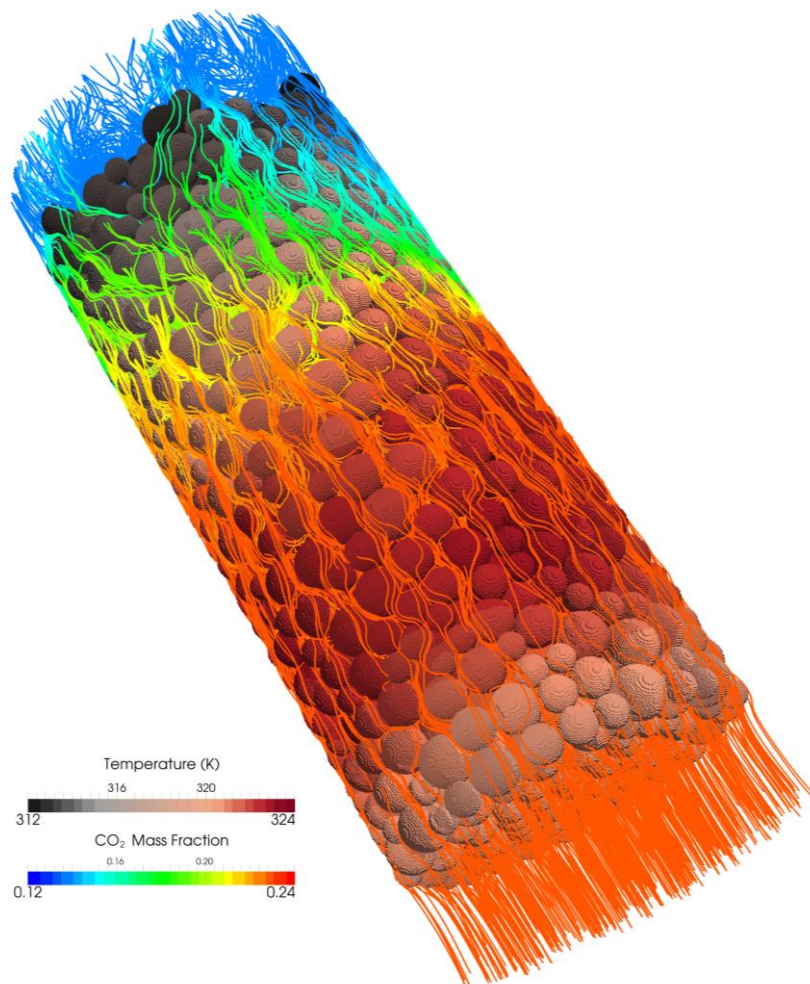


## OpenFOAM<sup>®</sup> Basic Training

### Appendix B



3<sup>rd</sup> edition, Feb. 2015



This offering is not approved or endorsed by ESI<sup>®</sup> Group, ESI-OpenCFD<sup>®</sup> or the OpenFOAM<sup>®</sup> Foundation, the producer of the OpenFOAM<sup>®</sup> software and owner of the OpenFOAM<sup>®</sup> trademark.

 Except where otherwise noted, this work is licensed under <http://creativecommons.org/licenses/by-nc-sa/3.0/>

## Editors and Contributors:

- Bahram Haddadi (TU Wien)
- Christian Jordan (TU Wien)
- Jozsef Nagy (JKU Linz)
- Clemens Gößnitzer (TU Wien)
- Vikram Natarajan (TU Wien)
- Sylvia Zibuschka (TU Wien)
- Michael Harasek (TU Wien)



## Cover picture from:

- Bahram Haddadi, The image presented on the cover page has been prepared using the Vienna Scientific Cluster (VSC).


 Except where otherwise noted, this work is licensed under <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Attribution–NonCommercial–ShareAlike 3.0 Unported (CC BY–NC–SA 3.0)

This is a human-readable summary of the Legal Code (the full license).

Disclaimer

You are free:

- to Share — to copy, distribute and transmit the work
- to Remix — to adapt the work

Under the following conditions:

Attribution — You must attribute the work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work).

