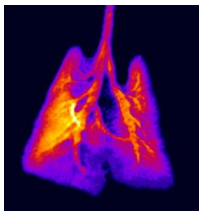
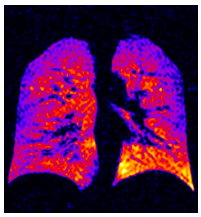


PHeLINet

Polarized Helium Lung Imaging Network



PHELINET (2007-2011) is a Research Training Network supported by the European Commission (6th Framework Program, Marie Curie Actions).

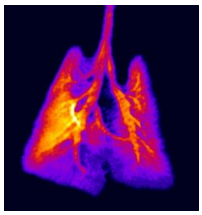
Seventeen academic research centres, industrial groups, small and medium size enterprises, are involved in a coordinated effort to develop and disseminate magnetic resonance imaging with hyperpolarized helium-3 gas. Research activities are focused on cutting-edge developments of this innovative, powerful, non-invasive technique for in vivo investigations, and on applications for clinical diagnosis and validation of lung therapies. Training and transfer of knowledge activities are designed to meet the major needs of end-users, and to provide the required high level multi-disciplinary education to new researchers.

PHELINET offers unique opportunities to get started with hyperpolarized helium-3 MRI, and to develop valuable expertise through active contribution to research in an exciting new field of biomedical imaging. This document describes the job vacancies and transnational mobility opportunities available for Early Stage and Experienced Researchers.

7 post-doc fellows and 11 PhD students will be recruited. Apply now!

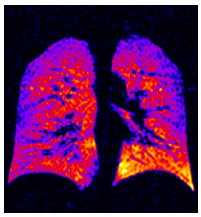
Links: http://cordis.europa.eu/mc-opportunities/
http://www.phil.ens.fr

Contact: Yannick CREMILLIEUX,
Network coordinator
mailto:yannick.cremillieux@univ-lyon1.fr



PHeLINet

Polarized Helium Lung Imaging Network



Marie Curie fellowships for Experienced Researchers

(4-10 years of experience)

Place of work: **Lyon, France**
Duration: **2 years** Start date: **01/05/2007**
Postdoc fellowship
Deadline: 01/04/2007

Place of work: **Mainz, Germany**
Duration: **2 years** Start date: **01/09/2007**
Postdoc fellowship
Deadline: 01/05/2007

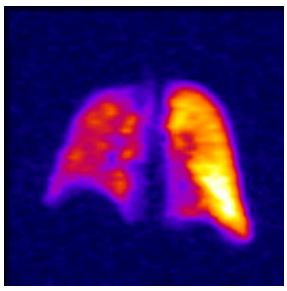
Place of work: **Mainz, Germany**
Duration: **2 years** Start date: **01/03/2007**
Postdoc fellowship
Deadline: 28/02/2007

Place of work: **Orsay, France**
Duration: **2 years** Start date: **01/09/2007**
Postdoc fellowship
Deadline: 01/08/2007

Place of work: - **First year in Paris, France**
- Second year in Mainz, Germany
Duration: **2 years** Start date: **01/03/2008**
Postdoc fellowship
Deadline: 01/02/2008

Place of work: **Sheffield, UK**
Duration: **2 years** Start date: **01/05/2007**
MC fellowship: **ER**
Deadline: 01/05/2007

Place of work: **Rimpar, near Würzburg, Germany**
Duration: **3 years** Start date: **01/03/2007**
MC fellowship: **ER**
Deadline: 15/01/2007



Position available: Clinical applications of HP Helium3 MRI

Postdoctoral position funded by EU Marie Curie Actions
Duration 2 years
Salary (gross) 49210 euros/year plus mobility allowance (ca. 10000 euros/year)

Job description: the research objectives will focus on investigation of lung functional changes in cystic fibrosis and COPD patients using Hyperpolarized Helium3. Clinical investigations will rely on the development and the implementation of standardized and optimized imaging protocols (gas delivery, imaging sequence, image acquisition parameters, image analysis, etc).
The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the researcher will be encouraged to participate in ongoing collaborations with other scientists across Europe with multiple opportunities to visit leading international academic and industrial laboratories and to attend taught summer schools.

Candidate profile: PhD with background in biomedical MRI. The candidate will have strong experience in imaging sequence development and MR physics applied to the biomedical field. The position is opened to any nationality to the exception of French. At the date of appointment, the candidate should not have resided or worked in France for more than 12 months in the last 3 years. Recruitment being resolutely based on an equal opportunity policy, female candidates are strongly encouraged to apply.

