

# Connections

NEWS FROM COLUMBIADOCTORS CHILDREN'S HEALTH & OBGYN

ISSUE 15

 ColumbiaDoctors

 NewYork-Presbyterian  
Morgan Stanley Children's Hospital



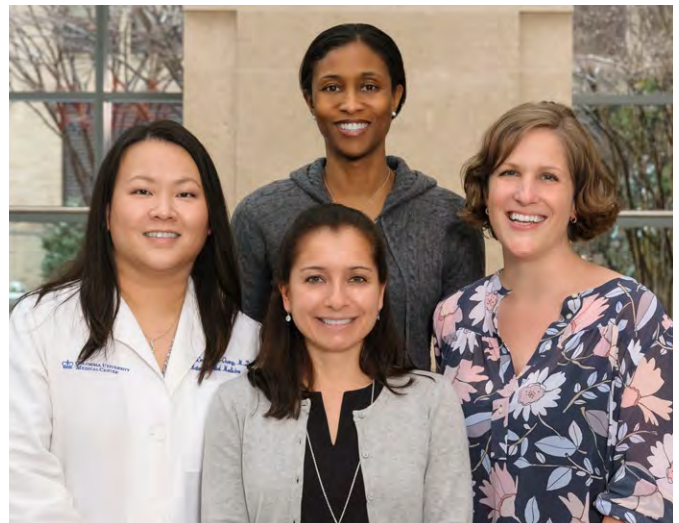
TOP ROW FROM LEFT: EMILIO ARTEAGA-SOLIS, MD, PHD, JENNIFER WOO BAIDAL, MD, MPH, AVIVA SOPHER, MD, MS, DANE PARKER, PHD, ESI-LAMOUSE-SMITH, MD, PHD, NICOLINO DORRELLO, MD, PHD, ERIC SILVER, MD. BOTTOM ROW FROM LEFT: BRETT ANDERSON, MD, MBA, MEENAKSHI RAO, MD, PHD, KIMARA TARGOFF, MD, JULIE KHLEVNER, MD.

## Against the Odds

### *Despite Obstacles Some Young Physicians are Thriving in Research Careers*

Clinicians can improve the health of an individual patient, but the progress that makes a difference for *all* patients comes from clinical and translational research, maintains Ronald Wapner, MD, Vice Chair of Research in OBGYN. And yet more and more young physicians are finding the barriers to getting into research insurmountable. Especially at the beginning of their careers physician-scientists contend with tremendous and conflicting demands on their time, salaries that are often lower than their clinical peers, and enormous pressure to support their work from a shrinking pool of research funding. Because of these obstacles, says Dr. Wapner, "We're losing the pipeline of people who would be our future innovators and discoverers."

Both Pediatrics and OBGYN are working to counter these national trends by nurturing the research careers of a number of junior faculty through mentoring, assistance identifying sources of grants, ensuring that they have "protected time" in which to do their research, and creating a culture in which research is clearly valued. And those who do stay on the research track say that, for them, the rewards outbalance the drawbacks. Here we profile five of the many extraordinary young researchers in OBGYN and Pediatrics whose determination and passion for discovery keep them going.



FROM LEFT, DRS. CHIA-LING NHAN-CHANG, NATAKI DOUGLAS (TOP), JOY VINK (BELOW), AND KAREN FUCHS.

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## Message from the Editors

Young physician-scientists drawn to a career in research have always faced daunting challenges, but over the past several years the stakes have gotten even higher: juggling clinical and research hours is a balancing act, and acquiring funding at the start of a research career requires more time, energy, and departmental support than ever. Despite these barriers, OBGYN and Pediatrics both have several junior faculty members who are following the research path, and experiencing success as independent investigators. In our [cover story](#) we talk to physician-scientists near the start of their careers in both departments about the obstacles they face, what keeps them going, and how their departments have supported their aspirations. A key to early success is mentoring, and Drs. Steve Kernie (Pediatrics) and Ronald Wapner (OBGYN) talk about the mentoring support they offer through their departments. In the Conversation with the Chairs ([page 3](#)), Drs. Lawrence Stanberry and Mary D'Alton discuss the importance of research—and of young investigators—to their departments. Research is a fundamental aspect of a new program in Pediatrics, Families Improving Health Together (FIT), in which a multidisciplinary team of specialists from pediatric cardiology, endocrinology, gastroenterology, and molecular genetics aims to prevent and treat childhood obesity ([page 7](#)). A new OBGYN program is working to reduce another pervasive problem, births that occur before the 37th week of pregnancy, through the Preterm Birth Prevention Center ([page 8](#)). We note the honor received by Dr. Richard Polin, Chief of Neonatology, who is one of this year's recipients of the Neonatology Legends Hall of Fame award ([page 10](#)). Through a new OBGYN program, Artful OBservations, department members are coming to together through the arts ([page 9](#)). And in NewYork-Presbyterian/Columbia News, pediatric cardiology specialists shared two complex surgeries with colleagues thousands of miles away through a live video feed ([page 12](#)).

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**ISSUE 15**  
SPRING 2017

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# The Outlook for Young Researchers

*Mary D'Alton, MD, Chair of Obstetrics and Gynecology, and Lawrence Stanberry, MD, PhD, Chair of Pediatrics, spoke recently about the outlook for young doctors interested in the path to research.*



## **What inspires young doctors to go into research?**

**Dr. D'Alton:** Young people go into research now, and always have, because they have a passion to find the underpinnings of disease, and to make a difference. Through clinical care we can make a difference day-to-day in our patients' lives, but it's going to take research to ultimately transform care for the larger clinical problems.

**Dr. Stanberry:** I agree, young doctors are drawn to research by the same sense of discovery that people have always had. What's changed over the past few decades is that the number of people interested a career in research has probably remained the same, but the number we can afford to develop, at least in pediatrics, has gotten smaller.

## **What are the qualities of a good researcher?**

**Dr. D'Alton:** All physicians who practice here have innate great skillsets, but the physicians who are going to be successful in research have a different phenotype, at least that's been my experience. What I've seen over the years is that two ingredients are very important to being successful: a sense of optimism and tenacity, and the ability to shake off rejection, because papers are going to be rejected and grants are going to be rejected, and young researchers have to actually learn from the process. It's important for our departments to choose candidates who we believe will be successful, and we put a lot of focus on that. Usually we require that our young investigators are on training grants, which are often awards funded

for three or five years. We put a lot of effort into talking with candidates who are interested in training awards, telling them what it's going to take to be successful, so they understand what they're signing up for. Then they have to present a project, what they plan to do, and how they will do it over the time limit of their award.

## **How does CUMC support young researchers through mentoring programs and other initiatives?**

**Dr. Stanberry:** One of the key elements to success is having a strong mentoring plan for each young researcher, so we're confident that somebody's going to guide them in the formative years. That increases the likelihood of success substantially. Another thing is ensuring that we've got sufficient protected time for them, and that's extremely expensive. If you're not able to spend a lion's share of your time conducting research the likelihood of being successful as a scientist becomes increasingly small, and so one can only afford to back somebody for a certain number of years.

We used to be able to let people try research for five or six years. These days, it's probably down to three or four. The good thing for a physician-scientist who does not succeed for whatever reason, is that he or she is a physician first. They can always return to the clinic and have productive, successful careers, just not as scientists.

**Dr. D'Alton:** We obviously want to see our investigators succeed, but, as Dr. Stanberry said, when they fail to get funded, it doesn't mean that they're a failure. They can use the skillsets

that they developed to better evaluate the literature in their own practice, and contribute in a different way to the larger collaborative effort.

