



PMOD Training Workshop

March 7 - 8, 2008
Zurich, Switzerland

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, and by the synchronous processing of data by all participants. Finally, 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 Mikołajczyk, 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 (PXMOD).
- 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 done together with the participants who have the same program configuration and data as the tutor.

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 1GB RAM with them.
- We reserve the right for minor changes of the training content without notification.

Training Workshop Organization

Training Schedule

FRIDAY			SATURDAY		
Description	From	To	Description	From	To
1 Welcome and Computer Setup	09:00	09:15	13 Welcome and Questions	09:00	09:10
2 Company and Workshop Overview	09:15	09:30	14 PXMOD Walk-through	09:10	09:35
3 PVIEW Overview	09:30	09:45	15 PXMOD Practice/Questions	09:35	10:35
4 PVIEW Walk-through	09:45	10:45	Break	10:35	10:50
Break	10:45	10:55	16 Fusion Background	10:50	11:05
5 PVIEW Practice/Questions	10:55	11:55	17 PFUS Overview	11:05	11:20
6 Modeling Background	11:55	12:20	18 PFUS Walk-through	11:20	12:20
7 PKIN Overview	12:20	12:35	19 PFUS Practice/Questions	12:20	12:35
Lunch	12:35	13:25	Lunch	12:35	13:25
8 PKIN Walk-through	13:25	14:25	19 PFUS Practice/Questions	13:25	14:10
9 PKIN Practice/Questions	14:25	15:10	20 3D Background	14:10	14:20
Break	15:10	15:25	21 P3D Overview	14:20	14:30
9 PKIN Practice/Questions	15:25	16:00	22 P3D Walk-through	14:30	15:05
10 PXMOD Overview	16:00	16:15	23 P3D Practice/Questions	15:05	15:50
11 PXMOD Walk-through	16:15	16:50	24 Discussion, Suggestions, Questions	15:50	16:00
12 Discussion, Suggestions, Questions	16:50	17:00			

Registration and Costs

Registration is on a first-come, first-served basis for a maximal number of 20 participants. The workshop cost is:

- Standard: EUR 645.60 (incl. VAT of 7.6%)
- Students: EUR 516.50 (incl. VAT of 7.6%, benefitting of a 20% discount),

and includes the training, handouts, break refreshments, two lunches, and one dinner.

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). Thereafter, we reserve the right to offer the place to persons waiting for a vacancy.

Training Location

The course is held in the Hotel Sofitel, Zurich, Switzerland [Stampfenbachstrasse 60, CH-8006 Zurich]. The hotel is conveniently located in downtown Zurich, just a 10 minutes walk from the main station.

http://www.accorhotels.com/accorhotels/fichehotel/de/sof/1196/fiche_hotel.shtml

Accommodation

PMOD Technologies, Sumatrastrasse 25, CH-8006 Zürich, Switzerland.
www.pmod.com

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

1. Hotel Bristol [Stampfenbachstrasse 34, CH-8006 Zurich]. 3-Star hotel, just a two minutes walk off the course location. Until January 31, 2008, the hotel will hold a contingent of rooms reserved for the participants of the PMOD training workshop. To obtain the special rates, please refer to "PMOD Training" when making your reservation. http://www.hotelbristol.ch/home_e.html
2. Hotel St. Josef [Hirschengraben 64/68, CH-8001 Zurich]. 3-Star downtown hotel, a 10 minutes walk from the course location. <http://www.st-josef.ch>
3. Hotel Sofitel [Stampfenbachstrasse 60, CH-8006 Zurich]. 4-Star luxury hotel and course location. http://www.accorhotels.com/accorhotels/fichehotel/de/sof/1196/fiche_hotel.shtml

Cancellation Policy

Enough participants have enrolled as of January 10, so that the training is sure to be carried out.

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.