

# Steele Memorial Children's Research Center

2003

New Hope for  
Kids with Cancer

Could An Ancient  
Herb Produce a  
Modern Remedy?

Children Are  
Breathing Their Way  
to Better Health

How the Game of  
Golf Promotes  
Cancer Research

New Ways  
of Giving



THE UNIVERSITY OF  
**ARIZONA**<sup>®</sup>  
HEALTH SCIENCES CENTER  


A "MUST READ" FOR EVERY GROWN-UP WHO CARES ABOUT KIDS.



## IN LOVING MEMORY

The Children's Research Center annual report is dedicated to Sara Courtney Washmon, whose life was stolen by juvenile diabetes this year at the age of 26. Sara had lived with the disease since she was 8, but refused to let it limit her joy. She leaves a legacy of love and laughter. Our hearts go out to her family and friends.

# The Steele Memorial Children's Research Center

The Steele Memorial Children's Research Center is a place where internationally recognized researchers work together to solve the medical problems that plague our children. Our pediatricians, who also are faculty members in the University of Arizona Department of Pediatrics, play a unique role in the community – as physicians, researchers and teachers. Dedicated in 1992, the Steele Memorial Children's Research Center was built with private funds to advance the health concerns of children. The Center was named in honor of the late Horace W. Steele of Phoenix. The Steele Foundation, Inc. donated \$2 million to help build the Center. The Children's Research Center thrives with the support of the community. This year only 14 percent of the Center's budget was covered by State dollars. The rest came from clinical income, research grants and philanthropic support.

# A Personal Journey

Sometimes we spend so much time and energy moving forward that we forget to take time to think back – to think of how far we've come and to be grateful for our successes. I am so pleased and proud of the research advances that have been made at the Steele Memorial Children's Research Center since I took over as director in 1995. But looking back even farther, I have to be grateful for the opportunities that allowed a boy from Jordan with no family means to become a physician/scientist and leader of this great organization.

I can't say that I always knew I wanted to be a doctor. But when I was still a young boy, my mother told me she wanted me to be a physician. In my town of Irbid with only 100,000 people, there were only two doctors. Neither of my parents was well educated; there was no university in Jordan and certainly no medical school. But my mother didn't see that as an obstacle and in turn, neither did I.

I graduated from high school when I was just 15½. My father gave me \$50 and sent me out to find a medical school. Through a series of interesting events (including a train ride on the infamous Orient Express) I found myself in Ankara, Turkey to apply for medical school. Students from all over the Middle East were there with the same goal – 60 foreigners were applying for 4 spots. I had two months to learn Turkish and take qualifying exams. To my great surprise,

I placed first among all the applicants. Fortunately, medical school tuition was only \$1 a year as my \$50 stipend was running out.

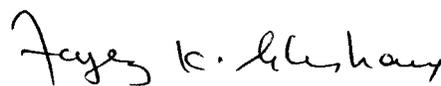
After medical school I worked for the Royal Medical Services for several years. I was thinking about specializing in adult cardiology but fell in love with pediatrics. As the eldest of nine children, I had lots of experiences in taking care of others and I loved being around children. I started studying English by reading medical journals, then moved to London for a pediatric residency.

When I moved back to the Middle East, two things happened that changed the course of my career and my life. One, I met Joan, a beautiful young woman from Boston who had been in Saudi Arabia for two days. We were engaged within 6 months. Two, I decided I wanted to be more than a pediatrician. I wanted to be scientist as well. Children in the Middle East were dying from gastrointestinal diseases and I wanted to discover new ways to treat them.

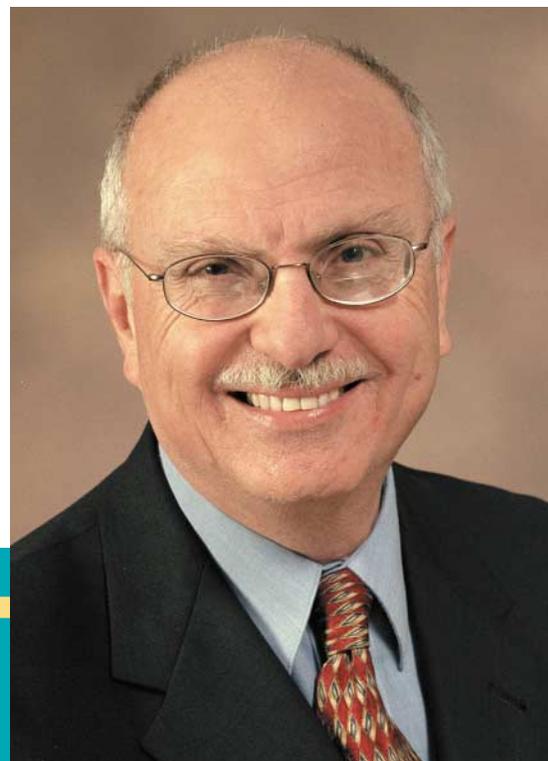
I moved to the United States, did another residency at Penn State and then worked in research as an NIH Postdoctoral trainee for the University of Iowa. That was it. I knew that I had found my calling. Since then I have worked on hundreds of research projects and each one brings a new challenge, new excitement and a new sense of accomplishment. The world has changed so dramatically since I began my

career. When I was a pediatric resident in London, every year or so there would be a new discovery, a new antibiotic. Now there is a new scientific discovery every day.

I am a long way from that 15-year-old boy who left Jordan in search of a medical degree. When I look back I realize how fortunate I have been and I wouldn't change a thing. As Director of the Children's Research Center, I have the ability to affect so many more children's lives than I would have been able to in my hometown in Jordan. And maybe best of all, I know that I've made my mother proud.



Horace W. Steele Endowed  
Chair in Pediatric Research  
Director, Steele Memorial  
Children's Research Center  
Professor and Head  
UA Department of Pediatrics



*Journeys*

# Cancer

## A Major Milestone FOR ARIZONA KIDS WITH CANCER



Alexander Rundquist

Arizona children with cancer now have access to cutting-edge clinical trials thanks to a collaboration between the Steele Memorial Children's Research Center and Phoenix Children's Hospital. Pediatric oncologists at the two institutions have developed a partnership called ACTION (Arizona Children's Therapeutic & Investigational Oncology Network) to try to find better, less toxic ways to treat children with cancer. They are joined by seven pediatric oncology centers around the country including MD Anderson Cancer Center in Houston, Johns Hopkins University and Memorial Sloan Kettering Cancer Center in New York.

"The children we hope to help are those with high risk leukemias or solid tumor cancers that have not responded to conventional therapies," says Rochelle Bagatell, MD, Assistant Professor of Pediatrics in Hematology/Oncology. "This is a very important first step."

Dr. Bagatell and Jessica Boklan, MD, at Phoenix Children's Hospital (PCH) are

conducting studies that reflect a new way of thinking about treatment for pediatric cancer. Although children typically can tolerate very intensive treatment regimens, they generally experience significant side effects.

"In conjunction with colleagues across the country, we now are evaluating new approaches, hoping to determine effective treatments with fewer side effects," Dr. Boklan says.

When new cancer drugs are developed, they first go through toxicity testing through a Phase I trial. The goal of a Phase I study is to establish the dose of a drug based on how severe the side effects

### The goal is to try to find better, less toxic ways to treat children with cancer.

are in patients. Drs. Bagatell and Boklan, with the national group of oncologists, are working to determine whether doses for newer, more targeted drugs can be established based on biological effects rather than on toxicity alone.

"What this means is that we are trying to determine doses of drugs based on how little can be effective rather than how much can be tolerated," Dr. Bagatell says. "This is a whole paradigm shift."

The researchers are making use of novel techniques to isolate tumor cells from blood cells and bone marrow, which would eliminate the need for invasive biopsies to study effects of drugs on tumor cells. So far, seven children from Phoenix and one child from Tucson have been

enrolled in a study of these new techniques. At the study's completion, researchers hope to know if this new approach to isolating tumor cells works and if this approach can be used to determine whether newer, more targeted anti-cancer drugs are altering important molecules in tumors.

