Sweet Success
Breaking New Ground Campaign Closes on High Note
Dear Friends,

Each issue of Packard Children’s News celebrates the achievements of Lucile Packard Children’s Hospital at Stanford. As you read through this edition, you’ll learn more about our preeminent care and research, and one family’s life-changing experience at the Children’s Heart Center.

But this issue also celebrates your achievements. Your outpouring of support and generosity helped make Breaking New Ground a tremendous success. Our fundraising campaign, which wrapped up earlier this year, raised nearly $550 million for facilities, clinical care, research, and training. For that, we offer you our heartfelt and enduring gratitude.

I’d like to draw particular attention to our campaign leadership. Under the guidance of co-chairs Anne Bass, Elizabeth Dunlevie, and Susan Packard Orr, and faculty chair Michael Longaker, MD, M BA, Breaking New Ground was enormously effective in engaging new donors with Packard and Stanford.

The transformation of Packard Children’s is already under way, with construction crews hard at work on our facilities expansion. Behind the scenes, your contributions are also providing instrumental support for education and research at Stanford School of Medicine — ensuring that we can continue to train the future leaders of pediatrics and obstetrics, and pioneer innovative therapies that will improve the lives of children and families everywhere.

In short, this issue of Packard Children’s News recognizes your important role in making our hospital a center of world-class care. Thank you!

Sincerely yours,

David Alexander, M D
President and Chief Executive Officer

BOARD OF DIRECTORS
J. Taylor Crandall, Chair
Chris Schaepe, Vice Chair
Elaine Chambers, Secretary
George Phipps, Treasurer
David Alexander, MD, President and CEO
Timothy Brackney
Harvey Cohen, MD, PhD
Christopher G. Dawes
Gary Dillabough
Keith Fox
Ken Goldman
Tessie Guillermo
Cynthia Fry Gunn
Manuel A. Henriquez
Brad Koenig
John Kriewall
Anne C. Lawler
David Lee
Doug Mackenzie
Lloyd Minor, MD
Thad Padua, MD, FAAP
Toni Paterson
Philip Pizzo, MD
Steven A. Schroeder, MD
William Sonneborn

PRESIDENT AND CHIEF EXECUTIVE OFFICER
David Alexander, MD

SENIOR VICE PRESIDENT AND CAMPAIGN DIRECTOR
Linda Collier

SENIOR VICE PRESIDENT FOR DEVELOPMENT AND ADMINISTRATION
Brian Perronne

VICE PRESIDENT, PROGRAMS AND PARTNERSHIPS
Eileen Walsh

SENIOR DIRECTOR OF DEVELOPMENT COMMUNICATIONS, EDITOR
José Gordon

ASSOCIATE EDITOR
Jennifer Yuan

WEB EDITORS
Stacy Clinton
Ali Koide

SENIOR DEVELOPMENT WRITER
Melissa Leavitt

CONTRIBUTING WRITERS
Grace Hamnerstrom
Theresa Johnston
Ruth Schechter

DESIGN
Dennis Johnson Design,
Joan Black and Dennis Johnson

PHOTOGRAPHY
Toni Gauthier/ToniBird Photography
David Hodges/DNK Digital
Ana Homonnay
Doug Peck

Packard Children’s News is published by the Lucile Packard Foundation for Children’s Health, an independent public charity incorporated in 1996. For more information or to share comments, please email editor@supportlpch.org.

Front cover: Elena Sharp. Photo by Toni Gauthier.
contents

2  Special Delivery
10  Foundation for the Future
12  Crossover Appeal
Rising Stars Advance Care and Research at Packard Children's
20  In the News
25  Packard Pages in Action
Though many pregnant women rush to the hospital during labor, few arrive as Tara Sharp did, flying 90 miles by emergency helicopter from Sebastopol to Palo Alto. Her doctors at Lucile Packard Children’s Hospital, who already knew of her baby’s rare heart defect through prenatal diagnosis, were ready for her arrival.

“As soon as we got to Stanford, I felt relieved,” says Tara. She hadn’t expected to go into labor three weeks early. But she had planned to deliver at Packard Children’s, where pediatric cardiovascular surgeon Frank Hanley, M.D., would rapidly assess whether her baby would require heart surgery. “We’re in the best hands possible,” she recalls thinking. “This is out of my control now.”
Tara’s journey to Packard began with unexpected sonogram results. “The doctor said, ‘There’s something wrong with your baby’s heart, and we don’t know if she’ll survive,’” Tara says.

Six months pregnant, Tara and her husband, Ben, were eagerly awaiting their second child. Now, instead of telling their older daughter to expect a sister, they wondered if their baby would live.

A genetic counselor asked about family history of heart problems. One aunt, Tara learned from her mother, had a mild version of tetralogy of Fallot, the defect detected in a severe form on her own baby’s sonogram. Then Tara’s mom, Heather, revealed something else: More than 50 babies on her family tree, including one of Heather’s own siblings, had died in infancy due to severe versions of the same heart defect. It was the first Tara had heard of this aspect of her family’s past.

But Tara’s pediatric cardiologist in Santa Rosa offered hope. “She told us the best surgeon in the world for tetralogy of Fallot is Dr. Hanley, and that he practices right here at Packard Children’s,” she says.

She smiles, remembering her relief. “We were very glad to know that Dr. Hanley happened to create the surgery for this particular condition.”

