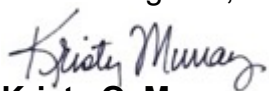

Texas Children's Hospital
Baylor College of Medicine
Department of Pediatrics
Annual Research Report 2019
Murine lung tissue section stained to highlight cell nuclei (blue), various immune cell populations (green, magenta) and neural projections (red). Credit: A. Carisey.

Dear colleagues,

On behalf of research leadership, it is our great pleasure to present to you our 2019 Annual Research Report for the Department of Pediatrics. This is our first time publishing this report, and it is a joy to celebrate our successes over the past year. We certainly have a lot to be proud of as a department. In our DOP, 408 of our 1,102 (37%) faculty have dedicated research effort. Of these 408 research faculty, the majority (n=242; 59%) are Instructors or Assistant Professors. Our departmental growth over the past few years has led to an exciting expansion of our research footprint, with new and innovative ideas aimed at improving the lives of children. Our grant submissions keep increasing, as does our NIH success rate which remains above the national average. In 2019, our faculty brought in over $103 million in extramural funding, and we moved up in the Blue Ridge Report rankings from 7th to 4th in the country in NIH funding among departments of pediatrics. In 2019, our faculty authored a total of 1,876 manuscripts in peer-reviewed journals, with 25% of articles published in journals with impact factors greater than 5. I greatly enjoy hearing about all of your successes, and I look forward to another productive and fruitful year ahead for 2020.

Kindest regards,

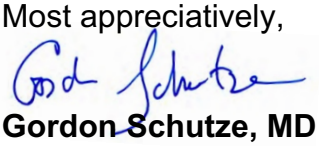


Kristy O. Murray, DVM, PhD
Vice-Chair for Research & Professor of Pediatrics, Dept. of Pediatrics
Director, Texas Children's Hospital William T. Shearer Center for Human Immunobiology
Assistant Dean of Faculty and Academic Development, National School of Tropical Medicine
Baylor College of Medicine & Texas Children's Hospital

Dear faculty, staff, trainees, and research stakeholders,

I sincerely appreciate our research leadership team's efforts in compiling our department's metrics to present in this digestible report. It's helpful to have a look at where we are now compared to where we used to be. I want to thank Drs. Kristy Murray (Vice Chair for Research), Lisa Bomgaars (Assoc. Vice Chair for Research—Clinical Research and Medical Director of the Research Resources Office), and Katherine King (Assoc. Vice Chair for Research—Basic and Translational Science) for their leadership and commitment to the department. We are grateful for their dedication and support of our faculty, trainees, and research staff.

Most appreciatively,



Gordon Schutze, MD
Professor and Interim Chair, Department of Pediatrics
Baylor College of Medicine and Texas Children's Hospital

Research Leadership Teams

Baylor College of Medicine, Department of Pediatrics

Gordon Shutze, MD
Interim Chair

Kristy Murray, DVM, PhD
Vice Chair for Research

Lisa Bomgaars, MD, MS
Associate Vice Chair for Research,
Clinical Research
Medical Director, RRO

Katherine King, MD, PhD
Associate Vice Chair for Research,
Basic and Translational Science

Texas Children's Hospital, Research Administration

Tabitha Rice
Senior Vice President

Paige Schulz
Assistant Vice President
Interim Director, Research Administration

The TCH Commitment to Research Infrastructure and Support

Pediatric research is mission-critical for 5 reasons:

(1) It is the foundation of evidence-based practice;

(2) It drives innovation, efficiency, and quality improvement in patient care;

(3) Patients and families choose to come to TCH knowing that we have the latest treatment options and best care practices;

(4) Gifted researchers gravitate to research-intensive practice settings; and

(5) Top residency and fellowship candidates want to train at institutions that have first-rate research infrastructure, mentorship, facilities, and resources necessary to invest in their long-term success.

Regarding investment, TCH directs ~$40 million a year to our research facilities and infrastructure and continuously provides purchasing opportunities for state-of-the-art equipment with a commitment to maintenance contracts. TCH also provides the DOP with ~$18 million a year to support intramural funding, with generous start-up packages provided to new investigators. As a department, we are incredibly fortunate to have this long-standing and generous commitment from our affiliate hospital.

In addition to support of the infrastructure, TCH also dedicates $500,000 to the DOP's Pediatric Pilot Award program. Through this competitive program, junior faculty submit research proposals for pilot studies. Each year, we award $50,000 to 10 faculty for their pilot award research. Since its inception in 2010, this program has awarded $5.32 million in funding to 111 investigators, thereby empowering them the opportunity to generate pilot data for grant proposals. As a result, we have achieved a $83.4 million return on investment.

The Department of Pediatrics Research Advancement Program

In 2014, Dr. Murray, Vice Chair for Research, recognized the challenges and barriers our early career research faculty face. She discovered that of the 69 new research faculty hired over the prior 5 years, only 10 had successfully achieved NIH career development funding (2 K23s and 8 K08s). Similarly, among a cohort of newly-hired research faculty, the percentage of extramural funding to protect their research effort remained low over the first 5 years of their appointment. As a result, they fall short of the expected 50% effort as a benchmark for promotion to Associate Professor. They also struggled to meet our other promotion benchmark of 3 publications per year, with half as first or senior author, to ensure 20+ publications by the time they become promotion-eligible. Meeting these benchmarks has proven critical for establishing successful research careers.

Out of concern for these young investigators, Dr. Murray created the Junior Faculty Research Development Program in 2015, which then changed names in 2018 to the Research Advancement Program (RAP) as a means of recognizing the importance of research development opportunities throughout one's career. RAP offers yearly, full-day workshops on grant proposal development and scientific writing, as well as monthly smaller-group workshops in which faculty receive peer mentoring on Specific Aims page drafts. To date, 143 research faculty have participated in the RAP program (Fig. 2), with many returning to attend the annual and monthly workshops.

Workshop	2015	2016	2017	2018	2019
Scientific Writing	62	44	38	37	45
Grant Writing/Proposal Development	64	44	26	25	39
K award proposal development	N/A	27	16	15	19
Specific Aims Workshop	35	31	18	43	21
Leadership	N/A	N/A	62	45	N/A

Figure 2: *The number of participants attending career development workshops since the inception of the DOP's Research Advancement Program.*

Since the inception of the RAP, we have observed an increase in the number of grant proposals submitted from 475 submitted in 2014 to now ~800 proposals submitted each year since (Fig. 3). The quality of these proposals has also improved, with our NIH funding success rate increasing from 9.9% in 2014 to ~25% each year (Fig. 4). We have seen the number of K awards more than double, from 10 in 2014 to 24 by 2017.

Figure 3. *Increases in proposal submissions and success rates since the inception of the JFRP/RAP program in 2015.*

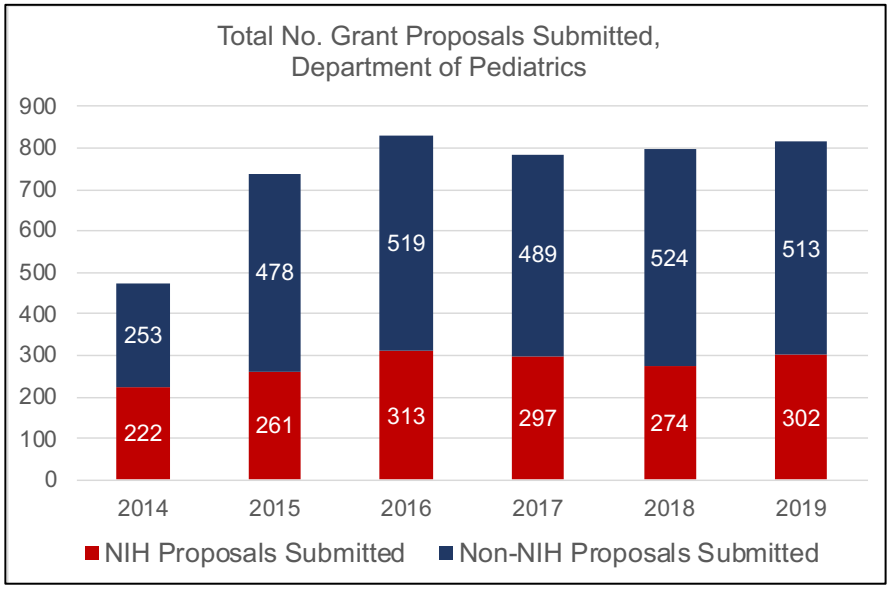


Figure 4. *Increase in funding success rates over time.*

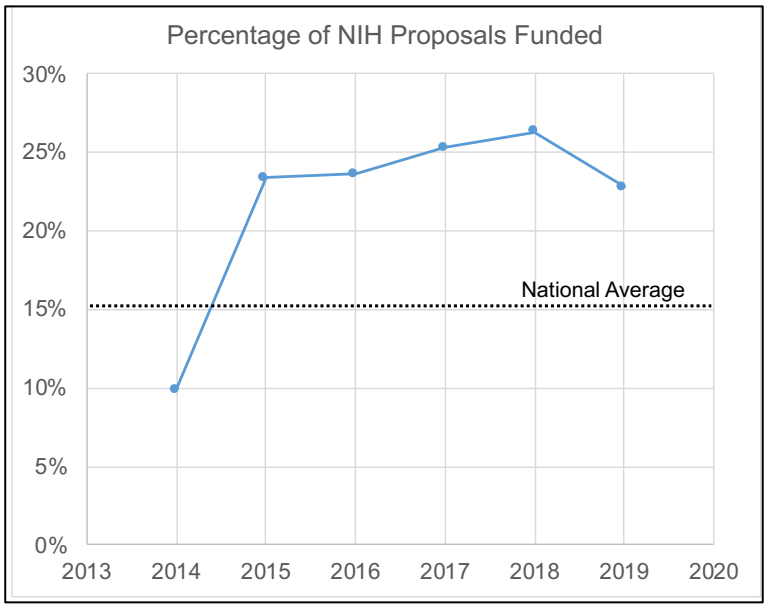
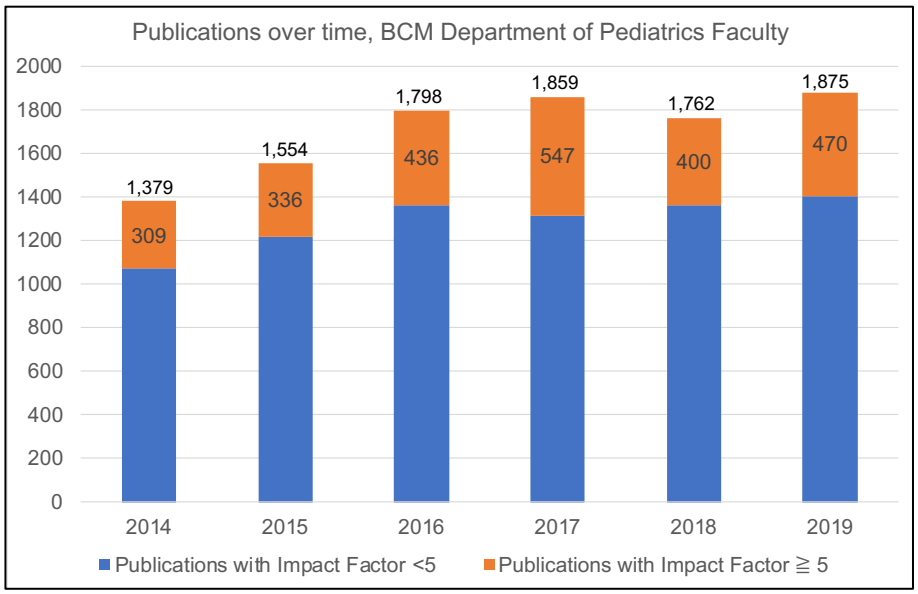


Figure 5. *Publications by the DOP faculty over time.*



In addition to grant proposal productivity and funding success, we have also seen improved productivity and quality of research publications from our faculty. We have seen an increase to ~1,800 publications each year, with around a quarter published in journals with impact factors ≥ 5 (Fig. 5).

To date, TCH has supported the JFRDP with $200,000 ($40,000 per year). The 143 faculty participants procured $36.4 million in extramural funding since 2015. This gives us a return on our investment of $182 for every $1 spent. Total extramural funds awarded were higher for those who participated in one or more workshops compared to our junior research faculty who did not attend any of the JFRDP workshops.

Research Accomplishments for 2019

We would like to acknowledge those faculty within the department who have been successful in achieving extramural support. Below are the names of those faculty who brought in over $500k and over $1 million in extramural funding over the past year. Congratulations to each of you on your success.

Investigators with $500k - $1 million in extramural funding in 2019*:		
ALLEN, CARL	LEEN, ANN	REDONDO, MARIA
ANDERSON, ANNE	LINGAPPAN, KRITHIKA	ROONEY, CLIONA
BERTUCH, ALISON	LUPO, PHILIP	RUSIN, CRAIG
CHAO, HSIAO-TUAN	MACK, STEPHEN	SHEN, LANLAN
DAVIS, ALAN	MALETIC-SAVATIC, MIRJANA	SUMAZIN, PAVEL
DAVIS, TERESA	MANDALAKAS, ANNA	WATERLAND, ROBERT
FLANAGAN, JONATHAN	MCKAY, SIRIPOOM	XU, YONG
FU, LONING	MCNEIL, JONATHON	YUSTEIN, JASON
GLAZE, DANIEL	PATI, DEBANANDA	ZOGHBI, HUDA
HARRISON, GAIL	PENNY, DANIEL	
HILLIARD, MARISA	POMPEII, LISA	
HOLDER JR, JIMMY	POPLACK, DAVID	
HOTEZ, PETER	RABIN, KAREN	
KIM, MARIA	REDELL, MICHELE	

*Brought into the Department of Pediatrics.

Investigators with > $1 million in extramural funding in 2019*:		
AHMED, SAEED	HESLOP, HELEN	O'CONNOR, TERESIA
BARBIERI, EVELINE	HUGHES, SHERYL	PAUL, MARY
BIER, DENNIS	KAHALLEY, LISA	PLON, SHARON
BLANEY, SUSAN	KING, KATHERINE	SCHEURER, MICHAEL
BOTTAZZI, MARIA	MACIAS, CHARLES G.	SHULMAN, ROBERT
GEE, ADRIAN	MOORTHY, BHAGAVATULA	
GOODELL, MARGARET	MONTEALEGRE, JANE	
HECZEY, ANDRAS	MURRAY, KRISTY	

*Brought into the Department of Pediatrics

Beginning on **page 56**, you will find more detailed tables listing all of our faculty with (1) highly competitive, large-scale federal grants and contracts, (2) NIH R-series grants, (3) research training grants, (4) other government (both state and federal) grants and contracts, (5) foundation and non-profit awards, and (6) industry-sponsored research funding.

Another testament to our improvements in research metrics is that we have moved up in the Blue Ridge Institute for Medical Research rankings from #7 to #4 in 2019 among Departments of Pediatrics in NIH research funding. The Blue Ridge rankings compare NIH funding dollars between different institutions by department. Information and data can be found at www.brimr.org.

2018 Rankings of Departments of Pediatrics from the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH		BRIMR.ORG
Rank	**Name**	**Pediatrics**
1	UNIVERSITY OF COLORADO DENVER	$53,735,074
2	DUKE UNIVERSITY	$39,483,376
3	VANDERBILT UNIVERSITY	$35,953,851
4	EMORY UNIVERSITY	$35,698,192
5	JOHNS HOPKINS UNIVERSITY	$29,559,821
6	UNIVERSITY OF CALIFORNIA, SAN DIEGO	$27,924,053
7	BAYLOR COLLEGE OF MEDICINE	$27,807,269
8	UNIVERSITY OF MINNESOTA	$27,497,032
9	INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS	$25,919,145
10	CASE WESTERN RESERVE UNIVERSITY	$24,359,967

2019 Rankings of Departments of Pediatrics from the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH		BRIMR.ORG
Rank	**Name**	**Pediatrics**
1	DUKE UNIVERSITY	$55,619,016
2	UNIVERSITY OF COLORADO DENVER	$47,071,079
3	EMORY UNIVERSITY	$45,792,606
4	BAYLOR COLLEGE OF MEDICINE	$39,369,396
5	UNIVERSITY OF CALIFORNIA, SAN DIEGO	$35,888,543
6	VANDERBILT UNIVERSITY	$30,231,127
7	INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS	$29,288,834
8	UNIVERSITY OF MINNESOTA	$26,043,959
9	JOHNS HOPKINS UNIVERSITY	$25,956,592
10	UNIVERSITY OF WISCONSIN-MADISON	$23,751,426

NIH Research Career Development Awardees

Over the past 5 years, we have greatly increased the number of early career research faculty within the DOP who have successfully been funded NIH K awards. As you can see in the table below, our DOP faculty make up 9% of K23s, 6% of K08s, 9% of K01s, and 1% of K07s nationally. This includes all departments and all institutions, not just pediatrics. This is an incredible accomplishment. Congratulations to each of you!

