**INNOVATIONS IN IMAGING**

**Impact on Outcomes in Congenital Heart Disease: Fetus through Adult**

**MAY 4–5, 2019**

Icahn School of Medicine at Mount Sinai  
Goldwurm Auditorium  
1425 Madison Avenue, New York, NY

**COURSE DIRECTOR**  
Shubhika Srivastava, MBBS, FASE, FACC  
Professor Pediatrics  
Icahn School of Medicine  
Director, Non Invasive Imaging  
Director, Advanced Imaging Fellowship  
Children’s Heart Center  
The Mount Sinai Medical Center  
New York, NY

**CO-DIRECTORS**

**Robert H. Pass, MD**  
Professor of Pediatrics  
Icahn School of Medicine at Mount Sinai  
Director, Pediatric Cardiology  
Kravis Children’s Hospital  
The Mount Sinai Medical Center  
New York, NY

**Miwa K. Geiger, MD**  
Assistant Professor, Pediatrics  
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Division of Pediatric Cardiology  
Director, Fetal Heart Program  
The Mount Sinai Medical Center  
New York, NY

**Peter Pastuszko, MD**  
Professor, Department of Cardiovascular Surgery  
Icahn School of Medicine at Mount Sinai  
Chief of Pediatric Cardiac Surgery  
Director of Pediatric Cardiovascular Services  
Mount Sinai Health System  
New York, NY

**Kenan Stern, MD**  
Assistant Professor of Pediatrics and Radiology  
Icahn School of Medicine at Mount Sinai  
Director, Pediatric and Congenital Cardiac MRI  
Director, Quality Initiatives  
Mount Sinai Children's Heart Center  
New York, NY

**FEATURING HANDS-ON WORKSHOP**

Day 1 • Saturday, May 4 • 2:45-4:00pm  
12th Floor, Annenberg Building  
1468 Madison Avenue at 100th Street, New York, NY

*Guest Faculty From:*  
Canada, Colorado, Illinois, Maryland, Ohio, New York and Pennsylvania

Online Registration: [https://mssm.cloud-cme.com](https://mssm.cloud-cme.com)
PROGRAM DESCRIPTION

This CME activity will focus on a comprehensive review of current knowledge, standards and advances in imaging in the field of fetal cardiology, pediatric cardiology and adult congenital heart disease.

The focus for fetal cardiovascular assessment will be inclusive of detection of fetal cardiac malformation, function, hemodynamics, rhythm and management. This will be done through lectures and case-based discussions and interactive panel discussions. The section on innovations in imaging will focus on assessment of complex congenital heart disease with two dimensional, three dimensional, 3D segmentation models, virtual reality, coronary and blood flow assessment using various imaging modalities. Advances in angiography imaging techniques and interventions in the catheterization laboratory will also be covered.

The workshops will focus on standard fetal cardiac and hemodynamic assessment as well as transthoracic imaging, simulation, advanced myocardial deformation techniques and 3D imaging.

EDUCATIONAL OBJECTIVES

At the conclusion of this activity, participants will be able to:

- Identify current barriers in diagnosis and planning postnatal management for prenatal detection of congenital heart defects
- Describe recent innovations in understanding placental contribution to fetal cardiovascular outcomes
- Describe innovations in advanced and multimodality imaging applications of three dimensional echocardiography, rotational angiography, virtual imaging and fusion imaging to understand complex morphology
- Describe use of maternal hyperoxygenation in diagnosis and treatment of prenatal cardiovascular disease
- Explain how the application of these innovative methods can improve perinatal management.