Hanley, who directs the Children’s Heart Center at Packard Children’s, invented a surgical repair called unifocalization that has helped hundreds of children overcome complex tetralogy of Fallot. The defect is composed of several structural abnormalities in and around the heart, including a missing or malformed pulmonary artery that carries blood to the lungs. To compensate, the body develops small “collateral” arteries that travel from the aorta to the lungs. This abnormal anatomy increases blood pressure and causes lung damage. The defect also prevents the body from receiving fully oxygenated blood. Without surgical repair, most patients die in infancy or childhood.
Hanley advised Tara to deliver the baby, who would be named Elena, at Packard Children’s.

“We wouldn’t know the details of Elena’s collateral blood vessels until she was born and could receive cardiac catheterization,” says Hanley, who is also the Lawrence Crowley, M.D., Professor of Child Health at Stanford School of Medicine. “Most infants with this condition don’t require urgent newborn surgery, but about 10 percent do. So we wanted to assess Elena’s condition quickly.”

**Coordinated Care**

Tara was referred to the Center for Fetal and Maternal Health at Packard Children’s, where patient care coordinator and genetic counselor Meg Homeyer helped navigate her remaining prenatal care, including diagnostic and consultative appointments with numerous specialists. “Such a multidisciplinary group of people need to be involved in these complex cases, so we try to do everything we can to make the process less difficult,” Homeyer says, noting that some of Tara’s monitoring was performed in Santa Rosa to save her from making extra trips to Palo Alto. “We want the patient’s experience to be as simple, understandable, and empathetic as possible.”

Thanks to an outpouring of support from our philanthropic community, the Breaking New Ground campaign was a resounding success. Fundraising totals far exceeded initial goals, bringing in nearly $550 million to improve children’s health locally, nationally, and globally.

The impact of Breaking New Ground already can be seen here in our community. Construction is under way on a 521,000-square-foot expansion of Packard Children’s, scheduled to open in 2016.

Even now, Breaking New Ground is helping to enhance our clinical services, enabling doctors and nurses to continue delivering the best possible patient care.

Philanthropic investments in research and training at Stanford School of Medicine also equip future leaders to bring innovative therapies to children everywhere.

Your partnership has transformed Packard Children’s and helped us achieve groundbreaking advances in pediatrics and obstetrics. Together, we will have a lasting impact on children and families for generations to come.

<table>
<thead>
<tr>
<th>2007</th>
<th>Campaign launched</th>
</tr>
</thead>
<tbody>
<tr>
<td>$262 million</td>
<td>for hospital expansion</td>
</tr>
<tr>
<td>$171 million</td>
<td>for research and training</td>
</tr>
<tr>
<td>$116 million</td>
<td>for clinical care and community outreach</td>
</tr>
<tr>
<td><strong>$549 million</strong></td>
<td>TOTAL</td>
</tr>
</tbody>
</table>

| 2012   | Campaign goal achieved |
“Having someone like Meg helped give us a center,” says Tara, who was scheduled to have a cesarean section shortly before her due date. Instead, she went into labor three weeks early.

“From the moment that Tara went into labor, throughout the process, every step of the way, someone clearly laid out what might happen, what our choices were, and what the consequences may be,” Ben recalls. “I can’t imagine better care and better support than we had. There was an incredible, unusual compassion that I don’t know how you pay back.”

Surgery and Recovery

Elena’s birth went smoothly, but her early days were not easy. “It was touch and go,” Tara says. “It was a full week before we knew she could breathe on her own, before the doctors were able to perform the catheterization and realized they could postpone surgery.”

After 12 days in the neonatal intensive care unit, Tara and Ben were excited to take Elena home to big sister Cecilia.

For patients with tetralogy of Fallot who do not need surgery as newborns, it’s better to wait a few months to fix their hearts, Hanley explains, since the unifocalization surgery is so technically extensive and involves trauma inside the chest. But waiting carries the risk of overexposing the lungs to dangerously high blood pressure. To strike a balance, most unifocalization surgeries are performed at a few months of age. Elena returned to Packard Children’s for surgery when she was almost 6 months old.

In the operating room, Hanley located all the collateral arteries that were carrying blood to Elena’s lungs and used them to construct a new pulmonary artery.

“It’s like rebuilding the trunk of an oak tree from branches scattered around a field,” he says. Hanley replaced an abnormal heart valve and closed a defect between the right and left sides of Elena’s heart, testing the blood flow through the new artery to make sure it would adequately supply her lungs.

Few surgeons in the world attempt the marathon procedure, which takes about 10 hours. For Hanley, it was almost routine.
“Families come to Packard Children’s from all over the world because of our focus on the management of this congenital heart problem,” Hanley says. “Elena’s case wasn’t the simplest unifocalization I’ve performed, but not the most complex either.”

But for Elena’s parents, it was the most important operation Hanley had ever done. After the surgery, Tara says, “Dr. Hanley appeared out of thin air, very calm, and said everything went as expected. My husband and I just held onto each other.” The heartfelt “thank you” they offered him didn’t seem like enough, she adds. “How do you thank the person who saved your child’s life?”

Following the surgery, Elena recovered in the cardiovascular intensive care unit under the watch of Loren Sacks, MD, a pediatric critical care fellow. Fellowships, many of which are funded through philanthropy, support education and training for future leaders of pediatric medicine.

