# Dynamic Duo

*When Francis Crick and James Watson started working together at Cambridge University in 1951, neither imagined they'd discover the structure of DNA—and usher in a revolution in molecular biology and genetics.*

OMRF

# 2014 Annual Report

## The power of pairs at OMRF























*President's Letter*

# When 1+1=3

It's simple math. One and one makes two.

Or does it? Because when it comes to creativity and innovation, the whole can exceed the sum of the individual parts.

Take, for example, the pairing of a young geneticist and a 35-year-old graduate student in molecular biology. Working together in a lab at Cambridge University in the early 1950s, these two budding researchers with slim resumés made perhaps the most important scientific breakthrough of the 20th century: Francis Crick and James Watson (with help from Rosalind Franklin and Maurice Wilkins) discovered the structure of DNA.

This joint discovery would prove to be the basis of modern genetics. It would eclipse anything that either Watson or Crick accomplished individually in the half-century that followed.

Something magical, it seems, can happen when you put a pair of insightful, industrious people together. Yes, each brings special tools to the table. But when they pool their talents to focus on a single problem, it's almost as if that combination creates something extra.

Creative partnerships come in different stripes. You'll find competitive collaborations, where two people with similar skill sets work jointly yet, at the same time, seek to outdo each other. That tension—part intellectual race, part mutual inspiration—can fuel the fires of innovation.

John Lennon and Paul McCartney represented the prototypical competitive collaborators. Together, the songwriting duo penned "Yesterday," "Hey Jude" and "A Day in the Life." Their post-Beatles solo careers yielded "Mother" and "No More Lonely Nights." Need I say more?

*Something magical happens when a pair of insightful, driven people team up.*

More frequently, though, creative duos fit what I'd call the complementary model. In this approach, two people with distinctly different skill sets work in tandem. When successful, the partnership soars to heights the individual partners could not have reached alone.

Think Richard Rodgers (music) and Oscar Hammerstein (lyrics), who collectively fathered "The Sound of Music," "South Pacific" and, of course, "Oklahoma!" Or Steve Wozniak, a master programmer, who joined with Steve Jobs, a marketing and sales visionary, to create Apple.

While there are still solitary geniuses, the challenges we face in medical research have grown mind-bogglingly complex. So it is rare, indeed, that all the expertise and resources needed to tackle a problem lie within one individual.

That's why, for the Oklahoma Medical Research Foundation's 2014 annual report, we've chosen to focus on partnerships at OMRF. Specifically, twosomes.

In these pages, you'll learn about lab researchers working with physicians. Philanthropists teaming with scientists. Even husbands joining forces with wives.

By joining together to work toward common goals, our chances of success grow exponentially. That, in a nutshell, is the power of two.

Stephen M. Prescott

Stephen M. Prescott, M.D.

# Odd Couple

Bob Axtell is clearly the Oscar of this pair: wild hair, baggy jeans and hiking boots (untied, of course). That leaves Gabriel Pardo, who favors dark suits, print ties and a carefully manicured goatee, to play the role of Felix.

"I guess you could say we don't have the same tailor," says Axtell with a laugh.

But the unlikely pair does share one important trait: a desire to help people suffering from multiple sclerosis. And that's led to a valuable scientific partnership between a physician (Pardo) who sees MS patients every day and a laboratory researcher (Axtell) who's dedicated his career to unlocking the secrets of this perplexing disease.

For most biomedical researchers, their only contact with patients comes in the form of blood, tissue or serum samples: tubes of faceless, nameless biologics delivered to their labs for use in experiments. But at OMRF, where his lab sits one floor above the Multiple Sclerosis Center of Excellence, Axtell regularly sees the toll MS exacts on those it strikes. The disease robs sufferers of balance, muscle control and sometimes sight.

"Bob encounters our patients on a daily basis," says Pardo. "It provides him with a true reality check, because he gets a tangible picture of the desperate need for a better understanding of this complicated disease."

In the lab, Axtell focuses on how certain therapies behave differently in patients with MS from people with other autoimmune diseases like lupus and rheumatoid arthritis. Through regular interaction with Pardo, who treats thousands of patients each year, Axtell is gaining valuable insights into the workings of the disease and effectiveness of different treatment regimens.

"By combining laboratory research with clinical observations, we're learning more about how MS begins and progresses," says Axtell. "And that's information I can plug back into my research."

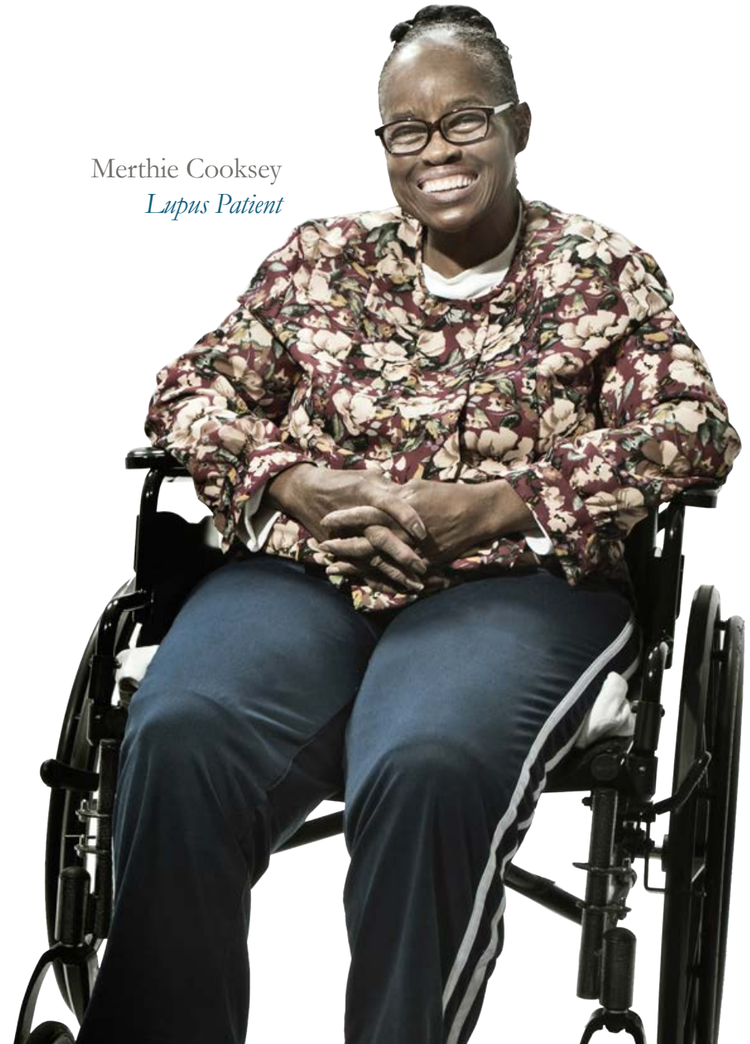
The effect on his work, says Axtell, is profound. "Without my involvement with Dr. Pardo and the clinical staff, my job mostly would center on mice and writing papers about what might happen in humans. But what I'm doing now is taking it another step further by confirming our laboratory findings in humans."

The whole feedback loop—information flowing from the clinic to the lab and then back to the clinic—has had a remarkable impact on the treatment landscape for MS, says Pardo. "New therapies are coming out, and we're part of that. I've never seen a revolution of this kind in any other disease process as dramatic as what we're seeing and will continue to see with multiple sclerosis in the coming years."

Each new treatment that arrives in the clinic also brings fresh insights and questions. So OMRF's unlikely pair will continue to compare notes on how best to reach their shared scientific goal.

"We constantly ask ourselves where MS will be five or 10 years from now," says Axtell. "What will patients need then? By talking together today, Gabriel and I can push the science and the clinical aspects forward more quickly." In the end, MS patients will reap the rewards.

# Parallel Lives



Merthie Cooksey
*Lupus Patient*

For the past decade, Merthie Cooksey and Linda Prince have been working together. But until they came together to pose for these photos, they'd never met.

Both volunteer for research studies at OMRF: Cooksey as a lupus patient, Prince as a "healthy control." Each plays a vital role in helping scientists bring new treatments to the people who desperately need them.

To understand a disease, researchers contrast what's normal with what changes when illness strikes. By using biological samples, typically a few vials of blood, from healthy volunteers (or controls), scientists can compare them to samples from affected individuals. This information not only helps scientists gain new insights into illness but also, ultimately, becomes a building block for developing new therapies.

