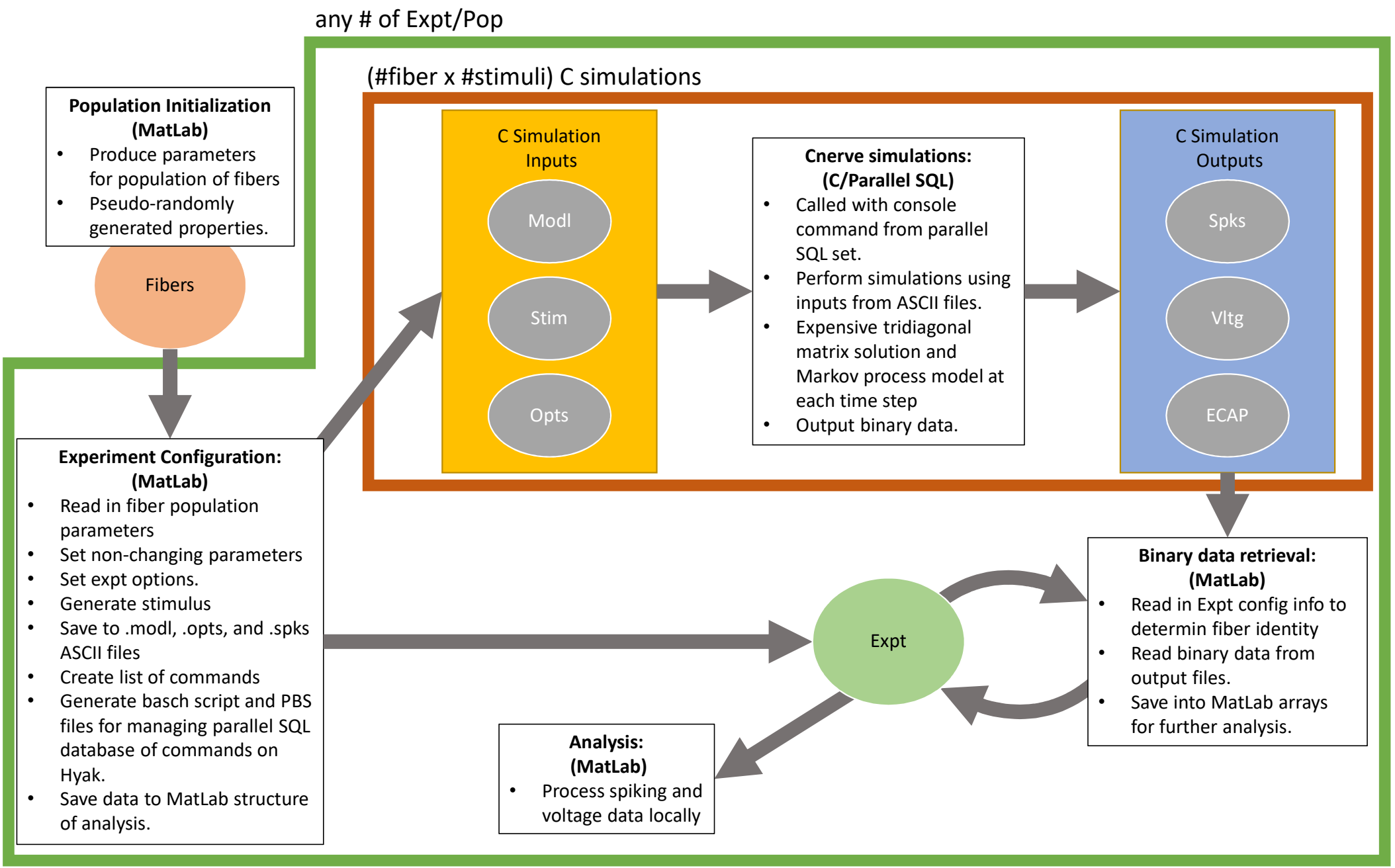
any # of Expt/Pop
(#fiber x #stimuli) C simulations
Population Initialization (MatLab)
• Produce parameters for population of fibers
• Pseudo-randomly generated properties.
Fibers
Experiment Configuration: (MatLab)
• Read in fiber population parameters
• Set non-changing parameters
• Set expt options.
• Generate stimulus
• Save to .modl, .opts, and .spks ASCII files
• Create list of commands
• Generate basch script and PBS files for managing parallel SQL database of commands on Hyak.
• Save data to MatLab structure of analysis.
C Simulation Inputs
Modl
Stim
Opts
Cnerve simulations: (C/Parallel SQL)
• Called with console command from parallel SQL set.
• Perform simulations using inputs from ASCII files.
• Expensive tridiagonal matrix solution and Markov process model at each time step
• Output binary data.
C Simulation Outputs
Spks
Vltg
ECAP
Expt
Binary data retrieval: (MatLab)
• Read in Expt config info to determin fiber identity
• Read binary data from output files.
• Save into MatLab arrays for further analysis.
Analysis: (MatLab)
• Process spiking and voltage data locally