“The opportunity to come here and learn from these physicians wouldn’t be possible without the generous gifts that have been given to this institution,” Sacks says.

In working with the Sharp family, Sacks experienced firsthand the transformative power of Packard’s exceptional care. As he sat with Tara at Elena’s bedside, he recalls, Tara shared a startling realization.

“She told me it had just hit her that Elena would be the first member of their family expected to survive this disease,” Sacks says. “I choked up. It was amazing to be part of giving this to the family, especially in light of how afflicted they had been across generations.”

Healthy and Content

Elena, now 15 months old, is not yet aware of her significant place in family history. Healthy and content, she’s focused on walking, giggling, and chewing on everything with her new teeth. After her difficult first year, she’ll grow up enjoying typical childhood activities.

“She’ll be able to play on the playground, run around the neighborhood, and ride bikes like all little kids do,” Hanley says.

Meanwhile, the genetic counseling team at Packard Children’s is still investigating the genetic basis of her heart defect. If they’re able to identify the genes involved, Elena’s case might shed light on the origin of tetralogy of Fallot in other families, too.

“Had Elena been born even 15 years ago, she likely wouldn’t have survived,” Tara says. “Packard Children’s has changed our family forever. Looking at her, you would never know that anything had been wrong.”
Private patient rooms, advanced medical technology, and added space for clinical services, medical research, and training and education — all are benefits of the Packard Children’s expansion project, which promises to transform care for children and families. The new, environmentally friendly facility, surrounded by nearly four acres of gardens and green space, will open in 2016.

Fun facts:
- More than 20,000 truckloads of soil have been removed from the site
- Nearly 2,350 cubic yards of concrete were poured to construct a new utilities tunnel
- More than 200 pilings are already in place for the building foundation
Physician-scientists occupy a unique niche: skilled in the practice of medicine, they also stand at the forefront of research and discovery. They combine compassion with commitment, and diligence with drive — a balancing act that only a handful can maintain. And few places exist that can provide the resources they need to succeed and thrive.

"Physician-scientists are rare and in high demand," says Hugh O’Brodovich, MD, the Adalyn Jay Physician-in-Chief at Packard Children’s and the Arline and Pete Harman Professor and Chair of Pediatrics at Stanford School of Medicine. "It’s important that we find ways for them to succeed."

The rising complexity of pediatric medicine plays a role. Dramatic advances in the diagnosis and treatment of childhood diseases — thanks to breakthroughs in medical technology and genetic and molecular research — have led to a measurable spike in the number of pediatric subspecialties.

"The depth of knowledge in pediatrics has become too complex for any individual doctor to maintain all the necessary skills," O’Brodovich says. "The question is how to recruit and retain the best physician-scientists to ensure excellent care for children and expectant mothers. The answer is to develop a team of both generalists and subspecialists, and to create opportunities for young faculty members to explore and thrive."

Opportunities to Excel

Fellows and faculty scholars are deeply imbedded at Packard Children’s. After completing their pediatric residencies, fellows undertake extra years of training to become proficient in a specific subspecialty. They develop their clinical expertise at Packard Children’s, and are active members of established research labs at Stanford School of Medicine, interacting with renowned investigators, medical students, and postdoctoral researchers.

Faculty scholars teach, provide patient care, and conduct independent research. Endowed support provides these rising stars with funding to dedicate time to multidisciplinary clinical, translational, and basic science research — all aimed at identifying new approaches to care for children and expectant mothers.

"Trainees are able to access a rich array of resources for their academic development," says Charles Prober, MD, professor of pediatrics and the senior associate dean for medical education. "Interacting in meaningful ways with leaders in other fields encourages peer-to-peer mentoring, and helps them navigate a difficult pathway as they launch their career."

Fellows and faculty scholars at Packard Children’s benefit from Stanford’s unique strengths: a culture of collaboration, depth in medical subspecialties, and a world-class academic environment, home to pioneers in engineering, business, law, and computer science.

"Packard Children’s provides state-of-the-art care for children and expectant mothers, and we continue to push the envelope in training and education," says O’Brodovich. "Philanthropy allows us to recruit the best and the brightest, and to prepare them for leadership roles in pediatrics and obstetrics. You can’t find a better place for innovation."
Samuel Cheshier, MD, PhD
Tasha and John Morgridge Endowed Faculty Scholar

The human brain is constantly making new cells, a process called neurogenesis. When things go awry, the cells can mutate, causing malignant brain tumors — one of the deadliest forms of childhood cancers. But what if you could teach the body’s other cells to eat the cancer cells?

That premise drives pediatric neurosurgeon Samuel Cheshier, MD, PhD, a Tasha and John Morgridge Endowed Faculty Scholar in Pediatric Translational Medicine, who researches how brain stem cells function to find new strategies for fighting childhood brain cancer.

Cheshier and his collaborators in the laboratory of Irving Weissman, MD, are looking at a protein called CD47 that sends a “do not eat me” signal to trick the body into ignoring cancer cells that would normally be destroyed or “eaten” by immune cells. By blocking CD47 on the cancer cells, the immune system can be stimulated to recognize those cancer cells as targets for removal.

Cheshier also works directly with young patients, refining neurosurgical techniques that will more precisely home in on a tumor while minimizing damage to nearby healthy tissue.

