



The CBMR-users guide to AEM and the Danish Animal Inspectorate

Introduction

This document is written by the staff of RMPP and is intended as a practical guide to help CBMR users getting started with animal experiments. It introduces the two major stakeholders responsible for animal experiments at CBMR; AEM (the Department of Experimental Medicine at the University of Copenhagen) and RMPP (the Rodent Metabolic Phenotyping Platform at CBMR), and provides a step-by-step guide on how to obtain a license to perform animal experiments in Denmark, how to get permission to run experiments in AEM/RMPP facilities, and how to order mice and specialized diets. If you have any questions or topics you would like to see added to this guide, feel free to contact RMPP at CBMR-RMPP-technicians@sund.ku.dk

AEM vs RMPP

AEM

The animal facility is maintained by the Department of Experimental Medicine (AEM). The animal caretakers change cages, and perform daily health checks of the mice. They also perform regular cleanings, and ensure available stocks of consumables, such as needles, surgical covers, needle bins and more. AEM employs a team of veterinarians that monitor the health status of the animals and the facility, approve project plans, and monitor that ongoing experiments are complying with relevant licenses. AEM also arranges logistics related to the ordering of animals and special diets, and transfer mice between the various breeding- and experimental units at Panum and the Biocenter. AEM also offers a range of courses, including a course to obtain a license for performing animal experiments. A list of courses is available [here](#).

In summary, all requests regarding normal housing, transfer of animals and project plans should be directed towards AEM. To contact AEM, please send an email to the relevant unit. The following table contains email addresses for the most common AEM units for CBMR users.

AEM Unit	Email address
Breeding Unit 10-2	EMED-SPF-10-2@sund.ku.dk
Experimental Unit 10-3	EMED-Forsoeq-10-3@sund.ku.dk
Experimental Unit 16-2	EMED-Forsoeq-16-2@sund.ku.dk
Experimental SPF Unit 16-4	EMED-Forsoeq-16-4@sund.ku.dk
Experimental Unit Biocenter	emed-biocenter@sund.ku.dk

RMPP

The Rodent Metabolic Phenotyping Platform (RMPP) is a research support platform in CBMR. The team contains both animal technicians and staff scientist and assist CBMR users in the planning, performance and analysis of animal experiments. RMPP can assist with various technical procedures, including blood sampling and organ dissection. RMPP also maintains and operates specialized equipment for metabolic phenotyping, including metabolic chambers, temperature-controlled climate cabinets, an MRI scanner, and light/dark-adjustable Scantainers.

