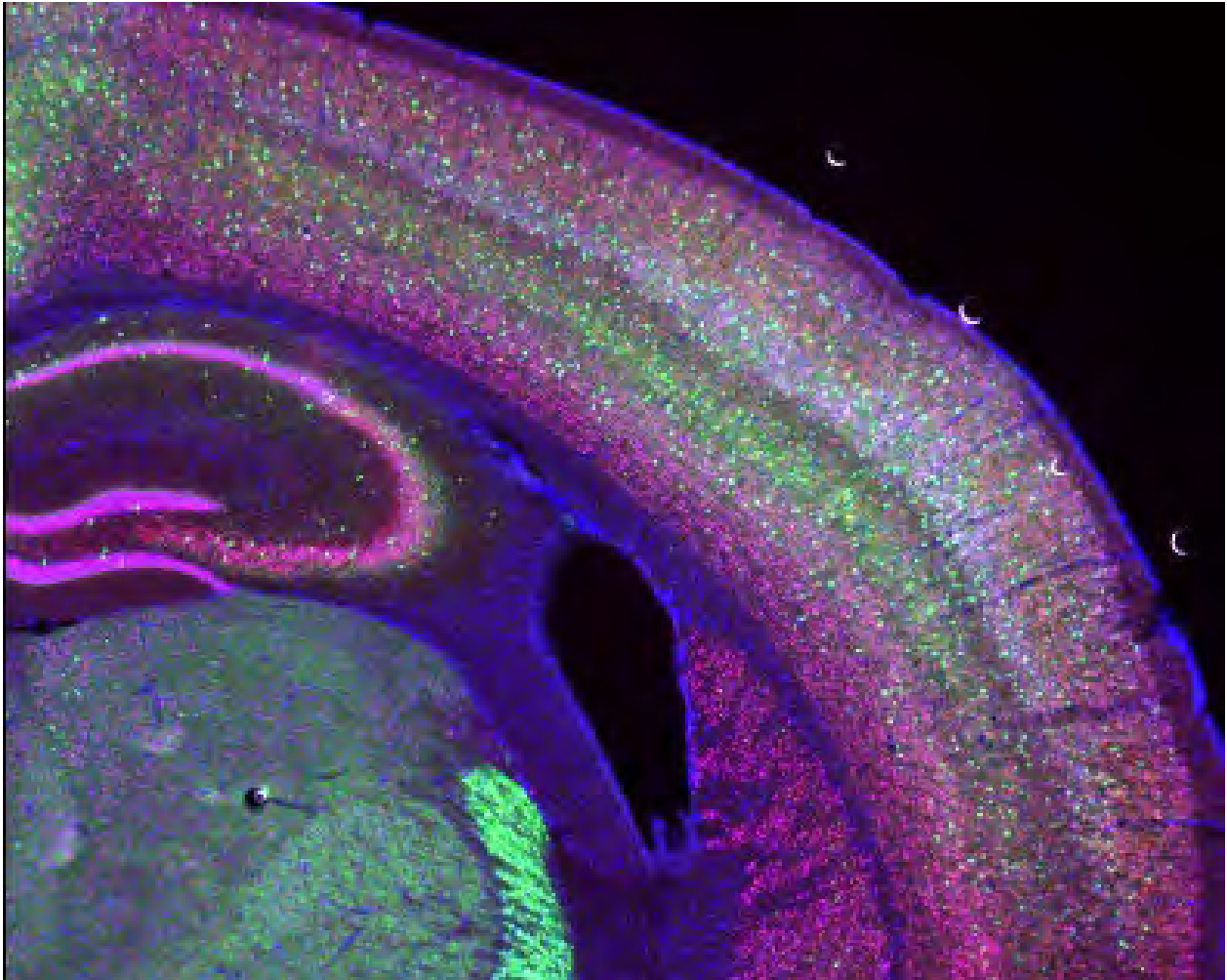


# 2021 Annual Research Report

## Department of Pediatrics Baylor College of Medicine

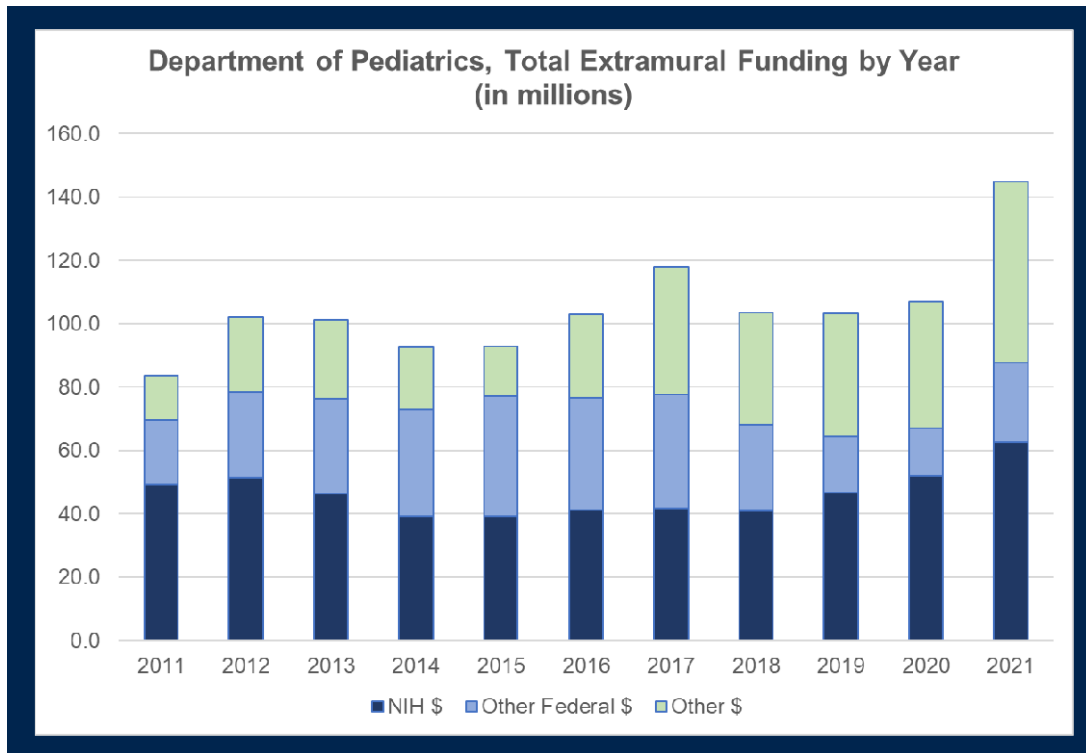


*The 2021 Pediatrics Research Symposium cover art winner. created by Dr. Sahana Sreekanta Murthy, Postdoctoral Associate, Baylor College of Medicine and Texas Children's Hospital. The microscopy image shows parvalbumin interneurons and layer markers of cortex from a wildtype mouse.*