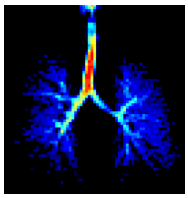
Environment: The work will take place in the NMR laboratory located on the Campus of the Lyon University. Clinical studies will be performed on a whole-body research scanner (Sonata, Siemens) with Helium3 imaging capabilities located on the hospital site in connection with radiologists and clinicians.
Lyon, the second largest urban area in France, is the second research and development pole in France with approximately 17 500 researchers. Located at the crossroads of northern and southern Europe (2 hours drive from Alps ski resorts and 3 hours from Mediterranean coast), the city, part of the World Heritage List, offers a wide range of cultural and outdoors activities.

Closing date: 1 april 2007

For more information on the projects please **contact:**

Yannick Crémillieux, Senior Researcher, PHELINET Coordinator, Laboratoire de RMN, University of Lyon

Tel +33-(0)472448208 e-mail: Yannick.cremillieux@univ-lyon1.fr



Position available: Clinical applications of hyperpolarised Helium3 MRI

Post: Postdoc position funded by EU Marie Curie Actions.
Duration: 2 years.
Salary: 48,786 euros/year plus mobility allowance (ca. 10000 euros/year)

Job description: The position requires a strong theoretical and experimental background as well as knowledge of programming in languages such as C++ and MATLAB. The work will involve implementation of novel imaging techniques on 3T and 1.5T whole body MRI systems for Helium-3 MRI, as well as development of advanced postprocessing techniques.

Candidate profile: PhD with background in biomedical MRI. The candidate will have strong experience in imaging sequence development and MR physics applied to the biomedical field. An open minded personality with a strong interest in multidisciplinary cooperation is optimal for this position.

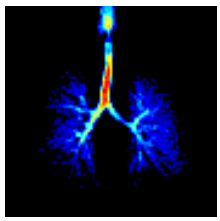
Place of work: The work will be performed as part of an interdisciplinary research group (medical physics, physiology, radiology, anesthesiology ...) at Mainz University, Germany. Mainz was one of the first labs undergoing hyperpolarised Helium-3 imaging in 1995. Since then, MRI of the lung, in particular using exogenous contrast gases like hyperpolarised Helium-3 and fluorinated gases, has been one of our key research interests. A variety of MRI techniques to assess and measure lung function and lung microstructure have been developed in our lab since then. The Department of Radiology is equipped with five whole body MRI systems; upgrade to latest MRI technology (3T, 1,5T) will be performed in the first half of 2007.

The project is funded as part of the EU Framework Program 6 Polarised Helium Lung Imaging Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international academic and industrial laboratories and to attend taught summer schools. Information on PHELINET as well as on earlier EU funded research on hyperpolarised Helium-3 lung MRI (PHIL) can be found at (http://www.phil.ens.fr/).

In the interest of equal opportunities, female candidates are strongly encouraged to apply.

Closing date: 1 September 2007

For more information on the project, please contact:
Wolfgang Schreiber, PhD
Head and Professor of Medical Physics
Department of Diagnostic and Interventional Radiology, Mainz University Hospitals
55128 Mainz, Germany
Phone +49 / 6131 / 17-5295; Fax +49 / 6131 / 17-475285
e-mail: wschreib@uni-mainz.de
Webpage: www.medizinische-physik.klinik.uni-mainz.de



Hyperpolarised gas production and delivery

Position: EU-funded post-doctoral research fellow (Marie Curie fellowship for Experienced Researcher, PhD or 4-10 years of experience in research).

Duration: 2 years – start date: March 2007

Salary: 48,786 Euros p.a., plus relocation allowance

An experimental physicist/ research engineer is sought with relevant experience of hyperpolarized (HP) helium-3 gas production.

The work will involve gas management on a centralized production facility, distribution of HP gas among the partners upon request.

In collaboration with other PHELINET partners, two push-button gas administration units will be developed, one for controlled gas administration to living human subjects, and one for animal subjects.

The project is funded as part of the EU - Framework Program 6 - Research Training Network PHELINET (Polarised Helium Lung Imaging Network). The post-holder will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories.

Environment: The Institute of Physics is a research laboratory of the Johannes Gutenberg-Universität at Mainz, Germany. Hyperpolarised He3 has been intensively developed and used for over 20 years, in research programs including fundamental tests of atomic physics as well as He3-magnetometry in combination with SQUIDs, high-energy and neutron physics, and MRI of lung ventilation in humans.

Conditions for recruitment: The candidate should preferably be a national of EU Member or Associated States, excluding Germany.
At the date of appointment, she/he should not have resided or worked in Germany for more than 12 months in the last 3 years.
PHELINET recruitment is based on an equal opportunity policy. Female candidates are strongly encouraged to apply.

Closing date: 28th February 2007.

