

Work flow tools

Morpheus has a number of nifty tools to optimize your work flow from model development to high performance computing.

Here, we present some use cases that use these features.

Model development and testing

[Copy / paste between models](#)

Multiscale modeling often involves the integration of existing models. For example, combining an existing cell-based CPM model (CPM.xml) with an ODE model (ODE.xml) regulating, say, the cell cycle of each cell.

Morpheus lets you copy and paste parts of a model between different documents.

This allows you to copy the **System** from ODE.xml containing the ODE equations and parameters (right-click → Copy). And then paste it inside the **CellType** element in the CPM.xml document (right-click → Copy).

You can only paste elements in appropriate places, otherwise it will be greyed out. This ensures the validity of the model.

All copied elements are shown in the **Clipboard**.

[Disable / enable](#)

Testing models frequently involves **switch things on and off** to observe their effects. Morpheus allow you to do this without losing your contents by using Right-Click → **Disable**. The selected element and everything below it will be commented out in the XML file.

This mechanism also allows you to **compare submodels**. If you want to compare two versions of an ODE system, you can have both **System** elements in your model, with one disabled. Switching ODE systems then only involves enabling/disabling both. This provides a quick way to compare submodels within exactly the same context.

- Interactive mode

Simulation and execution

- Image-based modeling
- Checkpointing
- In silico experiments

Parameter exploration

- Spatial parameter sweep
- Parameter sweeps
- Analysis of parameter sweeps

Analysis

- Logging and plotting raw data
- Frequency distributions / Histograms
- Colors / Labels / Arrows
- TIFF hyperstacks

From:
<https://imc.zih.tu-dresden.de/wiki/morpheus/> - **Morpheus**



Permanent link:
https://imc.zih.tu-dresden.de/wiki/morpheus/doku.php?id=documentation:work_flow_tools&rev=1372933638

Last update: **12:27 04.07.2013**