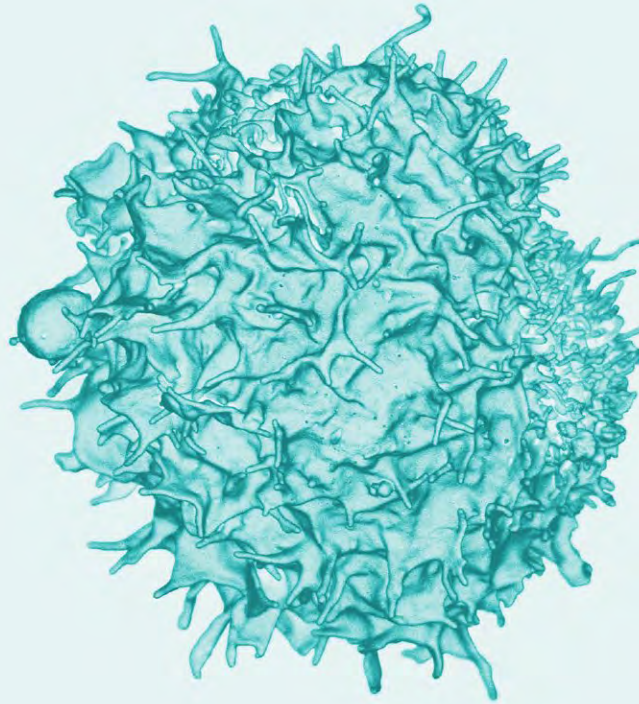
## **How do young researchers and the university deal with the uncertainty of the current funding situation?**

**Dr. D'Alton:** It's Dr. Goldman's mission that all departments would be in the top five of NIH research and funded departments in the country, and Dr. Stanberry and I take the mission very seriously. All of us are really focused on ways to increase that, through recruitment and collaboration across different departments in the medical school. As part of that effort we've been able to recruit a number of our junior doctors to become young investigators.

**Dr. Stanberry:** When I came to CUMC 10 years ago, our department was 35th in the nation amongst departments of pediatrics in NIH funding. Last year we were the 20th. Ours has been the most dramatic improvement, both through bringing in new senior faculty and investing in young researchers, and we can do even better. Dr. D'Alton's department is ranked number nine. Our rankings are a measure of the fact that we both have a lot of talent, and we do our very best to develop that talent. The fact that we've both seen our NIH grant portfolios grow over a number of years is an indication that these investments are paying off, that our faculty are garnering the grants and doing the kind of work that, as Dr. D'Alton said, is going to change the way we address the medical problems in our respective specialties.

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# Advances in Research



IMMUNE CELLS CALLED T CELLS (PICTURED ABOVE) PLAY A KEY ROLE IN THE SUCCESS OF ORGAN TRANSPLANTS.

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## Organ Transplants: A Cellular Balancing Act

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Trauma, infection, Crohn's disease, volvulus (a twisted bowel), and intestinal birth defects can all impair the functioning of the small intestine. When children lose half or more of small bowel function, doctors may treat them with bowel transplantation. But transplantation has a high rate of transplant rejection and infection, and in 5-9% of cases they develop graft-versus-host disease (GVHD), in which the immune cells in the donated tissue attack the patient's tissues. As a result of these complications only about half of patients survive beyond five years. Successful organ transplantation depends on both preventing rejection of the transplant by the patient's immune cells (host versus graft (HvG)) and blocking the donor cells from attacking the host (GvH). In a recent

study published in *Science Immunology*, **Mercedes Martinez, MD**, Director of CUMC's Intestinal Transplant Program, and colleagues investigated the little-understood question of how HvG and GvH responses influence the turnover, phenotype, and repertoire of populations of immune cells called T cells in the donor tissue after transplantation. The researchers took advantage of the serial biopsies required after transplantation to examine T cell turnover dynamics in the intestinal grafts. Their findings show that, while HvG-reactive cells persisted long-term in the graft, the population of GvH-reactive cells expanded in the absence of rejection. They hypothesize that the GvH-reactive cells may balance out the HvG-reactive cells, preventing rejection.

Zuber J, Shonts B, Lau SP, Obradovic A, Fu J, Yang S, Lambert M, Coley S, Weiner J, Thome J, DeWolf S, Farber DL, Shen Y, Caillat-Zucman S, Bhagat G, Griesemer A, **Martinez M**, Kato T, Sykes M. Bidirectional intra-graft alloreactivity drives the repopulation of human intestinal allografts and correlates with clinical outcome. *Sci Immunol*. 2016 Oct;1(4).



BLOOD CLOT RISK RISES DURING THE FIRST THREE MONTHS OF BEGINNING COMBINATION ORAL CONTRACEPTIVE USE.

## Defining the Link Between Oral Contraceptives and Blood Clots

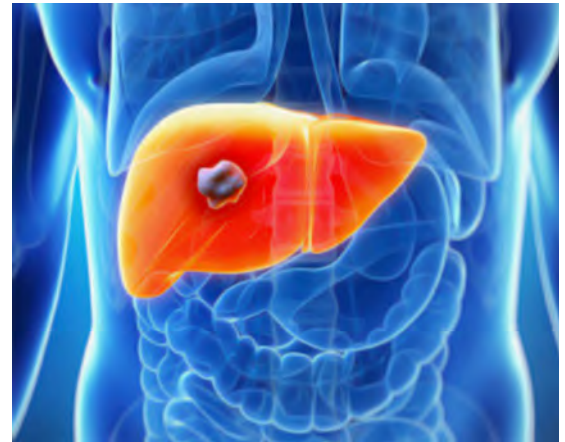
The risk of developing a blood clot in a vein (a venous thromboembolism) rises during the first three months after beginning combination oral contraceptive use, and then gradually decreases over the next nine months. Studies have shown that elevated endogenous thrombin potential (ETP)—the balance between pro- and anti-coagulant forces operating in plasma—is a risk factor for clotting. To investigate the link further, a research team led by Carolyn Westhoff, MD, MSc, Director of Family Planning and Preventive Services, evaluated the extent of ETP changes during the initial cycle of an oral contraceptive that combined ethinyl estradiol and levonorgestrel. The researchers found that the increases in ETP during the first cycle were substantial, but because the laboratory findings are preliminary, the results are not directly useful for clinical recommendations. More laboratory and clinical studies are needed to corroborate these findings and judge the clinical utility of ETP testing.

**Westhoff CL, Pike MC, Cremers S, Eisenberger A, Thomassen S, Rosing J.** Endogenous thrombin potential changes during the first cycle of oral contraceptive use. *Contraception*. 2017 Jan 11.

## A New Paradigm for Treating Liver Cancer

Patients with advanced primary liver cancer have a high risk of recurrence after undergoing liver transplantation or surgery to remove the tumor. Researchers at CUMC are refining a novel strategy to treat liver cancer that's effective in some people with blood cancers and solid tumors. In this approach the patient receives a transplant of blood-forming stem cells from a donor (allogeneic hematopoietic stem cell transplantation), along with a liver transplant. The donor's immune cells are able to recognize the patient's malignant cells as abnormal, and then attack them (the "graft-versus-tumor" effect). When both the transplanted liver and stem cells come from the same donor, the patient may also be able to avoid lifelong treatment with immunosuppressive drugs. Recently a CUMC team treated an 11-year-old who had invasive liver cancer and lung metastases, with a living-donor liver transplantation followed by hematopoietic stem cell transplant, both donated from the same parent. The new liver and stem cells were engrafting and functioning normally, but the patient unfortunately developed a toxoplasmosis infection, and succumbed to multisystem organ failure. An autopsy showed no evidence of tumor recurrence. Despite the unfortunate outcome, this case study, recently published in *Transplant Proceedings*, demonstrates that this treatment approach might be feasible, but that strategies to prevent opportunistic infections are needed.