2019 NIH Career Development (K) Awardees			
K23 **Patient-oriented Research** 10 (9%) of 109 national awards*	**K08** **Clinical Scientist Research** 7 (6%) of 118 national awards*	**K01** **Research Scientist** 2 (9%) of 22 national awards*	**K07** **Academic Leadership** 1 (1%) of 72 national awards*
Bruno Chumpitazi **Andrew Dinardo** **Sanjiv Harpavat** **John Hollier** **Keila Lopez** **Christina Miyake** **Shaine Morris** **Jacquelyn Powers** **Christopher Rhee** **Danielle Rios**	**Jonathan Davies** **Jimmy Holder** **Fong Lam** **Krithika Lingappan** **Geoffrey Preidis** **Rachel Rau** **Vivien Sheehan**	**Amy Sims** **Sanyahumbi** **Chunmei Wang**	**Austin Brown**

***Based on grants awarded to DOP**

Intramural Funding

Pediatric Pilot Awards
Implemented in 2010, the Pediatrics Pilot Awards provide seed funding to junior faculty to allow them to generate the data pilot needed for the successful submission of a grant application to the NIH or other peer-reviewed funding mechanism. Funding is competitive and offers up to $50,000 for basic/translational research projects and up to $50,000 for clinical research projects with $10,000 of the funds restricted for regulatory, informatics, and biostatistical support. Over the past decade, this program has awarded $5.32 million in funding to 111 investigators and has yielded an $83.4 million dollar return on this investment.

Congratulations to the following 2019 Pediatric Pilot Awardees:

Type	Awardee	Section	Project	Mentor
Basic	Clay Cohen	Hematology/ Oncology	Investigating a novel endothelial cell model of human coagulation	Joel Moake, MD Rice University Department of Bioengineering
Clinical	Sarah Gunter	Tropical Medicine	Defining the clinical epidemiology of emergent spotted fever group rickettsiosis in Belize	Kristy Murray, DVM, PhD BCM DOP Tropical Medicine
Translational	Gregory Guthrie	Nutrition	Modeling Liver Injury and Treatment of Biliary Atresia Using Neonatal Pigs	Douglas Burrin PhD, MS BCM DOP USDA Children's Nutrition Research Center
Basic	Sarah Injac	Hematology/ Oncology	Examining the role of the transcription factor in high risk medulloblastoma tumorgenesis	Will Parsons MD, PhD BCM DOP Hematology/ Oncology
Clinical	Parag Jain	Critical Care	Novel Multimodal Postoperative Arrhythmia Detection Tool in Children with Congenital Heart Disease	Craig Rusin, PhD BCM DOP Cardiology
Clinical	Holly Lindsay	Hematology/ Oncology	PIRATE: A phase 1 trial of RRx-001 for recurrent or progressive malignant central nervous system tumors	Stacey Berg, MD BCM DOP Hematology/ Oncology
Translational	Jeroen Pollet	Tropical Medicine	Design and Synthesis of mRNA-Encoded Single-Domain Antibodies for the Prevention and Treatment of Bacterial Infections.	Peter Hotez , MD, PhD BCM DOP Tropical Medicine
Clinical	Mustafa Tosur	Endocrine	Dissection of heterogeneity of pediatric diabetes using islet autoimmunity and beta-cell function: A prospective pilot study	Ashok Balasubramanyam, MD BCM Maria J. Redondo, MD, PhD, MPH BCM DOP Endocrinology
Clinical	Manpreet Virk	Critical Care	Characterization of Sepsis Induced Diaphragm Dysfunction in Critically Ill Children	Trung Nguyen, MD BCM DOP Critical Care
Translational	Joanna Yi	Hematology/ Oncology	Targeting SETD2 to Reverse Chemotherapy Resistance in Pediatric Leukemia	Martin Matzuk, MD, PhD BCM Pathology

The 2019 Research Mentor Awards

Annually, we recognize our faculty for their outstanding dedication and passion for mentoring students, residents, fellows, and junior faculty with the **Research Mentor Awards**. In 2019, we expanded this award to recognize our junior faculty for their valuable contributions to mentoring. To be nominated for this award, faculty must demonstrate:

- Continuous contribution to the growth and development of students, trainees, staff, fellows, and junior faculty in their area of research and pursuit of research goals;
- A willingness to contribute to the strength of the overall research activities and research training in the Department of Pediatrics;
- A strong independent research program;
- The attributes of a positive career role model;
- Evidence of leadership, compassion and constructive feedback to their students, trainees, staff, and colleagues.

We now have our historical list of Research Mentor Awards published on the TCH website: https://www.texaschildrens.org/research/awards/research-mentor-awards

Congratulations to the following faculty for receiving the 2019 Research Mentor Awards! Below are selected quotes from letters of support from mentees that highlight the impact of each awardee's mentorship.

At the Junior Faculty level:

Dr. Keila Lopez
Cardiology

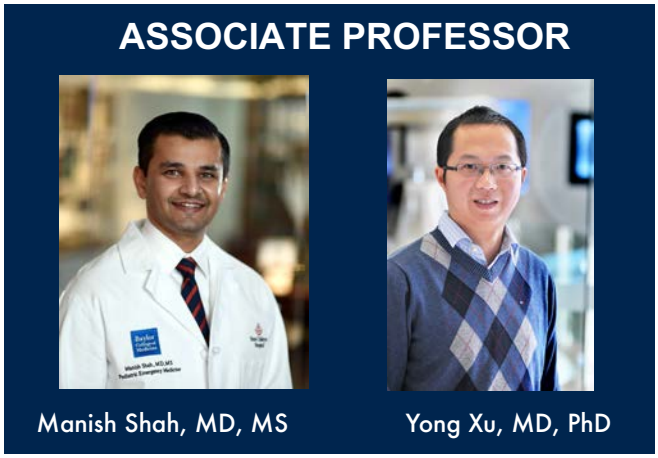
Dr. Michelle Lopez
Pediatric Hospital Medicine

Keila Lopez, MD

"…I cannot overstate the impact Dr. Lopez has had on my research career…She is thoughtful and creative in idea generation, detail-oriented and direct with editing, and above all a clear communicator…She sets high but attainable expectations which bring out the best in her mentees. Despite her numerous other commitments, she has consistently made time for me, even at times when it has meant coming to work on days off and editing abstracts in the middle of the night…Dr. Lopez has helped revolutionize how research is taught in the pediatric cardiology fellowship…I look up to her both professionally and personally for her intelligence, attention to detail, dedication, professionalism, punctuality, consistency, and kindness…having role models who embody the type of clinician, researcher, and leader you strive to be is of vital importance. For me, no one has embodied those aspects of excellence in the fields of research and mentorship more than Dr. Lopez…It is not a coincidence that numerous cardiology fellows work with Dr. Lopez in research. She is invested in both the projects and the trainees themselves… Her devotion to education, research, and mentorship is unparalleled, and she embodies the type of faculty member this award is meant to recognize."

Michelle Lopez, MD, MPH

"Dr. Lopez is tremendously dedicated to mentorship, going above and beyond to ensure that she is accessible to her mentees…Dr. Lopez consistently displays professionalism in her dealings with research participants, trainees, staff and faculty alike. She is passionate and hardworking. She continues to impress me with her natural leadership style and the consistent generosity that she offers her mentees…Dr. Lopez is one of the most remarkable mentors that I have known. It has been an honor to train under her guidance during my fellowship, and she has been instrumental in shaping my career path…I have too many examples to count of Dr. Lopez going above and beyond for me (and the department)…She is invested in the personal and academic growth of all of her mentees, inspires love for research, and serves as a wonderful model for everyone she interacts with. She is incredibly accomplished and helpful, yet so humble, with no expectation for anything in return…I will forever be indebted to her for how much she has shaped my own personal and academic growth…I cannot think of a faculty member more deserving of this prestigious award."



<u>At the Associate Professor level</u>:

Dr. Manish Shah
Pediatric Emergency Medicine

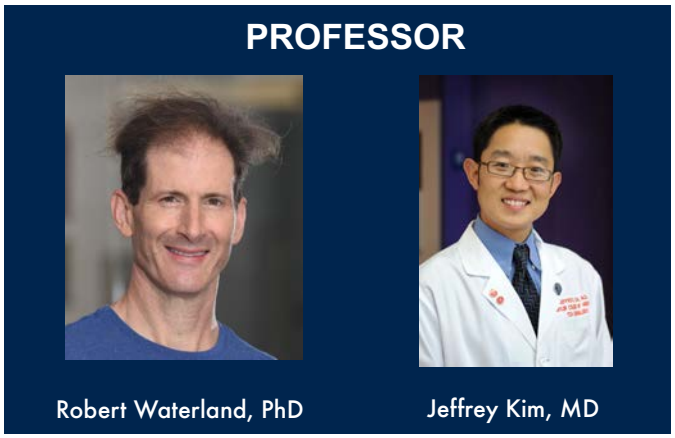
Dr. Yong Xu
Nutrition

Manish Shah, MD, MS

"I have known Manish for 8 years and have benefited from his mentorship, as have many of my colleagues, both in training and at the junior faculty level…His mentorship has positively impacted my career development in several ways. First, because of his patience I have learned a great amount about project development and manuscript preparation, and am able to take that knowledge and apply it to new projects. Second, Manish was a wonderful mentor and motivator for the project, and has provided me with an outstanding model to emulate as I begin to transition from a mentee into more of a project mentor role. He has the ability to simplify complex research concepts without being condescending or making learners feel as though they are asking silly questions. This resulted in me being very comfortable asking him more questions and thus being able to benefit more from his knowledge of the process. Third, he was eager to jump into research in a different clinical environment than that in which he is accustomed to working...From talking with my co-fellows, my experience is not unique, as other trainees have had similar experiences when working with Manish on research projects...*With Manish as your mentor, the sky is the limit*."

Yong Xu, MD, PhD

"Dr. Xu has been invaluable to me as a mentor…Dr. Xu was very gracious with his time and began providing me with guidance on how to proceed with my science. In addition, he began inviting me to different lab events and introducing me to other colleagues in our field and thus, became an "informal mentor". His direct guidance and the indirect aspects of being a part of his lab meetings have pushed my science to ask questions at the leading edge of science as well as use novel techniques…Two things that have struck me the most about Dr. Xu is his remarkable work ethic and enthusiasm for science. Regardless of his own work load, he has always been very prompt with manuscripts/grants critiques and has insightful suggestions. His energy and love for science have inspired me to appreciate fields of science different from my own expertise. These have also prompted me to pursue research questions outside of my comfort zone but important to truly push the field of science forward…he inspires the fellows to develop their own ideas, and guides them to turn these ideas into testable hypotheses. Importantly, he supports everyone to write their own fellowship grants using these new ideas and hypotheses...Dr. Yong Xu has developed a distinctive training environment aiming to enhance trainees' career opportunities in academia…to me, the most compelling reason to give him this award is that he gives of his time and energy to advance the careers of those around him even when there is no direct benefit to himself."



At the Professor level:

Dr. Robert Waterland
Nutrition

Dr. Jeffrey Kim
Cardiology

Robert Waterland, PhD

"The success of Waterland lab alumni, the longevity and breadth of their scientific achievements, and the lab's overall impact on the field is a testament to the success of Dr. Waterland's approach to mentorship. During our many meetings, Dr. Waterland is always in equal measures encouraging, enlightening, and inspiring, and each of these qualities seemed to arrive at just the right time, and in just the right quantity…I feel at all times respected and trusted in my efforts to design and run my experiments according to my vision. These are the qualities of a good mentor, and I am happy to count Dr. Waterland as one of the best I have ever known… Dr. Waterland has been completely supportive of all his trainee's growth and development as independent scientists and researchers, regardless of their desired career path and career goals…He ensures he always has time available for regular meetings to allow for timely, constructive feedback and guidance on our research activities, while simultaneously allowing freedom to explore and learn a variety of topics relevant to our interests, research, and career goals… Academic/research mentoring is insufficient without additionally giving the personal support and caring that trainees often need to cope with such challenges as research project is not producing results as intended…I always feel that I am a respected member of the lab team, and he invariably values my ideas and opinions. He has the gift of being able to excite his students about research, inspiring them to pursue their respective topics."

Jeffrey Kim, MD

"I witnessed first-hand how Dr. Kim has evolved from a prolific researcher to a great research mentor…In all the time I've known Dr. Kim, he has shown a complete willingness to contribute to the strength of the overall research activities and research training in the Department of Pediatrics…Dr. Kim is an ever-present and positive career role model…What is more impressive about Dr. Kim's mentorship is his humble and unassuming style. He always looks for ways – both big and small - to help his mentees and deflects any credit for their success. When he provides feedback to his mentees it is always done in a professional manner and in a way that helps them understand how their research project was improved by his feedback without demeaning his mentee. He looks for ways to advance the career of his mentees above anything else…Jeff embodies the qualities of what an effective mentor is and raises the bar for how a mentor can positively influence the career of others…Jeff was approachable, humble, yet had a quiet confidence that made me feel like I would be a better scientist and a better physician the more I was around him…Despite his busy schedule, the myriad of things that occupy his day, Jeff always had time…Dr. Kim is a fantastic role model who offers excellent clinical care of his patients and also treats his colleagues with respect…I count Jeff as one of the most valuable members of our faculty when it comes to research quality and productivity of our fellows…Jeff is the quintessential mentor."

The 2019 Highest Impact Research Publication Awards

Beginning in 2018, we recognized the importance of identifying high impact papers published within the DOP and providing awards to those who deserve recognition. Out of more than 1000 publications, the following two faculty were awarded the **Highest Impact Research Publication Award** as First and Senior Author, respectively: Dr. Ivan Chinn and Dr. Margaret Goodell. Congratulations to them both!

HIGHEST IMPACT: FIRST AUTHOR

blood®

PHAGOCYTES, GRANULOCYTES, AND MYELOPOIESIS | JULY 5, 2018

Genetic and mechanistic diversity in pediatric hemophagocytic lymphohistiocytosis

Ivan K. Chinn, Olive S. Eckstein, Erin C. Peckham-Gregory, Baruch R. Goldberg, Lisa R. Forbes, Sarah K. Nicholas, Emily M. Mace, Tiphanie P. Vogel, Harshal A. Abhyankar, Maria I. Diaz, Helen E. Heslop, Robert A. Krance, Caridad A. Martinez, Trung C. Nguyen, Dalia A. Bashir, Jordana R. Goldman, Asbjørg Stray-Pedersen, Luis A. Pedroza, M. Cecilia Poli, Juan C. Aldave-Becerra, Sean A. McGhee, Waleed Al-Herz, Aghiad Chamdin, Zeynep H. Coban-Akdemir, Shalini N. Jhangiani, Donna M. Muzny, Tram N. Cao, Diana N. Hong, Richard A. Gibbs, James R. Lupski, Jordan S. Orange, Kenneth L. McClain, Carl E. Allen

Blood (2018) 132 (1): 89-100.

HIGHEST IMPACT: SENIOR AUTHOR

Cancer Cell

Mutant NPM1 Maintains the Leukemic State through HOX Expression

Lorenzo Brunetti,[1,2,3,11] Michael C. Gundry,[1,2,4,11] Daniele Sorcini,[3] Anna G. Guzman,[1,2] Yung-Hsin Huang,[1,2,5] Raghav Ramabadran,[1,6] Ilaria Gionfriddo,[3] Federica Mezzasoma,[3] Francesca Milano,[3] Behnam Nabet,[8,9] Dennis L. Buckley,[10] Steven M. Kornblau,[7] Charles Y. Lin,[4] Paolo Sportoletti,[3] Maria Paola Martelli,[3] Brunangelo Falini,[3,12] and Margaret A. Goodell[1,2,4,6,8,12,13,*]

The 2019 Young Investigator Awards

In 2019, we created a new award program: the **Young Investigator Awards**. To be eligible for this award, faculty must be at the rank of Instructor or Assistant Professor and have been a faculty member within the Department of Pediatrics for 5 or more years. Department of Pediatrics faculty who are nominated for this award must demonstrate:

- Exemplary performance in research (basic, translational, and/or clinical);
- Success in obtaining extramural funding;
- Consistent history of publishing high quality manuscripts that create a meaningful impact to the medical literature;
- A willingness to contribute to the strength of the overall research activities and research training in the Department of Pediatrics;
- The attributes of a positive role model.

