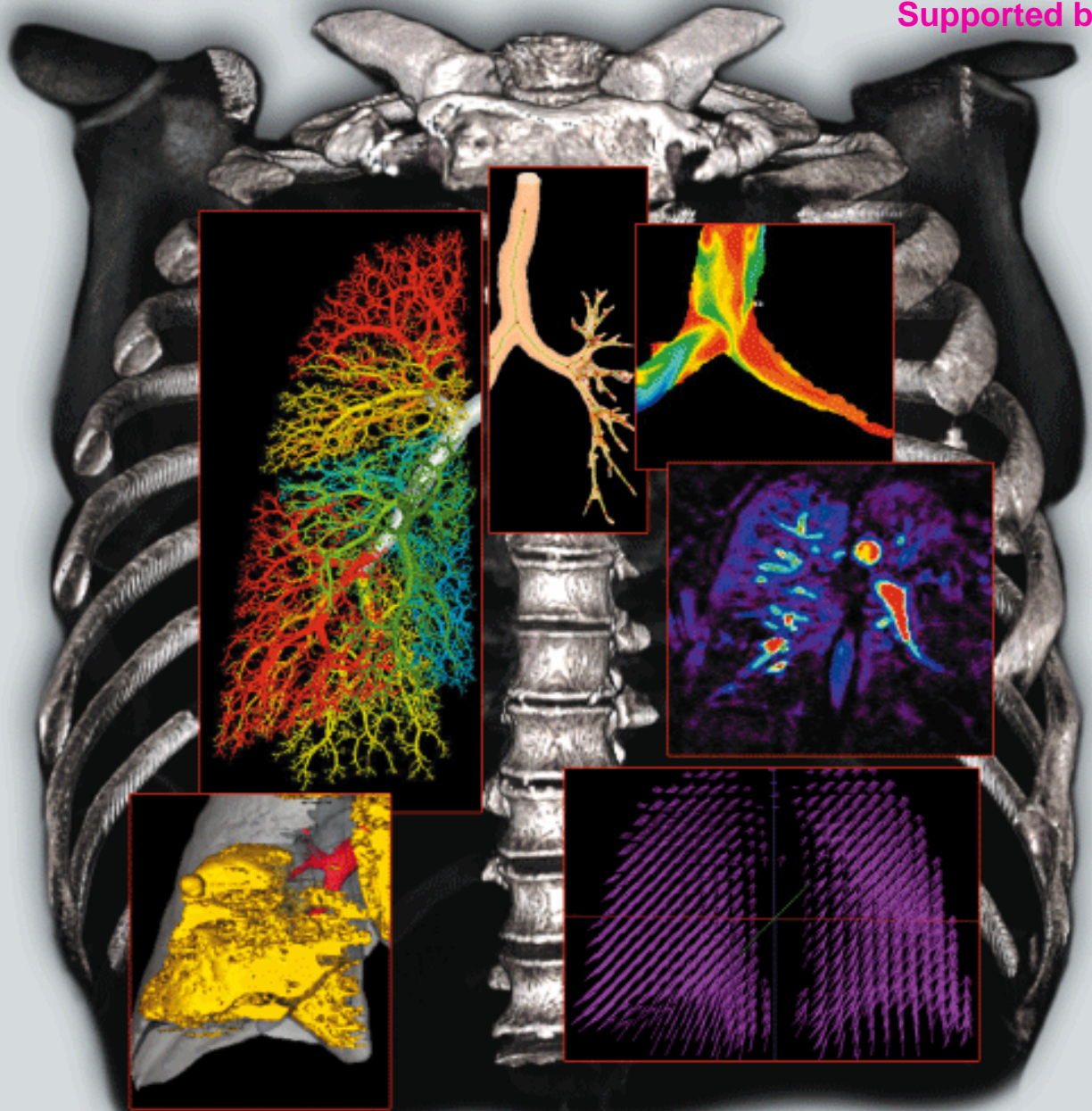


# 3rd International Workshop of Pulmonary Functional Imaging

Endorsed by ISMRM  
Supported by DFG



Heidelberg, Germany  
October 5-7, 2006  
[www.iwpfi.dkfz.org](http://www.iwpfi.dkfz.org)

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# 3rd International Workshop of Pulmonary Functional Imaging

## Final Program

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# Welcome Address

Dear Colleagues and Friends,

The 3rd International Workshop on Pulmonary Functional Imaging at the German Cancer Research Center (DKFZ) in Heidelberg, Germany, will serve the emerging clinical need for improved imaging diagnostics in various lung diseases by bringing together a multidisciplinary group of researchers and clinicians working on the forefront of image-based approaches to lung function.