For more information on the project, please contact:
Prof. Dr. Werner Heil, Project Leader, Institute of Physics, Johannes-Gutenberg University of Mainz, Germany
Tel +49-6131-3922885 e-mail: wheil@uni-mainz.de

UNITÉ DE RECHERCHE EN RÉSONANCE MAGNÉTIQUE MÉDICALE

UMR 8081
CNRS
Université Paris-Sud

Parallel magnetic resonance imaging with hyperpolarised helium-3

Postdoctoral research fellow

Duration 2 years - European Union Marie Curie fellowship

An experimental physicist/ research engineer is sought with relevant experience of MRI hardware (RF coils) and pulse sequence development. The work will involve implementation of parallel imaging on 1.5 T and 3 T whole body MRI systems for helium-3 MRI applications.

The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the post-holder will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories.

Starting date: September 2007

For more information on the helium-3 project please visit www.u-psud.fr/u2r2m

or contact **Luc Darrasse**, Senior Researcher, U2R2M, CNRS, Univ Paris-Sud

Tel +33 1 69 15 40 04 e-mail: darrasse@u2r2m.u-psud.fr

Directeur : Jacques BITTOUN - **Tél. :** 01 45 21 27 53 - **Fax :** 01 45 21 27 52
Site de Bicêtre : CIERM - Hôpital Bicêtre - 78, rue du Général Leclerc - 94275 Le Kremlin-Bicêtre
Secrétariat/gestion : Adela KABAKLIJA - **Tél. :** 01 69 15 79 65 - **Fax :** 01 69 15 41 36 - **Web** : www.u-psud.fr/u2r2m
Site d'Orsay : U2R2M - Centre scientifique d'Orsay - Bât. 220 - F 91405 Orsay cedex

Improving hyperpolarised helium-3 production and administration

Post-doctoral position

Marie Curie fellowship for experienced researcher (PhD or 4-10 years of experience in research)

Total duration: 2 years - Start date: March 2008

Places of work: Paris, France (1st year) and Mainz, Germany (2nd year)

Gross salary: 49200 euros/year + travel, mobility, and relocation allowances

The experimental physicist or research engineer should have relevant experience for polarised helium production, characterisation, and handling. These processes mainly involve optical techniques for pumping and detection with laser sources, high vacuum techniques for control of gas flow and purity, static or NMR techniques for measurement of nuclear magnetisation.

The work will focus on new instrumental developments for on-site production of hyperpolarised He3 gas in Paris, and for controlled gas administration to patients or animal subjects as well as efficient He3 recycling after MR imaging in Mainz. The objective is to improve and characterize the performances of prototype setups, and to boost up the transfer of knowledge between the two places.

Environment: The Laboratoire Kastler Brossel is a research laboratory of the Ecole Normale Supérieure, affiliated to University Paris 6 and to the CNRS, located in the heart of Paris. The Institute of Physics is part of the University of Mainz. Hyperpolarised He3 has been intensively developed and used in both laboratories for over 20 years, in research programs including fundamental tests of atomic physics and quantum statistics, study of gas and liquid He3 at low temperature, high-energy and neutron physics, and MRI of lung ventilation in humans. The teams involved in this project have had a long-standing successful collaboration (see their web pages for more information on the research projects).

Funding: The project is funded as part of the EU 6th Framework Program - Research and Training Network PHELINET (Polarised Helium Lung Imaging Network). Specific trans-national mobility conditions apply for recruitment. The Marie Curie fellowship includes a basic monthly allowance for 2 years (gross amount of employment contract ~4100€ per month), and a few additional travel, mobility, and relocation allowances.

Further training: The recruited fellow will be encouraged to participate in ongoing collaborations with other researchers across Europe, with multiple opportunities to visit leading international laboratories, and to attend taught summer schools. She/He will also benefit from the stimulating, high level and multidisciplinary environment for research and training provided by the host institutions. This position offers the opportunity to benefit from different backgrounds and acquire experience in different countries and academic systems.

Contacts:

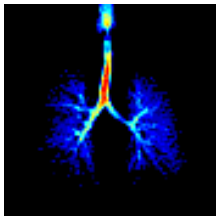
- Dr Pierre-Jean NACHER, Laboratoire Kastler Brossel, Ecole Normale Supérieure, Paris, France. Tel: +33-1-44323428. E-mail: nacher@lkb.ens.fr. Web site: http://www.lkb.ens.fr/recherche/flquant
- Prof. Dr. Werner HEIL, Institute of Physics, Johannes-Gutenberg University of Mainz, Germany. Tel: +49-6131-3922885. Email: wheil@uni-mainz.de. Web site: http://www.physik.uni-mainz.de/exakt/helium3/

Conditions for recruitment:

- The candidate should preferably be a national of EU Member or Associated States, excluding France and Germany.
- At the date of appointment, she/he should not have resided or worked in France or in Germany for more than 12 months in the last 3 years.

