Pedi Press

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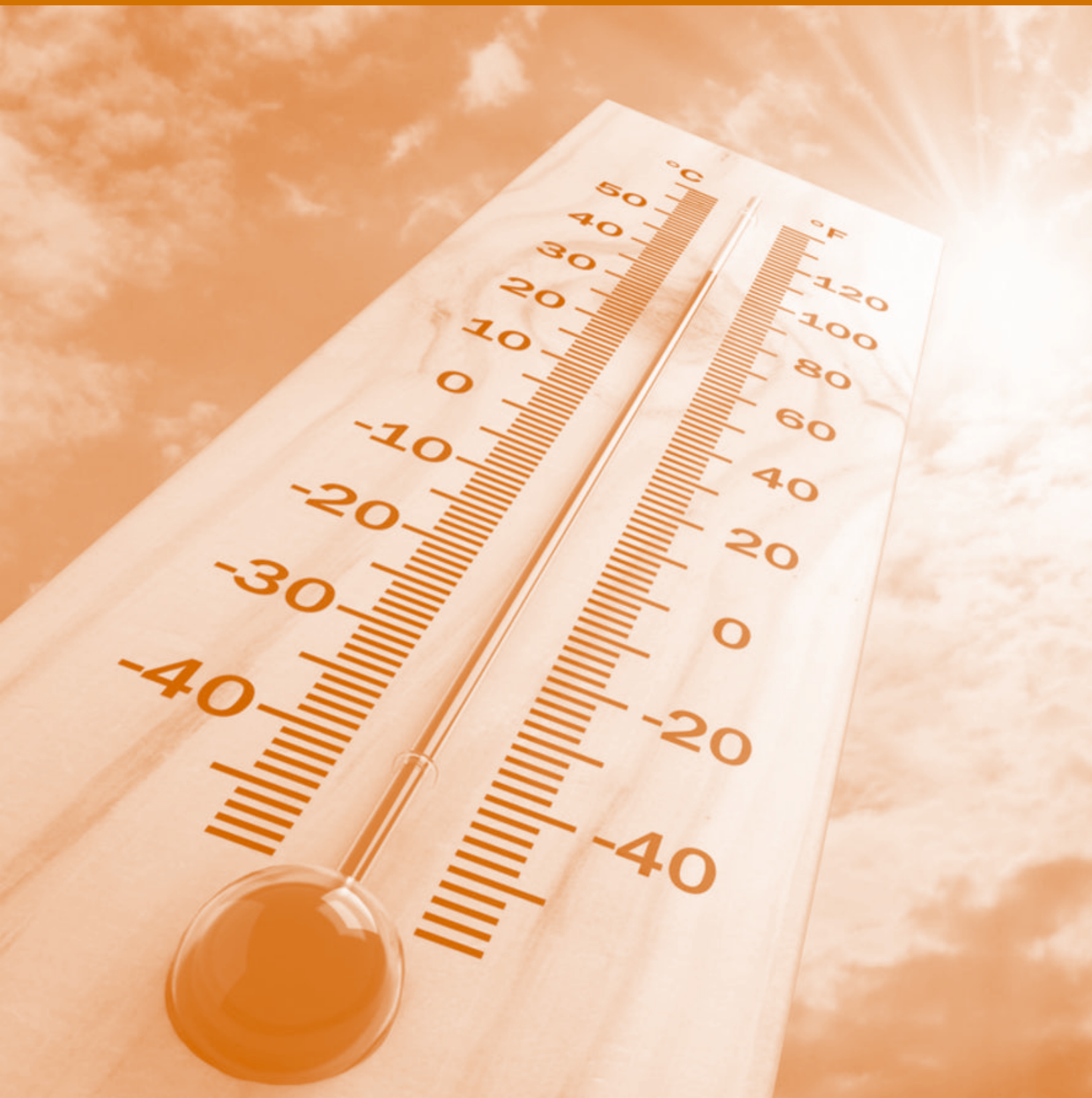

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DEPARTMENT NEWS:

FACULTY, STAFF, FELLOWS, & RESIDENTS

Faculty Promotions Announced

Dr. Jesus Vallejo, Professor, was promoted from Associate Dean to **Senior Associate Dean for Admissions, Diversity, Equity & Multicultural Affairs**, effective July 1, 2022. These initiatives in BCM School of Medicine's Office of Admissions are designed to broaden career pathways in healthcare for individuals from groups that are under-represented in medicine and science. Dr. Vallejo served as Associate Director of the Pediatric Infectious Disease Training Program from 2007-2020. He also has served as Co-Director of the Clinical Scientist Training Program in the Graduate School of Biomedical Sciences since 2014 and was the medical director for TCH's International Patient Services from 2009-2018. Dr. Vallejo earned his medical degree from BCM, where he also completed his pediatric residency and a postdoctoral fellowship in infectious diseases. He is the recipient of numerous awards recognizing him as an outstanding clinician and mentor.

Dr. Sharonda Alston-Taylor, Assoc. Professor, was appointed **Assistant Dean for Admissions, School of Medicine**. She is also Associate Fellowship Director for Adolescent Medicine. Her clinical work spans the spectrum from malnutrition to obesity, and she frequently works with patients in the management of eating disorders. She is active in the Department's Diversity Council and has served in various leadership positions, including the steering committee, mentoring subcommittee, and recruitment committee. She is a member of the BCM Inclusion and Excellence Ambassadors that serve as Liaisons for the Office of Institutional Diversity, Equity, and Inclusion. She also is the Co-Director of Girls Elevated, a conference sponsored through BCM/TCH to empower preteen and teen girls. She earned her medical degree from Johns Hopkins University School of Medicine and holds a Certificate in Public Health from the University of Texas School of Public Health. Dr. Taylor completed a pediatric residency at The Children's Hospital at Sinai in Baltimore and an adolescent medicine fellowship at BCM.

Dr. Ryan Rochat, Asst. Professor, has been appointed as the inaugural **Director** for a new **MD/MS Medical Bioinformatics Dual Degree Program** being developed in the BCM School of Medicine. Exposure to bioinformatics during his graduate training helped guide Dr. Rochat's approach to medicine during the era of Electronic Health Records (EHRs). He developed several programs to collect, parse, and aggregate genetic data for research purposes. He continued his development and interest in data processing, informatics, and research while completing his residency and clinical fellowship, which have allowed him the opportunity to take a unique approach. Dr. Rochat is a graduate of the MD/PhD Medical Scientist Training Program at BCM, where he received his PhD in 2012 and MD in 2014. He will be working with **Dr. Sharon Plon** and team to develop BCM School of Medicine's Biomedical Informatics Dual Degree Program.

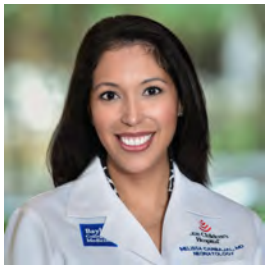
Global Health Announces New Director for Uganda

Public health physician and Uganda native **Dr. Dithan Kiragga** has been named the new Executive Director of the Baylor College of Medicine Children's Foundation Uganda, a non-governmental organization that is one of the largest HIV pediatric and adolescent programs in the world.