Prince, a long-time OMRF employee, can't remember what, exactly, got her to start volunteering as a healthy control. But once she began, she found the process was easy. "I'm not afraid of needles, and I have good veins," she says. "It usually takes about 15 or 20 minutes to do all the paperwork and give the blood sample. Sometimes it's even faster."

She receives a small reimbursement—usually $20—for her time. More importantly, she says, "It makes me feel good to know I'm part of the team that might find cures someday."

For Cooksey, new lupus treatments can't arrive soon enough. She first came to the foundation when mounting health issues led her primary care doctor to refer her to OMRF's research clinic. She'd never heard much about lupus until her diagnosis was confirmed by Joan Merrill, who heads OMRF's Clinical Pharmacology Research Program and also serves as medical director of the Lupus Foundation of America.

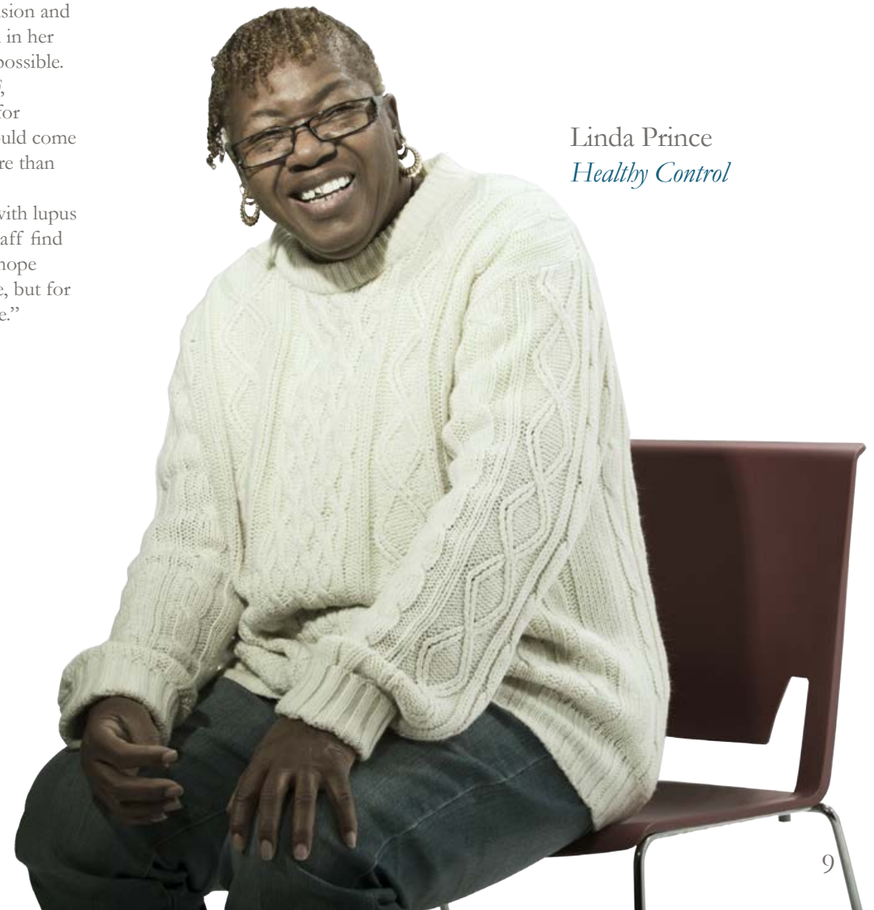
"Dr. Merrill told me then they didn't know the cause of lupus," says Cooksey. "But she promised to take care of me, and she has."

Since then, lupus has been Cooksey's constant companion, her body often under attack from head to toe. She suffers with blurred vision and breathing issues. And excruciating pain in her legs often makes the simplest tasks impossible.

Throughout her treatment at OMRF, Cooksey has also chosen to volunteer for research studies. If something good could come of her plight, she decided, she was more than happy to help.

"It feels good to know I'm helping with lupus research, helping Dr. Merrill and her staff find the cause of this disease," she says. "I hope and pray she finds it, maybe not for me, but for whoever else might have it in the future."

*Lupus is a chronic autoimmune disease in which the body's immune system confuses healthy cells with foreign substances, like viruses and bacteria, and attacks the body's tissues and organs. According to the Lupus Foundation of America, the disease affects more than 1.5 million Americans and 5 million people worldwide. About 90 percent of those diagnosed with lupus are women, and the disease is two to three times more prevalent in women of color.*



Linda Prince
*Healthy Control*

# Joint Venture

*"Contracts, intellectual property, negotiations—the majority of scientists aren't trained to handle that."*

When it comes to research on autoimmune diseases, Kathy Sivils is recognized around the world. She was the first scientist to launch a large-scale, genome-wide association study of patients with Sjögren's syndrome, when the body mistakenly destroys its own moisture-producing glands. She's also led an international coalition of researchers that identified six new genes related to the illness.

But for all her scientific successes, she admits she's mystified by the next step in the process: How to take a laboratory discovery and transform it into a diagnostic test or a treatment for patients.

"Scientists are trained to write grants and publish research papers," says Sivils, a Bartlesville native who joined OMRF in 2007 after spending a decade as a researcher at the University of Minnesota. Developing a clinical application typically requires tens or even hundreds of millions of dollars. It also calls for expertise in a wide range of areas—synthetic chemistry, medicinal chemistry, pharmacology—not possessed by a nonprofit medical research institute like OMRF.

In other words, it requires the help of a pharmaceutical company. "But I have no idea how to reach out to a drug company or develop a partnership with one," says Sivils.

Enter Manu Nair.

Nair joined OMRF in 2014 as OMRF's vice president of technology ventures. With an MBA, a master of laws and a decade of building partnerships between industry and nonprofit researchers, he has a wealth of contacts and experience he can use to help stimulate interest from the world of biotech and pharma.

"Our scientists are consistently making breakthroughs in understanding autoimmune diseases, cancer, heart disease and other vital areas," Nair says. "I help bring those discoveries to the world and find new funding sources to make sure our researchers have the resources they need to continue their important work."

For Nair, it's simple. "Kathy's the builder; I'm the realtor. Without her work, there's nothing to sell." Soon after his arrival, Nair helped put together a research funding deal for Sivils with a major drug company.

"I'm dazzled by Manu's marketing skills when we get on the phone with a company," says Sivils. "He gets everyone excited, and everything happens quickly. He handles the details, and that helps the science move faster."

In the project, Sivils and her colleagues are looking for biomarkers, substances that indicate the presence of disease, in Sjögren's patients that could identify how well each will respond to a specific drug. The researchers are analyzing patient samples to try to pinpoint which biomarkers make them good candidates for specific medications before they actually begin treatment.

The final product, they hope, will be a test to identify patients likely to respond to a particular course of treatment for Sjögren's.

"Kathy's lab probably has the best and most complete cohort of Sjögren's samples and data of any research lab in the world," says Nair. "That will be a major asset as we move forward with this project."

Industry-sponsored research represents only a tiny piece of the funding pie for OMRF; the vast majority of the foundation's support still comes from philanthropy and competitive grants. Still, says Nair, "The more success we have, the more likely we are to build a reputation as a great place to go for partnerships. That adds value, not just to Kathy's research, but to OMRF, as well."

In an extremely challenging funding environment, Sivils appreciates Nair's help in finding new sources of support for her research. "It's like a breath of fresh air to have Manu here to navigate those waters for us," she says.


# Lab Partners

Almost two decades ago, as a young scientist, Lijun Xia launched a daunting, labor-intensive project no one at OMRF had yet attempted: to create a "knockout" mouse.

The idea was that by engineering a rodent that lacked a specific gene—one that Xia suspected was involved in inflammation—he could then study the mouse and see the differences between the animal and its normal counterparts. Any differentiation would be attributable to the knocked-out gene, and by inference, he could better understand the function of the missing genetic material.

At the time, says Xia, technology existed that made this project plausible. But there was one small hurdle. "No one in Oklahoma had ever done this," he says.

Xia knew he'd need help on this challenging project. But as a junior scientist, he didn't have any staff of his own. Fortunately, his mentor was kind enough to assign a technician to assist him with the project.

That technician, Mike McDaniel, proved more than up to the task. "We had to start from scratch, so I needed someone organized, focused and dedicated," says Xia. "Most importantly, Mike, who was raised on a farm, has a great pair of strong, yet skillful hands."

The project required breaking down cell clusters, and the pair pipetted—the process of transferring tiny amounts of cells from one container to another using a small tube—for hours on end. "We would trade off when our thumbs finally gave out," says McDaniel. All told, McDaniel and Xia spent nearly two years on the research. "But it was worth the effort," says McDaniel.

