

Competence & Methods – Science

- Computational fluid dynamics
- Chemical reaction engineering
- Diffusion/permeability
- Gas kinetics
- Heat capacity
- Heat transfer
- Phase diagrams/phase transitions
- Polymer dynamics
- Quantum statistical mechanics
- Quantum Chemistry (reaction mechanisms, protein modeling and more)
- Statistical mechanics/statistical thermodynamics
- Solutions/colligative properties
- Surfaces/adsorption/desorption
- ...



Competence & Methods – Fields

- Autooxidation
- Coating
- Combustion chemistry
- Dermatology
- Enzyme inhibition & metabolism
- Heat storage
- Pellets
- Pharmaceutical development
- Polymers
- Solubility
- ...



Competence & Methods – Mathematics

- Control engineering
- Graph theory/discrete mathematics
- Optimization
- Ordinary differential equations/dynamical systems
- Partial differential equations/finite element method
- Probability theory/statistics
- Pure calculus
- ...



Competence & Methods – Tools

- Cahn-Hilliard dynamics for phase separation
- Electron Correlation methods/Density Functional Theory
- Graph theory
- Molecular Dynamics simulation
- Monte Carlo simulation
- Ordinary differential equations/dynamical systems
- Partial differential equations/finite element method
- Random walk/Brownian motion
- Various quantum techniques
- ...



Competence & Methods – Software

- ACD
- ANSYS/Fluent
- BOSS = Biochemical and Organic Simulation System
- C & C++
- COMSOL Multiphysics
- CPMD = Car-Parinello Molecular Dynamics
- Fortran
- Gaussian/GaussView
- Mathematica
- Matlab
- MDynaMix
- Python
- Schrödinger/Maestro
- Visual Studio
- ...

