October 12 - 13

2020 Annual Child Health Research Centers 'Virtual' Meeting



PROGRAM BOOK





Hosted by Emory University, Children's Healthcare of Atlanta and Cincinnati Children's Hospital Medical Center

WELCOME MESSAGE

October 2020

Dear Colleagues,

On behalf of the co-hosts **Emory University**, **Children's Healthcare of Atlanta**, and **Cincinnati Children's Hospital Medical Center**, we officially welcome you to the first virtual **Child Health Research Centers (CHRC) annual meeting!**

As you all know, we initially planned to host this meeting in-person in Atlanta. We are truly sorry we will not be able to show off our great city and we will miss not having everyone together in one physical location. Nevertheless, we want to make sure this year's meeting meets the same goals and high standards of previous meetings by providing a platform for networking and learning about the exciting research being carried out by our pediatric research scholars at the 12 participating sites:

- Boston Children's Hospital
- Cincinnati Children's Hospital Medical Center
- Children's Hospital of Philadelphia
- Children's National Medical Center
- Emory University
- University of Colorado
- University of Iowa

- University of Michigan
- University of Pittsburgh
- University of Texas Southwestern Medical Center
- Vanderbilt University Medical Center
- Washington University School of Medicine

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This year marks the 30th anniversary of the Child Health Research Center Development Award (CHRCDA) program. The program has distinguished itself as an unusually successful early-career training program—as measured by funding rates of scholars—and has become a key resource for U.S. academic pediatric departments. Since its inception, the program has focused on the training and preparation of pediatric candidates with outstanding scientific potential. The resulting generation of physician-scientists has exceptional training in both clinical pediatrics and basic science, which enables them to bridge the gap between basic science and the successful treatment of human diseases. K12 graduates now populate many pediatric departments across the country and hold leadership positions nationally in pediatric research.

Over this two-day meeting, you will get to hear from the current generation of this elite scholar group as they give their oral presentations and poster blitz presentations. You'll also have the opportunity to visit Zoom rooms to talk to scholar poster presenters about their work. In addition, we have an esteemed keynote presenter, Dr. Max Cooper, Professor in the Department of Pathology & Laboratory Medicine, Emory University School of Medicine and 2019 Albert Lasker Basic Medical Research Awardee (along with his colleague Dr. Jacques Miller) for the discovery of the two distinct classes of lymphocytes, B and T cells, a monumental achievement that launched the field of modern immunology. We will have a special award for Dr. Arnie Strauss, a renowned leader in pediatric physician-scientist training, and will hear his words of wisdom for our current trainees. We will end the meeting with a mentoring session for the scholars and a program meeting for leaders from each site. In addition, we will be joined throughout the day by senior mentors from all 12 sites.

Your participation in this meeting confirms your commitment to the improvement of child health, not only for your respective site but for the whole country. **We are excited to welcome you to the meeting!**

With best regards,

Lucky Jain, MD, MBA

George W. Brumley Jr. Professor and Chair, Emory University School of Medicine, Department of Pediatrics Chief Academic Officer, Children's Healthcare of Atlanta Clinton H. Joiner, MD, PhD

Training Director

Vice Chair for Research, Department of
Pediatrics; Aflac Children's Chair for Hematology
Director, Section of Hematology, Aflac Cancer
and Blood Disorders Center/Children's
Healthcare of Atlanta
Professor of Pediatrics, Emory University School
of Medicine

Hector R. Wong, MD

Professor and Interim Chair of Pediatrics Interim Director, Cincinnati Children's Research Foundation Interim Chief Medical Officer

Cincinnati Children's Hospital Medical Center

Paul Spearman, MD

Training Director /

Professor, UC Department of Pediatrics Albert B. Sabin Professor and Director,

Infectious Diseases

Cincinnati Children's Hospital Medical Center



KEYNOTE SPEAKER



A half-century ago, immunologist Max Cooper made a historic discovery that forever changed our understanding of the human immune system.

Cooper's breakthrough—that the body has two separate kinds of lymphocytes, or white blood cells, to defend itself opened the door to a new world of treatments and vaccines.