The mouse they created revealed a novel function for the gene they'd knocked out. Their ensuing research paper, published in the influential *Journal of Clinical Investigation*, cast new light on the process of inflammation and established Xia as an authority in the field.

The experience also cemented the relationship between Xia and McDaniel. It's a partnership that continues to thrive, albeit with each in slightly different roles: Xia as lead researcher in charge of his own laboratory and McDaniel as his lab manager.

Xia's lab now consists of 10 employees who study the role of inflammation in conditions like colitis, colon cancer and vascular disease. While Xia serves as a sort of lab CEO, plotting the general course of the research, he devotes most of his time to preparing research papers and grants that provide funds for the work. So he entrusts the day-to-day operations of the lab to McDaniel.

"We tend to have a lot of projects underway and many people to manage," says Xia. "Mike is committed to getting those projects finished, whatever it takes. He gets things done."

In addition to his steady hands, McDaniel is also a whiz with the confocal microscope. But perhaps his defining skill is juggling.

McDaniel manages lab personnel from graduate students to staff scientists. He makes sure all the equipment stays in working order and the lab is always amply stocked with supplies for experiments. He also maintains lab data and monitors the budgets and experiments associated with three separate National Institutes of Health grants.

*"Working without Mike would be like working with only one hand."*

Somehow, McDaniel manages to keep all the balls in the air. In the process, he's helped Xia author scores of research papers and make discoveries that stand poised to help patients.

With recent new projects focusing on the role of a protein (called podoplanin) in the cardiovascular and lymphatic systems, the laboratory is staying as busy as ever. And that's just the way Xia and McDaniel like it.


# Lessons Learned

Mentor. The term finds its roots in Homer's "Odyssey." And in keeping with its classical origins, it conjures time-worn images of silver-haired elders imparting wisdom to eager but naïve apprentices.

That picture, says Luke Szweda, is really only half-right.

"Yes, students learn from their mentors. But just as importantly, our students teach us."

Like just about every successful scientist, Szweda has relied on graduate students since he began running his own lab in the 1990s. The relationship is a symbiotic one: He trains his students to become scientists, and they bring fresh ideas and energy that fuel his lab.

Over the years, the OMRF scientist has mentored many burgeoning researchers in his lab. Szweda's current protégé, Clair Crewe, is a perfect example of the value of the student-mentor relationship, he says.

A native of Zimbabwe, Crewe lived in Calgary before following a friend to Oklahoma for college. When she decided to pursue a Ph.D. in biochemistry and molecular biology, she chose the University of Oklahoma Health Sciences Center.

Since the mid-1950s, OMRF has joined with OU to provide laboratory experience to graduate students. Although OMRF itself doesn't grant degrees, the time students spend working in OMRF labs counts toward graduation requirements.

This arrangement gives OMRF researchers the chance to work with students one-on-one and train them for future careers in research. For Crewe, it has meant five years of in-depth laboratory work and a chance to learn how to be a researcher, with Szweda leading the way.

"Luke has played such a big part in my development as a scientist," says Crewe. "When an experiment has failed, he's taught me how to pick up the pieces, to find something useful from failure. I'm a completely different person now from when I started five years ago."

Together, Crewe and Szweda study how eating foods rich in fat changes the metabolism of the heart and whether that diet promotes cardiovascular disease over time. They also look at the role of heart metabolism in obesity, where the mortality rate from cardiovascular disease is high.

Crewe, says Szweda, has helped ensure his research didn't go astray. "Scientists can get short-sighted in our views and stuck on our hypotheses," says Szweda. "We know what we hope to find, so that's where we focus. But that's the beauty of having a student like Clair, who has an innate hunger for challenging what she sees. She asks the tough questions."

The idea of questioning authority didn't come easily to Crewe, though. "As a student, you tend to believe if something is published in a paper, it must be right. But now I know that's just one person's interpretation."

But Crewe brought much more than a probing intellect, says Szweda. "She also has specific skill sets I lack."

For instance, in her studies at OU, she'd learned how to "silence" a gene, a technique that holds significant potential for treating an array of diseases. "Genetic manipulation? That's foreign to me," says Szweda. And so the student became the teacher.

With Crewe's studies at OU now finishing up, she'll soon begin a post-doctoral fellowship. That means moving on to a new institution, either to Florida to study cancer or to the University of Texas Southwestern Medical School in a lab that researches both cancer and fat cells.

Whichever she chooses, she hopes it will serve as a stepping stone to one day running her own lab, where she'd make new insights about human disease. And, of course, train yet another generation of scientists.

Szweda feels confident that Crewe is ready to fly on her own. "As hard as it will be to see Clair go, this is exactly how it should be. To send a student off to take the next step in her career, knowing she's thinking for herself and doing something with her life she loves, is incredible."

# For Better

*He's the big-picture thinker. She's the stickler for details.*

As newlyweds, Chuck and Naomi Esmon made a promise to one another: We will never work together.

"By staying in different fields, if one of our careers failed, we'd have the other to keep us going," says Chuck. "Plus, she didn't want to work with me, because I had a reputation of being impossible."

For a half-decade, the young scientists kept their oath, maintaining separate laboratories and research interests. Work was work, and home was home. It was all going just fine until 1979.

That was the year Chuck made a big breakthrough, discovering a key component in the process of blood clotting. Although this major finding would ignite his scientific career, it also created an acute crisis in his lab.

"At that point, I didn't have the personnel I needed to take the project to the next level," he says. So he turned to Naomi.

A native New Yorker, she was not only an accomplished scientist, but she possessed certain skills her husband (who grew up in rural Illinois) lacked. "Chuck's forte is dealing with unknown proteins and solving problems," says Naomi. "But someone had to keep the lab running, the progress reports submitted on time, and all the data in order. I took care of all those details so he could keep thinking big thoughts."

The arrangement, it turned out, worked pretty well.

In the ensuing 35 years, their partnership has yielded countless insights into heart disease, blood coagulation and inflammation. That research has given birth to a pair of drugs: one to treat sepsis, the other for children suffering from a life-threatening protein deficiency. And an experimental treatment for hemophilia is in the pipeline.

"We share the responsibility for making our work the best we possibly can," says Chuck.

The scientific achievements have led to numerous accolades for him: a Howard Hughes Medical Institute investigator designation; a MERIT Award from the National Heart, Lung and Blood Institute; and selection for membership in the National Academy of Sciences. In November, the American Heart Association recognized him as a Distinguished Scientist for his "significant, original and sustained contributions" to the field.

Those plaudits, though, says Chuck, "are not mine. Or hers. They're ours."

In addition to research, the Esmons have shared many other passions: skiing, deep-sea diving, underwater photography and dogs. And as scientists, they treat every hobby and pastime as a potential learning experience. Even pet ownership.

"Once we were at home yelling and screaming—all directed at a third person—and our dogs apparently thought we were fighting with each other," says Naomi. "So they began to fight, too."

Their frustrations from the lab, the couple realized, were rubbing off on their dogs. So they made yet another pact: Work issues stay at work.

That agreement has played a big role in keeping their unions, both scientific and marital, healthy and rewarding. Sometimes, it seems, the key to a successful partnership lies in knowing which promises to keep.

Holly Van Remmen
*Researcher*

Outliving a child is every parent's worst nightmare. For Jean Pape Adams, that nightmare became real when her only daughter, Judy, was diagnosed with amyotrophic lateral sclerosis, or Lou Gehrig's disease, in 1996. Judy died four months later.

Shortly before Jean Pape Adams herself passed away in 2003, she created the Judith and Jean Pape Adams Charitable Foundation. Per Jean's instructions, a significant portion of the Tulsa-based foundation's annual charitable distributions would be used to support research on ALS.

Much of the responsibility of realizing Jean's vision fell to Kathie Coyle and Marcia Manhart, whom Jean named as co-trustees of the foundation. For more than a decade since, Coyle and Manhart have directed foundation funds to projects aimed at identifying the causes of the neurodegenerative disease, which usually paralyzes and ultimately kills all of its victims.

"We only fund between two and six research projects a year," says Coyle, who was Jean's long-time attorney. "And we're always looking for research that is innovative, aggressive and novel." That rare combination, she says, is something "we found in Dr. Holly Van Remmen's work at OMRF."

Van Remmen studies sarcopenia, the age-related muscle deterioration that parallels some processes involved in ALS. With support from philanthropic partners like the Pape Adams Foundation, Van Remmen can delve into new, untested ideas in the lab.