Dr. Kiragga brings to Baylor Foundation Uganda more than 20 years of experience in technical leadership and management of complex health programs in Africa and Asia. In his current role as Chief of Party for the USAID Regional Health Integration to Enhance Services in the North, Acholi (RHITES-N, Acholi), he provides technical and managerial oversight for USAID/Uganda's Health and HIV/AIDS project implementation across eight districts in Acholi. He also leads the rollout of USAID's Quality Improvement Collaborative across all regions of Uganda.

Prior to his work with RHITES-N, Acholi, Kiragga was a Chief of Party for the USAID/Uganda Private Health Support Program and the Health Initiatives for the Private Sector Project, where he spearheaded service delivery, public-private partnerships (PPPs), and OVC programs across the country. Under the HIPS project and together with key professionals, he also established the Uganda Healthcare Federation, an umbrella group for the private sector in Uganda.

Dr. Carbajal Appointed to Leadership Position



Dr. Melissa Carbajal, Assoc. Professor, was appointed as the Assistant Director to the Center for Professionalism in Medicine at Baylor College of Medicine. She noted that "Dr. Friedman and Dr. Monroe were wonderful to interview with and I am so excited to join the team along with the newly appointed Associate Director, Dr. Kim-Lan Czelusta." The Center was established in 2013 to create a culture of civility, compassion, and connection through professionalism. It works to maintain a compassionate medical environment with involvement of each of its various schools on multiple affiliate campuses. In addition to providing excellent resources for education and support in professionalism, the center has created the Power of Professionalism Award (POP) to recognize individuals who exemplify outstanding competence and proficiency.

Dr. Nicome Honored for Diversity-Related Contributions

Dr. Roger Nicome, Assoc. Professor (pictured, center), was named faculty honoree by the The Office of Diversity, Equity and Inclusion in its announcement of the 2022 recipients of the Equity Trailblazer Award. The award recognizes individuals' significant contributions and accomplishments in moving Baylor College of Medicine toward being a more diverse and inclusive community. Recipients demonstrate this commitment through leadership in recruitment, retention and advancement efforts, teaching, mentoring, research, multicultural programming, cultural competency and humility, community outreach activities and/or other initiatives.

Dr. Bottazzi Recognized as "Great Immigrant"

The Carnegie Corporation of New York announced an annual list of "Great Immigrants" honorees that recognizes naturalized citizens whose contributions and actions have enriched and strengthened our society and democracy. Among the 34 honorees is **Dr. Maria Elena Bottazzi**, Professor and Associate Dean of the National School for Tropical Medicine at BCM and Co-director of the Texas Children's Hospital Center for Vaccine Development. Dr. Bottazzi focuses her research on neglected tropical diseases as well as emerging diseases. She is recognized for her pioneering work on the development of a COVID-19 vaccine with her collaborator **Dr. Peter Hotez**.

Dr. Yusuf Appointed to AAP Leadership Position

Dr. Shabana Yusuf, Assoc. Professor, was selected to be on the American Academy of Pediatrics National Conference & Exhibition Committee, which is responsible for planning the national conference held each year. The AAP is composed of 67,000 pediatricians committed "to the optimal physical, mental, and social health and wellbeing for all infants, children, adolescents, and young adults. It is the leading publisher, globally, in the field and practice of Pediatrics.

Dr. Zoghbi Awarded Prestigious Prize for Scientific Research

"Dr. Zoghbi's interests in the basis for neurological disorders were sparked by her initial observations in the clinic. It was an exceptional path from there to revealing how mutations in a methyl-DNA binding protein cause Rett syndrome and how expansion of DNA repeat sequences cause spinocereballar ataxia 1."
--Dr. Ken Zaret, Director of the Institute for Regenerative Medicine and the Joseph Leidy Professor of Cell and Developmental Biology.

Dr. Huda Zoghbi, Distinguished Service Professor and Director of the Jan and Dan Duncan Neurological Research Institute at TCH, was awarded the Elaine Redding Brinster Prize in Science or Medicine from the Penn Institute for Regenerative Medicine at the University of Pennsylvania. The award recognizes her work of identifying the underlying, genetic causes of two devastating neurological diseases, which has advanced the field's conceptual understanding of how gene expression can influence neurological health. The prize, which has a monetary portion and includes a commemorative medal and invitation to present a ceremonial lecture at the UP, is supported by an endowment from the children of Elaine Redding Brinster. Dr. Zoghbi expressed her appreciation, "I am deeply honored and humbled to be recognized by the Elaine Redding Brinster Prize for research that was inspired by my patients. For me, it is also very special to be part of the Ralph Brinster Symposium as my research benefited immensely from technologies developed by Professor Brinster."

Pediatric faculty recipients of the ***Outstanding Clinician Awards*** *are pictured above: Drs. Joseph Allen (Emergency Medicine), Eric Chiou (GI), Murali Premkumar (NICU), Sara Risen (Neurology), Fatima Westry (Critical Care), Kristen Sexson-Tejtel (Cardiology), Veena Ramgopal (Hospital Medicine), David Paul (Endocrinology) Jill Ann Karrell (Palliative Care), and Elizabeth Roeder (Genetics, CHoSA, not pictured).*

Faculty Recognized by Department for Clinical Expertise

Several faculty members recently were recognized by the Department of Pediatrics with the Outstanding Clinician Awards, 2022. The awards are presented to clinicians who have been nominated by their peers for their contributions to clinical care and/or outstanding division citizenship, in three categories: outstanding patient care (inpatient), outstanding patient care (ambulatory), and outstanding contributions during the COVID-19 pandemic.

To be eligible for the award, the faculty member must be an Assistant or Associate Professor (MD/DO faculty) or Instructor, Assistant Professor, or Associated Professor (APP faculty).

The rigorous process of being selected for the award begins with a nominating letter from a colleague, in which the candidate's accomplishments suitable for the distinction are described.

In addition to the nominating letter, the candidate must have two or more supporting letters from peers and/or colleagues (e.g., facility, nursing, administrative staff).

The nominating packet then goes to the Department Chair, and the selection committee, which includes the Vice-Chair of Clinical Affairs and other senior full-time faculty members in the department, reviews it.

In addition to the recognition, each awardee receives a monetary award to be used for professional development such as attending meetings, purchasing books, or investing in other educational materials.

Three Faculty Receive BCM Michael E. DeBakey Research Awards

Dr. Paul Klotman and Dr. Mary Dickinson (center) with DeBakey Award winners (L to R) Dr. Scott A. LeMaire, Dr. Sundeep Keswani, Dr. Maria Elena Bottazzi, Dr. Katherine King, Dr. Peter Hotez, Dr. Ying Shen, Dr. Irina Larina, Dr. Joseph Hyser

"Each year we celebrate and honor researchers from our Baylor community who have made significant contributions to improving healthcare. These awards celebrate the legacy of innovation in research and medicine set forth by Dr. DeBakey."