Congratulations to the following 2019 Young Investigator Awardees:

Lisa Bouchier-Hayes, PhD

Dr. Lisa Bouchier-Hayes is an Assistant Professor in the Hematology-Oncology Section of the Department of Pediatrics at Baylor College of Medicine. A native of Ireland, she was awarded her Ph.D. from the Department of Genetics at Trinity College, Dublin and completed post-doctoral fellowships in molecular mechanisms of apoptosis at La Jolla Institute for Allergy and Immunology in San Diego and St. Jude Children's Research Hospital in Memphis. Dr. Bouchier-Hayes is an R01-funded, prolifically published investigator and recipient of many honors and awards, including, most recently, the 2019 Norton Rose Fulbright Faculty Excellence Award in Teaching and Evaluation. She has dedicated her career to understanding molecular mechanisms of programmed cell-death, with a particular interest in caspase-regulation. Her remarkable generosity—with her time, insight, know-how, scientific rigor, and collegial encouragement—set her apart from the rest just as much as do her investigative and academic accomplishments. Dr. Bouchier-Hayes leads our departmental Specific Aims Workshops.

Sonny Harpavat, MD

Dr. Sanjiv "Sonny" Harpavat, M.D., Ph.D. is an Assistant Professor in the Department of Pediatrics at Baylor College of Medicine and treats patients in Texas Children's Gastroenterology, Hepatology, and Nutrition clinic. After receiving his B.S. from Stanford and M.D./Ph.D. from Harvard, Dr. Harpavat completed his Residency, Fellowship, and Research Fellowship at BCM and, happily for us, never left. Dr. Harpavat focuses both his research and clinical practice on the liver condition Biliary Atresia (BA). BA is a serious disease that is the #1 cause of pediatric liver transplants and responsible for 60% of surgeries performed on children under 12

months. Dr. Harpavat led the ground-breaking research that discovered babies with BA are born with high modified bilirubin, leading to now state-wide screening of newborns to allow for early identification, intervention, and treatment. He has received numerous awards, won a steady stream of grants, and his work has been widely published and recognized.

Maria Kim, MD, MS

Dr. Maria Kim earned her M.D. from Albert Einstein College of Medicine and completed her residency at New York Presbyterian Hospital-Columbia. She is now a newly promoted Associate Professor and concentrates her work in the Baylor International Pediatric AIDS Initiative at Texas Children's Hospital (BIPAI). She has spent the majority of the last 15 years working as a physician-scientist in Malawi, where she focuses on HIV/AIDS prevention and treatment in sub-Saharan Africa. She has been the Principal or Co-Principal Investigator on over $19M in completed grants, is currently the PI or Co-PI on $75M in U.S. Government Funding alone, and she has published over 30 scholarly peer-reviewed papers on key global health challenges. Dr. Kim significantly improved outcomes for malnourished HIV+ children by combining Ready-to-Use-Therapeutic-Food with timely antiretroviral therapy. Next, she co-created Tingathe (which means "Together We Can" in the local Chichewa language) as a means of recruiting lay health-workers to increase education and access to HIV care. Tingathe successfully tackled HIV transmission from mother to baby by linking HIV+ pregnant women to the services they needed to avoid transmitting HIV to their infants and continues to improve the quality of patient HIV-counseling for Malawian families.

Krithika Lingappin, MD, PhD

A native of India, Dr. Lingappan completed medical school at Kilpauk Medical College in Tamil Nadu and pediatrics residencies at the Post Graduate Institute of Medical Education and Research in Chandigarh, Miami Children's Hospital, and the University of Chicago. She did her fellowship in Neonatal-Perinatal Medicine and was awarded her Masters and Ph.D. from the Clinical Scientist Training Program at Baylor College of Medicine. Dr. Lingappan is a widely published, NIH-funded Assistant Professor of Pediatrics in the Neonatology section at BCM. Her research is dedicated to improving outcomes for premature and high-risk newborn babies. While finishing her K08 work, Dr. Lingappan secured R01 funding to continue examining pathways to understand why girl preemies have better outcomes than similarly situated boy preemies, and how to translate her findings into better survival rates for baby boys.

Jennette Moreno, PhD, MA

Dr. Jennette Moreno is a research scientist specializing in childhood overweight and obesity. She is an Assistant Professor of Pediatric Nutrition at Baylor College of Medicine, a Research Member at the Dan L. Duncan Comprehensive Cancer Center, and member of the Children's Nutrition Research Center Behavioral Nutrition Section, both at Texas Children's Hospital. Dr. Moreno earned her bachelor's degree in psychology from Tulane University and her master's and doctoral degrees in clinical psychology from Louisiana State University; she completed her internship and postdoctoral fellowship in pediatric psychology at Baylor College of Medicine. Her formidable research skills and dedication to unlocking the mysteries of childhood overweight and obesity have won Dr. Moreno numerous grants, including long-term funding from the NIH. Dr. Moreno is a prolific writer whose work has been widely published.

Special thanks to Emily Schaffer, Science Writer for Texas Children's Hospital, on writing more extensive pieces on each of our Young Investigator Award recipients. These articles can be accessed at https://www.texaschildrens.org/research/awards/young-investigators-awards .

Faculty Research Spotlight

Lisa Kahalley, PhD

Medulloblastoma is the most common malignant brain tumor in children and affects between 250-500 children in the US each year. Photon (x-ray) radiotherapy has been a mainstay in the treatment of pediatric brain tumors, but it has negative effects on neurocognitive outcomes including impaired IQ, working memory and processing speed. Dr. Lisa Kahalley, Associate Professor of Pediatrics in the Section of Psychology, spearheaded a research program to compare the intellectual outcomes of patients with medulloblastoma treated with photon therapy versus those treated with proton therapy, a newer modality that generates less bystander effects on surrounding brain tissue. Compared to those treated with traditional photon therapy, patients treated with proton therapy had significantly better outcomes in global intelligence, perceptual reasoning, and working memory. The results of her most recent study, published in the Journal of Clinical Oncology, provide the most incontrovertible evidence to date of the superiority of proton therapy in preserving neurodevelopmental outcomes without impairing overall treatment efficacy. Dr. Kahalley received her PhD from the University of Memphis and completed postdoctoral training at Duke and St. Jude's Children's Hospital before joining the BCM Department of Pediatrics as an assistant professor in 2009. She now serves as the Director of Research in the Section of Psychology and is the PI of two R01 grants to support her continued research.

Research Support Services in the Department of Pediatrics

Research Resources Office

Our goal in the DOP's Research Resources Office (RRO) is to provide unified, coordinated, and comprehensive support and education for investigator-initiated, NIH cooperative group, and pharmaceutical industry studies, as well as provide centralized resources for the pre- and post-award processes involved in developing and implementing the wide range of basic, translational or clinical studies performed by Pediatrics investigators. RRO services range from:

- Clinical research regulatory and coordination
- Quality assurance
- Statistics and study design support
- Clinical trial cost assessment
- Budget negotiation and contracting
- Research informatics and database development
- Research grant budget and application assistance

Consultation and service requests may be submitted through the RRO request portal at https://orit.research.bcm.edu/rro/

The RRO strategically partners with several industry partners and clinical research institutions, including Pfizer, BMS, and quintiles. In addition, they serve as the Department of Pediatrics liaison for the Institute for Advanced Clinical Trials for Children, (I-ACT), which, with FDA support, endeavors to advance development of new medications and devices for children.

Our sincere thanks to the RRO for your leadership and hard work!

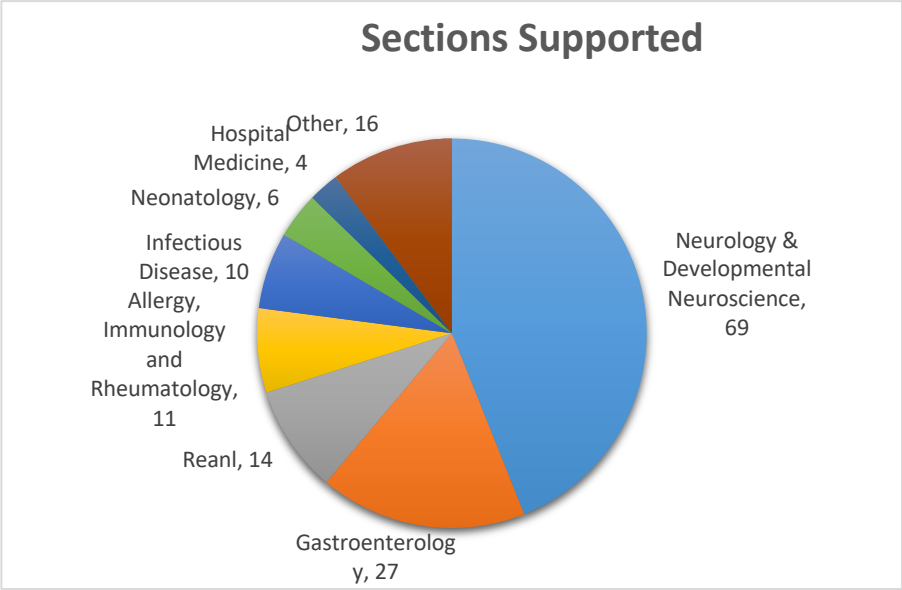
RRO Leadership

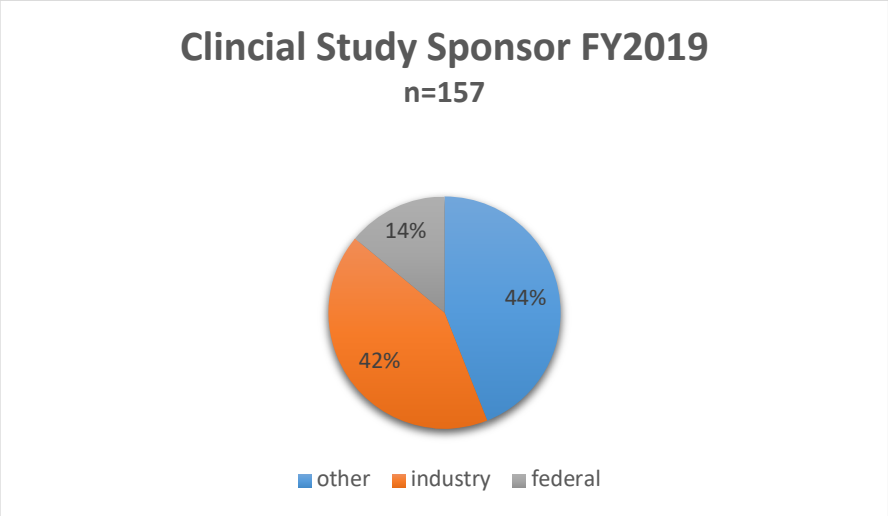
Lisa Bomgaars, MD, MS	Medical Director
Scott Wenderfer, MD, PhD	Assistant Medical Director
Miki Gillis	Executive Director
Joe Kanewske	Senior Manager Business Operations
Serpil Tutan	Director of Clinical Research
Lori Malone MBA	Director of Research Administration
Deborah Barrera RN	Nurse Manager
Uma Ramamurthy, PhD, MBA	Executive Director, Research Information Technology

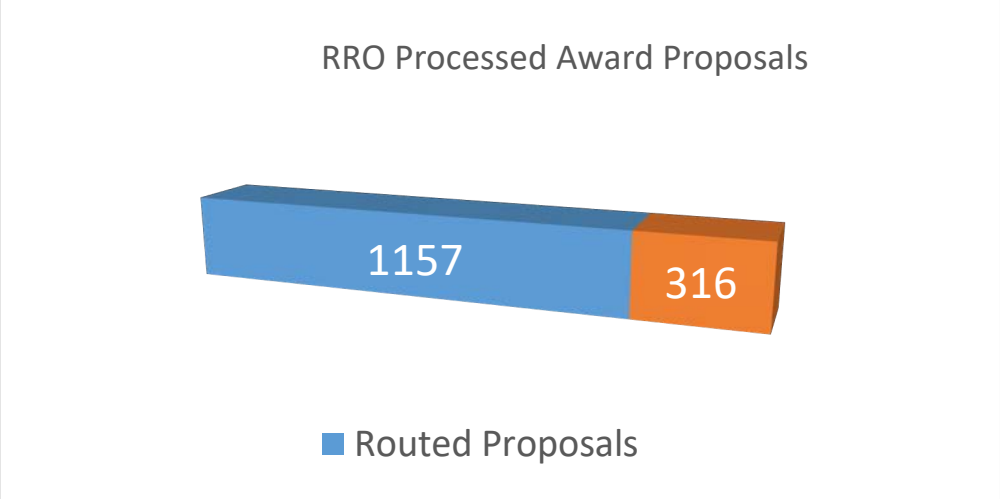
Success by the Numbers

In 2019, the RRO:

- Supported 157 clinical research studies across 8 sections in the DOP
- Reviewed and approved more than 1,400 award submissions for the DOP
- Provided pre- and post-award management for 10 sections


Sections Supported
Other, 16
Hospital Medicine, 4
Neonatology, 6
Infectious Disease, 10
Allergy, Immunology and Rheumatology, 11
Reanl, 14
Gastroenterology, 27
Neurology & Developmental Neuroscience, 69


Clincial Study Sponsor FY2019
n=157
14%
44%
42%
other
industry
federal


RRO Processed Award Proposals
1157
316
Routed Proposals

Clinical Research Center (CRC)

The Clinical Research Center (CRC) is a state-of-the art facility that allows TCH investigators to conduct complex, often high-risk, patient-oriented clinical research safely and accurately. The CRC affords patients and families the space and privacy needed to complete lengthy, complicated studies—whether an experimental cancer treatment or carefully calibrated allergy food-challenge—and keeps them close to the nurses and other dedicated staff best equipped to care for them. Located on the Abercrombie Building's seventh floor, the CRC includes outpatient clinical research space, five clinical bed spaces, a room for patient interviews and consultations, sample-preparation laboratory, blood-draw room, waiting area, playroom, and Nourishment Room. It is also near the ICU and EC in case of emergency, and to the Feigin Center laboratories in which many investigators analyze samples obtained in the CRC. Two West Tower floors provide inpatient support. The CRC's facilities, specially-trained staff, and other resources are available to clinical studies that have been approved by IRB and the CRC Scientific Advisory Committee (SAC). A CRC application is required and can be located at https://orit.research.bcm.edu/rro/CRC-page.html

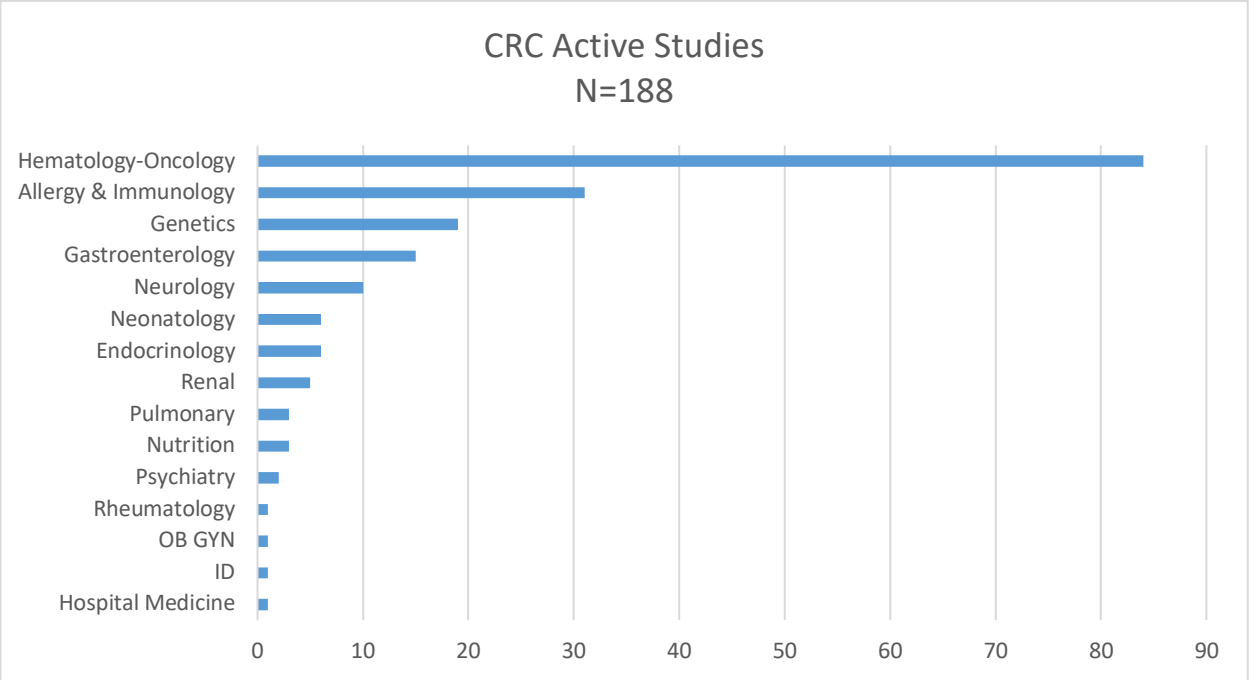
CRC Leadership

Lisa Bomgaars, MD, MS	Medical Director
Stephanie Hulsey, RN	Nurse Manager
Marco Castillo, RN	Assistant Director Nursing
Lisa Forbes Satter, MD	SAC Chair

2019 SAC Committee Membership

Anvari	Sara	Allergy & Immunology
Bomgaars	Lisa	Hematology & Oncology
Calarge	Chadi	Psychiatry &Behavioral Sciences
Chumpitazi	Bruno	Gastroenterology
Eng	Christine	Medicine-Molecular & Human Genetics
Glaze	Daniel	Neurology
Hair	Amy	Neonatology
Loftis	Laura	Critical Care
Lynds	Jennifer	Pharmacy
McCartney	Tara	Pharmacy
McMeans	Ann	Nutrition
Minard	Charles	ICTR
Motil	Kathleen	Nutrition
Murray	Kristy	Tropical Medicine
Patel	Shital	Infectious Disease
Paul	Mary	Allergy & Immunology
Srivaths	Poyyapakkam	Pediatrics-Renal
Vasudevan	Sanjeev	Surgery
Zachariah	Justin	Cardiology

Number of active studies in the CRC:



Featured Research

The CRC is home to pioneering studies from many specialties, including the **TCH Food Allergy Program**. Led by Dr. Carla M. Davis (Chief, Section of Immunology, Allergy and Retrovirology), this program focuses on improving quality-of-life for infants, children, and adolescents with food allergies. Its investigators use the CRC to implement state-of-the-art food challenge protocols and elimination/reintroduction trials that help accurately diagnose food allergies, test novel therapies, and determine the best treatment options. These studies rely upon CRC resources—including nurses and a research dietician who are specially trained to safely administer these protocols—to do their groundbreaking work. The program's investigators also rely upon the CRC's infrastructure and resources to obtain funding for their research, which in turn allows the program to grow. To date, the CRC has supported 11 studies which continue to push the field forward and improve quality-of-life for children with life-threatening food allergies.