The drug being studied, 17-allylamino-geldanamycin (17AAG), has been the focus of work done by researchers at the Children's Research Center for more than a decade. Led by Luke Whitesell, MD, Associate Professor of Pediatrics, researchers have learned that this drug binds to heat shock protein (hsp90), an important cellular protein that controls cell growth, differentiation and cell death. When hsp90 is inhibited in a cancer cell, the pathways that allow cancer cells to proliferate are interrupted.

"The scientific and clinical strengths in pediatric oncology in this state are coming together, and we now have the opportunity to study a very promising new drug in a clinical trial for the children who need it most," says Dr. Bagatell. "Children with cancer need newer, more effective drugs. In the past, our patients had to travel all over the country to participate in clinical trials. We hope that our efforts will bring us closer to the goal of finding better and less toxic treatments for these children, and by working together we can do this right here in Arizona."



Maria Jose Borunda

# Breathe Deeply

## AND CALL ME IN THE MORNING

Researchers at the Children's Research Center are teaching children to breathe their way to better health. Children with recurrent abdominal pain and children with asthma are learning to use their own breath, their own imaginations to feel better faster.

Tom Ball, MD, MPH, Associate Professor of Pediatrics, recently completed a study teaching relaxation techniques to children with persistent tummy aches.

Recurrent abdominal pain (RAP) affects 10 to 20 percent of all school-aged children. But only 5 to 10 percent of these children have an underlying organic reason for the pain.

"For the remaining children, their symptoms persist, they miss school, have frequent doctor visits and may suffer from anxiety and depression," Dr. Ball says.

It made sense, therefore, to study a non-pharmaceutical approach to helping these children. Previous studies have shown that guided imagery therapy – a technique that combines aspects of relaxation, imagery and hypnosis – is effective in treating other childhood pain syndromes, why not this one?

Children who were in the interventional portion of the study attended an initial 50-minute session and three 20-minute sessions with a therapist to learn deep abdominal breathing techniques and guided imagery. The kids created a vision of what the pain looked like and another visual image of something that would end the pain. For example, one teen-ager imagined his pain as a red-hot molten rock. His image to extinguish the pain was a torrential rainstorm. The children were asked to practice guided imagery twice a day for a month. In addition, the children kept pain diaries to record episodes and severity of abdominal pain.

Overall, after suffering for months or years despite multiple medical interven-

tion, the children showed dramatic improvement. The average number of days the children experienced pain decreased by 67 percent during the two-month study period.

"This was a small, pilot study," Dr. Ball says, "with only 11 children involved in the treatment group. But the dramatic improvement clearly demonstrates the effectiveness of mind-body techniques with children."

The success of this study convinced Dr. Ball to expand the study to 40 children, comparing the treated children to a control group. The results of the larger study have not yet been analyzed.

John Mark, MD, Assistant Professor of Clinical Pediatrics, a graduate of the UA Fellowship Program in Integrative Medicine and a pediatric pulmonologist, wanted to find out if guided imagery could help children with asthma. He hoped that by learning and practicing guided imagery, a child could reduce his or her reliance on inhaled steroids.

"Recent studies have shown that the side effects of inhaled steroids are more significant than we believed," Dr. Mark says. "Most parents and most children welcome the opportunity to try something non-pharmacological to control the symptoms of asthma."

Fifty children enrolled in the study, eager to learn what guided imagery was all about. They were taught guided imagery by trained practitioners and encouraged to practice the technique twice a day. Throughout the study, the researchers measured pulmonary lung function and exhaled nitric oxide, which is a marker for airway inflammation.

The results of the study have not yet been analyzed but parents of the children in the study believe that their children have benefited from this exercise.

Mackenzie Thompson, 11, was diagnosed with asthma when she was 2½-years-old. "We chose to be involved



in the study because the more Mackenzie can learn about her asthma, the better off she'll be," says her mom, Mari Thompson. "She definitely learned the techniques to calm herself down and re-focus when she gets stressed. I think that by knowing how to relax, Mackenzie can keep stressful situations from exacerbating asthma symptoms."

"The ideal outcome from a study like this is that kids will be able to use their new skills to keep their lungs healthy without always pushing up their inhaled steroids – or at least be able to maintain their current levels of inhaled steroids while maintaining good asthma control," Dr. Mark says.

"Since the study period concluded, Mackenzie and I have talked about the techniques she learned," Thompson says. "I think the relaxation and guided imagery techniques are a tool that will help her not just with asthma, but with her life."

Both studies of guided imagery were funded by the National Center for Complementary and Alternative Medicine (NCCAM), a division of the National Institutes of Health. The Steele Memorial Children's Research Center was the first pediatric center in the nation to be funded by NCCAM for research on integrative medicine in pediatrics.

imagery



## Genetic Research TO MAKE THE WORLD A SAFER PLACE

Cops the world over may be better able to solve crimes if the work of Murray Brilliant, PhD, Professor of Pediatrics, is successful. Dr. Brilliant is working to develop a system to use forensic DNA to predict what a person looks like.

Right now, when police collect DNA samples at a crime scene, their only option is to match it to a suspect's DNA. Dr. Brilliant's work may give them a snapshot of what a suspect looks like by accurately predicting a person's eye, skin and hair color.

While this may seem like a stretch for a researcher in Pediatrics, actually it's an interesting example of how areas of research can overlap. One of Dr. Brilliant's areas of interest and expertise is human pigmentation disorders. He studies children who lack the gene required for normal pigmentation. These children have albinism and the problems associated with this disorder are much more than cosmetic. They have profound vision problems and a dramatically increased risk of skin cancer.

"Through our work in human pigmentation we know that most of the variation of human pigmentation is the result of the action of only four or so genes," Dr. Brilliant says. "We have identified two of those genes implicated in

**Dr. Brilliant's work may give a snapshot of what a suspect looks like by accurately predicting a person's eye, skin and hair color.**

pigmentation variation, which gives us a solid base to create specific analyses that can be useful in law enforcement settings."

Dr. Brilliant's work is funded by a grant from the National Institute of Justice, a branch of the United States Department of Justice.

genetics

# An Ancient Remedy

## IS A POSSIBLE CURE FOR MODERN DISEASES

Could it be that a root-like plant commonly used to season Indian food, could provide insight into treatments for inflammatory bowel disease (IBD)? That's what researchers at the Children's Research Center are working to discover.

Fayez Ghishan, MD, Children's Research Center Director and Pawel Kiela, DVM, PhD, Research Assistant Professor, are studying various aspects of curcumin, which is an active ingredient in turmeric, a root similar to ginger. Turmeric is indigenous to southern and eastern Asia and parts of China. It is used in cooking, but also has been used for centuries in traditional Asian medicine as a treatment for inflammatory diseases such as arthritis and inflammatory bowel disease. Preliminary studies have supported medical uses of turmeric, more specifically curcumin.

IBD is a huge problem in the United States, the U.K. and Scandinavian countries. Some studies show that up to 1 in 500 people have this disease. The incidence of IBD is on the rise and now includes children.

"I generally take care of about 100 children a year with some form of IBD," says Dr. Ghishan. "This is significantly more than a decade ago."

IBD includes Crohn's Disease and ulcerative colitis and is a much more serious disease than another common disorder known as irritable bowel syndrome. IBD is an autoimmune disease, a chronic debilitating inflammatory disease with no known cause. Symptoms

**Turmeric is indigenous to southern and eastern Asia and parts of China. Preliminary studies have supported medical uses of turmeric.**

are severe abdominal pain, diarrhea, fever, fatigue and even malnutrition. In severe cases, particularly in developing countries, IBD can be life threatening.

"There are many prescription drugs to treat the symptoms of IBD," Dr. Ghishan says, "but virtually all of them come with serious side effects. That's why it seemed reasonable for us to begin a study of an ancient treatment for IBD."

Several years ago, the National Institutes of Health (NIH) created the Arizona Center for Phytomedicine Research in the UA College of Pharmacy. Led by Barbara Timmermann, PhD, UA Regents Professor, a major focus of the center is the study of three botanicals – boswellia, ginger and turmeric.

With this Center to provide highly purified curcumin, CRC researchers can study it on a molecular level. Earlier studies strongly suggest that dietary curcumin provides a very promising alternative for treatment of IBD. But before a next step can be taken, researchers need to know how this substance works in animal models of IBD as well as in cultured cells. They are trying to determine the lowest effective dietary dose of curcumin. They also are looking at changes in gene expression in the large intestine, using the most recent advances of microarray technologies.