“I’m constantly flipping back and forth from the lab to the bedside,” he says. “The two aspects of my work inspire each other. I’m always thinking about what my patients need.”

With a background that spans immunology, neurosurgery, stem cell biology, and psychobiology, Cheshier is able to interact with faculty from different specialties and relishes exchanging different perspectives.

“Keeping up on the latest basic research also lets me keep up with the latest clinical investigations,” says Cheshier, an assistant professor of neurosurgery and of pediatrics. “They balance each other. Both lead to new ways to treat patients.”

As a surgeon, Cheshier works alongside Michael Edwards, MD, co-director of the Center for Children’s Brain Tumors and the Lucile Packard Children’s Hospital Endowed Professor in Pediatric Neurosurgery, participating in procedures that are performed at few other children’s hospitals in the country.

“We spend a lot of time together discussing patients and planning procedures,” Edwards says. “It’s not just a matter of improving skills as much as understanding the decision-making process: Why did we do it this way instead of that way? What are our options? We want to achieve the best outcomes based on sound, evidence-based knowledge.”

Edwards also is involved in Cheshier’s lab work, encouraging new research directions that will help him establish a national reputation. “Young faculty have to make a great commitment to excel,” Edwards says. “Philanthropic support gives them protected time for meaningful research that translates to therapeutic advances in the clinic.”

As a surgeon, Cheshier works alongside Michael Edwards, MD, co-director of the Center for Children’s Brain Tumors and the Lucile Packard Children’s Hospital Endowed Professor in Pediatric Neurosurgery, participating in procedures that are performed at few other children’s hospitals in the country.

“We spend a lot of time together discussing patients and planning procedures,” Edwards says. “It’s not just a matter of improving skills as much as understanding the decision-making process: Why did we do it this way instead of that way? What are our options? We want to achieve the best outcomes based on sound, evidence-based knowledge.”

Edwards also is involved in Cheshier’s lab work, encouraging new research directions that will help him establish a national reputation. “Young faculty have to make a great commitment to excel,” Edwards says. “Philanthropic support gives them protected time for meaningful research that translates to therapeutic advances in the clinic.”

With a background that spans immunology, neurosurgery, stem cell biology, and psychobiology, Cheshier is able to interact with faculty from different specialties and relishes exchanging different perspectives.

“Keeping up on the latest basic research also lets me keep up with the latest clinical investigations,” says Cheshier, an assistant professor of neurosurgery and of pediatrics. “They balance each other. Both lead to new ways to treat patients.”
Ann Ming Yeh, MD  
Bechtel Endowed Fellow

Ann Ming Yeh, MD, was first inspired to pursue a career in medicine while studying abroad in China as an undergraduate. An internship in Chinese medicine further focused her interest in integrative medicine, combining methods of alternative medicine with evidence-based practices.

When she began her fellowship training at Packard Children’s three years ago, Yeh looked for projects that would tie together her interests in integrative medicine and gastrointestinal (GI) diseases. A formally trained acupuncturist, she developed a study to determine whether acupressure can help reduce nausea and vomiting in children undergoing chemotherapy.

Yeh credits the intensive training in clinical research that is offered to fellows at Stanford with helping her devise a statistically valid study. Using a portable device that delivers electrical stimulation to acupressure points, Yeh can modify the current so that only half the patients receive stimulation to the correct areas, making it a placebo-blinded study.

“I don’t know of anyone else in pediatric GI doing this type of work,” says John Kerner, MD, Yeh’s mentor and professor of pediatric gastroenterology. “The Bechtel Endowed Fellowship in Pediatric Translational Medicine is a godsend to our program. It completely funds her salary and frees her to be prolific in her research.”

In a separate study, Yeh is investigating whether a 10-minute MRI of the liver can replace an invasive biopsy for children with fatty liver disease. Working with bariatric surgeons who collect liver biopsies from adolescents during weight loss surgery, Yeh is conducting a pre-surgical MRI of these same patients and then correlating her findings with the results of the biopsies.

Yeh’s long-term goal is to develop an integrative pediatric GI clinic. “I want some extra tools in my back pocket to treat patients on a more holistic basis,” she says. Yeh is preparing for such a future by taking a two-year course from the University of Arizona’s Center for Integrative Medicine. “One of my missions is to bring the evidence about integrative medicine to my colleagues in Western medicine.”

Tori Gauthier
Sergiu Pasca, MD
Tashia and John Morgridge Endowed Fellow

Sergiu Pasca, MD, arrived at Stanford with a pipe dream: to generate neurons from patients with autism in order to better understand the cellular underpinnings of this mysterious illness.

By taking non-invasive skin biopsies from patients with genetic forms of autism, he has succeeded in reprogramming them into stem cells and then differentiating those cells into neurons. Through this novel approach, he identified a set of specific cellular defects associated with autism — a discovery that was featured on the cover of *Nature Medicine* and then in an article published in *Nature Neuroscience*.

A medical doctor by training in his home country of Romania, Pasca took a non-traditional path, pursuing a career in basic research rather than immediately continuing his training as a clinician.

“I knew I wanted to do research in autism,” says Pasca, who had worked with patients during his clinical training in Romania and was frustrated by how little physicians could do for them.

While still a medical student, Pasca learned of Ricardo Dolmetsch, PhD, associate professor of neurobiology at the Stanford School of Medicine, who was beginning a new approach to autism research, and knew immediately that Stanford was where he wanted to work.