CRC Clinical Research Awards

The CRC presented the Clinical Research Awards to the following recipients in 2019. The Clinical Research Center established this award in collaboration with the Research Resources Office to recognize and honor individual contributions to protecting the research subjects' best interests and complying with applicable rules and regulations.

Q1	Ruth Eser-Jose, MSN, RN, CPN	Immunology, Allergy, Rheumatology and Retrovirology
Q2	Patty Baxter, MD, MBA	Hematology Oncology
Q3	Ann McMeans MS, RD, LDN	Research Resources Office

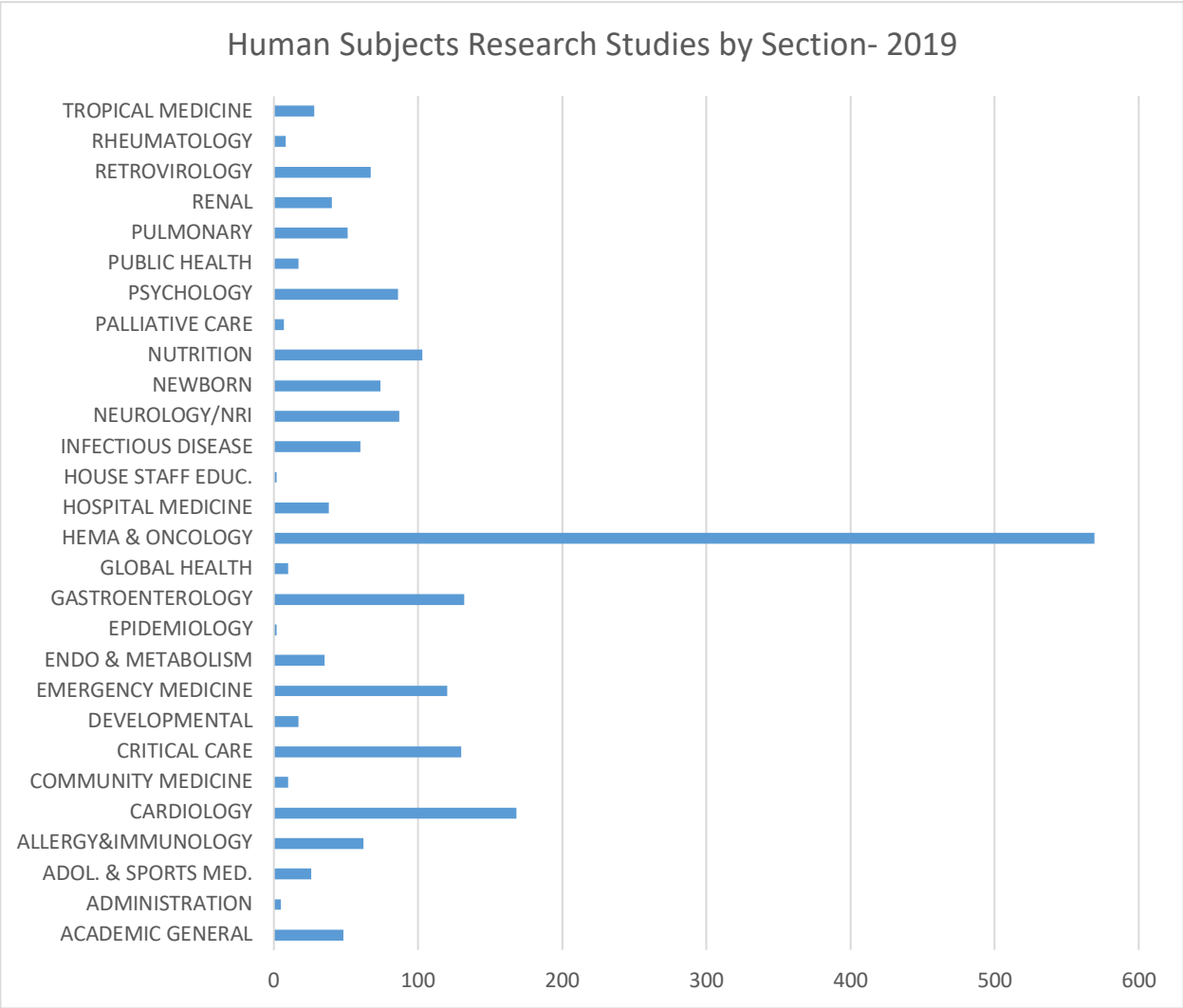
Ruth Eser-Jose has spent much of her 30-year nursing career supporting clinical studies at the CRC, and now works exclusively in HIV. "One of TCH's main missions is research, which is always important because that's how we improve therapy and treatment. It's central," she says. Ms. Eser-Jose not only administers complex study protocols, but advocates for participants and their families so that they feel informed and empowered. She does not feel she could do this work outside the CRC. "It's all become seamless. We do everything from talk to our patients in a safe, private space, to retrieving all kinds of specimens and giving infusions, to processing the specimens right on site. There's so much respect, coordination, and communication at the CRC, because we're all right here. Things just work."

Dr. Patty Baxter, who conducts clinical trials for pediatric cancer patients, feels similarly about the CRC's import. "The CRC makes our research possible. Our studies are extremely complicated, but CRC nurses and staff have the expertise and skill needed to collect and process our specimens, administer experimental drugs, and address adverse reactions and toxicities." They also have the right bedside manner to work with particularly vulnerable patients. "These are often patients whose cancers have relapsed multiple times and may not have any known curative treatment," she explains. The CRC staff "just provides the most compassionate care." And, its physical layout allows patients and their families to receive extensive one-to-one attention in a private, comfortable space, and for as long as treatment requires. Dr. Baxter entrusts her vulnerable patients and critical research to the "skilled teams" at the CRC because she knows they will take equally expert care of both.

Ann McMeans has worked at the CRC for over 22 years. Because she has to meticulously blend, measure, and weigh specialized substances for children with life-threatening allergies, diabetes, GI conditions, and more—and do so in strict accordance with study protocols—her days look different than most other Registered Dieticians'. But she wouldn't have it any other way. "This work is really meaningful for kids," she says. And fascinating for her. "What we do here…it definitely keeps me on my toes!" Like Ms. Eser-Jose and Dr. Baxter, Ann acknowledges that the CRC's work—which often involves frequent, precisely timed administrations, observations, and specimen collections—could not be done in a crowded clinic with high patient volumes. So she is profoundly grateful for the CRC's dedicated space. To her, there is "nothing better" than seeing a kid not react to something she knows to be an active allergen. "I have to hide it—I can't show them I know that they've had the allergen and not a placebo—but I do a happy dance on the inside. I just love to see all the positive results that come from this work."

Department of Pediatrics Human Subjects Research

In 2019, DOP investigators had 2002 active human subjects research studies.



TCH Research Seminar

The following DOP faculty and trainees presented their research findings at the Thursday noontime TCH Research Seminar Series. New this past year was a more organized approach with weekly themes throughout each month, covering (1) TCH Senior Investigator presentations, (2) TCH Junior Investigator Presentations, (3) Invited Senior Investigators from the Texas Medical Center and Beyond, and (4) research development topics, including presentations on Grants 101, Specific Aims, Mock Study Section, and other valuable topics for developing and ensuring research success.

Senior Investigators	
Katherine Y. King MD PhD Associate Professor, Pediatrics - Infectious Disease Stem Cells and Regenerative Medicine Center 1/31/2019	*"Inflammatory Regulation of Primitive Hematopoiesis: A Role in Innate Immunity"*
Aikaterini Anagnostou, MD (Hons) MSc PhD Associate Professor, Immunology, Allergy and Rheumatology Director, Food Immunotherapy Program Associate Director, Food Allergy Program 5/2/2019	*"Insights from 275 Cases of Childhood Anaphylaxis"*
Philip J. Lupo, PhD Associate Professor, Pediatrics – Hematology-Oncology 9/5/2019	*Integrating Epidemiology and Genomics to Understand the Intersection Between Birth Defects and Cancer*
Junior Investigators	
Grant Shafer, MD, FAAP Neonatal-Perinatal Medicine Fellow 2/7/2019	*"Diagnostic Errors in the Neonatal Intensive Care Unit: Understudied and Underappreciated"*
Jill E. Weatherhead, MD, MS, DTM&H Assistant Professor, National School of Tropical Medicine Tropical Medicine and Infectious Diseases **Katie Matatall, PhD** Instructor, Pediatrics – Infectious Disease 2/21/2019	*"Ascaris Larval Migration through the Host Lungs Causes a Chronic Pulmonary Syndrome"* *"Inflammation and Hematopoietic Stem Biology: A Novel Role for Interferon-γ in HSC/Niche Interactions"*
Jimmy L. Holder, Jr., M.D., Ph.D. Assistant Professor, Neurology and Developmental Neurosciences, Jan and Dan Duncan Neurological Research Institute 3/7/2019	*"Approaches for Developing Personalized Therapies for Neurodevelopmental Disorders"*
Geoffrey A. Preidis, M.D., Ph.D. Assistant Professor of Pediatrics	*"Early Postnatal Mulnutrition Causes Liver and Intestinal Function Impairment"*

Gastroenterology, Hepatology & Nutrition 3/28/2019	
Shipli Relan, MBBS Clinical Postdoc Fellow Pediatrics – Diabetes & Endocrine 4/4/2019	*"Maturity Onset Diabetes of Young (MODY) in a Racially/Ethically Diverse Pediatric Population"*
Danielle Callaway, M.D., Ph.D. Resident, Pediatrics Pediatric-Scientist Training & Development Program 4/11/2019	*"Sex Impacts Survival and Oxygen-mediated Lung Injury in Mice Lacking Nrf2: Rescue and Abrogation of Sex Differences with Beta-naphthoflavone"*
Roman Deniskin, M.D., M.Sc., Ph.D. Resident, Pediatrics Pediatric-Scientist Training & Development Program 4/18/2019	*"Identification of Small Molecule Inhibitors of Lactate Dehydrogenases using DNA-Encoded Chemistry Technology (DEC-Tec)"*
Vivien Sheehan, MD, PhD Assistant Professor, Pediatrics – Hematology 9/12/2019	*From Genomics to Biomarkers: A New Landscape in Sickle Cell Disease*
Joanna Yi, MD Assistant Professor, Pediatrics – Oncology Baylor College of Medicine, Texas Children's Hospital **Venee Tubman, MD, MMSc** Assistant Professor, Pediatrics – Hematology 10/10/2019	*Leveraging Transcriptional Control To Find New Targeted Drugs for Pediatric Leukemias* *Sickle Cell Anemia*
Jill E. Weatherhead, MD, MS, DTM&H, FAAP Assistant Professor, Pediatrics – Tropical Medicine and Infectious Diseases **Jonathon C. McNeil, MD, BS** Assistant Professor, Pediatrics – Infectious Disease 10/31/2019	*Mechanisms of Ascaris (Roundworm) Induced Host Disease* *New(ish) Findings in Staphylococcus aureus Osteoarticular Infections in Children*

Pediatric Research Day

We had another successful Pediatric Research Day in 2019, with the popular theme: **"Selling Your Science: How to Communicate the Importance of Your Work."** The keynote address entitled "Translating Your Scientific Interests into a Rewarding Research Career" was delivered by Dr. Ronald J. Sokol, the Arnold Silverman MD Endowed Chair in Digestive Health, Professor and Vice Chair of Pediatrics, Director of the Colorado Clinical and Translational Sciences Institute, Assistant Vice Chancellor for Clinical and Translational Science at the University of Colorado Denver, and Chief of the Section of Pediatric Gastroenterology, Hepatology and Nutrition and the Digestive Health Institute. The Keynote Scholarship Presentation was entitled "Pearls for the aspiring Physician-Scientist" and was delivered by our own Dr. David Poplack, the Elise C. Young Professor of Pediatric Oncology, Director of Global HOPE (Hematology Oncology Pediatric Excellence), Associate Director of the Texas Children's Cancer and Hematology Centers, and Deputy Director of the Dan L. Duncan Cancer Center at Baylor College of Medicine. The Fellows Workshop on "Elevator Pitches: Why 30 Seconds Can Make or Break You" was presented by Elizabeth Hoff, Managing Director of Fannin Innovation Studio. Teams heartily enjoyed competing against each other with their elevator pitches.