# Target: ALS

*ALS affects an estimated 30,000 Americans. The disease attacks motor neurons in the brain and spinal cord, resulting in the loss of motor function. Early symptoms typically include muscle weakness and difficulties with speech, swallowing and breathing. When muscles no longer receive messages from the motor neurons, patients become totally paralyzed. The disease is always fatal.*

"Once you get the motor neuron degeneration, weakness and atrophy, sarcopenia and ALS can look very similar," says Van Remmen. "In this project, we're taking sarcopenia, something we know is related to aging, and applying it to ALS. If we can pinpoint the processes involved in disease development, it could lead to new therapeutic targets."

Large granting agencies like the National Institutes of Health tend to fund projects that are well on their way, with data in hand and an existing track record of success from the researcher. So smaller gifts from private sources offer flexibility to scientists by letting them chart new and unexplored research paths.

"Funding from private gifts like my grant from Pape Adams can help develop seed ideas into concepts that can result in additional funding from other sources in the future," says Van Remmen.

Of course, every hypothesis won't hold up. "But even when you disprove a hypothesis, it gives you more ideas and takes you in new directions," says Van Remmen. "With Pape Adams funding, we have the potential to answer a lot more questions about ALS and aging."

"Often it just takes one new finding to make a real breakthrough," says Coyle. "That one finding also may come to help dozens of other diseases."

Jean Pape Adams' wishes remain at the top of Coyle and Manhart's priority list. "We're committed to finding the best research, the work that will do the most good," says Coyle. "It's a wonderful bonus for us that this excellent work is happening right here in Oklahoma."

Katherine Coyle
*Trustee*

Kathleen Moore
*Physician*

Alana Welm
*Scientist*

# Taming Cancer

By the time Kathleen Moore meets her patients, they're facing a diagnosis of ovarian cancer. As a gynecologic oncologist at the University of Oklahoma's Stephenson Cancer Center, Moore uses a variety of different approaches—surgery, chemotherapy, radiation, hormone therapy, targeted therapy—to try to save their lives. Despite her efforts, though, she does not always succeed.

"So often, our patients experience multiple recurrences of cancer," she says. "We stick with them and launch an all-out offensive against their disease. But even with the best options we have, many times the outcome is bleak, especially when their cancer spreads."

So how, Moore has often wondered, can she best utilize the wide range of existing therapeutic options to give her patients the best chances to survive?

This quandary also represents the central focus of Alana Welm's research at OMRF.

"In many cancers, we take a sledgehammer approach to treatment," says Welm. "Some cancer drugs have devastating side effects. We're also learning they often have more than one target—genes, proteins or the tissue environment, all of which can contribute to the growth and survival of cancerous tumors.

"So now we're teaming up with physicians like Katy to try to pinpoint exactly which drugs will work and which won't in a particular tumor type."

With the cooperation of patient volunteers, Moore collects samples of ovarian tumors removed during surgery. Then, using a procedure called xenografting, Welm's research team at OMRF implants the tumors into mice.

With the help of these mouse "avatars," or stand-ins for human patients, Welm and her team can observe the tumors' growth and try a variety of treatment options. That information, they hope, will assist Moore and other physicians in determining which courses of therapy will work best for the individual human patients.

Known as precision medicine, this personalized approach to treatment represents a departure from traditional models of cancer care. "Right now, we can guess which therapy will work in a particular case, but if we're wrong, the patient pays the price," Moore says.

Although Welm knows the project's success is far from guaranteed, she's particularly excited about the potential to impact the lives of people suffering from a life-threatening disease. "It's a huge challenge in science to move forward to the next level, where you see patients benefit from your work," she says. "Without this opportunity to work with Stephenson's physicians, we probably couldn't meet that challenge."

For Moore, the collaboration has opened new vantage points on how she cares for her patients. "The disease we once called cancer we now know is probably many other conditions," she says. "Working with Alana has changed the way we think about our approach to cancer treatment."

*When an OMRF researcher teams up with an OU physician, patients win.*

Over time, Welm and Moore hope to expand their collaboration into breast and other cancers. The partnership, says Welm, helps provide incredible learning opportunities for both researcher and physician.

"It makes us better scientists, pushes us to new realms," she says. "It gives us a much broader perspective of the power of research."

The ultimate winners, both agree, will be the patients.

# 2014 In Review

## Rockin' for Research

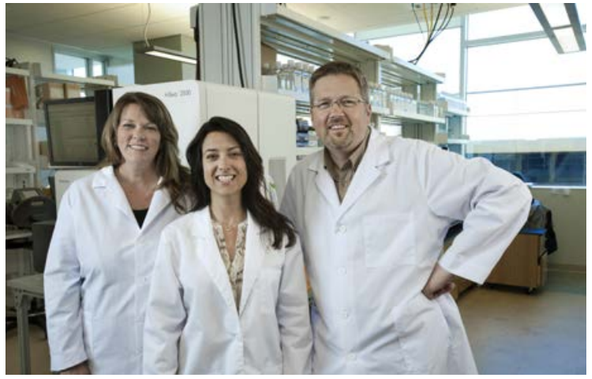
The worlds of country music and rock 'n' roll collided at OMRF in June when legends **Vince Gill** and **Alice Cooper** took the stage to raise money for the foundation. The two music superstars joined forces at OMRF's annual 241 ("Two events for one great cause") benefit, which featured a golf tournament in addition to a music and wine festival. The benefit raised $673,000, with proceeds funding cancer research at OMRF.

## Accolades

In honor of his many contributions to cardiovascular research, which include crucial insights into blood clotting that led to the creation of two new drugs, the American Heart Association recognized **Dr. Charles Esmon** as a Distinguished Scientist. The distinction places him among "a prominent group of scientists and clinicians whose work has importantly advanced our understanding of cardiovascular diseases and stroke."

The Lupus Foundation of America recognized **Dr. Eliza Chakravarty** with its Mary Betty Stevens Young Investigator Prize in November. Chakravarty, who joined OMRF in 2011 from Stanford University, received the prize for "extraordinary achievements in lupus research." Her work focuses on studying vaccine responses in lupus patients and improving pregnancy outcomes for women who suffer from the autoimmune disease.

## Autoimmunity Center of Excellence



For the second time, the National Institutes of Health designated OMRF an Autoimmunity Center of Excellence. OMRF joins academic medical centers such as Harvard and Stanford as one of only 10 ACE sites nationwide. The designation also brings with it significant research funding for OMRF. Dr. Judith James leads a team of OMRF scientists and physicians, which includes **Drs. Kathy Sivils, Courtney Montgomery** and **Patrick Gaffney**, who will use the grant to help advance understanding and treatments for conditions such as lupus, Sjögren's syndrome and multiple sclerosis.

## Chickasaw Lab Dedication

The Chickasaw Nation has taken a lead role in supporting health initiatives throughout the State of Oklahoma. As part of that effort, the tribal nation made a significant gift to support the expansion of cancer research programs at OMRF. The donation created the Chickasaw Nation Laboratory for Cancer Research, a newly renovated lab facility where OMRF scientists focus on identifying therapeutics for cancer. At the dedication, **Gene Rainbolt** and **Christy Everest**, co-chairs of OMRF's cancer fundraising campaign, joined Chickasaw Nation **Gov. Bill Anoatubby** and **Dr. David Jones**, who leads OMRF's Immunobiology and Cancer Research Program.

## It's Good to be Green

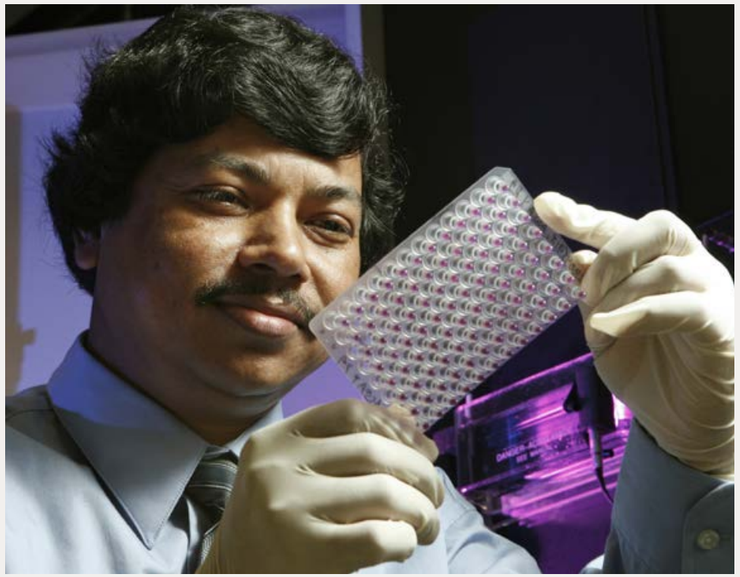

**OMRF's research tower** received the 2014 S-Lab Award for best new research laboratory. Short for "safe, successful, sustainable," S-Lab presented the prize at its "Supporting World Class Science" conference at Kings College, London. The tower was selected from a pool of more than 30 international entries.

