corresponding author Gunapala Shetty, Ph.D., an assistant professor in MD Anderson’s Department of Experimental Radiation Oncology.

During the past 50 years, testicular cancer incidence has tripled in young Caucasians. “This increase and the characteristics of germ cell tumors strongly suggest that fetal exposure to an environmental agent is responsible,” says Shetty. “However, the identification of any agent producing increases in testicular cancer has eluded scientists.”

Funding for this research was from the Florence M. Thomas Professorship in Cancer Research and the National Cancer Institute.
Friends for life and beyond

A firm foundation

Although she didn’t have a clue where to start, Spain worked with MD Anderson’s Development Office and Daniel Karp, M.D., a professor in MD Anderson’s Department of Thoracic/Head & Neck Medical Oncology, to form a foundation that would accomplish their goals. Karp and Edward Kim, M.D., chief of Head and Neck Medical Oncology, are the foundation’s medical advisers.

While the foundation’s main mission is to raise funds to help promote lung cancer research, educating young people about the dangers of tobacco use is important as well. T.E.A.M. (Tobacco Education Awareness Matters), which honors Hawkins’ desire to give back to students, is a community service campaign that involves teens in spreading the word about the dangers of tobacco.

The Rexanna Foundation’s next annual fundraising event, Lone Star Huddle Up, an evening of food, fun and music in the Texas Hill Country, is scheduled Nov. 17. Ongoing fundraising projects include a growing slate of 5K runs (four scheduled for spring 2012) and Cookies for a Cure, a bake sale program.

A promise kept

Spain thinks her friend would be amazed at what the foundation has accomplished so far. “Rexanna would be shocked, just blown away,” Spain says. “She had the most amazing heart and was so giving, and she would be really impressed.

“She would probably say, ‘You know, all this deserves a glass of great red wine.’”

Strong bond endures in legacy of caring

By Dawn Dorsey

Lisa Spain and Rexanna Hawkins were the closest of friends, sharing a love of travel, sports, theater — and the occasional glass of a good red wine.

Although Hawkins died in 2006 at the age of 49, two months after she was diagnosed with cancer, the spirit of their friendship and Hawkins’ courage lives on through Rexanna’s Foundation for Fighting Lung Cancer, which Spain established to honor her friend.

Spain, executive director, uses her considerable energy, fueled by the memory of Hawkins, to lead volunteers through an ambitious schedule of fundraising events. The group, which includes Hawkins’ family and friends, has given MD Anderson more than $350,000 to to support lung cancer research and increase awareness of the disease. It also awards college scholarships to children whose lives have been touched by cancer.

Journey began with research

Spain and Hawkins met in 1997, when both worked as girls’ athletic coordinators in a school district west of Austin. They quickly clicked, and by the time Spain and her husband moved to Houston in 2000, the two women had formed a close bond.

Hawkins had never smoked and was in excellent health, so it was a shock when she was diagnosed with lung cancer. Spain quit her job to support Hawkins during her treatment at MD Anderson. Their first step was to research lung cancer.

“The information was limited and all ‘doom and gloom,’” Spain says.

A last wish, a new beginning

Spain accompanied Hawkins on almost every appointment at MD Anderson, and what she saw made a big impression.

“We were impressed by the compassion and empathy of everyone there,” Spain says. “There’s such a passion for making a difference and helping others. We were grateful for the attention to detail that really helps guide you through the process.”

A few hours before Hawkins died, she and Spain had one last heart-to-heart.

“Rexanna wanted me to do something for lung cancer research,” Spain says. “We both felt strongly that we wanted to help people who aren’t as fortunate as we were to have a strong support network, and we agreed it was important to educate people about lung cancer and give back to MD Anderson.”

iPromise

Demos T. Kyrazis, Ph.D., lives in Albuquerque, N.M. Following his third retirement in 1993, he and wife Joanne founded R-Cubed Inc., an engineering firm specializing in precision measurements of optical turbulence in the atmosphere, aero-optics and efficient extraction of wind energy. He served in the United States Air Force for 30 years, retiring as a colonel. He received his doctorate degree in applied science from the University of California, Davis and holds a number of patents. He is a survivor of hairy cell leukemia and currently a prostate cancer patient at MD Anderson. He is on the Intellectual Property and Technology Commercialization Advisory Group of the MD Anderson Cancer Center Board of Visitors.

In 1983, two days before Christmas, a routine flight physical resulted in a diagnosis of hairy cell leukemia. My doctor explained that the available treatment would kill me before the leukemia did. He estimated a two-year life expectancy. Thankfully, a couple of weeks later, he read a paper in the New England Journal of Medicine describing the remission of seven hairy cell leukemia patients treated at MD Anderson with alpha interferon. I agreed that, if accepted, I would participate in any future study. On Feb. 29, 1984, I became patient No. 6 in the drug’s second clinical trial. MD Anderson’s multidisciplinary approach impressed me then, and I continue to believe that it’s one of the few places in the world that have the collection of talents to properly approach the cancer problem. Because of that, here I am. At age 81, I’m blessed to be able to maintain a heavy technical work schedule — and recently agreed, tentatively, to retire perhaps by 90. Those who know me say they’re not taking bets.

Do you promise? Tell us why you’re committed to Making Cancer History®. Email Promise@mdanderson.org.
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