For his joint work on this discovery that has helped to save countless lives, Cooper, a professor of pathology and laboratory medicine at Emory's School of Medicine, is a recipient of the 2019 Albert Lasker Basic Medical Research Award, the most prestigious biomedical research award in the US.

Cooper, a member of the Emory Vaccine Center and a Georgia Research Alliance Eminent Scholar, is being honored along with Jacques Miller from the Walter and Eliza Hall Institute of Medical Research. "The 2019 Albert Lasker Basic Medical Research Award honors two scientists for discoveries that have launched the course of modern immunology," read the Lasker Awards website.

Cooper and Miller identified and defined the function of B and T cells, a monumental achievement that uncovered

the organizing principle of the adaptive immune system. The adaptive immune system "remembers" specific invader organisms (known as pathogens) or other abnormal cells in the body that it has encountered previously, and eliminates them.

His landmark discoveries provided a framework for understanding how white blood cells normally combat infection and how they can undergo abnormal development to cause immune deficiencies, leukemia, lymphomas, and autoimmune diseases.

Cooper's work also contributed to medical knowledge that enabled transplants of

bone marrow stem cells to treat blood cell cancers.

"Max's contributions to the field of immunology are enormous and transformative,' says Rafi Ahmed, director of the Emory Vaccine Center. "He continues to conduct groundbreaking research." ■

"I cannot imagine a field of research that is more exciting or one that offers better opportunity to explore the balance of life on our planet. Perhaps this view explains why I am hooked for life."

—Max Cooper

Presentation Title:

"Tracing the Origin of B and T Cells"

SPECIAL RECOGNITIO

Arnold ('Arnie') W. Strauss, MD

Presented by Clint Joiner, MD, PhD and Paul Spearman, MD on Oct. 13 at 10:10 AM



Dr. Strauss is an emeritus professor of pediatric cardiology, however, remains active in clinical care and research administration. He was Chair of Pediatrics and Director of Cincinnati Children's Research Foundation from 2007-2014, overseeing all research activities, faculty, and personnel at the Cincinnati Children's Hospital Medical Center with a >\$600 million annual budget and nearly 1,000 faculty.

Arnie's laboratory was continuously funded from 1977-2009 by the NIH. His particular interests are in:

- mitochondrial fatty acid oxidation (FAO)
- sudden death
- bioenergetic disorders causing
- skeletal myopathy
- cardiomyopathy

Dr. Strauss also was previously a PI of an institutional T32 grant for cardiology fellows and trained over 55 graduate students and post-doctoral fellows and served on numerous MSTP steering, selection and advisory committees over the last 25 years during his time at Washington University in St. Louis, Vanderbilt University, and of course, in his home town of Cincinnati.

Thank you, Arnie, for your continued commitment and vast contributions to child health and pediatric research!

CAREER CONVERSATION WITH A FORMER K12-SCHOLAR

Interviewed by Paul Spearman, MD on Oct. 13 at 1:15 PM



Ann Chahroudi, MD, PhD

Director, Center for Childhood Infections & Vaccines Associate Division Chief for Basic/Translational Research, Division of Infectious Diseases

Associate Professor of Pediatrics, Division of Pediatric Infectious Diseases, Emory University School of Medicine

Director, Ponce Family & Youth Clinic, Infectious Diseases Program, Grady Health System

Former K12-Scholar, Dr. Ann Chahroudi, has several appointments at the Emory University School of Medicine. Her primary academic appointments are Associate Division Chief for Basic/Translational Research, Division of Infectious Diseases and Associate Professor, Pediatric Infectious Diseases. She is also faculty in the Immunology and Molecular Pathogenesis Graduate Training Program, Emory-Laney Graduate School and an Affiliate Scientist in the Division of Microbiology and Immunology at the Yerkes National Primate Research Center in Atlanta, GA. Dr. Chahroudi maintains administrative roles of Associate Director for Clinical Affairs, MD/PhD Program and Director, Emory and Children's Center for Infections & Vaccines (CCIV).