PHELINET recruitment is based on an equal opportunity policy. Female candidates are strongly encouraged to apply.

The University Of Sheffield.



ER position available: Magnetic Resonance of Hyperpolarised Gases

Post : EU funded Postdoctoral research fellow (Marie Curie Fellowship).

Duration 2 years.

Salary £35,000 p.a. (52,875 Euros) plus relocation allowance.

An experimental physicist/ research engineer is sought with relevant experience of MRI hardware (RF coils) and pulse sequence development. The work will involve implementation of parallel imaging on 3T and 1.5T whole body MRI systems for 3He MRI.

The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the post-holder will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories.

The Sheffield group have an international track record in hyperpolarised gas MRI with strong research interests in the engineering, pulse sequence development and in-vivo applications. For more details of the research see our webpage: (www.shef.ac.uk/medicine/research/sections/neuroscience/radiology/research/intro.html)

The University of Sheffield (www.shef.ac.uk) is a large University situated in one of the UK's most progressive cities (population 600,000). The city has excellent cultural opportunities and is on the edge of the Peak District National Park (www.peakdistrict.org).

In the interest of equal opportunities, female candidates are strongly encouraged to apply.

Closing date: 1st May 2007.

For more information on the project, please **contact:**

Jim Wild, Senior Lecturer,
Magnetic Resonance Physics,
Project Lead Hyperpolarised Gas MRI,
Academic Radiology,
University of Sheffield
Tel: +44-114-2268665
e-mail: j.m.wild@sheffield.ac.uk

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RAPID Biomedical GmbH was founded in 1998 as a spin-off of the Würzburg University, and ever since is cultivating an interchange with the scientific world. As a partner in the Phelinet project “6th European RTN Network FP6-205-Mobility-1” we are looking for an

Electrical Engineer, PhD / Physicist, PhD

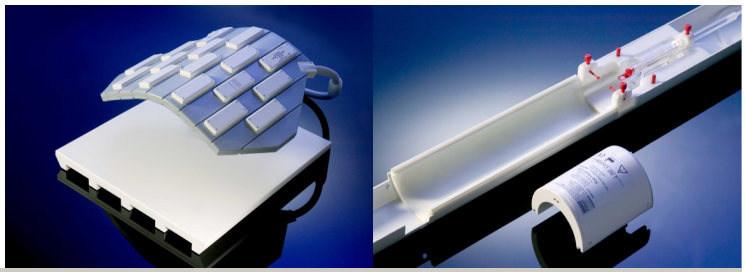
with practical experience in RF coil design, in NMR experiments, and at least five years of research activities abroad. Furthermore, an excellent command of the English language is mandatory. The preferred applicant will have additional skills in operating MR scanners.

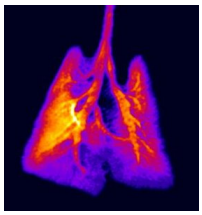
Female candidates are strongly encouraged to apply. Last but not least we expect our new colleague to add to our team as a person and as a professional.

We are looking forward to receiving your application including the usual documents and a summary of your thesis to

RAPID Biomedical GmbH
Ulrike Haase
Managing Director
Technologiepark Würzburg-Rimpar
Kettelerstraße 3-11, Pavillon 4
97222 Rimpar
Germany

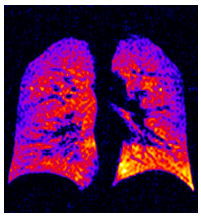
Phone ++49 (93 65) 88 26-0
E-Mail info@rapidbiomed.de





PHeLINet

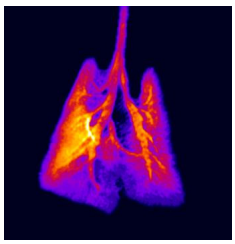
Polarized Helium Lung Imaging Network



Marie Curie fellowships for Early Stage Researchers

(0-4 years of experience)

Place of work: **Lyon, France** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/08/2007
Place of work: **Mainz, Germany** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/05/2007
Place of work: **Madrid, Spain** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/04/2007
Place of work: **Orsay, France** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/08/2007
Place of work: **Paris, France** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/08/2007
Place of work: **Sheffield, UK** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/04/2007
Place of work: **Copenhagen, Denmark** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/04/2007
Place of work: **Heidelberg, Germany** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/04/2007
Place of work: **Krakow, Poland** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/06/2007
Place of work: **Bratislava, Slovakia** Duration: **3 years** Start date: **01/09/2007**	**PhD studentship** Deadline: 01/04/2007
Place of work: **Biberach, Germany** Duration: **3 years** Start date: **00/00/2007**	MC fellowship: **ESR** Deadline: 00/00/2007



