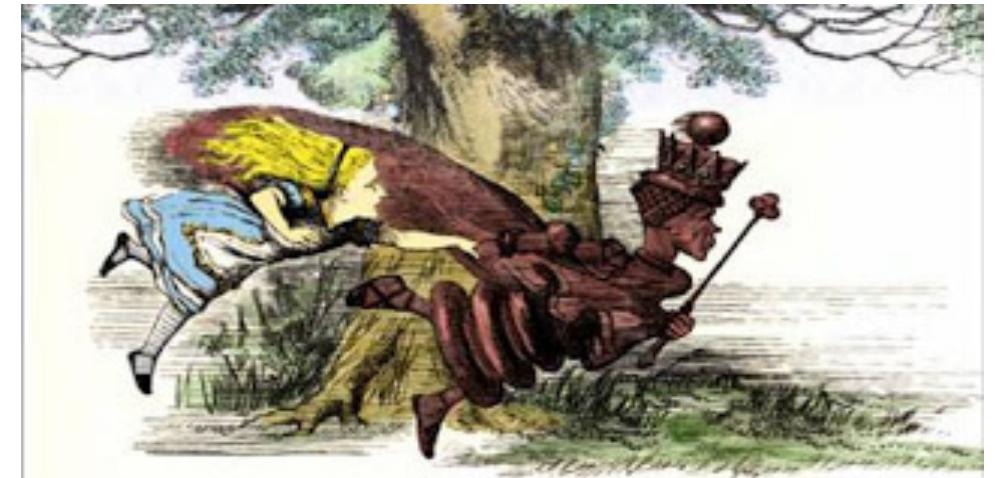


Does Daphnia & Parasite Co-evolution follow the Red Queen Hypothesis ?



"The Red Queen has to run faster and faster in order to keep still where she is. That is exactly what you all are doing!"

Data

- Daphnia Diversity (Time × [0-1])
- Parasite infection rate (Time × [0-1])
- Oxygen density (Time × Real)
- Lake temperature (Time × Real)

Goal

Structure Learning (not forecasting)

Implementation & Issues

Dynamic Regression or TV-VAR?

But before that

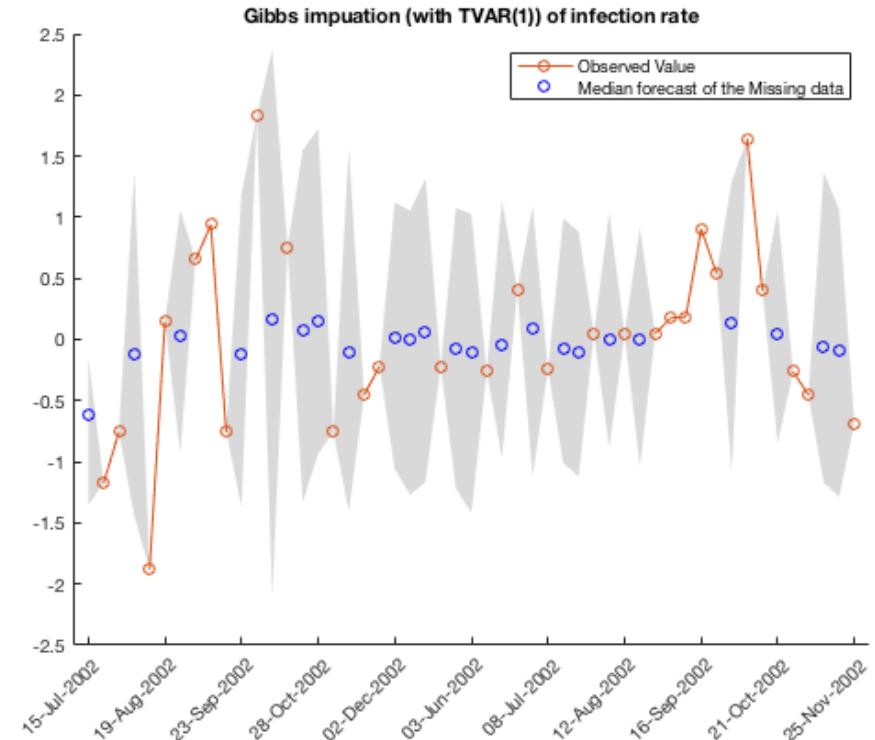
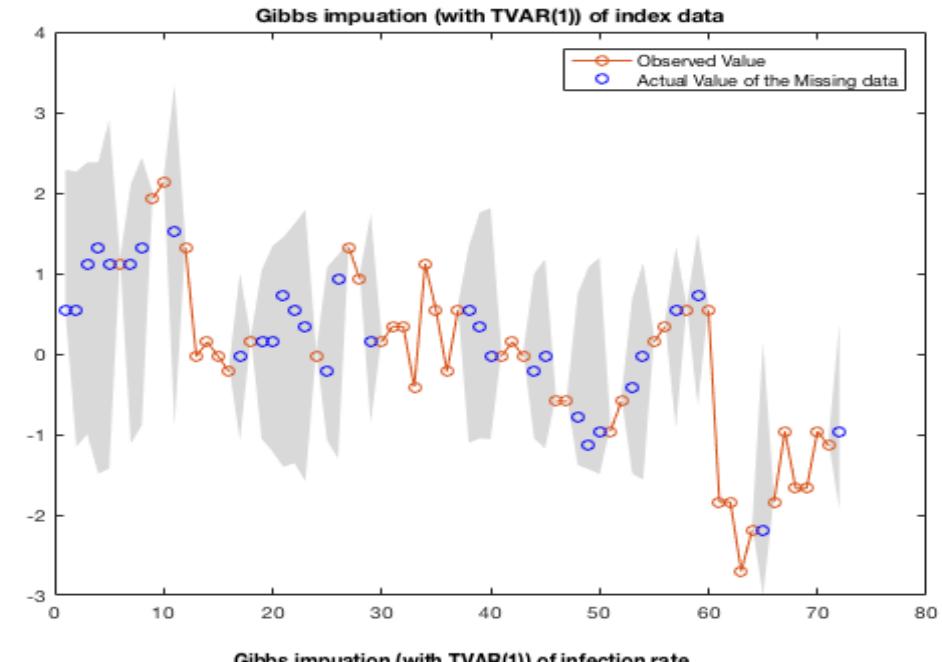


Gibbs (for imputing predictors)

$$X^{obs} | X^{miss} : \text{FFBS}$$

$$X^{miss} | X^{obs} : \text{Cond-Normal Sample}$$

theoretically easy but some sampling efficiency issues ...



Results & Lessons

Results of the Dynamic regression

- Not enough data but we know the extent of the uncertainty
- At least, we have a framework for analysis when good enough data is given

Lessons

- =>Time series imputation
- =>potentially high correlations
- =>slow mixing?

