# Anna Villaume Stuckert

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## EDUCATION AND TRAINING

SEPTEMBER 2021 – JUNE 2023: **MSc NEUROSCIENCE –** UNIVERSITY OF COPENHAGEN

MSc in neuroscience teaching molecular and cellular neurobiology, systems neuroscience, higher brain functions, and methodology within neuroscience including genetics, bioinformatics, neuroimaging, animal models and epidemiology. I have taken electives in computational neuroscience and genetic and viral technologies in animal models. I completed my master's thesis in Allodi lab, working with systemic administration of gene therapy using an AAV-PHP.eB viral vector in a mouse model of ALS, with the goal of rescuing the motor phenotype and improving survival by stabilizing connections from inhibitory interneurons to motor neurons via hEsyt1 overexpression. GPA: 11.81

SEPTEMBER 2018 – MAY 2021: **BSc COGNITIVE SCIENCE –** AARHUS UNIVERSITY

BSc focusing on cognition and neuroscience, as well as statistics, data science and programming for conducting our own experiments and simulation studies. In my thesis I investigated the interaction between interoception and decision-making. I have worked with eye-tracking, EEG, and fMRI, analysis and visualization of data, as well as manuscript writing. I took elective courses in memory, stress, biology of behavior, consumer behavior, and psychiatric disorders for one semester at Western University, Canada. GPA: 11.37

## WORK EXPERIENCE

SEPTEMBER 2023 – SEPTEMBER 2027: **PhD STUDENT –** UNIVERSITY OF ST ANDREWS, SCHOOL OF PSYCHOLOGY AND NEUROSCIENCE, ALLODI LAB

I recently started my PhD in Neuroscience, where I will be studying Frontotemporal Dementia (FTD) in a transgenic mouse model of the disease. The project investigates emotion expression changes as a symptom of the disease and seeks to classify emotions in mice based on facial expressions when navigating a VR environment, and during social interaction, and compare this ability in sick and healthy mice, and furthermore look at the neural correlates of disease and causal mechanisms using calcium imaging and optogenetics.

OCTOBER 2022 – AUGUST 2023: **CORE TEAM MEMBER –** SYNAPSE LIFE SCIENCE CONNECT

As a core team member of Synapse, I participated in the planning and execution of our activities such as workshops and events, including the Synapse Life Science Career Fair hosting around 500 students, and Clinical Winter School. Our aim is to spread insight into broadly spanning scientific areas, bridge the gap between life science academia and industry, and inspire, develop and connect students within the life science field.

FEBRUARY 2022 – AUGUST 2023: **LABORATORY ASSISTANT (FEB-SEP 2022 – JULY-AUG 2023) AND MASTER THESIS STUDENT (SEP 2022 – JUNE 2023) –** UNIVERSITY OF COPENHAGEN, DEPARTMENT OF NEUROSCIENCE, ALLODI LAB

Worked on a project investigating gene therapy in SOD1 ALS mouse models, with tasks including developing machine-learning based models of gait analysis, behavioral assessment, maintenance of transgenic mouse colonies, viral delivery (intravenous and intraspinal injections), tissue collection (perfusion and fresh-frozen collection), confocal microscopy, cryostat sectioning, biochemical assays including immunohistochemistry, genotyping, qPCR, as well as quantification of spinal cord motor neurons and their synaptic connections.

MAY 2020 – JULY 2021: **RESEARCH ASSISTANT –** AARHUS UNIVERSITY, DEPARTMENT OF CLINICAL MEDICINE AND DEPARTMENT OF NUCLEAR MEDICINE AND PET-CENTRE

Assisting a PhD project investigating biomarkers of and cognitive decline in Alzheimer's disease, with my primary task being app-based cognitive testing of preclinical AD patients with ApoE4.

MAY 2020 – JANUARY 2021: **RESEARCH ASSISTANT –** AARHUS UNIVERSITY, CENTER FOR FUNCTIONALLY INTEGRATIVE NEUROSCIENCE, EMBODIED COMPUTATION GROUP

Research Assistant at a large-scale neuroimaging study investigating interoception, metacognition, learning, decision-making, and psychometrics. My tasks involved piloting, experiment development, data collection of ECG, HRV, fMRI, and behavioral data, data analysis, and manuscript writing. I also assisted the lab with data analysis, visualization and reporting of a survey study of COVID-19 and mental health.

