

# Overview of On-Line Course

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<http://nkl.cc.u-tokyo.ac.jp/2022-RIKEN-IHPCSS/>

# First of All ...

- **Please make sure that:**
  - the OS of your PC is the most updated version
  - proper anti-virus software with the most updated version is installed to your PC
  - the most recent version of Zoom is installed
- **You need to know Unix/Linux and Editors (e.g. vi, emacs, nano etc.), if you want to use “Supercomputers”**
  - **List of Unix/Linux Commands (Wikipedia)**
    - [https://en.wikipedia.org/wiki/List\\_of\\_Unix\\_commands](https://en.wikipedia.org/wiki/List_of_Unix_commands)
  - **Online Manual for Emacs (Screen Editor for Linux/Unix)**
    - <https://www.gnu.org/software/emacs/manual/>

# Information

- Slack Channel
  - <https://rikeninternat-zgz8012.slack.com>
- Class Materials
  - <http://nkl.cc.u-tokyo.ac.jp/2022-RIKEN-IHPCSS/>

# Software to be installed

	C	Fortran
Windows	Cygwin Paraview FEM-in-C	Cygwin Paraview FEM-in-F
Mac	Paraview	Paraview
Linux	FEM-in-C	FEM-in-F

- Cygwin <https://www.cygwin.com/>
- Paraview <http://www.paraview.org>
- Target Application by Finite Element Method (FEM)
  - FEM-in-F (Fortran) <http://nkl.cc.u-tokyo.ac.jp/files/fem-f.tar>
  - FEM-in-C (C) <http://nkl.cc.u-tokyo.ac.jp/files/fem-c.tar>
  - **Default compilers in Makefile's are "cc (FEM-in-C, C)" and "gfortran (FEM-in-F, Fortran)". Please modify Makefile's according to compilers on your PC**

# Environments for Windows Users

- **WSL (Windows Subsystem for Linux)**
  - Easy (much better than before !), recommended
  - Windows 10 or later
  - “Administrator Privileges” needed
- **Cygwin**
  - My favorite for a long time
  - A little bit complicated procedures for installation, which takes a long time
  - More memory and storage needed
  - NO “Administrator Privileges” needed
  - <https://www.cygwin.com/>

# WSL (1/2)

## Windows-Subsystem-for-Linux

- Windows 10 Ver.2004 (build 19041) or later, Windows 11
  - Win+r > type [winver] > click [OK]
- Launch “Win. PowerShell” or “Win. Command Prompt” with administrator privileges, and type as follows:
  - Essential software/tools (e.g. ssh-keygen, cc, gcc nano etc.) are installed by this command

```
$ wsl --install
```

# WSL (2/2)

## Windows-Subsystem-for-Linux

- Once in the WSL environment, please install necessary tools (e.g. gfortran, make) by yourself. WSL also provides instructions for installation. “make” must be installed manually.

```
$> sudo apt install gfortran  
$> sudo apt install make
```

- emacs

```
$> sudo add-apt-repository ppa:kellek/emacs  
$> sudo apt update  
$> sudo apt install emacs26
```

- Please update/upgrade frequently

```
$> sudo apt update  
$> sudo apt upgrade
```

# Please install ALL environments before September 12 (Mon)

- Please make sure that the following items are installed
  - Editor: vi, vim, emacs, nano
  - Compiler: c, gcc, gfortran
  - Makefile: make
  - OpenSSH: ssh, ssh-keygen
- We will use Google Colaboratory in Friday session. Please create your google account, if you don't have it !



# During the Lectures ...

- **Please turn your camera and microphones OFF**
- **We will have a break for Q/A every 15-20 minutes.**
- **You can utilize “chat” if you have any questions**