



7th PhD Course ‘in vivo NMR’
May 26 – June 13, 2008
Wageningen NMR Centre, The Netherlands

Scope of the course:

The aim of the course is to provide PhD students, post-docs, and other scientists a solid background on the principles, strategies and major applications of modern *in vivo* NMR imaging (MRI) and spectroscopy (MRS) techniques for studying biological systems in biomedical, clinical, plant and food research.

The course will consist of lectures by experts in the field, as well as exercises, practicals and demonstrations. Topics will include principles of NMR imaging and spectroscopy, advanced MRS, MR contrast mechanisms, MR angiography, diffusion and perfusion MRI, functional MRI, cellular and molecular MRI, MR data processing and analysis, MR hardware, etc.

Participants should currently be involved in *in vivo* NMR studies or consider the future use of *in vivo* NMR for their research.

Organizers:

Dr. Henk Van As (Wageningen University)
 Dr. Rick M. Dijkhuizen (University Medical Center Utrecht)
 Prof. dr. Arend Heerschap (University Medical Center Nijmegen)
 Prof. dr. Klaas Nicolay (Eindhoven University of Technology)

Tentative course program:

The first part of the course will cover the principles of NMR imaging and spectroscopy. During the morning sessions (start at 10.00) the theoretical basis will be introduced. In the afternoon, the theory will be illustrated by problem solving and practicals on NMR and MRI systems.

Mon, May 26 : Principles of NMR & Presentations by Participants

Tue, May 27 : Fourier Transform NMR; Questions and Answers & Practical: MR systems

Wed, May 28 : Principles of MRI; Questions and Answers & Practical: MR systems

Fri, May 30 : Basic MRI: k-space; Basic MRI: Pulse Sequences and Contrast Mechanisms; Questions and Answers & Practical: MR systems.

Tue, June 3 : Basic and Advanced MRS, MRS Applications; Questions and Answers.

In the second part (on Thu June 5, Mo June 9, Wed June 11, Fri June 13) in-depth treatment of state-of-the-art topics will be covered by specialists in that field:

- Diffusion MRI, Perfusion MRI, Rapid MRI
- MR Angiography, MR Hardware, Practical RF Coils
- Functional MRI: Physiology and Principles; Postprocessing and Analysis
- Image Registration, Image Segmentation
- Cellular and Molecular MRI, Cardiac MR, MR Safety Issues

Location:

Wageningen NMR Centre, Wageningen University, Wageningen, The Netherlands. Information on how to get to the ISI can be found on www.wnmrc.nl

Costs and registration:

Registration fees are €250 for PhD students and postdoctoral researchers affiliated with one of the organizing academic institutions, €500 for other academic participants and medical physicists, and €1000 for participants from industry, and private and governmental institutes. Fees cover course documentation (including handouts of the lectures), attendance to lectures, workshops, and practicals, as well as lunch and coffee/tea during the course.

Applicants should register before May 14, 2008, by (preferably) e-mail to Dr. Henk Van As at the address below. Applicants should include name and full address, and provide a brief description of background and current activities. The number of participants will be limited to 30.

Contact:

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