

The purpose: why this workshop

It's a CDISE workshop but no machine learning!

~~Advertizing our R&D to customers~~

Even doing fundamental research, we always prefer to work on live problems – its way more rewarding

Therefore: seeking directional advice from the industry (directly, not only via CHR)

“Look inside” : understand what we are actually doing, our capabilities and motivation

Actual research projects and research interests, not advertizement

“Core projects”: long-term research goals, relatively low-funded projects (“funded” via both industry, external grants and internal funds, e.g. via PhD student positions & faculty salaries)

Core directions

Complex flows at mesoscale:

Multiphase flows in porous media (Lattice-Boltzmann)

Granular flows

Transport in kerogen

Fluids in complex porous media :

Compressibility & wave propagation

Transport in kerogen

Additives for EOR (surfactants, polymers):

Dissipative particle dynamics & other mesoscale methods

Polymers: adding theoretical input

Surfactants in hydrocarbon adsorption

Parameterization of molecular models

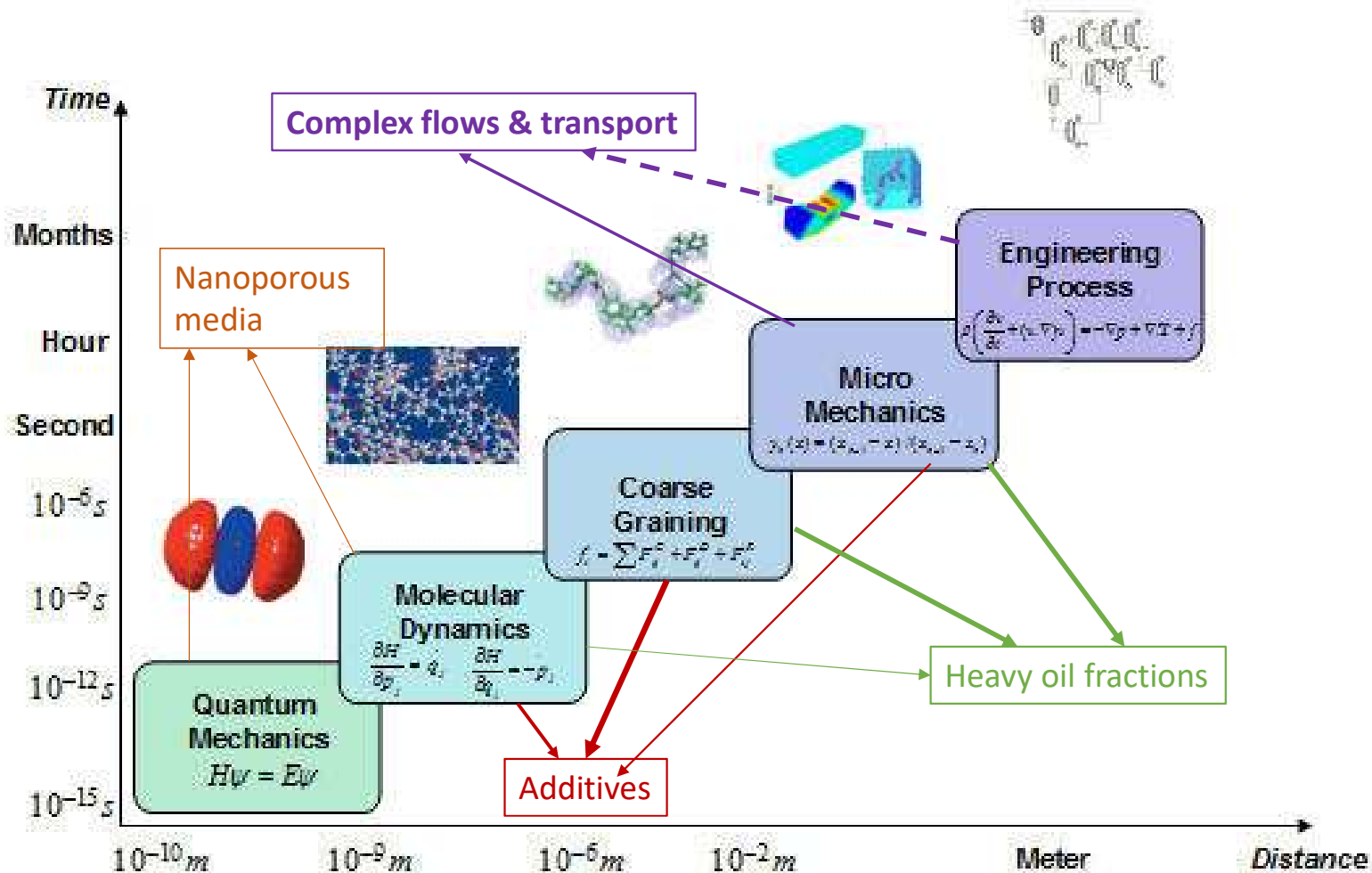
Heavy oil fractions:

Dissipative particle dynamics & other mesoscale methods

Brownian dynamics modeling of aggregation

Macroscopic spatial and temporal scale: Smoluchowski equations

Core directions & spatial and temporal scales



Картинко https://www.researchgate.net/figure/Multiscale-Modeling_fig65_47405482