General Information

Learning Objectives
At the conclusion of this activity, participants should be able to:

1. Differentiate the important features of the various etiologies of pulmonary hypertension when making a diagnosis
2. Describe the accepted therapies for pulmonary hypertension and their indications
3. Review the management of patients with pulmonary hypertension in accordance with accepted clinical guidelines
4. Recognize when patients have suboptimal response to treatments and be aware of what advanced treatments are available
5. Understand the methods to assess imaging modalities for thoracic imaging in patients with pulmonary hypertension
6. Appreciate the therapeutic options in patients with CTEPH
7. Identify with provocations during cardiac catheterization will inform about the nature of the pulmonary hypertension
8. Understand the genetic basis of pulmonary vascular disease and its clinical implications

Target Audience
This continuing medical education program is designed to meet the educational needs of cardiologists, pulmonologists, internal medicine, hospitalists, advanced practice nurses, registered nurses, physician assistants, pharmacists, cardiology and pulmonary medicine fellows and residents in training.

Conference Location
This program will be held at The Omni Chicago Hotel, located at 676 North Michigan Avenue, Chicago Illinois 60611. Please contact The Omni Hotel Chicago at (312) 944-6664 or www.omnihotels.com/hotels/chicago for directions and parking information.

Accreditation Statement
The Northwestern University Feinberg School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation Statement
The Northwestern University Feinberg School of Medicine designates this live activity for a maximum of 7.5 AMA PRA Category 1 Credit(s)™. Physicians should claim only credit commensurate with the extent of their participation in the activity. Other Credits: The American Academy of Nurse Practitioners and the American Nurses Credentialing Center accept AMA PRA Category 1 Credit(s)™ from organizations accredited by the ACCME.

Registration
You may register on-line at: www.cme.northwestern.edu. An email confirmation will be sent once your registration is complete. If you do not receive a confirmation, please contact the Office of CME at 312-503-8533. Registrations can also be mailed with a check made payable to Northwestern University. Registrations will not be accepted by telephone.

Cancellation Policy
Cancellations must be made in writing to the Office of Continuing Medical Education. The paid registration fee, minus a $50 administrative charge, will be refunded if cancellation is received by July 14, 2017.

Special Needs
The Feinberg School of Medicine fully intends to comply with the legal requirements of the Americans with Disabilities Act. If any participant of this conference is in need of accommodation please indicate those needs on the registration form or submit written requests to the Office of CME at least one month prior to the conference date.

Additional Information
Contact the Northwestern University, Feinberg School of Medicine, Office of Continuing Medical Education, phone: 312-503-8533, Fax: 312-503-4531, email: cme@northwestern.edu or visit our website at: www.cme.northwestern.edu.
<table>
<thead>
<tr>
<th>Time</th>
<th>Morning Activity</th>
<th>Afternoon Activity</th>
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| 8:00 - 8:05 | Opening remarks                                                                | 1:15 – 1:40  
Stuart Rich | Precision medicine and pulmonary hypertension: What does the future hold?  
Stuart Rich |
| 8:05 – 8:30 | The patient with multifactorial pulmonary hypertension: How to know what to treat | 1:40 – 1:50  
Michael Cuttica | Discussion |
| 8:30 – 8:45 | Discussion                                                                      | 1:50 – 2:10  
Discussion |
| 8:45 – 9:10 | Choosing the best exercise modality to evaluate patients with pulmonary hypertension: 6 minute walk, treadmill, and CPET | 2:10 – 2:25  
Hector Cajigas | Combined pre-post capillary pulmonary hypertension: A new disease?  
Sanjiv Shah |
| 9:10 – 9:25 | Discussion                                                                      | 2:25 – 2:45  
Discussion |
| 9:25 – 9:50 | Provocations in the cath lab to better understand pulmonary hypertension in your patient | 3:00 – 3:15  
Jonathan Rich | Thoracic imaging in pulmonary hypertension: Clinical pearls  
Ben Freed |
| 9:50 – 10:15 | Discussion                                                                      | 3:15 – 3:35  
Discussion |
| 10:15 – 10:30 | Break                                                                          | 4:00 – 4:20  
Break | Interventional options for treating chronic thromboembolic pulmonary hypertension  
Chris Malaisrie |
| 10:30 – 11:00 | SPECIAL LECTURE: Clinical implications of the genetic basis of pulmonary hypertension | 4:20 – 4:30  
John Newman | The management of massive and submassive pulmonary embolism  
Dan Schimmel |
| 11:00 – 11:10 | Discussion                                                                      | 4:30 – 5:00  
Discussion |
| 11:10 – 11:30 | Combination therapy for PAH: Is it cost effective?  
Stuart Rich | 5:00  
Case Presentations  
Presenter: Hector Cajigas  
Panel: Michael Cuttica, Dan Schimmel, Sanjiv Shah |
| 11:30 – 11:45 | Discussion                                                                      | Concluding remarks |
| 11:45 – 12:15 | Case Presentations                                                             |  
Presenter: Stuart Rich |
| 2:15 – 1:15 | Lunch                                                                           |  |
### Faculty Disclosure
Northwestern University Feinberg School of Medicine (NUFSM) requires course directors, speakers, instructors, planners, and other individuals who are in a position to control the content of this activity to disclose any relevant financial relationships. All identified potential conflicts of interest are thoroughly vetted by NUFSM for fair balance, scientific objectivity of studies mentioned in the materials or used as the basis for content, and appropriateness of patient care recommendations. The faculty disclosures and the discussion off-label usage will be indicated in the course syllabus.