Noncommercial — You may not use this work for commercial purposes.

Share Alike — If you alter, transform, or build upon this work, you may distribute the resulting work only under the same or similar license to this one.

With the understanding that:

Waiver — Any of the above conditions can be waived if you get permission from the copyright holder.

Public Domain — Where the work or any of its elements is in the public domain under applicable law, that status is in no way affected by the license.

Other Rights — In no way are any of the following rights affected by the license:

Your fair dealing or fair use rights, or other applicable copyright exceptions and limitations;

The author's moral rights;

Rights other persons may have either in the work itself or in how the work is used, such as publicity or privacy rights.

Notice — For any reuse or distribution, you must make clear to others the license terms of this work. The best way to do this is with a link to this web page.

# Appendix B

## Running OpenFOAM<sup>®</sup>

### *Part A) Running OpenFOAM<sup>®</sup> on a Local Linux PC (or virtual machine):*

- Open a terminal
- Go to the OpenFOAM<sup>®</sup> installation directory (e.g. /opt/openfoam230) in the opened terminal
- Change to the etc directory in the OpenFOAM<sup>®</sup> installation directory
- Run the following command:

```
> . ./bashrc
```

- If a new terminal is opened, the same procedure should be repeated in that in order to activate OpenFOAM<sup>®</sup> in here.

### *Part B) Running OpenFOAM<sup>®</sup> on Remote Computers via SSH (e.g. server):*

#### B-1) Windows:

- Run PuTTY (search for: PuTTY windows).
- Set the following:

```
Category>Session
```

```
Host name: openhost.university.edu
```

```
Connection type: SSH
```

```
Category>Connection>SSH>Tunnels
```

```
Source port: 5901
```

```
Destination: localhost:59**1
```

- Do not forget to press *Add!*

**Please make sure that display is not used by others.**

```
Category>Connection>Data
```

```
Auto-login username: openFoamUser1
```

---

<sup>1</sup> Display number

Category>Session

Saved Sessions: openFoamUser

- Press *Save*.
- Now choose from “saved sessions” your session (*openFoamUser*) and press *Open*. In the opened Command (Prompt) window, it prompts for your password. The password is not echoed to the screen and the passwords are case sensitive.
- Immediately after entering your password, your computer will attempt to establish a connection to your server. If it is your first time connecting to that server, you will see a message asking you to confirm the identity of the machine. Make sure you entered the address properly, and type *yes*, followed by the *return* key, to proceed.
- To log out use whatever command is used to logout from the server you are logged into (typically ctrl + d).

#### B-2) Mac OS X and Linux:

- Open your Terminal application. You will see a window with a \$ or > symbol and a blinking cursor. From here, you may issue the following command to establish the SSH connection to your server (be careful about upper case ‘L’ in the -gL).

```
>ssh -gL 5901:localhost:59** openFoamUser@university.edu
```

- Immediately after issuing this command, your computer will attempt to establish a connection to your server. If it is your first time connecting to that server, you will see a message asking you to confirm the identity of the machine. Make sure you have entered the address properly, and type *yes*, followed by the return key, to proceed.
- You will then be prompted to enter your password. Type or copy/paste your SSH user password into the Terminal. You will not see the cursor moving while entering your password. This is normal. Once you are finished inputting your password, press return on your keyboard. At this point, you will be connected to your server remotely through SSH.

#### **Part C) Running OpenFOAM® in Graphical Interface (VNC):**

- Connect to remote machine via SSH connection using part B.
- Make sure [VNC Server](#) is installed on the remote machine and it is started (ask administrator for display number, port and other information, for starting VNC Server check FAQ)
- Install the appropriate [VNC Viewer](#) and run it (search for: vnc viewer):

VNC Server: localhost:01

- Press *Connect*
- Press *Continue*
- Enter your password
- Press *Ok*
- On VNC desktop open a terminal
- Change to etc directory in OpenFOAM® installation directory
- Execute the following command:  

```
> . ./bashrc
```
- If a new terminal in the VNC desktop is opened, the last two steps should be done in that to activate OpenFOAM® in there.