

## **On a simple class of Bayesian nonparametric autoregression models**

Fernando Quintana, Pontifical Catholic University of Chile

We introduce a model for a time series of continuous outcomes, that can be expressed as fully nonparametric regression or density regression on lagged terms. The model is based on dependent Dirichlet processes prior on a family of random probability measures indexed by the lagged covariates. The approach is also extended to sequences of binary responses. We discuss implementation and applications of the models to a sequence of waiting times between eruptions of the Old Faithful Geyser, and to a dataset consisting of sequences of recurrence indicators for tumors in the bladder of several patients.