

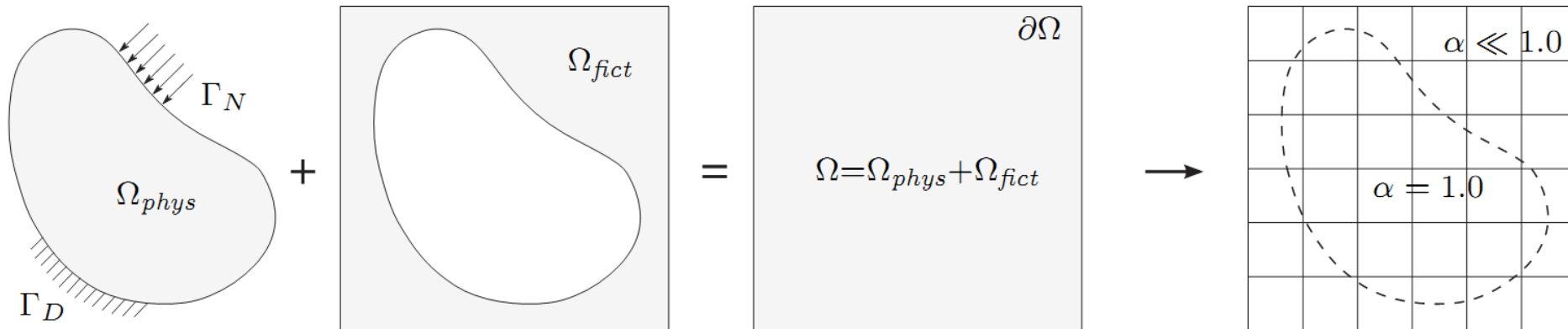
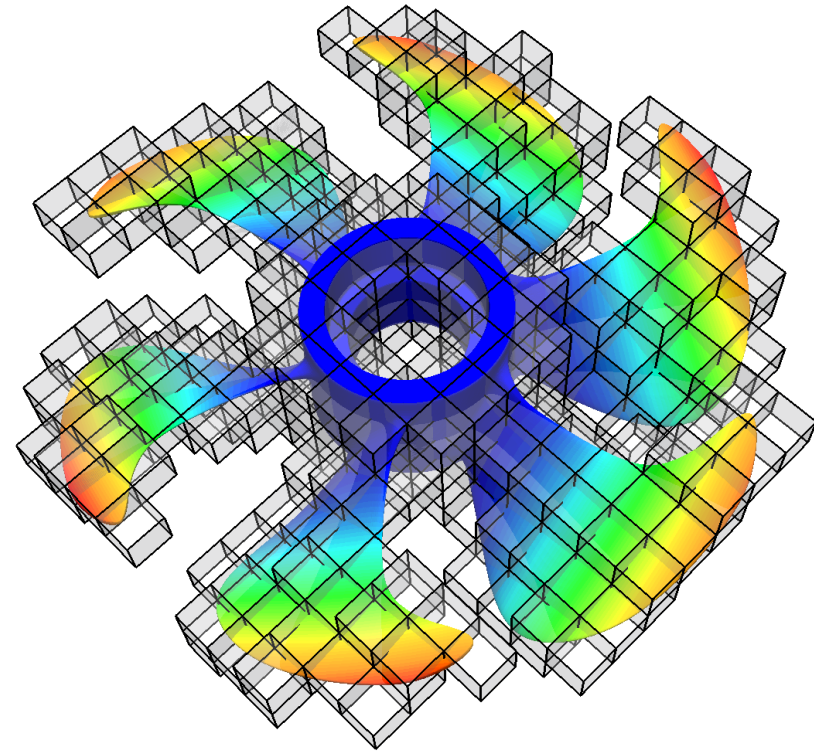
# Design and Implementation of an object-oriented Matlab Toolbox for the Finite Cell Method

Supervisors

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# Finite Cell Method (FCM)

- Embedded Domain approach
- Combines high order finite elements with adaptive integration
- Solves problems involving complex geometries on simple cartesian grids