"It appears that not only does curcumin reduce symptoms of IBD in

model animals," Dr. Kiela says, "it also modulates gene expression to create an immune environment that is more resistant to the development of IBD. This may be the most surprising and promising result so far."

"With further study, curcumin could become a reasonable alternative or supplement to traditional treatments of IBD, leading to reduced side effects, lower cost of treatment and most importantly, a better quality of life for patients with IBD."



*botanicals*

# mental health

## Psychiatric Team to Care for Kids



Mental health problems are not reserved for adults only. Many children suffer from emotional and behavioral disorders. Two new pediatric psychiatrists recently joined the University of Arizona faculty to help these children – Drs. Harinder and Jaswinder Ghuman.

Harinder Ghuman, MD, is a Professor in Clinical Psychiatry and Pediatrics and Director of Child and Adolescent Psychiatry. His wife, Jaswinder Ghuman, MD, is an Associate Professor of Psychiatry and Pediatrics. Both will care for children and adolescents with psychiatric disorders, teach medical students and residents, develop a pediatric psychiatry fellowship program and conduct medical research.

Dr. Harinder Ghuman's research interests include studying treatment outcomes, grandparents raising grandchildren with emotional problems and psychiatrists' prescribing practices.

Dr. Jaswinder Ghuman's research and clinical interests include studying psychiatric drug interventions and social interaction problems in preschool children with attention deficit hyperactivity disorder (ADHD), autistic disorder and other developmental disorders.



She is conducting a National Institutes of Health-funded study testing a drug to treat symptoms of hyperactivity, impulsiveness and distractibility in 3-to-6-year-olds with autism, Asperger's disorder or pervasive developmental disorder. She is working in collaboration with Dan Kessler, MD, Director of the Arizona Child Study Center at St. Joseph's Hospital in Phoenix, to identify safe, effective and better treatments for children and young adults with psychiatric and developmental disorders.

"This collaboration with St. Joe's is important to the University of Arizona," says Dr. Ghuman. "We complement each other. We have expertise in pediatric psychiatry and they have expertise in developmental pediatrics. The Institute for Mental Health Research funds this research and one of its primary missions is to establish significant partnerships throughout the state."

# High-Tech Help FOR KIDS WITH ASTHMA

Arizona has nearly twice as many children with asthma as other states. And despite all the advances in treating asthma, the disease kills one or two Tucson children each year.

The pediatric pulmonologists (lung specialists) at the University of Arizona Department of Pediatrics care for more than 500 children each year. Their patients are some of our sickest – many with severe asthma, others with cystic fibrosis and cancer patients whose therapy causes serious lung scarring.

In order to provide the highest quality of care available, it's important to have

**In order to provide the highest quality of care available, it's important to have the highest quality of medical equipment.**

the highest quality of medical equipment. And now, with the support of a generous donor, the Pediatric Pulmonary section will have a state-of-the art Pediatric Pulmonary Function Lab.

The gift for the Pediatric Pulmonary Function Lab was a direct result of Joan and Donald Diamond's 50 years of marriage. Two of their dear friends gave the lead gift for this new equipment to honor Joan and Donald on their 50th wedding anniversary. It will be named in memory of their daughter, Deanne, who died from asthma when she was 14.

This new lab – The Deanne M. Diamond Pulmonary Function Lab – will improve our ability to care for many

children. It also will give physicians the tools they need to conduct clinical trials of new drugs or therapies. The new Pediatric Pulmonary Function Lab includes the following new devices:

- **Spirometer** – to measure airway resistance
- **Diffusion measuring station** – to determine air movement through the alveoli in the lungs
- **Impulse oscillometry station** – to measure obstructive airway problems
- **Bodyplethysmography** – to provide the most sensitive measurement of lung volume

- **Treadmill Ergometer** – to demonstrate a child's lung function during exercise

"This is a huge step forward for us," says Wayne Morgan, MD, Professor of Pediatrics and Physiology and head of the UA Section of Pediatric Pulmonary. "We now will be able to measure a broad range of lung function with a higher degree of accuracy. This gives us the tools we need to fine tune a child's ongoing therapy."



ASTHMA

## The Game of Golf NURTURES YOUNG SCIENTISTS

A little girl who never finished preschool has launched the careers of two promising young scientists. Courtney Zillman, who lost her battle to neuroblastoma when she was just 4-years-old, was the inspiration behind Tee Up For Tots, Inc., a non-profit organization dedicated to raising money for pediatric cancer research.

Tee Up For Tots created fellowships in Courtney's name to support the research of Jason Beliakoff and Yi Zeng, both of whom have just completed the requirements for their doctorate degrees and can add PhD to their names.

Jason (now Dr. Beliakoff) has been working under the tutelage of Luke Whitesell, MD, Associate Professor of Pediatrics in Hematology/Oncology. They are studying drugs that affect a cellular protein called heat shock protein 90 (Hsp 90), which stabilizes many of the proteins involved in cancer development. Dr. Beliakoff says their approach differs from many of the new cancer therapies being developed.

"Most of the new cancer therapies are targeted therapies designed to stop the activity of a single protein within the cell," Dr. Beliakoff says. "The major limitation to this approach is that cancer cells genetically are unstable, meaning that proteins in the cell can morph and quickly become resistant to a specific drug."

Dr. Beliakoff has been testing drugs that bind to Hsp 90, which is a "chaperone protein" that helps other proteins in the cell to function properly.

Nearly 100 proteins in the cell rely on Hsp 90 to remain stable (called Hsp90 "client" proteins), and many of these are signaling proteins that play a role in cancer. The Hsp90-binding drugs inhibit the interaction of Hsp90 with its client proteins, causing them to be destroyed by the cell. In a report soon to be published in *Clinical Cancer Research*, Dr. Beliakoff showed that several key proteins involved in cancer are destroyed by Hsp90-binding drugs in mouse tumors, and this resulted in inhibition of tumor growth.

Dr. Beliakoff is taking his newfound knowledge to Stanford University, where he just accepted a prestigious post-doctoral fellowship. He is beaming. And the supporters of Tee Up for Tots should be proud as well.

"I honestly don't think I would have been able to work at the Children's Research Center without the financial

**"I honestly don't think I would have been able to work at the Children's Research Center without the financial support from Tee Up For Tots," Dr. Beliakoff says.**

support from Tee Up For Tots," Dr. Beliakoff says. "I really lucked out."

He also says that getting to know the Zillman family has been a great motivating factor. "Personally it's provided me with the opportunity to see how lives are affected by cancer. We don't see that in a research lab."



Yi Zeng, also a Courtney Page Zillman fellow, just completed her PhD in microbiology and immunology with an emphasis on tumor immunology. She has been working in the lab of Manny Katsanis, MD, Associate Professor of Pediatrics in Hematology/Oncology, and she will continue her work as a post-doctoral fellow in Dr. Katsanis' lab.

Drs. Zeng and Katsanis are studying the immunology of cancer. Specifically, they are developing cancer vaccines that could prevent recurrence of cancers such as leukemia and ovarian cancer. To date, their studies have focused on tumors in mice and their work shows great promise.

"We can isolate proteins in a specific tumor cell and create a unique vaccine

that works on that tumor alone," Dr. Zeng says. "This has been very effective in a mouse model."

Their next step is to create cancer vaccines from cancer patients' cell samples. Again, working with cell samples in culture dishes, the researchers have had success. The real test will come years from now when they are ready for clinical studies.

# Father's Day Council Tucson

## CELEBRATING 10 YEARS OF FUNDRAISING SUCCESS



"Eventually we would need to figure out how to create this kind of vaccine in a more generalized way so that each cancer patient wouldn't require a customized drug," Dr. Zeng says.

The researchers are encouraged by their early successes with this model. Eventually they hope that this type of vaccine could be used in concert with traditional cancer therapy. After a patient with leukemia, for instance, was in remission, a cancer vaccine could prevent recurrence.

"Tee Up for Tots has been very helpful in supporting my research career," Dr. Zeng says. "Not only did they pay my salary but their funding covered my tuition and allowed me to travel to an important conference. Not many graduate students have this kind of opportunity. It has been so wonderful to be able to just focus on my research."

