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# Registration

Organization:
Prof. Dr. Piotr Lewczuk, Erlangen

Registration per Email:
Mrs. Sabrina Bally, Erlangen
Sabrina.Bally@uk-erlangen.de

**Deadline for registration: 08.05.2024**

Workshop fee:
300€ non-members
275€ members of the DGLN
Please transfer before 10.05.2024 to the account
of the DGLN:
Deutsche Bank, Rostock,
IBAN: DE94 1307 0024 0119 5007 00
BIC: DEUTDEDBROS
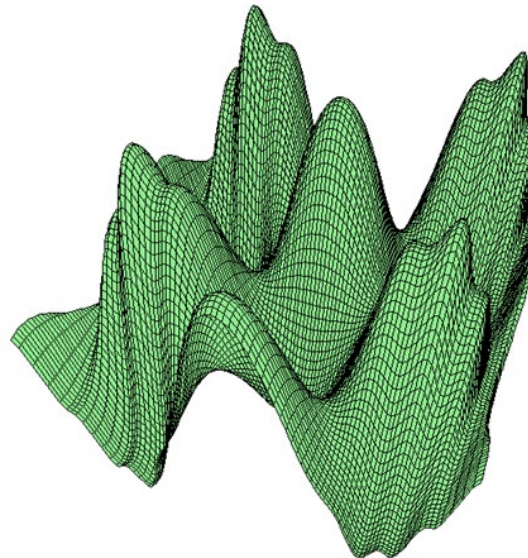Ref: <Your name>, Biostat Workshop 2024

With your registration you grant us permission to
save your personal data for the purpose of the
organization of this course.

This workshop is financed exclusively from the
participants' fees. There are no conflicts of interest.

The workshop is delivered in English (questions
and discussions in German are kindly welcome!).

Venue:
Hotel Luise
Sophienstraße 10,
91052 Erlangen
Tel: 09131-1220
www. http://www.hotel-luise.de/

Lecturer: Prof. Dr. med. Piotr Lewczuk
Lab for Clinical Neurochemistry
  and Neurochemical Dementia Diagnostics
Department of Psychiatry
Schwabachanlage 6
91054 Erlangen
Piotr.Lewczuk@uk-erlangen.de

Workshop

# Fundaments of Biostatistics (not only) for Neuroscientists

Erlangen, 24.05.2024

Deutsche Gesellschaft für Liquordiagnostik und Klinische Neurochemie e. V.

**Uniklinikum Erlangen**

**Psychiatrische und Psychotherapeutische Klinik**
Direktor: Prof. Dr. Johannes Kornhuber

# Invitation

Dear Colleagues,

machine learning, Laplacian splines, deep learning, generalized mixed models, and – of course! – artificial intelligence; all these statistical methods are nowadays at your disposal. You can easily pick up any available software and start using (or misusing) them immediately… but before you begin running you have to learn walking, and this one-day workshop will introduce you to the most fundamental ideas of statistics, building a solid understanding of basic concepts. After the workshop you will be familiar with the underlying mathematical machinery, which is exactly the same whether you use a simple t-test or grow trees for a random forest model.

I guess you have read many times in the literature, and most probably used yourself, statements about p-value and its significance. This workshop will explain you, what this "mysterious" number is (and what it is not), so you will feel even more confident while reading about it and using it yourself in the future.

Moreover, if one day you change your research scope and abandon neuroscience to become a surgeon, or even an astrophysicist, the methods of quantitative analyses of your data will be virtually the same, and they will rely on exactly the same principles which are explained in our workshop.

Any particular questions or project at hand you would like to discuss? Please bring them with you! After the workshop we will have enough time to discuss even very advanced statistical methods, tailored for your dataset.


Looking forward to seeing you!

Sincerely yours,
Prof. Dr. Piotr Lewczuk

# Program

**Friday, 24.05.2024**

8:00    Registration and Welcome

8:30    Fundaments of the Probability Theory

10:00   Coffee Break

10:15   Probability Distributions: Let us make our own card game!

12:00   Lunch Break

12:30   A Mysterious $p < 0.05$ value

14:00   Coffee Break

14:15   Maximum Likelihood Estimator and our first regression models

16:00   Discussions of problems brought by the participants

17:00   End of the workshop
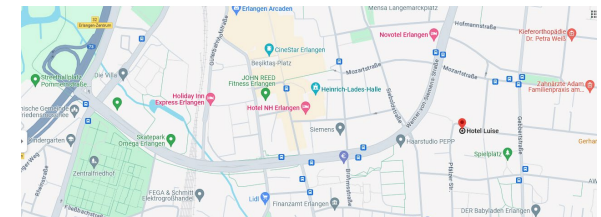
# Directions

Train (Deutsche Bahn)
Erlangen is connected with express trains (IC and ICE) with all major German cities. Please step out at Erlangen Hauptbahnhof.


Car
A73
While driving A73, take exit 32-Erlangen-Zentrum toward Erlangen-Ost (from South) or Werner-von-Siemens-Straße (from North). Drive Werner-von-Siemens-Straße followed by Mozartstraße, Zenkerstraße and Sophienstraße.

A3
From West: change A3 onto A73 at the Suhl/Erlangen/A73 signs; follow A73 (see above).
From East: at the interchange Nürnberg-Zollhaus, follow signs for A73 toward Fürth. Take exit 32-Erlangen-Zentrum toward Erlangen-Ost (see above).



Boat
With a bit of phantasy, you can also come with a boat! Erlangen lies directly on the Main-Donau Kanal.