WHO SHOULD ATTEND

Physicians, trainees, sonographers, nurse practitioners and physician assistants in the fields of congenital cardiology, obstetrics, perinatal medicine and radiology.
7:15 – 7:45 am  REGISTRATION AND CONTINENTAL BREAKFAST
7:45 – 8:00 Welcome
Shubhika Srivastava, MBBS, FASE, FACC

SESSION I: Cardiovascular Imaging in the Fetus and Outcomes
Chairs: Stephanie Levasseur, MD, FRCPC and Miwa K. Geiger, MD

8:00 – 8:20  Improving Prenatal Detection of Congenital Heart Disease
Lindsay R. Freud, MD, FASE

8:20 – 8:40  Maternal Hyperoxygenation: Testing and Treatment
Jack Rychik, MD

8:40 – 9:00  Modifying Outcomes of Congenital Heart Disease – In Utero Interventions
Aimee K. Armstrong, MD

9:00 – 9:20  The Maternal-Fetal Environment and The Future of Prenatal Heart Care
Jack Rychik, MD

9:20 – 9:40  Challenges of Neonatal Surgery In Preterm and Low Birth Weight Infants: How Small Is Too Small?
Peter Pastuszko, MD

9:40 – 10:00  Q & A

10:00 – 10:30  BREAK

SESSION II: Fetal Diagnosis of Congenital Heart Disease - Lesion Specific and Case Based Discussion
Chairs: Stephanie Levasseur, MD, FRCPC and Jeffrey Dayton, MD, FASE

10:30 – 10:45  Follow-up, Timing and Counselling Following Initial Diagnosis of Congenital Heart Disease In Fetus
Miwa K. Geiger, MD

10:45 – 12:00 Noon  Case Discussion- Fetal Congenital Heart Disease
Moderators: Stephanie Levasseur, MD, FRCPC and Jeffrey Dayton, MD
Panelists: Miwa K. Geiger, MD; Jack Rychik, MD; Aimee K. Armstrong, MD; Jeffrey Dayton, MD, FASE, Lindsay R. Freud, MD, FASE; Peter Pastuszko, MD; Kathleen Walsh-Spoonhower, MD

12:00 – 1:00  LUNCH

SESSION III: Fetal Cardiovascular Function and Rhythm Disorders
Chairs: Preeta Dhanantwari, MD and Nadine Choueiter, MD

1:00 – 1:20  Assessment of Fetal Cardiovascular Function
Jennifer Cohen, MD

1:20 – 1:40  Fetal Heart Block and Therapeutics
Deborah M. Friedman, MD, FAAP, FACC

1:40 – 2:20  Case Discussion – Fetal Arrhythmia
Moderators: Preeta Dhanantwari, MD and Nadine Choueiter, MD
Panelists: Deborah M. Friedman, MD, FAAP, FACC; Stephanie Levasseur, MD, FRCPC; Miwa K. Geiger, MD

2:20 – 2:45  BREAK

Session III: Hands-On Workshops
12th Floor Annenberg Building, 1468 Madison Avenue, New York, NY
Chairs: Sangeeta Sharma, MBBS, MRCP; Rajesh U. Shenoy, MD; Jen Lie Yau, BS, RDCS

245 – 400 pm  Workshop 1: Hands-on Fetal Imaging
Melanie Tan, BS, RDCS, RDMS; Allen Kan, RVT, RDCS; Sangeeta Sharma, MBBS, MRCP; Kenan Stern, MD; Miwa K. Gieger, MD

Workshop 2: 3D Imaging
Nee Scze Khoo, MBChB, FRACP

Workshop 3: Strain Imaging
Shubhika Srivastava, MBBS, FASE, FACC; Hari Rajagopal, MBBS; Jen Lie Yau, BS, RDCS