Over 100 research abstracts were submitted by fellows, residents, students, and trainees. Abstracts were reviewed by, with the following **five Top Abstracts** chosen for oral presentation:

- **Dr. Kyle Brown** (3rd-year Fellow, Critical Care)
  Innovating a Mastery Learning Program for Point-of-Care Ultrasound using the Design-Based Research Model
- **Dr. Danielle Callaway** (3rd-year Resident, Pediatrics)
  Decreasing Survival and Increased Oxygen-Mediated Lung Injury in Mice Lacking NRF2: Protection by Beta-Naphthoflavone
- **Dr. Noelle Gorgis** (3rd-year Fellow, Critical Care)
  Cardiomyopathy on Autopsy and Echocardiography of Pediatric Patients with Cirrhotic End-Stage Liver Disease Listed for Transplant
- **Dr. Alice Lee** (2nd-year Fellow, Hospital Medicine)
  Inpatient Food Insecurity in the Caregivers of Hospitalized Pediatric Patients
- **Dr. Khaled Sanber** (4th-year Resident, Center for Cell and Gene Therapy and Internal Medicine)
  SHP2: Sailing Against Tumor-Mediated Inhibition of Chimeric Antigen Receptor T-Cell Therapy

We would also like to acknowledge our Poster Presentation Awardees:

Best Clinical Research Poster Presentation - Post-Doctoral Fellow in a Clinical Fellowship:
Anna Marie Arias-Shah, MD, Pediatrics-Neonatology
Accuracy of Continuous Capnography in Ventilated Neonates Admitted to the Cardiovascular Intensive Care Unit

Best Clinical Research Poster Presentation – Other-Staff:
Aanchal Wats, MBBS, Pediatrics-Critical Care
Thoracic Fluid Content (TFC) Measurement Using Impedance Cardiography Predicts Outcomes in Critically Ill Children

Best Translational Research Poster Presentation - Post-Doctoral Fellow in a Non-Clinical Fellowship:
Sai Batra, MD, Pediatrics-Hematology/Oncology
Armored Glypican-3-specific CAR T cells for the immunotherapy of pediatric solid tumors

Best Translational Research Poster Presentation - Other-Staff:
Fabiola Andujar, Pediatrics-Neurology & Developmental Neuroscience
Genetic variants in families with Bipolar Disorder

Best Basic Research Poster Presentation – Non-Clinical Fellowship:
Jacob Junco, PhD, Pediatrics-Hematology/Oncology
A novel short-latency, high-penetrance model of RAS mutation-driven T-ALL

Best Basic Research Poster Presentation –Other-Staff:
Darrion Nguyen, Pediatrics-Neurology & Developmental Neuroscience
Elucidating the pathogenic role of EBF3 loss-of-function in HADD syndrome

Symposium Cover Art Award: Zhongyuan Zuo, Research Assistant III, Dr. Hugo Bellen Research Lab (Jan & Dan Duncan Neurological Research Institute)
A Drosophila Melanogaster 3rd Instar Larval Brain as Seen Through a Confocal Microscope

Special Thanks

We especially want to acknowledge the hard work and contributions of our planning committee, abstract reviewers, and poster moderators to ensure that Research Day was a huge success:

Symposium Chair:	Sanjiv “Sonny” Harpavat, MD
Chair-elect:	Lisa Forbes Satter, MD
Immediate Past Chair:	Scott Wenderfer, MD, PhD
Program Administrator:	Anissa Quiroz

Symposium Planning Committee

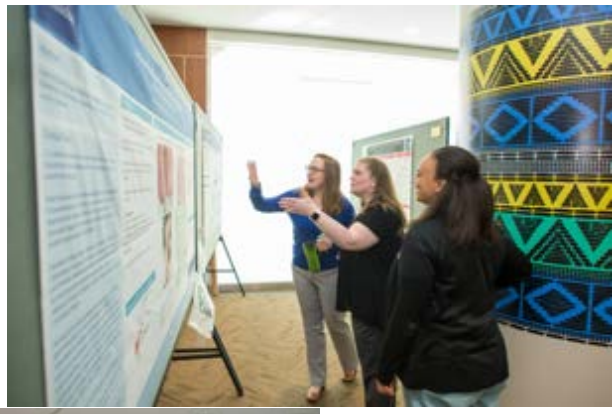
Lisa Bomgaars, MD, MS	Hematology-Oncology
Judith Campbell, MD	Infectious Diseases
Lisa Forbes Satter, MD	Allergy, Immunology, & Retrovirology
Sanjiv Harpavat, MD	Gastroenterology
Kristy Murray, DVM, PhD	Tropical Medicine
Jennifer Rama, MD	Pulmonary
Scott Wenderfer, MD, PhD	Renal
Paige Schultz, MBA, MHA	TCH Research Administration
Dequita Hall, MBA	TCH Research Administration
Anissa Quiroz	TCH Research Administration
Stacey Staples	TCH Research Administration

Pediatric Research Day Abstract Reviewers

Adebo, Senait Mengisteab	McNeil, Jonathon (Chase)
Aiden, Aviva Presser	Money, Nathan
Anagnostou, Aikaterini	Naik, Neel M.
Antar, Alli M.	Nance, Christina L.
Anvari, Sara	Noll, Lisa M
Bacha, Fida	O'Connor, Teresia M.
Bachim, Angela	Palazzi, Debra L
Bernhardt, Melanie B.	Parihar, Robin
Bouchier-Hayes, Lisa	Pereira, Maria
Brown, Austin	Preidis, Geoffrey (Geoff)
Burrin, Douglas G	Rabin, Karen
Chao, Hsiao-Tuan	Rao, Seema L.
Chinen, Javier	Redell, Michele L.
Chinn, Ivan Kingyue	Rider, Nicholas L.
Chiou, Eric H	Ruth, Amanda
Chumpitazi, Bruno	Saini, Arun
Coleman, Ryan D	Sanyahumbi, Amy
Cuevas, Milenka	Sasa, Ghadir Suleiman Issa
Cutitta, Katherine E.	Schwartz, David D
Davis, Kimberly C.	Shelburne, Julia T
Dinu, Daniela	Shivanna, Binoy
Doughty, Cara B.	Spielberg, David R
Duran, Petra	Strych, Ulrich
Dutta, Ankhi	Tao, Ling
Fatusin, Oluwatosin	Tessier, Mary Elizabeth
Flanagan, Jonathan Michael	Tosur, Mustafa
Flores, Saul	Triggs, Nicole Daune
Greeley, Christopher	Tsang, Rocky
Hajjar, Joud	Uysal, Serife
Healy, Catherine M.	Van Buren, Kristin L
Hill, Ryan	Vogel, Tiphanie P.
Jain, Parag N.	Wang, Alex
John, Tami D	Ward, Mark A
Karam, Lina B	Watkin, Levi B
Kellermayer, Richard	Whittle, Sarah
Kitagawa, Seiji	Wolfe, Rachel
Lahiri, Subhrajit	Yee, Andrew
Lam, Fong W.	Yustein, Jason T
Lin, Frank Y.	Zawaski, Janice
Lin, Yuezhen	
Lu, Linchao	

Pediatric Research Day Poster Moderators

Bouchier-Hayes, Lisa	Pammi, Mohan
Brown, Austin	Pollet, Jeroen
Coleman, Ryan D	Preidis, Geoffrey (Geoff)
Cuevas, Milenka	Richard Melissa
Dinu, Daniela	Saini, Arun
Doughty, Cara B.	Sampayo, Esther M.
Ettinger, Nicholas Andreas	Shah, Shweta S.
Flores, Saul	Shivanna, Binoy
Fogarty, Thomas P.	Shulman, Robert J
Gaikwad, Amos	Stevens, Alexandra M.
Grimes, Amanda B.	Strych, Ulrich
Hilliard, Marisa	Tao, Ling
Injac, Sarah Garrett	Thevananther, Sundararajah
Kitagawa, Melanie Gwendolyn	Torrey, Susan B.
Lemke, Daniel Spencer	Triggs, Nicole Daune
Lingappan, Krithika	Tsang, Rocky
Lopez, Keila Natilde	Van Buren, Kristin L
Lu, Linchao	Wallace, Sowdhamini S.
McNeil, Jonathon (Chase)	Wang, Alex
Money, Nathan	Wolfe, Rachel
Moreno, Jennette Palcic	Wood, Alexis Caroline
Nance, Christina L.	Zawaski, Janice
Palazzi, Debra L	



RRO Clinical Research Education Seminar

The RRO Clinical Research Education Seminar is targeted towards providers, trainees and clinical research staff to provide an overview of topics related to clinical research regulations, operations and informatics.

January	Dr. Kristy Murray	Conducting Human Research in International Settings
February	Dr. Michael Scheurer	Epidemiology in Clinical Research: Examples and Resources at TCH
March	Dr. Leanne Scott and Lety Guerrero	NIH Requirements for Clinical Trials
April	Drs. Daniela Westerhold and Amber Froehlich	From Panic to Prepared – the 72 hours before the FDA inspector shows
September	Dr. Nicholas Rider	Talk Data to Me
October	Dr. Amy McGuire	Ethics and Genomics Research
November	Drs. Bambi Grilley and Meenakshi Hegde	Chimeric antigen receptor (CAR) T cells for cancer immunotherapy; Fortune Telling in IIT Clinical Research
December	Dr. Stacey Berg	Conflict of Interest

Pediatrician-Scientist Program

The Baylor College of Medicine (BCM) Pediatrician-Scientist Program (PSP) Residency Track is an ideal career choice for MD/PhD or MD graduates with significant research experience who are seeking to build a career as a pediatrician-scientist. As the largest children's hospital and Department of Pediatrics in the United States, we have resources and commitment to provide expert clinical training, mentorship, and educational opportunities necessary to support development of a successful career as a physician scientist. The PSP program has been designed to offer structured educational activities along with the flexibility required to foster longitudinal development as a physician-scientist.

Program Website: https://www.bcm.edu/departments/pediatrics/education/pediatrician-scientist-training-development

Program Leadership
Carl Allen MD, PhD, Program Co-Director,
Donald Williams Parsons MD, PhD, Program Co-Director,
Audrea Burns, PhD, Associate Program Director

Current Residents

Natalie Guerrero Cofie, MD, PhD (PL-1)
Medical School Institution: University of Wisconsin School of Medicine and Public Health
Fellowship Interest: Adolescent Medicine, Academic General Pediatrics

Yike Jiang, MD, PhD (PL-1)
Medical School Institution: Geisel School of Medicine at Dartmouth
Fellowship Interest: Rheumatology, Allergy/ Immunology

Prasanna Ramachandran, MD, PhD (PL-1)
Medical School Institution: Baylor College of Medicine
Fellowship Interest: Endocrinology, Gastroenterology

Arianexys Aquino Lopez, MD, PhD (PL-2)
Medical School Institution: The University of Puerto Rico Medical Science Campus
Graduate Institution: The University of Texas Graduate School of Biomedical Sciences Joint MD-PhD Program
Fellowship Interest: Hematology-Oncology

Javier Cabrera-Pérez, MD, PhD (PL-2)
Medical School Institution: The University of Minnesota Medical School MD/PhD Program
Fellowship Interest: Rheumatology/Allergy & Immunology

Patrick Connell, MD, PhD (PL-3)
Medical School Institution: Baylor College of Medicine, Rice University (combined program) MD, PhD
Fellowship Interest: Cardiology

Residency Program Graduates	**Select Resident Achievements:**
• Emily Heikamp, MD, PhD (2018 Hem/Onc fellow, Boston Children's Hospital) • Joseph Alge MD, PhD (2018 Assistant Professor, TCH) • Nicole Ramsey, MD, PhD (2018 A&I fellow, Mt. Sinai) • Xavier Rios, MD, PhD (2018 Hem/Onc fellow, TCH) • Danielle Callaway, MD, PhD (2019, Neonatology fellow, Children's Hospital of Philadelphia) • Roman Deniskin- alumni, MD, PhD (2019, A&I fellow, TCH)	• Top Abstract, Baylor College of Medicine Pediatric Research Symposium • Society for Pediatric Research House Officer Research Award • American Thoracic Society Assembly on Critical Care Abstract Award • Jan Goddard-Finegold Award in Developmental Pediatrics (2016) • Mark A Wallace Administrative Award (2016)

Steering Committee Members:

Anna Mandalakas	Fong Lam	Maria Redondo
Huda Zoghbi	Hsiao Tuan	Michael Braun
Audrea Burns	James Thomas	Peter Hotez
Benjamin Shneider	Jean Raphael	Robert Shulman
Brendan Lee	Karen Rabin	Sanjiv Harpavat
Daniel Penny	Lisa Bomgaars	Susan Blaney
Flor Munoz		

Programmatic National Engagement (examples):

- Allen, Carl., MD/PhD National Conference & Residency Director Annual Meeting
- Parsons, DW, "What Comes Next? Pediatric Physician-Scientist Training", 2019 Southern APSA Regional Meeting -
- Burns AM, PSTP Training Program Opportunities, 2020 AAMC Virtual Webinar

Select Program Publications

Burns AM, Thammasitboon, S, Kushner, J, Ward M, Kline M, Raphael J, Turner T, Orange JS. Implementation of a Novel Curriculum and Fostering Professional Identity Formation of Pediatrician-Scientists. *J Pediatrics*, March 2019.

Burns AM, Kushner JA, Ward MA, Turner TL, Kline MW, Orange JS. Strengthening the Pipeline for Clinician-Scientists: The Pediatrician-Scientist Training and Development Program at Texas Children's Hospital. J Pediatrics. June 2016.

Heikamp EB, Pui CH. Next-Generation Evaluation and Treatment of Pediatric Acute Lymphoblastic Leukemia. *J Pediatr*ics 2018 Dec;203:14-24.e2. doi: 10.1016/j.jpeds.2018.07.039. Epub 2018 Sep 10. PMID: 30213460; PMCID: PMC6261438.

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Wannier TM, Nyerges A, Kuchwara HM, Czikkely M, Balogh D, Filsinger GT, Borders NC, Gregg CJ, Lajoie MJ, **Rios X**, et al. (2020). Improved bacterial recombineering by parallelized protein discovery. BioRxiv 2020.01.14.906594.

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TCH RESEARCH NEWS FROM 2019

As a department, we made impactful and innovative advances in pediatric research which deserves celebration. Below, you will find the list of headlines from TCH Research News in 2019, with each linked to the full article on the TCH Research News website. We highly encourage researchers in the DOP to promote their novel research findings, publications, and grant awards by emailing TCHResearchNews@texaschildrens.org. Full stories for each of the headlines below can be found at https://www.texaschildrens.org/research/news.

Link between herpes virus and Alzheimer's disease refuted (Dec 18, 2019)
Researchers at Baylor College of Medicine and Texas Children's Hospital report today in the journal *Neuron* evidence that refutes the link between increased levels of herpes virus and Alzheimer's disease. In addition, the researchers provide a new statistical and computational framework for the analysis of large-scale sequencing data.

Loss of OXR1 causes lysosomal dysfunction and a novel neurodevelopmental disorder (Nov 29, 2019)
An international collaborative study has recently discovered a new neurodevelopmental disorder characterized by brain atrophy, speech and motor delays, hypotonia (low muscle tone), seizures and intellectual disability in five affected individuals with pathogenic variants in the *Oxidative Resistance 1 (OXR1)* gene. Studies in fruit flies unearthed a novel role for *OXR1* in regulating the acidic environment of the lysosomes ("the cellular garbage recyclers"), disruption of which is likely the underlying cause of this disorder.

Children's Cancer Cause Presents Rosen Award to Dr. David Poplack (Nov 19, 2019)
The Leonard M. Rosen Memorial Research Award is presented annually at the Children's Cancer Cause Cocktail Reception in New York City. This year, Children's Cancer Cause was proud to present the 4th Annual Rosen Award to David Poplack, MD, Director of Global HOPE.

Inaugural Rett syndrome symposium (Nov 19, 2019)
During the final week of October, Texas Children's Hospital hosted visitors from around the world for a very special Rett Syndrome Symposium and Workshop. The two-day event was momentous for many reasons. It was the inaugural meeting held in the stunning new Auditorium and Conference Center at the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital. It fortuitously coincided with Rett Syndrome Awareness Month. And the symposium also

marked the 20th anniversary of the discovery of the underlying cause of Rett syndrome. In 2000, NRI director **Dr. Huda Zoghbi**'s research team made the pioneering discovery that loss-of-function mutations in methyl-CpG binding protein, MECP2, were the underlying cause of Rett syndrome.

Study reveals how maternal Zika virus infection results in microcephaly among newborns (Nov 14, 2019)

Microcephaly is a birth defect in which a newborn has a significantly smaller and under-developed brain. Although several inherited genetic mutations and environmental factors such as maternal malnutrition, *in utero* infections (e.g. Zika virus), exposure to alcohol or toxic drugs and fetal injury are known to cause microcephaly, very little is known about the underlying causative mechanisms. A new study from the laboratory of Dr. Hugo J. Bellen, professor at Baylor College of Medicine, investigator at the Howard Hughes Medical Institute and Jan and Dan Duncan Neurological Research at Texas Children's Hospital has uncovered a novel genetic pathway that causes microcephaly in infants and have identified promising therapeutic targets. The study was published today in the journal *Developmental Cell*.

Dr. Heather Born receives the 2019 Duncan NRI Zoghbi Scholar Award (Nov 11, 2019)

Heather Born, Ph.D., postdoctoral associate in the laboratory of Dr. Anne Anderson, at Baylor College of Medicine, received the 2019 Duncan NRI Zoghbi Scholar Award. This is a special fund established by Dr. Huda Zoghbi, director of the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital, to honor the many generations of trainees who have worked in her laboratory and foster the next generation of successful scientists.

Learning to stop cancer in its roots (Nov 8, 2019)

A study published in Blood journal from laboratory of Dr. Daniel Lacorazza, associate professor of pathology & immunology at Baylor College of Medicine and principal investigator in the Experimental Immunology & Hematology Laboratory at Texas Children's Hospital finds a way to eliminate leukemia stem cells in chronic myeloid leukemia.

Research collaboration focuses on CDKL5 Deficiency Disorder (Oct 30, 2019)

CDKL5 Deficiency Disorder (CDD) is a devastating neurodevelopmental disorder caused by mutations in the CDKL5 gene. The Loulou Foundation, a private non-profit foundation dedicated to the development of novel therapeutics for CDD, and Baylor

College of Medicine and the Jan and Dan Duncan Neurological Research Institute (NRI) at Texas Children's Hospital have launched a joint research collaboration focused on therapeutic research for this disorder.

Novel approach identifies factors linked to poor treatment outcomes in ALL (Oct 24, 2019)

The survival of patients with pediatric acute lymphoblastic leukemia (ALL) has significantly improved in the last several decades. However, novel strategies to identify cases that are likely to respond poorly to treatment are still needed. In a new study published in the journal *EBioMedicine,* researchers at Baylor College of Medicine and Texas Children's Cancer Center reported that profiling the bone marrow metabolome, the constellation of small molecules produced by metabolism in patients' bone marrow, at the time of diagnosis, enabled them to identify patients who were most likely to respond poorly to treatment.