--Dr. Paul Klotman
President, CEO, Executive Dean, Baylor College of Medicine

Among this year's eight recipients of the Michael E. DeBakey Research Awards were three faculty members of the Department of Pediatrics. Included are **Dr. Peter Hotez**, Professor, and **Dr. Maria Elena Bottazzi**, Professor, and Co-Directors of the Texas Children's Hospital Center for Vaccine Development; Dr. Hotez is also Chair of the Division of Tropical Pediatrics and Dean of the National School of Tropical Medicine, for which Dr. Bottazzi is Associate Dean. Drs. Hotez and Bottazzi also are co-creators of a patent-free, open science COVID-19 vaccine technology that led to the development of Corbevax, a vaccine for the world. They also were nominated for the Nobel Peace Prize for "their work to develop and distribute a low-cost COVID-19 vaccine to people of the world without patent limitation."

Also receiving an Excellence in Research award was **Dr. Katherine King**, Assoc. Professor, who was recognized for her "highly innovative and impactful work at the intersection of immunology and hematology [that] has made her an international leader in the field of stem cell biology." Her review on the topic of inflammatory modulation of hematopoietic stem cells altered the way the field approaches the interactions that occur between systemic inflammation and stem cells. Her work as had continuing repercussions in the fields of malignant and nonmalignant hematology, aging, and immunology.

Named in honor of pioneering heart surgeon and the first President of Baylor College of Medicine, Dr. Michael E. DeBakey, the awards recognize faculty for their outstanding published scientific contributions to clinical and basic science research during the previous three years. The awards are sponsored by the DeBakey Medical Foundation and include a commemorative medallion and funds to support further research.

Drs. Hotez and Bottazzi Receive Special Recognition

"It's an honor to be recognized not only for our team's scientific efforts to develop and test low cost-effective vaccines for global health, but also for innovation in sustainable financing that goes beyond the traditional pharma business model."

--Dr. Peter Hotez

"We appreciate the recognition of our efforts to begin the long road to "decolonize" the vaccine development ecosystem and make it more equitable. We hope that CORBEVAX becomes one of a pipeline of new vaccines developed against many neglected and emerging infections that adversely affect global public health,"

--Dr. Maria Elena Bottazzi

Fast Company, the only media brand fully dedicated to the intersection of business, innovation, and design, is, according to the company, engaging the most influential leaders, companies, and thinkers on the future of business. It is published by Mansueto Ventures LLC, and can be accessed online at www.fastcompany.com.

This year, **Fast Company** announced its 14th annual list of the **Most Creative People in Business**, and among the individuals honored were **Dr. Peter Hotez**, Professor, and **Dr. Maria Elena Bottazzi,** Professor. They were recognized for making a cultural impact by their bold achievements.

Fast Company noted that "Drs. Hotez, Bottazzi and their team of scientists at Texas Children's Hospital's Center for Vaccine Development are leading one of the most cutting-edge vaccine development centers in the world. For the past two decades it has acquired an international reputation as a non-profit Product Development Partnership (PDP), advancing vaccines for poverty-related neglected tropical diseases (NTDs) and emerging infectious diseases of pandemic importance. One of their most notable achievements is the development of a vaccine technology leading to CORBEVAX, a traditional, recombinant protein-based COVID-19 vaccine."

They added that the technology developed by these leaders was specifically designed to combat the global problem of access to vaccines and to ensure vaccine equity globally.

Expert Consensus STATEMENT

Dr. Akcan-Arikan Leads Group Making Consensus Statement

"The summary statement points the field in the direction for what needs to be done next in order to be able to bring epidemiology and knowledge to the bedside, measure and describe fluid balance better, provide a personal approach to diagnosis and monitoring, understand the implications in what happens in early childhood in terms of longitudinal health outcomes, partner with innovation stakeholders to encourage better age-appropriate machines for smaller patients, and provide targeted advocacy and education."
--Dr. Akcan-Arikan

Dr. Ayse Akcan-Arikan, Assoc. Professor, chaired a meeting of the Acute Disease Quality Initiative (ADQI) that issued a consensus statement published in *JAMA Network Open* that addresses acute kidney injury (AKI) in the pediatric population. The injury, which occurs in children and young adults, can result in negative short- and long-term outcomes, has not previously received sufficient attention regarding the pediatric population.

The ADQI is composed of a leading group of intensivists and nephrologists who are key leaders in the field of critical care nephrology. Since the ADQI meeting that was held in November 2021, the first to focus on childhood illness related to kidney diseases and AKI as the sole topic, these experts have worked together to define the approaches needed to provide optimal care.

Summary Statements

- Epidemiology
- Diagnostics Approaches
- Fluid Balance and Fluid Management
- Kidney Support Therapy
- Pathobiology and Nutrition and Pharmacology Consideration
- Education and Advocacy

After two decades of work in pediatric critical care nephrology, the conference now has a tangible foundation for future AKI research, education, and advocacy for those who work in this field and the population affected by acute kidney disease. The statement developed six summary areas that identify the multidisciplinary approaches involved in providing optimal care for the pediatric population affected by AKI (see box).

Faculty briefs . . .

BCM/TCH had an excellent showing at the **American Academy of Pediatrics Leadership Conference** held in Chicago in August. The conference is a new, combined event to replace the annual leadership forum and district meetings. It took place at the new AAP headquarters in Itasca, Illinois, from August 4-7. Texas was awarded the AAP Large Chapter of the Year (picture above), with **Dr. Mark Ward** being Chapter President. BCM and TCH were represented by **Dr. Chester Koh**, Professor, **Dr. Eileen Brewer**, Professor, **Dr. Teri Turner**, Professor, **Dr. Sanghamitra Misra**, Professor, **Dr. Mark Ward**, Assoc. Professor, **Dr. Rachel Marek**, Asst. Professor, and **Dr. Sanjiv Harpavat**, Asst. Professor. This recognition is a testament in part to the group membership and lead efforts of the Texas Chapter.

Dr. Sara Anvari, Asst. Professor and Director of COVID Vaccine Hypersensitivity & Penicillin Allergy Delabeling Clinics.

Dr. Kelly Banneyer, Asst. Professor,
-- was elected to the executive board of the American Pediatric Association Div. 53, Bilingual Psychologist.
-- was accepted to the TCH Faculty College for 2022-2023.
-- received the Ambulatory Practitioner Award for Excellence in Patient Experience from Medication Staff Services and Education at TCH.

Dr. Brooke Bernhardt, Asst. Professor, was elected a fellow of the American College of Clinical Pharmacy (ACCP). ACCP recognizes excellence in practice and science of clinical pharmacy, and fellowships are awarded to individuals who have made sustained contributions to the College and who have demonstrated exceptional performance in clinical pharmacy practice.