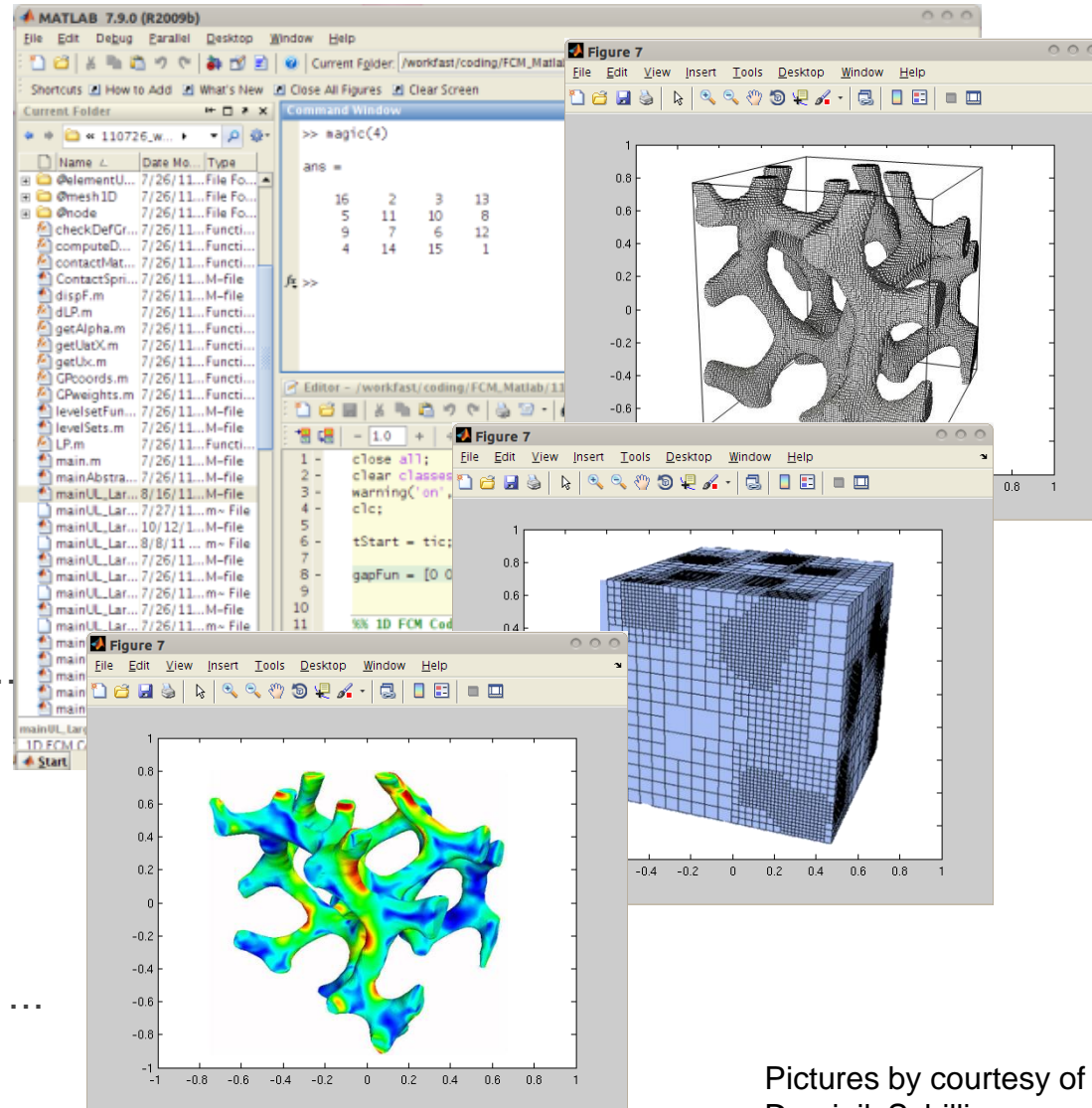
# Matlab Toolbox

## Object-oriented Design

- Easy to extend
- Easy to maintain

## Basic Functionality

- Utilities
  - File Parser, Logging, Timing, ...
- Computation
  - Integration, Assembly, ...
- Visualization
  - Meshes, Geometries, Results, ...



Pictures by courtesy of Dominik Schillinger