What started 10 years ago as a good idea has become a grand tradition – the annual Fathers of the Year Awards dinner in early June. Over the past nine years, the Father's Day Council Tucson Board has raised nearly \$850,000 for juvenile diabetes research. This year's goal is to top \$1 million!

The event last June was co-chaired by Ann Courtney, owner of Media Connections and Richelle Litteer, Vice President of Business Development for Dial America. Dave Sitton of Clear Channel Outdoor and FOX Sports Net and Colleen Bagnall of KGUN-TV served as event emcees. At the end of the night, nearly \$140,000 was raised for juvenile diabetes programs at the Children's Research Center. The evening was a tribute to fatherhood: to seven fabulous fathers and to the children the event serves. This year's 10th anniversary event will be co-chaired by Stella and Richard Schaefer, both founding board members. Honorary co-chairs are Ginny Clements and Sid Morse.

Funds raised by the Father's Day Council Tucson are helping to create a comprehensive program for children with juvenile diabetes. The board's efforts have helped the CRC add a pediatric diabetologist, a nutritionist and given support to significant research projects.

Earlier this year, one member of the Father's Day Council Board experienced a tragedy, which was felt by the entire board. Ann Courtney, long-time Father's Day Council board member, lost her 26-year-old daughter, Sara, to juvenile diabetes. Sara was a bright, young professional woman who donated her free time to raising money for kids through the Father's Day Council and the Active 20/30 Club of Southern Arizona.

"As we grieve for Ann and her family and Sara's friends, we are reminded how important the work is to fund research to find better treatments and a cure for juvenile diabetes," says Richard Schaefer.

Diabetes is a disease that can be controlled but not cured. And the control is a delicate balancing act – the right amount of insulin, the right types and amounts of food, the proper amount of exercise and sleep. For the person with juvenile diabetes, it is a constant and unwelcome companion.

"We have dedicated the 10th anniversary Fathers of the Year awards dinner to the memory of Sara Courtney," Schaefer says. "She will forever be our beacon as we continue to try to make the world a healthier place for children with diabetes."

If you are interested in supporting the 2004 Fathers of the Year Awards Dinner, please contact Richard Schaefer at (520) 299-4444.



FATHERS



## What's Great About Mother's Milk?

We all know that breast milk is the best for newborns. A mother's milk contains nutrients that cannot be replicated in commercial formulas and offers a baby the benefits of the mother's immune system. Researchers now are finding that the powerful effects of breast milk can protect a person from many diseases, not just as a baby or child, but well into adulthood.

"It has even been shown that having been breast fed in infancy can have long-lasting protective effects against lymphomas," says Shannon Jenkins, DO, UA Assistant Professor of Pediatrics in Neonatology. "Now our goal is to find out exactly why breast milk has these protective effects."

Dr. Jenkins' early findings suggest that breast milk can change the way the intestine and infection-fighting cells in the body develop. His work also has shown that these changes last even into adult life.

"Our current project is designed to find out exactly what components of breast milk cause these changes. We hope that this information will help us develop new therapies to treat or prevent devastating childhood diseases such as intestinal-derived cancers."

Dr. Jenkins' work is funded by the Phoenix Women's Board of the Steele Memorial Children's Research Center, also known as PANDA (People Acting Now Discover Answers). Dr. Jenkins has been named the PANDA Scholar for 2003.

PANDA was formed in 2000 by a group of Phoenix Valley women who wanted to help improve children's health in Arizona.

Each spring for the past four years, the PANDAs have held the "Children Helping Children" Fashion Show to raise money for the Children's Research Center. They have funded specialized research equipment in addition to the PANDA Scholar awards for young investigators.

**The powerful effects of breast milk can protect a person from many diseases, not just as a baby or child, but well into adulthood.**

The fifth annual "Children Helping Children" Fashion Show is scheduled for Saturday, April 3, 2004. For information, call Shaun Brenton at (620) 266-4820.

"PANDAs believe that funding people is a good investment of the funds we raise," says Judy Shannon, PANDA president. "Dr. Jenkins and other PANDA scholars are testimony to that belief with the research they are doing to discover treatments, or perhaps even cures, for childhood diseases."

# Overriding answers

## A Heartfelt Connection to Research

By the time a woman is just six weeks pregnant, all four chambers of her baby's heart are fully formed and the heart is beating. In some cases, however, the heart fails to form properly and the baby is born with a heart defect.

Heart defects are the most commonly occurring birth defect – one in every 100 children is born with some kind of heart defect. Todd Camenisch, PhD, UA Assistant Professor of Pharmacology/ Toxicology and Pediatrics, wants to develop a better understanding of human heart development and is investigating the molecular causes of heart defects.

“When I started looking into this field, I was shocked to learn how few research efforts are directed toward understanding heart defects, when it's such a significant problem,” says Dr. Camenisch. “I have a passion for this research because it has such a strong clinical connection and impacts millions of families.”

Dr. Camenisch frequently observes in the cardiac catheterization lab and collaborates with Scott Klewer, MD, a CRC pediatric cardiologist. This helps him better understand the problems that children with heart defects and their families experience, as well as the challenges faced by the doctors who are trying to help them.

“I wouldn't be doing this type of research unless I knew that eventually it would help families and children.”

With the support of the Phoenix Women's Advisory Board, also known as PANDA (People Acting Now Discover Answers), Dr. Camenisch now is able to

Dr. Camenisch believes that during the next decade researchers will make significant advances in understanding human heart development.

pursue his research. PANDA generously provided Dr. Camenisch with three years of start-up funding and named him the first PANDA Scholar.

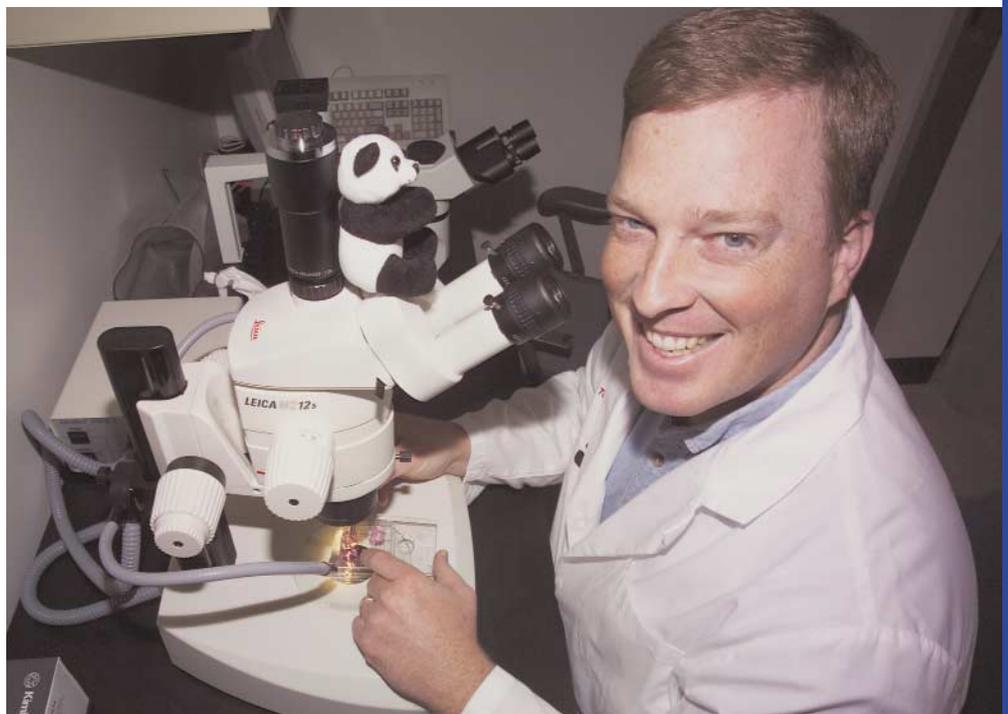
Already his work has revealed that several key molecules interact to promote the normal formation of heart valve tissue. Dr. Camenisch uses genetic manipulation to remove or add specific molecules in experimental models. That allows him to study interactions between components outside the cell that send signals into cells instructing them to become heart muscle or heart valve cells.

