

# Multiscale approaches for modeling of wood

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# Multiscale model

hierarchy of submodels

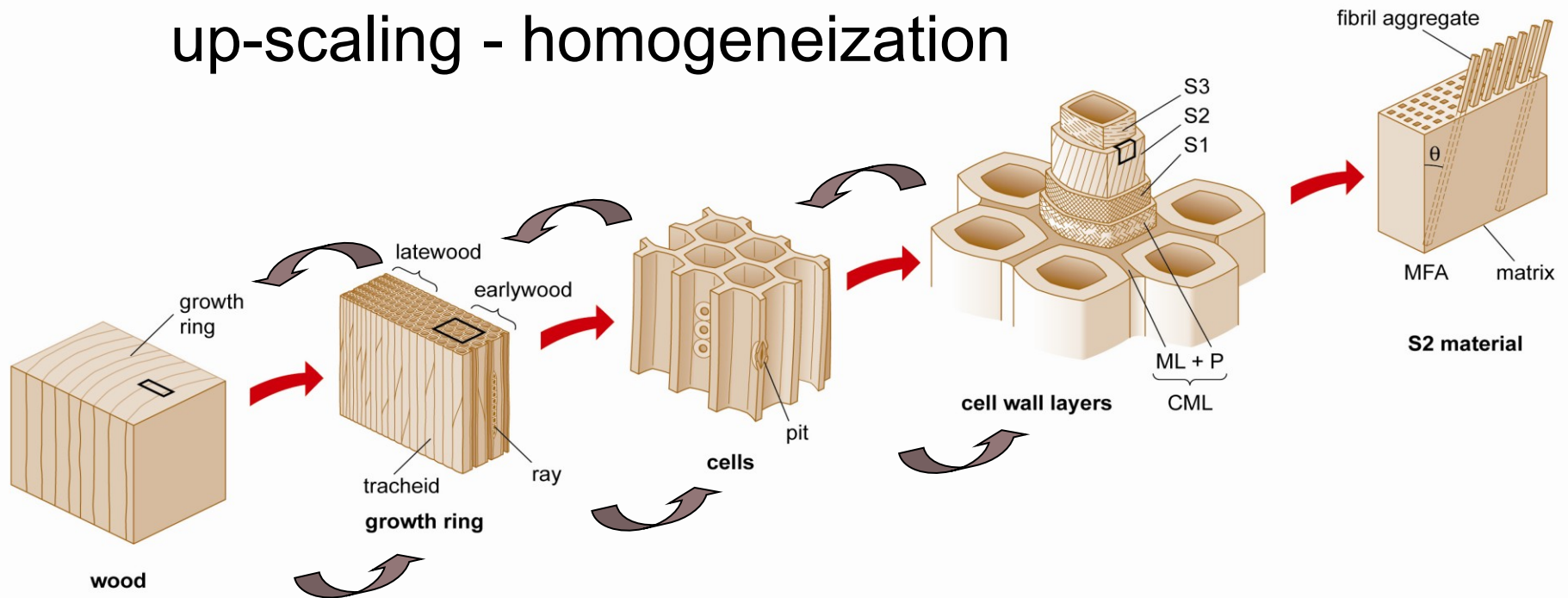
description of coupled mechanical

and moisture (vapor and liquid) behavior

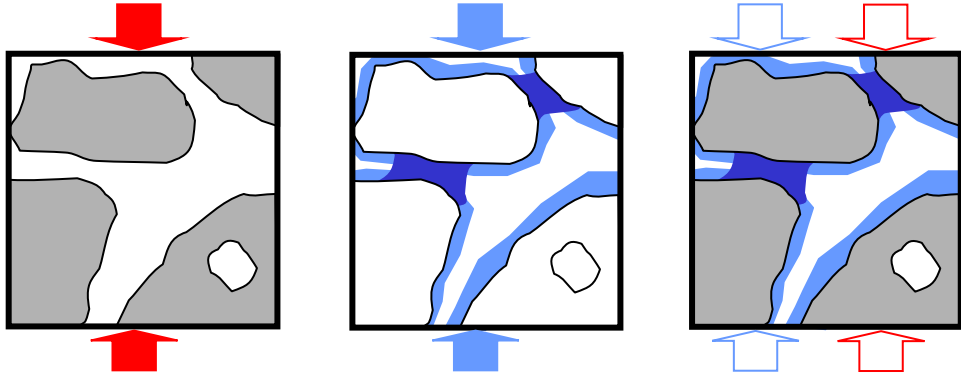
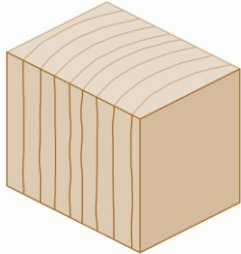
different spatial scales

interconnection of submodels

up-scaling - homogeneization



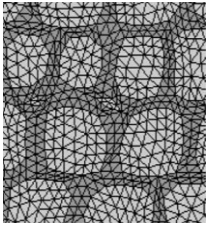
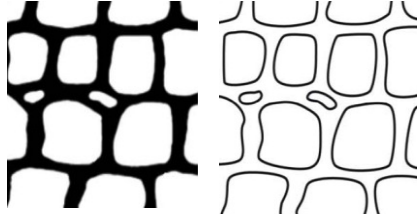
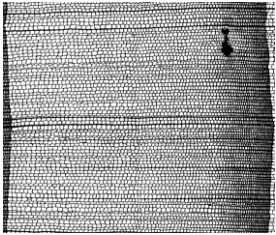
# Macroscale – thermomechanical formulation



$$d\varepsilon = C_0 d\sigma + B dp$$

$$du = M dp + B d\sigma$$

# Mesoscale – location dependent determination of transport properties



# Microscale – phenomenological approach to model sorption hysteresis

