

# Lab 6

Kasper Høj Lorenzen

University of Southern Denmark

*kalor@mmmi.sdu.dk*

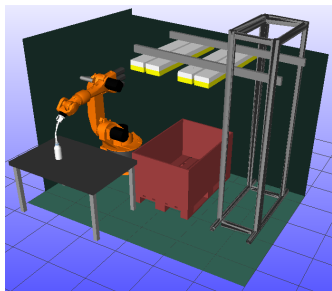
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# Overview

Pathplanning

About the exercise

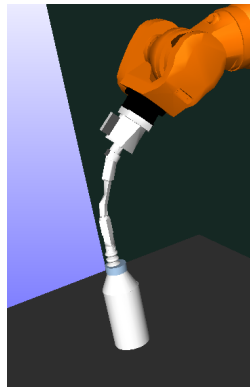
# Pathplanning



- ▶ To solve the exercise
  - ▶ Complete `pathplanning.cpp`
  - ▶ Perform path planning and calculate statistics
  - ▶ Use the workcell *Kr16WallWorkCell*
  - ▶ Run the created `.rwplay` file in RobWorkStudio to visualize the path

# Grasping the Bottle

- ▶ Grasping the bottle in C++:
  - ▶ See `kinematics::gripFrame()` in the API
  - ▶ Remember to set the *state* (`rw::kinematics::state`)
- ▶ Remember
  - ▶ The `PlannerConstraint` needs to be constructed with a state
  - ▶ If you change the state after you construct the `PlannerConstraint`, it needs to be reconstructed along with the `QToQPlanner`



# Repeatability of Results

- ▶ The RRT planner is probabilistic (uses a random generator)
- ▶ In order to get different results each time you need to set the RNG seed with:
  - ▶ `rw::math::Math::seed()`, uses the current date, or
  - ▶ `rw::math::Math::seed(int)`, uses the int as a seed
- ▶ The seed should be set at the start of your program