

THIS MOMENT FOR
RESEARCH



Dwi Utami Kemaladewi, PhD with members of her research team

UPMC
**CHILDREN'S
HOSPITAL**

FOUNDATION

WHY, IN *THIS MOMENT*, RESEARCH MATTERS

At UPMC Children's Hospital of Pittsburgh, research is the foundation for how we care for children.

Research enables us to have a deeper understanding of how we can best care for the whole child, from the complex factors that cause their symptoms, to the treatments that alleviate health challenges, to the cures that improve and save lives. It drives innovation that creates better, faster, and more cost-efficient outcomes for the children in our community and beyond. More than incremental quality improvement, research adds fundamental scientific learning that accelerates discovery across all of medicine. The hospital's mission is to improve the health and well-being of children, teenagers, and young adults through excellence in patient care, teaching, research, and advocacy — and of all these components of our mission, research is the foundation.

The research taking place at UPMC Children's today will change the trajectory of a child's life tomorrow.

It is possible in *This Moment* to diversify and accelerate research that will give hope to children and families who need it most. Through our multi-year, comprehensive fundraising campaign, philanthropy can fuel the transformational discoveries that will turn diseases of the present into diseases of the past. It will enable us to understand how we can best serve the whole child, opening the doors for them to be healthy, happy, and thriving. Research is the key to putting every child's future first.



George K. Gittes, MD, surgeon-in-chief emeritus and scientific co-director of research

AT UPMC CHILDREN'S, OUR SCIENTISTS ARE LASER-FOCUSED ON PURSUING:

- Innovation and collaboration that will translate discoveries in the lab to practice in the community
- Expansion of scientific discoveries and treatments that will ensure healthy minds, bodies, and communities for children locally, nationally, and around the world



Investment in research enables physician-scientists like Brian Feingold, MD, MS, FASA, to provide enhanced care to Kylie, a child with cardiomyopathy.

“The child who seeks care now is our first priority and, because of our talent and commitment, we also have a responsibility to help children in the future through research and discovery.

– Terence S. Dermody, MD, physician-in-chief and scientific director

IN THIS MOMENT, THE CAMPAIGN FOR UPMC CHILDREN’S WILL:



FOSTER innovation through collaboration across scientific disciplines to address life-threatening diseases like cancer, diabetes, and congenital heart disease.



SUPPORT the recruitment, retention, and advancement of world-class investigators, visionary leaders, and renowned physicians.



ACCELERATE the pursuit of discovery by creating opportunities for promising ideas to be explored, tested, and strengthened without delay.

OUR IMPACT

UPMC Children's has long been a pioneer in pediatric medicine, and research propels every forward stride. Our investigators are making advances on many fronts, including vaccines against brain cancer, repurposing seizure medication to cure liver disease, and therapeutic regeneration of human heart cells.

We have achieved significant milestones in research that have enhanced the quality of care and elevated pediatric health across the world.

ONE OF THE FASTEST GROWING PEDIATRIC MEDICAL INSTITUTIONS IN THE NATION, TODAY, RESEARCH AT UPMC CHILDREN'S IS:



A force of over 350 scientists and clinicians



Nationally recognized as one of the top 10 pediatric residency programs



The recipient of a cumulative \$40 million in funding from the National Institutes of Health (NIH) (nearly five times the amount initially received 22 years ago)



Home to the NIH-funded Children's Pediatric Clinical and Translational Research Center (PCTRC), one of only a handful of such programs in the nation



Supporting more than 400 funded research projects in the Department of Pediatrics alone, a tenfold increase over 2001's levels



Spanning the spectrum of expertise in research areas from discovery to practice through basic (fundamental), translational, and clinical research all in one integrated program



Hülya Bayır, MD, director of the Children's Neuroscience Institute

UPMC CHILDREN'S MILESTONES IN RESEARCH OVER THE DECADES

1950s Dr. Jonas Salk's polio vaccine was proven safe and effective, leading to the near eradication of polio.