**Picoraro JA, Ovchinsky N, Martinez M, Lobritto SJ, Satwani P, Ramphal R, Cairo MS, Kato T.** First attempt of sequential living donor liver and hematopoietic stem cell transplantation in a child with advanced hepatocellular carcinoma: a case report. *Transplant Proceedings*. 2016 Nov;48(9):3174-3177.



IN PATIENTS WHO RECEIVE A STEM CELL TRANSPLANT, THE DONOR IMMUNE CELLS MAY BE ABLE TO RECOGNIZE THE CANCER CELLS AS DISEASED, AND ATTACK THEM.



PRETERM BIRTH AFFECTS 12.7% OF US PREGNANCIES.

## Screening Test for Preterm Birth Risk Falls Short

*A widely used screening tool was found to have poor predictive capabilities.*

Preterm birth remains the paramount clinical challenge in obstetrics, as it affects 12.7% of US pregnancies and is the primary contributor to infant mortality. Determining which women are at risk is largely based on prior pregnancy outcomes, so prediction is not possible in women who are pregnant for the first time (nulliparous). A multi-institutional group of researchers, including maternal-fetal medicine specialist **Ronald Wapner, MD**, set out to assess the accuracy of a universal screening method to predict spontaneous preterm birth in nulliparous women using serial measurements of cervical length and vaginal fetal fibronectin levels (a protein that bonds the fetus to the uterus). Among the 9,410 nulliparous women with singleton pregnancies enrolled at eight sites across the US between 2010 and 2014, they found that quantitative fetal fibronectin and transvaginal cervical length, alone and in combination, had poor predictive capabilities as screening tests for spontaneous preterm birth (birth at less than 37 weeks). Screening with transvaginal cervical length identified only a minority (23.3%) of cases of spontaneous preterm birth. Among nulliparous women with singleton pregnancies, quantitative vaginal fetal fibronectin and serial transvaginal ultrasound cervical length had low predictive accuracy for spontaneous preterm birth. They concluded that the findings do not support routine use of these tests in women pregnant for the first time.

Esplin MS, Elovitz MA, Iams JD, Parker CB, **Wapner RJ**, Grobman WA, Simhan HN, Wing DA, Haas DM, Silver RM, Hoffman MK, Peaceman AM, Caritis SN, Parry S, Wadhwa P, Foroud T, Mercer BM, Hunter SM, Saade GR, Reddy UM; nuMoM2b Network. Predictive Accuracy of Serial Transvaginal Cervical Lengths and Quantitative Vaginal Fetal Fibronectin Levels for Spontaneous Preterm Birth Among Nulliparous Women. *JAMA*. 2017 Mar 14;317(10):1047-1056.

# Programs

## Early Care is Key in Treating Obesity

*A New CUMC Program Addresses the Roots of a Growing Problem*

More than 30% of children and 68% of adults in the US are obese or overweight and these percentages are even higher in the northern Manhattan neighborhood around CUMC. The likelihood of preventing childhood weight problems from persisting into adulthood decreases with age. By the time a child who is obese or overweight enters puberty, they have a 20- to 25-fold greater risk of having adult weight problems. In contrast, that risk is only doubled at age two.

Through a new multi-specialty program, Families Improving Health Together (FIT), CUMC clinician-researchers are working to address obesity in the area's children, and, through research, to deepen our understanding of its causes and the best treatments. The FIT team provides comprehensive care for children with obesity between the ages of 2 and 9 in one location, NYP-Morgan Stanley Children's Hospital's new Seidenberg Center for Nutritional Well-Being.

Treatment and prevention of obesity are most effective when started early, according to program director Michael Rosenbaum, MD, a diabetes investigator at the Naomi Berrie Diabetes Center. Only about 15% of adults who lose weight keep it off, but children tend to sustain the loss of body fat better than adults do, he says. Early intervention to prevent adult obesity is key and is more likely to be successful.

Children and adults may differ in their ability to sustain weight loss, but they develop similar complications of obesity including hypertension and type 2 diabetes. Unfortunately children who developed type 2 diabetes, usually in their late teens or early 20s, tend accrue comorbidities



TOP ROW FROM LEFT: MICHAEL ROSENBAUM, MD (PROGRAM DIRECTOR), KERRY MCARTHUR, RD (DIETITIAN), ILENE FENNOY, MD, MPH (ATTENDING PHYSICIAN AND MENTOR), KALLE LIIMATTA BS (PROGRAM COORDINATOR), DANIEL PAPPO, MS (PROGRAM COORDINATOR), ROBERT P. GARAFANO, D.ED., RCEP (EXERCISE PHYSIOLOGIST). BOTTOM ROW FROM LEFT: ERIN A. PAUL, MD (PHYSICIAN SCHOLAR), AVIVA SOPHER, MD, M.S. (PHYSICIAN SCHOLAR), VIDHU THAKER, MD (PHYSICIAN SCHOLAR), JENNIFER WOO BAIDAL, MD, MPH (PHYSICIAN SCHOLAR).

faster than adults do. "A child who develops type 2 diabetes is likely to go on to develop kidney disease, eye disease, and hypertension after fewer years than an adult would," Dr. Rosenbaum says. "In the coming years we will see a large population of people with early onset type 2 diabetes in their 40s, even their late 30s, who are expressing all the complications we now see in adults with type 2 diabetes in their 60s and 70s. That's a huge public health problem."

FIT is funded in part by a grant from the New York State Empire Clinical Research Investigator Program (ECRIP). The award is enabling FIT researchers to create a database with each participant's family history, genetics, and other important traits. The database may soon allow them to apply personalized medicine principles to determine the best treatment for each child, Dr. Rosenbaum says.

Because obesity affects multiple organs and systems, children enrolled in the FIT program get care from a team of specialists from pediatric cardiology, endocrinology, gastroenterology, and molecular genetics, who not only treat patients, but perform obesity research in their specialty area. This close link between treatment and research will make both these goals of FIT more efficient, cost-effective, and informative.

During their initial visit new patients meet with one of FIT's specialists and a dietitian, then the entire team reviews each child's needs, and their recommendations are shared with the family and referring pediatrician. The child's FIT doctor, dietitian, and exercise physiologist together develop plans for a healthy diet and exercises for each family, based on a very detailed assessment of what each family likes to eat, and what options for exercise are readily available. Exercise regimens are designed around activities that the child can do at home, such as hip-hop dancing or riding a bike, if he or she has one.

FIT practitioners request that a child's whole family adopt the dietary and exercise interventions recommended for him or her in quality, if not in quantity, notes Dr. Rosenbaum. "One good aspect of treating obesity is that the treatments—a more heart-healthy diet and exercise—are good for everybody, so you can affect entire families." — *Beth Hanson*

# Beyond “Standard of Care”

## *CUMC Opens Center of Excellence to Reduce Preterm Births*

When CUMC opened the doors to its new Preterm Birth Prevention Center (PPC) in January, center staff quickly received a flurry of inquiries from potential patients and referring doctors. That’s because preterm births—those that occur before the 37th week of pregnancy—are not only common, affecting more than one in 10 babies in the US, but are a leading cause of neonatal mortality and long-term morbidity. The PPC, which brings cutting-edge clinical and translational research together with best clinical practice, is one of only two preterm birth prevention centers in the US, and the only of its kind in the Northeast.

