

## Thursday, September 14<sup>th</sup>, 2006

- 7:00-7:45 Continental Breakfast
- 7:45-8:00 **Introductory Remarks**  
Rahim R. Rizi, Ph.D.  
University of Pennsylvania
- 8:00-8:15 **Welcome Remarks**  
Glen Gaulton, Ph.D.  
Vice Dean For Research, School of Medicine, University of Pennsylvania

### Functional Imaging Keynote Lectures Moderators: Warren Gefter, M.D. and Masaru Ishii, M.D., Ph.D.

- 8:15-8:45 **Potential Contributions of Functional Imaging in Future Lung Disease Research**  
James Kiley, Ph.D.  
National Institute for Health
- 8:45-9:15 **CT Phenotypes of the Lung for New Insights into Pathophysiologic Processes and Genetic Correlates**  
Eric A. Hoffman, Ph.D.  
University of Iowa
- 9:15-9:30 **Questions & Answers**
- 9:30-9:45 **Break**
- 9:45-10:30 **Transgenic and Knockout Models of Asthma, Emphysema, and Pulmonary Fibrosis**  
Jack A. Elias, M.D.  
Yale University
- 10:30-11:15 **Molecular Imaging for Gene Expression and Inflammation in the Lungs**  
Daniel Schuster, M.D.  
Washington University
- 11:15-12:00 **Imaging in Pulmonary Clinical Trials**  
Robert A. Wise, M.D.  
Johns Hopkins University
- 12:00-1:00 **Lunch**

### Asthma and Airways Disease Moderators: Reynold Panettieri M.D., and David Lipson, M.D.

- 1:00-1:30 **Asthma in the New Millennium**  
Reynold A. Panettieri, Jr., M.D.  
University of Pennsylvania
- 1:30-2:00 **Pharmaceutical Needs in Asthma**  
Barry T. Peterson, Ph.D.

- Pfizer Global Research & Development
- 2:00-2:20 **The Structural Basis of Obstructive Airways Disease**  
Robert H. Brown, M.D., M.PH.  
Johns Hopkins University
- 2:20-2:40 **Assessing the Variability of Regional Airflow Obstruction in Asthmatics Using Hyperpolarized Helium-3 MR Imaging.**  
Eduard E. de Lange, M.D.  
University of Virginia
- 2:40-3:00 **Evaluating Ventilation Heterogeneity in Asthmatics Using Hyperpolarized <sup>3</sup>He MRI**  
Mitchell Albert, Ph.D.  
Harvard University
- 3:00-3:20 **Evaluation of Structure-function Relationships in Asthma Using Multi-detector CT and Hyperpolarized He-3 MRI**  
Sean Fain, Ph.D.  
University of Wisconsin - Madison
- 3:20-3:35 **Questions & Answers**
- 3:35-3:50 **Break**

### **Pulmonary Ventilation and Perfusion**

**Moderators: Jose Venegas, Ph.D. and James Baumgardner M.D., Ph.D**

- 3:50-4:10 **Relationship between Regional Inflammation and V<sub>A</sub>/Q Abnormality Assessed by PET.**  
Jose G. Venegas, Ph.D.  
Harvard University
- 4:10-4:30 **Regional V/Q Using CT**  
Eric A. Hoffman, Ph.D.  
University of Iowa
- 4:30-4:50 **Regional V/Q Using Hyperpolarized Gas MRI**  
Masaru Ishii, M.D., Ph.D.  
Johns Hopkins University
- 4:50-5:10 **New Developments in MIGET**  
James E. Baumgardner, M.D., Ph.D.  
University of Pennsylvania
- 5:10-5:30 **Questions & Answers**

## **Friday, September 15<sup>th</sup>, 2006**

- 7:00-7:50 Continental Breakfast

### **COPD: Part I**

**Moderators: John Hansen-Flaschen, M.D.**

- 7:50-8:00      **Potential Role of Hyperpolarized MRI in Radiology**  
 Mitchell Schnall, M.D., Ph.D.  
 University of Pennsylvania
- 8:00-8:45      **COPD Overview and the Utility of Imaging**  
 Fernando J. Martinez, M.D., M.S.  
 University of Michigan
- 8:45-9:30      **Remodeling the Peripheral Lung in COPD**  
 James C. Hogg, M.D., Ph.D.  
 University of British Columbia
- 9:30-10:15     **Lung Volume Reduction and Novel Therapeutic Interventions for Emphysema**  
 Joel D. Cooper, M.D.  
 University of Pennsylvania
- 10:30-10:45    **Break**

**COPD: Part I (continued)**  
**Moderator: Eric Hoffman, Ph.D. and David Lipson M.D.**

- 10:45-11:30    **Dynamic Hyperinflation in COPD: Impact on Dyspnea and Exercise Performance**  
 Gerald J. Criner, M.D.  
 Temple University
- 11:30-12:15    **CT: Current Status and Future Developments**  
 Thomas Flohr, Ph.D.  
 Siemens AG
- 12:15-12:30    **Questions & Answers**
- 12:30-1:30      **Lunch**

**COPD: Part II**  
**Moderator: Barry Peterson Ph.D. and Masaru Ishii, M.D., Ph.D.**

- 1:30-1:45      **Early Detection of Emphysema in Animal Model Using Polarized Gas MRI**  
 Kiarash Emami, M.S.  
 University of Pennsylvania
- 1:45-2:00      **Helium-3 Diffusion Imaging of the Human Lung at Multiple Times Scales**  
 John P. Mugler, III, Ph.D.  
 University of Virginia
- 2:00-2:15      **Long-term Reproducibility and Age Dependence of Emphysema Measurements Using Polarized Gas MRI**  
 Per Akesson, M.D., Ph.D.  
 University of Malmo
- 2:15-2:30      **Helium-3 Diffusion: Beyond Simple Measurements**  
 Mark S. Conradi, Ph.D.