The scientific program is an attractive combination of invited keynote lectures, selected free papers and poster presentations for specific topics: airway disease, emphysema, pulmonary hypertension, exercise testing and biomechanics, protective ventilation and ARDS, experimental techniques, bronchoscopy and ultrasound, tumor angiogenesis, as well as acute pulmonary hypertension. Additionally, we will have poster sessions on airway disease and emphysema as well as vasculature and oncology complemented by two Lunch Symposia dealing with major developments in Pulmonary Functional Imaging. The highlights of the workshop will be selected for the 2<sup>nd</sup> edition of the Springer book on “Functional Imaging of the Chest”.

Started in Philadelphia in 2002, followed in Kobe in 2004, for the first time the Workshop is endorsed by the International Society of Magnetic Resonance in Medicine (ISMRM) as well as the German Research Council (DFG).

We are pleased to welcome you in Heidelberg also on behalf of the University of Heidelberg, which is the oldest university in Germany (1386) and one of the oldest in Europe. Since more than 600 years it is a center of international scientific and academic endeavor. Besides the German Cancer Research Center, Heidelberg is also the home of the German Academy of Sciences, the Center of Jewish Studies, the European Molecular Biology Laboratories and five facilities of the Max Planck Society. After all, an international exchange of academic ideas and clinical experiences is daily common practice. Besides the get together party and the workshop dinner, your personal program might also include visits to the renowned Castles of Heidelberg and Schwetzingen.

We wish you an interesting and stimulating meeting covering the latest advances in research and clinical application of Pulmonary Functional Imaging and an enjoyable stay in Heidelberg



Prof. Dr. Hans-Ulrich Kauczor  
President Organizing Committee



Hiroto Hatabu, M.D., Ph.D.  
Chairman of the Board, IWPMI

# Board Members

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# General Information

## Congress

### Venue

German Cancer Research Center  
Communication Center  
Im Neuenheimer Feld 280, D-69120 Heidelberg

### Office

In the main lobby of the Communication Center  
Tel.: +49(0)6221 – 42 42 42

### Hours

Thursday, Oct. 5: 12.00 - 18.30  
Friday, Oct. 6: 07.30 - 18.30  
Saturday, Oct. 7: 07.30 - 17.00

Thursday, Oct. 5: 12.00 - 20.30  
Friday, Oct. 6: 07.30 - 19.30  
Saturday, Oct. 7: 07.30 - 17.00

### Language

Lectures and discussions are **in English**.

## Registration Fee

### Until July 31, 2006

Physicians, Physicists, others	200 Euro
Residents*, Students*	100 Euro
Industry	500 Euro

\*not older than 35 years, have to confirm status

### After July 31, 2006

Physician, Physicists, others	300 Euro
Residents*, Students*	150 Euro
Industry	700 Euro

### Day tickets (available on-site)

Oct. 05. or 07. 100 Euro  
Oct. 06. 150 Euro

The registration fees include 16% German VAT.

## General Information

### Registration

German Cancer Research Center, Im Neuenheimer Feld 280, 69120 Heidelberg, Germany	
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Fax: +49 - (0)6221 - 42 2708	Fax: +49 - (0)6221 - 42 2567
<a href="mailto:a.bahtovic@dkfz.de">a.bahtovic@dkfz.de</a>	<a href="mailto:r.liebegall@dkfz.de">r.liebegall@dkfz.de</a>
Homepage: <a href="http://www.iwpfi.dkfz.org">www.iwpfi.dkfz.org</a>	

### CME Credits

The number of CME points (category A) has been set to 7 per day and a total of 21 for the Workshop.