“But as a medical doctor with no research training, he wasn’t particularly qualified,” recalls Dolmetsch, now Pasca’s advisor. Dolmetsch was convinced to give Pasca a try by a Stanford colleague who met him while teaching in Romania.

Dolmetsch had one stipulation — Pasca had to secure funding to support himself, a task that, due to the inherent risk of the project, took nearly two years. His first one-year grant got him in the door at the Dolmetsch Lab. Subsequent funding from the Tashia and John Morgridge Endowed Fellowship in Pediatric Translational Medicine has allowed him to expand his work at Stanford.

“Although Sergiu had little formal training in basic research, he quickly became very good,” Dolmetsch notes. “In just a few years he has developed into an amazing postdoctoral fellow — one of the best I’ve ever had. His work has helped our lab become the first group to generate neurons from patients with autism.”

“We’re developing a new tool to move in the direction of rational drug development,” says Pasca. “This has never really been done for psychiatric diseases before. I really want to find new therapies and get them back to the patient. This is what draws me in every day.”

“I really want to find new therapies and get them back to the patient. This is what draws me in every day.”

Sergiu Pasca, MD
Priya Akula, MD  
Ernest and Amelia Gallo Fellow

For babies with asphyxia, or a loss of oxygen during birth, cooling helps to lessen brain injury and improve outcomes — but many of these babies are born in remote areas, far away from one of California’s 25 cooling center hospitals.

Priya Akula, M.D., an Ernest and Amelia Gallo Endowed Fellow in neonatology, is studying the benefits of providing cooling therapy for babies who must be transported quickly to a properly equipped facility. Her preliminary research indicated that only 40 percent of these babies arrived at cooling centers with their temperatures within the recommended range known to prevent brain injury.

“We needed a portable machine that would monitor and adjust body temperature continuously to keep the baby at the correct temperature for the duration of the transport,” says Akula. Such a machine did not exist in the U.S., so Akula found a device available in Europe and was able to arrange for the company to provide it for use in a multi-hospital clinical trial she has developed — the California Transport Cooling Trial.

In her randomized clinical trial, half the babies are cooled using standard protocols such as using ice packs, and the other half are cooled using the new portable devices. Akula is coordinating all aspects of the trial, which is being conducted at nine collaborating hospitals — training transport teams, troubleshooting problems, and collecting and analyzing the results.

“Priya is doing something incredibly innovative,” says her faculty advisor, Krisa Van Meurs, M.D., the Rosemarie Hess Professor in Pediatrics. “Her study has the potential to make a large impact on the field. Without the fellowship funding from the Gallo family, this multi-center trial would have been difficult for our Division to fund. We are deeply grateful for this support.”

— Krisa Van Meurs, MD
Alan Cheng, MD
Yang-Yamazaki Faculty Scholar

Ear, nose, and throat problems are not fun at any age, but for little children, the consequences can be severe. Just ask Alan Cheng, MD, a pediatric otolaryngologist at Packard Children’s and assistant professor at Stanford School of Medicine.

“I really got to know what hearing loss can do to kids when I was in medical school in New York,” recalls the Hong Kong-born surgeon and father. “I was seeing children from countries that didn’t have newborn hearing screening. By the time they were diagnosed, it was too late for them to learn how to speak.”

Since joining Packard Children’s in 2007, Cheng has treated thousands of youngsters with hearing loss caused by congenital problems or disease. His cochlear implant operations have allowed many to hear sounds for the first time.

“We love to see that,” he says, smiling. “The kids are so surprised when we turn on the implants. In a few months, they go from having no language to babbling words. With time, they can even communicate to their family. It’s very rewarding.”

And yet — what if there were a way to avoid surgery altogether, by coaxing the damaged cells of a child’s inner ear to regrow naturally, like a salamander’s tail?

To find out, Cheng regularly changes out of his surgical scrubs and puts on a white lab coat. Thanks to an endowed faculty scholar award from Akiko Yamazaki and Jerry Yang, he’s able to devote considerable time conducting innovative research studies that he hopes will lead to breakthroughs in the clinical setting.

So far, the results have been encouraging. Inspired and mentored by Roeland Nusse, PhD, professor of developmental biology, Cheng and his graduate students have been focusing on cells regulated by Wnt signaling, which plays important roles in embryonic development, cell differentiation, and tissue regeneration.

Recently, Cheng confirmed that cells taken from the inner ears of mice are responsive to Wnt signals and have regenerative capabilities. His ultimate goal is to devise new gene and drug therapies that can activate regeneration to restore hearing in children.●
Susanne Martin, MD
Mary Gallo Endowed Fellow

For adolescents battling anorexia or bulimia, bed rest is the current standard of care. However, bed rest can also lead to a serious side effect — brittle bones. Susanne Martin, MD, is studying the benefits of exercise among malnourished adolescents, and testing a hypothesis that moderate exercise may actually help young patients preserve their bone mass while they overcome their eating disorder.

“We know from earlier studies that a patient on prescribed bed rest gets brittle bones quickly,” Martin says. Since many of these malnourished adolescents have ceased menstruating, causing their bones to be at an even higher risk for becoming brittle, Martin questions whether bed rest is really the best approach with this population.