Dr. Maria Elena Bottazzi, Professor and Assoc. Dean of the National School for Tropical Medicine and Co-director of the TCH Center for Vaccine Development,
-- was recognized for her pioneering work on the development of a COVID-19 vaccine with her collaborator Dr. Peter Hotez, by the Carnegie Corporation of New York in its annual list of Great Immigrants honorees that recognizes naturalized citizens whose contributions and actions have enriched and strengthened our society and democracy.
-- was honored by the City of Houston in recognition of Hispanic Heritage Month by the mayor, on October 19, at the Hispanic Heritage Awards Ceremony.

Dr. Daniel Calame, Instructor, was one of three awardees of the Chao Physician-Scientist Award, which provides funding for BCM investigators who are beginning their independent research careers and are in the process of securing a K08, K23, or equivalent grant. The awards are made possible through the support of the Ting Tsung and Wei Fong Chao Foundation of Houston.

Dr. Gerarda Cappuccio, Fellow, was selected co-recipient of the 2022 John M. Opitz Young Investigator Award.

Dr. Virginia Cline, Assoc. Professor, completed the Faculty College course through BCM.

Dr. Clay T. Cohen, Asst. Professor, was selected by the American Society of Hematology to take part in the Medical Educators Institute, which helps develop future leaders in hematology education.

Dr. Petra Duran, Asst. Professor, was selected as the 2022-2023 Education Leader for the BCM Pediatric Diversity Council.

Dr. Richard Flores, Asst. Professor, was recognized by the Institute of Hispanic Culture of Houston as one of nine Hispanic icons who have set a course of excellence in the Hispanic community and throughout Houston.

Dr. Jennifer Foster, Assoc. Professor, received the Dr. Peter Adamson Young Investigator Award from the Children's Oncology Group. The award recognizes her commitment to a career in early phase pediatric clinical trials, her role in the group's developmental therapeutics program. and her demonstrated success in clinical trial design and conduct.

Dr. Heather Haq, Asst. Professor and Chief Medical Officer for the BCM International Pediatric AIDS Initiative (BIPAI) at Texas Children's Hospital, was elected as the incoming chair of the American Academy of Pediatrics Section on Global Health, effective November 1.

Dr. Peter J. Hotez, Professor and Dean of the National School of Tropical Medicine,
-- was published in a special COVID-19 section *Science* centered on the virus's effect on children. Dr. Hotez wrote on the importance of vaccinating children against the virus.
-- was recognized for his pioneering work on the development of a COVID-19 vaccine with his collaborator Dr. Maria Bottazzi, by the Carnegie Corporation of New York in its annual list of Great Immigrants honorees that recognizes naturalized citizens whose contributions and actions have enriched and strengthened our society and democracy.

Dr. Rachel Kentor, Asst. Professor, completed the Faculty College course through BCM.

Dr. Lisa Kahalley, Professor, was invited to give a keynote lecture, *Proton Therapy and Implications from a Psychooncology Perspective,* at the International Society of Pediatric Oncology meeting in Barcelona, Spain, in September.

Dr. Kristen Kurtz, Fellow, received the Paul Calabresi Career Development Award. The prestigious award, funded by a K12 faculty training grant from the National Cancer Institute, is designed to increase the number of clinicians trained in clinical and translational cancer research.

Dr. Regina Lantin-Hermoso, Professor, was recently appointed International Visiting Professor for the Department of Pediatrics, Faculty of Medicine and Surgery, University of Santo Tomas, Manila, Philippines.

Dr. Philip Lupo, Professor,
-- was invited to serve as a member of the editorial board of *Pediatric Blood and Cancer*. Editorial board members are recognized for their expertise and contributions in the field of pediatric hematology and oncology and will serve as manuscript reviewers in their areas of expertise and advise on policies and new features while suggesting topics for review articles or supplements
-- was elected Vice President-Elect for the Society for Birth Defects Research and Prevention and will advance to President in 2024.

Dr. Rebecca Mercedes, Fellow, was invited by the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) to give a webinar on screening rates and the prevalence of Hepatitis B among people living with HIV in Africa.

Dr. Shane Morris, Assoc. Professor, was honored by the Marfan Foundation on September 24, 2022 during the annual Heartworks Gala Houston for her work diagnosing and treating children with Marfan syndrome, VEDS, Loeys-Dietz, and other related genetic aortic and vascular conditions.

Dr. Flor Munoz, Assoc. Professor, will be honored by the City of Houston in recognition of Hispanic Heritage Month. The mayor will recognize each of the eight honorees with proclamations during three Houston City Council public meetings, with the awards presented October 19 at the Hispanic Heritage Awards Ceremony.

Dr. Sara Nandiwada, Assoc. Professor, co-chaired a plenary session on "Pediatric Rheumatology-Juvenile Idiopathic Arthritis Session" that covered topics including, (1) Pediatric Rheumatology Review: Common Clinical and Laboratory Findings (2) Case Study: Laboratory Evaluation of Pediatric Rheumatic Diseases: Juvenile Idiopathic Arthritis (JIA) (3) Emerging Biomarkers in Juvenile Idiopathic Arthritis, and (4) Prevalence and Significance of Serum 14-3-3n (eta) in Juvenile Idiopathic Arthritis, at the 35th Association of Medical Laboratory Immunologists, Annual Meeting, Salt Lake City, Utah, August 12-15, 2022.

Dr. Lenora M Noroski, Assoc. Professor, was invited plenary speaker at the Annual Immunology Consultants Texas Department State Health Services Newborn Screen SCID (Austin, hosts), June 17, 2022.

Dr. Kriti Puri, Asst. Professor,
-- has been selected to the Editorial Board for *Pediatrics in Review*.
-- was awarded the Pediatric Heart Network Scholar Award for the 2022-2024 cycle.

Dr. Maria Jose Redondo, Professor,
-- has a profile featured in the September issue of *The Lancet Diabetes & Endocrinology* entitled "Rethinking Type 1 Diabetes."
-- accepted an invitation to serve in the Scientific Review Committee for the new NIH NIDDK K12 National Program for the Career Development Of Physician Scientists in Diabetes Research Program .

Dr. Priscilla Reid, Instructor, earned a Doctor of Nursing Practice (DNP) from UT Health Houston and has been awarded the Texas Tech University Health Sciences Center School of Nursing Faculty of the Year award.

Dr. Michael Scheurer, Professor, was named U.S. Co-President of the Brain Tumor Epidemiology Consortium and will serve a two-year term.

Dr. Nicole Schneider, Asst. Professor, was a recipient of the Norton Fulbright Award.

Dr. Sara Kristen Sexson Tejtel, Assoc. Professor, received the Department of Pediatrics Outstanding Clinician Award.

Dr. Jesus G. Vallejo, Professor and Co-Director of the Clinical Scientist Training Program, was selected by the Health Museum as an honoree at the 2022 Viva La Vida Gala He was recognized for his "diversity, dedication, courage, and compassion."

