Date of Birth: March 1$^{st}$, 1991

## ACADEMIC QUALIFICATIONS & EDUCATION

| | |
|---|---|
| Since 2016 | **Doctoral studies at the Department of Neuropsychology** |

Ruhr University Bochum, Germany

*In my doctoral studies, I apply neuroimaging and electrophysiological methods in human subjects (fMRI, EEG, simultaneous EEG/fMRI) together with multivariate pattern analysis. I focus on neural representations of memory and how they are shaped by learning and emotions. I combine this approach with spatial navigation paradigms and genetics to see how neural representations relate to the risk for developing Alzheimer's disease.*

Supervisor: Prof. Dr. Nikolai Axmacher, Co-Supervisor: Prof. Dr. Oliver Wolf

**2013-15**    **Master of Science Cognitive and Clinical Neuroscience**
Maastricht University in Netherlands

Grade: 8.7 (Dutch GPA system, graduation with distinction)

<u>Thesis:</u> *"Classification of older adults with and without subjective cognitive impairment based on resting-state connectivity – A machine learning approach"*

Supervisors: Prof. Dr. Silke Lux, Dr. Vincent van de Ven

**2010-13**    **Bachelor of Science Psychology**
University of Cologne in Germany

Grade: 1.1 (German GPA system, highest degree)

<u>Thesis:</u> *"Action monitoring in a force production paradigm – Effects of error processing on medial frontal negativity"*

Supervisor: Prof. Dr. Jutta Stahl

## EMPLOYMENT

**2015-16**    **Research Assistant**
Department of Neuropsychology at the Ruhr-University Bochum, Germany.
(Prof. Dr. Nikolai Axmacher)

**2015-16**    **SPSS and Statistic Tutor**
Department of Psychological Research Methods and Experimental Psychology at the University of Cologne, Germany.
(Prof. Dr. Christoph Stahl)

**2014-15**    **Student Internship and Student Assistant**
fMRI cohort study at the Research Center Jülich – INM1, Germany.
(Prof. Dr. Silke Lux)

| 2013-14 | **Student Assistant** |
|---|---|
| | (t)DCS study in the Group for Auditory Perception and Cognition at Maastricht University, Netherlands. |
| | (Prof. Dr. Elia Formisano; Supervisor: Dr. Lars Riecke) |

| 2011-13 | **Statistics and SPSS Tutor** |
|---|---|
| | Department of Psychological Research Methods and Experimental Psychology at the University of Cologne, Germany. |
| | (Prof. Dr. Christoph Stahl) |

| 2012 | **Student Internship** |
|---|---|
| | EEG study at the Department of Differential Psychology and Psychological Diagnostics at the University of Cologne, Germany. |
| | (Prof. Dr. Jutta Stahl) |

| 2011 | **Student Internship** |
|---|---|
| | fMRI cohort study at the Research Center Jülich – INM1, Germany. |
| | (Prof. Dr. Silke Lux) |

| 2010 | **Student Internship** |
|---|---|
| | Rhein-Mosel-Fachklinik Andernach, Germany (Psychiatric hospital). |

## VOLUNTEERING

| 2015 | **Volunteer** |
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| | German tutor for trainees in a language and integration mediator formation at "Bikup" in Cologne, Germany |

| 2011-13 | **Volunteer** |
|---|---|
| | Coach in the student project "Rock-Your-Life" in Cologne, Germany |

## ADDITIONAL QUALIFICATIONS / TRAINING

| Language | **English** | Fluent in spoken and written |
|---|---|---|
| | **German** | Native speaker |
| | **French** | Fluent in spoken and written |
| | **Dutch** | Basic skills |
| | **Latin** | Qualification in Latin |

| IT skills | **Programming languages** | Matlab, C++ |
|---|---|---|
| | **Statistical analysis** | SPSS, R |
| | **EEG-data analysis** | BrainVisionAnalyzer, Fieldtrip |
| | **(f)MRI-data analysis** | SPM12, Freesurfer |
| | **IT-Certificate** | Advanced IT Basics at the Computer Center of the University of Cologne, Germany |

## PUBLICATIONS

In prep  **Neural mechanisms underlying the impact of stress on memory encoding**, Bierbrauer A, Fellner M-C, Zhang H, Herten N, Wolf O T, Axmacher N.

Submitted  **Unmasking selective path integration deficits in Alzheimer's disease risk carriers**, Bierbrauer A, Kunz L, Gomes C A, Luhmann M, Deuker L, Getzmann S, Wascher E, Gajewski P, Hengstler J G, Fernandez-Alvarez M, Atienza M, Cammisuli D M, Bonatti F, Pruneti C, Percesepe A, Bellaali Y, Hanseeuw B, Strange B A, Cantero J L, Axmacher N.

2019  **Hippocampal theta phases organize the reactivation of large-scale electrophysiological representations during goal-directed navigation**, Kunz L, Wang L, Lachner-Piza D, Zhang H, Brandt A, Dümpelmann M, Reinacher P C, Coenen V A, Chen D, Wang W-X, Zhou W, Liang S, Grewe P, Bien C G, Bierbrauer A, Navarro-Schröder T, Schulze-Bonhage A & Axmacher N. *Science Advances*.


## CONFERENCE TALKS & POSTERS

2019  **Society for Neuroscience (SfN), symposium talk:** "Unmasking selective path integration deficits in Alzheimer's disease risk carriers." Bierbrauer A, Kunz L, Gomes C A, Luhmann M, Deuker L, Getzmann S, Wascher E, Gajewski P, Hengstler J G, Fernandez-Alvarez M, Atienza M, Cammisuli D M, Bonatti F, Pruneti C, Percesepe A, Bellaali Y, Hanseeuw B, Strange B A, Cantero J L, Axmacher N. Oct 19-23; Chicago, IL, USA.

2018  **Psychologie und Gehirn (PuG), symposium talk:** "Investigation of path integration in dependence on APOE genotype." Bierbrauer A, Kunz L, Gomez C A, Axmacher N. May 30-Jun 02; Gießen, Germany.

2018  **Grid cell meeting, poster:** "Learning of spatial representations is related to changes in distinctiveness of neural representations and changes in oscillatory power." Bierbrauer A, Fellner M-C, Korte A, Zhang H, Kunz L, Axmacher N.; May 21-22; London, England.

2018  **Learning & Memory, poster:** "Neural mechanisms underlying the impact of stress on memory encoding." Bierbrauer A, Fellner M-C, Zhang H, Herten N, Wolf O T, Axmacher N. Apr 18-22; Huntington Beach, CA, USA.

2017  **International Conference for Cognitive Neuroscience (ICON), poster:** "Neural mechanisms underlying the impact of stress on memory encoding." Bierbrauer A, Fellner M-C, Zhang H, Herten N, Wolf O T, Axmacher N. Aug 05-08; Amsterdam, Netherlands.