1960s The unique General Clinical Research Center (GCRC) was established at Children's to increase medical knowledge and treatment of childhood diseases.

1970s The largest active diabetes clinic, housing more data on diabetes than any other institution in North America, was established through the collaborative research between Drs. Allan Drash and Lewis Kuller.

1980s Dr. Thomas Starzl advanced lifesaving organ transplant surgery that revolutionized treatment for children and adults.

1990s Dr. Thomas Foley developed Neonatal Screening for Congenital Hypothyroidism, which is now mandated in many countries. The simple screening conducted at birth enables immediate treatment that can spare children irreversible brain impairment.

2000s The GCRC at UPMC Children's is a designated Pediatric Clinical and Translational Research Center, part of a select network sponsored by the National Institutes of Health.

2010s A transformational gift launches the Richard King Mellon Institute for Pediatric Research that features the Mellon Scholars program, a robust pipeline of researchers on the tenure stream at Children's, across all divisions, creating a strong community of mentorship among investigators.

2020s In this moment, our researchers are on the cusp of new treatments for cancer, congenital heart disease, autoimmune conditions, and scores of other childhood health concerns through pursuits like The Pittsburgh Study, the country's largest study of the determinants of child health.

OUR VISION FOR RESEARCH

To make hope a reality, UPMC Children's has established a bold vision for our research — to be the leading pediatric center for discoveries that power innovative approaches to prevent and treat childhood illnesses.

We are proud of our success and growth in research, yet there is so much more to accomplish. Continued investment in innovative research will lead to scientific advances that provide hope to children who need it the most.



Scientific advances have enabled us to understand how we can care for children with complex heart conditions like Abdullah.



To realize our vision, we must become the top destination for diverse talent in pediatric discovery and health.



Innovative research leads to advancements in leukemia treatments for patients like Colin.

THREAT AGAINST HOPE

People drive the innovations and discoveries that provide hope to so many children and their families, yet the medical research field is threatened by dwindling resources, increasing pressure on clinical time, and limited access to flexible funding.

Unlike clinical care, research does not generate revenue that can be re-invested in the initiatives needed for growth. Research functions within a limited fixed hospital budget meant for operational purposes, making discoveries and scientific advances dependent on additional external funding. And as the demand for NIH funding has increased, competition for funding in pediatric research has also increased. In the most recent year that funding was analyzed (2018), children were 22% of the U.S. population, but pediatric research received only 12% of the total NIH funding from all institutes and centers. These growing limitations often require that potential pediatric research initiatives already have a proof of concept and carry limited risk to be competitive for funding.

This scenario prevents pursuit of promising ideas and tremendous research opportunities that could change children's lives.

On top of funding limitations, the pressure on time constraints significantly affects those who may consider pursuing careers in medical research. For an early career investigator, the road to becoming a lead researcher (also known as a PI) is long. With years of dedicated time in the lab, hours training with lead investigators, and considerable effort collecting and analyzing data to advance their qualifications and progress in their career, they face even greater limitations on funding and flexibility to pursue hypotheses. This long training pathway puts growing pressure on our researchers' ability to devote enough time to investigate, especially for physician-scientists who must meet the expectations of their clinical responsibilities. Thus, many exceptionally talented young people are not incentivized to pursue research, and those who do often find themselves inhibited by the constraints of funding, time, and resources. **Given these constraints, we, as a society, are at risk of having fewer researchers, and fewer opportunities to inspire hope for children with challenging health conditions. Investment in early-stage investigators is vital.**

NIH funding provides roughly 70 cents per dollar required for a given scientific project.



The pursuit of promising ideas can lead to discoveries that could change the lives of children with cancer like Alondra.



Children are 22% of the population and 100% of the future, but only 12% of federal research funding supports child health research.

