Join Radboud Summer School 2019!

Linear Algebra for Neuroscientists
Neuroscience is moving towards "big data", with new and improved brain measurement technologies that acquire an ever-increasing amount of data. Increases in the number of simultaneously recorded data allows new discoveries about spatiotemporal structure in the brain, but also presents new challenges for data analyses. Because data are stored in matrices, algorithms developed in matrix analysis will be extremely useful.

The purpose of this course is to introduce you to matrix-based data analysis methods in neural time series data, with a focus on least-squares model fitting, multivariate dimensionality-reduction, and source-separation methods. The course is mathematically rigorous but is approachable to researchers with no formal mathematics background. MATLAB is the primary numerical processing engine but the material is easily portable to Python or any other language. The focus is on understanding methods and their implementation, rather than using analysis toolboxes.

Each day will be a mix of lectures and hands-on labwork. In the labwork you will have the opportunity to implement in Matlab the concepts discussed in the lectures. Labwork is done individually or in small groups of 4-5 participants. This is an intensive course designed for learning, but there will be plenty of coffee and jokes to keep you motivated. You must bring a laptop with Matlab or Octave (a free Matlab-like software) installed.

After this course you are able to

- Understand the neurobiological factors contributing to the development and persistence of addiction
- Oversee the occurrence and impact of psychiatric comorbidity on addictive behaviours
- Reflect on personal perceptions and attitudes on addiction
- Summarise how psychosocial factors contribute to the development and persistence of addiction

Number of EC

2 ECTS credits

Course leader

Michael Cohen, Assistant Professor
Donders Center for Cognitive Neuroscience
Cognitive Neuroscience, Radboudumc
Admission documents
Motivation letter and CV

Entry level
Master, PhD, Postdoc and Professional

This course is designed for
PhD students, postdocs, and professionals who are interested in learning about cutting-edge multivariate data analysis method. Some experience with Matlab is necessary. Master's students are welcome if they have had some experience with neuroscience data analysis.

You can find more details about this course on our website

Course date
Monday 12 August - Friday 16 August 2019

Course fee
€ 550

Deadline application
1 June 2019

Discounts
• 10% discount for early bird applicants. The early bird deadline is 1 March 2019.
• 15% discount for students and PhD candidates from partner universities. Please note that these discounts can be combined if you apply before 1 March 2019.

Apply now!
What is the RSS experience?

RSS is more than just a course!

Radboud Summer School offers you a unique opportunity to meet other students and researchers from all over the world with different cultural and academic backgrounds. You will also get to know Radboud University and the city of Nijmegen. Our social programme includes a welcome reception, guest lecture and farewell drinks. And for a small fee you can join our BBQ, River Cruise on a pancake boat, a Pub Quiz, Sports Activities or a City Game.

Want to know more?
Have a look at what participants have said about their experience on our website!

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www.ru.nl/radboudsummerschool