### Northwestern University Feinberg School of Medicine Faculty

#### Course Directors

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>Stuart Rich, MD</td>
<td>Director, Pulmonary Vascular Disease Program</td>
<td>Bluhm Cardiovascular Institute</td>
<td>Northwestern Memorial Hospital</td>
</tr>
<tr>
<td>Michael Cuttica, MD</td>
<td>Associate Director, Pulmonary Vascular Disease Program</td>
<td>Northwestern Memorial Hospital</td>
<td>Assistant Professor of Medicine - Pulmonary</td>
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#### Speakers

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<th>Name</th>
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<tbody>
<tr>
<td>Hector Cajigas, MD</td>
<td>Associate Head for Clinical Operations</td>
<td>Division of Pulmonary and Critical Care Medicine</td>
<td>Northwestern Memorial Hospital</td>
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<tr>
<td>Benjamin H. Freed, MD</td>
<td>Assistant Professor of Medicine - Pulmonary</td>
<td>Northwestern Memorial Hospital</td>
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</tr>
<tr>
<td>Jonathan Rich, MD</td>
<td>Medical Director, Mechanical Circulatory Support Program</td>
<td>Bluhm Cardiovascular Institute</td>
<td>Northwestern Memorial Hospital</td>
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<tr>
<td>Daniel Schimmel, MD, MS</td>
<td>Director, Acute Pulmonary Embolism Response Team</td>
<td>Bluhm Cardiovascular Institute</td>
<td>Assistant Professor of Medicine - Interventional Cardiology</td>
</tr>
<tr>
<td>S. Chris Malaisrie, MD</td>
<td>Surgical Director, Bicuspid Aortic Valve Program</td>
<td>Northwestern Memorial Hospital</td>
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<tr>
<td>Sanjiv Shah, MD</td>
<td>Director, Heart Failure with Preserved Ejection Fraction Program</td>
<td>Bluhm Cardiovascular Institute</td>
<td>Northwestern Memorial Hospital</td>
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#### Guest Faculty Speakers

<table>
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<tbody>
<tr>
<td>John Newman, MD</td>
<td>Elsa S. Hanigan Professor of Pulmonary Medicine</td>
<td>Director, Pulmonary &amp; Critical Care Fellowship Program</td>
<td>Vanderbilt University</td>
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2nd Annual Advances in Pulmonary Hypertension  
August 4, 2017  
The Omni Chicago Hotel

☐ Physician ........................................................ $200  
☐ Nurses ........................................................... $100  
☐ Fellows or Residents in Training ..................................... $   0  

*Must provide a letter from program director to receive complimentary registration.

How to Register

ONLINE – cme.northwestern.edu  
OR mail with check to (Make check payable to Northwestern University)

Northwestern University  
Feinberg School of Medicine  
Office of Continuing Medical Education  
240 E. Huron, Ste. 1-200  
Chicago, IL 60611

The registration fee includes: A continental breakfast, lunch, refreshment breaks, and the course handout.

Registrations will not be accepted by telephone. Please note that credit cards cannot be accepted for on-site registrations. On-site registrations must be made with a check.

Please type or print

Last Name:__________________________________________________ Degree: ______________

First Name:_____________________________________________________________________

Institution: ______________________________________________________________________

Address: __________________________________________________________________________

City:___________________________________________________ State:________ Zip code:_____  

Daytime Phone: _________________________________________________________________

E-mail: __________________________________________________________________________  
(required — your confirmation and receipt will be emailed)

Specialty: _________________________________________________________________________

Please indicate any special needs: ________________________________________________

Please indicate any dietary needs: ________________________________________________

For questions regarding registration please contact the Office of Continuing Medical Education at cme@northwestern.edu or 312-503-8533. Cancellations must be made in writing via email. The paid registration fee, minus a $50 administrative charge, will be refunded. No refunds will be granted after July 14, 2017.
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