According to maternal-fetal medicine (MFM) specialist Cynthia Gyamfi-Bannerman, MD, MS, a Co-Director of the center, “There are data showing that when women go to specialized clinics that treat only women at risk for preterm birth—and they’re seen by experts in the field—the outcomes are better.”

Women at risk for preterm birth include those with multiple gestations, women who have a history of preterm delivery, and who have cervical insufficiency. African-American women, women who are over- or underweight, and women who smoke are also at higher risk for preterm birth.

Dr. Gyamfi-Bannerman and her center Co-Director, MFM specialist and physician-scientist, Joy-Sarah Vink, MD, together have decades of experience in preterm birth prevention. They take a personalized approach to determining which intervention will lower each woman’s risk for preterm birth. The most common interventions they use include progesterone supplements, vaginal and abdominal cerclage—surgical procedures in which the cervix is stitched closed with sutures that help support



DRS. JOY VINK AND CYNTHIA GYAMFI-BANNERMAN ARE CO-DIRECTORS OF THE PPC, AND SAY THEIR RESEARCH INTERESTS MESH WELL.

the uterus, and vaginal pessaries, silicone devices that fit around the cervix to help support the uterus.

While the use of a pessary is not currently considered a standard of care, CUMC is involved in a clinical trial of its effectiveness in this setting. And clinical trials of new approaches are needed, Dr. Vink believes. “The preterm birth rate hasn’t really budged since the early 1990s, in part because spontaneous preterm birth is an extremely complex problem. Our field is in desperate need of multi-disciplinary translational and clinical research approaches to find new preventative and therapeutic options for women at risk for spontaneous preterm birth.” Women treated through the PPC will have access to several cutting-edge translation studies and randomized clinical trials, she adds.

Drs. Vink and Gyamfi-Bannerman are both dedicated investigators and their research interests compliment each other really well, they say. “Dr. Vink is doing really fantastic translational research looking at why some women have premature cervical failure, where the cervix just decides to dilate in the mid-trimes-

ter,” Dr. Gyamfi-Bannerman says. “I do a lot of clinical research and trials—many evaluating potential treatment options for patients at risk of preterm birth. And attacking the problem from multiple angles is definitely the way to go.” Dr. Vink adds, “As MFM physicians that do clinical and translational research on preterm birth, we have the ability to use our clinical expertise to identify areas where further research might be useful.”

Through the PPC Drs. Vink and Gyamfi-Bannerman eventually hope to help women and their families not only during but also after the pregnancy, when they are facing potential challenges that arise when caring for children born prematurely, Dr. Vink says. “If a baby is born severely premature, the family must cope with prolonged NICU stays and a child that is at significant risk for complications such as learning disabilities and lifelong handicaps. The goal of the PPC is to not only provide standardized, excellent care for our patients and access to cutting-edge research, but also to help families navigate the complicated road that they may face when caring for babies that are born prematurely.” — *Beth Hanson*



# Artful OBservation

*New OBGYN Program Brings Residents and Faculty Together Through the Arts*

On a recent late winter evening, 104 OBGYN department members and their guests met up at the Music Box Theater in Manhattan to see the acclaimed Broadway musical *Dear Evan Hansen*. After the curtain fell the group met backstage with four of the eight cast members and the stage manager for a “talk-back.” They had a chance to give their feedback on the performance, explore the concept for the show, and ask the actors about the challenges of their roles.

The outing was the kick-off event in a new OBGYN initiative called Artful OBservation, which is bringing together residents, house officers, and faculty through the events centered around the arts. The goal, according to obstetrician Rini Ratan, MD, OBGYN Residency Program Director, is to increase wellbeing, teamwork, and communication within the department, and decrease burnout. “Activities like these work on multiple levels: they provide a sense of engagement in the workplace,” Dr. Ratan says, “so our residents, fellows, and faculty not only feel invested in their patients, but also in the system within which they provide care. And it’s a way to let them know how much the department values them.”

Dr. Ratan’s program is part of a growing movement in medicine, called Medical Humanities, in which medical centers use disciplines like philosophy, religion, literature, and the fine and performing arts to teach important humanistic skills. A number of studies have shown that medical students who attend a session with an art educator and observe different types of artwork are more able to detect findings when they return to interpreting EKGs, because they’re more attuned to some of the more subtle cues. Dr. Ratan notes that, “While increasing observational skills is not our primary focus, it may end up being an added side benefit.”

Through four events each year Artful OBservation will focus on visual arts, music, narrative medicine, and theater, and take advantage of the rich cultural offerings of New York City. “If



AFTER THE SHOW, OBGYN FACULTY AND GUESTS STAYED FOR A CONVERSATION WITH CAST AND CREW MEMBERS.

you aren’t a particularly avid theater-goer, you can go to the music event instead, or if you love museums, that event would be for you. Or if you are more interested in the social aspect, then you would go to all those things.”

The department’s next event, on June 1, is a private tour and discussion led by an art educator at the Frick Collection. Later in the year the department will sponsor a book club, with contemplative exercises led by the author or a member of Columbia’s narrative medicine faculty. The series will conclude with a holiday musical or dance performance at the end of the year. “By offering four distinct venues each year we hope to appeal to a broad range of interests, while respecting the realistic time constraints everyone faces,” Dr. Ratan says.

Almost a decade ago an anonymous benefactor donated the funds to send a number of clerkship directors at Columbia P&S to the Anna Deavere Smith show *Let Me Down Easy* and to meet with the playwright afterward. “This was, and still is, one of my very favorite things I have ever done here,” she says. “It was so nice that this unnamed, unthanked person believed that the job I was doing was important enough to provide us this nice treat. I felt uplifted for months

afterward. I’m hoping participants in this program will have that same feeling that I had years ago.” As for the reviews of the recent event, they were overwhelmingly positive, according to Dr. Ratan. “The most frequent comment was, ‘More events like this, please!’” — **Beth Hanson**

*“Our residents, fellows, and faculty not only feel invested in their patients, but also in the system within which they provide care.”*

— *Dr. Ratan*

# Profile

## Honoring an Educator

*Dr. Richard Polin Receives Legends of Neonatology Award*

Babies are fundamentally resilient: if the right kind of supportive care is provided, they generally recover from conditions that would be life-ending or life-threatening in adults, says neonatologist Richard Polin, MD. The remarkable strength of the very tiniest babies, and the challenge of developing technologies and systems that will ensure them the best outcomes, have kept him fascinated with newborns and their care for the past 40 years.

To honor his significant contributions to his field Dr. Polin has been named one of this year's recipients of The Legends of Neonatology Hall of Fame award, given annually by Pediatrix, the largest private care provider of neonatology in the country.

Dr. Polin has received many other tributes during his career. He was named CUMC Physician of the Year in 2005, received the National Neonatal Education Award from the American Academy of Pediatrics in 2006, and was chosen Alumni of the Year by his alma mater Temple University in 1995. This year's award is meaningful in a different way, because it's a recognition of his life's work by his professional peers. "I'm really proud of this honor," he says.

His most notable contributions to neonatology are in education and clinical care, Dr. Polin believes. He has written or edited 20 textbooks, including *Workbook in Practical Neonatology*, *Pediatric Secrets*, *Fetal and Neonatal Secrets*, *Current Pediatric Therapy*, *Pocket Neonatology*, and *Fetal and Neonatal Physiology*, a 2,500-page compendium now in its fifth edition is the standard in the field. He is still the lead editor, and has edited every revision and update. The book's content has evolved markedly over the years, reflecting dramatic changes in neonatology. The biggest change: "When we started working on the book in 1977, we could only describe events in fetal development. We now understand the development of organ systems in fetal life from a molecular viewpoint."