Dr. Robert Waterland, Professor, was invited to speak for "*A New Era for Epigenetic Epidemiology in DOHaD"*, World Congress of the International Society for Developmental Origins of Health and Disease (DOHaD), Vancouver, British Columbia, Canada, August, 2021.

Dr. Justin Zachariah, Assoc. Professor, has been named Chair of the American Heart Association Atherosclerosis, Hypertension, and Obesity in Youth subcommittee for 2022 through 2024.

Dr. Mark Zobeck, Instructor,
-- was awarded a Young Investigator Award from the International Society of Paediatric Oncology (SIOP) for his abstract, "Accurately Forecasting Pediatric Hematology and Oncology Patient Volumes at Treatment Centers in Sub-Saharan Africa." He will present his research at the annual Congress, held in Barcelona, Spain, Sept. 28-Oct. 1.
-- received the Paul Calabresi Career Development Award, The prestigious award, funded by a K12 faculty training grant from the National Cancer Institute, is designed to increase the number of clinicians trained in clinical and translational cancer research.

Note: ***Faculty Briefs*** covers only appointments and other recognition of faculty members' activities but does not include funded grants, as these items are too numerous to be listed in this publication, attesting to the excellent research being conducted in the Department.

DEPARTMENT NEWS

HEALTH & RESEARCH

Too Much Screen Time Leads to Health Risks

Alicia Beltran, a research dietician at the USDA/ARS Children's Nutrition Research Center, recently wrote an article to raise awareness of some of the health risks associated with children and adolescents spending too much daily screen time. Television has long been connected with an increase in the prevalence of obesity, but since COVID-19 lockdown, especially, the same health risks are being seen in the pediatric population due to the extent of screen time spent on social media and playing online games.

One of the obvious risks is obesity, as children who are spending excessive amounts of time looking at different screens are leading sedentary lifestyles with the associated weight gain. Children also may gain weight if they are unaware of how much they eat or drink in front of their screens, increasing their calorie intake. The foods they consume can affect their overall health, so they should be encouraged to snack on fruits and vegetables in moderation, drink plenty of water, and avoid sugary and sports drinks.

Ms. Beltran noted that obesity can lead to chronic diseases such as diabetes or increased blood pressure.

She encourages parents to monitor their children's time on the devices and ensure that they take breaks from the screens, something the parents also should do to set a good example.

Some of the suggestions she offers are:

- **Physical activity**: Parents should make sure children go outside periodically to be exposed to natural light. Even a few minutes outdoors will help the circadian rhythm set the tone for a good night's sleep. Also, while outdoors, children can walk or run laps or engage in other physical activities to increase their heart rates and start their days with more energy.

- **Smart free time**: Especially for those children who are spending their school days at home and doing virtual class work, time away from the screen is essential. They should have scheduled "screen breaks," during which they spend allotted time doing something that does not involve sitting in front of a screen. These children should also have specific, scheduled snack and meal times so their food intake can be monitored and they avoid overeating or sacking all day.

• **After school activities**: Children benefit from being enrolled in extracurricular activities or sports, as well as spending more time outdoors. These activities also help with improving social engagement and developing a range of interests.

• **Bedtime:** The AAP recommends turning off electronic devices 30 to 60 minutes before bedtime, as the stimulants of the blue light from electronics can cause difficulty sleeping. Children need time to "disconnect" to rest their minds and sleep well. They should be encouraged to read a book before sleeping to rest their minds.

• **Snacks:** Children may gain weight if they are unaware of how much they eat and drink while in front of their screens, increasing their calorie intake. Care givers should make sure they snack on fruits and vegetables in moderation, drink plenty of water, and avoid sugary and sports drinks.

The American Academy of Pediatrics' recommendations for screen time vary among age groups:

- **0-18 months**: limit screens to video calls only.
- **18-24 months**: limit to watching short, educational programming with a parent or caregiver. There is no specific duration for this, but be present while in front of the screen to help them understand what they are watching.
- **2-5 years old**: limit to one hour per day of quality programming. Parents or caregivers should watch with children to help them understand what they are watching while guiding them through the content.
- **6 years and older**: no set time limit, but set consistent boundaries on screen usage.

• **Family mealtimes:** Mealtimes are sacred opportunities to engage family members. All electronic devices should be set aside for mealtimes and conversations encouraged.

[a] **Active family time:** Children should have a specific time (once a week, once a day) for active screen time as a family activity. Everyone gathers in front of the television and chooses to watch something together, which is a better alternative to having children isolated in front of their individual screens. Another alternative is to engage family members in games, puzzles, or other activities, inclding outdoor walks.

Ms. Beltran also emphasizes the importance of setting a routine and clear rules and limits on the use of screen media, while explaining to children the importance of setting boundaries on electronic screen use as well as other activities.

Team Develops Award-Winning Computational Tool

A team of researchers in the Division of Pediatric Neurology and the Jan and Dan Duncan Neurological Research Institute at TCH has developed an award-winning computational tool that studies movement disorders. The tool was developed by **Venkata Soumith Jonnakuti** (picturerd), a fifth-year MD/Ph.D. candidate at BCM, under the mentorship of **Drs. Zhandong Liu**, Assoc. Professor; **Mirjana Maletić-Savatić**, Assoc. Professor; and **Hari Yalamanchili**, Asst. Professor.

The innovative computational tool is called *Poly(A)Miner-Bulk tool* and is used to study the underlying molecular mechanism for X-Linked dystonia Parkinsonism (XDP), a hereditary brain disease that singularly affects people from the island of Panay in the Philippines. Similar to common movement disorders such as Parkinson's disease and dystonia, XDP involves a progressive loss of neurons in brain regions that control movement, resulting in significant disability (e.g., problems in walking, talking, and swallowing) and decreased lifespan.

There is currently no cure for XDP, and an urgent need exists to develop new therapeutic options. Mr. Jonnakuti recently was awarded third place in the Therapeutics and Research Solutions Coding Challenge for X-Linked Dystonia Parkinsonism (XDP). The goal of the competition, hosted by the Massachusetts General Hospital, the Collaborative Center for X-Linked Dystonia Parkinsonism, and the Sunshine Care Foundation, is to increase awareness about XDP and to provide a global platform for researchers and others to engage in scientific discourse to find innovative solutions for this rare disorder.

At BCM, the project began with Mr. Jonnakuti's observation that the core protein machinery involved in a fundamental molecular process called *alternative polyadenylation* (APA) is differentially expressed in XDP neural stem cells, suggesting that the APA was involved in the pathogenesis of this rare disorder. Molecular biology contends that DNA is converted to messenger RNA (mRNA), which undergoes chemical modifications (post-transcriptional modifications) that regulate when, where, and how much of its protein product should be produced.