Dr. Chahroudi received her MD and PhD from Emory University School of Medicine and completed her general pediatrics residency at the Children's Hospital of Philadelphia. She returned to Emory for subspecialty fellowship training in Pediatric Infectious Diseases. Dr. Chahroudi's research focuses on finding a cure for HIV. Her lab aims to identify cellular and anatomic HIV/SIV reservoirs that represent the key obstacle(s) to an HIV cure, using nonhuman primate models to more completely assess the sources of viral persistence and test novel cure-directed interventions. Her laboratory is funded by the National Institutes of Health (NIH).

PROGRAM AGENDA

Day 1 Monday, October 12

TIME	ACTIVITY	VIRTUAL LINKS
10:00 - 10:15 AM	Welcome & Opening Remarks Lucky Jain, MD, MBA (Emory & Children's Healthcare of Atlanta) Paul Spearman, MD (Cincinnati Children's Hospital) Andrew Bremer, MD, PhD (NIH) Stacy Heilman, PhD (Emory & Children's Healthcare of Atlanta)	
Oral Presentation Sess	ions - #1	
10:15 - 10:30 AM	Marguerite Hood Pishchany, MD, PhD (Boston Scholar) Ecological Networks Driving Composition and Function in the Vaginal Microbiome	Click on the below link to
10:30 - 10:45 AM	Ana Cristancho, MD, PhD (CHOP Scholar) Long-Term Anatomical and Functional Deficits from Late-Gestation Transient Prenatal Hypoxia	join the general sessions and other activities: https://zoom.us/j/99735448 962?pwd=NHJsdVJZeG1nR09
10:45 - 11:00 AM	Meredith Schuh, MD (Cincinnati Scholar) The Rhesus Macaque Serves a Model for Human Lateral Branching Nephrogenesis	<u>SUkpqclBseEw2Zz09</u>
Poster BLITZ Sessions	- #1 (Three 3-min pre-recorded presentations)	
11:00 - 11:15 AM	Margaret Chang, MD, PhD (Boston Scholar) Resident Memory T Cells in Human RA Synovium Display Restricted TCR Clones Amanda Ackerman, MD, PhD (CHOP Scholar) Identifying Targets to Enhance Beta Cell Number and Response in Diabetes Using Single-Cell Functional Genomics	
	Anna Peters, MD, PhD (Cincinnati Scholar) Transcriptional Characterization of Pathogenic B Cells in Pediatric Liver Transplant Rejection	
Oral Presentation Sess	Having Trouble with	
11:15 - 11:30 AM	Catherine Pinnaro, MD (Iowa Scholar) Impaired Glucose Tolerance is Prevalent in Adolescents and Women with Turner Syndrome with Normal Hemoglobin A1c	Zoom Links? Follow These Technical Tips: Right click on a Zoom link Select to 'Copy' the link Open a new web browser
11:30 - 11:45 AM	Ioannis Koutroulis, MD, PhD, MBA (Children's National Scholar) The Role of MSC-Derived Exosomes in the Septic Brain	 Paste the copied link into the web address bar to join a Zoom session