### Industrial Exhibition

The industrial exhibition takes place in the foyer of the Communication Center from Thursday to Saturday.

## Guidelines for Presenters

The Media Reception is located on the 1<sup>st</sup> floor of the Communication Center.

Please hand in your presentation/video files to the Media Reception 2 hours prior to your presentation. The lecturers of the first keynote sessions on Friday and Saturday are requested to submit their presentation the day before. The following data carriers are accepted: CD-ROM, DVD or USB-Thumb Drive.

The following data formats are accepted:

Presentation format: Microsoft Power Point 2000 to 2003

Optimal Screen Resolution: 1024 x 768

Video formats: Cinepak Radius, Indeo 5.10, Intel Indeo 4.5, Microsoft WMV, MPEG-1, MPEG-2, MJPEG, XVID 1.1, Camtasia Studio (TSCC) 2.0.6.

The lectures are held in the auditorium using a central computer, which is equipped with Microsoft Office 2003 and a projector. The usage of personal laptops is not permitted due to technical reasons.

Please be aware, that certain fonts, which are not part of the standard Windows XP kit, have to be embedded into the presentation to ensure an error-free view.

Your presentation will be deleted from our server after the Workshop.

## Social Events

### Continental Breakfast

Continental breakfast will be served on Friday, Oct. 6, and Saturday, Oct. 7, from 07.30 - 08.30.

### Lunch

Thursday,	Oct. 5: Lunch reception in the lobby,	12.30 - 14.00
Friday,	Oct. 6: Toshiba Lunch Symposium, auditorium	12.30 - 14.00
Saturday,	Oct 7: Siemens Lunch Symposium, auditorium	12.30 - 14.00

### Get together Party

The Get together Party is taking place on Thursday, Oct. 5, from 18.30 to 21.00 in the lobby of the Communication Center. All participants of the Workshop are warmly invited.

### Workshop Dinner

The Workshop Dinner is taking place on Friday, Oct. 6, at 19.30 at Restaurant "Die Burgfreiheit", Neue Schloßstr. 52, 69117 Heidelberg. Please register as number of seats is limited, own contribution 20 €

### "Night Watchman" Tour of Heidelberg Castle

A guided tour of the highlights of the fully illuminated Heidelberg castle is taking place on Friday, Oct. 6, at 23.00 starting from the Restaurant "Die Burgfreiheit" for the participants of the workshop dinner. The number of participants is limited. Get your tickets early.

## Organized by

Department of Radiology, German Cancer Research Center, Heidelberg

## How to Get to Heidelberg

Heidelberg is centrally located in southern Germany and can easily be reached by train, car, bus or plane. Nearest airports are Frankfurt/Main (80 km) and Stuttgart (120 km).

Please use parking facilities nearby.



# Program at a Glance

Thursday, Oct. 5, 2006

Friday, Oct. 6, 2006

Saturday, Oct. 7, 2006

07:30 - 08:30		Continental Breakfast	Continental Breakfast
08:30 - 10:00		Pulmonary Hypertension	Bronchoscopy and Ultrasound
10:00- 10:30		Break	Break
10:30 - 12:30		Exercise Testing and Biomechanics	Tumor Angiogenesis
12:30 - 14:00	Lunch Reception Registration	Toshiba Lunch Symposium	Siemens Lunch Symposium
14:00 - 16:00	Welcome + Introduction Airway Disease	Protective Ventilation and ARDS	Acute Pulmonary Embolism
16:00 - 16.30	Break	Break	Adjourn
16:30 - 18:30	Emphysema	Parallel Sessions: Experimental Poster Sessions: Airway Disease + Emphysema Vasculature and Oncology	
18:30 - 20:30	Get together Party		
19:30		Workshop Dinner	