X-Linked Dystonia Parkinsonism (XDP) is a hereditary neurodegenerative disease that singularly affects people who descend from the Island of Panay in the Philippines. It evolves over the course of many years and results in significant disability and a shortened life span. It usually presents in three clinical phases: *dystonic phase*, in which affected people have involuntary sustained muscle contractions that can cause twisting, repetitive movements, and abnormal postures; *dystonia and Parkinsonism*, which begins about 7-15 years after onset of dystonia and involves development of symptoms that are classically associated with Parkinson's disease (but is NOT Parkinson's disease), involving slowing of movements, shuffling gate, development of a hand tremor, and reduction of facial expression; and Parkinsonism phase, which occurs in 6% of affected patients and manifests primarily as parkinsonism, without evidence of dystonia.

The addition of a long sequence of several adenine residues (the so-called poly A tail) to precursor mRNA is one such post-transcriptional maturation step that is important for the stability and the localization of mRNAs, as well as for their efficient conversion to proteins. APA is a phenomenon in which mRNA molecules with varying poly A tails originate from distinct polyadenylation sites of a single gene, and there is increasing evidence of its role in regulating gene expression, particularly in the context of neurodegenerative disorders.

Members of his mentorship team explained different aspects of the development, to which Mr. Jonnakuti attributes assistance from individuals in "the Bragg Lab at MGH who are experts in XDP biology to better understand the underlying changes in the molecular process of APA using a computational science approach and to identify how those changes lead to XDP":

"To test if this process is involved in XDP pathogenesis, Venkata used the tool, Poly(A)Miner-Bulk, that he developed. PolyA-miner-Bulk is equipped with a deep learning module that can recover APA dynamics that are often masked by sequence noise, by taking advantage of the knowledge of the underlying sequence features (motifs) and biochemical mechanisms in sequencing protocols." - **Dr. Hari Yalamanchili**

"This approach is a huge leap in inferring polyadenylation sites from bulk RNA-Seq data. In addition, Venkata used vector projections to accurately infer intermediate APA site dynamics that are often missed using other current approaches." - **Dr. Zhandong Liu**

"Notably, using this tool on a subset of the Religious Orders Study/Memory and Aging Project (ROSMAP) dataset, Venkata identified altered APA dynamics in Alzheimer's samples. Interestingly, a few APA genes are being actively investigated as potential therapeutic targets for Alzheimer's disease. These preliminary findings support the feasibility of using our newly-developed tool to identify novel therapeutic targets and also validate our strategy of looking for changes in alternative polyadenylation and other post-transcriptional processes (e.g. histone modification)."

- **Dr. Mirjana Maletic-Savatic**

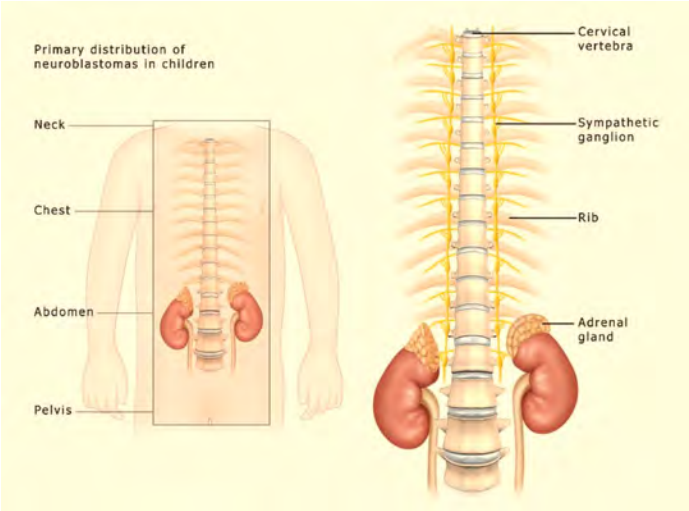
The team plans to use the Poly(A)Miner-Bulk tool to create a signature APA pattern for XDP, which can then be potentially used to develop specific and effective diagnostic and treatment options for patients with XDP. The hope is that this strategy can later also be used to develop diagnosis and therapies for Parkinson's disease and different forms of dystonia.

This research was supported by a fellowship from the Gulf Coast Consortia on the NLM Training Program in Biomedical Informatics and Data Science T15 LM0070943.

Some information was extracted from an article by Rajalaxmi Natarajan posted on BCM website on September 8, 2022.

Study Offers Hope for New Strategies to Improve Survival of Patients with Specific Neuroblastomas

Dr. Eveline Barbieri, Asst. Professor, and colleagues recently described in the journal *Nature Communications* results of their studies on neuroblastomas, namely new strategies to improve the survival of children with *MYCN*-amplified neuroblastoma. The article, for which Dr. Barbieri is corresponding author, explained how these researchers investigated metabolic vulnerabilities that they could exploit to overturn the tumors' resistance to therapy. Neuroblastoma is a childhood cancer that develops from neural cells on the adrenal glands and accounts for 15% of childhood deaths from cancer. Approximately half of affected children harbor extra copies of the gene *MYCN*, the primary driver of neuroblastoma.



Dr. Barbieri and her team used un unbiased, metabolomics analysis to compare the metabolic profiles of *MYCN*-amplified neuroblastoma with those of non-*MYCN*-amplified neuroblastomas. Results showed important differences in how the tumor cells utilized specific nutrients for tumor growth: tumors with *MYCN* amplification rewired the tumor's lipid metabolism such that it promotes the use and biosynthesis of fatty acids. She explained that "cells with extra copies of *MYCN* depend highly on fatty aids for their survival," which they confirmed in both *MYCN*-amplified cell lines and *MYCN*-amplified patient tumor samples.

Investigation into what prompted *MYCN*-amplified neuroblastomas to rely on fatty acids for growth revealed that *MYCN* directly upregulates or enhances the production of fatty acid transport protein 2 (FATP2), a molecule that mediates cellular uptake of fatty acids. They then sought to determine what would happen if they interfered with FATP2 function in *MYCN*-amplified neuroblastomas.

Neutralizing FATP2 activity, either by knocking down the gene or by blocking FATP2 action with a small-molecule inhibitor, reduced the growth of *MYCN*-amplified tumors. Of interest was that inhibiting or blocking FATP2 had no effect on normal cells or tumors without *MYCN*-amplification, indicating a selective metabolic vulnerability of *MYCN*-amplified tumors.

Implications of these studies are far-reaching with regard to other *MYCN*-amplified pediatric and adult tumors. The approach may prove to be applicable to many human cancers that utilize *MYCN* for oncogenesis and provide new insights into the regulation of energy metabolism in the progression of cancers. Therapeutic interventions that interfere with FATP2 activity may potentially selectively block fatty acid uptake in *MYCN*-amplified tumors, thereby stopping or reducing the tumor's growth and rendering it more sensitive to conventional therapy.

Other contributors to this work include first author Ling Tao and Mahmoud A. Mohammad, Giorgio Milazzo, Myrthala Moreno-Smith, Tajhal D. Patel, Barry Zorman, Andrew Badachhape, Blanca E. Hernandez, Amber B. Wolf, Zihua Zeng, Jennifer H. Foster, Sara Aloisi, Pavel Sumazin, Youli Zu, John Hicks, Ketan B. Ghaghada, Nagireddy Putluri, Giovanni Perini and Cristian Coarfa. The authors are affiliated with one or more of the following institutions: Baylor College of Medicine, Dan L Duncan Comprehensive Cancer Center, National Research Center-Cairo, University of Bologna, Texas Children's Hospital and Houston Methodist Hospital.