In Martin’s clinical trial, inpatients are randomly placed into one of two groups. Group one is assigned bed rest. Group two participates in carefully monitored jumping activities twice a day. Martin is measuring markers of bone formation and bone degradation in both groups, and is nearly halfway to her goal of testing 46 patients.

Board-certified in internal medicine, Martin realized she preferred working with younger patients during her residency training at Yale. A summer elective in adolescent medicine sealed her decision. “I knew this was the age group I wanted to work with,” she recalls.

Though she was offered fellowships at several medical centers, Martin chose Stanford because it presented the perfect balance between research and clinical training — and it has an established program for eating disorders, an area of research she wanted to pursue. The Mary Gallo Endowed Fellowship provided the funding she needed to pursue her dream of becoming a leader in adolescent medicine.

“Susanne is testing the current standard of care which has a negative effect on bone health in patients who already have brittle bones,” says her faculty advisor Neville Golden, MD, division chief of adolescent medicine. “It’s an ambitious project, which could have a profound impact on the way we treat patients.”

“It’s an ambitious project, which could have a profound impact on the way we treat patients.”

— Neville Golden, MD

Breaking New Ground | Innovative Research and Training
Shreyas Vasanawala, MD, PhD
Tashia and John Morgridge Endowed Faculty Scholar

Imaging an infant or young child presents a challenge that radiologists do not face with adults: kids move around a lot.

That simple concern is the motivation for pediatric radiologist Shreyas Vasanawala, MD, PhD, a Tashia and John Morgridge Endowed Faculty Scholar in Pediatric Translational Medicine. Working as both a clinician and researcher, he is able to observe in the radiology suites how his young patients respond and then return to the lab to refine the tools and technologies they need.

“Most imaging tools are designed for adults, and then adapted in practice for children as much as possible,” Vasanawala says. “The technology simply isn’t designed with children in mind. We’re working to develop new ways to acquire images that are faster and more accurate, and designed for kids right from the beginning.”

Vasanawala’s focus is developing faster, motion-insensitive approaches to pediatric cardiovascular MRIs to reduce the need for anesthesia during imaging. The smaller sizes of children’s bodies mean that sensors can be placed closer to the organ, resulting in higher-resolution scans. Vasanawala now has techniques that garner data equivalent to a conventional 90-minute scan in just 15 minutes – and without the deep anesthesia required to produce periods of suspended respiration. Vasanawala anticipates future developments that could yield a three-minute MRI.

“We still have a lot of untapped opportunities and work to do,” says Vasanawala. “These kids are in a fragile state, so cutting down scan time is a crucial goal.”

As a physician-scientist, Vasanawala explores a wide spectrum of radiology: creating the hardware, using that hardware to get imaging data in new ways, reconstructing images from less data, processing the images to yield more diagnostic information, and interpreting the results. His group collaborates with engineers and pediatric subspecialists in cardiology, cardiothoracic surgery, and anesthesiology to develop innovative solutions for diagnosing children.

“Shreyas is one of only a handful of people who are developing imaging technology for children and rapidly applying it in the clinical environment,” says Richard Barth, MD, radiologist-in-chief at Packard Children’s and professor of pediatric radiology at the Stanford School of Medicine. “His leadership in developing innovative technologies advances the care of children across multiple pediatric disciplines.”
IN THE news

Homestead Foundation Gives $150,000 for New Eco-Friendly Care-A-Vans

In April, the Homestead Foundation made a generous gift of $150,000 to purchase five new fuel-efficient vehicles for Packard’s Care-A-Van for Kids program. With the generous help of volunteer drivers, Care-A-Van ensures access to care by providing free, safe rides to and from the Hospital for patient families with no other reliable means of transportation. The gift will enable the program to replace its aging passenger vans with new, environmentally friendly, hybrid vehicles.

Packard Children’s Wins Health Award

Packard Children’s has been honored with a Food, Climate, Health Connection Award from Health Care Without Harm, an international coalition of hospitals, health care systems, and environmental health organizations working to implement ecologically sound and healthy alternatives in health care practices. The award recognizes facilities that are taking significant steps toward reducing their climate footprint. Packard Children’s also received one of four Sustainable Food Awards given this year to recognize substantial achievement as well as leadership in health care food service.

Roth Reelected to Board of Pediatric Cardiac Intensive Care Society

Stephen Roth, M.D., M.P.H., chief of pediatric cardiology at Packard Children’s, has been elected to a second consecutive term on the board of directors of the Pediatric Cardiac Intensive Care Society. Roth is the James Baxter and Yvonne Craig Wood Endowed Director of the Pediatric CVICU and a professor of pediatric cardiology. The Pediatric Cardiac Intensive Care Society is an international nonprofit organization whose mission is to promote excellence in pediatric cardiac critical care medicine.

Lin Receives Innovation Award for Cancer Research

Michael Lin, M.D., Ph.D., assistant professor of pediatrics and of bioengineering, is the recipient of a 2013 Damon Runyon-Rachleff Innovation Award from the Damon Runyon Cancer Research Foundation. The grant of $450,000 over three years is awarded to early career scientists whose projects have the potential to significantly impact the prevention, diagnosis, and treatment of cancer. Lin’s research aims to take a new approach to cancer treatment by reprogramming viruses to replicate specifically in cancer cells, triggering their destruction.