Faculty earn AAP awards (Oct 18, 2019)

Dr. Fernando Stein, professor of pediatrics at Baylor and Texas Children's Hospital, was announced as the recipient of the Distinguished Career Award from the American Association of Pediatrics. Stein, a past president of AAP, is a critical care pediatrician and serves as medical director of the progressive care unit at Texas Children's. Dr. Susan Torrey, associate professor of pediatrics & emergency medicine, is the recipient of the Michael Shannon Humanitarian Award. She is associate director of the education division of the Global Hematology-Oncology Pediatric Excellence Program, or Global HOPE, which develops pediatric hematology and oncology services and resources in Africa.

Texas Children's now part of national NIH-funded consortium for research in eosinophilic gastrointestinal diseases (Oct 14, 2019)

The National Institutes of Health renewed a five-year, $7.57 million grant to a multi-institutional Consortium of Eosinophilic Gastrointestinal Disease (CEGIR) to continue clinical research and train the next generation of experts in eosinophilic gastrointestinal disorders (EGID). For the first time, Texas Children's Hospital physicians and Baylor College of Medicine pediatrics faculty are a part of this NIH-funded collaboration. Drs. Carla M. Davis and Anthony Olive are the local co-principal investigators while Drs. Sara Anvari and Eric Chiou are other contributors to this national research effort.

Researchers discover new intellectual disability syndrome (Oct 10, 2019)

Intellectual disability affects almost 200 million people around the globe. Yet, not much

is understood about the underlying genes or molecular pathways involved in these conditions. An international group led by researchers at Baylor College of Medicine, Texas Children's Hospital and the University of Geneva reports in the *American Journal of Human Genetics* a new neurological syndrome that appears to be especially common in countries where marriages between genetically related individuals, such as cousins, are prevalent.

Tau-mediated RNA splicing errors linked to Alzheimer's (Oct 9, 2019)
A collaborative study published today in the journal Cell Reports provides evidence for a new molecular cause for neurodegeneration in Alzheimer's disease. The study, led by researchers at Baylor College of Medicine and the Jan and Dan Duncan Neurological Research Institute at CrypSplice, integrates data from human brain autopsy samples and fruit flies to reveal a novel mechanistic link between alterations in RNA splicing and tau-mediated neurodegeneration in Alzheimer's disease.

Meningioma molecular profile can predict tumor recurrence (Oct 9, 2019)
Although typically benign, about one-fifth of meningiomas, the most common primary brain tumors, recur despite complete surgical removal. The current meningioma classification does not consistently predict whether the tumor will recur, but researchers at Baylor College of Medicine and the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital report today in the *Proceedings of the National Academy of Sciences* that using molecular profiles that might better predict meningioma recurrence.

Rett Syndrome Symposium and Workshop (Oct 7, 2019)
This fall marks the 20th anniversary of the discovery of the genetic basis of Rett syndrome. In honor of this important milestone, Drs. Adrian Bird and Huda Zoghbi are co-hosting a Rett Syndrome Symposium and Workshop Monday and Tuesday, October 28 and 29, at the Jan and Dan Duncan Neurological Research Institute in Houston.

Texas Children's receives national recognition for sepsis improvement efforts (Sept 24, 2019)
Texas Children's Hospital was recently honored with the 2019 Sepsis Heroes Award presented by the Sepsis Alliance at the organization's eighth annual Sepsis Heroes gala on September 12. Sepsis Alliance, the nation's leading sepsis organization, recognized Texas Children's for its continued support and instrumental efforts in raising sepsis awareness and improving treatment for sepsis – the body's life-threatening response to infection that affects 1.7 million children and adults each year.

Cancer Center on forefront of cutting-edge research, clinical trials (Sept 19, 2019)
As one of the best pediatric cancer centers in the nation, experts at Texas Children's Cancer Center are on the forefront of cutting-edge basic, translational and clinical research. The center's world-renowned faculty have pioneered many of the now standard protocols for treating and curing children with cancer.

Lubega to lead global special interest group
Dr. Joseph Lubega, assistant professor of pediatrics at Baylor and Texas Children's Cancer Center, recently was appointed vice chair of the Global Special Interest Group of the American Society of Pediatric Hematology/Oncology. His responsibilities will include organizing the annual special interest group meeting, engaging members who have an interest in global care, and working to extend the reach of ASPHO beyond the U.S. Lubega previously served as medical director of the Texas Children's Cancer Center's Global Hematology Oncology Pediatric Excellence (HOPE) Program in Uganda.

Jan and Dan Duncan Neurological Research Institute and Leica Microsystems Establish Center of Excellence in Microscopy (Sept 10, 2019)
The Jan and Dan Duncan Neurological Research Institute (NRI) at Texas Children's Hospital and Leica Microsystems, Inc. combined efforts to establish the Leica Microsystems Center of Excellence at the NRI. The new Center will support a mission to drive new discoveries and insights from scientific research performed using the imaging systems.

Texas Children's and Baylor physicians at the forefront of nationwide research initiatives for spina bifida (Sept 3, 2019)
The Meyer Center for Developmental Pediatrics at Texas Children's Hospital, Baylor College of Medicine and the Spina Bifida Association recently hosted the Houston Spina Bifida Education Day for patients, families and caregivers. Held at Houston Methodist Hospital, the event showcased newly established, evidence-based national guidelines for the care of individuals living with spina bifida. This is the first time the guidelines, written in part by Texas Children's and Baylor clinicians and researchers, were shared with such a broad audience.

Researchers develop a new behavioral intervention to support family management of type 1 diabetes among African American/Black and Hispanic/Latino school-aged children (Aug 29, 2019)
Researchers are seeking families to participate in the Type 1 diabetes empowerment and management (TEAM) study led by Dr. Ashley Butler, behavioral scientist and assistant professor at Texas Children's Hospital/ Baylor College of Medicine. The goal of this study, funded by the National Institutes of Health (NIH), is to create and test the effectiveness of delivering a family program among African-American/Black and Hispanic/Latino parents of school-aged children (5-9 years) with type 1 diabetes (T1D). Researchers believe the intervention – Family Teamwork-Peer Delivery (FT-P) – has the potential to promote positive diabetes management.

Texas Children's hosts inaugural family conference for EBF3-HADD syndrome (Aug 26, 2019)
Texas Children's Hospital hosted the first ever family conference for the EBF3-HADDS (Hypotonia Ataxia Developmental Delays Syndrome caused by changes in the EBF3 gene) syndrome between July 25 – 27, 2019 in Houston, TX. The conference was organized by the EBF3-HADDS Foundation, a new nonprofit organization created in 2018 by families to promote awareness, research and support for this genetic syndrome.

Bertuch named to NIH study section (Aug 23, 2019)
Dr. Alison Bertuch, associate professor of pediatrics – hematology/oncology at Baylor and Texas Children's Cancer Center, recently was named chair of the Molecular Genetics B(MGB) Study Section of the National Institutes of Health Center for Scientific Review, for a two-year term. Applications reviewed by the MGB study section involve molecular mechanisms of genome replication, maintenance and gene expression.

Loss of ataxin-1 gene linked to Alzheimer's disease risk (Aug 23, 2019)
A collaborative study including researchers at Baylor College of Medicine, Massachusetts General Hospital at Harvard Medical School and the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital reveals today in the journal Cell that the ataxin-1 gene, which is known to cause the rare neurodegenerative disease called spinocerebellar ataxia type 1 (SCA1), also can increase the risk of Alzheimer's disease in a mouse model of the condition.

Baylor and Texas Children's faculty contribute to cancer initiative planning (BCM Newslink - August 16, 2019)

Drs. Sharon Plon, Donald W. (Will) Parsons, Michael Scheurer and Philip Lupo, of Baylor College of Medicine and Texas Children's Cancer Center, were invited to participate in the Childhood Cancer Data Initiative symposium at the National Cancer Institute July 29-31, along with other scientific stakeholders and leaders. This symposium was the scientific planning session for the proposed initiative, announced during the State of the Union address in February, to spend $500 million on childhood cancer research over the next 10 years, including efforts to collect, analyze and share data to make it easier for researchers and oncology care teams to learn from every child, adolescent and young adult with cancer.

Gene linked to Alzheimer's disease is involved in neuronal communication (Aug 14, 2019)

A study published this week in the journal *Cell Reports* from Dr. Joshua Shulman's lab sheds new light on how the CD2AP gene may enhance Alzheimer's disease susceptibility. Integrating experiments in fruit flies, mice and human brains, a multi-institutional team led by researchers at Baylor College of Medicine and Texas Children's Hospital found that the CD2AP gene is involved in synaptic transmission, the process by which neurons communicate. Digging deeper, the researchers discovered that CD2AP affects neuronal communication by regulating the levels of key regulatory proteins present at neuron terminals (synapses).

ASHG honors Huda Zoghbi with Victor A. McKusick Leadership Award (Aug 2, 2019)

The American Society of Human Genetics (ASHG) has named Huda Zoghbi, MD, as the 2019 recipient of the Victor A. McKusick Leadership Award. This award, named in honor of the late Victor A. McKusick, MD, recognizes individuals whose professional achievements have fostered and enriched the development of human genetics as well as its assimilation into the broader context of science, medicine, and health.

Collaborative research initiative reveals a novel neurological syndrome (July 19, 2019)

A multi-institutional study reveals the link between loss of *WDR37* gene to a new neurological syndrome that is characterized by brain malformations and a range of symptoms including visual impairment, epilepsy, developmental delays and intellectual disability. The study was published in the American Journal of Human Genetics.

Scollon recognized by alma mater (July 15, 2019)

Sarah Scollon, assistant professor of pediatrics – oncology, has received the Diane

Baker Alumni Award from the University of Michigan Genetic Counseling Program, where she earned a master's degree in genetic counseling. The award honors genetic counselors who display the same vision and commitment to the field as its namesake. Scollon will deliver the annual Diane Baker Alumni Lecture in September.

Lindsay to serve on AAP clinical trial committee (July 15, 2019)
Dr. Holly Lindsay, assistant professor of pediatrics – hematology/oncology, recently was appointed to serve as the American Academy of Pediatrics representative to the Institute for Advanced Clinical Trials for Children Steering Committee. In this role, she will advocate for the inclusion of pediatric and adolescent patients in adult clinical trials to increase the therapies available for these patients. Lindsay is part of the Texas Children's Cancer Center and Baylor College of Medicine's Adolescent and Young Adult Oncology Program.

Gramatges appointed to National Institutes of Health study section (July 11, 2019)
Dr. Monica Gramatges's nomination to the National Institutes of Health (NIH) Cancer, Heart, and Sleep Epidemiology Panel A Study Section (CHSA) was recently approved and her five year term will begin July 1, 2019. The nomination process is quite extensive and requires concurrence from senior investigators outside of NIH, NIH Program staff, and official approval from the NIH Director, Dr. Francis Collins. In this role, Dr. Gramatges will join a team of scientists to serve as a peer reviewer for grants submitted to the NIH that are within a particular research field, including childhood cancer research.

Genomic technology predicts risk for children predisposed to cancer (July 3, 2019)
A review authored by Drs. Sharon E. Plon and Philip J. Lupo at Texas Children's Cancer and Hematology Centers, surveys the evolving landscape of genes known to increase susceptibility to certain childhood cancers and supports the increasing use of genomic technology in cancer diagnosis. The article was published in the Annual Reviews of Genomics and Human Genetics.

McClain receives Lifetime Achievement Award (June 27, 2019)
Dr. Kenneth McClain received a Lifetime Achievement Award for his research and care of patients with Langerhans Cell Histiocytosis (LCH) from Mr. Apostolos Kontoyannis at the 29th Nikolas Symposium in Athens, Greece, May 16, 2019. The Kontoyannis family has organized this "think tank" symposium to advance the understanding and cure of

LCH patients by bringing clinicians and scientists from various disciplines together for an intense 3 day meeting of presentations and collaborative discussions.

Study finds increased risk of certain cancers among children and adolescents with birth defects (June 20, 2019)
A multi-institutional study led by Dr. Philip Lupo, co-director of the Childhood Cancer Epidemiology and Prevention Program at Texas Children's Cancer and Hematology Center and associate professor at Baylor College of Medicine, finds children and adolescents with specific birth defects are at an increased risk of developing certain cancers. Dr. Sharon Plon, a leading medical geneticist who co-directs the Cancer Genetics and Genomics Program in the Texas Children's Cancer and Hematology Center and a professor at Baylor College of Medicine and Dr. Jeremy Schraw, a post-doctoral fellow at Baylor College of Medicine were other key investigators involved in this study.

Researcher receives funding to develop an innovative new app for children with chronic abdominal pain (June 19, 2019)
Dr. John Hollier, pediatric gastroenterologist at Texas Children's Hospital, recently received a Mentored Patient-Oriented Research Career Development Award (K23) from the National Institutes of Health (NIH) to support the development of a novel health care delivery initiative.

Afraid of food? The answer may be in the basal forebrain (June 17, 2019)
A recent study conducted in Dr. Benjamin Arenkiel's laboratory at the Jan and Dan Duncan Neurological Research Institute has identified novel circuits in basal forebrain that perceive and transmit odors from the food/environment to the hypothalamus and dramatically controls feeding behaviors.

Faculty selected for leadership training (June 14, 2019)
Dr. Heather Haq, assistant professor of pediatrics hematology/oncology, was selected to participate in the highly competitive American Academy of Pediatrics Young Physicians Leadership Alliance training program, designed to develop leaders and build a leadership community amongst early career pediatricians and pediatric subspecialists. Dr. Wendy Allen-Rhoades, also assistant professor of pediatrics hematology/oncology, was one of two physicians selected as an American Society of Clinical Oncology 2019-2020 Health Policy Leadership Development Program Fellow. She will receive training in leadership, communication and advocacy along with practical experience working

with ASCO staff to shape cancer-related policies that directly affect individuals with cancer and clinical care.

Miterko receives Masao Ito award (June 12, 2019)
Lauren Miterko, graduate student in Dr. Roy Sillitoe's laboratory at the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital and Baylor College of Medicine received the prestigious Masao Ito Award from the Society for Research on Cerebellum and Ataxias.

Chakrabarty receives career development award (June 12, 2019)
Dr. Rikhia Chakraborty, assistant professor of pediatrics - oncology, has received a Peer Reviewed Cancer Research Program Career Development Award, part of the Congressionally Directed Medical Research Programs that foster novel approaches to biomedical research. The award provides support for her research on "Cancer immunotherapy as treatment option for Langerhans cell histiocytosis."

Visualization of placental microbes reveal sparse community (June 12, 2019)
It is known that different areas of the body – the gut, mouth, vagina and even skin – are inhabited by many different species of bacteria that make up the microbiome and support key functions in the human body. Researchers at Baylor College of Medicine and Texas Children's Hospital previously found evidence that the placenta harbors a sparse but still present community of microorganisms, which they and other researchers speculate may contribute to key functions in pregnancy, including immunity. In a study in the current edition of the *American Journal of Obstetrics & Gynecology*, researchers used imaging techniques to visualize these sparse microbes in the placenta.

Clinical Research Center/Research Resources Office presents research award to Dr. Patricia Baxter (June 11, 2019)
The Clinical Research Center/Research Resources Office presented the Clinical Research Award for second Quarter 2019 to Dr. Patricia Baxter, Department of Pediatrics-Hematology/Oncology, Baylor College of Medicine.

BrightFocus Foundation honors Dr. Huda Zoghbi (June 11, 2019)
Dr. Huda Y. Zoghbi, the founding director of the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital; Ralph D. Feigin, MD, endowed chair

and professor at Baylor College of Medicine; and an investigator with the Howard Hughes Medical Institute; was honored by the BrightFocus Foundation, a nonprofit organization that supports exceptional basic scientific research and provides public education on brain and eye diseases.

Obesity and certain non-autoimmune genes may contribute to type 1 diabetes (June 6, 2019)

A recent collaborative article led by Dr. Maria Redondo, a pediatric endocrinologist at Texas Children's Hospital, provides current perspectives on the etiology of type 1 diabetes. This article presents evidence supporting the emerging theory that obesity and certain type 2-linked genes, may also contribute to the progression of type 1 diabetes. The article was published in the journal Diabetes Care.

American Pediatrics Society honors Dr. Huda Zoghbi and inducts seven other Baylor/Texas Children's faculty (May 28, 2019)

Dr. Huda Zoghbi, M.D., has been named as the 2019 Norman J. Siegel New Member Outstanding Science Award recipient by the American Pediatrics Society (APS), a professional group whose mission is to shape the future of academic pediatrics through engagement of distinguished child health leaders.