Washington University  
2:30-2:45 **Measurements of Physiologic Parameters in the Lungs of Small Animals**  
Stephen J. Kadlecek, Ph.D.  
University of Pennsylvania

2:45-3:00 **Break**

**COPD: Part II (Continued)**  
**Moderators: John Mugler, Ph.D. and Bastiaan Driehuys, Ph.D**

2:45-3:00 **Development of Techniques for Interrogation of Small Airway Disease Using  $^3\text{He}$  MRI**  
Georgeann McGuinness, M.D.  
New York University

3:00-3:15 **Imaging Pulmonary Gas Exchange Using Hyperpolarized  $^{129}\text{Xe}$  MRI**  
Bastiaan Driehuys, Ph.D.  
Duke University Medical Center

3:15-3:30 **Imaging Human Lung with Polarized  $^{129}\text{Xe}$**   
F. William Hersman, Ph.D.  
University of New Hampshire

3:30-3:45 **Human Lung Imaging in Supine versus Upright Positions with a 6.5 mT Open-access  $^3\text{He}$  MRI System: Initial Results**  
Ross Mair, Ph.D  
Harvard University

3:45-4:00 **Break**

**Panel Discussion**  
**Moderators: Wayne Mitzner Ph.D. and Barry Peterson, Ph.D.**

4:00-5:00 **What is the Value of Modern/Expensive Imaging in Lung Disease?**

5:00-7:00 **Poster Session and Light Reception**

## **Saturday, September 16<sup>th</sup>, 2006**

7:00-7:45 Continental Breakfast

**Lung Cancer and Molecular Imaging**  
**Moderators: Warren Gifter, M.D. and Hiroto Hatabu M.D.**

7:45-8:15 **Imaging Needs in Surgery for Lung Cancer and Emphysema**  
Joseph B. Shrager, M.D.  
University of Pennsylvania

8:15-8:45 **Integrated CT/Bronchoscopy for Diagnosis and Treatment of Lung Cancer**  
Geoffrey McLennan, M.D.  
University of Iowa

8:45-9:15	<b>PET/CT: Today and Tomorrow</b> Chaitanya Divgi, M.D. University of Pennsylvania
9:15-9:45	<b>Evaluating Imaging Biomarkers of Lung Cancer Response</b> Daniel C. Sullivan, M.D. National Cancer Institute
9:45-10:00	<b>Questions &amp; Answers</b>
10:00-10:15	<b>Break</b>
10:15-11:00	<b>Early Detection of Lung Cancer by CT</b> Claudia Henschke, M.D., Ph.D. Cornell University
11:00-11:30	<b>Biomarkers for Imaging in Lung Cancer</b> Jerry D. Glickson, Ph.D. University of Pennsylvania
11:30-12:00	<b>Tissue and Serum Metabolomic Profiles of Lung Cancer</b> Leo Cheng, Ph.D. Harvard University
12:00-12:15	<b>Questions &amp; Answers</b>
12:15-1:00	<b>Lunch</b>

**Pulmonary Vascular Disease**  
**Moderator: Harold Palevsky, M.D.**

1:00-1:25	<b>The Need for Imaging Pathobiological Processes Involved in Lung Disease</b> Rubin Tudor, Ph.D. Johns Hopkins University
1:25-1:50	<b>The Role of Imaging (Echocardiogram and Cardiac MRI) in the Assessment of Pulmonary Arterial Hypertension</b> Paul Hassoun, M.D. Johns Hopkins University
1:50-2:15	<b>Present and Future Diagnostic Tests for Pulmonary Embolism</b> Edwin J. R. van Beek, M.D., Ph.D. University of Iowa
2:15-2:30	<b>Break</b>
2:30-2:55	<b>Functional CT Imaging Insights into Acute Lung Injury</b> Brett A. Simon, M.D., Ph.D. Johns Hopkins University
2:55-3:20	<b>Pulmonary Vasculopathy in Sickle Cell Disease</b> Kim Smith-Whitley, M.D. Childrens Hospital of Philadelphia
3:20-3:35	<b>Break</b>

**Imaging and Pulmonary Drug Delivery**  
**Moderator: Vladimir R. Muzykantov, Ph.D.**

- 3:35-4:00      **Engineering Nanoprobes for Targeted Imaging of Vascular Pathologies**  
Andrew Tsourkas, Ph.D.  
University of Pennsylvania
- 4:00-4:25      **Targeted Delivery of Drugs to the Pulmonary Endothelium**  
Vladimir R. Muzykantov, M.D., Ph.D.  
University of Pennsylvania
- 4:25-4:50      **Using PET Imaging to Map Inhaled Drug Delivery and Response to Treatment**  
Myrna B. Dolovich, Ph.D.  
McMaster University
- 4:50-5:15      **Imaging Nonfluorescent Molecular Markers in Scattering Tissue Using Nonlinear Microscopy**  
Warren Warren, Ph.D.  
Duke University
- 5:15-5:30      **Concluding Remarks**  
Organizing Committee
- 5:30              **Adjourn**