



PMOD Training Workshop

October 27 - 28, 2007
Heidelberg, Germany

Overview

The aim of this PMOD training workshop is to teach the participants the effective use of the major PMOD tools. A server environment is set up which provides the latest PMOD version as well as training data sets. Each participant brings his own notebook and hooks it to the server. Brief presentations outline the principles behind the different types of data analysis. They are followed by live demonstrations. Finally, sufficient time is available to practice individually and interact with the teachers.

Educational Objectives

Upon completion of the training the participants will be able to:

- Handle the different image and data formats;
- Exploit the wealth of image presentations and layouts;
- Apply the filtering and image processing tools;
- Effectively define Volumes-of-Interest (VOIs) using manual and automatic methods and calculate their statistics;
- Calculate time-activity curves and submit them to the kinetic modeling tool;
- Understand the different types of models (compartment, graphical, reference) and apply them in the general and pixel-wise modeling tool;
- Assess the identifiability of kinetic model parameters;
- Match images of a single patient by manual and automatic methods;
- Spatially normalize a brain image to a brain atlas;
- Select among the available image fusion techniques;
- Perform pixel-wise algebra with matched series, e.g. to calculate a perfusion reserve;
- Apply segmentation techniques to extract organ surfaces and render them in 3D;
- Project functional information as a texture onto an organ surface.

Audience Description

This training has a basic to intermediate skill level. It is primarily designed for existing PMOD users who:

- Started with PMOD recently;
- Wish to extend their knowledge and interact with the developers of the software,
- Would like to evaluate modules which are not available in their purchased installation.

Contents

Short Background Presentations

- The presentations provide basic information for the purpose of understanding program operation. They include the following topics:
- Organisation of the PMOD Software.
- Quantification by kinetic models (Cyrill Burger, PMOD Technologies).
- Image registration, normalisation and fusion (Valerie Treyer, PMOD Technologies).
- Visualization by 3D image rendering techniques (Krzysztof Mikolajczyk, PMOD Technologies).

Program Demonstrations

The demonstrations show how work is done with the most prevalent PMOD tools.

- Basic PMOD techniques (PVIEW).
- Kinetic modeling with regional time-activity curves (PKIN).
- Applying pixel-wise models to image data (PXMED).
- Image fusion, algebra, and stereotactic normalization (PFUS).
- 3D image rendering of brain data (P3D).

After a tool overview has been given as a short presentation, the actual processing steps are demonstrated. They are then repeated by the participants based on a tutorial workbook.

Note that the following tools are not covered by the main teaching: Cardiac Tool (PCARD), Alzheimer's Tool (PALZ), Brain database tool (PBRAINDB), Gene/PET correlation (PGENE), DICOM database server. However, questions to those tools may potentially be clarified on an individual basis during the open practice time.

Computer Exercises

The users bring their own notebook for the practical work and hook it to a server which provides both the PMOD programs as well as the training data. Several tutors and programmers of the PMOD software are available for practical advice.

A set of processing tasks is given to the participants together with a step-by-step written solution. During practice time they may work through the examples of their choice, and address the tutors for help or further information.

Notes:

- The users need to bring a notebook with at least 512MB RAM with them.
- We reserve the right for minor changes of the training content without notification.

Training Workshop Organization

Training Schedule

Saturday, October 27	09:00 - 17:00
Sunday, October 28	09:00 - 16:00

Registration and Costs

Registration is on a first-come, first-served basis for a maximal number of 25 participants. The training cost is:

- EUR 350 for registration until September 27,
- EUR 400 afterwards,

and includes break refreshments, two lunches and the training.

After registration, the participant receives a confirmation e-mail with access information and payment directions. Note that the *fee must be paid within 10 days after registration* (online payment and wire transfer are feasible). Thereafter, we reserve the right to offer the place to persons waiting for a vacancy.

Accommodation

The accommodation is not included in the fee and must be booked by the participant himself. Recommended hotels are:

Marriott Heidelberg Hotel, Vangerowstrasse 16, <http://marriott.com/property/propertypage/HDBMC>

Best Western Rega Hotel, Bergheimerstrasse 63, <http://www.rega.bestwestern.de>

Training Location

The training is held in the German Cancer Research Center (dkfz), Heidelberg, Germany, see <http://www.dkfz-heidelberg.de/en/dkfz/anfahrt.html>

Cancellation Policy

The training is cancelled if less than 10 participants are enrolled as of September 27.

In this case, the registered participants are notified and receive a full refund.

If a participant has to cancel his attendance, he will get a refund (fee minus bank expenses) provided that his place can be filled by another person.