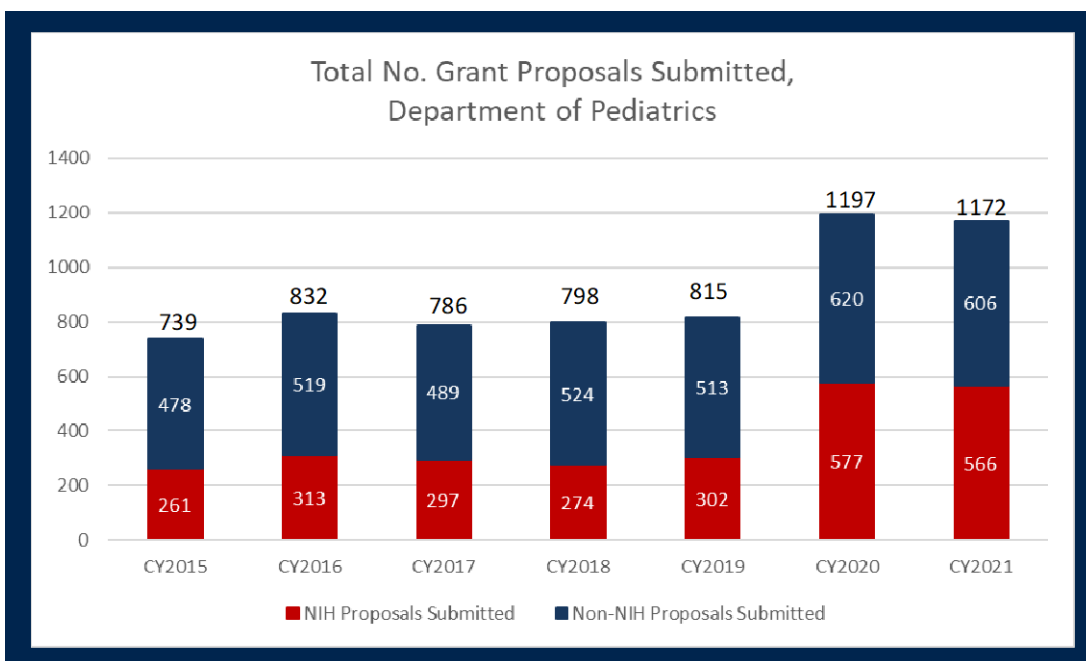
## Research Metrics, by the Numbers

### Department of Pediatrics

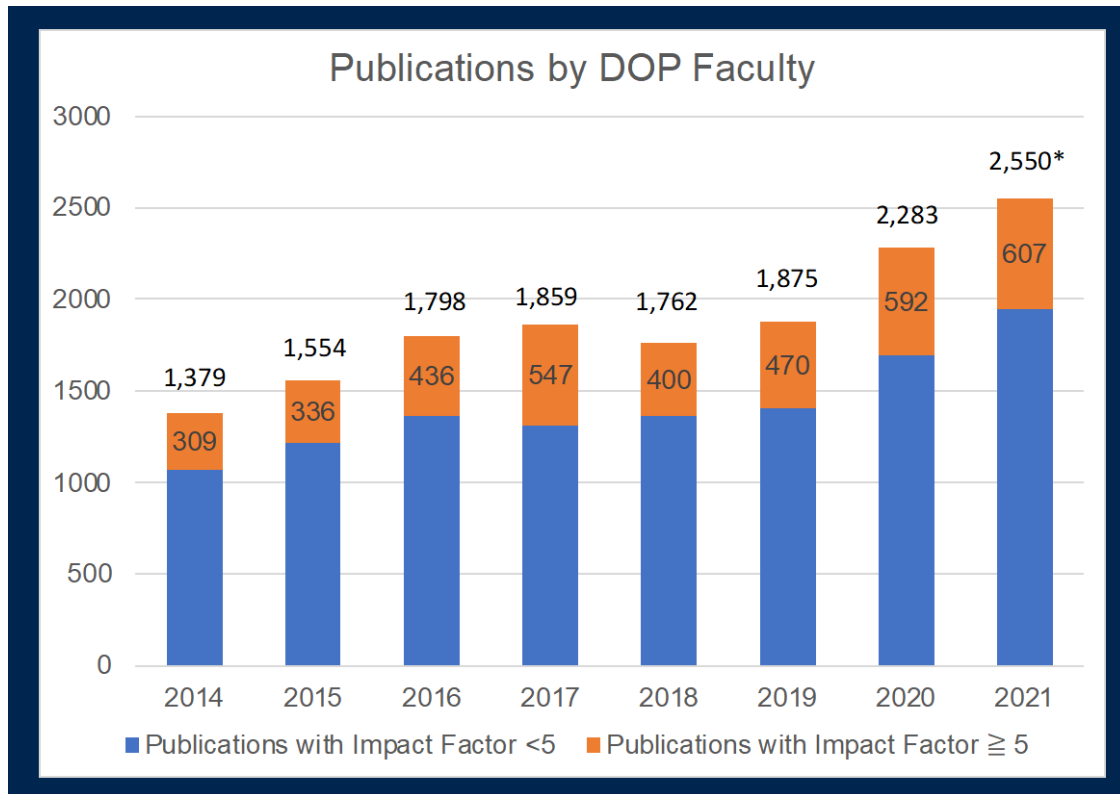
*\$145 million in Extramural Funding, representing a \$39 million increase from the prior year.*



*Proposal submissions remained high for the second year in a row.*



### *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. In 2021, we had 639 faculty author publications, with an average of 4 publications per faculty member. We have seen an increase to now over 2,000 publications each year, with almost a quarter published in journals with impact factors  $\geq 5$ .

## Research Accomplishments for 2021

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.

<b>Investigators with &gt; 1 million in extramural funding in 2021*:</b>		
AHMED, SAEED BIER, DENNIS BLANEY, SUSAN BOOM, JULIE BOTTAZZI, MARIA CARTER, BETH ANNE DAVIS, CARLA GEE, ADRIAN GLAZE, DANIEL GREELEY, CHRISTOPHER HECZEY, ANDRAS HESLOP, HELEN	HILLIARD, MARISA HOTEZ, PETER KAHALLEY, LISA KING, KATHERINE LEEN, ANN LINGAPPAN, KRITHIKA LUPO, PHILIP MANDALAKAS, ANNA METELITSA, LEONID MONTEALEGRE, JANE MOORTHY, BHAGAVATULA MUNOZ-RIVAS, FLOR	MURRAY, KRISTY O'CONNOR, TERESIA PLON, SHARON RABIN, KAREN REDONDO, MARIA SCHEURER, MICHAEL SHAH, MANISH SHEN, LANLAN SUTER, BERNHARD SWANN, JOHN XU, YONG YUSTEIN, JASON

\*Brought into the Department of Pediatrics

<b>Investigators with \$500k - &lt;\$1 million in extramural funding in 2021*:</b>		
BERTUCH, ALISON BOUCHIER-HAYES, LISA BURRIN, DOUGLAS CHAO, HSIAO-TUAN CHUMPITAZI, CORRIE FLANAGAN, JONATHAN FUKUDA, MAKOTO HIRSCHI, KENDAL	HOLDER JR, JIMMY JOHN, TAMI KIM, MARIA LEE, HYUN-KYOUNG LOPEZ, JOB MALETIC-SAVATIC, MIRJANA PAUL, MARY RONCA, SHANNON	ROONEY, CLIONA RUSIN, CRAIG SATTEY, LISA SHULMAN, ROBERT WATERLAND, ROBERT WU, QI ZOGHBI, HUDA

\*Brought into the Department of Pediatrics.

Beginning on **page 27**, you will find more detailed tables listing all of our faculty who are listed as Principal Investigators (PIs) or Contact PIs for NIH federal grants and contracts, research training grants, other government (both state and federal) grants and contracts, foundation and non-profit awards, and industry-sponsored research funding.

## BLUE RIDGE RANKINGS

In 2019, we moved up in the Blue Ridge Institute for Medical Research rankings from #7 to #4 among Departments of Pediatrics in NIH research funding. In 2020, we dropped down one rank to #5; however, our funding increased by ~\$5 million. **In 2021, we increased even more by ~\$13 million, launching us into the #3 spot.** Information and data can be found at [www.brimr.org](http://www.brimr.org).

<b>2021 Rankings of the Departments of Pediatrics from the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH</b>		<a href="http://www.brimr.org"><b>BRIMR.ORG</b></a>
<b>Rank</b>	<b>Name</b>	<b>Pediatrics</b>
1	DUKE UNIVERSITY	\$209,692,204
2	UNIVERSITY OF COLORADO DENVER	\$61,643,897
3	BAYLOR COLLEGE OF MEDICINE	\$57,335,346
4	EMORY UNIVERSITY	\$53,920,719
5	UNIVERSITY OF CALIFORNIA SAN DIEGO	\$48,952,991
6	VANDERBILT UNIVERSITY	\$45,769,545
7	UNIVERSITY OF WISCONSIN MADISON	\$37,536,181
8	JOHNS HOPKINS UNIVERSITY	\$35,164,538
9	INDIANA UNIV-PURDUE UNIV INDIANAPOLIS	\$34,791,601
10	STANFORD UNIVERSITY	\$33,652,793

<b>2020 Rankings of the Departments of Pediatrics from the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH</b>		<a href="http://www.brimr.org"><b>BRIMR.ORG</b></a>
<b>Rank</b>	<b>Name</b>	<b>Pediatrics</b>
1	EMORY UNIVERSITY	\$97,142,316
2	DUKE UNIVERSITY	\$74,805,966
3	UNIVERSITY OF COLORADO DENVER	\$57,243,484
4	VANDERBILT UNIVERSITY	\$46,037,716
5	BAYLOR COLLEGE OF MEDICINE	\$44,371,037
6	UNIVERSITY OF CALIFORNIA SAN DIEGO	\$41,767,629
7	INDIANA UNIV-PURDUE UNIV INDIANAPOLIS	\$32,413,945
8	UNIVERSITY OF MINNESOTA	\$30,562,004
9	UNIVERSITY OF CALIFORNIA LOS ANGELES	\$29,061,064
10	WASHINGTON UNIVERSITY ST LOUIS	\$27,999,836

<b>2019 Rankings of Departments of Pediatrics from the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH</b>		<a href="http://www.brimr.org"><b>BRIMR.ORG</b></a>
<b>Rank</b>	<b>Name</b>	<b>Pediatrics</b>
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 five years, we have greatly increased the number of early career research faculty within the DOP who have successfully been funded with NIH K awards. This is an incredible accomplishment. Congratulations to each of you!

2021 NIH Career Development (K) Awardees			
<b>K23 Patient-oriented Research</b>	<b>K08 Clinical Scientist Research</b>	<b>K01 Research Scientist</b>	<b>K07 Academic Leadership</b>
Andrew Dinardo Gregory Guthrie Sanjiv Harpavat John Hollier Keila Lopez Christina Miyake Mary Elizabeth Tessier Venée Tubman	Jonathan Davies Jason Gill Fong Lam Geoffrey Preidis Jill Weatherhead	Alex Kay Amy Sanyahumbi Chunmei Wang	Austin Brown

## The 2021 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**. 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.

A historical list of Research Mentor Awards is now available on the TCH website:

<https://www.texaschildrens.org/research/awards/research-mentor-awards>

**Congratulations to the following faculty for receiving the 2021 Research Mentor Awards. Below are selected quotes from mentees' letters of support that highlight the impact of each awardee's mentorship.**



***Hyun-Kyoung Lee, MS, PhD, Associate Professor, Pediatric Neurology.*** “....for the trainees who are making this nomination, it is not Dr. Lee’s tremendous productivity which has the most profound effect on our lives. Instead, it is the innate capability she possesses as a mentor which drives us to continue striving to achieve success and realize our career goals. As we sat down to consider this nomination, several common themes emerged from all of the trainees involved. These common themes could easily be used to form a list of the top characteristics we wish to emulate as we move into more senior roles where mentoring is expected: enthusiasm, dedication, maturity,

leadership, knowledge, talent, patience, open-mindedness and most importantly, a caring and compassionate nature.” “Hyun’s impact on my life and career cannot be overstated...She continually challenges me to go above and beyond, and her pursuit of excellence has been instrumental in shaping my scientific perspective. Her support and unwavering belief in her my abilities have empowered me to exceed my own expectations about how creative and productive I could be as a researcher.”



**Stephanie Sisley, MD, Assistant Professor, Nutrition.** “Dr. Sisley’s excellence in research mentoring result from the combination of her two passions, namely, science and education.” “The first thing that becomes clear about Dr. Sisley is her continued commitment to the growth and development of her mentees in their area of research, as evidenced by her significant research mentoring experience despite only being a junior faculty member.” “Dr. Sisley has tremendous success in mentoring trainees in both their science and how to navigate the tension between laboratory and clinical demands.” “Dr. Sisley has a palpable and genuine dedication for promoting unique educational

experiences.” “Dr. Sisley mentored me with compassion and enthusiasm. She modeled outstanding characteristics for a research mentor. I appreciated her time commitment and availability to meet and be present (often extending beyond our scheduled meeting timing). She showed effective listening and reflection during our regular meetings, focusing on coaching my fellowship research project and regularly considering the best fit to my overarching career goals. When I sought her help to troubleshoot challenges in our project protocol or navigate the pandemic setbacks, she was very responsive and empowered me to analyze critically and solve problems...I consider Dr. Sisley's mentorship a powerful catalyst to my success in my scholarly fellowship path.”