OCTOBER 2019 – JULY 2021: **RESEARCH ASSISTANT –** AARHUS UNIVERSITY, DEPARTMENT OF CLINICAL MEDICINE, DANISH PAIN RESEARCH CENTER

Assisting with data collection and experiment optimization on a study investigating spinal integration of thermal pain, a study on lidocaine and pain perception, and a study on olfaction and pain perception.

MAY 2019 – JULY 2021: **RESEARCH ASSISTANT –** AARHUS UNIVERSITY, INTERACTIVE MINDS CENTER, CRAFA LAB

Assisting on a study on neuroscience of social interaction and culture, helping with coding and translating the experiment, participant recruitment and data collection. Moreover, assisting with data analysis of an eye-tracking experiment investigating gaze patterns in ASD children across cultures.

SEPTEMBER 2020 – MAY 2021: **MENTOR –** AARHUS UNIVERSITY, SPECIAL EDUCATIONAL SUPPORT CENTRE

Worked as a mentor in the BSc Cognitive Science program, helping students with course material, with emphasis on assisting them in learning coding and statistics.

## DIGITAL SKILLS

Python/DeepLabCut (gait analysis) | Python/PsychoPy (coding experiments) | MATLAB/SPM12/CONN (fMRI and EEG analysis) | Eye- and mouse tracking | R/Rstudio (data analysis, visualization, machine learning) | Frequentist and Bayesian statistics | Meta-analysis | ImageJ (motor neuron quantification) | Godot/Blender (VR video game and stimuli creation) | Bonsai (stimulus and VR workflow setup)

## PUBLICATIONS

Legrand, N., Nikolova, N., Correa, C., Brændholt, M., Stuckert, A., Kildahl, N., ... & Allen, M. (2022). The heart rate discrimination task: a psychophysical method to estimate the accuracy and precision of interoceptive beliefs. *Biological Psychology*, *168*, 108239. https://www.sciencedirect.com/science/article/pii/S0301051121002325

Mora, S., von Huth Friis, R., Stuckert, A.,Noes-Holt, G., Montañana-Rosel, R., Toft Sørensen, A., Selvan, R., Allodi, I., (2022). Stabilization of V1 interneuron-motor neuron connectivity ameliorates motor phenotype in a mouse model of ALS. *In revision.*

Mitchell, A., Ehmsen, J., Christensen, D., Basińska, M., Stuckert, A., Haggard, P., Fardo, F. (2023) Investigating the influence of location of cold and warm responding afferents on the Thermal Grill Illusion. *In submission*

## POSTER PRESENTATIONS

Stuckert, A., Mora, S, Pietersz, K., Selvan, R, Verhaagen, J., Allodi, I. (13th November 2023) Rescue of ALS phenotype by Esyt1 systemic overexpression in the $SOD1^{G93A}$ mouse model, Abstract No. 6417, Society for Neuroscience conference

Stuckert, A., Mora, S, Pietersz, K., Selvan, R, Verhaagen, J., Allodi, I. (10th November 2023) Rescue of ALS phenotype by Esyt1 systemic overexpression in the $SOD1^{G93A}$ mouse model, Abstract No. 60, pre-SfN Motor Symposium

Stuckert, A., Mora, S, Pietersz, K., Selvan, R, Verhaagen, J., Allodi, I. (21st June 2023) Rescue of ALS phenotype by Esyt1 systemic overexpression in the $SOD1^{G93A}$ mouse model, Abstract No. 21, St. Andrews Motor Meeting

## HONORS AND AWARDS

2022-2023 Danish society for Neuroscience scholarstipend (140.000 DKK)

The Augustinus Foundation grant (24.000 DKK)

Familien Hede Nielsens Foundation (10.000 DKK)

Knud Højgaards Foundation (22.000 DKK)

## CERTIFICATES

I am FELASA certified to work with laboratory animals under function A, B and D, with certificate No. ABD-F032/10/22-327.