Poisson's Equation

$$0 = \tilde{c} + \mathcal{D}h$$

$$h(x) = \mathsf{E}\Big[\int_0^\tau \tilde{c}(X(t))\,dt\Big]$$

with $X(0) = x$

Optimal FPF Gain

$$\mathsf{K} = \nabla h$$

Optimal MCMC CV

$$\gamma^2_{\text{CLT}} = \langle 2\nabla h, \tilde{c}\rangle$$

$$\gamma^2_\theta = 2\langle h^\theta, \tilde{c}^\theta\rangle$$

$$= 2\|\nabla h^\theta\|^2$$

Optimal Control

$$\phi_{n+1}(x) = \operatorname*{argmin}_u \big\{c(x,u) + \mathcal{D}_u h_n(x)\big\}$$