Simulation software

- Open source (low threshold) programming languages
- A large number of open source simulation software packages available
  - physics (computational physics), astrophysics, climatology, chemistry, biology, manufacturing, economics, psychology, social science, health care and engineering

Inference software

pyABC	Python framework for efficient distributed ABC-SMC (Sequential Monte Carlo).
PyMC	A Python package for Bayesian statistical modeling and probabilistic machine learning.
DIY-ABC	Software for fit of genetic data to complex situations. Comparison of competing models. Parameter estimation. Computation of bias and precision measures for a given model and known parameters values.
abc R package	Several ABC algorithms for performing parameter estimation and model selection. Nonlinear heteroscedastic regression methods for ABC. Cross-validation tool.
EasyABC R package	Several algorithms for performing efficient ABC sampling schemes, including 4 sequential sampling schemes and 3 MCMC schemes.
ABC-SysBio	Python package. Parameter inference and model selection for dynamical systems. Combines ABC rejection sampler, ABC SMC for parameter inference, and ABC SMC for model selection. Compatible with models written in Systems Biology Markup Language (SBML). Deterministic and stochastic models.
ABCtoolbox	Open source programs for various ABC algorithms including rejection sampling, MCMC without likelihood, a particle-based sampler, and ABC-GLM. Compatibility with most simulation and summary statistics computation programs.
msBayes	Open source software package consisting of several C and R programs that are run with a Perl "front-end". Hierarchical coalescent models. Population genetic data from multiple co-distributed species.
PopABC	Software package for inference of the pattern of demographic divergence. Coalescent simulation. Bayesian model choice.
ONeSAMP	Web-based program to estimate the effective population size from a sample of microsatellite genotypes. Estimates of effective population size, together with 95% credible limits.
ABC4F	Software for estimation of F-statistics for dominant data.
2BAD	2-event Bayesian ADmixture. Software allowing up to two independent admixture events with up to three parental populations. Estimation of several parameters (admixture, effective sizes, etc.). Comparison of pairs of admixture models.
ELFI	Engine for Likelihood-Free Inference. ELFI is a statistical software package written in Python for Approximate Bayesian Computation (ABC), also known e.g. as likelihood-free inference, simulator-based inference, approximative Bayesian inference etc.
ABCpy	Python package for ABC and other likelihood-free inference schemes. Several state-of-the-art algorithms available. Provides quick way to integrate existing generative (from C++, R etc.), user-friendly parallelization using MPI or Spark and summary statistics learning (with neural network or linear regression).
sbi	A Python toolbox for simulation-based inference.