Position available: Pre-clinical Hyperpolarized Helium3 MR imaging

PhD Studentship funded by EU Marie Curie Actions.
Duration 3 years.
Salary (gross) 31984 euros/year plus mobility allowance (ca. 8000 euros/year)

Job description: development of pre-clinical Helium3 imaging protocols oriented towards drug evaluation in animal models of lung diseases. Research will focus on non-invasive imaging protocols suitable with longitudinal studies and on extraction of regional lung function parameter (pO2, gas flow, gas exchange, etc). Parts of these protocols, already demonstrated in rats, will be extended to mice as a key animal model for lung disease. The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international academic and industrial laboratories and to attend taught summer schools.

Candidate profile: Master degree (or equivalent) in Physics or Biomedical Engineering. The candidate will ideally have already some training/experience in magnetic resonance techniques. Interest in experimental cross-disciplinary work (biology, medical imaging) is needed. The position is opened to any nationality to the exception of French. At the date of appointment, the candidate should not have resided or worked in France for more than 12 months in the last 3 years. Recruitment being resolutely based on an equal opportunity policy, female candidates are strongly encouraged to apply.

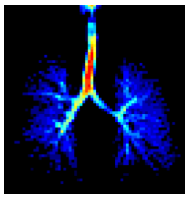
Environment: The work will take place in the NMR laboratory located on the Campus of the Lyon University. The lab has a strong experience in pre-clinical Helium3 imaging. It is equipped with small bore 2 T and 4.7 T MR scanner and it has access to human and small animal research platform (MRI, PET, µCT, US).
Lyon, the second largest urban area in France, is the second research and development pole in France with approximately 17 500 researchers. Located at the crossroads of northern and southern Europe (2 hours drive from Alps ski resorts and 3 hours from Mediterranean coast), the city, part of the World Heritage List, offers a wide range of cultural and outdoors activities.

Closing date: 1 september 2007

For more information on the projects please **contact:**

Yannick Crémillieux, senior researcher, PHELINET network Coordinator, Laboratoire de RMN, University of Lyon

Tel +33-(0)472448208 e-mail: Yannick.cremillieux@univ-lyon1.fr



Position available: Clinical hyperpolarised Helium-3 MRI

Post: PhD Studentship funded by EU Marie Curie Studentship.
Duration: 3 years.
Salary: 31,710 Euros p.a. plus relocation allowance

Job description: The position requires a strong theoretical and experimental background as well as knowledge of programming in languages such as C++ and MATLAB. The work will involve implementation of novel imaging techniques on 3T and 1.5T whole body MRI systems for Helium-3 MRI, as well as development of advanced postprocessing techniques.

Candidate profile: Master degree (or equivalent) in Physics or Biomedical Engineering. The candidate will ideally have already some training/experience in magnetic resonance techniques. An open minded personality with a strong interest in multidisciplinary cooperation is optimal for this position.

Place of work: The work will be performed as part of an interdisciplinary research group (medical physics, physiology, radiology, anesthesiology ...) at Mainz University, Germany. Mainz was one of the first labs undergoing hyperpolarised Helium-3 imaging in 1995. Since then, MRI of the lung, in particular using exogenous contrast gases like hyperpolarised Helium-3 and fluorinated gases, has been one of our key research interests. A variety of MRI techniques to assess and measure lung function and lung microstructure have been developed in our lab since then. The Department of Radiology is equipped with five whole body MRI systems; upgrade to latest MRI technology (3T, 1,5T) will be performed in the first half of 2007.

The project is funded as part of the EU Framework Program 6 Polarised Helium Lung Imaging Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international academic and industrial laboratories and to attend taught summer schools. Information on PHELINET as well as on earlier EU funded research on hyperpolarised Helium-3 lung MRI (PHIL) can be found at (http://www.phil.ens.fr/).

In the interest of equal opportunities, female candidates are strongly encouraged to apply.

Closing date: 1 May 2007

For more information on the project, please contact:
Wolfgang Schreiber, PhD
Head and Professor of Medical Physics
Department of Diagnostic and Interventional Radiology, Mainz University Hospitals
55128 Mainz, Germany
Phone +49 / 6131 / 17-5295; Fax +49 / 6131 / 17-475285
e-mail: wschreib@uni-mainz.de
Webpage: www.medizinische-physik.klinik.uni-mainz.de

Position available: Magnetic Resonance of Hyperpolarised Gases

PhD Studentship funded by EU Marie Curie Studentship.