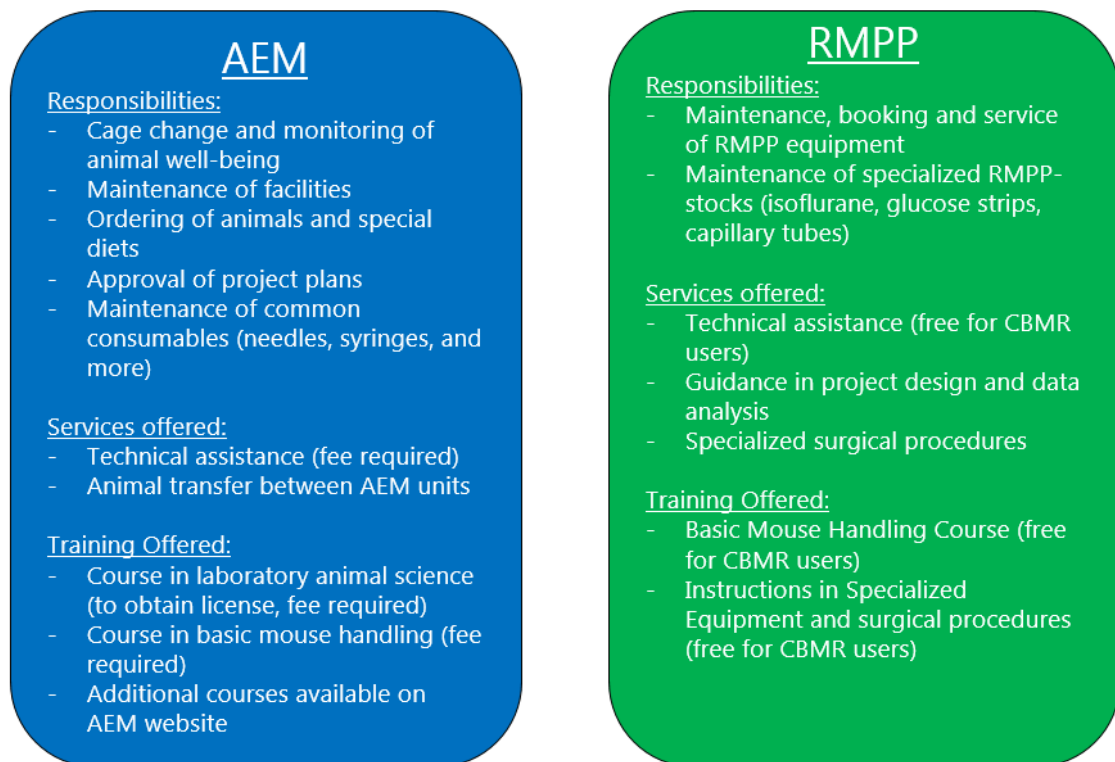


Figure 1: Overview of main responsibilities, services and training offered by AEM and RMPP

for circadian experiments. RMPP also maintains a stock of consumables for CBMR users, such as glucose strips and insulin ELISA kits. For a full list of RMPP equipment and consumables, see our User Guide to 16.4 (available on our website). RMPP also offers support for aseptic surgery, and can assist in catheter insertions, denervation experiments, bile duct cannulations, ICV cannulation and more. RMPP also arranges training in basic mouse handling and instructs users in surgical procedures upon request. Finally, RMPP has a Shiny account to host and deploy Shiny apps, and can assist users in the development of R-based apps to increase data accessibility. All RMPP services and training are available to CBMR users free of charge.

RMPP should be contacted regarding booking requests for RMPP equipment, inquiries about projects and training, and for assistance with experiments and specialized protocols. Project requests can be submitted to CBMR-RMPP-Projects@sund.ku.dk. Requests for technical procedures and questions about logistics can be submitted to CBMR-RMPP-technicians@sund.ku.dk.

How to get started with animal experiments

To perform animal experiments, a user needs to obtain a range of licenses and permits. Specifically, the user needs

1. FELASA authorization/accreditation to perform animal experiments
2. A license for the specific procedure/breeding granted by the Danish Animal Experiments Inspectorate
3. An account at the Department of Experimental Medicine
4. A project plan for the specific experiment approved by the veterinarians from the Department of Experimental Medicine

Lastly, RMPP wants to ensure all users have received the same information about protocols and procedures in the animal experiment units, and hence we want to provide all new employees with

a tour of the facilities. You can request one by contacting the AEM technicians through CBMR-RMPP-technicians@sund.ku.dk. The procedure for new users is summarized in Figure 2.