**Bethanie Van Horne, MPH, DrPH, Assistant Professor, Public Health.** “Dr. Van Horne is committed to my professional growth—exemplified by her discernment in areas where I need to grow and strategically providing me with opportunities to develop my skills as a researcher.” “Dr. Van Horne is knowledgeable and confident, yet humble and gracious – characteristics of a strong mentor. I truly feel like I can go to her with questions about any step of the research process. She always makes the time to think through questions about study design and data analysis and provides guidance and examples when she has them. If she doesn’t know the best solution, she is always willing to dig deeper herself or seek out assistance from others. With an incredible work ethic her productivity is impressive, but above all else, her willingness to work with and help others is inspiring. She is kind and patient, and pays attention to the strengths, challenges, and goals of others.” “Dr. Van Horne’s inclusive and collaborative approach to mentoring me and many others is appreciated and instrumental in moving my career forward.” “Beth’s affability, her diverse interests and skill sets, and, most importantly, her passion make her an excellent mentor and serve to make research requirements more easily attainable (and enjoyable!) for those of us for whom research is a not a focus.”







**Marisa Hilliard, PhD, Associate Professor, Psychology.**

“While her productivity and funding success are enviable, there is no question that one of Dr. Hilliard’s most notable qualities is her stalwart commitment to mentorship, which will have an enduring impact on the field.” “She works hard to create a safe research culture where her mentees feel supported, challenged, and allowed to take risks to achieve their goals.” “Dr. Hilliard has been the single most influential individual in my career growth and trajectory, and I owe a majority of my successes to her invaluable mentorship. Dr. Hilliard embodies all the necessary traits that make a mentor successful - intelligence, compassion,

patience, and unconditional positive regard. She has single handedly impacted my research career for the better and I am forever in her debt.” “She is skilled at providing scaffolding to allow me to develop my thoughts and ideas as opposed to telling me how to do things, allowing me to grow and pursue my passions. As a mentor, Dr. Hilliard is approachable and accessible. She has fostered an environment in which I feel comfortable discussing and sharing my work, ideas, goals, and other important topics with her.”

**Maria Kim, MD, MSc, Associate Professor, Baylor**

International Pediatric Aids Initiative (BIPAI). “Dr. Kim is one of the most dedicated research mentors I have encountered in my career, contributing to the growth and development of not only US based scholars, but also nurturing a dynamic group of young Malawian investigators.” “Dr. Kim has been able to provide meaningful, compassionate, and attentive research mentorship and leadership by creating from scratch the research architecture for the development of an outstanding, culturally sensitive innovative, enduring health & research programs.” “She is always encouraging and supportive, and provides great scientific feedback and guidance. It is difficult to find someone who is as busy and accomplished as Dr.

Kim is, who continues to devote time to make sure her mentees are growing and succeeding.” “Dr. Kim. during my interviews for the fellowship and soon after I had joined Tingathe. asked me what I hoped to gain. What I hoped to learn. How I hoped to grow. What was I most interested in and passionate about? She said that she felt when people were well aligned with what most excited them and nourished them- they were the most productive and happy.” “What has most impressed me about Dr. Kim has been her keen intelligence and scientific leadership paired with tireless dedication to the growth of her trainees and team members despite being very busy. She is always calm, open-minded and respects and welcomes all comments and suggestions but she is also clear and assertive in leading when she needs to be...I feel immensely grateful to have her as my research mentor.”





**Philip Lupo, PhD, Professor, Hematology and Oncology.** “I have been very fortunate to train under many skilled faculty members in my career. While each of these individuals has contributed to my success, no individual has matched Dr. Lupo’s impact on my development.” “I was very fortunate to have a mentor, Dr. Lupo, who refused to let me fail. Dr. Lupo maintained an “open door” policy, and my questions and inquiries were always met with enthusiasm and support. As a mentor, Dr. Lupo is compassionate, thoughtful, and determined. His excitement for research is infectious and I, like many of his

other trainees, fed off of his positive energy. The lessons I learned and skills I acquired as a result of Dr. Lupo’s teaching have been instrumental to my professional success.” “I struggle to find words that adequately convey my admiration for Philip as a researcher and mentor.” “Philip exemplifies the qualities of a positive career role model. His passion for his research is obvious. He is approachable, thoughtful, and always available to help his trainees with any problem, large or small. In working with Philip, I have always felt that my growth and development were foremost in his mind. Whether designing a study, preparing a grant application, or drafting a manuscript, Philip is committed to creating opportunities for his trainees to develop their skills and be recognized for their work. It is clear that he truly values the opportunity to mentor the next generation of scientists, physicians, and public health professionals.”

**Benjamin Shneider, MD, Professor and Division Chief,**

Gastroenterology. “Dr. Shneider is a “mentor” in the most exceptional sense of the word, and without exaggeration I think his dedication and guidance has single-handedly shaped my career trajectory as a physician-scientist.” Dr. Shneider is approachable and very prompt in giving feedback, writing letters, and working with me on grant applications and research papers. He gives research mentees guidance but also autonomy to develop their unique niche which is an exceptional quality of a research mentor. Beyond research,



I consider Dr. Shneider as my career and life mentor. Whenever, I have had any issues with family or need extra time for children due to illness, I find him extremely understanding and supportive.” “Despite his presence as a “giant” in the world of pediatric hepatology, Dr. Shneider is both a humble and willing teacher. He has given countless hours of his time to provide me with strong constructive feedback and career advice. His leadership amongst one of the busiest pediatric GI departments in the country is something to marvel at and he remains one of my strongest role models and allies.” “As busy as he is, he is still one of the most prompt and responsive people I have ever worked with. I am certain that if he was absolutely “off the grid” and an absolutely urgent matter needed to be addressed, he would make himself available to help.” “Under his hands-on approach to research mentoring, our section has experienced an unprecedented explosion of grant/research funding, including more foundation, research development awards (K’s) and research grants (R’s) awarded to junior faculty during his short tenure.”



## The 2021 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 2,000 publications, the following two faculty were awarded the **Highest Impact Research Publication Awards** as First and Senior Author:

### 2021 High Impact Publication Awards First Author

#### •Dr. Craig Rusin (Cardiology)

-Rusin CG, Acosta SI, Vu EL, Ahmed M, Brady KM, Penny DJ. Automated Prediction of Cardiorespiratory Deterioration in Patients With Single Ventricle, in *Journal of the American College of Cardiology*.



#### •Dr. Tiphanie Vogel (Rheumatology)

-Vogel TP, Top KA, Karatzios C, Hilmers DC, Tapia LI, Mocerri P, Giovannini-Chami L, Wood N, Chandler RE, Klein NP, Schlaudecker EP, Poli MC, Muscal E, Munoz FM. Multisystem inflammatory syndrome in children and adults (MIS-C/A): Case definition & guidelines for data collection, analysis, and presentation of immunization safety data, in *Vaccine*



### 2021 High Impact Publication Awards Senior Author

#### •Dr. Yong Xu (Nutrition)

-He Y, Cai X, Liu H, Conde KM, Xu P, Li Y, Wang C, Yu M, He Y, Liu H, Liang C, Yang T, Yang Y, Yu K, Wang J, Zheng R, Liu F, Sun Z, Heisler L, Wu Q, Tong Q, Zhu C, Shu G, Xu Y. 5-HT recruits distinct neurocircuits to inhibit hunger-driven and non-hunger-driven feeding, in *Nature Molecular Psychiatry*



#### •Dr. Eveline Barbieri (Hem-Onc)

-Moreno-Smith M, Milazzo G, Tao L, Fekry B, Zhu B, Mohammad MA, Di Giacomo S, Borkar R, Reddy KRK, Capasso M, Vasudevan SA, Sumazin P, Hicks J, Putluri N, Perini G, Eckel-Mahan K, Burris TP, Barbieri E. Restoration of the molecular clock is tumor suppressive in neuroblastoma. in *Nature Communications*.



## The 2021 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.

Information on past award recipients can be accessed at:

<https://www.texaschildrens.org/research/awards/young-investigators-awards>

### Congratulations to the following 2021 Young Investigator Awardees:

**Eveline Barbieri, MD, PhD** is an Assistant Professor of Pediatrics in the Hematology-Oncology Division. Dr. Barbieri's work on the role of p53 repression and a novel epigenetic regulator, CHAF1A, in neuroblastoma pathogenesis has earned her publications in high profile journals such as *Nature Communications* and *Advanced Science*. Dr. Barbieri's work is supported by an R01 from the NCI as well as grants from CPRIT, DoD, and TeamConnor Childhood Cancer Foundation.



**Austin Brown, PhD** is an Assistant Professor in Pediatric Hematology-Oncology and co-Leader of the Long-Term Survivor Research Program in the Texas Children's Cancer and Hematology Center. Dr. Brown's work has characterized the inherited genetic susceptibility to acute lymphoblastic leukemia in children with Down syndrome. He has spearheaded a line of research into the genetic and molecular pathways contributing to adverse neuropsychological outcomes in survivors of pediatric brain tumors and leukemia. Dr. Brown's work is funded by grants from CPRIT, the Leukemia Research Foundation, and St. Baldrick's Foundation.



**Hyun-Kyoung Lee, MSc, PhD** is an Assistant Professor of Pediatrics, Division of Neuroscience. Dr. Lee's work to study mechanisms of glial myelination after injury has exciting implications in white matter injury diseases such as multiple sclerosis and cerebral palsy. A recipient of a Career Transition Award from the National Multiple Sclerosis Society, Dr. Lee's laboratory is funded by two R01 grants and a collaborative award from the Helis Medical Research Foundation. Her work has been recently published in *Neuron*, *Cell Reports*, *Nature Communications*, and *JCI*.