Duration 3 years.

Salary 28,625 Euros plus relocation allowance

Graduate or Masters Physicists with a strong theoretical and experimental background, knowledge of electronics and programming in languages such as C, MATLAB. The work will involve implementation of novel imaging techniques on a 4.7 T MRI systems for 3He MRI, and running experiments with small animals.

The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories and to attend taught summer schools.

Closing date: 1st April 2007

For more information on the projects please **contact:**

Jesús Ruiz-Cabello,
Associate Professor,
Magnetic Resonance Groups,
Instituto de Estudios Biofuncionales,
Universidad Complutense Madrid,
Paseo Juan XXIII, 1. Madrid 28040.
Spain
Tel +34-91-3943288
e-mail: ruizcabe@farm.ucm.es

UNITÉ DE RECHERCHE EN RÉSONANCE MAGNÉTIQUE MÉDICALE

UMR 8081
CNRS
Université Paris-Sud

Magnetic Resonance Elastography of the lung with hyperpolarised helium-3

PhD position

Duration 3 years – European Union Marie Curie Studentship

Graduate or Master Physicists with a strong theoretical and experimental background, knowledge, or interest in fields related to acoustics, ultrasounds, fluid mechanics, magnetic resonance, electronics and programming. The research work aims at the measurement of the regional viscoelastic properties of the lung. The PhD student will initiate elastography of the lung by magnetic resonance of helium-3 atoms as an original means to study and characterise obstructive diseases of the airways like asthma or emphysema or diseases like interstitial fibrosis or cancer.

The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories and to attend taught summer schools.

Starting date: September 2007

For more information on the helium-3 project please visit www.u-psud.fr/u2r2m

or contact **Luc Darrasse**, Senior Researcher, U2R2M, CNRS, Univ Paris-Sud

Tel +33 1 69 15 40 04 e-mail: darrasse@u2r2m.u-psud.fr

3-year Early Stage Researcher position available in Paris, with possibility of PhD training

Title: Magnetic resonance of hyperpolarised Helium-3 at very low magnetic field

The Graduate/Master student or Engineer should have a strong theoretical and experimental background in physics, as well as knowledge of electronics and programming in a scientific language (C, Fortran). Basic knowledge and/or experience in NMR are preferable, but not necessary.

The work will focus on new instrumental and methodological developments for ultra-low field NMR with hyperpolarised (HP) He3 gas. The objective is to set up an efficient prototype system for 3D NMR imaging (MRI) and study of a variety of void spaces filled with HP He3 in a few mT field.

Project: The potential of making lung images in humans and mapping the alveoli-restricted gas diffusion at ultra-low field has been demonstrated by our group[1,2]. Among the assets of low-field operation, very long transverse relaxation times allow to probe gas diffusion over large distances, and to accurately determine the alveolar oxygen contents. Noise and bandwidth issues will be addressed, and parallel imaging techniques will be revisited in the particular context of low-frequency MRI. Initial work will be made on a prototype 1:4 model of a whole-body MRI system.

[1] Bidinosti et al., J. Magn. Reson. **162** (2003) 122-132: "In-vivo NMR of hyperpolarized ^{3}He in the human lung at very low magnetic fields"
[2] Bidinosti et al., MAGMA **16** (2004) 255-258: "MRI of the lung using hyperpolarized ^{3}He at very low magnetic field (3 mT)".

Environment: The Laboratoire Kastler Brossel (http://www.lkb.ens.fr/) is an atomic physics laboratory of world wide reputation and leadership, located in the heart of Paris. HP He3 has been intensively developed and used there for 30 years in research programs including fundamental tests of atomic physics and quantum statistics, study of gas and liquid He3 at low temperature, and MRI of lung ventilation in humans. The "Polarised Helium" group has organised the first international workshops dedicated to MRI with HP gases (Les Houches, 1996 and 1999) and coordinated the EU FP5 Shared Cost RTD project PHIL (http://www.phil.ens.fr).

Funding: The project is funded as part of the EU Framework 6 RTN PHELINET (Polarised Helium Lung Imaging Network). Some major conditions for recruitment, specific to Marie Curie Actions, are listed below.

Further training: The student will be encouraged to participate in ongoing collaborations with other researchers across Europe, with multiple opportunities to visit leading international laboratories, and to attend taught summer schools. She/He will also benefit from the stimulating, high level and multidisciplinary environment for research and training provided by the host institution (Ecole Normale Superieure, http://www.ens.fr).