DARPA-funded project aims to develop a magnetic headset to share visual perceptions from one brain to another at the speed of thought (May 21, 2019)

A Rice University-led team of neuroengineers is embarking on an ambitious four-year project to develop headset technology that can directly link the human brain and machines without the need for surgery. As a proof of concept, the team plans to transmit visual images perceived by one individual into the minds of blind patients. The team includes 15 co-investigators from Rice, Baylor College of Medicine, the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital, Duke University, Columbia University and Yale's John B. Pierce Laboratory.

The 2019 Michael E. DeBakey Award for Excellence in Research (May 20, 2019)

The 2019 Michael E. DeBakey M.D. Award for Research Excellence ceremony honored five Baylor College of Medicine/Texas Children's Hospital faculty members for their excellence in published scientific contributions to clinical or basic science research over the past three years.

Wulff earns research grant (May 16, 2019)
Dr. Jade Wulff, clinical postdoctoral fellow in pediatric hematology/oncology at Baylor and Texas Children's Cancer and Hematology Centers, has received a St. Baldrick Foundation Fellow grant for her project, "Targeting integrin-mediated signaling in metastatic Ewing sarcoma." Fellow grants support early career scientists whose research is focused on new cures and treatments for childhood cancers.

Friedman named to professionalism board (May 16, 2019)
Dr. Ellen M. Friedman, professor of otolaryngology and director of the Center for Professionalism, recently was elected to the Academy for Professionalism in Health Care Board of Directors as an at-large member. She will serve a two-year term to promote and optimize patient care through professionalism education, scholarship, policy and practice in all health-related fields.

Cancer and Hematology Centers honor staff with Bravo Award (May 16, 2019)
Texas Children's Cancer and Hematology Centers recently honored four team members with the Bravo Award for going above and beyond to ensure our patients and families receive the best possible care.

Texas Children's offers a new life-saving treatment for hepatocellular carcinoma (May 16, 2019)
A multidisciplinary team, led by **Dr. Kamlesh Kukreja**, expert in Interventional Radiology; is successfully performing the Trans-Arterial Radioembolization procedure – called TARE – on children who have this rare disease. "There are only three hospitals in the country performing TARE and we are one of them," Kukreja said. "We are the only one in the state of Texas."

Researchers develop a new bioinformatics tool to analyze CRISPR data (May 9, 2019)
A team led by researchers at Baylor College of Medicine has developed a new bioinformatics tool that analyzes CRISPR pooled screen data and identifies candidates for potentially relevant genes with greater sensitivity and accuracy than other existing methods. The new analytical web-based tool also is quicker and more user friendly as it does not require bioinformatics training to use it.

Dr. Amber Yates educates the public on sickle cell disease with TED-Ed video lesson (May 9, 2019)
Dr. Amber Yates, co-director of Texas Children's Sickle Cell program in the Center and Hematology Center explain how red blood cells get misshapen and sticky in patients with sickle cell disease in a TED-Ed video.

Dr. McClain receives the 2019 George Buchanan Lectureship Award (May 3, 2019)
Dr. Kenneth McClain received the 2019 George R. Buchanan Lectureship Award from Dr. Buchanan himself at the annual conference of the American Society for Pediatric Oncology in New Orleans. He is the fourth recipient of the award, which recognizes his outstanding clinical expertise, significant research contributions and mentorship

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Dr. Sharon Plon to serve on National Council for Human Genome Research (May 3, 2019)
Dr. Sharon Plon, professor of pediatrics - oncology and molecular and human genetics at Baylor and co-director of the Texas Children's Cancer Center's Cancer Genetics and Genomics Program, has been appointed by the Secretary of the Department of Health and Human Services to the National Advisory Council for Human Genome Research until 2020. The council advises government agencies on genetics, genomic research, training and programs related to the human genome initiative. In addition, Plon received the 11th annual Niehaus Southworth Weissenbach Award in Clinical Cancer Genetics from the Memorial Sloan Kettering Cancer Center. As part of the award events, she delivered Medical Grand Rounds on May 3 titled "Genetic Predisposition to Childhood Cancer in the Genomic Era" and consulted with genetics clinicians.

American Pediatrics Society honors Dr. Huda Zoghbi and inducts seven other Baylor/Texas Children's faculty (April 29, 2019)
Dr. Huda Zoghbi, M.D., has been named as the 2019 Norman J. Siegel New Member Outstanding Science Award recipient by the American Pediatrics Society (APS), a professional group whose mission is to shape the future of academic pediatrics through engagement of distinguished child health leaders.

McGinley receives John S. Dunn Research Collaborative Award (April 22, 2019)
Dr. Matthew McGinley, assistant professor at Baylor College and investigator at Cain Foundation Labs, receives a research seed grant to develop a platform to better understand mechanisms that integrate audio information with the brain's broader cognitive maps and in the process improve technologies like cochlear implants.

A new and improved microbiome-based diagnostic strategy can help doctors deliver personalized treatments to children with irritable bowel syndrome (April 19, 2019)

Researchers find a new and improved diagnostic tool to help physicians pinpoint the underlying causes contributing to irritable bowel syndrome (IBS) in pediatric patients with greater accuracy and precision. The hope is that this information will allow targeted treatments for children with this chronic condition. The study, which was published in the Journal of Molecular Diagnostics, was led by Dr. James Versalovic, who serves as pathologist-in-chief and director of the Microbiome Center at Texas Children's Hospital, as well as Professor and Vice Chair of Pathology & Immunology at Baylor College of Medicine.

Several Texas Children's faculty selected to receive top honors by the Houston Business Journal (April 15, 2019)

Texas Children's faculty members have been selected to receive 2019 Health Care Heroes Awards from the *Houston Business Journal* in several categories. They will be honored at ceremony May 23. They include:

Outstanding Health Care Practitioner: Dr. Ricardo Flores, clinical director, Cancer and Hematology Centers at Woodlands; Dr. Julie Kaplow, chief of psychology;

Outstanding Physician: Dr. Daniel DeSalvo, assistant professor of pediatrics and director of medical student education; Dr. Lisa Hollier, professor of obstetrics and gynecology; Dr. Peter Hotez, professor of pediatrics and dean of the National School of Tropical Medicine; and Dr. Rayne Rouce, assistant professor of pediatrics, hematology/oncology section.

Rising Star: Dr. Hsiao-Tuan Chao, child neurologist; and Dr. Arindam Sarkar, resident physician in family and community medicine.

Rayne Rouce appointed to a leadership role in the diversity office (April 15, 2019)

The Office of the Provost and the Office of Institutional Diversity, Inclusion and Equity at the Baylor College of Medicine announced the appointment of Dr. Rayne H. Rouce, assistant professor in the department of pediatrics, section of Hematology and Oncology as associate director of community engagement.

Joseph, Hegde receive Immunotherapy Scholar Award from the Faris Foundation (April 10, 2019)

Dr. Sujith Joseph, Senior Staff Scientist, and Dr. Meenakshi Hegde, Assistant Professor, both members of the Department of Pediatrics, Section of Hematology-Oncology, Baylor College of Medicine and Texas Children's Cancer Center have been

awarded the Faris D. Virani Immunotherapy Scholar Award of $300,000 over two years, by The Faris Foundation.

Several Texas Children's clinicians receive Women of Excellence Award (April 8, 2019)
More than a dozen Texas Children's clinicians, who are also in academic roles at Baylor College of Medicine, were recently honored with the college's Women of Excellence Award.

A one-of-a-kind high-tech maternal ICU opened at Texas Children's Hospital (Apr 1, 2019)
Located in the labor and delivery unit of Texas Children's Pavilion for Women, the new four-bed maternal intensive care unit opened in January. Dedicated to obstetric (OB) intensive care, the unit offers a specialized, private space for high-risk expectant and postpartum mothers.

Medically Speaking: Urinary Tract Infections (Mar 26, 2019)
Urologist, Dr. Ming-Hsien Wang discusses best practices to treat pediatric urinary tract infections (UTIs) in the latest episode of this video series and shares findings from a recent double-blind study on the use of prophylactic antibiotics to treat UTIs.

Bariatric surgery program expands to The Woodlands, first surgeries performed (Mar 20, 2019)
Just months after successfully expanding our spine surgery program outside the medical center, the Department of Surgery and Texas Children's Hospital The Woodlands are celebrating another important milestone – the expansion of our bariatric surgery services.

Texas Children's again largest U.S. pediatric transplant program (Mar 20, 2019)
Transplant Services at Texas Children's once again led the way as the nations' largest pediatric transplant program, performing a remarkable 107 solid organ transplants in 2018. That figure includes the highest volume of pediatric liver, lung and kidney transplants in the United States.

Top four device startup companies named at Impact Pediatric Health Pitch Competition at SXSW (Mar 19, 2019)
On March 9, twelve finalist startup companies vied for awards and valuable grant funding at the fifth annual Impact Pediatric Health, a one-of-a-kind pitch competition held at SXSW that showcases the best in pediatric health care innovations. Out of 50 national and international startup applicants, the judges selected four companies to receive $25,000 grants in the Medical Devices category, provided by Southwest National Pediatric Device Consortium (SWPDC).

Autism study focuses on underrepresented communities (Mar 19, 2019)
A new grant to Baylor College of Medicine will build on the ongoing SPARK for Autism research study by focusing on fighting disparities and lack of diversity in autism research. In Texas, the SPARK study is led by Dr. Robin Kochel, associate professor of pediatrics – psychology at Baylor College of Medicine and associate director for research at the Texas Children's Hospital Autism Center.

Dr. Hsiao-Tuan Chao named McNair Scholar (Mar 14, 2019)
Dr. Hsiao-Tuan Chao, assistant professor of pediatrics and molecular and human genetics, faculty at the Jan and Dan Duncan Neurological Research Institute, and associate program director of the basic neuroscience pathway in pediatric neurology at Baylor College of Medicine, has been named the newest McNair Scholar at Baylor.

Dr. Sarah Injac receives Emerging Research grant from Pediatric Cancer Research Foundation (Mar 7, 2019)
Dr. Sarah Injac, is a welcome addition to the Emerging Research Grant recipients. Her work at Baylor College of Medicine and Texas Children's Hospital offers hope to children with medulloblastoma, the most common malignant brain tumor of childhood with approximately 500 cases diagnosed in the United States each year.

SHANK3 : the good, the bad and the hopeful (Mar 7, 2019)
Some neuropsychiatric conditions may boil down to how well brain cells communicate with each other. This can be affected by a number of factors, including having too much or too little of proteins that function at the synapse – the point of communication between two brain cells. SHANK3 is one of these proteins. In their labs, Dr. Huda Zoghbi, Dr. Jimmy L. Holder Jr. and their colleagues have been extensively studying SHANK3, and they and other labs have discovered what is good, bad and hopeful about this protein.

Human stool can be used to treat a serious infection in children (Mar 5, 2019)
Human feces from healthy donors (termed 'fecal microbiota transplantation') can be used to treat severe diarrhea in children caused by recurrent *Clostridioides* or *Clostridum difficile (C. difficile*) infections that are unresponsive to standard antibiotic treatments, suggests a recent position statement issued by the leading professional bodies of pediatric gastroenterologists in the U.S. and Europe.

Shortages of pediatric cancer medicines threaten outcomes (Mar 4, 2019)
Shortages of essential chemotherapy drugs for children undergoing cancer treatment has been an increasingly frequent obstacle for patients and hospitals across the country. In a new position paper in *JAMA Pediatrics*, Baylor College of Medicine's Drs. Stacey Berg and Brooke Bernhardt address this issue and call for the development of an essential medicines list for this group of patients to help ensure reliable access and forecast future shortages.

Texas Children's Hospital and Baylor College of Medicine researchers receive more than $9 million in grants from Cancer Prevention & Research Institute of Texas (Feb 27, 2019)
The Cancer Prevention and Research Institute of Texas (CPRIT) has awarded physicians and scientists from Baylor College of Medicine and Texas Children's Hospital a combined $9,266,605 for seven projects in breast cancer, childhood cancers, T Cell therapy and lung cancer prevention.

Helen Heslop receives Lifetime Achievement Award (Feb 22, 2019)
Dr. Helen Heslop, director of the Center for Cell and Gene Therapy, received the Lifetime Achievement Award from the American Society for Blood and Marrow Transplantation at the Transplantation and Cellular Therapy Meetings held last week in Houston. Her key contributions to the field research on adoptive T cell immunotherapy to improve hematopoietic stem cell transplantation and cancer therapy.

Discovery improves understanding of Lou Gehrig's disease (Feb 26, 2019)
A collaborative study led by researchers at Baylor College of Medicine and the Jan and Dan Duncan Neurological Research Institute of Texas Children's Hospital improves our

understanding of how amyotrophic lateral sclerosis (ALS), also called Lou Gehrig's disease, develops.

Dr. Donald William Parsons for being named the deputy director of Cancer and Hematology Centers (Feb 20, 2019)
Texas Children's Cancer and Hematology Centers Director Dr. Susan Blaney recently appointed Dr. Donald Williams "Will" Parsons to the role of deputy director of the Cancer and Hematology Centers.

Two independent mechanisms are involved in tuberous sclerosis (Feb 7, 2019)
The current idea about how tuberous sclerosis occurs places mTORC1, a protein complex that regulates cell metabolism, as the major driving force behind the disease. But according to a new study published in the *Proceedings of the National Academy of Sciences U.S.A.* by researchers at Baylor College of Medicine and Texas Children's Hospital, the development of this rare condition also involves a second mechanism that is independent of mTORC1. The findings can potentially lead to new treatments that might benefit patients who partially respond to current therapies focused on mTORC1.

A new treatment regimen for adolescents with chronic Hepatitis C virus infection identified (Jan 30, 2019)
A study led by Dr. Daniel Leung, Associate Professor and Director of the Viral Hepatitis Programat Texas Children's Hospital and Baylor College of Medicine reports a new treatment for adolescents affected by chronic Hepatitis C infections (HCV). This study was a part of an ongoing, three-part clinical trial called ZIRCON, a multi-center international effort to find safe and effective therapies to treat HCV in children and was published in Hepatology Communications.

RESEARCH FUNDING RECIPIENTS IN THE DEPARTMENT OF PEDIATRICS

The following faculty served as Principal Investigators (or lead PI on multi-PI grants) on highly competitive, large-scale federal grants in 2019.

Principal Investigators (PIs)/Contact PIs	Section	Type of Grant(s)	Federal Institution
CHAO, HSIAO-TUAN	NEUROLOGY	DP5	OD
HESLOP, HELEN E	HEM-ONC	P50 & UG1	NCI & NHLBI
MORAN, NANCY E	NUTRITION	R00	NCCIH
MORENO, JENNETTE P	NUTRITION	R00	NICHD
BARBIERI, EVELINE	HEM-ONC	R01	NCI
BERTUCH, ALISON A	HEM-ONC	R01	NHLBI
BETTINI, MARIA	ENDOCRINE	R01	NIAID
BETTINI, MATTHEW	ENDOCRINE	R01	NIAID
BOUCHIER-HAYES, LISA	HEM-ONC	R01	NIGMS
BURRIN, DOUGLAS G	NUTRITION	R01	NIDDK
CHEN, MIAOHSUEH	NUTRITION	R01	NIDDK
DAVIS, TERESA A	NUTRITION	R01 x 2	NICHD
FLANAGAN, JONATHAN	HEM-ONC	R01	NHLBI
FUKUDA, MAKOTO	NUTRITION	R01	NIDDK
GOODELL, MARGARET A.	HEM-ONC	R01 x 3, U01	NCI & NIDDK
GRAMATGES, MARIA MONICA	HEM-ONC	R01	NCI
HILLIARD, MARISA	PSYCHOLOGY	R01	NIDDK
KAHALLEY, LISA	PSYCHOLOGY	R01 x 2	NCI
KIM, MARIA	BIPAI	R01	NIMH
KING, KATHERINE	INFECTIOUS DIS	R01 x 2	NHLBI
LEE, HYUN KYOUNG	NEUROLOGY	R01	NINDS
LINGAPPAN, KRITHIKA	NEONATOLOGY	R01	NHLBI
LOPEZ, JOB E	TROPICAL MED	R01	NIAID
MALETIC-SAVATIC, MIRJANA	NEUROLOGY	R01	NIGMS
MANDALAKAS, ANNA	GLOBAL HLTH	R01	NIAID
MCNEIL, CHASE	INFECTIOUS DIS	R01	AHRQ
METELITSA, LEONID	HEM-ONC	R01	NCI
MONTEALEGRE, JANE	HEM-ONC	R01	NIMHD
MOORTHY, BHAGAVATULA	NEONATOLOGY	R01 x 2	NIEHS & NHLBI
O'CONNOR, TERESIA	NUTRITION	R01	NIDDK
POMPEII, LISA A	RRO	R01	NIOSH
REDONDO, MARIA	ENDOCRINE	R01	NIDDK
RUMBAUT, ROLANDO	PULMONARY	R01	NEI
RUSIN, CRAIG	CARDIOLOGY	R01	NHLBI
SCHEURER, MICHAEL	HEM-ONC	R01	NCI
SHEN, LANLAN	NUTRITION	R01	NCI
SHIVANNA, BINOY	NEONATOLOGY	R01	NHLBI
SHULMAN, ROBERT	NUTRITION	R01 & U01	NINR & NIDDK
SWANN, JOHN	NEUROLOGY	R01	NINDS
TANG, JIANRONG	NEUROLOGY	R01	NINDS
WATERLAND, ROBERT	NUTRITION	R01	NIDDK
WU, QI	NUTRITION	R01	NIDDK
XU, YONG	NUTRITION	R01	NIDDK
ZACHARIAH, JUSTIN	CARDIOLOGY	R01	NHLBI
ZOGHBI, HUDA	NEUROLOGY	R01 x R37	NINDS
CASTILLO, HEIDI	DEVELOPMENTAL	U01	NCBDD
MURRAY, KRISTY	TROPICAL MED	U01	CGH
PLON, SHARON	HEM-ONC	U01 x 2	NHGRI
SHNEIDER, BENJAMIN	GASTRO	U01	NIDDK
PENNY, DANIEL	CARDIOLOGY	UG1	NHLBI

