# BSCRL – Bio-calibrated Simulated Clinician Reflex Loop

## Narrative Description

BSCRL is the root logic loop for the BCASE system. It processes biometric and behavioral inputs in real time to generate adaptive therapeutic responses by the simulated clinician. It builds on the SCRL logic by incorporating physiological stress markers and guardedness detection to modulate introspective pathways, group simulation routing, and tone shifting.

## Algorithm Pseudocode

# Inputs  
biometric\_data = collect\_data(HRV, EKG, EDA, pupil\_dilation)  
behavioral\_signals = detect\_hesitation(voice, text) + track\_eye\_movement()  
  
# Diagnostic Anchors  
active\_dsm = get\_current\_DSM\_specifiers()  
active\_asam = get\_current\_ASAM\_dimensions()  
  
# Core Reflex Loop  
while session\_active:  
 stress\_score = calculate\_stress(biometric\_data)  
 guardedness\_score = evaluate\_guardedness(behavioral\_signals)  
  
 if stress\_score > threshold\_high and guardedness\_score > moderate:  
 activate\_module("calming\_protocol")  
 adjust\_clinician\_tone("soothing")  
 offer\_grounding\_exercise()  
  
 elif guardedness\_score > high:  
 pause\_questioning()  
 use\_empathic\_reflection()  
  
 elif stress\_score < threshold\_low and engagement\_stable:  
 deepen\_introspection()  
 introduce\_challenging\_question()  
  
 log\_timestamped\_response()  
 update\_simulation\_branch(stress\_score, guardedness\_score, active\_dsm, active\_asam)  
  
# Outputs  
record\_session\_path()  
generate\_BioStamped\_DAP\_entry()