# LAILA A. BLÖMER

**Neurophysiologist - Computational Biophysics**

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## EDUCATION

### Ph.D. in Biophysics

**Laboratoire Interdisciplinaire de Physique, Université Grenoble Alpes**

Sept 2019 – Present  Grenoble, France

- Dissertation title: The Role of Voltage Gated Ion Channels in 5th Layer Pyramidal Neuron Action Potential Backpropagation, a Computational Model. Advisor: Dr. Marco Canepari

### M.Sc. Brain  Mind Sciences

**University College London**

Sept 2017 – Aug 2018  London, United Kingdom

- Thesis title: Characterisation of Primary Cortical Cultures of Huntington's Disease Mouse Models (Gillian Bates Lab, Institute of Neurology). Advisor: Prof. Dr. Gillian Bates
- GPA: 71/100

### B.Sc. Bèta Gamma (Major Neurobiology)

**Universiteit van Amsterdam**

Sept 2013 – Aug 2017  Amsterdam, The Netherlands

- Thesis title: Drd1+ Neurons Fascilitate Surround Suppression in the Superficial Superior Colliculus of Mice (Netherlands Institute for Neuroscience). Advisor: Dr. Alexander Heimel
- B.Sc. with Honours degree (first degree non-UK)
- GPA: 7.9/10

## RESEARCH EXPERIENCE

### Ph.D. in Biophysics

**Laboratoire Interdisciplinaire de Physique, Centre National de la Recherche Scientifique**

Sept 2019 – Present  Grenoble, France

- Investigating the behaviour of voltage-gated ion channels during action potential back-propagation layer-5 pyramidal cells using patch-clamp, photo-activable toxins and fluorescent microscopy.
- The native behaviour, thus the diverse sodium, calcium and potassium currents, of each channel will be extracted through reproduction of the data with NEURON models.

### Analysis development

**Heimel Lab, Netherlands Institute for Neuroscience**

Feb 2019 – July 2019  Amsterdam, The Netherlands

- Development of motion correction scripts in MATLAB for the analysis of deep-brain 2-photon microscopy data.

## PROFESSIONAL EXPERIENCE

### Independent Consultant

**Feed Your Brain (feedyourbrain.eu)**

Sept 2019 – Present  Europe

- Multiple consultancy projects for start-ups on the interface of health and neuroscience.

### Research Assistant

**Social Brain Lab, Netherlands Institute for Neuroscience**

July 2016 – Sept 2016  Amsterdam, The Netherlands

- Data collection started during the research internship.

### Co-founder & Owner

**BrouwBrood Amsterdam**

Dec 2014 – Jun 2017  Amsterdam, The Netherlands

- Startup, launched by 4 bachelor students, producing bread from brewers spent grains.
- Management of sales, production and public speaking.

## INTERNSHIPS

### M.Sc. thesis

**Bates Lab, Institute of Neurology**

Jan 2018 – Aug 2018  London, United Kingdom

- Established and maintained primary cortical cultures of various mouse model for Huntington's Disease.
- Performed molecular characterisation to study incomplete splicing, alternative polyadenylation and Huntingtin aggregation.

### B.Sc. thesis

**Heimel Lab, Netherlands Institute for Neuroscience**

Feb 2017 – Aug 2017  Amsterdam, The Netherlands

- Deep-brain in-vivo 2-photon calcium imaging in the superior colliculus of behaving mice.

### Research Internship

**Social Brain Lab, Netherlands Institute for Neuroscience**

Feb 2016 – July 2016  Amsterdam, The Netherlands

- Studying empathy for pain and pro-social behaviour in humans.
- Collected EEG data while participants had to rate others' pain through watching short videos, while receiving HD-tDCS.

# SKILLS & QUALIFICATIONS

### Qualifications

**UK Home Office Legislation Ethics (L/E) and Personal Licensee (PIL) Training rodents A & B (Jan 2018)**

### Cellular & Molecular Skills

**Primary Cell Culture, Electrophysiology**
**RT, qRT-PCR, cDNA synthesis, Western Blot**

### Imaging Skills

**RNAscope, IHC, wide-field microscopy**
**2-photon & Confocal microscopy**

### Programming Skills

**Statistics: MATLAB, R, Python**
**Machine Learning: Python, R**
**Other: JavaScript, PHP, C++**

### Animal Techniques

**Transgenic mouse handling & breeding**
**Mouse brain and embryo dissection**

### Human Techniques

**HD-tDCS, EEG**
**TMS**

### Languages

**English (C2), Dutch (native), French (B1), German (B1)**

# PUBLICATIONS

### Journal Articles

- Tafreshiha, A. et al. (2020). "Visual stimulus-specific habituation of innate defensive behaviour in mice". In: *Communications Biology* (preprint).
- Gallo, S. et al. (2018). "The causal role of the somatosensory cortex in prosocial behaviour". In: *eLife* 7 (e32740).
- Papadopoulo, A. S. et al. (2018). "B19 Development of in vitro models to investigate the pathogenesis of huntington's disease and screen for therapeutic agents". In: *Journal of Neurology, Neurosurgery & Psychiatry*.

# TEACHING EXPERIENCE

## Experimental methods in cell biology and biochemistry

**Département de la Licence Sciences et Technologies, Université Grenoble-alpes**

Jan 2020 – May 2020 Grenoble, France

# COURSES

## MMBioS Cell Modeling Virtual Workshop

**National Center for Multiscale Modeling of Biological Systems**

June 2020 Pittsburgh, USA

- The design and simulation of cell models focused on diffusion-reaction systems. Due to the COVID-19 crisis the workshop was virtual.

## Minor Computer Science

**Universiteit van Amsterdam**

Sept 2016 – Jan 2017 Amsterdam, the Netherlands

- Six months programming course focusing on data visualisation and heuristics in JavaScript, C++, PHP and Python.

# AWARDS & GRANTS

- Awarded **2500** euro from the Stichting Bekker-la Bastide-Fonds for attending the M.Sc programme.
- Awarded **4000** euro from the Stichting Fundatie van de Vrijvrouwe van Renswoude te 's-Gravenhage for young talented women in science for attending the M.Sc programme.

# ACHIEVEMENTS

- Semi-finalist in the Accenture Innovation Awards in the category Fair Food, with the startup BrouwBrood Amsterdam (Sept 2016).
- Finalist for the Amsterdam Science and Innovation Award 2015 competition, with the startup BrouwBrood Amsterdam (May 2015).

# REFERENCES

*References available upon request*