The following faculty served as PI's on R-series NIH grants (R01, R21, R34, R56, R33, R13):

Principal Investigator	Section	Type of Grant	Institute
CHUMPITAZI, BRUNO	GASTRO	R03	NIDDK
LINGAPPAN, KRITHIKA	NEONATOLOGY	R03	NHLBI
SCHEURER, MICHAEL	HEM-ONC	R13	NIEHS
ANDERSON, ANNE	NEUROLOGY	R21	NINDS
HADSELL, DARRYL	NUTRITION	R21	NICHD
HOTEZ, PETER	TROPICAL MED	R21	NIAID
SHEN, LANLAN	NUTRITION	R21	NCI
SUMAZIN, PAVEL	HEM-ONC	R21	NCI
YUSTEIN, JASON	HEM-ONC	R21	NCI
SHULMAN, ROBERT	NUTRITION	R33	NCCIH
O'CONNOR, TERESIA	NUTRITION	R34	NHLBI
MOORTHY, BHAGAVATULA	NEONATOLOGY	R56	NIEHS

Research training grants are critical to the development of our students and post-doctoral trainees. The following faculty are PI's of training grants within the DOP:

Principal Investigator	Section	Type	Institute	Title
GOODELL, MARGARET	HEM-ONC	T32	NIDDK	Hematology Training Program
HESLOP, HELEN	HEM-ONC	T32	NHLBI	Training in Cell and Gene Therapy
PLON, SHARON	HEM-ONC	T32	NIGMS	Medical Scientist Training Program
SHULMAN, ROBERT	NUTRITION	T32	NIDDK	Research Training in Pediatric Gastroenterology
SWANN, JOHN	NEUROLOGY	T32	NINDS	Multidisciplinary Training in Brain Disorders and Development
BLANEY, SUSAN	HEM-ONC	K12	NCI	Pediatric Oncology Clinical Research Training Program

Below are those faculty who serve as principal investigators on non-NIH government sponsored grants and contracts.

Principal Investigator	SECTION	State or Federal Government Sponsor
AHMED, SAEED	RETROVIROLOGY	USAID
ALLEN, CARL	ONCOLOGY	CPRIT
ANDERSON, DIANE	NEWBORN	HRSA
ANTAR, ALLI	NUTRITION	USDA
BACHA, FIDA	NUTRITION	USDA
BARBIERI, EVELINE	ONCOLOGY	CPRIT
BASSHAM, BRIAN	EMERGENCY MEDICINE	HRSA
BERTUCH, ALISON	ONCOLOGY	DOD
BIER, DENNIS	NUTRITION	USDA x 4
BOOM, JULIE	ACADEMIC GENERAL	CDC
BROWN, AUSTIN	ONCOLOGY	CPRIT
BURRIN, DOUGLAS	NUTRITION	USDA
CASTILLO, HEIDI	DEVELOPMENTAL	CDC
CHACKO, SHAJI	NUTRITION	USDA
CHEN, MIAO-HSUEH	NUTRITION	USDA
CRUZ, ANDREA	EMERGENCY MEDICINE	HRSA
DAVE, JAYNA	NUTRITION	USDA
DAVIS, ALAN	HEMA & ONCOLOGY	DOD
DAVIS, TERESA	NUTRITION	USDA
DIAZ, ROSA	HEMATOLOGY	CDC & HRSA
DUGGAN, DEANNA	NEUROLOGY	FDA
EDWARDS, MORVEN	INFECTIOUS DISEASE	CDC
FIOROTTO, MARTA	NUTRITION	USDA
FORDIS JR, C	ADMINISTRATION	DHHS
FU, LONING	NUTRITION	USDA
FUKUDA, MAKOTO	NUTRITION	USDA
GEE, ADRIAN	HEMA & ONCOLOGY	CPRIT
GILLESPIE, SUSAN	ALLERGY&IMMUNOLOGY	TX DSHS
GREELEY, CHRISTOPHER	PUBLIC HEALTH	TX DEPT FAMILY PROTECT SERV
HADSELL, DARRYL	NUTRITION	USDA
HEALY, CATHERINE	INFECTIOUS DISEASE	CPRIT
HECZEY, ANDRAS	ONCOLOGY	CPRIT
HIRSCHI, KENDAL	NUTRITION	USDA
HORTON, TERZAH	ONCOLOGY	CPRIT
HOTEZ, PETER	TROPICAL MEDICINE	DOD
HUGHES, SHERYL	NUTRITION	USDA x 3
HURWITZ, RICHARD	ONCOLOGY	CPRIT
JAHOOR, FAROOK	NUTRITION	USDA
KIM, JEFFREY	CARDIOLOGY	CPRIT
LI, XIAONAN	ONCOLOGY	CPRIT x 2
LIU, ZHANDONG	NEUR NRI	CPRIT
LUPO, PHILIP	ONCOLOGY	CPRIT x 2
MACIAS, CHARLES G.	EMERGENCY MEDICINE	HRSA
MACK, STEPHEN	ONCOLOGY	CPRIT
MARINI, JUAN	CRITICAL CARE	USDA
MOHAMMAD, MAHMOUD	NUTRITION	USDA
MONTEALEGRE, JANE	ONCOLOGY	CPRIT x 2
MOORTHY,	NEWBORN	CPRIT
MORENO, JENNETTE	NUTRITION	USDA
MUNOZ-RIVAS, FLOR	INFECTIOUS DISEASE	CDC
MURRAY, KRISTY	TROPICAL MEDICINE	CDC, USAID, & TX DSHS
NAKATA, PAUL	NUTRITION	USDA

NICKLAS, THERESA	NUTRITION	USDA
O'CONNOR, TERESIA	NUTRITION	USDA
PARIHAR, ROBIN	ONCOLOGY	CPRIT
PARSONS, DONALD	ONCOLOGY	CPRIT
PATI, DEBANANDA	ONCOLOGY	CPRIT x 2
POMPEII, LISA	EPIDEMIOLOGY	CDC x 2
POPLACK, DAVID	HEMA & ONCOLOGY	CPRIT
RABIN, KAREN	ONCOLOGY	CPRIT
ROONEY, CLIONA	HEMA & ONCOLOGY	CPRIT
SCHEURER, MICHAEL	ONCOLOGY	CPRIT
SHAH, MANISH	EMERGENCY MEDICINE	HRSA
SHEN, LANLAN	NUTRITION	USDA
SHULMAN, ROBERT	NUTRITION	USDA
SISLEY, STEPHANIE	NUTRITION	USDA
STARKE, JEFFREY	INFECTIOUS DISEASE	TX DSHS
THOMPSON, DEBORAH	NUTRITION	USDA
TONG, QIANG	NUTRITION	USDA
VARGHESE, NIDHY	PULMONARY	FDA
WATERLAND, ROBERT	NUTRITION	USDA & CPRIT
WATERLAND, ROBERT	NUTRITION	CPRIT
WIEMANN, CONSTANCE	ADOL. & SPORTS MED.	HRSA
WOOD, ALEXIS	NUTRITION	USDA
WU, QI	NUTRITION	USDA
XU, YONG	NUTRITION	USDA
YUSTEIN, JASON	ONCOLOGY	CPRIT
ZHU, YI	NUTRITION	USDA

*__USAID__: UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT; **CPRIT**: CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS; **HRSA**: HEALTH RESOURCES & SERVICES ADMINISTRATION; **DOD**: DEPARTMENT OF DEFENSE; **USDA**: UNITED STATES DEPARTMENT OF AGRICULTURE; **CDC**: CENTERS FOR DISEASE CONTROL; **FDA**: FOOD AND DRUG ADMINISTRATION; **DHHS**: DEPARTMENT OF HEALTH AND HUMAN SERVICES; **TX DSHS**: TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Below are those faculty who serve as principal investigators on awards granted by foundations and other non-profit organizations.

Principal Investigators of Foundation or Non-Profit Awards		
AGRUSA, JENNIFER	HESLOP, HELEN	POPLACK, DAVID
AIDEN, AVIVA	HIATT, PETER	POTTER, SAMARA
ALLEN-RHOADES, WENDY	HILL, RYAN	QUELIZA, KAREN
ALLEN, CARL	HILLIARD, MARISA	RABIN, KAREN
ANDERSON, ANNE	HOLDER JR, JIMMY	RAGHUBAR, KIMBERLY
ANTAR, ALLI	HORTON, TERZAH	REDELL, MICHELE
BARBIERI, EVELINE	HOTEZ, PETER	REDONDO, MARIA
BAXTER, PATRICIA	HURWITZ, RICHARD	REYES, JAIME
BERG, STACEY	INJAC, SARAH	RIDER, NICHOLAS
BERNINI, JUAN	JAHOOR, FAROOK	ROUCE, RAYNE
BLANEY, SUSAN	JENSEN, CRAIG	RUIZ, FADEL
BORN, HEATHER	JUSTINO, HENRI	SARTAIN, SARAH
BRACKETT, JULIENNE	KAPLOW, JULIE	SASA, GHADIR
BROWN, AMANDA	KARAM, LINA	SCHAFER, ERIC
BROWN, AUSTIN	KEEFE, RACHAEL	SCHEURER, MICHAEL
BURRIN, DOUGLAS	KELLERMAYER, RICHARD	SHANGHVI, DHVANI
BUTLER, ASHLEY	KOCHEL, ROBIN	SHEEHAN, VIVIEN
CHAO, HSIAO-TUAN	KRANCE, ROBERT	SISLEY, STEPHANIE
CHINN, IVAN	LEEN, ANN	STEVENS, ALEXANDRA
CHINTAGUMPALA, MURALI	LOTZE, TIMOTHY	SUTER, BERNHARD
DAVIES, JONATHAN	LUPO, PHILIP	TAO, LING
DESALVO, DANIEL	MACK, STEPHEN	TONG, QIANG
DIAZ, ROSA	MALETIC-SAVATIC, MIRJANA	TOSUR, MUSTAFA
ELHOFF, JUSTIN	MANN, MICHELLE	VAN HORNE, BETHANIE
FIOROTTO, MARTA	METELITSA, LEONID	VOGEL, TIPHANIE
FLEURENCE, JULIEN	MISRA, SANGHAMITRA	WANG, CHUNMEI
FOSTER, JENNIFER	MIYAKE, CHRISTINA	WANG, HONGTAO
FREDRICKS, KARLA	MORALES-MANTILLA, DANIEL	WANG, LISA
GLAZE, DANIEL	MORRIS, SHAINE	WASSWA, PETER
GOODELL, MARGARET	MOTIL, KATHLEEN	WHITTLE, SARAH
GRAMATGES, MARIA	MURRAY, KRISTY	WONG, WILLIAM
GREELEY, CHRISTOPHER	MUSAAD, SALMA	WOOD, ALEXIS
GUNTER, SARAH	MUSCAL, EYAL	WULFF, JADE
GUPTA, ROHIT	MUSCAL, JODI	XU, YONG
HAJJAR, JOUD	MUSICK, MATTHEW	YEE, ANDREW
HARPAVAT, SANJIV	MYSORE, KRUPA	YEE, DONALD L.
HAYMOND, MOREY	OZUAH, NMAZUO	YI, JOANNA
HE, YANLIN	PARIHAR, ROBIN	YUSTEIN, JASON
HECZEY, ANDRAS	PARSONS, DONALD	ZAGE, PETER E.
HEGDE, MEENAKSHI	PECKHAM-GREGORY, ERIN	ZHAN, BIN
HELLSTEN, MELODY	PEHLIVAN, DAVUT	
HERGENROEDER, ALBERT	PENNY, DANIEL	

The following faculty are principal investigators on industry-sponsored research.

Principal Investigators with Industry-Sponsored Research		
ABID, FARIDA	HAIR, AMY	PHAM, YEN
ABRAMS, STEVEN A	HAJJAR, JOUD	PIGNATELLI, RICARDO
ACOSTA, ALISA	HARRISON, GAIL	POTTER, SAMARA
AKCAN ARIKAN, AYSE	HEGDE, MEENAKSHI	POWERS, JACQUELYN
ALADE, KIYETTA	HERTEL, PAULA	PRICE, JACK
ALI, IRFAN	HESLOP, HELEN	QURESHI, ATHAR
ALLEN, CARL	HIATT, PETER	RABIN, KAREN
ANAGNOSTOU, AIKATERINI	HIMES, RYAN WALLACE	RAJ, PRIYA
ANDERS, MARC	HORTON, TERZAH	RAU, RACHEL
ANVARI, SARA	HULTEN, KRISTINA	REDELL, MICHELE
BACHA, FIDA	HWU, KATHERINE	REDONDO, MARIA
BARBIERI, EVELINE	IACOBAS, IONELA	RILEY, ALYSSA
BARLOW, SARAH E.	JUSTINO, HENRI	ROONEY, CLIONA
BAXTER, PATRICIA	KAMDAR, KALA	ROUCE, RAYNE
BERTUCH, ALISON	KAPLAN, SHELDON	RUIZ, FADEL
BLANEY, SUSAN	KARAM, LINA	SAMPAYO, ESTHER
BOMGAARS, LISA	KHAN, ASRA	SATTER, LISA
BRACKETT, JULIENNE	KOCHEL, ROBIN	SAXENA, KIRTI
BRENNER, MALCOLM	KOH, CHESTER	SCHAFER, ERIC
BURRIN, DOUGLAS	KRANCE, ROBERT	SEEBORG, FILIZ
CABRERA, ANTONIO	LAM, WILSON	SHAH, MONA
CARTER, BETH ANNE	LEEN, ANN	SHAH, SHWETA
CHINTAGUMPALA, MURALI	LEUNG, DANIEL	SHEEHAN, VIVIEN
CHIOU, ERIC	LOTZE, TIMOTHY	SHULMAN, ROBERT
CHUA, ANNABELLE NANCY	LUBEGA, JOSEPH	SISLEY, STEPHANIE
CHUMPITAZI, BRUNO	MANN, MICHELLE	SPIELBERG, DAVID
CLARK, GARY	MARINI, JUAN	SRIVATHS, LAKSHMI
COHEN, CLAY	MASAND, PRAKASH	SRIVATHS, POYYAPAKKAM
COLQUITT, JOHN	MCKAY, SIRIPOOM	STEVENS, ALEXANDRA
DAVIS, CARLA	MCNEIL, CHASE	SUTER, BERNHARD
DESPOTOVIC, JENNY	MEJIA, ROJELIO	SWANN, JOHN
DIAZ, ROSA	MICHAEL, MINI	SWARTZ, SARAH
DY, ROCHELLE COLEEN	MICHAEL, MINI	TESSIER, MARY
EDWARDS, MORVEN	MILOH, TAMIR	TREADWELL-DEERING,
EMRICK, LISA	MUNOZ-RIVAS, FLOR	TUBMAN, VENEE
FOSTER, JENNIFER	MUSCAL, EYAL	VARGHESE, NIDHY
FRANKLIN, WAYNE JAY	MUSCAL, JODI	VENKATRAMANI,
GEE, ADRIAN	NAIK, SWATI	WALLACE, SOWDHAMINI
GEORGE, ALEX	OCAMPO, ELENA	WILFONG, ANGUS ARTHUR
GIRONELLA, ANNA CARMELA	OERMANN, CHRISTOPHER	WILLIAMS, LAUREL
GLAZE, DANIEL	OMER, BILAL	YATES, AMBER
GLOVER, CHRIS	ORJUELA, ALVARO	YEE, DONALD L.
GRAMATGES, MARIA	PALAZZI, DEBRA	YI, JOANNA
GUNTER, SARAH	PATNIYOT, IRENE	ZAGE, PETER E.