**Jane Montealegre, PhD** is a health population scientist and Assistant Professor of Pediatrics in the Department of Pediatrics, Division of Hematology and Oncology. She is funded by an R01 to establish the effectiveness and implementation of self-sample HPV testing for cervical cancer screening in under-screened women, and by several grants from the Cancer Prevention and Research Institute of Texas (CPRIT) to study methods to address disparities in cancer screening and interventions. She currently serves as the Deputy Director of the Office of Outreach and Health Disparities and the Assistant Director of Community Outreach and Engagement in the

Dan L Duncan Comprehensive Cancer Center.

**Nancy Moran, PhD** is an Assistant Professor of Pediatrics in Nutrition at the Children's Nutrition Research Center. She is an expert in the nutritional aspects of carotenoids, the dietary antioxidants found in fruits and vegetables that may be converted to vitamin A. Dr. Moran's USDA and NIH-funded work investigates the cellular mechanisms of carotenoid absorption, including during pregnancy and lactation. She was the 2021 recipient of the Mary Swartz Rose Young Investigator Award from the American Society for Nutrition.



**Jacquelyn Powers, MD, MS** is an Assistant Professor of Pediatrics in the Division of Hematology-Oncology. Dr. Powers' goal is to identify the best approach for successful treatment of children with iron deficiency anemia. Her work has served as the basis for a randomized, double blinded clinical trial in at-risk and underserved youth and was published in JAMA. She is the recipient of the highly competitive American Society of Hematology Scholar Award and developed the innovative technology-based behavioral health intervention IRONCHILD to address iron deficiency anemia in diverse clinical settings.

**Rayne Rouse, MD** is an Assistant Professor of Pediatrics in the Division of Hematology-Oncology, Assistant Director of Community Engagement in the BCM Office of Institutional Diversity, Inclusion, and Equity, and Associate Director of Cell and Gene Therapy Clinical Research Operations. She has directed preclinical studies for off-the-shelf EBV-specific T cells for the treatment of lymphoma and led the first-in-human trials of CD19 CAR-T cells for some of the most difficult to treat cases of acute lymphoblastic leukemia at BCM. Dr. Rouse has been continuously funded for >75% of her effort by grants from the NIH, Stand Up to Cancer, Lymphoma Research Society, Robert Wood Johnson Foundation, American Society for Hematology, and many more. She has been the recipient of numerous awards including the Amy Strelzer Manasevit National Marrow Donor Program Research Scholar Award and the Houston Business Journal Healthcare Hero award.





***Stephanie Sisley, MD*** is an Assistant Professor of Pediatrics in the Division of Endocrinology. She is a physician scientist studying the role of the vitamin D receptor in central nervous system glucose regulation. Her work has significant implications in the management of weight gain and obesity in children. She has also investigated mechanisms of weight control in childhood brain tumor survivors. A former recipient of a K08 Award from the NIH and a Clinical Scholar Award from the American Heart Association, her work is currently supported by R01 funding from the NIH, and her work has recently been published in the Journal of Comparative Neurology, and Pediatric Blood and Cancer.

# 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.

## RRO Leadership

Lisa Bomgaars, MD, MS	Medical Director
Scott Wenderfer, MD, PhD	Assistant Medical Director
Miki Gillis	Executive Director
Joe Kanewske, MBA	Senior Manager Business Operations
Serpil Tutan, MBA	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

In 2021, the RRO:

- Supported 145 clinical research studies across 17 sections in the DOP, and Departments of Dermatology, Physical Medicine & Rehabilitation, Psychiatry & Behavioral Sciences, and Neurosurgery.
- Reviewed and approved 1167 award submissions for the DOP
- Provided pre- and post-award management for 15 sections

## Clinical Research Center (CRC)

The Clinical Research Center (CRC) is a 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 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 Feigin Center laboratories in which many investigators analyze samples obtained in the CRC. Two West Tower floors provide inpatient support. The CRC's facilities, research 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

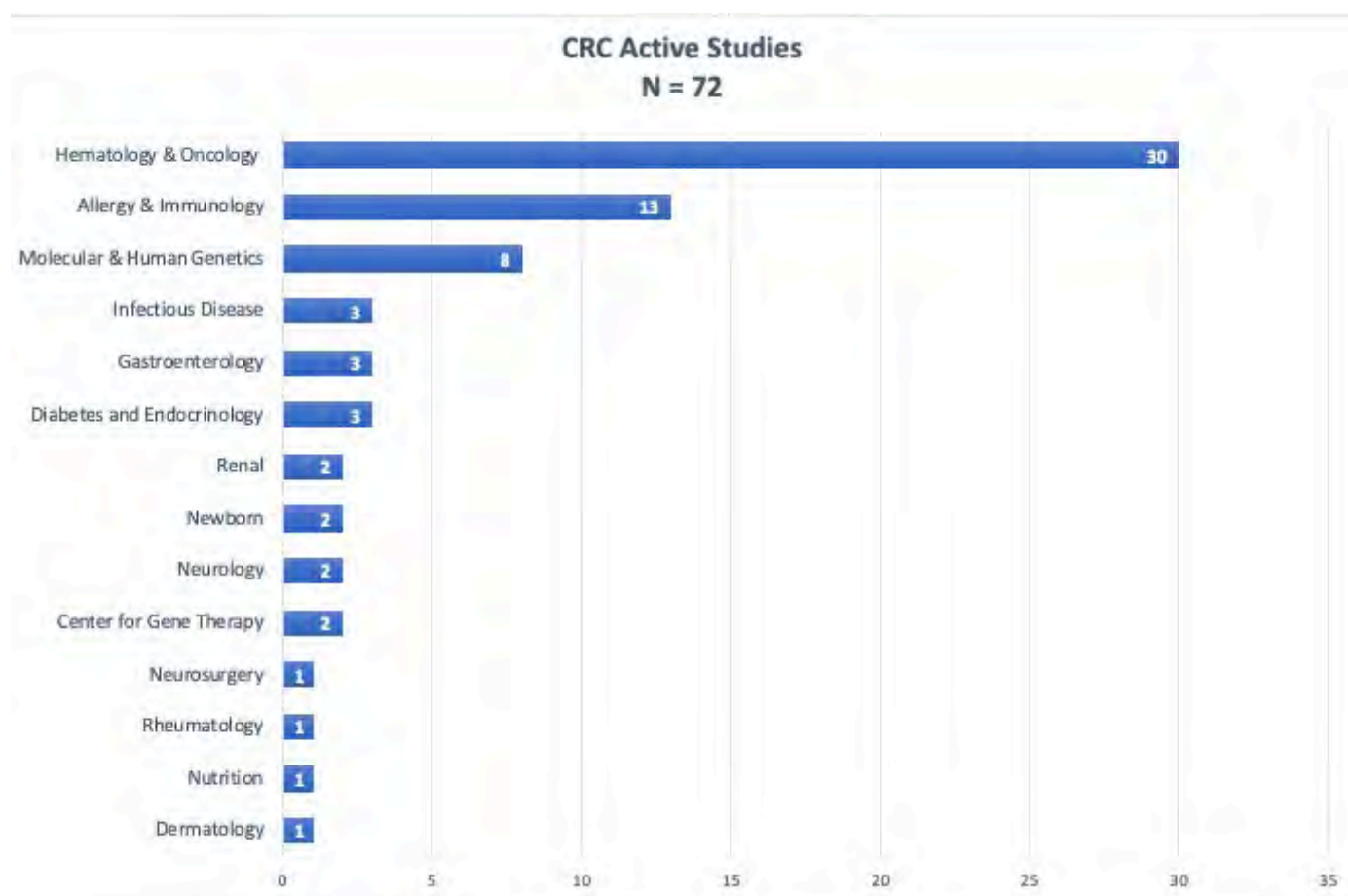
Lisa Bomgaars, MD, MS	Medical Director
Stephanie Hulse, RN	Nurse Manager
Marco Costilla, RN	Assistant Director Nursing
Lisa Forbes Satter, MD	SAC Chair