Packard Research Helps Improve Breast Milk Feeding Rates

Research has long shown that premature babies benefit from consuming breast milk; however, their chance of receiving it is strongly influenced by the hospital where they are born. Researchers at Packard Children’s and Stanford are working to change that. A study led by Paul Sharek, M.D., M.P.H., chief clinical patient safety officer at Packard Children’s and associate professor of pediatrics at Stanford, has helped 11 California hospitals significantly improve their rates of breast milk feeding for premature infants. This study, and the positive outcomes that resulted, carry larger implications for helping hospitals adopt underused evidence-based practices.
Butte Elected to Prestigious Research Society

Atul Butte, MD, PhD, division chief of systems medicine and associate professor of pediatrics at Stanford University School of Medicine, was elected to the American Society for Clinical Investigation (ASCI) at the society’s annual meeting in April.

The ASCI comprises more than 3,000 physician-scientists with outstanding records of scholarly achievement in biomedical research. The society is dedicated to improving the treatment of human diseases, and members are committed to mentoring future generations of physician-scientists.

Butte conducts integrative genomic research across the results of hundreds of independent, publicly available experiments — spanning billions of molecular measurements — to discover potential targets for new treatments. To date, he has successfully used this approach to find new diagnostics and therapies for type 2 diabetes, inflammatory bowel disease, and lung adenocarcinoma.

Bill & Dave Golf Classic Nets $27,000 for Teen Van

The 2012 Bill Hewlett & Dave Packard Charity Golf Classic, held in San Jose last fall, raised $27,000 to support Packard’s Mobile Adolescent Health Services Program. Affectionately known as the Teen Van, the program brings free health care and expert medical staff to serve homeless and uninsured youth throughout the Bay Area. Since 1995, the Bill & Dave Golf Classic has generously donated over $535,000 to Packard Children’s.

Board Members Cranston and Shaw Recognized

Two board members at Lucile Packard Children’s Hospital, Mary Cranston and Jane Shaw, were saluted by Bay Area business publications for their outstanding career achievements in board service. Cranston, who was honored for career leadership, has served as board chair of Packard Children’s since January 2012, and as a member of the board since 2008. Shaw, elected to the Hospital’s board in 2012, was noted for her service and far-reaching influence. Cranston and Shaw were recognized in Outstanding Directors 2013, an annual publication from the San Francisco Business Times and Silicon Valley Business Journal.
Mueller Leads CPMC Partnership

Pediatric general surgeon Claudia Mueller, MD, PhD, the Tashia and John Morgridge Endowed Faculty Scholar in Pediatric Translational Medicine, has been named medical director of Packard’s collaborative program with California Pacific Medical Center (CPMC) in San Francisco. The relationship between Packard Children’s and CPMC was launched in 2012 to increase access for children in Northern California to highly specialized, high-acuity inpatient care.

Through this collaboration, pediatric specialists from Packard Children’s provide care at CPMC in general surgery, urology, nephrology, neurology, orthopedics, cardiology, and gastroenterology, with more services planned for the future.

“It’s a happy marriage,” says Mueller. “We integrate the best of what Packard has to offer with the best of what CPMC already has in place.”

Heal EB and Eddie Vedder Make Inspiring Gift

In March, Heal EB and Eddie Vedder, lead singer of Pearl Jam, visited Stanford University to present a generous gift of $95,000 to support research on epidermolysis bullosa (EB), a devastating disease that causes skin to tear and blister at the slightest touch. Heal EB was founded by Heather and Ryan Fullmer to fund a cure for EB through research and to raise awareness for the disease. On hand for the special visit were Jill and Eddie Vedder, ardent supporters of Heal EB’s mission, Al Lane, MD, professor of dermatology and pediatrics, emeritus, and the Fullmers’ son Michael, who has been receiving treatment for EB at Packard Children’s since birth. Packard Children’s is home to one of only four dedicated EB clinics in the country.

Kay Awarded for Gene Therapy Research

Mark Kay, MD, PhD, the Dennis Farrey Family Professor in Pediatrics and professor of genetics, has received the 2013 Outstanding Achievement Award from the American Society of Gene & Cell Therapy, which advances the use of genetic and cellular therapies to combat human disease. Kay, director of the human gene therapy program at Stanford University School of Medicine, studies how diseases such as hemophilia, diabetes, and hepatitis B and C could be alleviated with gene therapy. He accepted the award at the society’s annual meeting in May in Salt Lake City, Utah.
Sage Awarded Springboard Grant for Cancer Research

Julien Sage, PhD, a Tashia and John Morgridge Faculty Scholar in Pediatric Translational Medicine, is the recipient of a Springboard Grant of $100,000 from Alex’s Lemonade Stand Foundation (ALSF). The grant will support Sage’s research in identifying novel ways to accelerate the regeneration of T-cells, which play a central role in immunity. This could strengthen the immune system of children with cancer to help fight infections and may also help to directly combat cancer.

ALSF, which is dedicated to eradicating childhood cancers, offers the Springboard Grants in response to cuts in research funding from the National Institutes of Health. The grants are designed to jump-start new cancer research projects with high impact potential.

ALSF, a much-appreciated supporter of Packard Children’s, has awarded grants over the years to numerous faculty members engaged in promising, innovative research to find new treatments and cures for pediatric cancer.