– *John V. Williams, MD, chief of the Division of Infectious Diseases and director of the Institute for Infection, Inflammation, and Immunity in Children (i4Kids)*

At UPMC Children’s, we are witnessing the effect of this threat. Despite our reputation and historical growth, our continued influence in the field is in jeopardy without access to a significant investment in people and programs.

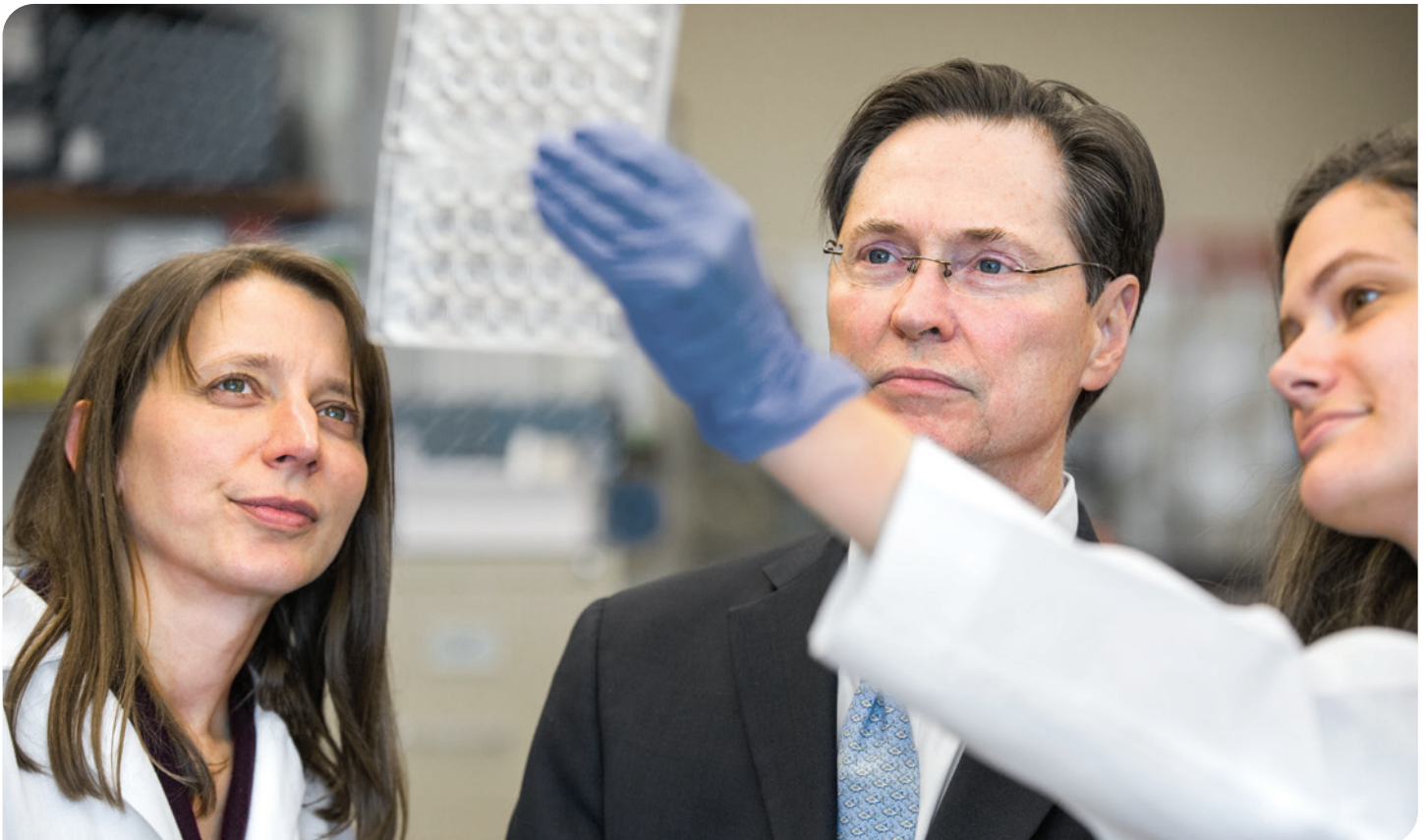
Our top competitors with more flexible finances, endowed resources, and larger markets actively pursue our key researchers and top personnel, making it harder to retain and attract top talent.