Simulation: Trans Thoracic Echo
Jeffrey Dayton, MD, FASE
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>7:30 – 7:50 am</td>
<td><strong>REGISTRATION AND CONTINENTAL BREAKFAST</strong></td>
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<td>7:50 – 8:00</td>
<td>Welcome</td>
<td><em>Shubhika Srivastava, MBBS, FASE, FACC</em></td>
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<td>8:00 – 8:20</td>
<td><strong>SESSION IV: Insight into Innovations in Imaging Morphology and Function</strong></td>
<td><em>Chairs: James C. Nielsen, MD and Nilanjana Misra, MBBS, FAAP, FSCMR</em></td>
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<td>8:00 – 8:20</td>
<td>Straddling Valves and Complex Congenital Heart Disease</td>
<td><em>Ira A. Parness, MD</em></td>
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<td>8:20 – 8:40</td>
<td>3D Imaging of Valves In Complex Congenital Heart Disease and Single Ventricles</td>
<td><em>Nee Scze Khoo, MBChB, FRACP</em></td>
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<td>8:40 – 8:55</td>
<td>Visualization of Blood Flow – By Echocardiography</td>
<td><em>Shubhika Srivastava, MBBS, FASE, FACC</em></td>
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<td>8:55 – 9:15</td>
<td>Advanced Imaging of Single Ventricle</td>
<td><em>Shelby Kutty, MD, PhD, MHCM</em></td>
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<td>9:15 – 9:35</td>
<td>4D Flow – CMR - Understanding the Blood Flow Dynamics</td>
<td><em>Joshua D. Robinson, MD</em></td>
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<td>9:35 – 9:55</td>
<td>Role of CT in Imaging Anomalous Coronary Arteries</td>
<td><em>Rajesh Krishnamurthy, MD</em></td>
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<td>9:55 – 10:15</td>
<td>Challenges of Establishing Imaging Standards and Quality In the Era of Multimodality Imaging</td>
<td><em>Kenan Stern, MD</em></td>
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<td>10:15 – 10:30</td>
<td>Panel Discussion – Multimodality Imaging in Congenital Heart Disease</td>
<td><em>Moderators: James C. Nielsen, MD and Nilanjana Misra, MBBS, FAAP, FSCMR</em></td>
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<td>10:30 – 11:00</td>
<td><strong>BREAK</strong></td>
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<td>11:00 – 11:20</td>
<td><strong>SESSION V: Innovations In Non-Invasive and Invasive Imaging In Congenital Heart Disease</strong></td>
<td><em>Chairs: Robert H. Pass, MD and Alejandro J. Torres, MD</em></td>
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<td>11:00 – 11:20</td>
<td>3D Rotational Angiography and Interventions in Cath Lab</td>
<td><em>Aimee K. Armstrong, MD</em></td>
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<td>11:20 – 11:40</td>
<td>Minimizing Radiation Exposure in Cath Lab</td>
<td><em>Robert H. Pass, MD</em></td>
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<td>11:40 – 12:00 Noon</td>
<td>Identifying the Right Candidate for Pulmonary Valve Replacement in the Cath Lab</td>
<td><em>Alejandro J. Torres, MD</em></td>
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<td>12:00 – 12:20</td>
<td>Role of 3D Fusion Imaging in the Cath Lab</td>
<td><em>Pei-Ni Jone, MD</em></td>
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<td>12:20 – 12:40</td>
<td>Challenges in Identifying the Right Candidate for Cath Closure of Large ASD with Diminutive Rims</td>
<td><em>Barry A. Love, MD</em></td>
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<td>Panel Discussion - Non-Invasive and Invasive Imaging</td>
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<td><strong>LUNCH</strong></td>
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<td>1:40 – 2:00</td>
<td><strong>SESSION VI: Multimodality Imaging for Congenital Heart Disease</strong></td>
<td><em>Chairs: Shubhika Srivastava, MBBS, FASE, FACC and Ali N. Zaidi, MD</em></td>
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<td>1:40 – 2:00</td>
<td>Vascular Rings – Imaging and Management</td>
<td><em>James C. Nielsen, MD</em></td>
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<td>2:00 – 2:20</td>
<td>Current Applications of 3D Printing in Congenital Heart Disease</td>
<td><em>Kanwal M. Farooqi, MD</em></td>
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<td>2:20 – 2:40</td>
<td>Beyond 3D Printing - VR Imaging</td>
<td><em>David Ezon, MD</em></td>
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<td>2:40 – 3:00</td>
<td>Role of Finite Element Analysis in Transcatheter Valve Implantation</td>
<td><em>Puneet Bhatia, MD</em></td>
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<td>3:00 – 3:20</td>
<td>Evaluation for VAD Implantation in Adults with Congenital Heart Disease</td>
<td><em>Ali N. Zaidi, MD</em></td>
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<td>3:20 – 3:45</td>
<td>Panel Discussion - Multimodality for Congenital Heart Disease</td>
<td><em>Moderators: Shubhika Srivastava, MBBS, FASE, FACC and Ali N. Zaidi, MD</em></td>
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GENERAL INFORMATION

