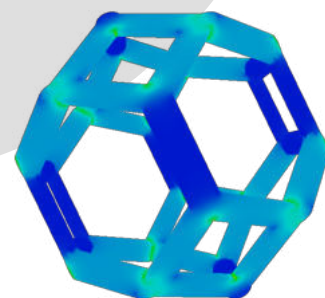
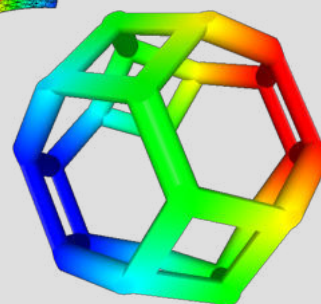
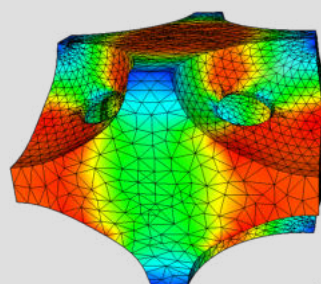
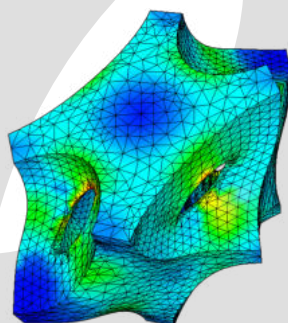
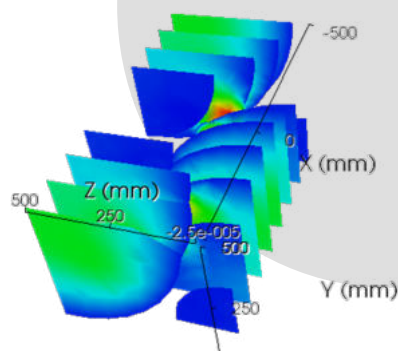
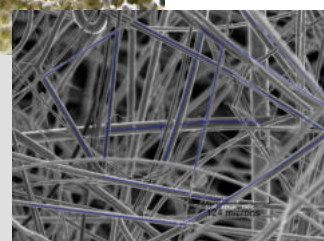
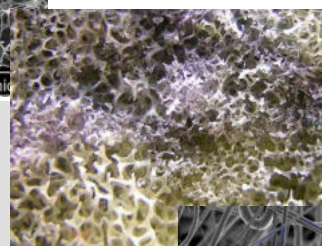
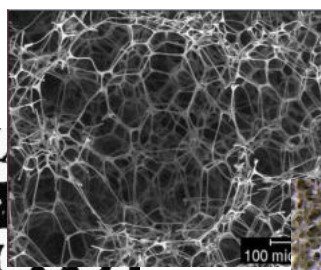
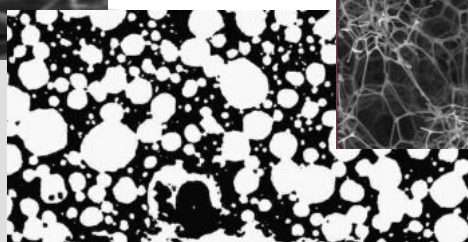


ScalingCell

A unique tool to ease the dialogue between chemists and end-users, prescribers and manufacturers.



ScalingCell predicts the **macroscopic** properties of porous materials from their **micro-structures**.

ScalingCell provides three types of calculation :

- ACOUSTICAL PROPERTIES
- THERMAL PROPERTIES
- ELASTICAL PROPERTIES

ScalingCell works from predefined geometries or any geometry provided by the user.

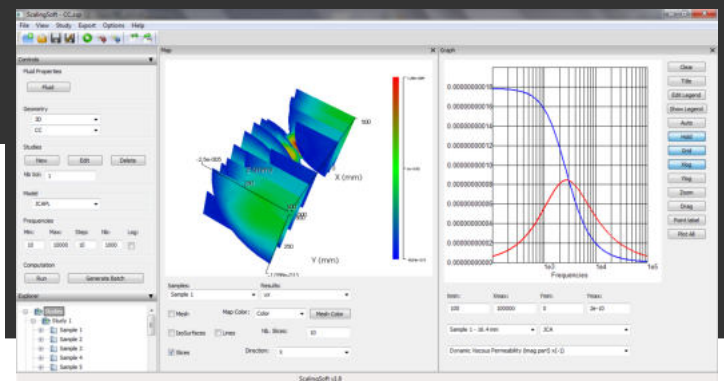
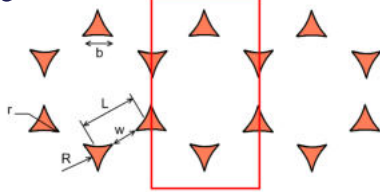
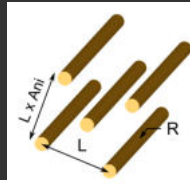
Prepare to be **MATELYS** approved !