The 186,000-square-foot facility opened in 2011 and received LEED Gold certification. Features include chilled beam technology to reduce heating and cooling needs and a green roof made up of native Oklahoma plants to contain storm water discharge. The tower is also designed to capture as much natural sunlight as possible to reduce electric lighting. With a rooftop wind farm consisting of 18 DNA-shaped turbines, it is believed to be the world's first building to incorporate vertical turbines into its original design.

## Granting Favor

Although national competition for federal research funding has grown fiercer than ever due to budget constraints, OMRF scientists continued to excel in securing National Institutes of Health grants. In 2014, they earned or renewed a dozen NIH grants that will fund a spectrum of research initiatives in illnesses such as cancer, flu and lupus.

Among the new grants was an award to Dr. Gary Gorbsky, who will study the role of cell division in chromosome instability and its role in increased malignancy and resistance to therapy in cancer. Dr. Susan Kovats will use her grant to examine specialized cells in the immune system and how they react to the influenza virus. And a five-year grant awarded to **Dr. Swapan Nath** will fund a specialized project in health disparities in minority populations, specifically African Americans, stemming from the disease lupus.



# How we spend a charitable dollar


## 77.4%

### *Research*

In nine separate programs, OMRF researchers study a wide array of disease topics, including cancer and brain diseases, cardiovascular disease and autoimmune conditions such as lupus and multiple sclerosis. Research at OMRF benefits people throughout Oklahoma, the United States and the world. Our research, published in the world's leading scientific journals, deepens the ability of scientists and physicians to understand and fight life-threatening illnesses.

## 14.3%

### *Patient Operations*

In keeping with our mission of helping more to live longer, healthier lives, OMRF moves new discoveries from the laboratory to the clinic and the patients who need them. In our onsite clinics, we focus on caring for patients with autoimmune diseases and enhancing our understanding of these disorders for future generations. In 2014, OMRF clinics recorded more than 6,000 patient visits. And with 39 clinical trials underway, physicians are bringing the next generation of medications to patients who need them most.

## 8.3%

### *Administrative Costs*

For a nonprofit organization like OMRF, administrative costs are a bit like golf scores: lower is better. Our team of accountants, fundraisers, IT professionals and other administrative employees is essential to supporting the research and clinical arms of the foundation, but we work hard to streamline the costs in those areas. Nonprofit success is often measured by how little an organization devotes to administrative costs while simultaneously continuing to achieve its core goals. OMRF's single-digit percentage of administrative expenses places us in an elite group of nonprofits.



# Selected Financials

OKLAHOMA MEDICAL RESEARCH FOUNDATION
Selected Financial Information - Operating Fund

| | 2012-13 | 2013-14 |
|---|---|---|
| OPERATING REVENUE: | | |
| Competitive research grants: | | |
| National Institutes of Health grants | $ 27,314,110 | $ 29,028,222 |
| Other competitive research grants | 6,470,648 | 7,350,57 |
| Total grants | 33,784,758 | 36,378,793 |
| Private contributions: | | |
| Income and gifts from trusts | 6,860,429 | 6,893,689 |
| Gifts and bequests | 635,344 | 143,980 |
| Contributions | 1,632,785 | 1,736,405 |
| Memorials | 755,710 | 696,895 |
| Total private contributions | 9,884,268 | 9,470,969 |
| Special event revenue: | | |
| Ticket sales and sponsorships | 595,390 | 607,523 |
| Less: direct costs of event | (326,736) | (212,420) |
| Net revenue from special events | 268,654 | 395,103 |
| Other revenue: | | |
| Clinical revenue, net of provisions for contractual and other adjustments | 3,091,109 | 5,774,897 |
| Interest and investment income | 1,358,721 | 740,421 |
| Mineral income | 1,183,571 | 1,707,443 |
| Rent | 499,780 | 401,597 |
| Royalties and licensing income | 384,216 | 818,689 |
| Loss on disposal of assets | 62,164 | (72,323) |
| Other | 1,440,557 | 1,756,518 |
| Total other revenue | 8,020,118 | 11,127,242 |
| Total revenue | 51,957,798 | 57,372,107 |
| Operating revenue from wills, pledges and other restricted gifts recorded in prior years | 5,440,188 | 6,864,157 |
| TOTAL OPERATING REVENUE | 57,397,986 | 64,236,264 |
| OPERATING EXPENSES: | | |
| Program Services - Research | 45,628,999 | 46,613,009 |
| Program Services - Clinic operations | 6,374,088 | 8,608,451 |
| Support Services - General and administrative | 3,958,264 | 5,034,456 |
| Total operating expenses | 55,961,351 | 60,255,916 |
| EXCESS OF REVENUES OVER EXPENSES | $ 1,436,635 | $ 3,980,348 |

# Discoveries Campaign

Launched soon after Dr. Stephen Prescott joined OMRF as our ninth president in 2006, the $125 million Discoveries Campaign is helping to fund the largest expansion in the foundation's 69-year history. The keys to this initiative are the recruitment of a new generation of scientists and the construction of a new research and clinical facility to house them.

In 2011, with the opening of a new, eight-story research tower and $85 million raised to pay for the construction, we completed phase I of our efforts. We are now in the midst of phase II: a $40 million initiative comprised of three smaller, targeted mini-campaigns to help recruit new world-class scientists to OMRF.

Now in its third year, the Multiple Sclerosis Campaign already has provided funds to bring a lab-based MS researcher to OMRF, as well as an additional physician to join the clinicians treating patients with the complex disease. When complete, the MS Campaign will fund additional laboratory space, pilot projects and patient care resources.

The Cancer Campaign has allowed us to recruit new cancer researchers to OMRF. These scientists are partnering with physicians at the University of Oklahoma's Stephenson Cancer Center to apply novel techniques for treating breast, colon and ovarian cancers. Funds also have helped establish the Center for Functional Genomics, where scientists study genetic mutations in zebrafish to pinpoint new ways to treat human forms of cancer.

In 2015, we'll launch the Cardiovascular Campaign and expand heart disease research programs at OMRF. The initiative will target funding for the addition of researchers whose work emphasizes translational research: transforming laboratory breakthroughs into clinical applications.

By completing the Discoveries Campaign, we can ensure Oklahoma stays on the leading edge of biomedical research. And that OMRF scientists continue making discoveries that make a difference.

## Phase II Mini-Campaigns

### Multiple Sclerosis Campaign - $8 million
Co-chairs: Nancy Ellis and Jim Morris

### Cancer Campaign – $15 million
Co-chairs: Christy Everest and Gene Rainbolt

### Cardiovascular Campaign – $10 million
Co-chairs: Hiram Champlin and Bill Hawley


## Discoveries - Campus Expansion Phases I and II

### $5,000,000 and above
Association of Central Oklahoma Governments
Chapman Charitable Trusts
E.L. and Thelma Gaylord Foundation
National Institutes of Health
Samuel Roberts Noble Foundation, Inc.
State of Oklahoma Opportunity Fund

### $1,000,000 to $4,999,999
Mary K. Chapman Foundation
Mr. David J. Chernicky
The Chickasaw Nation
Hardesty Family Foundation
Hocker Foundation
Inasmuch Foundation
J.E. and L.E. Mabee Foundation, Inc.
Masonic Charity Foundation
Katie and Aubrey McClendon
New Source Energy Corporation
Presbyterian Health Foundation
Rainbolt Family
Records-Johnston Family Foundation, Inc.
Sarkeys Foundation
Stephenson Cancer Center
The Anne and Henry Zarrow Foundation

### $500,000 to $999,999
241 Event 2014 - Cancer
241 Event 2013 - Multiple Sclerosis
Choctaw Nation of Oklahoma
Virginia and John Groendyke
McCasland Foundation
Puterbaugh Foundation