11:45 AM - Noon	Satheesh Chonat, MD (Emory Scholar) Modeling Acute Lung Injury in Sickle Cell Mice	
Noon – 12:15 PM	GROUP PHOTO (all participants)	
12:15 - 1:00 PM	LUNCH BREAK	
1:00 - 2:00 PM	Keynote Presentation: Max D. Cooper, MD (Emory University) Tracing the Origin of B and T Cells	
Poster BLITZ Sessions	#2 (Three 3-min pre-recorded presentations)	
2:00 - 2:15 PM	Nathan Dahl, MD (Colorado Scholar) Super Elongation Complex as a Targetable Dependency in H3K27M+ Diffuse Intrinsic Pontine Glioma Terry Dean, MD, PhD (Children's National Scholar) Exploring the Circadian-and Sleep-Dependence of NG2-Glia Functions Loretta Reyes, MD (Emory Scholar)	Click on the below link to join the general sessions and other activities: https://zoom.us/j/99735448 962?pwd=NHJsdVJZeG1nR09 SUkpqclBseEw2Zz09
	Arginine Dysregulation Correlates with Cardiac Remodeling in Mice with Chronic Kidney Disease	
	LIVE Poster Sessions - #1 and #2 (Posters 1 – 6) (Visit and interact with poster presenters in their virtual poster r	noms)
2:15 - 3:00 PM	Margaret Chang, MD, PhD (Boston Scholar) Resident Memory T Cells in Human RA Synovium Display Restricted TCR Clones	Click on the below link to join Dr. Chang's session: https://bostonchildrens.zoo m.us/j/97461044019?pwd=Z 1R6cTQ3MUYyN2ZKTVIQbHA 1MGR3UT09
	Amanda Ackerman, MD, PhD (CHOP Scholar) Identifying Targets to Enhance Beta Cell Number and Response in Diabetes Using Single-Cell Functional Genomics	Click on the below link to join Dr. Ackerman's session: https://zoom.us/j/96904615 426?pwd=dndhRUVERIFJSFV 5RGRDL304WTNQZz09
	Anna Peters, MD, PhD (Cincinnati Scholar) Transcriptional Characterization of Pathogenic B- Cells in Pediatric Liver Transplant Rejection	Click on the below link to join Dr. Peter's session: https://us02web.zoom.us/j/8 5206972431?pwd=SXdIUUdE RnpUeEdHNW1QaUlyQTZRZz 09
	Nathan Dahl, MD (Colorado Scholar) Super Elongation Complex as a Targetable Dependency in H3K27M+ Diffuse Intrinsic Pontine Glioma	Click on the below link to join Dr. Dahl's session: https://ucdenver.zoom.us/j/98 459150946
	Terry Dean, MD, PhD (Children's National Scholar) Exploring the Circadian-and Sleep-Dependence of NG2-Glia Functions	Click on the below link to join Dr. Dean's session: https://childrensnational-telehealth.zoom.us/j/872690 3235

2:15 - 3:00 PM



Loretta Reyes, MD (Emory Scholar) Arginine Dysregulation Correlates with Cardiac Remodeling in Mice with Chronic Kidney Disease

Click on the below link to join Dr. Reye's session:

https://zoom.us/j/98838524 942?pwd=UjJ1NDluOFArd1Z0 Vmllcm5ERHVtdz09

3:00 - 3:10 PM

BREAK/TRANSITION TIME

Oral Presentation Sessions - #3

3:10 - 3:25 PM



Julie Ziobro, MD, PhD (Michigan Scholar)

A Mouse Model of X-Linked Clustering Epilepsy

3:25 - 3:40 PM



Samuel John, MD (Texas Scholar)
A Novel anti-LILRB4 CAR-T Cell for the Treatment
of Monocytic AML

Click on the below link to join the general sessions and other activities:

https://zoom.us/j/99735448 962?pwd=NHJsdVJZeG1nR09 SUkpqclBseEw2Zz09

3:40 - 3:55 PM



Anandani Nellan, MD, PhD (Colorado Scholar) Evaluation of CAR T Cells in Pediatric Ependymoma

3:55 - 4:10 PM

ADJOURNMENT - Day 1 (October 12)