### 2021 SAC Committee Membership

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

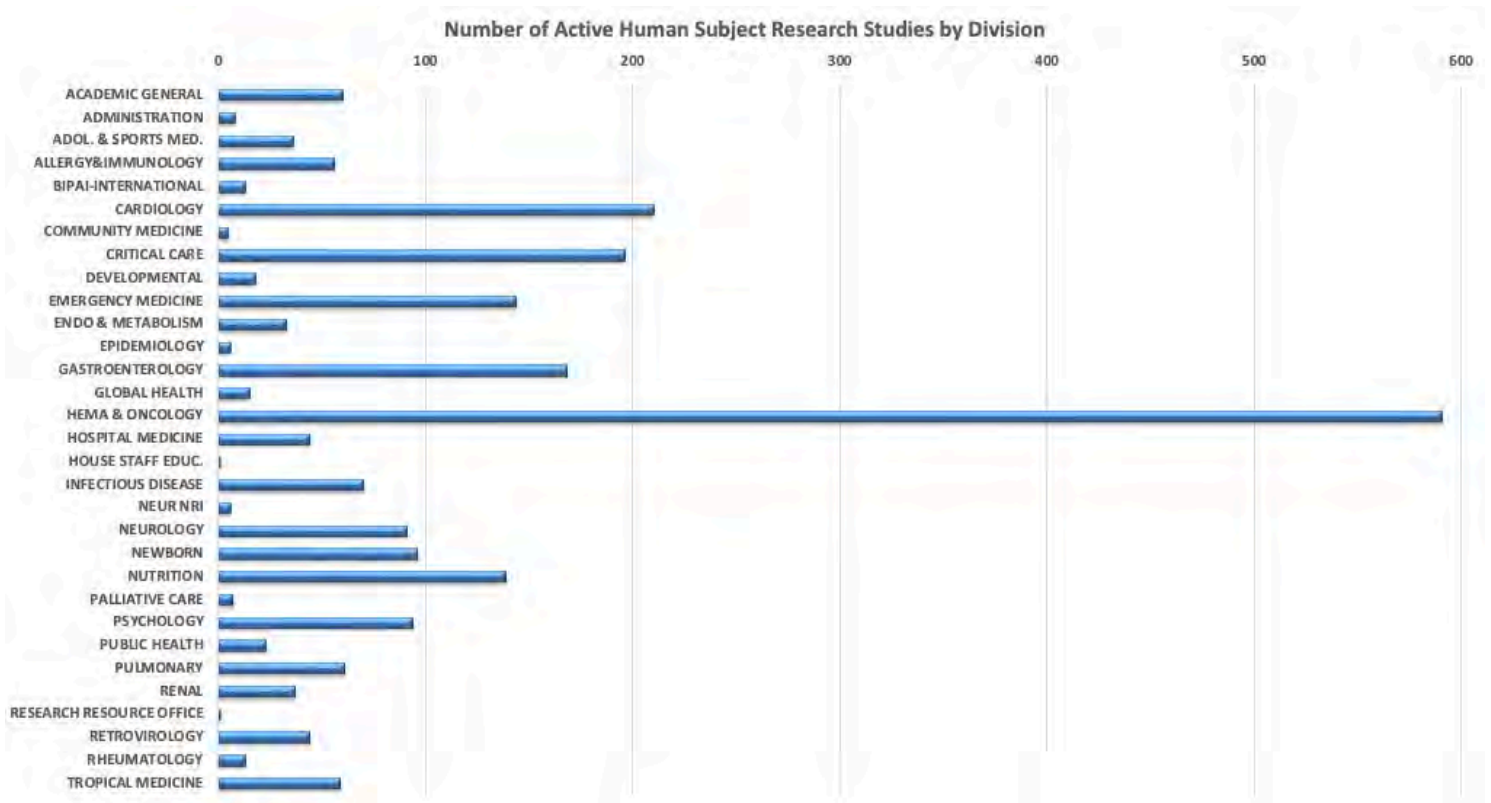


### Number of active studies in the CRC by Division:

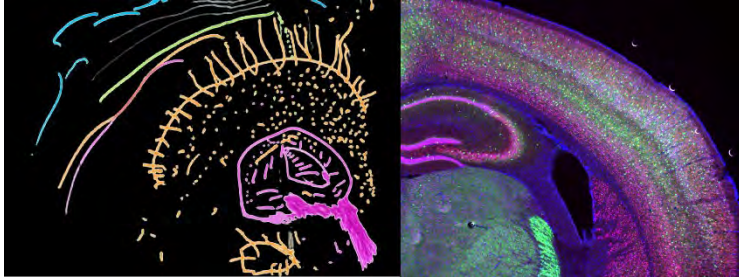


## Department of Pediatrics Human Subjects Research

In 2021, Department of Pediatrics investigators had 2,345 active human subjects research studies.



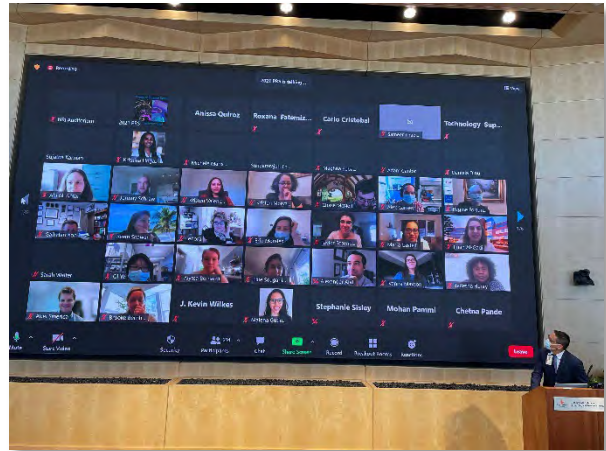
## 2021 Pediatric Research Symposium



We had another successful Pediatric Research Symposium in April 2021, despite the need to quickly adapt from an in-person conference to a hybrid virtual meeting format. The theme, which was chosen prior to the pandemic, was “*For the Greater Good.*” This title also accurately reflects the innovative creativity of the Pediatric Research

Symposium Chair, **Dr. Fong Lam**, to go from the discussion around cancelling the event to successfully pulling off an exciting day of transformative science. Over 260 faculty, fellows, and students attended the virtual event, which highlighted research within the department and provided a day of some normalcy. We wish to commend Dr. Lam, Anissa Quiroz, and the Pediatric Research Symposium planning committee for all of their hard work.

The keynote research address, entitled “Nanotherapies for Brain Injury: A Pediatrician’s Path from the Bench to the Bedside,” was delivered by **Dr. Sujatha Kannan**, Professor, Anesthesiology and Critical Care Medicine & Pediatrics, Vice Chair for Research, ACCM Richard J Traystman Endowed Chair, Johns Hopkins University School of Medicine. The keynote scholarship presentation, entitled “Developing a Career Arc...Scholarship...Coaches and Mentors” was delivered by **Dr. Michele Mariscalco**, Assistant Vice Chancellor of Health Sciences for Academic Affairs, University of Illinois Hospital and Health Sciences System, Professor of Pediatrics, Associate Dean for Systems-Based Practice, University of Illinois College of Medicine.



Over 140 abstracts were submitted this year by fellows, students, and trainees in the department. Here is the list of the top 5 chosen for oral presentations:



- **Dr. Lisa Brubaker (General Surgery)**, Aberrant fibrin clot structure in critically ill patients with SARS-CoV-2
- **Dr. Patrick Connell (Cardiology)**, Abnormal Left Ventricular Strain Correlates with Left Ventricular Dysfunction But Not Aortic Pathology in Marfan Syndrome in Children
- **Dr. Price Edwards (Gastroenterology, Hepatology & Nutrition)**, Role of the microbiome in a novel model of gastroparesis
- **Dr. Caitlin Vonderohe (Nutrition)**, Gut Bile Acid-FGF19 Signaling Is Lower in Preterm versus Term Neonatal Pigs
- **Dr. Qi Ye (Neurology & Developmental Neuroscience)**, Role of the Na<sup>+</sup>/HCO<sub>3</sub><sup>-</sup> co-transporter in glioma tumorigenesis and metabolic reprogramming

**Symposium Cover Art Award Winners:** The 2021 symposium announcement displays the original artwork of two submissions combined showing the brain from a child and scientist's perspective. The left side artwork was created by 3-year old **Venus Rose Manesh** who said that the brain sees and projects light as wondrous as a rainbow. The right side artwork, created by **Dr. Sahana Sreekanta Murthy**, Postdoctoral Associate, Baylor College of Medicine and Texas Children's Hospital, shows parvalbumin interneurons and layer markers of cortex from a wildtype mouse.

### ***Special Thanks***

We especially want to acknowledge the hard work and contributions of our planning committee and abstract reviewers to ensure that the symposium was a huge success:

<b>Symposium Chair:</b>	Fong Lam, MD
<b>Chair-elect:</b>	Krithika Lingappan, MD, PhD, MS
<b>Immediate Past Chair:</b>	Lisa Forbes Satter, MD
<b>Program Administrator:</b>	Anissa Quiroz

### Symposium Planning Committee

Lisa Bomgaars, MD, MS	Hematology-Oncology
Lisa Forbes Satter, MD	Allergy, Immunology, & Retrovirology
Kristy Murray, DVM, PhD	Tropical Medicine
Jennifer Rama, MD	Pulmonary
Paige Schultz, MBA, MHA	TCH Research Administration
Dequita Hall, MBA	TCH Research Administration

We would like to thank the following faculty members for their assistance in reviewing abstracts:

Anagnostou, Aikaterini	Lam, Fong	Rochat, Ryan Henry
Antar, Alli Martina	Lee, Hyun-Kyoung	Rooney, Cliona M.
Bachim, Angela	Leen, Ann M.	Sanchez Mejia, Aura
Bernhardt, Melanie B.	Lingappan, Krithika	Schraw, Jeremy
Bertuch, Alison A.	Lilje, Christian Georg	Schwartz, David D.
Brown, Austin	Lopez, Keila Natilde	Serazin, Nathan
Carisey, Alexandre F.	Lu, Linchao	Shah, Manish
Chao, Hsiao-Tuan	Lupo, Philip J.	Shah, Shweta
Chinen, Javier	Lyons-Warren, Ariel	Shelburne, Julia T
Chinn, Ivan Kingyue	Malatesta Muncher, Rossana	Sheth, Shreya Sunil
Conneely, Shannon Elise	Marton, Stephanie	Shivanna, Binoy
Cuevas, Milenka	McNeil, Jonathon C	Shneider, Benjamin
Denfield, Susan W.	Mehta, Parth S.	Sockrider, Marianna M.
Diaz, Rosa	Melicoff-Portillo, Ernestina	Soni, Krishnakant
Dinu, Daniela	Meskill, Sarah D.	Strych, Ulrich
Ettinger, Nicholas Andreas	Michael, Silvia	Tal, Leyat
Flores, Ricardo J.	Monterrey, Ana Cristina	Thevananther, Sundararajah
Forbes, Lisa	Morales Demori, Raysa C.	Torrey, Susan B
Friend, Brian D.	Moreno, Jennette Palcic	Tubman, Veneé
Gaber, Mostafa Waleed	Musaad, Salma	Van Horne, Bethanie Shannon
Hair, Amy B.	Nguyen, Trinh T.	Vogel, Tiphany P.
Harris, Holly	Pammi, Mohan	Wallace, Sowdhamini S.
Hilliard, Marisa	Parihar, Robin	Wenderfer, Scott Edward
Injac, Sarah Garrett	Parsons, Donald W.	Wolfe, Rachel

John, Tami Denise  
Joseph, Sujith Kurian  
Katkin, Julie P.

Kitagawa, Melanie Gwendolyn  
Kitagawa, Seiji  
Lai, Jamie Thuy

Preidis, Geoffrey Alan  
Rabin, Karen  
Rama, Jennifer  
Ramgopal, Veena  
Redell, Michele L.  
Rhee, Christopher J.