Philanthropy will provide the flexibility needed to alleviate inefficiencies and time constraints, invest in the recruitment packages that will bring diverse leaders in science and health to Pittsburgh, and build a sustainable roadmap for our expert physician-scientists, early-stage investigators, and their teams to grow within UPMC Children’s and stay long-term.

WE ARE POISED TO ATTRACT DIVERSE TALENT

We take pride in our history of excellence, our collegial reputation, and our western Pennsylvania culture. These qualities catalyze the big aspirations and collaboration that are vital to advances in pediatric research.

Funding is the only obstacle stopping us from being the top destination for diverse talent in discovery and health.



Terence S. Dermody, MD, physician-in-chief and scientific director

From addressing common ear infections to developing new vaccines, all with an understanding of health-related social needs, our network of integrated systems nurtures an environment uniquely positioned across the landscape where physicians and scientists can do the best work and realize their potential.

The Richard King Mellon Institute for Pediatric Research fosters a thriving culture of mentorship. The Institute's Mellon Scholars program is a robust and innovative pipeline of assistant professors on the tenure track at UPMC Children's, across all departments, creating a strong community of mentorship among investigators while encouraging collaboration and promoting curiosity. The Mellon Scholars program has proven to help early-career investigators grow their careers at UPMC Children's and stay long-term.

UPMC Children's is home to world-renowned researchers and disease-specific experts in areas such as cancer, diabetes, gene therapy, infectious diseases, and transplantation. The existing expertise has led to breakthroughs in discovery and provides invaluable mentorship opportunities for early-stage and senior investigators alike. Our leaders are ready to grow their talent and expand our reach to be best-in-class in many other critical areas.

In partnership with the University of Pittsburgh, UPMC Children's has been able to accelerate our advances in research to gain local, national, and global attention. Through our collaborative partnership, our researchers have access to a wealth of data, expertise, and opportunities that broaden the scope for potential discoveries.

Located on UPMC Children's campus, the John G. Rangos Sr. Research Center is a state-of-the-art 10-story building with more than 300,000 feet of space dedicated to medical research activities. This designated facility enables our physician-scientists to focus on caring for the child in our hospital today while finding the solutions for children we will treat tomorrow.



*John G. Rangos Sr.
Research Center*



To turn our vision into reality, we must be able to grow and retain our best and brightest people, and recruit diverse talent to join our team of experts. Philanthropic investment will enable the best researchers to leverage the unique environment at UPMC Children's to accelerate the progress of scientific discovery and find tomorrow's cures for countless children who face an uncertain future.

GALVANIZE THE FUTURE

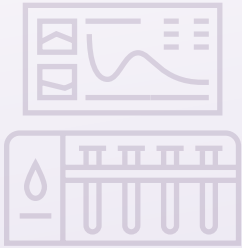
Philanthropy helps bridge the gap between what is and what could be. With the growing challenges of NIH funding and finite hospital and government resources, philanthropy has a deep and transformative effect on healthcare innovation.

By supporting the future of pediatric research, we will be able to invest in the people and infrastructure that will make UPMC Children's a top destination for diverse talent and become the leading pediatric center for discoveries that power innovative approaches to prevent and treat childhood illnesses.



Philanthropy will foster innovation and ensure pursuit of discovery for researchers like Timothy W. Hand, PhD, assistant professor of Pediatric Scholars, Richard King Mellon Institute for Pediatric Research, whose research in gastrointestinal immunology may provide insights into a variety of diseases affecting children, including Crohn's disease, environmental enteropathy, and food allergies.

