Curriculum vitae

Akke Mats Houben

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Personal data

Name:	Houben, Akke Mats
Nationality:	Dutch
e-mail:	akkehouben@gmail.com
Date of birth:	10-04-1991
Gender:	male
Webpage:	http://akkeh.github.io

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

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.

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

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

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*

Invited talks

Date(s):	06 Septemer 2018
Title:	**A calcium-influx-dependent plasticity model of single compartment neuron models**
Institute:	*University of Padova* *Padova, Italy*

Conferences, seminars & workshops

Poster presentations

Date(s):	24-25 May 2018
Conference name:	**BARCCSYN**
Institute:	*Centre de Recerca Matematica* *Barcelona, Spain*
Website:	`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/`

Other academic experience

Grant application reviewer

Date(s):	10-25 March 2020
Grant:	**SONATA-15**
Granting body:	National Science Center, Poland

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:	Reseach

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 councol**
Main activities:	- Representation of students to executive board
Employer:	*University of the Arts Utrecht* *PO-BOX 2471* *1200CL Hilversum, The Netherlands*
sector:	Education

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 Parameteric Mapping (SPM), EEGlab, Fieldtrip toolbox, statistical packages (e.g. R, Pandas)	