“If we could release specific mixtures of molecules that would cause a baby's heart

tissue to grow properly it would give surgeons more opportunities for better and longer lasting repairs of the heart.”

Dr. Camenisch believes that during the next decade researchers will make significant advances in understanding human heart development.

“Once we have a more comprehensive understanding of the heart's complex developmental process, we'll be able to repair heart defects in ways that are currently only imaginable. PANDA's support has allowed us to proceed more rapidly toward this dream so that children may benefit sooner rather than later from such novel therapies.”



commitment

# Arizona Elks

## MAKING CONTRIBUTIONS THAT WILL LAST A LIFETIME AND BEYOND

It's hard to imagine what the Steele Memorial Children's Research Center would be without the support of the Arizona Elks. In 1992, the Elks began their incredible commitment to the work of the Children's Research Center. Raising between \$200,000 and \$300,000 each year, the Elks presence is significant and visible.

The Elks have funded dozens of research studies – some which have now achieved national recognition. They paid for a badly needed renovation of the pediatric clinic. They funded a teaching center in memory of Marvin Lewis, one of Arizona's favorite Elks, to create space for our pediatric residents.

Now the Elks have committed to a new fundraising goal – \$2 million for the Arizona Elks Endowed Chair in Neonatology. (Neonatology is the study of a baby's first month of life.) This is a commitment not just to the Children's Research Center, but to the babies of Arizona and the families who love them.

An endowed chair gives strength to an institution; it creates income that will last forever. Funds contributed to the chair last in perpetuity. A portion of the interest is available each year for the holder of the chair.

Allen Erenberg, MD, now holds the Arizona Elks Endowed Chair in Neonatology. Dr. Erenberg is the head of the UA section of Neonatology, Medical Director of the Neonatal Intensive Care Unit at University Medical Center and Professor of Clinical Pediatrics. An endowed chair is one of the highest honors in academics.

"I have held many positions throughout my career – medical director, department head, and head of Neonatology at two universities," Dr. Erenberg says. "But without a doubt the highest honor I've ever received is to be named to the Arizona Elks Endowed Chair in Neonatology."

Funding from the Endowed Chair will be used two ways.

### SUPPORT FOR YOUNG INVESTIGATORS

"Like starting a new business, getting a research career off the ground is very expensive," Dr. Erenberg says. "Pilot studies are necessary before large funders like the National Institutes of Health will consider new research projects. Funding from the endowed chair will allow young investigators to 'prime the pump' with preliminary data, which will make their research projects more attractive to State and Federal funding agencies."

### RESEARCH FELLOWSHIP IN NEONATOLOGY

"There have been so many advances in the care of premature babies over the past 20 years, but there is so much yet we need to learn to take better care of these tiny babies," Dr. Erenberg says. "We plan to create a fellowship program specifically for a pediatrician who wants to conduct research in neonatology. In this way, the Elks are helping us train the future generation of neonatologists, researchers and teachers. It's an invaluable gift."



# A Champion for Children TAKES ON READING

It's not often that someone walks into your office and volunteers to take over some of your work. But that's what happened to Tom Ball, MD, MPH, UA Associate Professor of Pediatrics. Until now, Dr. Ball has been the Medical Director at the UA Department of Pediatrics for Reach Out and Read, an early childhood literacy program.

But in October, Michael Cohen, MD, who has been volunteering with the program since its inception here, offered to take over the reins. Dr. Cohen is a recently retired Pediatric Behavioral/Developmental Specialist. He was in private practice in Tucson for many years and is highly regarded for his work helping children with behavioral issues, including attention deficient hyperactivity disorder (ADHD).

"I can't imagine a more perfect fit than Michael," Dr. Ball says. "We are all so fortunate to have him leading this important effort."

Dr. Cohen is excited about this new volunteer position. "I think that pediatricians play a major role in guiding parents about stimulating their children's love of reading," Dr. Cohen says. "We can help parents get their kids ready to be successful in school."

One of Dr. Cohen's goals is to make sure that our pediatric residents learn enough about the Reach Out and Read program to take it with them when they leave residency.

"There is a Continuing Medical Education program on Reach Out and Read and I plan to offer that to our residents."

Reach Out and Read has three components:

- Volunteers who read to children in our waiting areas, demonstrating to parents the importance of reading aloud to kids
- At each well-child check-up, pediatricians talk with parents about the long-term benefits of reading to kids and write prescriptions for reading
- Each child receives a free book at every check-up.

"I enjoy being with the kids," Dr. Cohen says. "I know I'll get as much out of the program as they do."

Reach Out and Read is supported by private donations. If you are interested in helping with the reading program, please call Ann Stevens, (520) 626-7051 or [astevens@peds.arizona.edu](mailto:astevens@peds.arizona.edu).



Pediatricians play a major role in guiding parents about stimulating their children's love of reading.

## AN ANGEL AMONG US

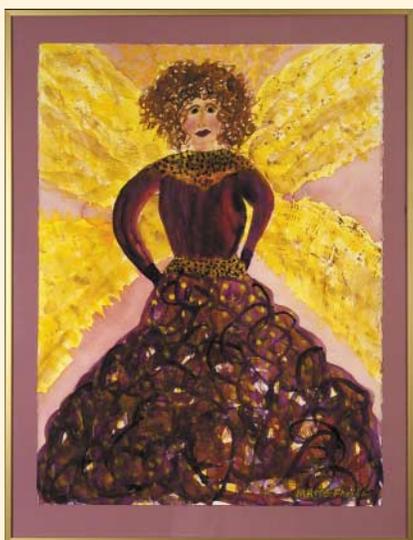
Sometimes the nicest gift is the one you least expect. Earlier this year, Susan Matte-Farina, a local artist, who also has been a UMC nurse for many years, offered to paint an angel for the Children's Research Center.

Her motive? To bring joy to little patients and their families. Through her work as a nurse she has witnessed her share of human suffering. Now she's working to help people in a different way - by inspiring them through her art.

Susan's original angel, "Sonia," is now hanging in the Arizona Elks Clinic for Children and Young Adults, on the wing dedicated to pediatric oncology.

"I've worked as a nurse for 15 years so I know how tough it is for these little kids to come in for chemotherapy every week," says Matte-Farina. "I'm so glad they can see Sonia on their way out of the clinic. It gives me such a good feeling. This is one of the best donations I've ever made."

Susan was named the Tucson Arts District artist of the month this fall. Susan also has donated art to University Medical Center and the Ara Parseghian Medical Research Foundation. Her work can be seen at her website: [www.matteimpressions.com](http://www.matteimpressions.com).



## THE ACTIVE 20/30 CLUB – GIVING FORWARD

The Active 20/30 Club is honoring the life and work of Sara Courtney Washmon by naming a scholarship in her honor. (Sara was a member of the 20/30 Club and chaired last year's Casino Night event. She died suddenly this summer from complications of juvenile diabetes.)

The 20/30 Club offers a deserving high school senior girl a \$500 scholarship to help with college expenses. The candidates must have a 3.0 grade average, letters of recommendation and be involved in community service. The candidates are asked to write an essay sharing their ideas about how young women can help their communities.

Now the scholarship is named the Sara Courtney Washmon scholarship and each candidate will learn about Sara's work with the 20/30 Club and other community organizations.

"Sara loved the 20/30 Club and spoke often of this scholarship," says Ann Courtney, Sara's mom. "She would be touched, as our entire family is, to know that the fund is now named in her honor."

# Courage

## Tu Nidito Offering Strands of Courage FOR KIDS WITH CANCER

Sick children are everyone's concern. And in Tucson, many organizations work together to improve the lives of children who are critically or chronically ill.

One of the groups that works most closely with our little patients is Tu Nidito, a wonderful organization that provides support services for sick children and their families. Professional social workers, spiritual counselors and highly trained volunteers provide exactly the kind of support kids and families need. One-on-one counseling, family support groups, referrals to other community resources and grief counseling – it's a full continuum of support services.