Wood, Alexis Caroline  
Wood, Margaret  
Wu, Qi  
Yee, Andrew  
Yildirim Toruner, Cagri  
Yustein, Jason T

## Pediatrician-Scientist Program

The Baylor College of Medicine 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 the resources and commitment to provide expert clinical training, mentorship, and educational opportunities necessary to support the 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

Donald Williams Parsons, MD, PhD, Program Director

Audrea Burns, PhD, Associate Program Director

2021 Residents		
<ul style="list-style-type: none"> <li>Natalie Cofie Guerrero, MD, PhD, PGY3 (Research Mentors: Drs. Jean Raphael and Teresia M. O'Connor)</li> <li>Yike Jiang, MD, PhD, PGY3 (Research Mentor: Dr. Kristy Murray)</li> <li>Prasanna Ramachandran, MD, PhD, PGY3, (Research Mentor: Dr. Hugo Bellen)</li> <li>Marimar Bonilla Cruz, MD, PhD, PGY2 (Research Mentor: Dr. Cliona Rooney)</li> <li>Ian Francis, MD, PhD, PGY2</li> <li>Jennifer Rha, MD, PhD, PGY2</li> <li>Dr. Jimmy Chang, MD, PhD, PGY1</li> <li>Dr. Audra Iness, MD, PhD, PGY1</li> </ul>		
Steering Committee Members		
Anna Mandalakas Huda Zoghbi Audrea Burns Benjamin Shneider Brendan Lee Daniel Penny Flor Munoz	Fong Lam Hsiao-Tuan Chao James (Jim) Thomas Jean Raphael Karen Rabin Lisa Bomgaars Trung Nguyen	Maria Redondo Michael Braun Peter Hotez Robert Shulman Sanjiv Harpavat Susan Blaney Carl Allen

## TCH RESEARCH NEWS FROM 2021

As a department, we made impactful and innovative advances in pediatric research that deserve celebration. Below, you will find the list of headlines from TCH Research News in 2021, 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](mailto:TCHResearchNews@texaschildrens.org). Full stories for each of the headlines below can be found at <https://www.texaschildrens.org/research/news>.

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### **Iacobas to serve on vascular anomalies committee (Baylor College of Medicine - June 18, 2021)**

[Dr. Ionela Iacobas](#), assistant professor of pediatric hematology oncology and medical director of the Texas Children's Hospital Vascular Anomalies Center, was invited to join the Scientific Committee of the International Society for the Study of Vascular Anomalies. The committee, which consists of 10 international experts in the field, drives the organization's scientific initiatives and oversees the scientific program at ISSVA's World Congress.

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### **Pautler selected 2021 Fellow of the ISMRM Society (May 21, 2021)**

Dr. Robia Pautler, associate professor in the departments of Molecular Physiology and Biophysics, Neuroscience, Radiology at the Baylor College of Medicine and Co-Director Small Animal Imaging Facility (MRI), Texas Children's Hospital, is selected as one of the 2021 Fellows of the International Society for Magnetic Resonance in Medicine (ISMRM), a multi-disciplinary nonprofit association that promotes innovation, development, and application of magnetic resonance techniques in medicine and biology throughout the world. Pautler was selected as a Fellow for her contributions to the pre-clinical manganese-enhanced MRI for neuronal tract tracing and for outstanding service to the ISMRM.

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### **[Athenex, Texas Children's Cancer Center, and the Center for Cell and Gene Therapy at Baylor College of Medicine present new clinical data on GD2 CAR-NKT cells in neuroblastoma at ASGCT Annual Meeting \(May 18, 2021\)](#)**

Athenex, Inc. (NASDAQ: ATNX), a global biopharmaceutical company dedicated to the discovery, development, and commercialization of novel therapies for the treatment of cancer and related conditions, led by its Orascovery platform, today announced that investigators from Texas Children's Cancer Center and the Center for Cell and Gene Therapy at Baylor College of Medicine presented new clinical data from the ongoing GINAKIT2 phase 1 study of Athenex's cell therapy candidate KUR-501 targeting GD2 in neuroblastoma at the [American Society of Gene & Cell Therapy \(ASGCT\) 24<sup>th</sup> Annual Meeting](#) on Friday, May 14, at 11 am ET.

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### **[Biological E Ltd gets approval to start Phase III clinical trial of its COVID vaccine candidate developed at Texas Children's Hospital's Center for Vaccine Development \(April 27, 2021\)](#)**

[Biological E. Limited](#) (BE), a Hyderabad-based vaccine and pharmaceutical company, today announced that it has successfully completed the Phase I/II clinical trial of its COVID-19 subunit vaccine candidate in India and received the approval to start the Phase III clinical trial from the Central Drugs Standard Control Organization (CDSCO) - Subject Expert Committee (SEC). BE started the Phase I/II Clinical Trial of its COVID-19 Vaccine Candidate in the second week of November 2020. Its candidate includes an antigen developed by [Texas Children's Hospital Center for Vaccine Development](#) and in-licensed from [BCM Ventures](#), Baylor College of Medicine's integrated commercialization team, along with Dynavax Technologies Corporation's (Nasdaq: DVAX) advanced adjuvant CpG 1018TM.



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**[Dr. Hyunlok Chung announced as a winner of the 2021 Warren Alpert Distinguished Scholars Award \(April 13, 2021\)](#)**

The Warren Alpert Foundation postdoctoral program was established 3 years ago to advanced neuroscience training as a bridge toward developing a career trajectory in academia, Industry, or governmental science. This highly competitive national program has been awarded to 5-7 individuals each year providing two years of support in a setting that permits independent scholarship to advance career development. Chung received this award for his proposal titled, "Role of very long-chain fatty acids in neuroinflammation".

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**[AACR to recognize the St. Baldrick's Foundation-Stand Up To Cancer Pediatric Cancer Dream Team with 2021 Team Science Award \(April 13, 2021\)](#)**

Texas Children's and Baylor's, Drs. Nabil Ahmed, Meenakshi Hegde, Will Parsons and Sujith Joseph along with Bambi Grilley and Melanie Frost Moll are among those involved in this team effort to develop new immunotherapy approaches to treat childhood cancers.

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**[Study reveals how long-term infection and inflammation impairs immune response as we age \(Mar 25, 2021\)](#)**

A study led by [Dr. Katherine King](#), associate professor at Baylor College of Medicine and Texas Children's Hospital, shows for the first time that long-term infection and chronic inflammation drive CH mediated by the loss of *Dnmt3a* function. In addition, the study offers key insights into the mechanism by which chronic inflammation leads to CH and demonstrates the critical role of *DNMT3a* in regulating normal HSC responses to infections. The study was published in the journal [Cell Stem Cell](#).

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**[Early training delays symptom onset in mouse model of Rett syndrome \(Mar 24, 2021\)](#)**

New scientific findings bring hope that early training during the presymptomatic phase could help individuals with Rett syndrome, a neurodevelopmental disorder, retain specific motor and memory skills and delay the onset of the condition. Researchers at Baylor College of Medicine and the [Jan and Dan Duncan Neurological Research Institute](#) at Texas Children's Hospital reported in the journal *Nature* that, in a mouse model of Rett syndrome, intensive training beginning before symptoms appear dramatically improved the performance of specific motor and memory tasks and substantially delayed the appearance of symptoms.

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**[Maletic-Savatic lab discovers a novel marker of adult human neural stem cells \(Mar 24, 2021\)](#)**

Researchers have found a novel biomarker, BASP-1, that is restricted to NSCs in neurogenic niches in the mammalian brains, including humans, during development in utero and after birth. With this newly discovered biomarker, scientists can better understand the relevance and intricate mechanisms of neurogenesis, which may lead to new future therapeutic approaches to treat and manage neurological and neuropsychiatric disorders associated with diminished neurogenesis.

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**[Researchers identify DNA elements that affect MECP2 expression \(Mar 18, 2021\)](#)**

Researchers at Baylor College of Medicine and the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital (NRI) have identified and characterized two regions of DNA required for the proper expression of *Mecp2*/MECP2 in mice and humans.

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#### **[Texas Children's teams up with Children's Hospital of Philadelphia to study sepsis \(Mar 12, 2021\)](#)**

PROMPT BOLUS (PRagMatic Pediatric Trial of Balanced vs. nOrmaL Saline FIUId in Sepsis) is a clinical trial to compare two commonly used treatments for pediatric sepsis to see if one is more effective and safer than the other. The treatments in this study are two different intravenous (IV) fluid types. One fluid is 0.9% “normal” saline and the other is balanced fluids (including lactated Ringer’s [LR] or Plasma-Lyte [PL]).

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#### **[A preclinical study validates antisense oligonucleotides as a feasible approach to treat MECP2 duplication disorder \(Mar 4, 2021\)](#)**

A preclinical study published from the laboratory of [Dr. Huda Zoghbi](#), professor at Baylor College of Medicine and director of the [Jan and Dan Duncan Neurological Research Institute](#) at [Texas Children’s Hospital](#), provides experimental evidence that supports the use of antisense oligonucleotides as a feasible strategy to treat MDS. The study also offers crucial insights into the pharmacodynamics of this approach, which will serve as an important guide for the design and implementation of future clinical trials for this disorder. The [study](#) appears in the journal *Science Translational Medicine*.

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#### **[Texas Children's receives a major grant to study pediatric brain tumors \(Mar 3, 2021\)](#)**

[Dr. Lisa Kahalley](#), Associate Professor and Associate Chief of Research for the Psychology Section and Director of Neurobehavioral Oncology for the Texas Children’s Cancer & Hematology Centers, was awarded a \$6.7M R01 grant from the National Cancer Institute for a large, multi-national, multi-disciplinary study comparing symptom burden/toxicity, neurocognitive change, and functional outcomes in pediatric brain tumor patients treated with proton vs. photon radiotherapy. Dr. Kahalley is leading this study with Dr. Donald Mabbott at The Hospital for Sick Children (Toronto) and Dr. Pamela Hinds at Children’s Hospital (DC).