Qualitative Study Reveals Parents' Perceptions of Barriers and Facilitators of HIV-Exposed Infant Testing in Botswana

BIPAI researchers conducted a qualitative study, using focus group discussions (FGDs) and HIV-positive mothers who delivered children in 2016 at three hospitals in Botswana, to investigate the perspectives of HIV-positive mothers on the barriers and facilitators to testing for HIV-exposed infants (HEI), as well as what could be done to improve the situation. The hospitals are the largest birthing sites in the country and account for more than half of the country's deliveries. The researchers used social demographic and clinical information from medical records to select cases representing a variation on dimensions of interest. On average, 8 to 12 mothers attended each FGD.

Below are extracts from the article, published in PLOS ONE in August 2022 (https://mcusercontent.com/1d7127ffe8507f89555b8b517/files/b2962928-dd6e-6e06-92f9-ef5ff6db029d/journal.pone.0273777.pdf).

Globally, increased access to antiretroviral therapy (ART) has improved the health, quality of life, and life expectancy of people living with HIV (PLHIV) and has significantly reduced the risk of mother-to-child transmission (MTCT) of HIV (MTCT). These advancements have improved the reproductive health of HIV-infected women and the proportion of HIV-infected women who become pregnant has increased over time. As a result, promoting the health and quality of life of HEI has emerged as an important component of HIV programming.

Botswana's Prevention of MTCT of HIV (PMTCT) program began in 1999, and by 2001, all public health facilities in the country were providing PMTCT services. PMTCT services are integrated into routine Maternal and Child Health (MCH) services and decentralized to the lowest levels of the healthcare delivery system, such as clinics and health posts. According to the Botswana Global AIDS Response Report for 2014, PMTCT services were available in all 634 health care facilities that provided MCH services.

In Botswana, a high proportion of women seek antenatal care (ANC), give birth in health facilities, and receive postnatal care (PNC), all of which are free of charge in public health facilities. For example, in 2019, of the 58, 838 women who gave birth in Botswana, 94.3% attended at least one ANC visit, 94.3% delivered in a health facility, and 62.8% attended at least one PNC visit.

These statistics show that the majority of pregnant women and new mothers in Botswana remain in contact with the healthcare system and have access to PMTCT services.

Despite high rates of HIV testing and enrollment of HIV-positive pregnant women on antiretroviral therapy in Botswana, coverage for HEI testing remains suboptimal. Many factors can contribute to suboptimal HEI testing rates, but they have seldom been thoroughly investigated in Botswana.

One is the fear of stigma and discrimination. Many mothers said that the fear of stigma and discrimination in the community and health facilities was a significant barrier to HEI testing. The mothers said they were mostly afraid of stigma and gossip from community members at the health facilities. The mothers did not want to be seen around HIV testing rooms in the local clinics because they feared not only stigma against their children, but also against themselves since HIV testing for children indicates maternal HIV status. The mothers described how HIV testing rooms at health facilities, which are easily identifiable with HIV posters or other indicators, compromise confidentiality. Some mothers reported that they did not attend the 18-month test appointment after their children tested negative at 6 weeks to avoid multiple encounters with stigma from community members at health facilities.

Another barrier is living in rural areas and having to travel long distances to reach health facilities that offer the services needed. The mothers who lived in rural areas reported financial challenges (they could not afford transportation) and unreliable means of transport to health care facilities as some of the barriers they confronted.

Other barriers to HEI testing reported by mothers from rural communities included: limited information on PMTCT; understaffing at health facilities (they could afford to get to the clinic once but could nott afford to return after being turned away); fear of stigma because everyone in the community knew each other, making concealing one's HIV status difficult; and late or non-enrolment in ANC and PNC, leading to missed opportunities for health education and HEI testing.

The findings suggest that policy efforts and interventions to promote HEI testing should focus on health systems strengthening to improve HEI testing service delivery. Increasing PMTCT program staffing, reducing stigma at health facilities, and strengthening PMTCT health education are key priorities for improving HEI testing.

The findings also highlight the importance of prioritizing and addressing community barriers to HEI testing, such as bringing services closer to where people live, particularly in rural and hard-to-reach areas.

DEPARTMENT NEWS

FOCUS ON PEDIATRIC INITIATIVES & DEPARTMENT LABS

BIPAI Initiative to be Part of Documentary

One of the BIPAI initiatives, the **Global Tuberculosis Program**, received notice that it would be the subject of a short documentary film highlighting the working being done at its site in Papua New Guinea (PNG). The notice came from the East-West Center and BASE Project to highlight the PNG Liquefied Natural Gas (LNG), Baylor College of Medicine (BCM), and Texas Children's Hospital (TCH), in conjunction with Cre8tive Media.

Dr. Henry Welch, Asst. Professor, PNG site leader, and part of the Pediatric AIDS Corps, BIPAI, noted that the filming was a project selected from a list of programs to showcase the investment the United States is making in the Pacific region. The U. S. State Department hired a center called the East-West Center to investigate all the programs and interview people at the locations. It was a very involved process that led to the selection of the PNG site.

A Country of Diversity

A Commonwealth realm of the United Kingdom, PNG has a significant burden of infectious diseases. Tuberculosis, malaria, and other diseases account for 62% of deaths nationwide. The BIPAI team recognized the need to create a program that would improve the country's most valuable health resource, namely healthcare professions.

PNG is a country of extreme diversity: some 839 known languages are spoken in PNG; much of the population lives in customary tribal communities, with only a little more than 13% of the people living in urban centers (being behind on Burundi as having the second lowest urban population percentage worldwide); hundreds of ethnic groups are indigenous to PNG and date back thousands of years; and numerous undocumented plants and animals find their homes in PNG. The terrain also is quite diverse, with high mountain ranges and low valleys, and swamp land and modern cities. It is rich with natural resources, including renewable ones such as forests, marine resources, and agriculture.

The tourism ad boasts that "village and urban life exist in unison."

History of Initiative

In 2013, ExxonMobil PNG (EMPNG) launched a $3.1 million initiative to improve child health in PNG, taking the form of a Public Private Partnership (PPP) of several entities, namely EMPNG, the PNG LNG Project, BCM, TCH, the PNG National Department of Health, and the UPNG-SMHS. With funding and facilitation support from EMPNG, the University of PNG's School of Medicine and Health Sciences (EMPNG), the PNG National Department of Health, and the University of PNG's School of Medicine and Health Sciences (UPNG-SMHS), the partnership worked to address the national-level pediatric, maternal, and public health problems in PNG.

The initiative focused on managing TB, as PNG had the 10th highest incidence in the world, and the effort was particularly challenging in a setting with limited health services. Nonetheless, they were able to support a locally-led effort to introduce a new child-friendly TB medication, rendering PNG the fourth country in the world to do so. That effort has greatly enhanced the quality of care for children with TB and significantly helped the management of the Children's MDR-TB ward.