One of the newest programs Tu Nidito is offering in cooperation with the pediatric oncology team at University Medical Center is courage beads for children with cancer. Courage beads are designed to document and honor the journey children take when they are being treated for cancer. When children are first diagnosed, they are given a length of colored cord

with their names spelled out in beads. Colored beads, each representing a different aspect of care, are offered to the child throughout the treatment program. Some kids make necklaces with the beads. Others use them as decoration for their hospital rooms.

"The beads offer a very tangible way for children to chart the course of their treatment," says Laura Haggerty, MSW, Tu Nidito social worker. "It allows them to remember where they've been and to look forward to the goal of ending treatment."

**Courage beads are designed to document and honor the journey children take when they are being treated for cancer.**

"There are so many things during treatment that are taken from the children," says Melissa Berman, MSW, UMC pediatric oncology social worker. "The beads are a way to give them something and acknowledge what they are going through."

Cassy Eubanks, 13, just thinks the beads are "kind of cool." She's fashioned her beads into a necklace. For her, a butterfly indicated the start of treatment. And her favorite bead is covered with tiny pretend diamonds, signifying the bone marrow transplant she went through this summer.

Cassy is being treated for acute myelogenous leukemia (AML) and hopes to be back in school by January. "The beads were great because if something was painful, I had something to look forward to."

The courage bead program has been generously supported by Beaucoup Conge, Copper Coyote Beads, Jay's of Tucson, Leukemia Foundation of Arizona and University Medical Center.



Cassy Eubanks

# So Many Ways to Give

One of the main goals of every non-profit organization is to find new ways to raise money. It's the only way to keep providing programs and services to the people we serve. Fortunately there are so many ways to make donations that don't involve writing a check. Here are just a few.

## DONATING STOCKS

Oro Valley resident Linda Kaplan, makes stock transfers each year to the Children's Research Center. She says it's an easy way to make a donation. "I've always had a stock account so it's just easier for me than donating cash. I've also included the Children's Research Center in my estate plan."

Linda read a newspaper article about the Children's Research Center three years ago and just wanted to help. "I've always helped organizations that help people with cancer because cancer has touched so many lives close to me. My heart goes out to anything related to cancer."

Linda is not only providing financial support to the Children's Research Center, she also is volunteering her time in the Pediatric Infusion Clinic, helping children who are receiving chemotherapy and their parents. "Sometimes I give the parent a break by playing a game with the child. Sometimes I do little things like get them snacks or blankets, but I feel like I'm being useful."

## IN-KIND DONATIONS

Many businesses carve out a piece of their profits to support community projects. Some business owners use their expertise in creative ways to help non-profit organizations.

Each year El Charro, a Tucson institution since 1922, helps the Children's Research Center by hosting a fabulous event. Two years ago they offered us the use of the Stilwell House, which they now own, to throw a party thanking Angel Charity members for their support. It was grand – a delicious demonstration of their culinary expertise and their commitment to the Children's Research Center. El Charro has hosted receptions large and small for the Children's Research Center. It's a beautiful (and tasty) partnership.

"Hosting events is the most gracious and effective way we have to let the Children's Research Center know how important their work is in the community," says Candace Flores, Catering Director & Owner of El Charro Café and the Stilwell House. "Bringing people together around good food is therapeutic and a family tradition for us. We look at it almost like bringing people into our homes."

## HOSTING AN EVENT

Anne Fritz is a researcher who spent a fair amount of time working in a pediatric cancer lab. She's also spent time on the tennis courts as a former pro and current avid player. She decided that there must be a way to turn her sport into support for cancer research – and she was right.

"I have a love for the game of tennis," Fritz says. "And I truly believe that the only way we will find cures for cancer and other diseases is through medical research."

Last year, she kicked off *Raise A Racquet for Kids* at the Tucson Racquet Club. With virtually no experience in fundraising, she had no idea what to expect. What she did know was how to bring together people who loved tennis and people who loved kids. Her first event raised nearly \$25,000 for the Children's Research Center.

This year, in October, she did it again. With the help of a small but dedicated group of volunteers, she organized pro-am matches, men's & women's mixed doubles, a dinner and silent auction. Tucson native Jim Grabb, once the highest ranked doubles players in the world, showed up to offer tennis clinics for kids and play an exciting exhibition match with Tucson pros and members of the UA Women's Tennis Team.

*Raise a Racquet for Kids* was supported this year by Allstate Insurance, Match Point Tennis Shop, Pima County Medical Alliance, Southern Arizona Chapter of the U.S. Tennis Association, Tucson Racquet & Fitness Club, University Physicians, Inc. – Departments of Pediatrics and Medicine and We Move Tucson.

"It feels fabulous to know that a little hard work can help researchers meet their goals and help the kids in this community."

If you are interested in exploring creative ways to support the Steele Memorial Children's Research Center, please call Jane Prescott-Smith, (520) 626-7799.



giving

## AWARD-WINNING ADVISORY BOARD MEMBERS

Our advisory board members are highly regarded – and not just by the faculty and staff at the Children’s Research Center.

Other organizations recognize them as well. This year the following CRC board members received community awards.

**Joan and Donald Diamond** received the Outstanding Philanthropist award from the Association of Fundraising Professionals.

**Joan Kaye Cauthorn** received the Outstanding Volunteer Fundraiser from the Association of Fundraising Professionals.

**Maxine Henig** received the Distinguished Citizen Award from the University of Arizona Alumni Association.

**A Gallery Golf Club membership is up for bids**



## Teeing Up FOR KIDS WITH CANCER

The development at Dove Mountain is making an impact – on golfers and homebuyers the world over. And now its owners will be making an impact on children’s health.

Dove Mountain and The Gallery Golf Club have offered to host a golf tournament to raise money for the Steele Memorial Children’s Research Center: the Dove Mountain Kids Cancer Classic.

It’s happening on March 6, 2004 and will be played on the newest golf course in Tucson – Gallery South designed by John Fought. The original Gallery Golf Club opened in 1998 and last year was rated the #1 golf course in Tucson both by Golf Digest and Tucson Lifestyle magazines. Gallery South opens late in 2003.

Dove Mountain is a 6,200-acre master-planned community northwest of Tucson. With panoramic views of the Tortolita Mountains and the Tucson valley, the artfully designed golf courses that blend into the Sonoran desert and the stunning architectural design of the clubhouse, it’s easy to see why the popularity of Dove Mountain and The Gallery Golf Club has spread far beyond the state borders.

In recognition of Gallery Golf Club owner John MacMillan’s Scottish heritage and honoring the grand tradition of golf, the tournament will be a full traditional Scottish tournament. Guests will be treated to a lavish brunch with Americanized Scottish food and drink. Bagpipers will signal start of play and pipe down the sun at tournament’s close. A tasting of single malt whiskeys can be enjoyed at the day’s end.

“I attend dozens of golf tournaments each year,” says Dave Sitton, CRC board member and part of the Kids Cancer Classic steering committee. “With this one, the owners are outdoing themselves to make it a special day for the golfers and an incredible gift for children with cancer.”

**In addition to the generous event offer, The Gallery Golf Club has given the CRC a golf membership to auction. The value of the golf membership is \$65,000: the starting bid is \$30,000. If you are interested in bidding on The Gallery Golf Club membership, call (520) 626-7799 for details or check out the CRC website: [www.crc.arizona.edu](http://www.crc.arizona.edu).**

When this report went to press, the tournament was half sold. Foursomes still are available as are opportunities for greater levels of participation.

“We are excited to partner with Steele Memorial Children’s Research Center to help in a meaningful way to support the incredibly important work they are doing with kids,” says David Mehl, President of Cottonwood Properties, the developers of Dove Mountain.

# thanks

## Giving Thanks

Every gift made to the Children's Research Center is an important investment in children's health. We'd like to give special thanks to the following donors who gave \$1,000 or more between October 2002 to the end of September 2003.