# Scientific Program

**Thursday, October 5**

**12:30 Lunch Reception and Registration**

**14:00 Welcome + Introduction:** H.-U. Kauczor (D-Heidelberg), H. Hatabu (US-Boston)  
G.W. Kauffmann (D-Heidelberg)

**14:30 Airway Disease**

Moderators P. Schnyder (CH-Lausanne), C.P. Heussel (D-Heidelberg)

## Keynote Lectures

- |       |                            |                                  |
|-------|----------------------------|----------------------------------|
| 14:30 | H. Magnussen (D-Hamburg)   | Pulmonary function tests in COPD |
| 14:45 | P. Grenier (F-Paris)       | Imaging of airway disease        |
| 15:00 | F.M. Müller (D-Heidelberg) | Functional diagnostics in CF     |

## Scientific Presentations

- |       |                             |   |
|-------|-----------------------------|---|
| 15:15 | N. Woodhouse (UK-Sheffield) | Hyperpolarised Helium-3 Regional Volumetry Pre and Post Physiotherapy in Cystic Fibrosis: Preliminary Experiences                     |
| 15:25 | Y.S. Tzeng (US-Boston)      | Quantification of Ventilation Heterogeneity Changes in Asthmatic and Non-Asthmatic Lungs Using Hyperpolarized 3He MRI                 |
| 15:35 | S.H. Park (ROK-Seoul)       | Automatic measurement of airway dimension and index of air trapping at volumetric CT in asthma: Correlation with clinical parameters. |
| 15:45 | T. Achenbach (D-Mainz)      | Influence of Image Matrix and an Integral Based Method on Bronchial-Wall Quantification.  |
| 15:55 | N. Sverzellati (I-Parma)    | How much do GOLD stages reflect CT abnormalities in COPD patients?  |

**16:00 Break**

**16:30 Emphysema**

Moderators H. Magnussen (D-Hamburg), P. Grenier (F-Paris)

## Keynote Lectures

- |       |                       |   |
|-------|-----------------------|---|
| 16:30 | M. Mishima (J-Kyoto)  | Discrimination and phenotyping of COPD using CT |
| 16:45 | E. Hoffman (US-Iowa)  | Functional imaging of emphysema using CT        |
| 17:00 | E. van Beek (US-Iowa) | Imaging of emphysema using 3He MRI              |
| 17:15 | Y. Ohno (J-Kobe)      | Oxygen-enhanced MRI                             |

## Scientific Presentations

- |       |                              |  |
|-------|------------------------------|--|
| 17:30 | F. Molinari (I-Rome)         | Oxygen-enhanced MRI vs. Quantitative Multidetector-Row CT in Smoking-Related Pulmonary Emphysema.                              |
| 17:40 | K. Ruppert (US-Philadelphia) | Detecting Emphysema with Functional Lung Imaging Using Hyperpolarized Xe-129   |
| 17:50 | S. Patz (US-Boston)          | Quantitative surface/volume and Gas Exchange Imaging in Humans with Hyperpolarized 129Xe                                       |
| 18:00 | A. Evans (CDN-London)        | Hyperpolarized Helium 3 Magnetic Resonance Imaging of Severe and Moderate COPD: Reproducibility of ADC and Ventilation Volumes |

**18:30-20:30 Get together Party**

## Friday, October 6

### 07:30 Continental Breakfast

### 08:30 Pulmonary Hypertension

Moderators C. Fink (D-Munich), D. Kiely (UK-Sheffield)

#### Keynote Lectures

- |       |                           |  |
|-------|---------------------------|--|
| 08:30 | E. Gruenig (D-Heidelberg) | Genetics and clinical presentation of PH |
| 08:45 | D. Kiely (UK-Sheffield)   | Therapy and monitoring of PH             |
| 09:00 | E. Mayer (D-Mainz)        | Surgical Treatment of PH                 |
| 09:15 | S. Ley (D-Heidelberg)     | Imaging in PH                            |

