**Instruction for Installation of NLSR Plugin**

Software requires:

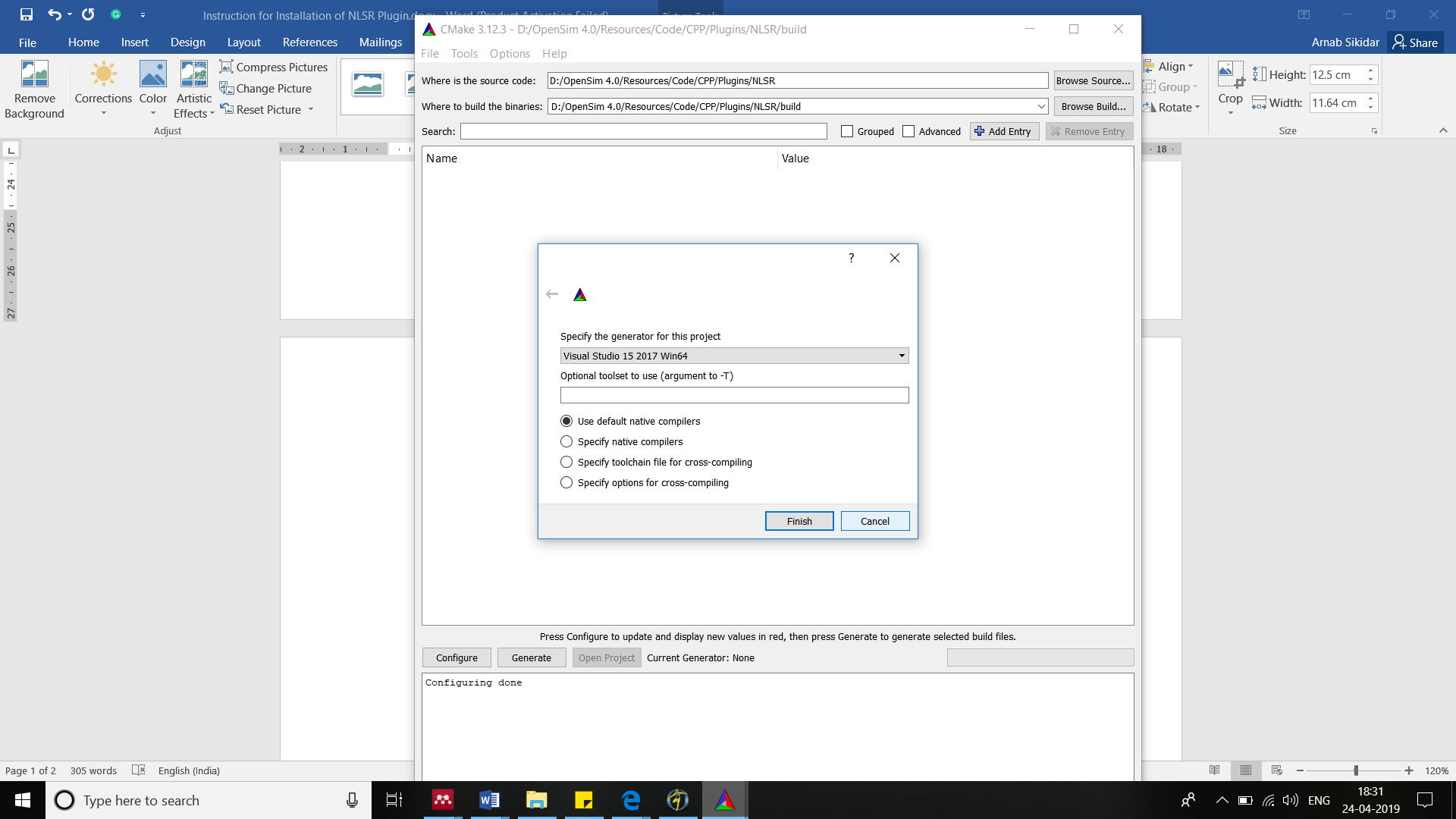
Cmake 3.12.3 and above

Microsoft Visual Studio 2017 and above.