PROGRAM AGENDA

Day 2 Tuesday, October 13

TIME	ACTIVITY	VIRTUAL LINKS
10:00 - 10:10 AM	Opening Remarks Paul Spearman, MD (Cincinnati Children's Hospital) Clint Joiner, MD, PhD (Emory & Children's Healthcare of Atlanta) Stacy Heilman, PhD (Emory & Children's Healthcare of Atlanta)	
10:10 - 10:45 AM	Special Recognition (Special introduction of honoree by Clint Joiner, MD, PhD and Paul Spearman, MD) Arnold W. Strauss, MD Reflections as a Physician Scientist	
Poster BLITZ Session - #	3 (Three 3-min pre-recorded presentations)	
10:45 - 11:00 AM	Gina Ney, MD, PhD (Michigan Scholar) Oncogenic N-Ras Mitigates Oxidative Stress-Induced Apoptosis of Hematopoietic Stem Cells Erin Butler, MD (Texas Scholar)	Click on the below link to join the general sessions and other activities: https://zoom.us/j/99735448 962?pwd=NHJsdVJZeG1nR09 SUkpqclBseEw2Zz09
	Novel Transcript Variant in MYOD1 in Rhabdomyosarcoma Jessica Zimmerman, MD (Iowa Scholar) Enhancing Prednisone Sensitivity of High-Risk B-Cell Acute Lymphoblastic Leukemia Through PI3Kδ Inhibition	
Oral Presentations Ses	sion - #4	
11:00 - 11:15 AM	Lisa Maurer, MD, PhD (Pittsburgh Scholar) Structural Requirements for GRK2-Mediated Inhibition of the MALT1 Proto-oncoprotein	
11:15 - 11:30 AM	Anna Patrick, MD, PhD (Vanderbilt Scholar) Increased IFNy AND IL-17 Secretion in Polyarticular Juvenile Idiopathic Arthritis T Helper Cell Cultures	
11:30 - 11:45 AM	Kim Liss, MD (Washington University Scholar) Monoacylglycerol Acyltransferase 1 Knockdown Exacerbates Hepatic Ischemia- Reperfusion Injury in Mice with Hepatic Steatosis	Having Trouble with Zoom Links? Follow These Technical Tips: Right click on a Zoom link Select to 'Copy' the link Open a new web browser
Poster BLITZ Session - #	 Paste the copied link into the web address bar to join a 	
11:45 AM - 12:00 PM	Anne-Marie Rick, MD, MPH (Pittsburgh Scholar) Epidemiology of Influenza Among Infants with Medically Attended Visits 2011-2019 in Southwestern Pennsylvania	Zoom session

	Raman Spe	math, MD, MPH (Vanderbilt Scholar) ectroscopy Reveals Distinct Tissue Biochemical in Associated with Eosinophilic Esophagitis	Click on the below link to join the general sessions and other activities:
11:45 AM - 12:00 PM	Margaret Ferris, MD, PhD (Washington University Scholar) RXRA DT448/9PP Generates Dominant Active Variant Capable of Inducing Macrophage Maturation		https://zoom.us/j/997354489 62?pwd=NHJsdVJZeG1nR09SU kpqclBseEw2Zz09
Noon - 12:30 PM	,	LUNCH BREAK	
		LIVE Poster Sessions - #3 and #4	
(1)	isit and inter	act with poster presenters in their virtual poste	er rooms)
12:30 - 1:15 PM		Gina Ney, MD, PhD (Michigan Scholar) Oncogenic N-Ras Mitigates Oxidative Stress-Induced Apoptosis of Hematopoietic Stem Cells	Click on the below link to join Dr. Ney's session: https://umich- health.zoom.us/j/3573159149? pwd=Z1I4aUZoaVFvYkcvK05qU nVtaWJRQT09
		Erin Butler, MD (Texas Scholar) Novel Transcript Variant in MYOD1 in Rhabdomyosarcoma	Click on the below link to join Dr. Butler's session: https://utsouthwestern- edu.zoom.us/j/99397991963?p wd=K1RMUkxXSkJnVU10bmd3 WkITTmNXQT09
		Jessica Zimmerman, MD (Iowa Scholar) Enhancing Prednisone Sensitivity of High- Risk B-Cell Acute Lymphoblastic Leukemia Through PI3Kδ Inhibition	Click on the below link to join Dr. Zimmerman's session: https://uiowa.zoom.us/j/93554 544111?pwd=MGxieThwVGloN GN5dlgrekVHbk1kQT09
		Anne-Marie Rick, MD, MPH (Pittsburgh Scholar) Epidemiology of Influenza Among Infants with Medically Attended Visits 2011-2019 in Southwestern Pennsylvania	Click on the below link to join Dr. Rick's session: https://pitt.zoom.us/j/9174473 0969 [Password: 701053]
		Girish Hiremath, MD, MPH (Vanderbilt Scholar) Raman Spectroscopy Reveals Distinct Tissue Biochemical Composition Associated with Eosinophilic Esophagitis	Click on the below link to join Dr. Hiremath's session: https://zoom.us/j/9904363252 7?pwd=MU42WWh2Q2diQVdh UTh1UWIPZ3pyQT09
		Margaret Ferris, MD, PhD (Washington University Scholar) RXRA DT448/9PP Generates Dominant Active Variant Capable of Inducing	Click on the below link to join Dr. Ferris' session: https://wustl- hipaa.zoom.us/j/99389857594

