# Thursday, September 14th, 2006

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00-7:45</td>
<td>Continental Breakfast</td>
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<tr>
<td>7:45-8:00</td>
<td><strong>Introductory Remarks</strong></td>
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<td>Rahim R. Rizi, Ph.D.</td>
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<td>University of Pennsylvania</td>
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<td>8:00-8:15</td>
<td><strong>Welcome Remarks</strong></td>
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<td>Glen Gaulton, Ph.D.</td>
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<td>Vice Dean For Research, School of Medicine, University of Pennsylvania</td>
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## Functional Imaging Keynote Lectures

**Moderators: Warren Gefter, M.D. and Masaru Ishii, M.D., Ph.D.**

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

**Moderators: Reynold Panettieri M.D., and David Lipson, M.D.**

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<th>Time</th>
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<tr>
<td>1:00-1:30</td>
<td>Asthma in the New Millennium</td>
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<tr>
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<td>Reynold A. Panettieri, Jr., M.D.</td>
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<td>University of Pennsylvania</td>
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<td>1:30-2:00</td>
<td>Pharmaceutical Needs in Asthma</td>
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<td>Barry T. Peterson, Ph.D.</td>
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</table>
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 \(^3\)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 \(V_a/Q\) 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 15th, 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 Akeson, M.D., Ph.D.
University of Malmo

2:15-2:30  Helium-3 Diffusion: Beyond Simple Measurements
Mark S. Conradi, Ph.D.
2:30-2:45  Measurements of Physiologic Parameters in the Lungs of Small Animals
Stephen J. Kadlecak, 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 \(^3\)He MRI
Georgeann McGuinness, M.D.
New York University

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

3:15-3:30  Imaging Human Lung with Polarized \(^{129}\)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 \(^3\)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\(^{th}\), 2006

7:00-7:45  Continental Breakfast

Lung Cancer and Molecular Imaging
Moderators: Warren Gefter, 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
PET/CT: Today and Tomorrow
Chaitanya Divgi, M.D.
University of Pennsylvania

Evaluating Imaging Biomarkers of Lung Cancer Response
Daniel C. Sullivan, M.D.
National Cancer Institute

Questions & Answers

Break

Early Detection of Lung Cancer by CT
Claudia Henschke, M.D., Ph.D.
Cornell University

Biomarkers for Imaging in Lung Cancer
Jerry D. Glickson, Ph.D.
University of Pennsylvania

Tissue and Serum Metabolomic Profiles of Lung Cancer
Leo Cheng, Ph.D.
Harvard University

Questions & Answers

Break

The Need for Imaging Pathobiological Processes Involved in Lung Disease
Rubin Tudor, Ph.D.
Johns Hopkins University

The Role of Imaging (Echocardiogram and Cardiac MRI) in the Assessment of Pulmonary Arterial Hypertension
Paul Hassoun, M.D.
Johns Hopkins University

Present and Future Diagnostic Tests for Pulmonary Embolism
Edwin J. R. van Beek, M.D., Ph.D.
University of Iowa

Break

Functional CT Imaging Insights into Acute Lung Injury
Brett A. Simon, M.D., Ph.D.
Johns Hopkins University

Pulmonary Vasculopathy in Sickle Cell Disease
Kim Smith-Whitley, M.D.
Childrens Hospital of Philadelphia

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