Sarah S. Donaldson, MD

Donaldson to Lead Radiological Society

Sarah S. Donaldson, MD, was elected to serve as president of the Radiological Society of North America (RSNA) for 2012-13. Donaldson is chief of radiation oncology service at Packard Children’s and the Catharine and Howard Avery Professor of Radiation Oncology at Stanford University School of Medicine. As president, she will help shape and implement RSNA’s vision to advance the radiologic sciences and embrace patient-centered care. The RSNA is a society of diagnostic radiologists, nuclear medicine physicians, radiation oncologists, medical physicists, and allied imaging professionals. The society hosts the world’s largest medical imaging annual meeting, with nearly 60,000 attendees each year.

YSayed Appointed Obstetrician-in-Chief

Yasser El-Sayed, MD, professor of obstetrics and gynecology, was appointed obstetrician-in-chief at Lucile Packard Children’s Hospital. El-Sayed succeeds Maurice Druzin, MD, who has stepped down from the position after 22 years to focus on patient care, teaching, and research. Prior to becoming chief, El-Sayed served as associate director of maternal-fetal medicine and obstetrics. He now heads the hospital’s Johnson Center for Pregnancy and Newborn Services and is director of the Division of Maternal-Fetal Medicine and Obstetrics, and is also a professor of obstetrics and gynecology at Stanford University School of Medicine. El-Sayed has been at Stanford since arriving as an intern in 1990.
Help us build a healthy, hopeful future, one brick at a time.

Make a special gift to our expansion, and you can help us build healthy, hopeful futures for patients and families at Packard Children’s. To thank you, we will engrave a brick with your personal message!

Your special engraved brick will line one of the two new community pathways outside the hospital, on the corner of Quarry and Welch Roads. Installation of the bricks is scheduled for 2016, when we open our new state-of-the-art expansion.

Choose from three brick sizes:

- **4” x 8” Brick: $1,000**
  (2 lines of text, with 23 characters each)

- **8” x 8” Brick: $5,000**
  (5 lines of text, with 23 characters each)

- **12” x 12” Brick: $25,000**
  (6 lines of text, with 23 characters each, plus an optional logo)

A limited number of engraved bricks are available, so make your donation today!

Visit give.supportLPCH.org/bricks
In grieving the loss of their young son from a devastating form of brain cancer, Jay and Mariam Johnson of San Jose found a way to celebrate his life — and help save the lives of children like him. The Connor Johnson Invitational, held in June 2012 to commemorate what would have been Connor’s 6th birthday, brought together friends, family, and golfers of all ages for a charity tournament and auction.

The event became a moving tribute to Connor’s life, with the course decked out in red, his favorite color. It also launched the Johnsons’ efforts to raise money for Diffuse Intrinsic Pontine Glioma (DIPG) research, the form of cancer that took Connor’s life.

“It was a way to honor Connor, to give friends an opportunity to celebrate their children, and to recognize how precious our lives together are,” Mariam explains. The tournament raised nearly $32,000 and brought together 200 people in support of the cause.

But the fundraising didn’t end at the 18th hole. Because the event sold out so quickly, people who were unable to attend still wanted a way to contribute. So the Johnsons created a fundraising page on PackardPages.org, in memory of their son, to raise awareness of DIPG and generate support for innovative research at Stanford.

Donations made through the Johnsons’ Packard Page go to the Connor Johnson Memorial Fund, which supports studies led by Michelle Monje-Deisseroth, MD, PhD, a Packard clinician and faculty member in the Division of Child Neurology and Neurological Sciences at Stanford. Monje-Deisseroth treated Connor, and made a lasting impression on his family.

“We’re so incredibly lucky to have known her,” Mariam says. “She’s not only an amazing researcher. She’s such a compassionate person, too.”

Monje-Deisseroth and her team are making exciting progress, thanks in large part to Jay and Mariam’s fundraising.

“Support from the Johnsons has enabled us to move forward more quickly in our efforts to find an effective therapy for DIPG,” says Monje-Deisseroth.

By creating this fund in memory of their son, Jay and Mariam can now offer new hope for families and children battling DIPG.

To see Connor’s personal fundraising page, please visit PackardPages.org and search for Connor Johnson Memorial Fund.

---

**Host Your Own Event Today**

Hosting a fundraiser is fun and easy! With these tips and tools at your disposal, you can make a critical impact on children’s health:

- **Planning checklist** to get you started
- **Event timeline** to keep you on track
- **Ideas, spreadsheets, logos**, and any other guidance you may need along the way
- **Packard Pages** to raise online awareness and support among family, friends, and colleagues

**Packard Pages** are perfect if you’re throwing a benefit event, gathering donations in lieu of gifts for a birthday or wedding, or honoring someone special. With our simple online tools, you can create a personal web page, share your story, watch your fundraising progress, and thank your supporters. Visit PackardPages.org to create your page today!

For more information about planning an event to benefit Packard Children’s or the Stanford School of Medicine, please call (650) 498-6328 or email communityevents@lpfch.org.
You Race. Kids Win.
The Summer Scamper is back! Join us on Sunday, June 23, for the 3rd annual Packard Summer Scamper on the beautiful Stanford campus. Sign up for the 5k, 10k, or kids' fun run (ages 3-10), or as a virtual racer or volunteer. And new this year, fundraise for your favorite child health program at Packard or Stanford! After the race, celebrate at our family festival featuring awards, music, refreshments, and fun for all.

Learn more and register at SummerScamper.org!