Of utmost importance has been the investment in education of healthcare providers in PNG. The team delivered hundreds of hours of lectures, facilitated numerous mentoring projects, and in 2018 added a Master's in Public Health Program and a Diploma of Public Health Program, which provides valuable learning opportunities and support for students.

The PPP also extended training and mentoring support to healthcare professionals in Hela province to enhance the professional skills at the Tari Hospital and provincial health clinic staff in the management of pediatric TB, HIV, and malnutrition. The training helps build the next generation of healthcare workers in PNG.

Although numerous longstanding health programs have been established in PNG, few have sought to engage in the core area of medical education at PNG's only medical school. The education done by members of BIPAI will leave a lasting impact, as future PNG health workers will ultimately shape health care and public health policies in the country for years to come.

Since the program began, more than 700 medicine and health science undergraduate students and 42 doctors and nurses at the Port Moreby General Hospital have been trained and received mentoring from international physicians to improve their skills and, ultimately, the overall patient care provided in PNG.

Mejia Lab: Laboratory of Human Parasitology

The Southern United States is known for being plagued with unacceptable levels of poor sanitation, poverty, and parasites in many communities. **Dr. Rojelio Mejia**, Asst. Professor and infectious disease specialist, is committed to decreasing the prevalence and burden of parasites among the poor and disenfranchised populations, which seem to suffer the most from these issues.

Dr. Majia, who grew up in Guadalajara and then Michigan, was the first in his family to go into the medical field. After completing undergraduate studies at the University of Michigan and medical school at Michigan State, he went to the University of Virginia for his residency. He then spent five years at the National Institutes of Health working on an infectious disease fellowship in tropical medicine. By the end of his fellowship, Dr. Peter Hotez had moved to Houston and invited Dr. Mejia to join him as one of the original members of the Department of Pediatrics' Division of Tropical Medicine. He accepted and is now director of the lab that focuses on parasites: Laboratory of Human Parasitology, which is part of Tropical Medicine.

The Laboratory of Human Parasitology is dedicated to improving understanding and treatment of parasitic infection through advancing systems of their diagnoses. The laboratory's work involves defining the prevalence and parasitic burden in endemic populations and associating with morbidity in biological systems, while keeping the cost of diagnoses at a reasonable level, with goals of eradication and improvement in healthcare outcomes. Much of the research is focused on New York, Maryland, Texas, Louisiana, Mississippi, Alabama, and South Carolina. They also work with researchers in Ecuador, Colombia, Guatemala, and

other Latin American countries, where they apply molecular approaches to develop diagnostic tools, provide training, and maintain supportive collaborations.

Recognizing that poverty and parasites go "hand-in-hand," Dr. Mejia and the other researchers in his lab focus on how parasites affect human health and seek to reduce the impact they have, mostly on children, by providing diagnostic tools that are practical for use in developing countries. He has noted that "having a correct diagnosis is a step toward receiving appropriate medical treatment to control parasitic infections." In one study, the laboratory is using a testing platform designed by Dr. Mejia and his colleagues during his time at the National Institutes of Health. The platform involves quantitative polymerase chain-reaction (qPCR) that evaluates the DNA of a stool sample much more accurately and quickly than do traditional microscopy methods. The study involves integrating qPCR testing with microscopy testing for intestinal parasites including *Ascaris lumbricoides, Ancylostoma duodenale, Necator americanus, Strongyloides stercoralis, Trichuris trichiura, Giardia lamblia, Entamoeba histolytica* and *Cryptosporidium parvum* in the relatively resource-limited areas of Quinindé, Esmeraldas, Ecuador.

Another priority is raising awareness of the significant impact that neglected disease caused by round worms, strongyloides, and hookworms can have on individuals and the need to find solutions to control them. Living in poverty, as most of the patients in these areas do, increases the risk of having parasites, which mostly affect children.

Dr. Mejia has noted that parasitic diseases reduce the chances of children completing school, which in turn results in fewer future job opportunities, and the cycle of poverty continue. Breaking that cycle is one of his primary concerns. One approach is by identifying the presence of parasites. For instance, patients may be infected with *Strongyloides* and not have larvae in the stool at the time of testing. For a complete diagnosis of parasitic infection, serological testing is needed in addition to molecular testing at the DNA level. For detection of strongyloidiasis, they also use a *Strongyloides stercoralis* ELISA, using a recombinant protein to look for IgG *Strongyloides* specific antibody in serum. *Strongyloides* is an auto-infectious parasite, with intermittent shedding of ova/larvae into the stool.

Current studies cover a broad spectrum of parasites and countries (see next page, table). Future projects will focus on modern, more sensitive diagnostics above and beyond standard microscopy and the current standard of care for poverty-associated infections and diseases. Future projects for the laboratory include expanding PCR and ELISA diagnostics for *Plasmodium falciparum*, *vivax*, *ovale*, *malariae*, and *knowlesi*, as well as *Cyclospora cayetanensis*, *Isospora belli*, *Microsporidia* (*Encephalitozoon intestinalis* and *Enterocytozoon bieneusi*), and *Schistosoma mansoni* and *haematobium.*

Current Studies Undertaken by the Laboratory of Human Parasitology

Location	Study	Collaborator
Alabama	Diagnosis of hookworm in Alabama	Alabama Center for Rural Enterprise
Argentina	Intestinal parasites and microbiome	Universidad Nacional de Salt Argentina
Brazil	Molecular diagnoses of intestinal parasites in comparison to GIS modeling	Louisiana State University
Colombia	Environmental impact on intestinal parasitic infections	Universidad-CES
Ecuador	Impact of intestinal parasites on growth delays	Universidad International de Ecuador
Guatemala	Impact of intestinal parasites on growth and nutrition	Escuela de Nutrición-Universidad Francisco Marroquin
Honduras	Immunological impact of intestinal parasites on growth	Universidad Nacional Autónoma de Honduras
Houston	Diagnosis of intestinal parasites in children presenting with diarrhea	Texas Children's Hospital
Mozambique	Impact of intestinal parasites on malaria co-infections	Centro de Investigacão em Saúde de Manhica
New York City	Soil detection of *Toxocara canis/cati* in city parks of the 5 boroughs	University of Texas - Houston
Uganda	Impact of intestinal parasites on HIV immune activation	The AIDS Support Group
Eswatini	Impact of intestinal parasites on TB co-infections	BCM and TCH Global TB Program - BCMCF-Eswatini

The laboratory, which is located at TCH's Center for Vaccine Development, include an ABI ViiA™ 7 Real-Time PCR instrument with 6 dye capabilities. The ABI ViiA is able to detect amounts as small as 10 attograms of parasite DNA. The laboratory also has a SpectraMax M3 microplate reader for ELISA and serology.

"End with Good Stuff"

—Dr. Gordon Schutze

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