#### Scientific Presentations

- |       |                             |  |
|-------|-----------------------------|--|
| 09:30 | N. Woodhouse (UK-Sheffield) | Intra-Individual Comparison of 0.5 & 1.0M Contrast Agents in the Evaluation of Chronic Thrombo-Embolic Pulmonary Hypertension  |
| 09:40 | P. Kunz (D-Mainz)           | Mean pulmonary arterial pressure estimation by means of high temporal resolution phase-contrast MRI in patients with CTEPH   |
| 09:50 | M. Nogami (J-Kobe)          | Myocardial Glucose Uptake on Whole-body 18F-FDG PET/CT in Patients with Suspected Malignancy: Correlation with Right Ventricle Function and/or Pulmonary Vascular Resistance |

### 10:00 Break

### 10:30 Exercise Testing and Biomechanics

Moderators H. Hatabu (US-Boston), M. Paiva (B-Brussels)

#### Keynote Lectures

- |       |                            |  |
|-------|----------------------------|--|
| 10:30 | P. Baertsch (D-Heidelberg) | Lung function and PA pressure in hypoxia   |
| 10:45 | J. Gee (US-Philadelphia)   | Image-based vector analysis of lung motion |
| 11:00 | D. Levin (US-Rochester)    | Imaging during and after exercise testing  |
| 11:15 | M. Paiva (B-Brussels)      | Dedicated lung function tests              |

#### Scientific Presentations

- |       |                              |  |
|-------|------------------------------|--|
| 11:30 | M. Nishino (US-Boston)       | Volumetric Expiratory High-Resolution CT of the Lung: Clinical applications  |
| 11:40 | J. T. Marcus (NL-Amsterdam)  | MRI estimation of dynamic regional lung ventilation, derived from pulmonary density changes during respiration       |
| 11:50 | M. Eichinger (D-Heidelberg)  | Visualisation of Lung Function using Real-Time MRI   |
| 12:00 | A. Swift (UK-Sheffield)      | Rapid lung volumetry with ultrafast dynamic MRI during forced vital capacity manoeuvre – correlation with Spirometry |
| 12:10 | N. Nurpeissov (D-Heidelberg) | Lung parenchyma motion analysis: Comparison of MRI techniques  |

## Friday, October 6

**TOSHIBA**

### 12:30 Toshiba Lunch Symposium

- Moderator K. Sugimura (J-Kobe)
- 12:30 H. Dogan (NL-Leiden) Systolic Right Ventricular Function in Acute Pulmonary Embolism using MDCT
- 12:55 J. Ley-Zaporozhan (D-Heidelberg) Insights in pulmonary mechanics and ventilation using 4D CT
- 13:20 H. Hatabu (US-Boston) Lung Multicenter Trial for dose reduction in CT

### 14:00 Protective Ventilation and ARDS

Moderators G. Hedenstierna (S-Uppsala), H.-U. Kauczor (D-Heidelberg)

#### Keynote Lectures

- 14:00 G. Hedenstierna (S-Uppsala) Concepts for protective ventilation in ARDS
- 14:15 K. Markstaller (CH-Berne) Image-based support for protective ventilation in ARDS
- 14:30 W. Schröder (D-Aachen) Flow simulation for protective ventilation

#### Scientific Presentations

- 14:45 K. Adler (D-Freiberg) Investigation of Dynamic Flow Patterns in a Realistic 3D Model of the Tracheobronchial-Tree
- 14:55 W. Kilian (D-Berlin) MR velocimetry of hyperpolarized rare gases for non-invasive in vivo gas-flow measurements
- 15:05 K Schirrmann (D-Berlin) A Liquid-Liquid-System as a Blood Model Fluid in a Capillary Network
- 15:15 U. Wolf (D-Mainz) 19F-MRI of a wash-out of C4F8 during HFOV: initial results
- 15:25 A. Tabuchi (D-Berlin) Intravital microscopy of the pulmonary microcirculation in ventilated mice
- 15:35 M.G. Papi (I-Rome) MDCT quantitative and qualitative findings in ARF and ARDS patients at different PEEP ventilation pattern: cut-off value of PEEP
- 15:45 I. Frerichs (D-Kiel) Quantification and reproducibility of PEEP-induced redistribution of regional lung ventilation determined by functional electrical impedance tomography

