

Call for Postdoctoral Researcher
Prediction Control and Data Analysis Group
JST-ERATO SATO Live Bio-Forecasting Project

Description:

Postdoctoral fellowships are available associated with the Prediction Control and Data Analysis group at ERATO SATO Live Bio-Forecasting project (Advanced Telecommunications Research Institute International (ATR) in Kyoto, Japan). This project is funded by Japan Science and Technology Agency (JST). We currently have challenging opportunities for scientists in fields of statistics, machine learning, computer science and other mathematical science. The project aims to develop innovative technologies of data science for real-time and live forecasting of complex and stochastic dynamic processes in life science.

Project:

JST-ERATO SATO Live Bio-Forecasting project

Director: Thomas N. Sato, Advanced Telecommunications Research Institute International (ATR)

Period: up to March 31th, 2019

http://www.jst.go.jp/erato/en/research_areas/ongoing/sly_P.html

Aim of Prediction Control and Data Analysis group:

With real-time data obtained from molecular/cellular imaging or omics-measurements, we aim to predict and control spatiotemporal dynamics of complex biological processes. Bayesian statistics and Data Assimilation (DA) form the methodological foundation of this project. The concept of DA originated in meteorology and oceanography, and nowadays its techniques are employed increasingly in many areas; weather forecasting and climate prediction as the most typical examples, hydrology, biology and many other fields. The method provides solutions for several types of the inverse problem; estimation of unknown parameters or initial fields in a model, and reconstruction of internal states of a complex dynamic system with partially observed data. The theoretical basis of DA is formed by Bayesian statistics. Many existing techniques of DA can be viewed from the Bayesian perspective. This unified view leads to further algorithmic developments and an idea to create new applications. This group creates innovative technologies of bioimaging informatics, omics-data analysis, mathematical modeling, simulation and parallel computation, and then demonstrates the proof-of-concept of the Live Bio-Forecasting based on Bayesian and DA methods. We also aim to identify problems from a unique perspective of data science, and pioneer new strategic applications of Bayesian statistics and DA in broad fields of life science.

Research fields:

Statistics

Machine learning

Computer science

Physics

Simulation science

Image processing

Systems biology

Mathematical biology

Bioinformatics

Work place:

Advanced Telecommunications Research Institute International (ATR)

2-2-2 Hikaridai Seika-cho, Soraku-gun, Kyoto-fu 619-0288, Japan

http://www.atr.jp/index_e.html

Position available:

1 position for Postdoctoral Researcher

Working conditions and contract period:

Full-time (Nontenured)

Fixed term employee. The initial contract is for 1 fiscal year, but can be renewed for a second fiscal year (until March 31, 2019) depending on the progress of the research and a performance evaluation.

Salary will be competitive in accordance with ATR's bylaws, with consideration of the academic qualifications and demonstrated research skills of the candidate.

Closing date:

May 31, 2014.

*The application may close sooner as soon as the position is filled

Application procedure:

In the application, please include a cover letter, curriculum vitae (including a list of publications), a statement of research interests (two-pages), and names and contact addresses (email addresses) of two references. Submitted documents will not be returned to the applicant, and managed safely according to strict rules. Personal information received during the recruiting process will be used

only for recruitment screening and appointment procedures, and not for any other purposes.

Selection method:

Candidates will be selected based on submitted application material and an interview.

*A transportation fee is payable to candidates from abroad.

Application materials:

- (1) Curriculum vitae
- (2) List of publications
- (3) Statement of research interests (two-pages)
- (4) Names and contact addresses (email) of two references

Contact:

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Please send applications by email.