Since 1977 Dr. Polin has been involved in the training of three to five neonatology fellows each year, first at the Children's Hospital of Philadelphia, then for the past 19 years at CUMC. Many of his fellows have gone on to leadership positions themselves. And for the past 20 years he has overseen an annual seminar for the American Austrian Foundation, which brings doctors from third world countries to Salzburg for a week of intensive training in neonatology. ([Read more about the seminar here.](#))

As Chair of the NICHD Neonatal Research Network executive steering committee and past chair of the Sub-board of Neonatal-Perinatal Medicine Dr. Polin has written many statements on neonatal care that guide neonatologists in standard of practice. He is a worldwide invited lecturer and



DR. RICHARD POLIN (LEFT) WAS HONORED FOR HIS CONTRIBUTIONS TO THE FIELD OF NEONATOLOGY.

takes care of critically ill infants about 10 weeks each year in the NICU.

Reflecting on what sets CUMC apart from other neonatology centers, he says, "There is not any other center in the country where neonatologists are providing primary care for newborn infants with cardiac disease. The people who know most about diseases of newborn babies are collaborating here with experts in cardiology and cardiothoracic surgery. At other centers these babies are taken care of by cardiac intensivists, not neonatologists. This is a unique model."

As far as big changes in the field, he says, "When I first started practice, a premature baby was three pounds. Now our tiniest babies weigh about a pound, and we are taking care of more and more of them." Over many years, the best way to care for these very tiny babies has evolved. "The little things that we do— regulation of the infant's temperature, the composition of intravenous fluids, the best way to provide nutrition, the kinds of respiratory care we provide, the monitoring systems that give us early warning that there is a problem afoot—all minute details can improve neurological outcomes. We are getting better and better at that," Dr. Polin adds, "and at enabling those babies to grow and develop in the NICU, and then sending them home with good outcomes. That's the future of neonatology." — *Beth Hanson*

# Giving



TOP ROW (FROM LEFT TO RIGHT): DRs. ALEXANDRA CHANNING, DIANE RHEE, JULIE VINCENT, ANJALI CHELLIAH, MATTHEW CRYSTAL, MARIEL TURNER, JEFF DAYTON, JULIE GLICKSTEIN. BOTTOM ROW (FROM LEFT TO RIGHT): DRs. LINDSAY FREUD, MICHAEL MONACO, EVA CHEUNG, TERESA LEE.



FROM LEFT TO RIGHT: PATRICIA GRAYSON, BHF BOARD MEMBER AND BHF GALA CHAIR, SHAHPAR HAKIM, CHRIS JONES, BEA RICCARDO, BHF BOARD MEMBER, DR. JULIE VINCENT, CHIEF, DIVISION OF PEDIATRIC CARDIOLOGY

## Babies Heart Fund Celebrates 30 Years of Giving

On March 2, the Babies Heart Fund (BHF) celebrated a 30-year philanthropic legacy during its annual gala, held at The Pierre Hotel in New York City. The BHF was founded in 1986 by a group of families dedicated to advancing programs at Columbia University Medical Center for children born with congenital heart disease. This year's event raised nearly \$740,000 to support research—a new record for the gala.

"I am so impressed with the work that the Babies Heart Fund has achieved over the past 30 years," says Lawrence R. Stanberry, MD, PhD, Reuben S. Carpentier Professor of Pediatrics and chairman of the Department of Pediatrics. "Thanks to this unique collaboration of families and faculty, we have been able to support cutting-edge research to understand and improve the outcomes for all babies born with congenital heart disease."

Bill Evans, senior meteorologist at WABC-TV and an old friend of the Babies Heart Fund, served as the evening's master of ceremonies. Jim Cramer, host of CNBC's *Mad Money*, presided over the gala's "balloon raise," which raised \$250,000—more than double the amount raised just one year ago.

While celebrating the history and achievements of the BHF, Emile Bacha, MD, Calvin F.

Barber Professor of Surgery and Chief, Division of Cardiac, Thoracic and Vascular Surgery, also paid tribute to the legacy left by an important figure in the Babies Heart Fund community, Jan Quaegebeur, MD, Morris and Rose Milstein Professor of Surgery—affectionately known to patients as Dr. Q.

"I became involved in the Babies Heart Fund 26 years ago, shortly after Dr. Q joined Columbia," says BHF Board co-chair, John Minio. "Like so many other families who have benefited from the care provided by Dr. Q and the other talented Columbia doctors, we were left wondering, 'How could we ever pay back this miraculous gift?' I was just a guy working on Wall Street. We decided the best thing we could do was help raise money from our family, friends, and colleagues to support the work being done at Columbia."

For Minio's fellow co-chair, Scott Roskind, this year's anniversary is a family celebration. Roskind's father, Robert, was a co-founder of the fund. "I grew up hearing stories about the Babies Heart Fund," Roskind says. "It really began as a labor of love led by a few families. The first 'gala' was in a Chinese restaurant! But with the encouragement of Columbia and strong pediatric leaders like Dr. Julie Vincent and

Dr. Bacha, we have been fortunate to see our community and mission continue to grow." To commemorate that first meeting, gala guests received fortune cookies as a special treat at the end of the evening.

Over the course of three decades, the Babies Heart Fund has steadily expanded its scope, from training pediatric cardiology fellows to support for multiple areas of cardiac research, including cardiac development, cardiogenetics, stem cell research, advanced cardiac imaging, and innovative therapies. In recent years, the Babies Heart Fund Research Award was created to recognize and help promising junior faculty members jump-start their research. This year's winner, Matthew Crystal, MD, assistant professor of pediatrics, received a \$20,000 award to support his work on fetal cardiac intervention.

"Columbia will always have a huge place in my heart," says this year's gala chair, Patricia Grayson, who is the parent of a patient. "They say cats have nine lives and humans one, but this is not quite true when you get a devoted team of Columbia doctors to fight for your child's life." — *John Uhl*

# NewYork-Presbyterian News

PEDIATRIC HEART SPECIALISTS DRS. MATTHEW CRYSTAL, JULIE VINCENT, ALEJANDRO TORRES, AND MARIEL TURNER.

## Bridging the Distance

*Pediatric Heart Specialists  
Broadcast Live Procedures to  
Colleagues a Thousand Miles Away*



NewYork-Presbyterian Morgan Stanley Children's Hospital and Columbia University Medical Center are known around the world for pioneering and innovative pediatric heart care, and January 18, 2017 was no exception. On that day, pediatric interventional cardiologists Alejandro Torres, MD, Matthew Crystal, MD, and Mariel Turner, MD—all faculty in CUMC's Department of Pediatrics—performed specialized cardiac catheterization procedures that were live-streamed for viewing by participants at the annual Pediatric and Adult Interventional Cardiac Symposium (PICS-AICS, 2017), which took place in Miami, Florida. NewYork-Presbyterian was one of only nine centers from across the globe presenting live cases at the conference.

PICS-AICS organizers consider these presentations to be the “heart and soul” of the meeting—which is typically attended by about 800 interventional cardiologists—and only master operators are selected to perform live procedures. “It was our honor and privilege to be part of the symposium in this exceptional role,” says Dr. Torres. “Our invaluable team of anesthesiologists, nurses, and technicians did a wonderful job coordinating the procedures and our audiovisual team delivered a flawless broadcast. It was a lot of work, but all went very well.”