### 16:00 Break

## Friday, October 6

### 16:30 Parallel Sessions

#### 16:30 Experimental

Moderators Y. Cremillieux (F-Villeurbanne), H. Schulz (D-Munich)

#### Keynote Lecture

16:30 M. Takahashi (US-Boston) Emphysema imaging in mice

#### Scientific Presentations

- 16:45 I. Bolle (D-Munich) Does lack of the Cfr gene result in a lung function phenotype?
- 16:55 M. Mall (D-Heidelberg) Airway surface liquid (ASL) dehydration produces a novel animal model for CF and COPD
- 17:05 F.X. Ble (CH-Basel) MRI as a non-invasive tool to characterize a murine model of allergic pulmonary inflammation
- 17:15 D. Rudersdorf (D-Mainz) Bimodal imaging of Elastase induced emphysema in rats
- 17:25 J. Mata (US-Charlottesville) Evaluation of Emphysema Severity and Progression in a Rabbit Model: A Comparison of Hyperpolarized He-3 and Xe-129 ADC with Morphometry
- 17:35 J. Perez-Sanchez (ES-Madrid) Pressure dependence, isotropy, and reproducibility of in-vivo <sup>3</sup>He-MRI ADC measurements in the rat lung at 0.5T
- 17:45 M. Mertens (D-Berlin) Respiratory changes in lung volume of the ventilated mouse are attributable to alveolar distension rather than recruitment
- 17:55 S.I. Mund (CH-Berne) Local Capillary Duplications at the Basis of Newly Forming Septa Allow Late Alveolarization of Juvenile and Young Adults Lung
- 18:05 F.W. Hersman (US-Durham) Large-scale polarization of <sup>129</sup>Xenon

## Friday, October 6

### 16:30 Poster Session 1: Airway Disease and Emphysema

Moderators J. Biederer (D-Kiel/Heidelberg), S. Murayama (J-Ryukyus)

- P01 J.B. Seo (ROK-Seoul) Quantitative assessment of emphysema and airway dimension at volumetric CT in chronic obstructive lung disease (COPD): correlation with pulmonary function test (PFT) and clinical parameters
- P02 M. Nieber (NL-Leiden) Airflow Limitation in COPD: Differentiation between the Effects of Parenchymal and Bronchial Disease by measuring Lung Density and Bronchial Dimensions in CT
- P03 M. Nishino (US-Boston) Volumetric Expiratory High-Resolution CT of the Lung: Basics and technical considerations
- P04 N. Kim (ROK-Seoul) Optimal binning and ROI size of the automatic classification system for differentiation between obstructive lung diseases on the basis of texture features at HRCT
- P05 S.H. Park (ROK-Seoul) An automated classification system for differentiation between obstructive lung diseases on the basis of texture features at HRCT: Improvement of performance by adding shape features
- P06 H. Koyama (J-Kobe) Quantitative Analysis of Isotropic Thin-section Volumetric MSCT in Pulmonary Emphysema Patients: Correlation with Pulmonary Function Test and NETT Score for Determination of Feasible Threshold Value
- P07 J.-M. Kuhnigk (D-Bremen) Functional analysis of lungs, lobes and bronchopulmonary segments based on CT data
- P08 N. Kim (ROK-Seoul) Automatic measurement of oblique-oriented airway dimension at volumetric CT: Effect of imaging parameters and obliquity of airway on physical phantom.
- P09 N. Kim (ROK-Seoul) Influence of CT imaging parameters on automatic measurement of airway wall thickness with FWHM method using a physical phantom.
- P10 G. Edula (S-Lund) Measuring airway changes and emphysema in COPD patients for patient stratification and disease progression - findings from cross-sectional study
- P11 J.B. Seo (ROK-Seoul) Quantitative perfusion MR in patients with COPD: Correlation of perfusion parameters with pulmonary function test and quantitative CT
- P12 M. Doebrich (D-Mainz) Deconvolution analysis in rapid hyperpolarized  $^3\text{He}$  MRI
- P13 J.M. Wild (UK-Sheffield) Changes in dynamic lung ventilation in asthmatics in response to broncho-dilator treatment demonstrated with radial projection  $^3\text{He}$  MRI
- P14 E. Bannier (F-Villeurbanne) Lung ventilation MRI using polarised  $\text{He}^3$  – sequence validations and preliminary results on a clinical scanner
- P15 N. Woodhouse (UK-Sheffield) Comparison of Hyperpolarised  $^3\text{-He}$  Administration Methods in Healthy and Diseased Subjects
- P16 R. Failo (NL-Rotterdam) Ultra-short TR/TE 2D Steady State Free Precession (SSFP) MRI: is this a feasible method to evaluate the lungs in CF patients?
- P17 M. Oechsner (D-Wuerzburg) Optimised FLASH sequences for examinations of the human lung at 0.2 T
- P18 F. Giesel (D-Heidelberg) Regional brain matter loss in chronic obstructive pulmonary disease
- P19 W. Möller (D-Gauting) Left to right asymmetry of lung deposition after shallow aerosol bolus inhalation is an effect of lung ventilation

