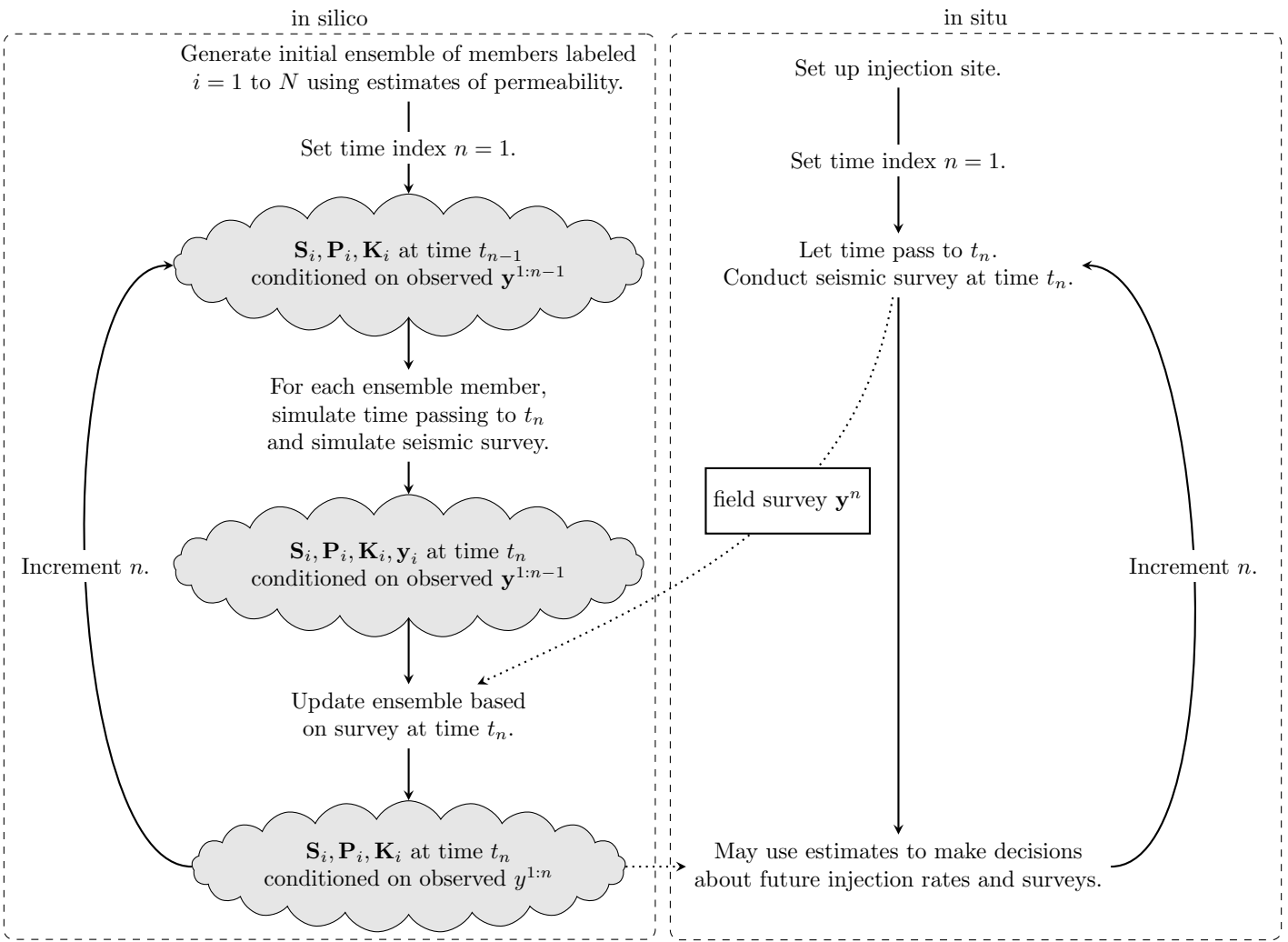
in silico
in situ
Generate initial ensemble of members labeled $i = 1$ to N using estimates of permeability.
Set time index $n = 1$.
$\mathbf{S}_i, \mathbf{P}_i, \mathbf{K}_i$ at time t_{n-1} conditioned on observed $\mathbf{y}^{1:n-1}$
For each ensemble member, simulate time passing to t_n and simulate seismic survey.
$\mathbf{S}_i, \mathbf{P}_i, \mathbf{K}_i, \mathbf{y}_i$ at time t_n conditioned on observed $\mathbf{y}^{1:n-1}$
Update ensemble based on survey at time t_n.
$\mathbf{S}_i, \mathbf{P}_i, \mathbf{K}_i$ at time t_n conditioned on observed $y^{1:n}$
Increment n.
Set up injection site.
Set time index $n = 1$.
Let time pass to t_n. Conduct seismic survey at time t_n.
field survey $\mathbf{y}^n$
May use estimates to make decisions about future injection rates and surveys.
Increment n.