


MCMC in practice

MCMC softwares

- **BUGS** : *Bayesian inference Using Gibbs Sampling*

1989 MRC BSU University of Cambridge (UK)

⇒ flexible software for Bayesian analysis in complex statistical models through MCMC algorithms



- WinBUGS: ⚠ clic + *Windows only* + stopped development
<https://www.mrc-bsu.cam.ac.uk/software/bugs/the-bugs-project-winbugs/>
- OpenBUGS: ⚠ clic + *Windows only* + *Linux partially*
<https://www.mrc-bsu.cam.ac.uk/software/bugs/openbugs/>
- JAGS: 😊 command line +  interface
<http://mcmc-jags.sourceforge.net/>

- **STAN**: specialized for high-dimensional problems

<http://mc-stan.org/>

rjags

JAGS software is modern and efficient :

- relies on the BUGS language to specify a Bayesian model
-  interface thanks to rjags package
- results analysis with  packages
 - coda
 - HDInterval