## Friday, October 6

### 16:30 Poster Session 2: Vasculature and Oncology

Moderators	D. Levin (US-Rochester), L. Bonomo (I-Rome)	
P20	M. Nogami (J-Kobe)	Phase Contrast MR Imaging: Utility for Assessment of Influence on Cardiac Function and Disease Severity of the Lungs in Pulmonary Emphysema
P21	K.O. Choe (ROK-Seoul)	Role of thin section CT in the patients with Eisenmenger syndrome determining operability
P22	K.O. Choe (ROK-Seoul)	PA/PV ratio related with cross-sectional area of systemic-pulmonary collateral vessels by CT in patients with congenital heart defects and decreased pulmonary blood flow
P23	M. Oechsner (D-Wuerzburg)	Quantitative contrast-enhanced perfusion measurements of the human lung
P24	D. Takenaka (J-Kobe)	Adiabatic Inversion Recovery HASTE Sequence: Determination of the Influence of Slice-selectivity to Oxygen-enhanced MRI-Preliminary Results
P25	H. Karmouty (CH-Basel)	Experimental pulmonary disease assessed by proton MRI
P26	C. Otto (US-Philadelphia)	Regional and Temporal Distribution of Chemokines in a Model of Acute Lung Injury
P27	R. Tetzlaff (D-Heidelberg)	Lung motion of animal lung explants in a MR-compatible chest phantom - Interpolation from landmarks in CT-scans at distinct inspiratory levels
P28	C. Plathow (D-Tuebingen)	Monitoring of lung motion in patients with malignant pleural mesothelioma using 2D and 3D dynamic MRI: Comparison with Spirometry
P29	F. Giesel (D-Heidelberg)	Non-invasive analysis of malignant epithelioid mesothelioma using DCE-MRI: a feasibility study
P30	C. Hintze (D-Heidelberg)	MR based lung cancer perfusion measurement: Quantitative and qualitative assessment of time intensity curves of a hybrid breath hold and navigator triggered 3D MR sequence
P31	C. Plathow (D-Tuebingen)	Comparison of whole body MRI and whole body PET-CT for staging of advanced bronchial carcinoma - initial results

### 19:30 Workshop Dinner

## Saturday, October 7

### 07:30 Continental Breakfast

### 08:30 Bronchoscopy and Ultrasound

Moderators L. Bonomo (I-Rome), F. Herth (D-Heidelberg)

#### Keynote Lectures

- 08:30 A. Ernst (US-Boston) Imaging requirements for the central airways  
08:45 F. Herth (D-Heidelberg) Imaging requirements for the peripheral airways  
09:00 C.P. Heussel (D-Heidelberg) CT and MRI to support endobronchial therapy

#### Scientific Presentations

- 09:15 I. Wegner (D-Heidelberg) Development of a Navigation System for Bronchoscopy inside Human Lungs  
09:25 W. Harms (D-Heidelberg) Prospective Clinical Trial on Safety and Feasibility of Electromagnetically Navigated Brachytherapy as a new Treatment Option for Peripheral Lung Cancer  
09:35 R. Eberhardt (D-Heidelberg) EBUS-TBNA for Mediastinal Restaging  
09:45 R. Eberhardt (D-Heidelberg) Electromagnetic Navigation – a new approach in diagnosing peripheral lung lesions: Evaluation of the learning curve