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#### **[An FDA-supported consortium anchored at Texas Children’s Hospital supports innovation and development of new pediatric devices \(Mar 1, 2021\)](#)**

The Southwest National Pediatric Device Innovation Consortium (SWPDC), anchored by Texas Children’s Hospital and Baylor College of Medicine, is a virtual accelerator for innovators focused on developing novel devices for pediatric care nationwide. They are one of five Food and Drug Administration (FDA)-supported national consortia that are addressing the national shortage of much-needed innovations in pediatric devices, a public health problem acknowledged by the FDA.

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#### **[Updated spina bifida guidelines cover care across the entire lifespan \(Feb 9, 2021\)](#)**

The spina bifida team at Texas Children's Hospital and Baylor College of Medicine led by Dr. Jonathan Porter along with experts at the Spina Bifida Association and Collaborative Care Network, National Center on Birth Defects & Developmental Disabilities at the CDC authored updated care recommendations.

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#### **[How Texas Children’s Hospital successfully pivoted to eHealth amidst a global pandemic \(Jan 28, 2021\)](#)**

Amidst the global COVID-19 pandemic, Texas Children’s Hospital rapidly innovated and expanded system-wide eHealth services to ensure the hospital could continue providing the best possible care to its patients. In this article, [Dr. Robert Ball](#), medical director of eHealth at Texas Children’s and professor at Baylor College of Medicine, and [Dr. Elizabeth Onugha](#), a pediatric nephrologist at Texas Children’s and assistant professor at Baylor College of Medicine, recount how they and their colleagues quickly and effectively pivoted to eHealth amid COVID-19.

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**[Dr. Benjamin Arenkiel recognized by TAMEST for breakthrough findings \(Jan 13, 2021\)](#)**

[Dr. Benjamin Arenkiel](#), assistant professor of [molecular and human genetics](#) and [neuroscience](#) at Baylor College of Medicine and an investigator at the Jan and Dan Duncan Neurological Institute at Texas Children's Hospital, has been awarded the prestigious [2021 Edith and Peter O'Donnell Award in Medicine](#) from the Academy of Medicine, Engineering and Science of Texas ([TAMEST](#)). He is being recognized for his breakthrough identification of the brain's neural pathways that are connected to eating disorders, addiction and other neuropsychiatric disorders, leading to a better understanding of the makeup of neural circuits and how they talk to each other.

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**[The American Diabetes Association revises guidelines for hemoglobin A1C levels in children with type 1 diabetes \(Jan 11, 2021\)](#)**

Diabetes is characterized by elevated levels of sugar or glucose (hyperglycemia) in the blood. This occurs due to the lack of the hormone insulin in type 1 diabetes, and to reduced insulin levels in combination with insulin resistance in type 2 diabetes. A recent review of data supports stricter control of hemoglobin A1C levels (HbA1C) among pediatric patients with T1D. This review was led by [Dr. Maria J. Redondo](#), pediatric endocrinologist at Texas Children's Hospital and professor at Baylor College of Medicine, in collaboration with [Dr. Sarah Lyons](#), pediatric endocrinologist at Texas Children's and assistant professor at Baylor College of Medicine, along with other leading endocrinologists and diabetes experts across the U.S.

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**[Texas Children's Hospital celebrates a decade of neurological research with the 10th anniversary of the Jan and Dan Duncan Neurological Research Institute \(Jan 11, 2021\)](#)**

Last month, the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital and Baylor College of Medicine celebrated 10 years of innovation, world-renowned research and scientific breakthroughs.

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## RESEARCH FUNDING RECIPIENTS IN THE DEPARTMENT OF PEDIATRICS

The following 281 faculty served as principal investigators (or lead PI on multi-PI grants) in 2021:

PIs/CONTACT PIs	SECTION
ABID, FARIDA	NEUROLOGY
AGRUSA, JENNIFER	ONCOLOGY
AHMED, NABIL	HEM-ONC
AHMED, SAEED	BIPAI-INTERNATIONAL
AKCAN ARIKAN, AYSE	CRITICAL CARE
ALGE, JOSEPH	RENAL
ALLEN, CARL	ONCOLOGY
ANAGNOSTOU, AIKATERINI	ALLERGY&IMMUNOLOGY
ANDERS, MARC	CRITICAL CARE
ANDERSON, ANNE	NEUR NRI CAIN
ANTAR, ALLI	NUTRITION
ANVARI, SARA	ALLERGY&IMMUNOLOGY
BACHA, FIDA	NUTRITION
BACHIM, ANGELA	PUBLIC HEALTH
BANC-HUSU, ANNA	GASTROENTEROLOGY
BARBIERI, EVELINE	ONCOLOGY
BARLOW, SARAH E.	RESEARCH RESOURCE OFFICE
BASSHAM, BRIAN	EMERGENCY MEDICINE
BAXTER, PATRICIA	ONCOLOGY
BERG, STACEY	HEM-ONC
BERNINI, JUAN	HEM-ONC
BERTUCH, ALISON	ONCOLOGY
BIER, DENNIS	NUTRITION
BLANEY, SUSAN	HEM-ONC
BOMGAARS, LISA	HEM-ONC
BOOM, JULIE	ACADEMIC GENERAL
BOTTAZZI, MARIA	TROPICAL MEDICINE
BOUCHIER-HAYES, LISA	ONCOLOGY
BRACKETT, JULIENNE	ONCOLOGY
BRODA, CHRISTOPHER	CARDIOLOGY
BROWN, AUSTIN	ONCOLOGY
BURRIN, DOUGLAS	NUTRITION
BUTLER, ASHLEY	PSYCHOLOGY
CALAME, DANIEL	NEUROLOGY
CARISEY, ALEXANDRE	ALLERGY&IMMUNOLOGY
CARTER, BETH ANNE	RESEARCH RESOURCE OFFICE
CHACKO, SHAJI	NUTRITION
CHAKRABORTY, RIKHIA	ONCOLOGY
CHAO, HSIAO-TUAN	NEUROLOGY
CHEN, MIAO-HSUEH	NUTRITION
CHINN, IVAN	ALLERGY&IMMUNOLOGY

CHINTAGUMPALA, MURALI	ONCOLOGY
CHIOU, ERIC	RESEARCH RESOURCE OFFICE
CHUA, ANNABELLE NANCY	RENAL
CHUMPITAZI, CORRIE	EMERGENCY MEDICINE
CHUN, KWON SOO	CARDIOLOGY
CLARK, GARY	NEUROLOGY
COHEN, CLAY	HEMATOLOGY
CONNEELY, SHANNON	ONCOLOGY
CRUZ, ANDREA	EMERGENCY MEDICINE
CUMMINGS, ANGELA	PUBLIC HEALTH
DAVE, JAYNA	NUTRITION
DAVIES, JONATHAN	NEWBORN
DAVIS, CARLA	ALLERGY&IMMUNOLOGY
DAVIS, TERESA	NUTRITION
DEGUZMAN, MARIETTA	RHEUMATOLOGY
DEISSEROTH, COLE	NEUROLOGY
DESALVO, DANIEL	ENDO & METABOLISM
DESPOTOVIC, JENNY	HEMATOLOGY
DINARDO, ANDREW	GLOBAL HEALTH
DOAN, TAM	CARDIOLOGY
DOHERTY, ERIN	HEM-ONC
DY, ROCHELLE COLEEN	RESEARCH RESOURCE OFFICE
EDWARDS, MORVEN	INFECTIOUS DISEASE
EL-MALLAWANY, NADER	ONCOLOGY
EMRICK, LISA	NEUROLOGY
ERMIS, PETER	CARDIOLOGY
FASIPE, TITILOPE	HEMATOLOGY
FIOROTTO, MARTA	NUTRITION
FISHMAN, DOUGLAS	GASTROENTEROLOGY
FLANAGAN, JONATHAN	HEMATOLOGY
FLOREZ, MARCUS	INFECTIOUS DISEASE
FOSTER, JENNIFER	ONCOLOGY
FRANKLIN, WAYNE JAY	CARDIOLOGY
FREDRICKS, KARLA	GLOBAL HEALTH
FUKUDA, MAKOTO	NUTRITION
GABER, MOSTAFA	ONCOLOGY
GEE, ADRIAN	HEM-ONC
GILL, JASON	NEUROLOGY
GIRONELLA, ANNA CARMELA SAGCAL	RESEARCH RESOURCE OFFICE
GLAZE, DANIEL	NEUROLOGY
GOODELL, MARGARET	HEM-ONC
GORDON, CATHERINE	ADMINISTRATION
GRAMATGES, MARIA	ONCOLOGY
GREELEY, CHRISTOPHER	PUBLIC HEALTH
GUNTER, SARAH	TROPICAL MEDICINE
GUTHRIE, GREGORY	NUTRITION

