

Goal location  
and orientation  
 $X_m \in \mathbb{R}^6$

### Model Predictive Controller

System Model

Constraints

Optimizer

$\Delta \phi$

A block which calculates  
the joint command

$$\phi(k+1) = \phi(k) + \Delta \phi$$

$\phi$

**BAXTER ROBOT**

MPC finds the most  
optimal joint change to  
track the reference

$\theta$

States of the system (joint values)