### 10:00 Break

### 10:30 Tumor Angiogenesis

Moderators Y. Ohno (J-Kobe), H. Augustin (D-Mannheim/Heidelberg)

#### Keynote Lectures

- 10:30 H. Augustin (D-Mannheim) Role of angiogenesis in lung cancer  
10:45 N. Reinmuth (D-Heidelberg) Role of anti-angiogenic treatment in lung cancer  
11:00 V. Goh (UK-Northwood) CT imaging of angiogenesis in lung cancer  
11:15 H. Hatabu (US-Boston) MRI perfusion of nodules

#### Scientific Presentations

- 11:30 J. Arnold (D-Wuerzburg) Target volume definition in patients with non-small cell lung cancer using magnetization transfer MRI  
11:40 R. Ireland (UK-Sheffield) Optimisation of lung cancer radiotherapy treatment with hyperpolarised He-3 MRI  
11:50 G. Remmert (D-Heidelberg) Retrospectively gated MRI – 4D imaging of porcine lung phantom  
12:00 C. Plathow (D-Tuebingen) Quantification of lung tumor volume and rotation during respiration using 3D dynamic parallel MRI with view sharing – preliminary results  
12:10 H. Bolte (D-Kiel) Computer aided volumetry of ex-vivo pulmonary nodules: does respiratory gated helical CT (4D-CT) affect reproducibility?  
12:20 A. vanBaardwijk (NL-Maastricht) PET-CT scan as a way to come to the “Dynamic Biological Target Volume” (D-BTV) in non-small cell lung cancer (NSCLC) patients.

**Saturday, October 7**

**SIEMENS**

**12:30 Siemens Lunch Symposium**

Moderator J. Biederer (D-Heidelberg)

- 12:30 T. Rupperecht (D-Erlangen) MR alveolar ventilation imaging (AVI) - a breakthrough for lung imaging and functional assessment? Results of a phantom study and a clinical trial in 85 patients
- 13:00 C. Fink (D-München) Whole-body MRI with parallel imaging: potential for lung imaging
- 13:30 J. Biederer (D-Heidelberg) Respiratory gated helical CT: Evaluating regional lung motion and tumor displacement for concepts of motion-adapted radiotherapy

**14:00 Acute Pulmonary Embolism**

Moderators M. Miniati (I-Florence), E. van Beek (US-Iowa)

Keynote Lectures

- 14:00 M. Miniati (I-Florence) Clinical evaluation of pulmonary embolism
- 14:15 M. Remy-Jardin (F-Lille) CT of pulmonary embolism
- 14:30 H. Roberts (CDN-Toronto) Computer-assisted diagnosis for CT of pulmonary embolism
- 14:45 C. Fink (D-Munich) MRI of pulmonary embolism

Scientific Presentations

- 14:55 C. Engelke (D-Munich) Multislice CT of acute pulmonary embolism: prediction of short-term patient survival from morphological embolus burden
- 15:05 L. Ketai (US-Albuquerque) The Impact of Non-occlusive Pulmonary Emboli on Local Pulmonary Blood Flow
- 15:15 C. Engelke (D-Munich) Multislice CT of acute pulmonary embolism: prognostic value of morphological cardiac parameters
- 15:25 C. Engelke (D-Munich) Acute pulmonary embolism on multislice CT: one-year survival of treated and untreated patients
- 15:35 A. Kluge (D-Bad Nauheim) MRI in clinical routine for acute pulmonary embolism and deep vein thrombosis
- 15:45 E. Pracht (D-Wuerzburg) Single-Shot Perfusion Imaging of the Human Lung
- 15:55 C. Fink (D-Munich) Blood pool MR contrast agents: new perspectives for the assessment of pulmonary embolism?

**16:15 Adjourn**