



# 大阪医学統計学セミナー 第30回

Osaka Biostatistics Seminar

5月7日 (金)  
16:00~18:00



OSAKA UNIVERSITY

**場所 :**  
**医学系研究科基礎研究棟L階**  
**医学統計学研究室**  
**オンライン同時開催**

参加ご希望の方は、前日までに下記問い合わせ先にメールにてお申込みください。

## 「Nonlinear analysis of time-series of cortisol, using local linear models」

講演者 : Bart Toonen (University of Groningen)

概要 :

The HPA axis is a dynamic system that shows complex non-linear relationships over time. When statistical models are applied to study such complex dynamical systems, using time-series data, the values of the models' parameters become dependent on the state of the system. Accounting for such state dependency in a model poses extra demands on the applied analysis techniques. In those cases, nonlinear techniques may be more suitable than regular linear techniques such as vector auto regression (VAR). In my presentation, a study will be presented in which cortisol time-series data, that was obtained from the MOOVD\* study, is analyzed with embedding-based nonlinear techniques.

\* MOOVD study: 27 depressed and 27 pair-matched nondepressed participants completed daily measurements of subjective sleep quality and duration during 30 consecutive days while an accelerometer continuously registered their physical activity.

お問い合わせ : 大阪大学大学院医学系研究科 医学統計学講座  
E-Mail : [office@biostat.med.osaka-u.ac.jp](mailto:office@biostat.med.osaka-u.ac.jp) TEL : 06-6879-3301