Allstate Insurance Co.  
Mr. & Mrs. Lyle H. Anderson  
Mr. & Mrs. Robert Anderson  
Arizona Diamondbacks  
Arizona Elks Major Projects, Inc.  
Ms. Teresa Armstrong  
Ms. Evelyn N. Attaway  
Mr. & Mrs. Paul L. Baker  
Ms. Sara Baldwin  
Bank of Tucson  
Mr. & Mrs. Eddie N. Basha, Jr.  
Beach, Fleischman & Co., P.C.  
Mr. & Mrs. Craig M. Berge  
The Joseph & Mary Cacioppo Foundation  
Caitlin Robb Foundation  
Canyon Ranch  
Catalina Mechanical Contracting  
Ms. Joan Kaye Cauthorn  
Frances Chapin Foundation  
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Mr. & Mrs. Gerie Clayton  
Clear Channel Worldwide  
Ms. Ginny Clements  
Jim Click Nissan, Inc.  
Mr. & Mrs. Jerry Colangelo  
Commerce Bank of Arizona  
Commercial Federal Bank  
Cottonwood Properties  
Cox Communications  
Mr. & Mrs. Thomas Cram  
DM Federal Credit Union  
DMB Associates  
Mr. Robert L. Davis  
Mr. & Mrs. Michael A. DeBell  
Delta Delta Delta  
Mr. & Mrs. Donald R. Diamond  
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Mr. & Mrs. Darryl B. Dobras  
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Mr. Stanley D. Friedman  
Dr. & Mrs. Vincent Fulginiti  
Gadabout Salons & Day Spas  
Dr. & Mrs. Fayez K. Ghishan  
Ms. Diana R. Gillanders  
Maurice & Meta Gross Foundation  
Guild Craft of California  
Mr. & Mrs. David W. Gustafson  
Mr. & Mrs. Thomas J. Harley

Mr. & Mrs. Ralph Henig  
Mr. & Mrs. Robert C. Hobbs, Sr.  
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Mr. & Mrs. Jon R. Hulburd  
KVOA Communications, Inc.  
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Joseph Stanley Leeds Foundation  
Sam Levitz Furniture Co., Inc.  
Mr. & Mrs. John Lewis  
Dr. & Mrs. Peter W. Likins  
Mr. & Mrs. Timothy C. Louis  
Mr. David S. Mack  
Dr. Lorraine L. Mackstaller  
Mesch, Clark & Rothschild, P.C.  
Mr. Ralph W. Meyer  
Mike Cims, Inc.  
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Mr. & Mrs. Sidney Morse  
Mr. & Mrs. Clark W. Munger  
Munger Chadwick, P.L.C.  
Mr. & Mrs. Stuart K. Nelson  
Ms. Judith K. Nix  
Mr. & Mrs. Andrew Norell  
Norton Companies, LLC  
Dr. Raymond W. Novak and Dr. Lisa Fogle  
PANDA - Phoenix Women's Board  
Phoenix Suns  
Donald Pitt Family Foundation  
Dr. & Mrs. J. Scott Polson

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Sealy Mattress Company  
Ms. Jane L. Sharples  
Simmons Co.  
Mr. & Mrs. Leslie H. Small  
Snell & Wilmer L.L.P.  
Southern Arizona Home Builders  
Association  
Southwestern Fair Commission  
The Steele Foundation, Inc.  
Mr. Charles H. Strub  
TMC Healthcare  
Tee Up for Tots  
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Mr. & Mrs. Donald J. Ulrich  
Mr. & Mrs. Jon O. Underwood  
United Commercial Travelers  
United Way of Tucson  
& Southern Arizona  
University Medical Center  
University Physicians, Inc.  
Volvo of North America  
The Wanek-Vogel Foundation  
The Wings Like Eagles Foundation  
Wells Fargo Bank  
Mr. Bradley D. Wilde  
Women of the Active 20/30 Club  
Mr. & Mrs. Melvin Zuckerman



# Faculty Highlights

## Cardiology

**Ian N. Jongewaard, PhD**, Research Assistant Professor, received the William J. "Billy" Bieszl Endowment for Heart Research from the UA Sarver Heart Center. Dr. Jongewaard received 4 years of funding as a Co-PI on a National Science Foundation grant entitled, "Reversible and Directional Self-assembly of Bio-Molecular Templates for Nanotechnology Interconnects."

**Scott E. Klewer, MD**, Associate Professor of Pediatrics, is President-Elect of the American Heart Association. He also was invited to serve on the national American Heart Association Program Committee of Cardiovascular Disease in the Young. Dr. Klewer has received 3 years of funding from the Pacific Mountain Affiliate Research Committee of the American Heart Association for a proposal entitled, "The Role of Integrins in Heart Valve Development."

**Richard Donnerstein, MD**, Professor of Pediatrics and Section Chief, was named a reviewer for American Journal of Cardiology and Catheterization and Cardiovascular Diagnosis.

**Todd Camenisch, PhD**, Assistant Professor of Pharmacology/Toxicology and Pediatrics, was named a PANDA (People Acting Now Discover Answers) scholar.

## Critical Care

**Robert A. Berg, MD**, Professor of Pediatrics and Section Chief, was invited to participate in two American Heart Association committees - Emergency Cardiovascular Committee and the Research Working Group of Emergency Cardiac Care Committee. Dr. Berg was re-elected for a 3-year term as an At-Large Member of the UPI Board of Directors.

**Andreas A. Theodorou, MD**, Associate Professor of Clinical Pediatrics, was elected Chief of Staff for University Medical Center. Dr. Theodorou received UMC's award for "Patient Care Services Commitment to Excellence." He also received the Off-Service Attending Award for "Dedication and Excellence in Teaching" by the Emergency Department.

**Simon Wong, MD, MPH**, was promoted to Research Assistant Professor.

## Gastroenterology/Nutrition

**Fayez K. Ghishan, MD**, Professor and Head, Department of Pediatrics; Director, Steele Memorial Children's Research Center was named the first holder of the Horace W. Steele Endowed Chair in Pediatric Research. He also received a 5-year extension on his National Institutes of Health MERIT Award, "Developmental of Intestinal Transport of Calcium and Phosphate," as well as a 5-year extension on his NIH R01 grant, "Development of Intestinal Ion Transport."

**James F. Collins, PhD**, Research Associate Professor of Pediatrics, was appointed Councilor for the "Growth, Development and Aging" Section of the American Gastroenterology Association, and was asked to organize and co-Chair a Research Symposium entitled "Animal Models of Gut, Liver and Pancreas Development" at the annual Digestive Disease Week scientific meeting in Orlando, FL.

**Hesham Hassan, MD**, Associate Professor of Clinical Pediatrics, was invited as a Visiting Professor to Cairo University in Giza, Egypt as well as Mansoura University, Mansoura, Egypt, and German Saudi Hospital, Jeddah, Saudi, Arabia.

## General Pediatrics

**Michael B. Aldous, MD, MPH**, Associate Professor of Clinical Pediatrics, was named Outstanding Instructor in Evidence Based Medicine by the Graduating Pediatric Housestaff.

**Thomas M. Ball, MD, MPH**, Associate Professor of Clinical Pediatrics, was named a peer reviewer for Archives of Pediatrics and Adolescent Medicine, Ambulatory Pediatrics and Pediatrics.

**Burris R. Duncan, MD**, Professor of Pediatrics, received the Rosa Award presented by the University of Arizona Department of Family and Community Medicine and the State of Arizona Division of Developmental Disabilities for Healthcare Professionals who have provided quality care to individuals with developmental disabilities.

**William A. Madden, MD**, Associate Professor of Clinical Pediatrics and Section Chief, received the Vernon and Virginia Furrow award for "Excellence in Clinical Science Teaching for Medical Students."

**Leonard B. Seltz, MD**, Clinical Assistant Professor of Pediatrics, was named to The University of Arizona College of Medicine Dean's List for Excellence in Teaching in the Clinical Sciences

## Kino Pediatrics

**Conrad J. Clemens, MD, MPH**, Associate Professor of Clinical Pediatrics, was named a peer reviewer for Pediatrics and Archives of Pediatric and Adolescent Medicine. He also received the Vernon and Virginia Furrow Award for Excellence in Graduate Medical Education Teaching.

**Karen M. Davenport, MD**, Assistant Professor of Clinical Pediatrics received the Vernon and Virginia Furrow Award for Excellence in the Clinical Science Teaching for Medical Students.

## Hematology/Oncology

**Rochelle Bagatell, MD**, Assistant Professor of Pediatrics, received the Vernon and Virginia Furrow Award for "Excellence in Clinical Science Teaching for Medical Students." Dr. Bagatell also was named one of Tu Nidito's Remarkable Moms.