HAIR, AMY	NEWBORN
HAJJAR, JOUD	RESEARCH RESOURCE OFFICE
HAQ, HEATHER	RETROVIROLOGY
HARPAVAT, SANJIV	GASTROENTEROLOGY
HARRISON, GAIL	RESEARCH RESOURCE OFFICE
HE, YANG	NUTRITION
HECZEY, ANDRAS	ONCOLOGY
HEGDE, MEENAKSHI	HEM-ONC
HERGENROEDER, ALBERT	ADOL. & SPORTS MED.
HERTEL, PAULA	GASTROENTEROLOGY
HESLOP, HELEN	HEM-ONC CELL & GENE
HIATT, PETER	PULMONARY
HILLIARD, MARISA	PSYCHOLOGY
HIRSCHI, KENDAL	NUTRITION
HIRSCHI, OWEN	ONCOLOGY
HOLDER JR, JIMMY	NEUROLOGY
HOLLIER, JOHN	GASTROENTEROLOGY
HORTON, TERZAH	ONCOLOGY
HOTEZ, PETER	TROPICAL MEDICINE
HUGHES, SHERYL	NUTRITION
HULTEN, KRISTINA	INFECTIOUS DISEASE
HURWITZ, RICHARD	ONCOLOGY
HWU, KATHERINE	RESEARCH RESOURCE OFFICE
IACOBAS, IONELA	HEM-ONC
ING, FRANK F	CARDIOLOGY
INJAC, SARAH	ONCOLOGY
JAHOOR, FAROOK	NUTRITION
JOHN, TAMI	HEM-ONC
JOHNSON, SHANI	HEM-ONC
JOSEPH, SUJITH	HEM-ONC CELL & GENE
JUNCO, JACOB	ONCOLOGY
JUSTINO, HENRI	CARDIOLOGY
KAHALLEY, LISA	PSYCHOLOGY
KAPLAN, SHELDON	ADMINISTRATION
KARAM, LINA	RESEARCH RESOURCE OFFICE
KAY, ALEXANDER	GLOBAL HEALTH
KELLMAYER, RICHARD	GASTROENTEROLOGY
KHAN, ASRA	CARDIOLOGY
KIM, JEFFREY	CARDIOLOGY
KIM, MARIA	BIPAI-INTERNATIONAL
KING, KATHERINE	INFECTIOUS DISEASE
KOCHEL, ROBIN	PSYCHOLOGY
KOTHARI, KATHRYN	EMERGENCY MEDICINE
KRANCE, ROBERT	HEM-ONC
LAI, YI-CHEN	CRITICAL CARE
LAM, FONG	CRITICAL CARE

LE, DUY	INFECTIOUS DISEASE
LEE, HYUN-KYOUNG	NEUR NRI
LEEN, ANN	HEM-ONC
LEUNG, DANIEL	GASTROENTEROLOGY
LINGAPPAN, KRITHIKA	NEWBORN
LOFTIS, LAURA	CRITICAL CARE
LOPEZ, JOB	TROPICAL MEDICINE
LOPEZ, KEILA	CARDIOLOGY
LOTZE, TIMOTHY	RESEARCH RESOURCE OFFICE
LUPO, PHILIP	EPIDEMIOLOGY
LUTWAMA, FREDRICK	HEM-ONC INTERNATIONAL
LYONS-WARREN, ARIEL	NEUROLOGY
MACK, STEPHEN	ONCOLOGY
MALETIC-SAVATIC, MIRJANA	NEUROLOGY
MAN, TSZ-KWONG	ONCOLOGY
MANDALAKAS, ANNA	GLOBAL HEALTH
MANN, MICHELLE	PULMONARY
MARINI, JUAN	NUTRITION
MCATEE, CASEY	HEM-ONC INTERNATIONAL
MCKAY, SIRIPOOM	ENDO & METABOLISM
MCNEIL, JONATHON	INFECTIOUS DISEASE
MEJIA, ROJELIO	TROPICAL MEDICINE
METELITSA, LEONID	ONCOLOGY
METRY, DENISE	RESEARCH RESOURCE OFFICE
MICHAEL, MINI	RESEARCH RESOURCE OFFICE
MILOH, TAMIR	GASTROENTEROLOGY
MISRA, SANGHAMITRA	ACADEMIC GENERAL
MIYAKE, CHRISTINA	CARDIOLOGY
MOLOSSI, SILVANA	CARDIOLOGY
MONTEALEGRE, JANE	ONCOLOGY
MOORTHY, BHAGAVATULA	NEWBORN
MORALES-MANTILLA, DANIEL	INFECTIOUS DISEASE
MORAN, NANCY	NUTRITION
MORRIS, SHAINÉ	CARDIOLOGY
MOTIL, KATHLEEN	NUTRITION
MUNIZ, JOSH	HEM-ONC
MUNOZ-RIVAS, FLOR	RESEARCH RESOURCE OFFICE
MURRAY, KRISTY	TROPICAL MEDICINE
MUSCAL, JODI	ONCOLOGY
MYSORE, KRUPA	GASTROENTEROLOGY
NAVAI, SHOBA	HEM-ONC CELL & GENE
NEBOR, DANITZA	HEM-ONC
NESS, TARA	GLOBAL HEALTH
O'CONNOR, TERESIA	NUTRITION
OCAMPO, ELENA	CARDIOLOGY
OERMANN, CHRISTOPHER	PULMONARY

OZUAH, NMAZUO	HEM-ONC INTERNATIONAL
PALAZZI, DEBRA	INFECTIOUS DISEASE
PALMIERI, JESSICA	ALLERGY&IMMUNOLOGY
PAMMI, MOHAN	NEWBORN
PARIHAR, ROBIN	ONCOLOGY
PARNES, MERED	NEUROLOGY
PARSONS, DONALD	ONCOLOGY
PATI, DEBANANDA	ONCOLOGY
PAUL, MARY	ALLERGY&IMMUNOLOGY
PECKHAM-GREGORY, ERIN	ONCOLOGY
PENNY, DANIEL	CARDIOLOGY
PHAM, YEN	GASTROENTEROLOGY
PLON, SHARON	ONCOLOGY
POLLET, JEROEN	TROPICAL MEDICINE
POMPEII, LISA	EPIDEMIOLOGY
POPLACK, DAVID	HEM-ONC
POTTER, SAMARA	ONCOLOGY
POWERS, JACQUELYN	HEMATOLOGY
PREIDIS, GEOFFREY	GASTROENTEROLOGY
PRUDOWSKY, ZACHARY	HEM-ONC
QUACH, MICHAEL	NEUROLOGY
QURESHI, ATHAR	CARDIOLOGY
RABIN, KAREN	ONCOLOGY
RAGHUBAR, KIMBERLY	PSYCHOLOGY
RAMIREZ, ANDREA	RHEUMATOLOGY
RAU, RACHEL	ONCOLOGY
REDELL, MICHELE	ONCOLOGY
REDONDO, MARIA	ENDO & METABOLISM
REVANA, AMEE	RESEARCH RESOURCE OFFICE
RHEE, CHRISTOPHER	NEWBORN
RICHARD, MELISSA	ONCOLOGY
RIDER, NICHOLAS	ALLERGY&IMMUNOLOGY
RIOS, XAVIER	HEM-ONC
RONCA, SHANNON	TROPICAL MEDICINE
ROONEY, CLIONA	HEM-ONC
ROUCE, RAYNE	ONCOLOGY
RUAN, WENLY	GASTROENTEROLOGY
RUIZ, FADEL	PULMONARY
RUSIN, CRAIG	CARDIOLOGY
SANYAHUMBI, AMY	CARDIOLOGY
SARTAIN, SARAH	HEMATOLOGY
SATTER, LISA FORBES	ALLERGY&IMMUNOLOGY
SCHEURER, MICHAEL	HEM-ONC INTERNATIONAL
SCHRAW, JEREMY	ONCOLOGY
SCOLLON, SARAH	ONCOLOGY
SEXSON TEJTEL, SARA	CARDIOLOGY

SHAH, MANISH	EMERGENCY MEDICINE
SHAH, MONA	HEMATOLOGY
SHEKERDEMIAN, LARA	CRITICAL CARE
SHEN, LANLAN	NUTRITION
SHIVANNA, BINOY	NEWBORN
SHNEIDER, BENJAMIN	GASTROENTEROLOGY
SHULMAN, ROBERT	NUTRITION
SILVA CARMONA, MANUEL	PULMONARY
SIMKO III, STEPHEN J	ONCOLOGY
SISLEY, STEPHANIE	NUTRITION
SOLTERO NGWOLO, ERICA	NUTRITION
SPINNER, JOSEPH	CARDIOLOGY
SREEKANTA MURTHY, SAHANA	NEUR NRI
SRIVATHS, LAKSHMI	HEMATOLOGY
SRIVATHS, POYYAPAKKAM	RENAL
STARKE, JEFFREY	INFECTIOUS DISEASE
STEVENS, ALEXANDRA	ONCOLOGY
SULLY, KRYSTAL	NEUROLOGY
SUMAZIN, PAVEL	ONCOLOGY
SUNDGREN, NATHAN	NEWBORN
SUTER, BERNHARD	NEUROLOGY
SWANN, JOHN	NEUR NRI CAIN
TANG, JIANRONG	NEUROLOGY
TAO, LING	ONCOLOGY
TESSIER, MARY ELIZABETH	GASTROENTEROLOGY
THOMPSON, DEBORAH	NUTRITION
TU, LUCAS	NUTRITION
TUBMAN, VENEE	HEMATOLOGY
TUME, SEBASTIAN	RESEARCH RESOURCE OFFICE
TURAGA, DIWAKAR	CRITICAL CARE
VALDES, SANTIAGO	CARDIOLOGY
VAN HORNE, BETHANIE	PUBLIC HEALTH
VOGEL, TIPHANIE	RHEUMATOLOGY
WALLACE, SOWDHAMINI	RESEARCH RESOURCE OFFICE
WANG, CHUNMEI	NUTRITION
WANG, LISA	ONCOLOGY
WATERLAND, ROBERT	NUTRITION
WEATHERHEAD, JILL	TROPICAL MEDICINE
WEIGAND, JUSTIN	CARDIOLOGY
WENDERFER, SCOTT	RESEARCH RESOURCE OFFICE
WHITTLE, SARAH	ONCOLOGY
WILLIAMS, LAUREL	RESEARCH RESOURCE OFFICE
WONG, WILLIAM	NUTRITION
WOOD, ALEXIS	NUTRITION
WU, QI	NUTRITION
WULFF, JADE	ONCOLOGY



XU, YONG	NUTRITION
YAN, HANNAH	INFECTIOUS DISEASE
YANG, JIANHUA	ONCOLOGY
YATES, AMBER	HEMATOLOGY
YEE, ANDREW	HEMATOLOGY
YEE, DONALD L.	HEMATOLOGY
YI, JOANNA	ONCOLOGY
YUSTEIN, JASON	ONCOLOGY
ZACHARIAH, JUSTIN	CARDIOLOGY
ZHU, YI	NUTRITION
ZOGHBI, HUDA	NEUROLOGY