FOSTER INNOVATION AND ACCELERATE DISCOVERIES



We will use funding to increase collaboration, fueled by investment in state-of-the-art equipment and data analytics experts that will alleviate constraints on our researchers, increase their efficiency, and open opportunities for further discovery. Through philanthropy, we will be able to:

- Invest in sustainable resources that enhance the efficiencies of data processing and analysis to accelerate the speed at which our researchers can discover breakthroughs
- Acquire the constantly evolving tools and instruments required to foster innovation and enable our physicians and scientists to work together to make patient care even more precise and produce better outcomes
- Communicate field-changing research in high-impact journals and professional meetings and share change-of-practice updates directly with patients, families, and other providers

ENSURE FLEXIBILITY TO PURSUE DISCOVERY



Now more than ever, we need to be nimble in our ability to act quickly on urgent and exciting opportunities. With limitations in NIH funding, tightly defined budgets, and pressure to fulfill revenue-generating clinical activities, philanthropy is the only source of funding our researchers can depend on to pursue their discoveries and expand on ideas. Through philanthropy, our research program will be able to:

- Provide every scientist with the necessary resources to maximize their scientific contributions
- Enable our experts to move quickly and deploy investment in areas of most critical need
- Launch new, promising programs to solve the most vexing problems for patients
- Support our early-career investigators from the completion of their fellowship to leading an NIH-funded investigative team

BOOST RETENTION AND RECRUITMENT EFFORTS



In Pittsburgh, we have a unique culture and an equally unique team to match. The field of pediatric research is constantly evolving. Our efforts to recruit and retain the best and brightest physicians and scientists are essential to fuel advances in children's healthcare and our continued legacy as a leader in pediatric medicine and research. Through philanthropy, the hospital's efforts to recruit, retain, and train will:

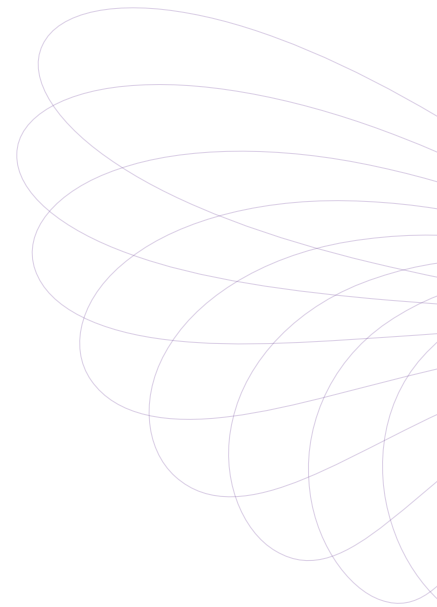
- Expand start-up packages to attract the best researchers to Pittsburgh
- Support our early-career investigators when their fellowship training is completed but who are not yet ready to lead an investigative team. We will provide immediate resources to fund the administrative costs, lab technicians, and research coordinators needed to pursue discovery while adding expertise in research leadership

YOUR IMPACT AT UPMC CHILDREN'S

With your help, our ability to become the leading pediatric center for discoveries that power innovative approaches to prevent and treat childhood illnesses is within reach.

Though the pathway is not easy, it is clear and achievable with strategic investments in our people and programs. With strong collaboration and philanthropic partnership with the community, we will elevate our contributions to discovery and clinical care. We can bolster our current expertise and strengthen our knowledge, understanding, and capabilities in essential areas including cancer, diabetes, heart disease, neurologic conditions, and health equity. We will improve our national rankings and expand our ability to enhance the future of children in our community, across the country, and around the world.

From its inception, *This Moment* was intended to be a true community effort and a movement inspired by the generosity of Pittsburghers and the pride in this hospital as a beacon of hope for children near and far.



Consider joining us at this historic moment and investing in our children's future.

Your gift to research can improve the quality of life for young transplant recipients like D'Kaiden.

On behalf of UPMC Children's Hospital Foundation, thank you for your support of our mission and your commitment to the health of children.



Gifts to research provide hope to families like Cecilia's.

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