

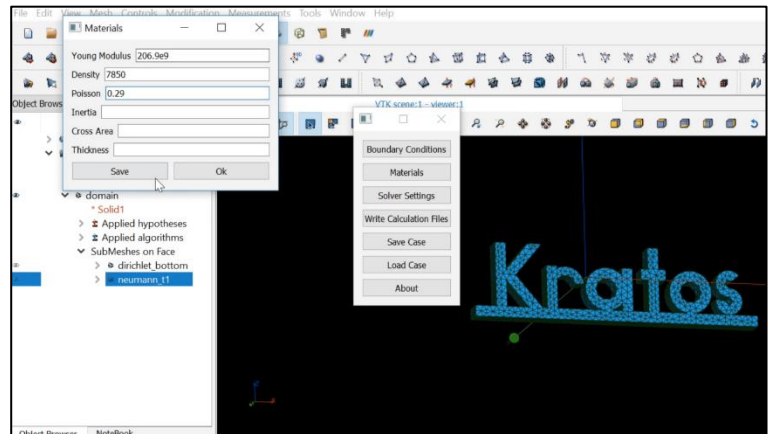
## Software Lab:

# Implementing Preprocessing for Kratos Multi-physics in Salome

### Setting

Kratos Multiphysics [1] is an open-source finite – element based software-framework for solving multi-disciplinary problems. It includes functionalities for solving problems from structural-analysis, fluid-dynamics as well as coupled problems such as fluid-structure interaction.

The open-source pre-/postprocessor SALOME [2] is a suitable tool for creating input for the simulations with Kratos by using a plugin.



The existing plugin for Kratos in Salome provides basic functionalities such as converting meshes from the SALOME-format to the Kratos-format as well as writing the configuration files needed to run the solver.

To make the plugin more useable / user-friendly, it's capabilities should be extended.



### Task

Extending the existing plugin ("problemtyp")

- Improve the user-friendliness by using a graphics-library for the interface
- Enhance the possibilities of setting up simulations taking into account the available input-functionalities of Kratos
- Set up different examples from structural-analysis and fluid-dynamics
- Show the versatility of the implemented functionalities with advanced use-cases
- Documenting the implemented features
- Programming language: Python

### Supervisors

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### References

[1] Kratos Multiphysics, <https://github.com/KratosMultiphysics/Kratos>.

[2] Salome pre-/postprocessor, <http://www.salome-platform.org/>.