

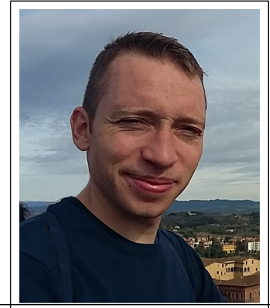
# Curriculum vitae

## Akke Mats Houben

January 14, 2021

### Personal data

NAME: Houben, Akke Mats  
NATIONALITY: Dutch  
E-MAIL: [akkehouben@gmail.com](mailto:akkehouben@gmail.com)  
DATE OF BIRTH: 10-04-1991  
GENDER: male  
WEBPAGE: <http://akkeh.github.io>



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### Research interests

My main research interests strive to achieve an understanding of neuronal systems and processes at different levels of description (conceptual and qualitative) through the development and analysis of theoretical and computational models. I am interested in what neural systems can do once the brain is not seen as a computer.

I want to investigate how different micro- and mesoscale neuronal dynamics and neural interactions give rise to global network dynamics, with a special interest in the emergence and organisation of transient structures leading to the breaking of symmetries in neuronal systems. Ultimately, I wish to tie these principles and processes into the sensori-motor loop from which behaviour and cognition emerge.

KEYWORDS: - Theoretical & conceptual neuroscience  
- Excitability & perturbation propagation  
- Self-organisation & symmetry breaking  
- Neuronal dynamics, adaptation & organisation

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### Publications

**Houben, A.M.** & Keil, M.S., (2020). A calcium-influx-dependent plasticity model exhibiting multiple STDP curves. *Journal of Computational Neuroscience*, 48(1), 65-84

**Houben, A.M.**, (2020, pre-print). Frequency selectivity of neural circuits with heterogeneous discrete transmission delays. *arXiv:2009.09250*, submitted to Neural Computation

**Houben, A.M.**, (2020, pre-print). Signal anticipation and delay in excitable media: group delay of the FitzHugh-Nagumo model. *arXiv:2101.00500*

**Houben, A.M.**, (in preparation). Your thoughts are alive: neuronal assemblies and autopoiesis.

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## Education & training

DATES: 2017-2018  
TITLE: **Mres in Behavior and Cognition** (60ECTs)  
MAIN SUBJECTS: - Computational modeling of neurons, networks, behavior and cognition  
- Neuroscience, cognition and brain functioning  
- Neuroimaging & neuronal data analysis  
- Data analysis & research methodologies  
INSTITUTE: *Faculty of Psychology*  
*University of Barcelona*  
*Barcelona, Spain*  
LEVEL: EQF level 7  
GPA: **9.2/10**

DATES: 2013-2017  
TITLE: **Ba (Hons.) in Music and Technology** (240ECTs)  
MAIN SUBJECTS: - Programming  
- (Digital) signal processing  
- System design & analysis  
INSTITUTE: *Faculty of Music and Technology*  
*University of the Arts Utrecht*  
*Utrecht, The Netherlands*  
LEVEL: EQF level 6  
GPA: **8.4/10 (with double Honours)**

DATES: 2003-2009  
TITLE: **Preparatory scientific education (VWO)**  
INSTITUTE: *College de Heemlanden*  
*Houten, The Netherlands*  
LEVEL: EQF level 4

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## Student awards & grants

DATES: April-July 2017  
GRANT: Jan van Scorel exchange grant  
GRANTED BY: University of the Arts Utrecht

DATES: November 2015-May 2016  
GRANT: Erasmus+ traineeship grant  
GRANTED BY: University of the Arts Utrecht

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## Teaching experience

DATES: 2014-2015  
SUBJECT(S): - Second-year programming classes (C++)  
- First-year programming classes (LISP & java)  
INSTITUTE: *University of the Arts Utrecht*  
*PO-BOX 2471*  
*1200CL Hilversum, The Netherlands*

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## Invited talks

DATE(S): 06 September 2018  
TITLE: **A calcium-influx-dependent plasticity model of single compartment neuron models**  
INSTITUTE: *University of Padova*  
*Padova, Italy*

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## Conferences, seminars & workshops

### Poster presentations

DATE(S): 24-25 May 2018  
CONFERENCE NAME: **BARCCSYN**  
INSTITUTE: *Centre de Recerca Matemàtica*  
*Barcelona, Spain*  
WEBSITE: [www.crm.cat/2018/barccsyn](http://www.crm.cat/2018/barccsyn)  
POSTER TITLE: *Calcium influx dependent plasticity model*

### Organisation & crew

YEAR: 9-12 April 2015  
CONFERENCE NAME: **Linux Audio Conference**  
INSTITUTE: *Johannes Gutenberg University*  
*Mainz, Germany*  
WEBSITE: <http://lac.linuxaudio.org/2015>  
ROLE: session chair & technical assistance

### Attendance

DATE(S): 8-9 March 2018  
CONFERENCE NAME: **Does the body need a brain to be a body?**  
INSTITUTE: *Universitat de Barcelona & Human Brain Project*  
*Barcelona, Spain*  
WEBSITE: <https://hbpbrainbody.wordpress.com/>

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## Other academic experience

### Grant application reviewer

DATE(S): 10-25 March 2020  
GRANT: **SONATA-15**  
GRANTING BODY: National Science Center, Poland

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## Working experience

DATES: 2019-present  
POSITION: **Junior software engineer**  
MAIN ACTIVITIES: - C++ programming  
- protocol interpretation  
EMPLOYER: *nTh Network Technologies to Help*  
*via G. Savelli, 128*  
*35129 Padova, Italy*  
SECTOR: Telecom & IT

DATES: 2019-2020  
 POSITION: **External collaborator (MEG data analysis)**  
 MAIN ACTIVITIES: - MEG data analysis  
 - preparation of manuscript  
 EMPLOYER: *Università degli Studi di Milano-Bicocca*  
 SECTOR: Research

DATES: 2016-2017  
 POSITION: **Junior software developer**  
 MAIN ACTIVITIES: - Database management  
 - Python & SQL  
 EMPLOYER: *DDL Diagnostics Laboratory BV*  
*Visseringlaan 25*  
*2288ER Rijswijk, The Netherlands*  
 SECTOR: Bio-informatics & IT

DATES: 2015-2016  
 POSITION: **Research intern**  
 MAIN ACTIVITIES: - Individual research project  
 - Corpus analysis & programming  
 EMPLOYER: *Music Technology Group*  
*Universitat Pompeu Fabra*  
*c/Roc Boronat, 138*  
*08018 Barcelona, Spain*  
 SECTOR: Research

DATES: 2014-2015  
 POSITION: **Student delegate at participation council**  
 MAIN ACTIVITIES: - Representation of students to executive board  
 EMPLOYER: *University of the Arts Utrecht*  
*PO-BOX 2471*  
*1200CL Hilversum, The Netherlands*  
 SECTOR: Education

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## Skills & competencies

LANGUAGES: Dutch (mother tongue), English (C2), German (B1), Italian (B1) & Spanish (A1)

PROGRAMMING: C++, Python, Matlab/GNU Octave    advanced  
 Fortran, Java    intermediate  
 CLisp    beginner

MISC. SOFTWARE: Bash/shell scripting, LaTeX, gnuplot, SQL

ANALYSIS PACKAGES: Statistical Parametric Mapping (SPM), EEGLab, Fieldtrip toolbox, statistical packages (e.g. R, Pandas)