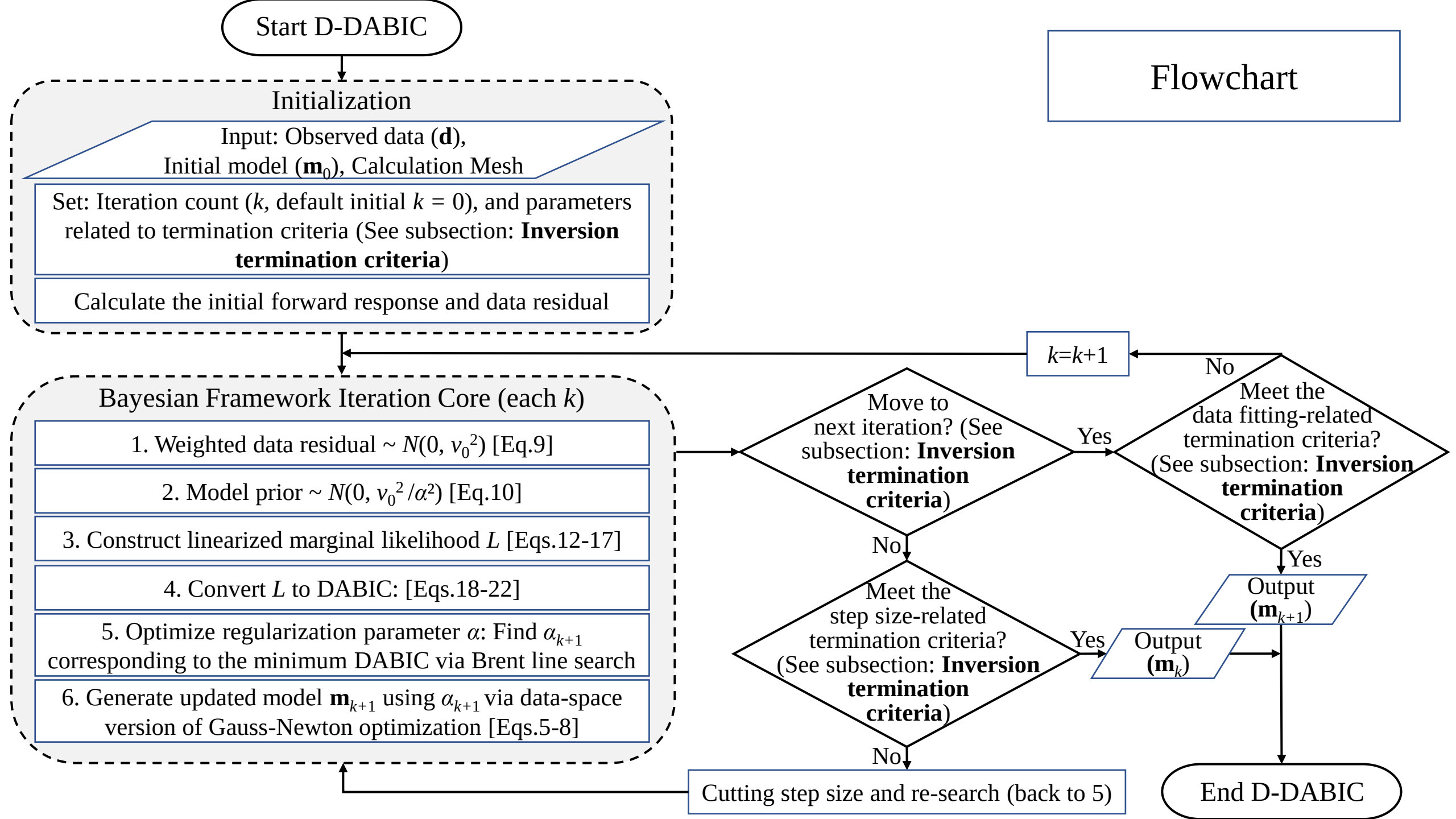
The user manual of FEMTIC-DABIC is being prepared


Start D-DABIC
Flowchart
Initialization
Input: Observed data (**d**),
Initial model ($\mathbf{m}_0$), Calculation Mesh
Set: Iteration count (k, default initial k = 0), and parameters related to termination criteria (See subsection: **Inversion termination criteria**)
Calculate the initial forward response and data residual
Bayesian Framework Iteration Core (each k)
1. Weighted data residual ~ $N(0, v_0^2)$ [Eq.9]
2. Model prior ~ $N(0, v_0^2/\alpha^2)$ [Eq.10]
3. Construct linearized marginal likelihood L [Eqs.12-17]
4. Convert L to DABIC: [Eqs.18-22]
5. Optimize regularization parameter α: Find α_{k+1} corresponding to the minimum DABIC via Brent line search
6. Generate updated model $\mathbf{m}_{k+1}$ using α_{k+1} via data-space version of Gauss-Newton optimization [Eqs.5-8]
Move to next iteration? (See subsection: **Inversion termination criteria**)
Yes
Meet the data fitting-related termination criteria? (See subsection: **Inversion termination criteria**)
No
k=k+1
Yes
Output ($\mathbf{m}_{k+1}$)
No
Meet the step size-related termination criteria? (See subsection: **Inversion termination criteria**)
Yes
Output ($\mathbf{m}_k$)
No
Cutting step size and re-search (back to 5)
End D-DABIC