Two cases were presented that day. The first patient was a 15-year-old boy whose tricuspid valve had been previously replaced, but who developed stenosis (narrowing) since the last operation three years before. The NYP CUMC team performed a transcatheter implantation of another tricuspid valve within the first one to restore normal blood flow and heart function. Completing the procedure through a catheter meant the teen was spared from open-heart surgery, enabling him to recover more quickly and get back his regular activities.

The second case was diagnostic. The doctors evaluated a 10-month-old girl with a heart murmur that began at four months of age. They found she had three abnormal connections—“coronary fistulae”—between her left coronary artery and the right ventricle of her heart. The doctors engaged in live discussion of how to best manage the case, ultimately deciding that a catheterization procedure to close the fistulae was appropriate, but at another time.

Feedback on the procedures was very positive. “The directors of the course were extremely happy,” notes Dr. Torres, “and we've already been invited back to present live cases at the 2018 annual PICS-AICS meeting.”

New York-Presbyterian Morgan Stanley Children's Hospital is a leading institution in

pediatric cardiology that cares for patients from all over the world. Families who bring their children to the Congenital Heart Center benefit from the multidisciplinary services of an experienced, compassionate team of interventional cardiologists and cardiac surgeons who have set the standards for pediatric heart care.

The Congenital Heart Center's pediatric-trained interventional cardiologists perform more than 1,200 diagnostic and treatment procedures a year in patients with congenital heart disease, from neonatal age to adulthood. The pediatric cardiology center is the largest in New York State and one of the largest in the nation. *U.S. News & World Report* has ranked NewYork-Presbyterian's pediatric hospitals among the top pediatric cardiology and heart surgery programs in the country.

“The Congenital Heart Center's innovative work stems from a team of talented and compassionate providers coming together to bring state-of-the-art care to patients, to train the next generation of heart care leaders, and to freely share their knowledge and discoveries with the world,” says Craig Albanese, MD, Senior Vice President and Chief Operating Officer, NewYork-Presbyterian Morgan Stanley Children's Hospital and Sloane Hospital for Women. — *Rosie Foster*

# Media Mentions

## SELF

### Defunding Planned Parenthood Could Increase Cervical Cancer Rates

"Planned Parenthood has been a beacon in our society for... providing services to low-income women," gynecologic oncologist **Ana Tergas, MD**, told *Self* magazine. Seventy-five percent of the 2.5 million women the organization treated in 2014 had incomes at or below 150 percent of the federal poverty level; that same year Planned Parenthood performed 271,539 Pap tests, administered 24,063 HPV vaccinations, and performed more than 2,000 procedures to treat cervical precancer. "If we get rid of institutions like Planned Parenthood and make it more difficult for women to get Pap smears, then we're going to see those [cervical cancer] numbers start to go back up," she said.

<http://bit.ly/2j6DfbV>

## DR. OZ SHOW

### Cracking the New Peanut Allergy Guidelines

The National Institute of Allergy and Infectious Diseases has issued new guidelines about introducing peanuts to babies. The institute recommends parents feed most babies foods with peanuts early and often. **Rachel Miller, MD**, director of pediatric allergy, immunology, and rheumatology, explained the science behind the update on the *Dr. Oz Show*. She said the new guidelines are "based upon research and the hope is that by introducing peanuts to children at a very young age, we can prevent peanut allergy from happening when they get older."

<http://bit.ly/2nkMmqQ>

## BLOOMBERG

### The Hippocratic Oath and the Future of Obamacare

Tom Price, MD, is the new head of the US Department of Health and Human Services and will be a central figure in making anticipated changes to the Patient Protection and Affordable Care Act. In a *Bloomberg* op-ed, **Anne Armstrong-Coben, MD**, assistant professor of pediatrics, reflected on what change could mean and why the Hippocratic Oath—the vow of honor and duty taken by all medical students—should shape Dr. Price's mission. She wrote: "As a fellow physician, I would like to ask Dr. Price: How will you hold yourself true to our Hippocratic Oath in the face of outside pressures that may be more concerned with financial interest than patient care?" She appealed to him "to give patients the best and most affordable health care possible."

<http://bv.ms/2jGowp8>

## NEW YORK TIMES

### A Fragile Victory Against Measles

Measles is one of the most contagious viral infections in humans, but last September the Americas were declared officially free of endemic measles cases: the only cases seen in this hemisphere since 2002 were people who became infected in other regions. The disease is still prevalent in many other parts of the world, though, and a significant number of young children are unprotected in this country, in large part because of parental anxiety about vaccination. **Anne Gershon, MD**, Professor of Pediatrics in Infectious Diseases, told the *New York Times* that, one of the challenges in detecting measles before it can spread, is that children are at their most contagious before they develop the characteristic measles rash. "In the early stages of the disease there's a lot of coughing, runny eyes and nose, but you don't think of isolating somebody till the rash comes out and after that they're gradually less contagious," she said.

<https://nyti.ms/2ku9QJ1>

## REUTERS HEALTH

### Endometrial Cancer Risk Lessens with Weight Loss

In 2016, endometrial cancer deaths in the US reached 10,170, a 25% increase compared with just five years earlier. While most women are diagnosed with early-stage endometrial cancers that are highly curable, both the incidence of endometrial cancer and the number of women who die as a result of the disease are increasing. Postmenopausal women who intentionally lost weight over three years had a much lower risk of endometrial cancer up to 11 years later compared to women whose weight didn't change, a recent study showed. "Fatty tissue releases estrogen, which can stimulate the endometrium and increase a woman's risk of endometrial cancer," **Jason Wright, MD**, chief of gynecologic oncology, told *Reuters Health*.

<http://reut.rs/2IS1rQt>

## REFINERY 29

### Postpartum Symptoms We Don't Talk About Enough

The mental tension that women with postpartum depression experience can cause physical symptoms, too—stomach aches, headaches, or muscle and back pain—because mental tension can lead to physical tension, **Catherine Monk, PhD**, Director for Research at the Women's Program, told *refinery29.com*. "Unfortunately, when medical health providers are treating women during pregnancy or postpartum, there's so much pressure to focus on the baby's physical health, not how [the mother] feels," she said, noting that it's also difficult to change doctors' habit of focusing on their patients' physical, not mental, health. "This is a really good example of how we all should be thinking about a person's mind and body together—particularly with obstetrics and pediatrics, the experts that have the most contact with women," Dr. Monk concluded.

<http://r29.co/2oEdAKa>

# Honors & Awards

(cont. next page)

**Anne Armstrong-Coben, MD**, (Child & Adolescent Health) is being honored as Humanitarian of the Year by the Hope for Children Research Foundation.

**Erika Berman-Rosenzweig, MD**, (Cardiology) was awarded a National Institutes of Health (NIH) grant for her project, "Pulmonary Vascular Disease Phenomic Program (PVDOMICS) Data Coordinating."

**Lauren Chernick, MD**, (Emergency Medicine) was awarded a TRANSFORM KL2 Clinical and Translational Science Award from CUMC's Irving Institute. The TRANSFORM (TRaining And Nurturing Scientists FOR Research that is Multidisciplinary) program recruits, trains, supports, and nurtures younger clinical and translational investigators.

**Wendy Chung, MD**, (Molecular and Clinical Genetics) received a grant from Biogen, Inc. for the Spinal Muscular Atrophy Newborn Screening program. Dr. Chung will also receive a grant [from Biogen?] for her work on "The Impact of Genetic Testing for Cardiomyopathies in Children and their Families."

