



AGENDA FOR COURSE IN SMALL ANIMAL MRI, BERGEN, SEP 28TH – 30TH, 2010

LOCATION:

- All the sessions will take place in Vivarium (animal facility), which is located on the 3rd floor of the Haukeland Hospital. The lectures will be held in the lunch room on the 4th floor of Vivarium. See <http://www.uib.no/vivarium/> for more information on how to access the facility.

DURATION:

- 28th and 29th of Sep, from 9 AM to 15:30 PM: **Theoretical sessions with practical demonstrations**
- 30th of Sep, from 9 AM to 16:00 PM: **Hands-on sessions** (optional participation)
- We will provide coffee and tea during breaks. Note that lunch is not included in the course.

COURSE CONTENT:

- We have designed the course for those of you who would like to have a deeper understanding of MRI techniques, so it is particularly suited and recommended to PhD students and researchers who have ongoing projects using MRI of small animals.
- We have divided the course into two parts. The first two days of the course will consist of lectures on basic MRI physics, covering concepts such as magnetization, resonant precession, excitation, relaxation, imaging gradients and basic pulse sequences. We will furthermore focus on explaining in some detail two very important concepts in MRI: the signal-to-noise ratio and contrast. We will discuss various factors influencing both SNR and contrast and demonstrate these concepts in practice by running experiments on water phantoms and bacon on the scanner. We will conclude by showing post-processing possibilities using Paravision and external software, such as Osirix.
- The third day of the course will consist of practical information regarding general use and safety rules and hand-on sessions. We will divide into several groups (depending on the number of participants) to give participants an opportunity to run the scanner by themselves and to image a live animal. In addition, we will demonstrate animal preparation and anesthesia. Participation during this day will be optional since some of you already have received training to operate the scanner.
- We welcome any feedback you can give us at the end of the course regarding the course format and content (we will distribute evaluation forms).
- You will receive course material during the course. If you would prefer to receive the course material ahead of time, please email tina.pavlin@biomed.uib.no

COURSE ACCREDITATION

- A lot of you have enquired whether the course gives any study points. As of now, the course is not yet a part of any curriculum. However, you can apply to get a few points for the course through your academic advisor. At the completion of the course you will receive a Certificate which you can use for that purpose.

For further info about our facility, go to: https://wikihost.uib.no/mriwiki/index.php/Main_Page

Tuesday Sep 28th	VIVARIUM	Responsibility
09:00-10:00	Lectures on MRI physics: Basic MRI concepts, part 1	Tina Pavlin
10:00-10:30	Questions and Coffee Break	
10:30-11:30	Lectures on MRI physics: Basic MRI concepts, part 2	Tina Pavlin
11:30-12:30	Lunch Break	
12:30-13:30	Lectures on MRI physics with demonstrations: Signal-to-noise ratio in MRI, part 1	Tina Pavlin
13:30-14:00	Questions and Coffee Break	
14:00-15:00	Lectures on MRI physics with demonstrations: Signal-to-noise ratio in MRI, part 2	Tina Pavlin
15:00-15:30	Questions and Adjournal	
Wednesday Sep 29th	VIVARIUM	Responsibility
09:00-10:00	Lectures on MRI physics with demonstrations: Contrast in MRI, part 1	Tina Pavlin
10:00-10:30	Questions and Coffee Break	
10:30-11:30	Lectures on MRI physics with demonstrations: Contrast in MRI, part 2	Tina Pavlin
11:30-12:30	Lunch Break	
12:30-13:30	Processing Data: Paravision	Tina Pavlin
13:30-14:00	Questions and Coffee Break	
14:00-15:00	Processing Data: Osirix	Frits Thorsen
15:00-15:30	Questions and Adjournal	
Thursday Sep 30th	VIVARIUM	Responsibility
09:00-10:00	Practical issues MRI safety, booking, etc..	Tina Pavlin
10:00-10:30	Coffee Break	
10:30-12:00	Practical Session: Group 1	Frits Thorsen Tina Pavlin
12:00-12:30	Lunch Break	
12:30-14:00	Practical Session: Group 2	Frits Thorsen Tina Pavlin
14:00-14:30	Coffee Break	
14:30-16:00	Practical Session: Group 3	Frits Thorsen Tina Pavlin