Macrophage Maturation

?pwd=TVJtd0M1aUFGYlJ3Tnk

3VWRqUkdWdz09

1:15 - 1:45 PM	Career Conversation with a Former K12-Scholar Ann Chahroudi, MD, PhD (Emory & Children's Healthcare of Atlanta) (Interviewed by Paul Spearman, MD)	Click on the below link to join the general sessions and
1:45 - 1:55 PM	Closing Remarks from Conference Hosts Paul Spearman, MD (Cincinnati Children's Hospital) Karen Winer, MD (Cincinnati Children's Hospital) Lucky Jain, MD, MBA (Emory & Children's Healthcare of Atlanta) (Attendees to break into business and mentoring sessions)	other activities: https://zoom.us/j/99735448 962?pwd=NHJsdVJZeG1nR09 SUkpqclBseEw2Zz09
1:55 - 2:00 PM	SHORT BREAK/TRANSITION TIME	
	CONCURRENT BUSINESS MEETING AND MENTORING SESSION	NS
2:00 - 3:30 PM	CHRC Program Business Meeting NICHD Staff, Program and Training Directors {By Invitation Only} To join this executive session, please refer to your calendar invitation.	
	Mentoring Break-Out Sessions (see next page for details)	
3:30 PM	MEETING ADJOURNMENT	

Overview of Mentoring Sessions: Participants will divide into <u>three groups</u> and <u>rotate</u> to each 25-min mentoring session addressing the topics listed below.



Moderator: Douglas K. Graham, MD, PhD (Emory & Children's Healthcare of Atlanta)

2:00 - 2:15 PM



Moderator: Gurjit (Neeru) Hershey, MD, PhD (Cincinnati Children's Hospital Medical Center)

Topic 1: Grant-Writing Tips



Mentor: Wilbur Lam, MD, PhD (Emory & Children's Healthcare of Atlanta)



Mentor: Pam Winterberg, MD (Emory & Children's Healthcare of Atlanta)

Topic 2: How to Be a Good Mentor/Mentee



Mentor: Hitesh Deshmukh, MD, PhD (Cincinnati Children's Hospital Medical Center)



Mentor: Glaivy Batsuli, MD (Emory & Children's Healthcare of Atlanta)

Topic 3: How to Build Relationships and Partner with the NIH



Mentor: Douglas K. Graham, MD, PhD (Emory & Children's Healthcare of Atlanta)



Mentor: Gurjit (Neeru) Hershey, MD, PhD (Cincinnati Children's Hospital Medical Center)

Round 1
(2:15 - 2:40 PM)
Click on the below link to join
Mentoring Session:
https://zoom.us/j/95166662809?
pwd=MnVHWFk4RTFPUFEwR0I5c

DUrT05XQT09

Round 2
(2:40 – 3:05 PM)
Click on the below link to join
Mentoring Session:
https://zoom.us/j/93387732601?p
wd=YU9qYTBXT05NMXo0dTRyVTBI
YmdiQT09

Round 3
(3:05 – 3:30 PM)
Click on the below link to join
Mentoring Session:
https://zoom.us/j/94279013771?p
wd=RE9yeUZEc2JHZ1Q1NGNHN
DJHeFgyQT09

Thank you for your participation in this virtual meeting—every one of our scholars, mentors, training directors and staff made this year's innovative event a truly special one!

Please take about five minutes to complete our <u>Feedback Survey</u>. We look forward to your input.