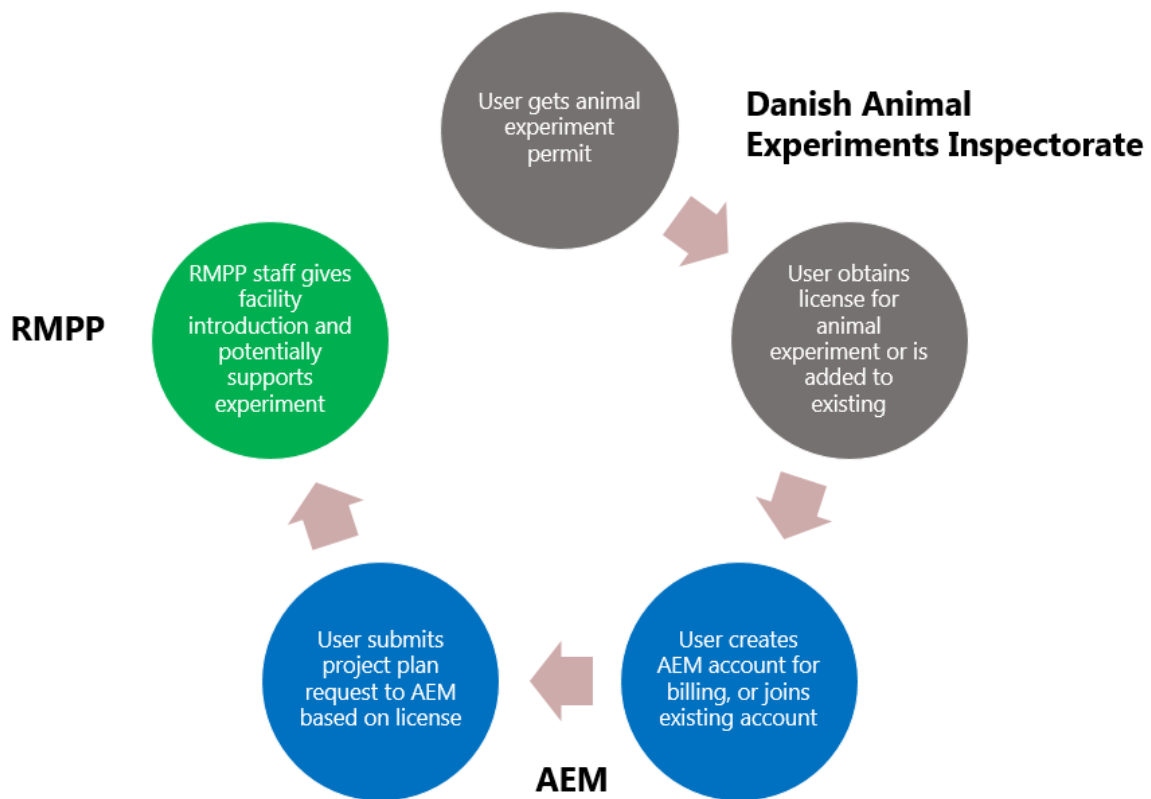


Figure 2: Overview of the steps required to perform animal experiments at CBMR. Users must obtain a permit to perform animal experiments, and subsequently apply for a license to perform a specific experiment (or get added to an existing license). Then, the user needs to make an account with AEM (Department for Experimental Medicine) or get added to an existing user’s AEM account. Then a user can submit a project plan to AEM, based on the license they have been granted. Once the license is obtained, the user can perform the experiment. If this is the first time you work in AEM/RMPP facilities, RMPP will give you an introduction to the facilities and explain booking protocols and procedures.

1. Obtaining a license to perform animal experiments

To obtain a license to breed animals for experiments or perform animal experiments in Denmark, a researcher must have completed a Danish animal experimentation course corresponding to FELASA C level/ EU function ABD level. To work on another person’s license, you must have an approved Danish animal experimentation course corresponding to a FELASA B level / EU function AD level.

If you have an approved course in animal experimentation from another country and/or previous experience, conducting animal experiments from another country, you can [apply for a dispensation from having to pass a Danish course on animal experimentation](#). Please contact RMPP using the email above if you have any questions about the process.

2. Apply for license for specific procedure/breeding

To perform animal experiments or to breed animals, one needs to obtain a license from the Animal Experiments Inspectorate. They have 11 meetings pr. year where they discuss applications, and either accept them, or request clarifications/raise concerns. Beware that the Inspectorate requires users to submit applications four weeks prior to each meeting – so you should expect some waiting time following submission.

You can apply [here](#). You need the Danish personal digital ID mitID to log on to the system. Please note that the website and some aspects of the application are in Danish. The application also need a layperson summary which must be in Danish.

You can either apply for a new license, or apply for an addendum to an existing license, if you for example need to perform a procedure you have a permit for on a novel mouse strain. Please beware that you need to obtain a license for breeding transgenic animals and for animal experiments.

If a person is mentioned in an application, you can add it to their user profile by “inviting” them. They must first have signed into the system and filled out relevant contact information prior to being invited. The invitation needs to be send to the same email address that the user have registered in their profile.

3. Account at the Department of Experimental Medicine

To perform experiments in the facilities of AEM, your PI needs an AEM account for billing purposes and contact info. An account can be created [here](#). If your PI has done experiments in the facility before, they will likely have an account. Please refer to your PI's account or make an account together with them. If you need help getting the correct alias for the form, please refer to HR or contact RMPP – then we can help you retrieve the required information.