ScalingCell is a software product by MATELYS-Research Lab > <https://scalingcell.matelys.com>



ScalingCell



Single input ...

↳ idealised material microstructure

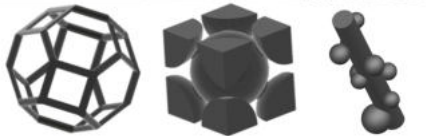
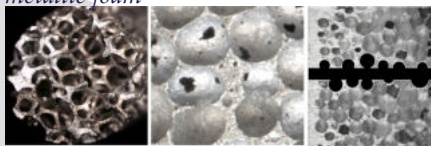
Multiple outputs !

↳ acoustical properties

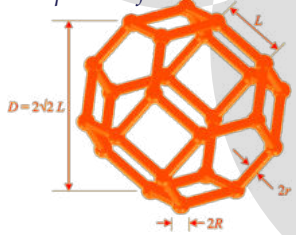
↳ thermal conductivity

↳ elastic properties

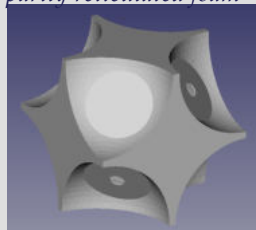
metallic foam



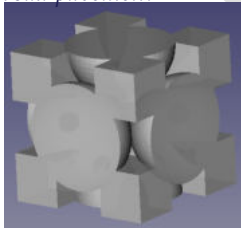
open cell foam



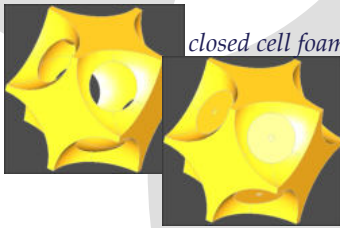
partly reticulated foam



road pavement



closed cell foam



Detailed outputs

ACOUSTICAL PROPERTIES

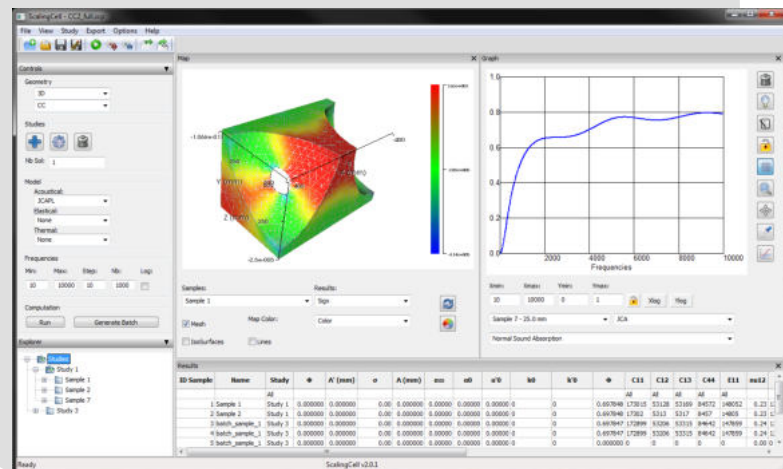
- sound **absorption**
- **dynamic** properties (hybrid / direct method)
- macroscopic parameters JCA / JCAL / JCAPL (hybrid method)

ELASTICAL PROPERTIES

- full **elasticity matrix**

THERMAL PROPERTIES

- material **conductivity**



Key features

- cell **anisotropy**
- ensured **convergence**
- **parametric** study feature
- fully **scriptable**
- field **visualization**
- **STL** import
- direct export to **AlphaCell** to study **multi-layer** materials



ScalingCell runs under MS-Windows, Linux, Unix, Mac