

The logo for the workshop, featuring the text 'spm' in a large, white, sans-serif font above the text '1D' in a smaller, white, sans-serif font, both set against a dark blue rectangular background.

Workshop 15 July 2024, 08:30-16:00 – Salzburg, Austria

Are you recording motion data from different joints, 3D force data, or EMG data from various muscles?

Do you want to statistically analyse these biomechanical curves?

Do you want to learn why statistical parametric mapping is a valid analysis method?

If “YES”, this workshop is for you!

Statistical Parametric Mapping (SPM) is an analysis technique that allows the statistical analysis of typical biomechanical data e.g. 1D curves and vectors. It ensures you avoid subjective analysis decisions. It works like the basic statistical analyses we all know, such as t-tests, ANOVA, and linear regression, but it extends these to one-dimensional profiles of forces or kinematics. Actually, pretty much anyone can use it with a little bit of training, which only requires one to learn the basic principles that underpin the technique, and then apply this through very basic tools.

Workshop description

Through expert presentations you will learn to understand the concepts underpinning SPM.

Through tutorials you will conduct basic SPM analyses in Matlab (or Python if you prefer) and learn how to present these.

Topics covered during the workshop

- Running a t-test using SPM1d
- Principles of probability and Random Field Theory
- SPM interpretation and reporting
- Linear regression and ANOVA using SPM1d
- Future directions and discussion

Pre-workshop preparation

- Install Matlab on your laptop.
- Refresh the basic use of Matlab. If you have not Matlab experience then no problem but try to do some basic Matlab study beforehand. There are some valuable [Youtube videos](#) if you are new to Matlab.

Tutors



Todd C. Pataky is an Associate Professor in Bioengineering at Kyoto University. He has published over 75 articles in peer-reviewed journals, approximately 40 of which pertain directly to theoretical and applied aspects of SPM. His 2004-2006 postdoctoral training in functional brain analysis alerted him to the utility of the SPM methodology, and he has since been adopting SPM procedures for analyses of 1D, 2D, and 3D biomechanical continua.



Mark A. Robinson is an Associate Professor in Biomechanics at Liverpool John Moores University. His research interests are related to musculoskeletal loading, injury and impairment in the lower limbs especially during dynamic sports activities. He has published >50 journal articles in these areas and is currently an Associate Editor at Journal of Sports Sciences. He has used SPM in these contexts for over nine years and has conducted workshops around the world on this topic.

Tutor Contact

Mark Robinson

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Location

TBC

Cost

€70 students, €90 students,

This includes registration, workshop materials, and lunch.

To guarantee the quality of delivery the number of places may be limited.

Register

Registration is available through the ISBS website.