4. Project plan from the Department of Experimental Medicine

Experiments performed in AEM's facilities must be approved by AEM's veterinarians. A project plan must be tied to a license from the Animal Experiments Inspectorate (step 2) and linked to an account for billing (step 3). Project plans are obtained by filling out the form found on [this site](#). If you require hands-on help from RMPP, please remember to add relevant RMPP staff members to your project plan. There you can also find relevant information about how to get started using AEM's facilities. You can apply for access to the facilities through <https://emed.ku.dk/forms/access/>. AEM also offers meetings with the department veterinarians about getting started. You can book a meeting by sending an email to emed-vet@sund.ku.dk. You are of course also welcome to book a meeting with RMPP to discuss the practical steps of your experiment. Feel free to contact CBMR-RMPP-technicians@sund.ku.dk (to contact our technician team) or CBMR-RMPP-projects@sund.ku.dk (to submit a general project request). You can find the relevant information on AEM's [website](#).

5. Get an introduction by RMPP staff

To ensure that all CBMR staff has received a proper introduction to the animal facilities, RMPP wants to provide an introduction tour to 16-4. The lab manager of your floor will tell you to book such a tour through the RMPP technicians. This can be done at CBMR-RMPP-technicians@sund.ku.dk. On this tour you will see the facility, the equipment available and hear about booking procedures and how to request services. We have collected information about our facilities in a Guide to the RMPP facilities that is available on our website and from RMPP staff upon request, or following the facility tour.

Practical steps:

How to transfer mice between facilities:

You transfer mice by sending [this form](#) (Excel based) to the facility you want to transfer to and from (i.e., if you transfer from 10-2 to 16-4, add them both to the email so 16-4 is sure to have

space). Transfer requests need to be handed in Thursday by noon, and then animals will be transferred the following Tuesday. Keep in mind that transfer between 16-4 and 16-5 can be done by users. Please see our facility guide to 16-4/16-5 for details on protocol.

How to order animals

AEM has written a guide on how to order animals, which is available [here](#). To order from Charles River, Taconic, Janvier or Envigo you need to create a user account with the relevant company, and fill out the [AEM purchase form](#) (Excel template). It needs to be submitted to the relevant AEM unit where you order the animals – please see the list above for contact info. Deadline for ordering is Wednesday at noon (12.00) (Tuesday at noon for Envigo) – then the animals will arrive the subsequent week Wednesday (Taconic, Janvier and Envigo) or Thursday (Charles River).

To order animals from an un-verified vendor, or import from an external collaborator, you must fill out an [import request form](#). Please beware that delivery can become several months as mice will need to be quarantined. Mice will also be directed to a non-SPF facility for containment. For questions regarding import, please inquire at emed-import@sund.ku.dk.

How to order special diet

Standard diet in AEM units is a fortified breeding diet (D30, Safe Diets). Special diets can be ordered from manufacturers such as Research Diets (US based) or Safe Diets (Germany). Diets are ordered by using the [AEM purchase form](#), but with info on the special diet instead of animal number and age. AEM will then purchase the diet (usually through a Danish vendor Brogaarden). To enter an SPF facility, you need to order diet irradiated for safety, as it cannot be autoclaved. Make a note about that when you order (for research diets you can also add an “i” after the catalogue number).

How to order medicine

Medicine for experiments can be prescribed by AEM veterinarians by filling out the [medicine request form](#) (Excel based) and sending it to emed-vet@sund.ku.dk. The veterinarians have a 5-day processing time. Once the order is completed, you will receive a requisition that must be shown when picking up your order. Pick-up is at the AEM secretariat at Panum, Room 16.1.17. You will either receive a prescription for a pharmacy, or the medicine if it is something that is available locally.

How to get equipment into animal facilities

To bring items into the facilities, put them in the plastic boxes on the bench, spray with Virkon S, and leave them for 10 minutes. You cannot bring electronic devices beyond cell phones into the facility, these must be decontaminated by AEM. Either contact AEM staff for details, or write to CBMR-RMPP-technicians@sund.ku.dk. They can then help you book a decontamination. Please be aware that there can be several weeks of waiting time.