REGISTRATION FEES

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Goldwurm Auditorium
1425 Madison Avenue, New York, NY

WORKSHOP LOCATION
Icahn School of Medicine at Mount Sinai
12th Floor, Annenberg Building
1468 Madison Avenue @ 100th Street, New York, NY

Directions and Parking
www.mountsinai.org/about-us/visiting-us/directions
Discounted parking is available on East 99th Street between Madison & Park Avenues. Parking ticket will be validated at the Registration Desk.

Hotel Accommodations
Please contact our Housing Manager, Denise Newman, Email: dnew229@aol.com or Phone: 718-835-4911 Fax: 718-835-8661.

Accreditation
This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Icahn School of Medicine at Mount Sinai and the New York Pediatric Echo Society. Icahn School of Medicine at Mount Sinai is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Credit Designation Statement
The Icahn School of Medicine at Mount Sinai designates this live activity for a maximum of 12.50 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Verification of Attendance
Will be provided to all professionals.

Special Needs
The Icahn School of Medicine at Mount Sinai is in full compliance with provisions of the Americans with Disabilities Act (ADA) and is accessible for individuals with special needs. If you require special accommodations, call the Office of CME, 212-731-7950.

Cancellation
A $50 administrative fee will be deducted from all refunds/cancellations issued. All refund and cancellation requests must be emailed to the CME Office at cme@mssm.edu by Monday, April 15, 2019. No refunds will be made after this date or for “no-shows.”

Faculty Disclosure
It is the policy of the Icahn School of Medicine at Mount Sinai to ensure objectivity, balance, independence, transparency, and scientific rigor in all CME-sponsored educational activities. All faculty participating in the planning or implementation of a sponsored activity are expected to disclose to the audience any relevant financial relationships and to assist in resolving any conflict of interest that may arise from the relationship. Presenters must also make a meaningful disclosure to the audience of their discussions of unlabeled or unapproved drugs or devices. This information will be available as part of the course material.

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REGISTER ONLINE: https://mssm.cloud-cme.com
# 10th Annual Symposium
**INNOVATIONS IN IMAGING**

Impact on Outcomes in Congenital Heart Disease: Fetus through Adult

**Saturday & Sunday, May 4-5, 2019**

## Icahn School of Medicine at Mount Sinai
**Conference Location:** Goldwurm Auditorium  
1425 Madison Avenue  
New York, NY

**Workshop Location:** 12th Floor, Annenberg Building  
1468 Madison Avenue at 100th Street  
New York, NY

### TWO WAYS TO REGISTER

**Online:** https://mssm.cloud-cme.com

**Mail** this form with your check to:

Icahn School of Medicine at Mount Sinai, Attn: CME Office  
The Page and William Black Post-Graduate School  
One Gustave L. Levy Place, Box 1193  
New York, NY 10029-6574

Enclosed is my check for $__________ payable to:  
The Page and William Black Post-Graduate School

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**Last Name**

**First Name**

**Credentials**  
- MD  
- RN  
- NP  
- PA  
- Other (Specify)________________________________________

**Mailing Address**

________________________________________

**City**

**State**

**Zip**

**Phone**

________________________________________

**E-mail**

**Specialty**

________________________________________

**Institution/Affiliation**

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