

# Virtual Physiology – Technical Specifications

## System Requirements and Installation Information

### Virtual Physiology - System Requirements

The Virtual Physiology labs are running via .exe files on all **Windows** platforms, from Win XP to Win 11, 32 and 64 bit, and on all Windows servers.

The SimHeart and SimVessel folders include .swf files to run on **Mac OS** using a Shockwave player.

Also links to platform independent HTML5 versions of SimHeart and SimVessel are offered for **online** experiments via our Virtual Physiology server.

To run SimMuscle, SimNerv and SimNeuron on other than Windows platforms a Windows emulator still is required. A SimNeuron version for **Mac OS** will soon be available. .

### Virtual Physiology - Installation Information

#### **Windows:**

(in the following, SimXxx stands for either SimMuscle, SimNerv, SimNeuron, SimHeart or SimVessel)

The programs can be downloaded as **.zip files** and, in case of tryout or purchased versions, also as **.msi files** for regular Windows installation.

Using **.msi files**, on first installation of a Virtual Physiology program a folder **ViPhy** will be created in which you will find the subfolders **SimXxx** of all installed Virtual Physiology programs (SimMuscle, SimHeart etc.). If you are just following the pre-settings of the short installation procedure the ViPhy folder will be located in your Windows folder **"Program Files"**. Of course, you can select any other path.

Following the installation procedure without changes should lead to following arrangement of folders:

```
Program Files
=> ViPhy
    => SimMuscle
    => SimHeart
    => ....
```

After installation, icons of the installed programs that are directly linked to the executable files will appear on your desktop (if you didn't de-activate the corresponding button towards the end of the installation procedure).

When **.zip files** have been downloaded they can be unzipped to whatever place on your hard disk as you want to generate the corresponding folders SimXxx. In this case, desktop icons will not be generated. You may start the programs via the SimXxx.exe files in the SimXxx folders or generate your own desktop icons with link to the .exe files.

The programs can also be run in multi-user mode via a **server** on which they should preferably be installed by an IT expert – probably easiest by using the zip files.

**Important:** In any case you have to copy the **license files (.lic)** that you received as email attachment into the corresponding SimXxx program folders. Please, make sure that the license files for SimHeart and SimVessel read "SimHeart.lic and SimVessel.lic, respectively

In case that there are **problems** with the installation or when the programs are not running, please, first of all check whether you have copied a valid license file into the corresponding program folders and then make sure that the following components are installed:

a) **Windows Installer 3.1** (<http://www.microsoft.com/de-de/download/details.aspx?id=25>) usually installed, except operating systems older than 2005

b) **.NET Framework 3.5 SP1** (<http://www.microsoft.com/de-de/download/details.aspx?id=25150>) No download is needed for Windows 8 and higher versions but activation is eventually required.

## Mac OS:

The **SimNeuron** Mac version, soon available, can be downloaded as .zip file to be handled in the same way as the Windows .zip files: unzipping the downloaded file and inserting the license file into the thereby generated SimNeuron folder. You can open the lab via the SimNeuron.app.

The **SimHeart** and **SimVessel** folders include **.swf files** to run on **MacOS**. The Flash player is NOT required. Instead, you can use any suitable Shockwave player, e.g. the Elmedia Player which can be downloaded for free (<https://cdn.eltima.com/download/elmediaplayer.dmg>). After installation of the SWF player the SimHeart and SimVessel labs can be opened by right mouse click or double click on simHeart.swf or simVessel.swf in the corresponding program folders.

## Online versions:

There are links to platform independent HTML5 versions of SimHeart and SimVessel for **online experiments** via our server. Clicking on one of these links will open a window with an input field. In this case you should NOT insert the license file but you have to OPEN the license file, e.g. with your editor, and to copy and paste the whole string into the given field.

Please note: in the current online version you do not yet have direct access to the tutorials and protocol forms from the lab. You can find the in the Windows folders (see below) or download the files from our website.

## Contents of the SimXxx folders in Windows:

(in the following, SimXxx stands for either SimMuscle, SimNerv, SimNeuron, SimHeart or SimVessel)

Each SimXxx folder should contain the executable program "SimXxx.exe" together with diverse subfolders and files, among them the Readme files in English and German.

The subfolder "**musics**" contains the sounds.

The subfolder "**files**" is used to store parameters settings of the virtual preparations, so far mainly of importance for SimNeuron (see SimNeuron Presettings Info").

If there is a subfolder "**videos**" it contains preparation videos which, so far, still are the old videos in low resolution. They can be opened from the virtual labs via the corresponding "video" buttons. New preparation videos in **high resolution** can be found on the Virtual Physiology website (<http://www.virtual-physiology.com/Video>) partly also with Chinese subtitles.

The subfolders "**tutorials**" and "**protocols**" contain the manuals and protocol forms. In the demo versions they only appear in PDF format. In the licensed versions you will also find them as editable Word files so that you can modify the existing manuals and protocols adjusting them to your teaching goals. Of course, you can write your own versions in any format you wish and store these in the corresponding folders.

You have access to the tutorial and protocol forms directly from the laboratories with click on the tutorial and protocol buttons. These are linked to those documents with the names "SimXxxTutorial.yyy" or "SimXxxProtocol.yyy", respectively – i.e. to those files **without** an extension like \_EN or \_DE (denoting to English or German versions, respectively). With the initial setting, the English versions are opened. However, you can determine yourself by appropriate renaming which of the files shall be opened from the labs. In case that several of such files exist, e.g. in .docx as well as in .pdf, format, preference is given to the largest file which usually is the .doc file.

Please note: **SimHeart** and **SimVessel** are running via your browser. If Google Chrome is your standard browser, you cannot directly open the **tutorials and protocols** in Word format via the buttons in the labs. Recent versions of Google Chrome do no longer open Word files. Hence, you may change the links to the PDF files (see above) or open the Word files directly from your folders.

## Service:

In case of any technical problems or questions, please contact our IT expert Aubin Tchaptchet ([aubin.tchaptchet@googlemail.com](mailto:aubin.tchaptchet@googlemail.com), Fon +49 176 860 27175) and/or the coordinator of the Virtual Physiology project, Hans Braun ([braun@uni-marburg.de](mailto:braun@uni-marburg.de), Fon +49 173 319 3028), also in case of didactic and scientific questions.