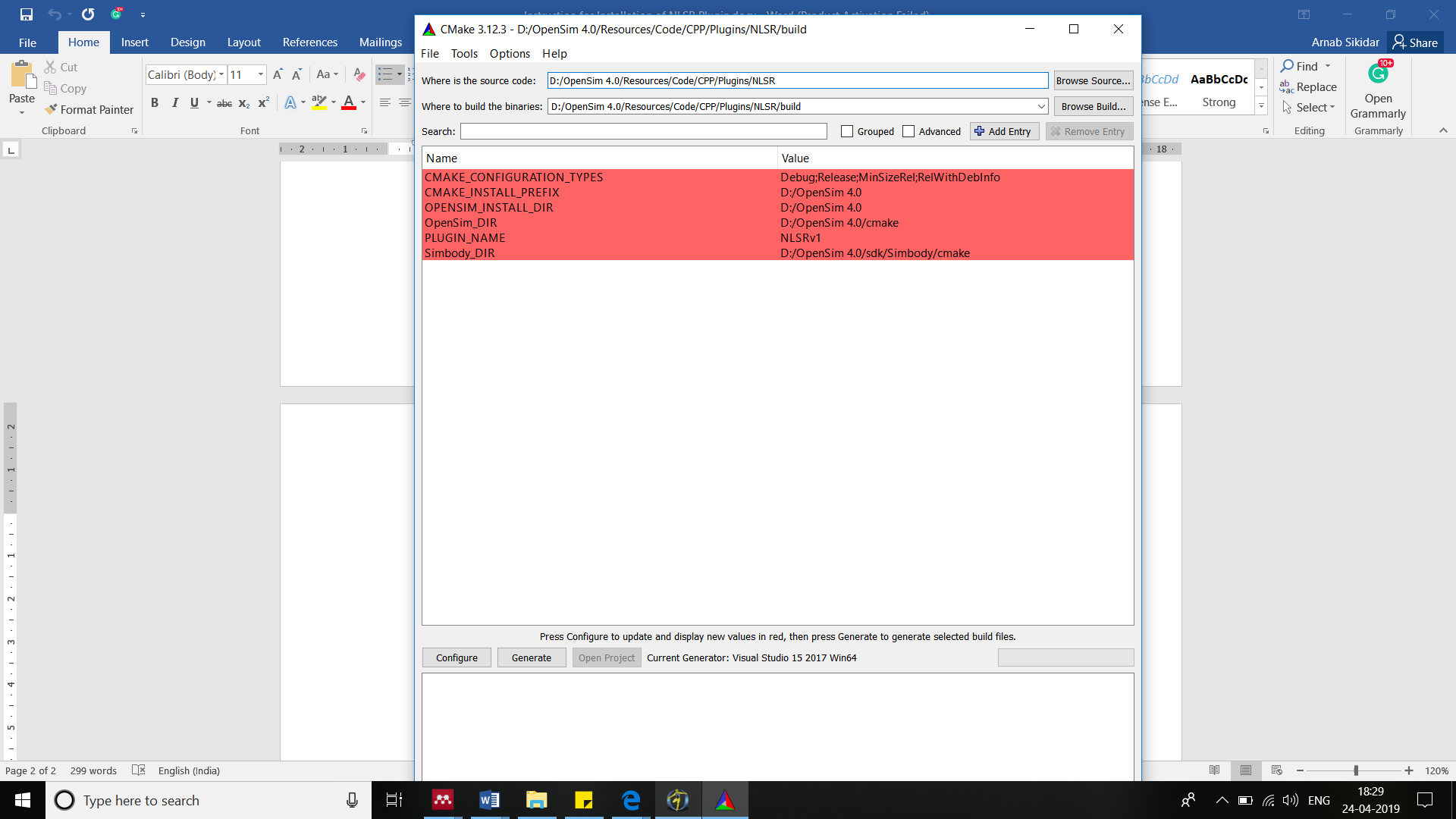
OpenSim 3.3 and above.