### $100,000 to $499,999
Ann Simmons Alspaugh
Anonymous
Chesapeake Energy Corporation
ConocoPhillips
The Dillingham Family
Drs. Naomi and Chuck Esmon
William Randolph Hearst Foundation
The Kerr Foundation, Inc.
Patti and Don J. Leeman
Elaine and Harrison Levy
The Merrick Foundation
Lou Ann and Jim Morris
MS Bridge Fund
National Multiple Sclerosis Society
Glenn W. Peel Foundation
Susan and Stephen Prescott
Robert Glenn Rapp Foundation
Nancy and George Records
Dr. John H. Saxon, III

### $50,000 to $99,999
Linda and Lance Benham
Blue Cross Blue Shield of Oklahoma
Mr. and Mrs. Merrill B. Burruss, Jr.
Elizabeth and G.T. Blankenship
Nancy Payne Ellis
Clyde R. Evans Charitable Trust
Malinda Berry and Dick S. Fischer
William D. Hawley, M.D.
Courtney and Carl Holliday
The Herman G. Kaiser Foundation
Nadine and Frank A. McPherson

Gifts less than $50,000: $1,049,154



# OMRF Honor Roll

*Between January 1 and December 31, 2014, almost 6,000 individuals, corporations, foundations and organizations made gifts and pledges to OMRF. Each one of those donations made a difference. In this Honor Roll, we have recognized gifts of $500 and above. Your generosity makes life-saving discoveries possible.*

### $5,000,000 and above
Chapman Charitable Trusts

### $1,000,000 to $4,999,999
The Chickasaw Nation
E.L. and Thelma Gaylord Foundation

### $100,000 to $999,999
241 Event 2014 Proceeds - Cancer
Estate of Juanita Louise Bradley
Mary K. Chapman Foundation
Choctaw Nation of Oklahoma
Estate of Joan Agnes Coe
The Hocker Foundation
Inasmuch Foundation
Marvin and Ruth Lebow Medical Research Foundation
Linda F. Loughridge Family Trust
The J.E. and L.E. Mabee Foundation, Inc.
McCasland Foundation
The Merrick Foundation
New Source Energy Corporation
Estate of Frances W. O'Hornett
Presbyterian Health Foundation
Puterbaugh Foundation
Nancy and George Records
Records-Johnston Family Foundation, Inc.
United Way of Central Oklahoma
The Anne and Henry Zarrow Foundation

### $50,000 to $99,999
Allen Family Charitable Foundation/Elizabeth and Greg Allen
The Anschutz Foundation
Mr. David J. Chernicky
Wilma Davis-McElmurry Trust
Clyde R. Evans Charitable Trust
The Kerr Foundation, Inc.
Beth and Dale Matherly
Matherly Mechanical Contractors, Inc.
Katie and Aubrey K. McClendon
Putnam City Schools Cancer Fund
Dr. John H. Saxon, III

### $25,000 to $49,999
Ann Simmons Alspaugh
American Energy Partners, LP
Mr. and Mrs. Merrill B. Burruss, Jr.
Continental Resources, Inc.
Christy and Jim Everest
Fleming Scholarship - OCCF
Frontiers of Science Foundation of Oklahoma, Inc.
Ann Gibbons Trust
Virginia and John Groendyke
Carl E. Gungoll Exploration, LLC
Jessie Dearing Kinley Testamentary Trust
Richard K. and Ruth S. Lane Memorial Trust
Mrs. Dimple C. Mobbs
Glenn W. Peel Foundation
Madalynne L. Peel Foundation
Myra and Lew Ward

### $10,000 to $24,999
American Fidelity Assurance Corp./American Fidelity Foundation
Anonymous
Bethany Public Schools
Elizabeth and G.T. Blankenship
Cassandra Cavins and Charles K. Bowen
Leigh and J. Richard Bradley
Linda W. and Miles S. Brown
Becky and Jim C. Buchanan
Mrs. Carolyn P. Coffey
Devon Energy Corporation
Nancy Payne Ellis
Embassy Suites
Express Employment Professionals
The Ford Foundation
Harrison Gypsum, LLC
Heritage Trust
G. Ed Hudgins Family Fund - OCCF
Leslie S. and Cliff Hudson
The Herman G. Kaiser Foundation
King Family Properties
Kirkpatrick Foundation, Inc.
Sara and Jay Kyte
LaDonna and Herman Meinders
Lou Ann and Jim M. Morris
OMRF General Research - OCCF
Order of the Eastern Star Oklahoma Grand Chapter
William T. Payne Fund - OCCF
Cindy and Tom Riesen
The Jack O. Scroggins Charitable Foundation
Estate of William Adam Shwen
Betty and Charles O. Smith
Stillwater Senior High School
Mr. William H. Stoller
Mrs. Norma F. Townsdin
Mrs. Nancy Wienecke
Mrs. Frances E. Wilson
Estate of Evelyn Wynell Woodruff

### $5,000 to $9,999
Janice B. and D.C. Anderson
Anonymous
BancFirst
BankSNB
Linda and Lance Benham
Best Companies
Dee-Dee and Bart Boeckman
The Branstetter Trust
Harry and Louise Brown Foundation
Mr. and Mrs. Len B. Cason
ConocoPhillips
Valerie and David M. Craig
The Crawley Family Foundation
Cathy and Jed Dillingham
Duncan Oil Properties, Inc.
Susan and Carl E. Edwards
Ms. Tricia L. Everest
First Mortgage Company, LLC
French Family Charitable Foundation

Mr. and Mrs. Mark W. Funke
Ann F. and Bob H. Gilliland
David W. Gorham Gift Fund - OCCF
Mr. Gerald P. Green
Mr. Bret D. Hampton
Mr. and Mrs. Randy Hogan
Mr. Bill Howard
Lezlie and David Hudiburg
Mr. Gerald Jaquith
Jo and Clyde Charitable Fund - Fidelity Charitable Gift Fund
Mr. and Mrs. Wm. O. Johnstone
Fred Jones Family Foundation
Mr. and Mrs. Ed Kirby
Kirschner Trusts - OCCF
Barbara N. and Edward A. Krei
Mr. Albert Lang
Leidos Engineering, LLC
Dr. Bill P. Loughridge
Love Family Affiliated Fund - OCCF
McAfee and Taft
Nadine and Frank McPherson
Linda and Ron C. Merritt
NBC Oklahoma
Oklahoma Electrical Supply Company
W.C. Payne Foundation
Estate of Grace M. Plant
Putnam City North High School PTSA
Mr. Gene Rainbolt
Kim and David E. Rainbolt
Vicki and David B. Righthouse
Mr. and Mrs. Patrick Turner Rooney
Ms. Susan Ross and D. Randolph Brown, Jr., M.D.
Carolyn and Paul Schulte
Mr. and Mrs. Phillip Schultz
Jackie and Robert C. Tilghman
United Mechanical, Inc.
Traci and Gregory F. Walton
Mrs. Naomi Welty
Casey and Rainey Williams/Valari and Greg Wedel
Jay Wohlgemuth, M.D.
Mr. and Mrs. R. Deane Wymer