**Matthew Crystal, MD**, (Pediatric Cardiology) has been promoted to Associate Professor of Pediatrics.

**James Garvin, MD**, (Hematology/Oncology/Stem Cell Transplantation) was inducted into the initial class of the CUMC Academy of Clinical Mentoring and Excellence.

**Anne Gershon, MD**, (Infectious Diseases) received a four-year grant from the National Institute of Diabetes and Digestive and Kidney Diseases for her project, "VZV in the Enteric Nervous System: Pathogenesis and Consequences."

**Julia Glade Bender, MD**, (Hematology/Oncology/Stem Cell Transplantation) was appointed to the National Cancer Institute (NCI) Children's Oncology Group Pediatric MATCH Steering Committee, and to the Scientific Programme Advisory Committee of The International Society of Paediatric Oncology. Dr. Bender also received a renewal of the grant from the Ira Sohn Conference Foundation, Inc., which funds the Sohn Precision Medicine Initiative. The initiative provides free whole-exome sequencing to children throughout the tri-state area who have high-risk malignancies.

**Nancy Green, MD**, (Hematology/Oncology/Stem Cell Transplantation) was awarded an NIH grant for her project, "Evidence-based reviews and related medical analysis activities for Secretary's Discretionary Advisory Committee on Heritable Disorders in newborns and children."

**Cara Grimes, MD**, (Gynecologic Surgery) was invited to join the Society of Gynecologic Surgeons.

**Cynthia Gyamfi-Bannerman, MD**, (Maternal-Fetal Medicine) will receive a five-year award from the National Heart, Lung, and Blood Institute for her work on "Pulmonary Complications in a Birth Cohort After a Randomized Trial of Antenatal Corticosteroids: The ALPS Follow-Up Study—Clinical Coordinating Center."

**Justine Kahn, MD**, (Hematology/Oncology/Stem Cell Transplantation) was named a Lymphoma Research Foundation Scholar for the 2017 Lymphoma Clinical Research Mentoring Program.

**Andrew Kern-Goldberger, MD**, (postdoc fellow-which division?) was awarded a grant

from the American Academy of Pediatrics for his project, "Patient and Parent Understanding of Safety Monitoring in CF Clinical Trials."

**David Kessler, MD**, (Emergency Medicine) received the following awards at the International Meeting for Simulation: Presidential citation from Society for Simulation in Healthcare on behalf of INSPIRE (the International Network for Simulation-based Pediatric Innovation, Research and Education) and a research award on behalf of INSPIRE for outstanding contribution to research in the field of emergency medicine; best poster for his abstract, "Causes for Pauses in Simulated Pediatric Cardiac Arrests"; and best simulation research article of the year for his study, "The Correlation of Workplace Simulation-Based Assessments With Interns' Infant Lumbar Puncture Success: A Prospective, Multicenter, Observational Study." (Simul Healthc. 2016; 11(2):126-133.)

**Elena Ladas, MD**, (Hematology/Oncology/Stem Cell Transplantation) received an award from the Mullen Foundation for her project, "Building nutritional capacity in pediatric oncology units located in low and middle income countries." Dr. Ladas was also selected as a participant in The John Milner Nutrition and Cancer Prevention Research Practicum, sponsored by the Nutritional Science Research Group, National Cancer Institute, and the Department of Nutrition at the Clinical Center, National Institutes of Health. And she received an NIH grant for her project, "Probiotics for Prevention of Acute Graft-vs-host Disease in Children with Cancer."

**Esi Lamoué-Smith, MD, PhD**, (Gastroenterology, Hepatology & Nutrition) received an award from the Provost's Grants Program for Junior Faculty Who Contribute to the Diversity Goals of the University for her work, "Infant Gastrointestinal Tract Microbiome Dysbiosis and Its Impact on CD8+ T-Cell Gene Transcription Regulation."

**Rudolph Leibel, MD**, Naomi Berrie Diabetes Center, and **Wendy K. Chung, MD, PhD**, (Molecular Genetics), will receive a five-year renewal grant from the National Institute of Diabetes and Digestive and Kidney Diseases for "The Molecular Genetic Analysis of Human Obesity."

**Jennifer Levine, MD**, (Hematology/Oncology/Stem Cell Transplantation) received an NIH award for her project, "Enriching Communication Skills or Health Professionals in Oncofertility (ECHO)."

**Fangming Lin, MD, PhD**, (Nephrology) will receive three-year award from the National Institute of Diabetes and Digestive and Kidney Diseases for her research on the "Role of Autophagy in Maladaptive Renal Repair Following Acute Kidney Injury."

**Ali Mencin, MD**, (Gastroenterology, Hepatology & Nutrition) will serve as the new medical director for Children's Services at ColumbiaDoctors

**Cindy Neunert, MD**, (Hematology/Oncology/Stem Cell Transplantation) received an award from the ITP Foundation to support her research in immune thrombocytopenia.

**Manuela Orjuela, MD**, (Hematology/Oncology/Stem Cell Transplantation) was an invited participant and discussion facilitator at the American University workshop, "Country Conditions in Central America and Asylum Decision-Making."

**Kalpna Pethe, MD**, (Child & Adolescent Health) was awarded the 2016 NYP Patient & Family Experience Grant for her research on "Improving Perception of Patient Wait Time." Dr. Pethe was also one of the four recipients of the Irving Institute Collaborative and Multidisciplinary Pilot Research Awards for her proposal, "A Dyadic Caregiver-Child Exercise Intervention in Underserved Families at High Risk for Autism Spectrum Disorders."

**Alice Prince, MD**, (Infectious Diseases) was awarded an NIH grant for her project, "Innate Immune Clearance of Host-Adapted Pulmonary Pathogens."

**Meenakshi Rao, MD, PhD**, (Gastroenterology, Hepatology & Nutrition) will receive a five-year award from the National Institute of Diabetes and Digestive and Kidney Diseases for her research, "Enteric Glia, Sexual Dimorphism, and GI Motility."

**Lisa Saiman, MD, MPH**, (Infectious Diseases) was awarded an NIH grant for her project, "Prospective trial of oral azithromycin when added to inhaled tobramycin in CF."

**Karen Soren, MD**, (Child and Adolescent Health) was promoted to Professor of Pediatrics at CUMC.

**Melissa Stockwell, MD, MPH**, (Child & Adolescent Health) has been promoted to Associate Professor of Pediatrics and Population & Family Health, with tenure. She received a NIH grant for her project, "Flu SAFE: Flu SMS Alerts to Freeze Exposure," as well as a four-year grant from the National Institute of Child Health and Human Development for "Flu2Text: A Multi-Site Study Assessing an Intervention for Second Dose of Influenza Vaccine."

**Maria Luisa Sulis, MD**, (Hematology/Oncology/Stem Cell Transplantation) was awarded a grant from Dana Farber Cancer Institute for her project, "Precision-based Therapy for Childhood Leukemia."

**Kimara Targoff, MD**, (Cardiology) received an NIH grant for her project, "Mechanisms of second heart field development regulated by Nkx genes."

**Vadim Ten, MD, PhD**, (Neonatology) will receive a five-year grant from the National Institute of Neurological Disorders and Stroke for his work on "Mitochondrial Dysfunction and White Matter Injury."

**Alejandro Torres, MD**, (Pediatric Cardiology) has been promoted to Associate Professor of Pediatrics.

**Joy-Sarah Vink, MD**, (Maternal-Fetal Medicine) will receive a five-year award from the National Institute of Child Health and Human Development for her research, "Evaluating the Role of Human Cervical Smooth Muscle Cells in Normal and Premature Cervical Remodeling."

