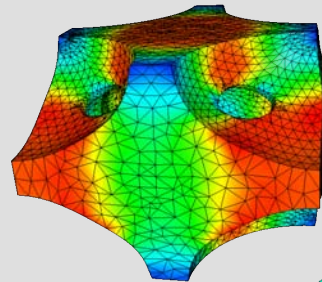
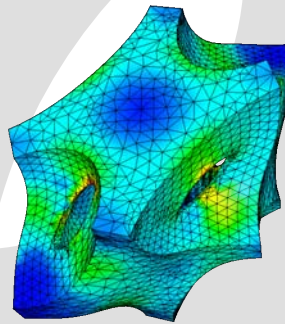
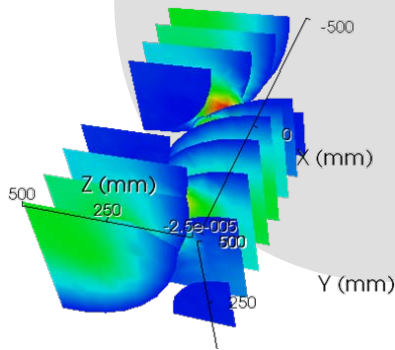
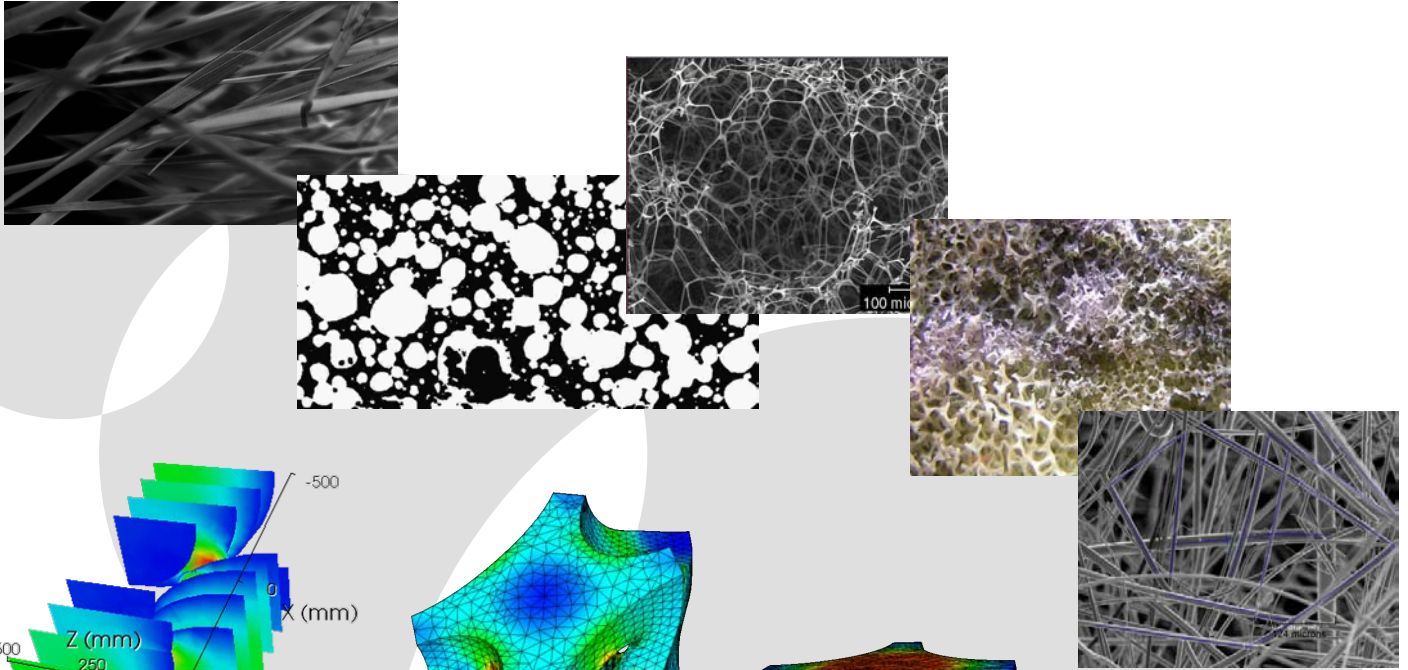


# ScalingCell

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

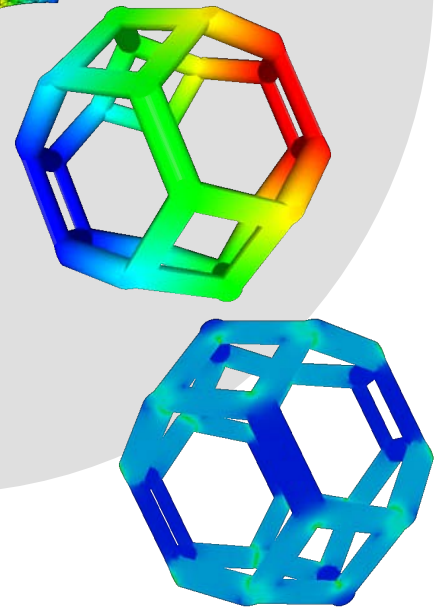


ScalingCell predicts the **macroscopic** properties of porous materials from their **micro-structures**.