## $1,000 to $4,999

A to T Lamps, Inc.
Mr. Mike G. Adams
Ms. Mary Evelyn Adams
Mr. Harold L. Aebi
Judy and Winford Akins
Ms. Bebe Albers
Mrs. Leota Margie Amsey
Lou E. and E.R. Andrew
The Honorable and Mrs. Bill Anoatubby
Anonymous
Shelly and Gary Arnold
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Arvest Bank
Ms. Ann Asbury
Linda Athey and George W. Athey
Mr. Robbie Auger
Lou and Marshall Ault
Automatic Protection Systems Corporation
Cyndi B. and Jim H. Baker
Mr. and Mrs. Kenneth W. Baker
Brenda J. and Charley F. Ballou
Bank of Oklahoma
Carla G. and Mike Barber
Miss Betsy L. Barnes
Mr. and Mrs. Larry Bartlett
Kay and Jim C. Bass
Barbara and Dan Batchelor
Ms. Suzanne E. Baxter
H. Jean and Jimmy R. Bayles
Mr. and Mrs. Richard A. Beale
Ms. Elly B. Beard
Dr. and Mrs. William Lee Beasley
Mr. Ed Beasley
Joanne and Vernon Belcher
Sheryl and Bruce T. Benbrook
Mr. Andrew Bennett - The Benevity Community Impact Fund
Louise G. and Clay I. Bennett
Vickie and David L. Beyer
Mr. Mike Blake
Mrs. Mary C. Blanton
Mrs. Frances Boatright
Mr. and Mrs. Bruce Bockus
Mr. and Mrs. Chris Boeckman
Mr. and Mrs. Tony Boghetich
Ms. Zandra Boucher
Mr. and Mrs. John L. Bowen
Jana and Jon Bowers
Peggy and Del N. Boyles
Barbara and Rick Braught
Brett Exploration, LLC/Patti K. and John A. Brett, III
Gertrud and Neil Briix
Kathleen S. and Rayford K. Brown
Kelly and Justin Brown
Mr. and Mrs. Harold E. Brown
Pat H. and David J. Brown
Regena A. and Brownie M. Browne
Robert and Karen Browne Family Fund - OCCF
Ms. Mary J. Brueggen
Kim E. and Steve Bruno
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Ms. Marjorie L. Bryan
D. Ellen and Richard C. Burgess
Ms. Deane W. Burnett
Mr. Jim D. Burwell
Mr. and Mrs. David E. Byrket
Mrs. Dolores P. Call
Michelle M. and William Calvo
Darla and Andy Campbell
Ms. Patricia Gaberino Carey
Ginny B. and Peter B. Carl
Bea Carl and R.B. Carl, M.D.
Carl's Discount Guns and Rental/Vicki and Carl S. Hutto
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Mr. and Mrs. B. Michael Carroll
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Suzy and Chuck E. Cotter - National Philanthropic Trust
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Gayle and Ted Cox
Mrs. Deborah J. Craine
Carol and William H. Crawford
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Russell and Hazel Crooch Endowment Fund - United Methodist Foundation
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Kay C. and Dan L. Dillingham
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Mrs. Cherri A. Eggleston
Mr. and Mrs. Pete Eischen
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Mr. and Mrs. I.W. Ellard
Mr. and Mrs. Clark Ellison
Joanne H. and Jerry L. Emmons
Betty and Larry Ensz
Evans and Associates Enterprises/Patricia Evans
Lloyd, Jerry Evans and Patricia Perdue Evans Family Foundation
Excalibur Oilfield Supply/Denise E. and Joseph C. King
Mrs. Mary Faili
Farmers and Merchants National Bank
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Mr. and Mrs. Ken Fergeson
Ms. Cheryl Ferguson
First American Bank
First Bank and Trust Company
First Liberty Bank
First National Bank in Altus
First National Bank of Oklahoma
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R. Darryl Fisher, M.D.
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Angela and B.J. Hall
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Ms. Arthenia L. Haney
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Mrs. Maxine B. Hartman
Mr. Ronald F. Hartman
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Debe and Rick Hauschild
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Myra and Gene Henry
Mrs. Lois C. Herndon
Bette Jo and Frank D. Hill

Ms. Jo Ann Hintergardt
Mr. Memphis S. Hixson
HoganTaylor, LLP
Mr. and Mrs. Donnie Holloway
The Honorable Jerome A. Holmes
Pam and Steve B. Holton
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Catherine and Jerry Hoopert
Cathy and John M. Huber
Hughes Properties, LLC
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Farhat Husain, M.D., and Mr. Larry C. Hazelwood
Mrs. Rita S. Ice
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Ms. Jolene R. Ingram
Integris Health
InvesTrust
Sharon H. and L. Richard Iorio
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Glenda and Robert T. Jennings
Michelle and Brian Joachims
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Mr. Charles B. Johnson
Mr. and Mrs. Darryl F. Johnson
Ms. Jana L. Johnston
Lynette and Clay G. Jones
Mr. and Mrs. John C. Jones
Mr. Carey Joullian
Janice and Dwight Journey
Joy Enterprises
Susan K. and Greg Kannady
Mr. Don A. Karchmer
The Honorable and Mrs. Frank A. Keating
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Debra and Gary Kinslow
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Ms. Rebecca F. Knight
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Mr. William J. Lansdown
Joan and Gary Larson
Ms. Joanna L. Latting
Mrs. Anita Lavicky
Ms. Dorothy A. Lawson
Mrs. Mary Grace Lebeda
Ms. Elinor A. LeDoux
Martha A. and Gary I. Leff
Sarah and Bruce B. Lenz
Linda and Bob Lesher
Elaine and Harrison Levy
Miss Darlene Lewis
Ms. LaCrecia A. Lewis
Zhimin Liang and Lijun Xia, M.D., Ph.D.
Jere and Al Litchenburg
Mr. Dan Little
Ms. Paula J. Loesch
Mr. David W. Long
Loretta M. and John C. Long
Karen L. and Donny J. Longest
Ms. Sandy G. Lookabaugh
Wilda and Haskell L. Looney
Lana L. and Dave R. Lopez
Elizabeth and Dean Loshbaugh
Mr. Randy J. Ludwig
Drs. Cristina and Florea Lupu
Peggy and Lee Mackey
Brenda G. and Gary M. Macri
Inge and Melvin Hugh Madewell
Paul Mainard Family Trust
Janice G. and Warren D. Majors
Joan L. and Mike J. Maly
Marty J. and Robert C. Margo
Julie and William K. Marsh
Karen and Von A. Martin
Ms. Naomi F. Martin
Martin and Associates, Inc./Susan and Rick Martin
Ms. Kym F. Mason
Mathis Brothers Furniture Co., Inc.
Ms. Marcel A. Maupin
Mary T. and Arthur E. McAnulty
Caroline and Billy F. McCarley
Letha and Bob A. McCray
Mary H. and Tom McDowell
Gigi and Rod P. McEver
Mrs. Mary O. McGraw
Kelley D. and Matt McGuire
Janis S. and Tony R. McKaig
Mrs. Chloe Ann McKaig
Mr. and Mrs. Joe A. McKenzie
Joye and Mason McLain
Margaret and Cameron R. McLain
Kathy and Scott F. McLaughlin
Mr. and Mrs. Richard L. McLennan
Mr. Billy McPherson
Susan E. and Scott A. Meacham
Linda and Randy N. Mecklenburg
Meredith Corporation/Ethan Eck
Stephanie and Jeff Metts
Midstate Traffic Control, Inc.
Midwest Drywall Company, Inc.
Mary and Chuck Mikkelson
Ms. Judy A. Mikkelson
Aimee E. and Kevin W. Miller
Miller Family Foundation/Billie L. and V. David Miller
Kevin Lee Moore, M.D.
Mrs. Sarah F. Moore
Suzy and Chip Morgan
Margaret H. and Larry E. Morris
Gayle and J. Gary Mourton
Annette R. and Tom Mrazik
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Mrs. Elois Muncy
Kay L. and Clark Musser
Mustang Fuel Corporation
Swapan K. Nath, Ph.D.
Cena E. and Mark S. Nault
NBC Oklahoma
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Ms. Sharon F. Neuwald
Alysa I. and Charles C. Newcomb
Mr. and Mrs. Andrew A. Newman
Lydia D. Nightingale, M.D.
Jane Ann and Bob L. Niles
Dr. Linda Barton Nimmo
Tina and Kevin Nimz
Ms. Joann L. Nitzel
Mr. Lloyd Noble, II
Sandra N. and Dennis G. Noble
Nonna's, LLC
Mr. David Nordyke
John W. and Cecelia A. Norman Family Foundation
Sara and Rob Northwood
Diana and David O'Daniell
Beth and P. B. Odom, III
Mrs. Frances O'Hornett
Oklahoma Association of Mothers Clubs
Marilyn and John S. Oldfield, Jr.
Mr. Jim D. Oliver
Van and Rudy Oliver, Jr.
OMRF Research Fund - OCCF
Judy and David Onken
Sara and Nigel J. Otto
Palladium Capital
Barbara and Kenneth Palmer
Roberta and Jay Parham
Mrs. Pam W. Parrish
Gayle and Richard Parry/Tom Johnston Investment Management, LLC
Janet S. and Larry Patterson
Mr. and Mrs. William G. Paul
Mr. Merlyn N. Pearson
Peck Family Charitable Foundation, Inc.
Janis and Jack Perrault
Gailynn and John Phelps
Mrs. Sue Phillips and Mr. James D. Fellers
James Pickel
Myrla and Gary C. Pierson
Marceline and English Piper
Dr. Sharon Piper
Mr. and Mrs. Donne W. Pitman
Gerry R. and Richard D. Pittenger
Kendra S. and Scott Matthew Plafker
Mr. D. Frank Plater, Jr.
Jackie and James S. Plaxico
Evelyn and Albert Post
Wanda S. and John R. Potts
Mr. and Mrs. Harold G. Powell
Mrs. Marcia J. Powell
The Prudential Foundation
Mr. and Mrs. Victor W. Pryor, Jr.
Quail Creek Bank, NA
Jan Ralls, D.D.S., and Robert H. Henry, Jr.
Ramsey Real Estate/Donna and Bill J. Ramsey
Robert Glenn Rapp Foundation
Mrs. Patsy R. Ray
Mr. and Mrs. Steve Raybourn
RBG, Inc.
Mr. George J. Records, Jr.
Ms. Marisa Bradanini Records
Ms. Martha Ellen Records
Mr. Kyle Rector
Mrs. Joan S. Redding
Ann M. and Thomas L. Reding
Mr. and Mrs. Dee A. Replogle, Jr.
Carol A. and Mike L. Rhodes
Mrs. Mary Jane Richards
Riggs, Abney, Neal, Turpen, Orbison and Lewis
Helen and John Riley
Sally T. and John S. Riley
Mrs. Mildred G. Ring
Loydel and Fred J. Robertson
Mr. and Mrs. C.W. (Bill) Robertson, Jr.
Mr. and Mrs. Carl A. Robinson
Mr. Craig Roddy
Ms. Beverly Rodgers
Ms. Teresa N. Roewe
Mr. Robert L. Rogers
Rogers and Bell
Mary and Tim P. Rooney
Ms. Deborah L. Rose
Sharon and Gary Roth
Jennifer and Dr. Brant Rouse
Lynne and Bob Rowley
Ms. Kathryn R. Ryan
Mr. and Mrs. Richard N. Ryerson
Mrs. Dorothy F. Sales
Mr. and Mrs. Bob Samis
Karen and Mike Samis
Mrs. Patricia P. Savage
Dr. and Mrs. Olaseinde I. Sawyerr
Barbara and John Schaefer
Ethel M. and Paul Schiller
Ms. Mary S. Schneeberger
Dr. Clyde H. Schoolfield, Jr.
Schraad Enterprises, LLC
Sue and Doug Schrag
Mr. and Mrs. Bradd Schwartz
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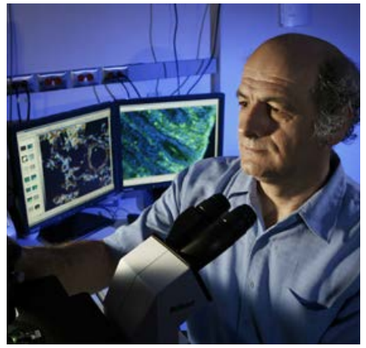
*However they're delivered, each and every gift matters. Thanks to your generosity, OMRF scientists continue to make discoveries that make a difference.*