Contact: Pierre-Jean NACHER, Laboratoire Kastler Brossel, Département de Physique de l'E.N.S. , 24 rue Lhomond, 75231 Paris Cedex 05, France. Tel: 33 – 1 44 32 34 28. E-mail: nacher@lkb.ens.fr
More information available on the team web page: http://www.lkb.ens.fr/recherche/flquant/.

Position start date: September / October 2007, at the latest.

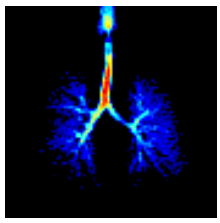
Conditions for recruitment:

- The candidate must hold a degree that entitles her/him to embark for PhD studies, and not have a research experience that exceeds 4 years after obtaining this diploma.
- She/He should preferably (but not exclusively) be a national of EU Member or Associated States*, excluding France.
- At the date of appointment, she/he should not have resided or worked in France for more than 12 months in the last 3 years.

PHELINET recruitment is based on an equal opportunity policy. Female candidates are strongly encouraged to apply.

The gross amount for the employment contract is ~32000 € / year for 3 years. Marie Curie fellows also receive travel, mobility, and relocation allowances.

The University Of Sheffield.



ESR position available: Magnetic Resonance of Hyperpolarised Gases

Post: PhD Studentship funded by EU Marie Curie Studentship. Duration 3 years.

Salary £22,912 p.a. (34,368 Euros) plus relocation allowance.

Graduate or Masters Physicists with a strong theoretical and experimental background, knowledge of electronics and programming in languages such as C, MATLAB and LabView. The work will involve implementation of novel imaging techniques on 3T and 1.5T whole body MRI systems for 3He MRI.

The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories and to attend taught summer schools.

The Sheffield group have an international track record in hyperpolarised gas MRI with strong research interests in the engineering, pulse sequence development and in-vivo applications. For more details of the research see our webpage: (www.shef.ac.uk/medicine/research/sections/neuroscience/radiology/research/intro.html)

The University of Sheffield (www.shef.ac.uk) is a large University situated in one of the UK's most progressive cities (population 600,000). The city has excellent cultural opportunities and is on the edge of the Peak District National Park (www.peakdistrict.org).

In the interest of equal opportunities, female candidates are strongly encouraged to apply.

Closing date: 1st April 2007

For more information on the project, please **contact:**

Jim Wild, Senior Lecturer,
Magnetic Resonance Physics,
Project Lead Hyperpolarised Gas MRI,
Academic Radiology,
University of Sheffield
Tel: +44-114-2268665
e-mail: j.m.wild@sheffield.ac.uk

Clinical applications of hyperpolarized ^{3}He MRI

An appointment as an Early Stage Researcher (ESR) is available at Danish Research Centre for Magnetic Resonance (DRCMR) as part of a European funded Marie-Curie Research Training Network entitled PHELINET (Polarized Helium Imaging Network).
The PHELINET network is focused on the topic 'Innovative, non-invasive lung MRI techniques for clinical diagnosis and lung therapy' and DRCMR is involved in the research line aiming at applying hyperpolarized ^{3}He for human studies.
Patients with different lung diseases (COPD, cystic fibrosis and primary ciliary dyskinesia) will be studied with the aim of evaluating the potential of hyperpolarized ^{3}He MRI for diagnosis and treatment monitoring.

The successful candidate will be involved in implementation of new imaging methods at the 1.5 T scanner used for ^{3}He MRI as well as developing new methods for image post-processing. The candidate should have a background in physics/medical engineering, preferably with experience in MR sequence development and/or image processing. The work will be carried out in close collaboration with a medical PhD student.

The PhD student will be encouraged to participate in collaborations with other PHELINET research teams and will be invited to attend training schools organized within the network.

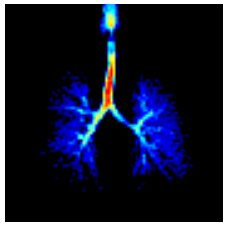
Starting date: not later than September 2007
Duration: 3 years
Closing date: 1 April 2007.

For more information please contact:
Lise Vejby Søgaard, Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Denmark
email : lisevs@drcmr.dk

The DRCMR is located at Copenhagen University Hospital Hvidovre in south-west Copenhagen. For more information about the centre's research activities please consult the homepage: www.drcmr.dk.