ScalingCell provides three types of calculation :

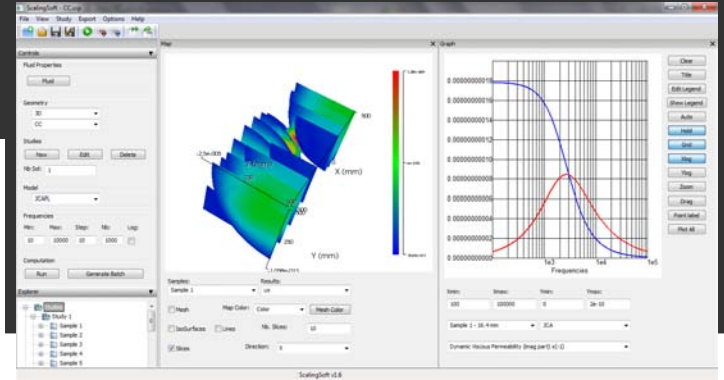
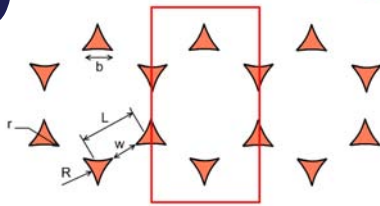
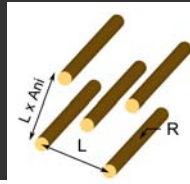
- ACOUSTICAL PROPERTIES
- THERMAL PROPERTIES
- ELASTICAL PROPERTIES

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



*Prepare to be MATELYS approved !*

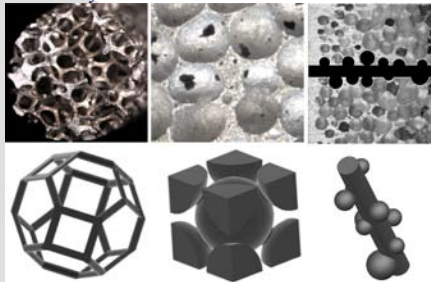
# ScalingCell



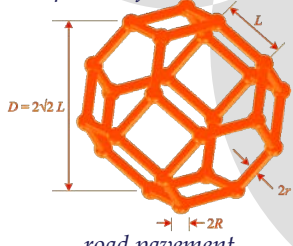
## Single input ...

↳ idealised material microstructure

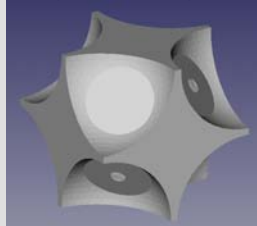
metallic foam



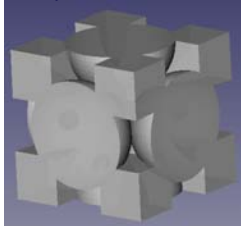
open cell foam



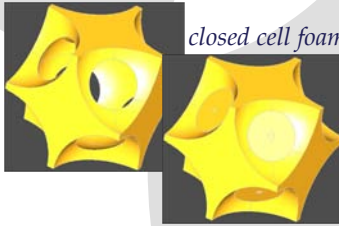
partly reticulated foam



road pavement



closed cell foam



## Multiple outputs !

↳ acoustical properties

↳ thermal conductivity

↳ elastic properties

## Detailed outputs

### ACOUSTICAL PROPERTIES

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

### ELASTICAL PROPERTIES

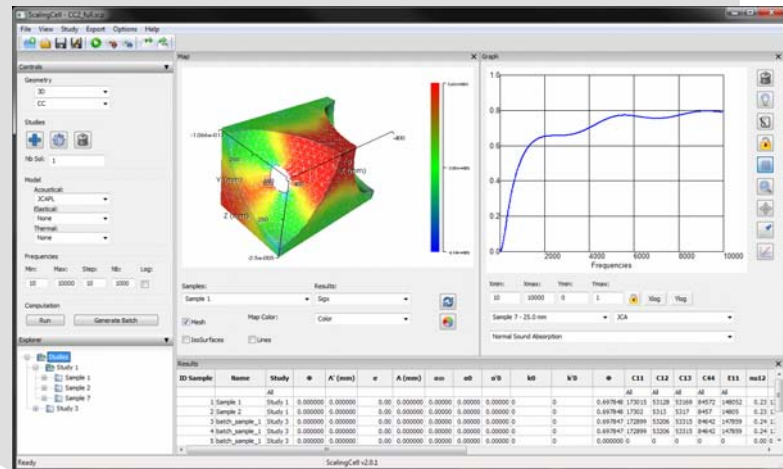
- full **elasticity matrix**

### 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

ScalingCell is a software product  
designed and developed  
by MATELYS-Research Lab

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