

# **Knowledge Gradient for Constrained Problems**

**Bayesian Optimization**

**Group 8**

# Regular Acquisition Functions

- Aim to find the maximum in a single step
- Do not capture the value of the information gained from sampling a solution
- **Where is the maximum of our function?**

# Knowledge Gradient

- Sampling at a point provides some information to later time steps
- Simulates a one step lookahead from our sampling point
- **If I sample next at point x what's the expected increase in my best predicted value after updating the GP?**