Title: Post doc position in simultaneous/selective inference
Start date: As soon as possible
Contract duration: 12 to 16 months
Closing date for applications: January 15, 2019
Gross salary: commensurate to experience
Contact: Pierre Neuvial (pierre.neuvial@math.univ-toulouse.fr) and Etienne Roquain (etienne.roquain@upmc.fr)
Location : Institut de Mathématiques de Toulouse (IMT, Toulouse) or Laboratoire de Probabilités, Statistique et Modélisation (LPSM, Paris)

Description

Statistical data analyses typically involve model or variable selection steps. Accounting for the effect of the selection is a challenging task, which has gained a lot of interest recently in the statistical litterature as well as in various applications including genomics and neuroimaging.

The postdoc will be part of the SansSouci project (2016-2020), which aims at developing novel multiple testing methodology providing interpretable statistical guarantees in the presence of selection. This project is funded by the French National Research Agency (ANR).

The postdoc will take a leading role in extending and testing the methodology initially developed by the project investigators, so as to accommodate the requirements of specific genomic applications. One possible direction is the use of permutation/bootstrap to adapt to the dependence structure of DNA copy number data. Expected is a willingness to contribute in theoretical/analytical as well as computational aspects.

Required skills

PhD in applied mathematics/statistics/machine learning. Interest for applications to genomic data analysis will be appreciated. Strong programming skills in at least one programming language (preferably R) are mandatory.

To apply, please submit a cover letter indicating past research experience, motivation for the position, expected availability date, a curriculum vitae, and at least 2 references, to pierre.neuvial@math.univ-toulouse.fr and etienne.roquain@upmc.fr.

References

Gilles Blanchard, Pierre Neuvial, and Etienne Roquain . 2017. **Post hoc inference via joint family-wise error rate control.** https://arxiv.org/abs/1703.02307

Guillermo Durand, Gilles Blanchard, Pierre Neuvial and Etienne Roquain. 2018. **Post hoc false positive control for spatially structured hypotheses**. https://arxiv.org/abs/1807.01470

Jelle J Goeman and Aldo Solari. 2011. **Multiple testing for exploratory research.** *Statistical Science*. 584–97.