

# CFP: Learning with Nonparametric Bayesian Methods – ICML 2006 Workshop

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## CALL FOR PAPERS / ABSTRACTS

ICML 2006 Workshop

Learning with Nonparametric Bayesian Methods

Pittsburgh, Pennsylvania, June 29, 2006

Deadline for submissions: April 28, 2006

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## INTRODUCTION

Dirichlet Processes and other nonparametric Bayesian (NPB) methods have originally been developed in statistics but are finding growing interest in the machine learning community. Although the name indicates otherwise, NPB is concerned with models with an infinite number of parameters. For machine learning practitioners this leads to attractive models with (countably) infinite dimensions in a hidden state space like infinite mixture models. NPB models have the favorable property that their complexity automatically adapts to the number of data points. It has already been demonstrated that in some important machine learning applications, NPB has clear advantages over parametric solutions. We hope that this workshop will serve as a platform to discuss basic issues and recent developments in NPB.

## TOPICS AND QUESTIONS WE WANT TO ADDRESS

- \* General principles:
  - + We plan an introductory talk on nonparametric Bayesian methods.
- \* Current developments:
  - + What are the recent developments in the field of NPB?

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- + Are there interesting new applications?
- \* Open problems/new challenges:
  - + What are the problem settings for which satisfactory NPB solutions are still missing due to modeling or inferential issues?
  - + In which areas NPB methods could not demonstrate superior performance, if compared to parametric solutions?
  - + Are there any new challenges arising from recent developments like spatial, time-varying or transformed Dirichlet processes?
- \* Computational issues:
  - + How can we improve the speed of parameter estimation and inference?
  - + What is the right estimation/inference method for what setting (MCMC, variational Bayes, empirical Bayes, expectation propagation)?
  - + Are we ready for large data sets, high dimensional data, or online data processing?

### PAPER/ABSTRACT SUBMISSION

We strongly encourage researchers in the area of machine learning, statistics, natural language processing, computational biology, information retrieval, and related fields to either submit an extended abstract (less than 2000 words) or a full paper (4–8 pages). Each submission will be reviewed by at least two reviewers.

Please submit your abstract or paper electronically (PDF or postscript format) to [bickel@xxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:bickel@xxxxxxxxxxxxxxxxxxxxxxxxxxxx). It is recommended to submit papers using the ICML 2006 conference paper style. Submissions should include the names and contact information of the authors.

### WORKSHOP FORMAT

This will be a one-day workshop immediately after the main ICML conference. The workshop will interleave invited talks and technical presentations of the accepted submissions with extensive time for discussion of the presented work.

### IMPORTANT DATES

April 28, 2006: Abstract and paper submission deadline  
May 19, 2006: Notification of acceptance  
June 09, 2006: Camera ready copy deadline for online workshop proceedings  
June 29, 2006: Workshop

ORGANIZING COMMITTEE

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For more information, please visit  
[http://www.informatik.hu-berlin.de/~bickel/npb\\_workshop.html](http://www.informatik.hu-berlin.de/~bickel/npb_workshop.html)

We are looking forward to an interesting workshop and encourage your participation.

Volker Tresp and Steffen Bickel

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