**Michael W. Graner, PhD**, was promoted to Research Assistant Professor.

**John J. Hutter, MD**, Professor of Pediatrics and Section Chief, was invited to be a peer reviewer for the Journal of Pediatric Hematology/Oncology. He is a member of the American Academy of Pediatrics Executive Committee, section of Pediatric Hematology/Oncology.

**Emmanuel Katsanis, MD**, Associate Professor of Pediatrics, received a 4-year R01 grant from the NIH entitled, "Chaperone Rich Cell Lysate (CRCL) Vaccine for Chronic Myelogenous Leukemia."

# highlights

## Infectious Disease

**Leslie L. Barton, MD**, Professor of Pediatrics, was named a book reviewer for the Journal of the American Medical Association. Dr. Barton is involved in the Leadership for Academic Medicine Core Committee in the newly-funded National Center of Excellence in Women's Health.

**Sean Elliott, MD**, Assistant Professor of Clinical Pediatrics, was named to the University of Arizona College of Medicine Dean's List for Excellence in Teaching in the Clinical Sciences. Dr. Elliott also received The University of Arizona College of Medicine Longitudinal Clinical Curriculum Preceptor Award.

**Ziad Shehab, MD**, Professor of Clinical Pediatrics and Section Chief, was named to The University of Arizona College of Medicine's Dean's List for Excellence in Teaching in the Clinical Sciences. Under Dr. Shehab's leadership, Outstanding Achievement in Teaching by a Clerkship or Elective in the Clinical Sciences was also awarded on two separate occasions in 2002.

## Medical and Molecular Genetics

**Kirk A. Aleck, MD**, Professor of Clinical Pediatrics, was appointed to the Folic Acid Advisory Committee and is Chairman of the Genetic Service Advisory Committee.

**Murray H. Brilliant, PhD**, Professor of Pediatrics and the Lindholm Endowed Chair, was invited to serve on the editorial boards for Pigment Cell Research and Mammalian Genome.

**Christopher Cunniff, MD**, Professor of Pediatrics and Section Chief, was named to The University of Arizona College of Medicine Dean's List for Excellence in Teaching in the Basic Sciences for the third consecutive year. Dr. Cunniff is Chair of the Nomination committee of the American College of Medical Genetics, Chair of the American Academy of Pediatrics Committee of Genetics and Secretary of the American College of Medical Genetics.

**Robert P. Erickson, MD**, Professor of Pediatrics and the Holsclaw Endowed Chair, was invited to serve on the editorial boards for Reviews in Mutation Research, Journal of Applied Genetics, Antisense Research and Development and Journal of Applied Genetics.

**William S. Garver, PhD**, Research Assistant Professor, received the first "Investigator Award" from the Ara Parseghian Medical Research Foundation to pursue his studies of the causes of Niemann-Pick Type C disease.

**Randall Heidenreich, MD**, Associate Professor of Pediatrics received a Foreign Travel Grant for attendance at the IXth International Congress of Inborn Errors of Metabolism.

## Neonatology and Developmental Biology

**Allen Erenberg, MD**, Professor of Clinical Pediatrics and Section Chief, has been named the first holder of the Arizona Elks Endowed Chair in Neonatology.

**Shannon Jenkins, MD**, Assistant Professor of Pediatrics, was named a PANDA (People Acting Now Discover Answers) scholar.

**Catherine H. Jones, MD**, Assistant Professor of Pediatrics, received funding from the Office of the Vice President for Research and Graduate Studies for her Faculty Small Grant proposal entitled, "Ethnic Differences Surface During End of Life Care."

## Neurology

**Kristine L. Kaemingk, PhD**, was promoted to Associate Professor of Clinical Pediatrics.

## Poison Control

**Leslie V. Boyer, MD**, Associate Professor of Clinical Pediatrics, was named to The University of Arizona College of Medicine's Dean's List for Excellence in Teaching in the Clinical Sciences.

## Pulmonary

**Theresa W. Guilbert, MD**, Assistant Professor of Pediatrics, was invited to join the advisory board for the American Lung Association of Arizona and New Mexico. She was also asked to be a peer reviewer for the Journal of Allergy & Clinical Immunology and the Journal of Pediatrics.

**John D. Mark, MD**, Assistant Professor of Clinical Pediatrics, was invited to be a peer reviewer for the Archives of International Medicine and to be part of the editorial advisory board for Alternative Medicine Research Report.

**Wayne J. Morgan, MD**, Professor of Pediatrics and Section Chief, is Chair of the NIAID Inner City Asthma Study, the ICAC Physiology and Biomarkers Committee, the Care Network Equipment Committee, the Epidemiologic Study of Cystic Fibrosis and the Cystic Fibrosis Foundation Data Safety Monitoring Board.

**Anne L. Wright, PhD**, Research Professor of Pediatrics, received the Sheldon Siegel Lectureship from the American Academy of Asthma, Allergy and Immunology. Dr. Wright is also the co-director of the Leadership Core of the newly-funded National Center of Excellence in Women's Health.

# Department of Pediatrics Faculty

FAYEZ K. GHISHAN, MD, PROFESSOR AND HEAD

## Allergy

Schumacher, Michael, MD  
*Professor*

## Cardiology

Donnerstein, Richard, MD  
*Professor*

Jongewaard, Ian, PhD  
*Research Assistant Professor*

Klewer, Scott, MD  
*Associate Professor*

Lax, Daniela, MD  
*Associate Professor*

Samson, Ricardo, MD  
*Associate Professor*

## Critical Care

Berg, Marc, MD  
*Assistant Professor  
Clinical Pediatrics*

Berg, Robert, MD  
*Professor*

Gutierrez, Juan, MD  
*Assistant Professor  
Clinical Pediatrics*

Meyer, Robyn, MD  
*Assistant Professor  
Clinical Pediatrics*

Theodorou, Andreas, MD  
*Associate Professor  
Clinical Pediatrics*

Witten, Mark, PhD  
*Research Professor*

Wong, Simon, MD  
*Research Assistant Professor*

## Endocrinology

Dixit, Naznin, MD  
*Assistant Professor  
Clinical Pediatrics*

## Gastroenterology

Bai, Liqun, MD  
*Research Assistant Professor*

Collins, James, PhD  
*Research Associate Professor*

Ghishan, Faye, MD  
*Professor and Department Head*

Hassan, Hassan, MD  
*Associate Professor  
Clinical Pediatrics*

Kiela, Pawel, PhD  
*Research Assistant Professor*

Xu, Hua, PhD  
*Research Assistant Professor*

## General Pediatrics

Aldous, Michael, MD  
*Associate Professor  
Clinical Pediatrics*

Ball, Thomas, MD  
*Associate Professor  
Clinical Pediatrics*

Barton, Leslie, MD  
*Professor*

Binkiewicz, Anna, MD  
*Professor Clinical Pediatrics*

Bowen, Kathryn, MD  
*Associate Professor  
Clinical Pediatrics*

Clemens, Conrad, MD  
*Associate Professor Clinical  
Pediatrics*

Davenport, Karen, MD  
*Assistant Professor  
Clinical Pediatrics*

Duncan, Burris, MD  
*Professor*

Hardin, Cleo, MD  
*Associate Professor  
Clinical Pediatrics*

Herron, Sandra, MD  
*Assistant Professor  
Clinical Pediatrics*

Hutter, Maureen, PhD  
*Clinical Lecturer*

Madden, William, MD  
*Associate Professor  
Clinical Pediatrics*

Marshall Jr., William, MD  
*Professor Clinical Pediatrics*

Seltz, Leonard, MD  
*Clinical Assistant Professor*

Villar, Rodrigo, MD  
*Assistant Professor  
Clinical Pediatrics*

Wahl, Richard, MD  
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# STEELE MEMORIAL CHILDREN'S RESEARCH CENTER

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**ABOUT THE COVER:** Cover photo is Maxine Henig, long-time supporter and past Chair of the Steele Memorial Children's Research Center Advisory Board, and her newest grandson, Samuel Henig. So no one feels left out, pictured here are Maxine's other grandsons: Zachary Freeman, Joshua Henig, Harrison Freeman and David Henig. Anyone who has children knows why all the grandsons are not in the same photo!

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