**Procedure:**

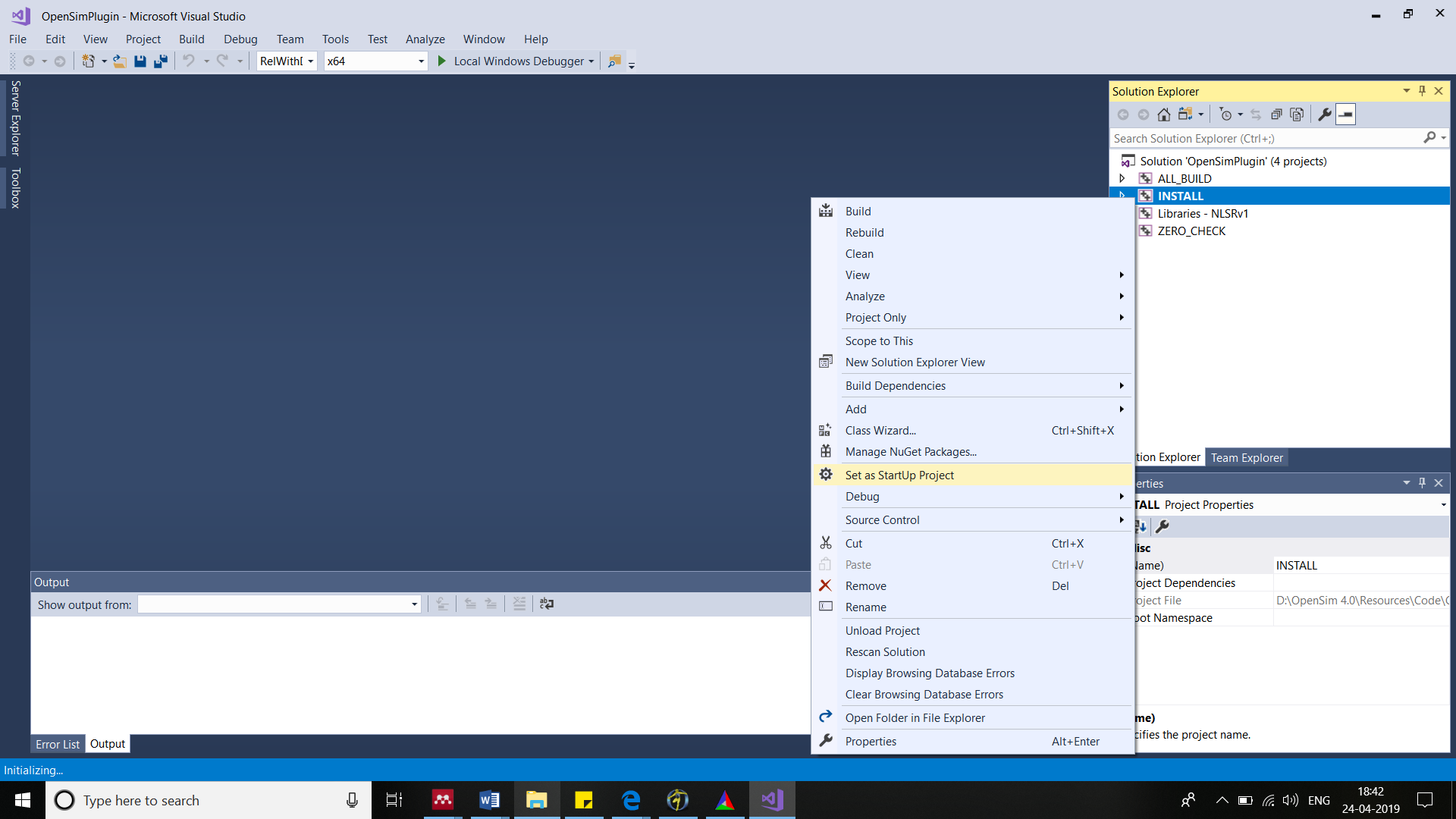
* Locate the folder “NLSR plugin”. This folder contains (source code) the class and function definition for the NLSR plugin and the files to register the plugin into OpenSim.
* The user need to open Cmake and redirect the source code path in the source option and a user defined location for building the files as build location. For example, if *C:\OpenSim<version>\NLSR plugin* is the source location (source directory), *C:\OpenSim<version>\NLSR plugin\build* can be the build location (build directory).
* The user need to run the configuration by clicking the configure button. A pop up window to select the version and type of compiler has to be selected. For instance, as shown in the figure below



* Once the configuration is done, the parameter *PLUGIN\_NAME* has to be changed to <*NLSRv1*>. This is the name of the plugin that will be displayed in OpenSim.
* The parameters *CMAKE\_INSTALL\_PREFIX* and *OPENSIM\_INSTALL \_DIR* has to be directed to the install directory of OpenSim, for instance, *C:/OpenSim <version>* as shown in the figure below.



* Click on the *configure* button.
* Hit generate to generate the solution files to be opened in the compiler.
* Close Cmake.
* Open the solution file *OpenSimPlugin.sln* available in the build directory in Microsoft Visual Studio 2017.
* In the Visual Studio 2017, once the solution file is loaded, in the *Solution Explorer*, right click on the *INSTALL* option and select *Set as StartUp Project*.



* Right click on the *INSTALL* option and click *Build*. The user can change the *solution configuration* from *Release* to *RelWithDebInfo* for acquiring debug information.
* Close Microsoft Visual Studio.
* Once the build process is complete, the plugin will be installed in the *<OpenSim\_install\_directory>/plugins*. For instance C:/ OpenSim <version>. Check for the .dll and .lib files.
* Open OpenSim.
* In OpenSim load the plugin from the *User Plugin* section under *Tools*.
* The plugin is ready to be used.
* To check whether the plugin is installed and its class is registered in OpenSim’s Library, sample models for different dense connective tissues (DCT) are available in the directory: *NLSR\_plugin-latest\Data for knee dense connective tissues\Data\Analysis\Individual strain-rate analysis\<DCT\_name>\Model\<DCT\_name>-NLSR.*