DRCMR was one of three clinical centres participating in the EU funded Polarised Helium to Image the Lung (PHIL) programme.
The mermaid was used as the logo for the final PHIL meeting held in 2004 in Copenhagen

GERMAN
CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION



Post: PhD Studentship funded by EU Marie Curie Studentship.
Duration 3 years.
Salary 31,710 Euros p.a. plus relocation allowance

Graduate or Masters Physicists with a strong theoretical and experimental background, knowledge of electronics and programming in languages such as C, and MATLAB. The work will involve implementation of novel imaging techniques on 3T and 1.5T whole body MRI systems. The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories and to attend taught summer schools. In the PHELINET project the group has proposed and implemented innovative methodologies and lung imaging protocols for humans related to lung perfusion/ventilation imaging and dynamic ventilation imaging. New application comprise time-resolved MR angiography of the chest, 3D perfusion MRI of the lung and lung cancer, dynamic (2D+t and 3D+t) MRI of respiratory mechanics, implementation of oxygen-enhanced MRI of ventilation and gas exchange, morphological and functional MRI of the lung in cystic fibrosis as primary imaging modality.

The *German Cancer Research Centre* (DKFZ) is a foundation under public law and a member of the Helmholtz Association of National Research Centres (Helmholtz-Gemeinschaft Deutscher Forschungszentren) with its goal to systematically investigate the mechanisms of cancer development and to identify cancer risk factors. The departments of *Medical Physics in Radiology* and *Radiology* of the DKFZ are equipped with three modern 1.5 T whole-body MR scanner; high field whole-body systems will be installed in the near future: 3.0 T (in 2006/2007) and 7.0 T (in 2007/2008). We are doing basic research in developing new MR-techniques for measuring perfusion, diffusion, oxygenation, and sodium in the human brain or other organs like lung, liver or heart. The group is composed of scientists from physics as well as radiology. It has know-how and expertise in MR sequence programming and its application in human studies.

Closing date: 1st April 2007.

The research group has background in physics and is part of an interdisciplinary team working in close co-operation with the medical department. For more information on the project please **contact**:

Prof. Dr. Lothar Schad
German Cancer Research Centre (DKFZ)
Dept. Medical Physics in Radiology (E020)
Im Neuenheimer Feld 280
69120 Heidelberg
Germany
Tel.: ++49 6221 422569
FAX: ++49 6221 422572
E-Mail: L.Schad@DKFZ-Heidelberg.de
Web: http://www.dkfz-heidelberg.de/mrphys/

Jagiellonian University Cracow

Atomic Optics Department

Position available: Magnetic Resonance Imaging using Hyperpolarised Gases

Post PhD Studentship funded by EU Marie Curie Studentship.

Duration 3 years.

Salary (gross) 27 097 Euros

Graduate or Masters Physicists with a strong theoretical and experimental background in atomic or medical physics, knowledge of electronics and programming in C language. The work will involve implementation of novel techniques of ^{3}He polarization in high magnetic field and optimisation of low-field MRI system.

The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories and to attend taught summer schools.

Closing date: 1st June 2007

For more information on the project please **contact:**

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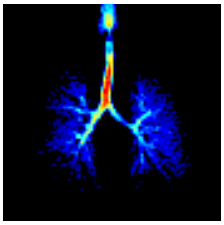
E-mail: dohnalik@if.uj.edu.pl

INSTITUTE
OF MEASUREMENT SCIENCE
SLOVAK ACADEMY OF SCIENCES
Bratislava, Slovakia



Position available: Magnetic Resonance of Hyperpolarised Gases

PhD Studentship funded by EU Marie Curie Studentship.
Duration 3 years.
Salary 21,018 Euros p.a. plus relocation allowance

Graduate or Masters: Engineer or Physicists with a strong theoretical and experimental background, knowledge of electronics and programming in languages such as C, Mathematica (Wolfram Research), or Matlab. The work will involve implementation of novel imaging instrumentation and techniques on 0.1 T whole body MRI systems for 3He MRI.

The project is funded as part of the EU Framework 6 Polarised Helium Imaging for Lungs Network (PHELINET) and the student will be encouraged to participate in ongoing collaborations with other researchers across Europe with multiple opportunities to visit leading international laboratories and to attend taught summer schools.

Closing date: 1st April 2007

For more information on the projects please contact:

Ivan Frollo, Professor of Measurement Science, supervisor of PhD study, head of Department of Imaging methods. Project leader of MRI projects, Institute of Measurement Science, Slovak Academy of Sciences, Bratislava, Slovakia.

Tel.: +4212 5477 4033
Fax.: +4212 5477 5943 e-mail: frollo@savba.sk, http://www.um.sav.sk

Title:

Position: Early Stage Researcher (0-4 years of experience)

Duration: 3 years

Place of Work: Biberach an der Riss, Germany

Start date:

Deadline for application:

Contact:
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Boehringer Ingelheim Pharma GmbH & Co KG
Head of in vivo Imaging
Birkendorfer Str. 65
88397 Biberach an der Rissbr
Tel.: +49-(0)7351-54- 99800
Fax.:+49-(0)7351-54- 98475