**Carolyn L. Westhoff, MD**, (Family Planning & Preventive Services) will receive a four-year grant from the NCI to undertake, "A Prospective, Randomized Study to Compare Effects of Ulipristal Acetate With a Combined Oral Contraceptive on Breast Epithelial Cell Proliferation."

**Constance Young, MD**, (Gynecologic Surgery) was one of 11 recipients of CUMC's Irving Institute 2016 Clinical Trials Office Pilot Awards, for her work, "Assessing Activity and Recovery Following Benign Gynecologic Surgery Using Validated Tool Sets and Novel Technology: A Pilot Study."



MARCELA PIERCE WITH DR. MEYER KATTAN, LEFT, AND DR. LEE GOLDMAN, CEO OF CUMC. (PHOTO: AMELIA PANICO)

## Marcela Pierce, Pulmonology, Receives Administrative Professional Award

Marcela Pierce, manager, Division of Pulmonology, was honored for her work coordinating studies that focus on inner-city children with asthma with the Officer of Administration/Administrative Professional Award.

As clinical research manager, she builds strong relationships with study participants and their families, becoming a resource and advocate for them. One nominator observed, “Her deep understanding of the community she serves, coupled with a rich appreciation of the goals of pediatric asthma research, has allowed her to close the cultural divide between community and research staff.” Columbia is a top recruiter for the asthma studies and achieves extremely high participant retention, partly because of Ms. Pierce’s dedication and leadership.

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*“Her deep understanding of the community she serves, coupled with a rich appreciation of the goals of pediatric asthma research, has allowed her to close the cultural divide between community and research staff.”*

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## Against the Odds

CONTINUED FROM PAGE 1

Pediatric pulmonologist **Stephanie Lovinsky-Desir, MD** focuses on deciphering the complex relationship between environmental exposures and childhood asthma in urban communities. “My research life is a constant juggle!” she says. Because she is under pressure to support her own research, Dr. Lovinsky-Desir writes a lot of grant proposals. “But, in order to bring in funding I have to analyze data and write manuscripts describing my findings to demonstrate that I can be productive. So I am always juggling between writing grants and writing papers and finding the time to carry out the research.” Maintaining clinical responsibilities in addition to research can be incredibly rewarding, she says, “but caring for patients requires time and attention and it often feels like I’m also juggling patient care while trying to remain productive in the research arena.” Dr. Lovinsky-Desir says that successes such as a recent four-year foundation award from the Harold Amos Medical Faculty Development Program keep her going. “As long as I can continue to piece funding together my research program may stand a chance.” Support from co-workers, mentors, and departmental leadership is crucial, she says. “I find strength and motivation in the support I receive when my peers and colleagues say things like, ‘Your work is meaningful.’ And being able to answer the questions that come up in the clinical setting through my research is the most rewarding part of all.”

Reproductive Endocrinology and Infertility specialist **Nataki Douglas, MD, PhD**, focuses on the causes of and treatments for recurrent pregnancy loss and preeclampsia. “I just love bench research, and always have,” she says. “And I am passionate about seeing patients and addressing the important clinical questions with basic science approaches.” Physician-scientists play a unique role, says Dr. Douglas. “We see patients, we know the key clinical problems—and if we also wear the scientist hat and address those problems through fundamental research, that’s a huge advantage.” Dr. Douglas has spent her career at Columbia because, “The OBGYN department has been incredibly supportive of my research, and has always ensured that I have protected time for my research. And I work with amazing clinicians who support what I do.”

Maternal-Fetal Medicine specialist **Joy Vink, MD**, is spurred on by the limited understanding of the causes of preterm birth, and the very limited treatment options. “How can we help women who go through the devastation of losing pregnancies over and over again?” Physician-scientists who do translational/bench research straddle two career paths, she says. “You have to keep up-to-date on the new things that are coming down the pike for clinical work, and at the same time be at the cutting edge on the science side. How to split your time appropriately and be really good at both is a challenge.” And the financial demands are enormous. “You have to apply so many times to get one grant, so it takes longer to become successful, and this is discouraging to a lot of people. The few of us who are doing it really love the science and being able to further our field.” Departmental support is key, she adds. “If you don’t have people in leadership who really understand the necessity of moving forward with research and of supporting junior faculty you can’t be successful.”

Pediatric cardiologist **Brett Anderson, MD, MBA** uses multicenter databases to investigate quality and value in the management of pediatric heart disease. Belonging to a peer group of junior investigators from across the department, across divisions, and across disciplines has created a sort of “academic home” for her, she says. “A group of us who met through the Irving Institute meet weekly to discuss our writing goals for the week.” They help keep each other on track, and suggest key people to contact, specific approaches, and new ideas for funding. Dr. Anderson says that support from her department and division make her work feel

valued, “and that’s something that can’t be overstated.” “My division chief believes research is important, and asks, ‘Are you sure I am protecting your research time appropriately?’ I think that’s very unique to Columbia.”

Maternal-Fetal Medicine specialist **Alexander Friedman, MD, MPH** analyzes healthcare quality data to determine the factors at play in serious adverse outcomes and how hospitals and providers can provide better quality care. Dr. Friedman summarizes the challenges this way: “Not only is there a lot of competition for funding from the National Institutes of Health (NIH) and other organizations—for many NIH grants the probability of funding is less than 15% and for some grants less than 10%—but top journals are receiving more and more high quality submissions. So even if you write excellent grants and do good research, most grant applications and submissions to top journals will end in rejection.” The OBGYN department has provided him with funding for his research, protected time, guidance about applying for appropriate funding opportunities, and most importantly offering excellent mentorship. “It’s impossible to move forward without an excellent mentorship team who support you through every step of the process.” — *Beth Hanson*

## Good Advice: Mentors Guide Junior Researchers to Success

One of the keys to achievement in many fields is having engaged and active mentors, but it may be particularly true in scientific research. “Mentors can play many roles,” says Ronald Wapner, MD, Vice Chair of Research in OBGYN. “Scientific mentors will help young researchers think through a series of experiments and keep them on the right path. Career mentors might advise them to focus on a worthwhile question, to publish their work in a specific journal, to go to certain meetings, introduce them to worthwhile people in their field and help them build collaborations.” Through a mentoring program in Pediatrics young investigators are guided by a group of senior basic science and clinical researchers to sharpen their writing skills. The forum, led by Steve Kernie, MD, Director of Critical Care Medicine, and Peter Dayan, MD, MSc, Associate Director of Emergency Medicine, gives researchers applying for their first award guidance on creating the most effective grant proposal. Most NIH-style grants are typically six to 12 pages long, says Dr. Kernie, with a one-page “specific aims” portion, and the group focuses particular attention there. “This is often the most critical piece because it’s what entices the reader to get into the details. So we really focus on capturing the initial enthusiasm of the reviewer.” Most grant proposals originating in pediatrics are not reviewed by pediatricians but by reviewers in other study sections, “so it’s key to package the grant in a way that is compelling to those outside of pediatrics—but to emphasize to them the importance of pediatrics-specific research,” he says. Since the group’s inception in October 2012, 15 of the 17 young researchers who participated have received awards, and three of those received both an NIH and a foundation award. “The person who is presenting gets really constructive criticism, and the senior investigators have been extremely nurturing and helpful. Everyone who’s gone through the program has been glad for honest feedback,” Dr. Kernie says. The group meets less regularly these days because most of the junior faculty who were eligible have gone through the program, “but a number of them have come back and said that it was really transformative.”