# Selected Scientific Publications



*Scientific papers are how OMRF researchers share their new findings with researchers and clinicians around the world. Those insights span the spectrum of medical conditions, from autoimmune and cardiovascular disease to cancer and diseases associated with aging. Some articles result from work completed solely at OMRF. Others, such as large, multi-investigator clinical studies, may involve collaborations with scientists representing as many as 15 separate institutions on one publication. In 2014, OMRF researchers published a total of 176 different articles. Scientists at other institutions have already cited those studies more than 1,000 times, and that figure will continue to grow in the coming years.*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**Indicates publications by more than one department or group*

# Scientific Faculty

*With the arrival of two new cancer researchers in July, OMRF's scientific faculty reached a total of 52 principal investigators and three Distinguished Career Scientists. Comprised of three tiers—members, associate members and assistant members—our faculty includes 38 Ph.D.s, seven M.D.s, four M.D./Ph.D.s and one Ph.D./R.Ph. Recruiting is ongoing in several key areas, so new scientists will continue to join OMRF from institutions across the country.*

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# National Advisory Council

In 2013, OMRF assembled its first National Advisory Council. The group is comprised of influential individuals from around the U.S. with a connection to Oklahoma. Chaired by Larry Nichols, the Council gathers once or twice each year for updates on research and new initiatives at the foundation.

Council members help raise national awareness of the foundation's successes. They also introduce and endorse OMRF to individuals, corporations and foundations that might offer their support to the foundation.

In February, Council members heard presentations from OMRF Multiple Sclerosis Center of Excellence physicians and researchers in the Free Radical Biology and Aging Research Program. Then in November, the Council focused on the Immunobiology and Cancer Research Program. Members toured OMRF's cancer research labs, where some even tried their hands at a little lab work.

Council member Don Cogman says he appreciates OMRF's concentration on specific research areas. Rather than trying to be something for everyone, the foundation's focus enables it to make the best use of philanthropic dollars.

"Medical research has solved some of the greatest health issues our world has ever encountered," Cogman says. "As we increase our technological capabilities, targeting that expertise is a key element to solving some of our most serious health problems in the future."

The Council, says Cogman, was particularly intrigued by OMRF's new focus on precision medicine, using genetics to pinpoint the best treatments for cancer patients. "OMRF brings a scientific approach to their cancer work, in addition to medical expertise. The research is groundbreaking in many respects."

The Council, says Cogman, aims to shine a light on the foundation. "OMRF does very important work. I hope we can help raise awareness about it across the country and the world."

*OMRF graduate student Amanda Templeton discusses lab techniques with NAC members Cathy Keating and Whitt Lee.*

*NAC member Dr. Jay Wohlgemuth shows off his pipetting skills to Dr. Maria McDowell.*

*NAC Chair Larry Nichols takes his turn at the microscope.*

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Jay Wohlgemuth, M.D.
San Juan Capistrano, CA

*NAC member Don Cogman tries his hand at examining samples in an OMRF cancer research laboratory.*

# Board of Directors

OMRF Board meets for the first time on
August 3, 1946

15 Original directors

86 Directors today

1,532 years of combined service of current Directors

2 Directors from outside Oklahoma

12 board chairmen since 1946

## Started Young

OMRF created an Associate Board of Directors in 1987 to nurture a new generation of board members for service. Although that group has since dissolved, 24 current OMRF directors began their service to the foundation as Associates:

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Jil Boghetich
Barbara Braught
Ellen Burgess
William Cameron
Mike Carroll
Len Cason
Michael A. Cawley
Hiram Champlin
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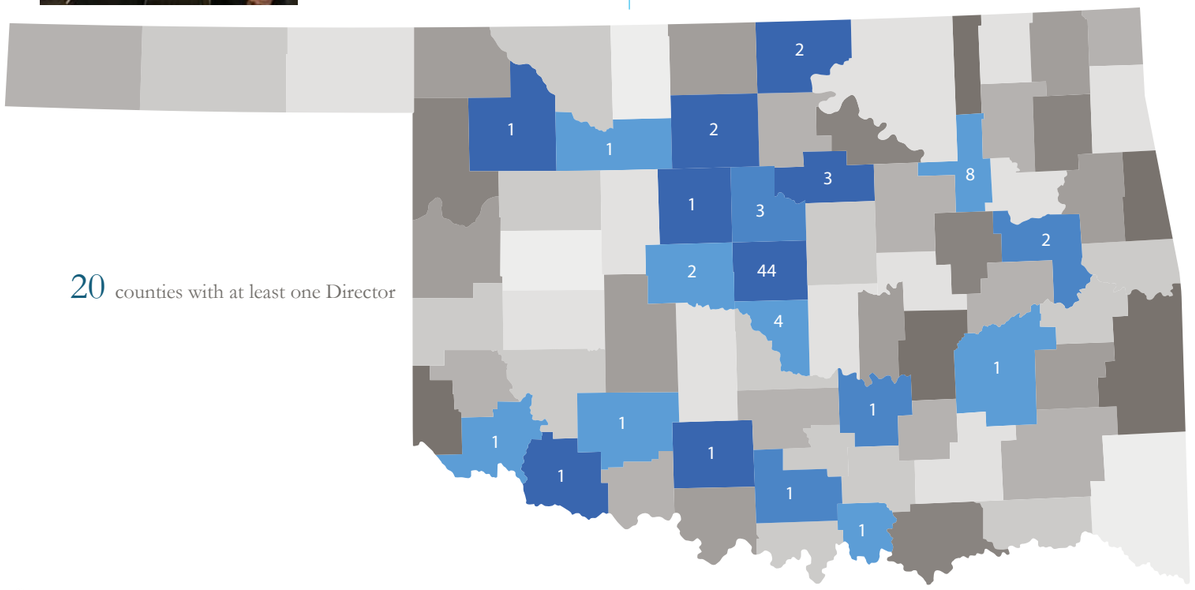


20 counties with at least one Director

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