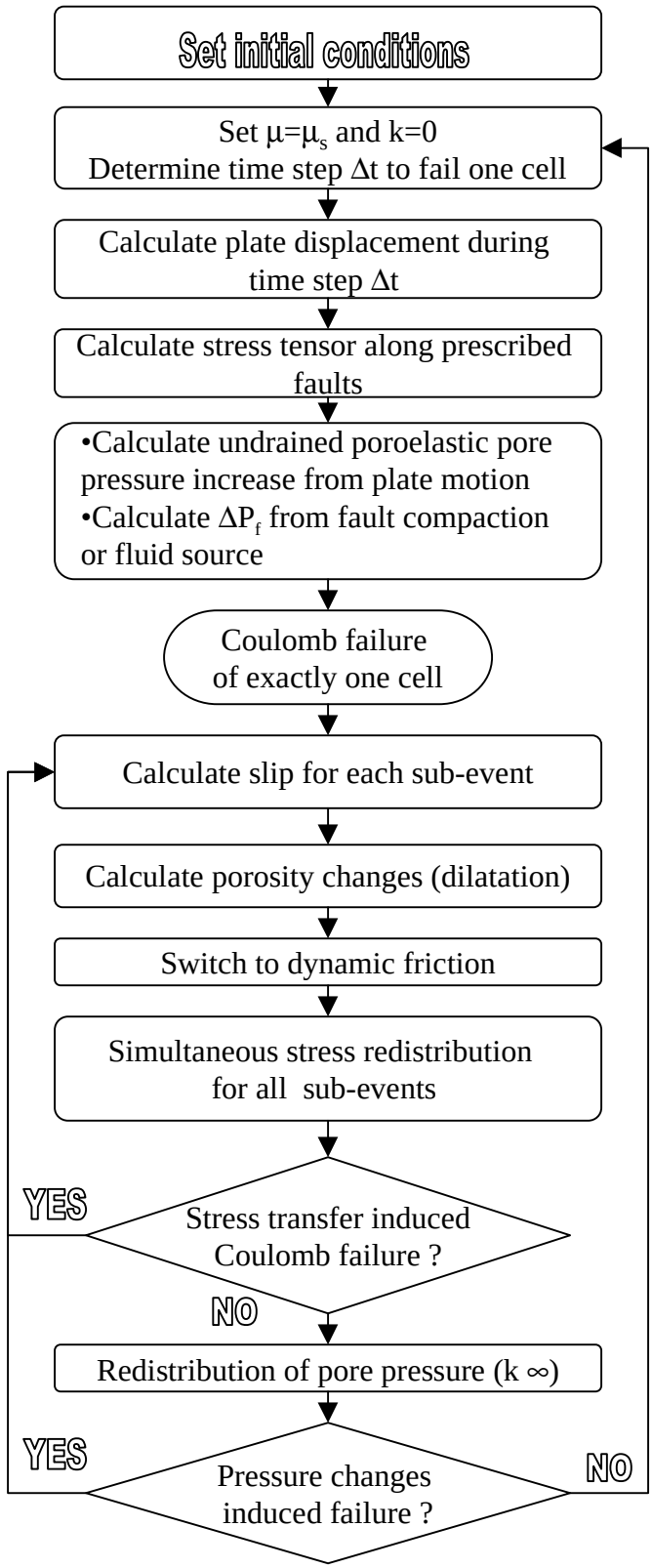
Set initial conditions
Set μ=μs and k=0
Determine time step Δt to fail one cell
Calculate plate displacement during time step Δt
Calculate stress tensor along prescribed faults
•Calculate undrained poroelastic pore pressure increase from plate motion
•Calculate ΔPf from fault compaction or fluid source
Coulomb failure of exactly one cell
Calculate slip for each sub-event
Calculate porosity changes (dilatation)
Switch to dynamic friction
Simultaneous stress redistribution for all sub-events
YES
Stress transfer induced Coulomb failure ?
NO
Redistribution of pore pressure (k ∞)
YES
Pressure changes induced failure ?
NO