

Gareth Bland

Ph.D. MA, BA, CANTAB

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Statement of Motivation

A good compliment to this document is my homepage at codecolombia.com where I've written more about my career trajectory, what I've learned and what I can bring to new projects.

Final Position

Head of Behavioural Data Science, Alkanza, Bogota, Colombia, August 2017-October 2018

Role

Alkanza is a leading entity in scalable wealth management, empowering individuals with a personalised means to invest for their future. My role as head of behavioural data science was to initialize, grow and manage the data-science sector, in a strategic manner, so that our capacity would be best utilised towards the successful growth of the company.

My sector was responsible for devising, implementing and ultimately reporting upon client and company data processed via bespoke pipelines (KPIs).

Moreover, our primary focus was the analysis of user behaviour within the Alkanza applications to understand the success and failure of implemented features and products.

Alkanza is a B2B offering and is often required to produce timely ad-hoc analytics of the highest quality to our partner institutions.

As a data-driven company, all our deliverable insights were backed-up by statistical and machine-learning analyses.

Prior Position

Post-Doc, Singer Lab, Max Planck Institute for Brain Research, Frankfurt-Am-Main, Germany, September 2013 - August 2017.

Research Statement

Research focuses on the analysis of neuronal processes in the mammalian cerebral cortex that underlie higher cognitive functions and their deterioration in disease. We pursue the hypothesis that information is contained in the precise temporal relations between the discharges of distributed neurons and in case of oscillatory activity in the phase relations between oscillating cell populations. To study neural dynamics with cellular resolution we perform multisite recordings from anaesthetized cats and awake monkeys trained to perform cognitive tasks. These approaches are complemented by measurements in healthy human subjects and psychiatric patients using functional magnetic resonance imaging (fMRI), diffusion tensor imaging (DTI), magneto-encephalography (MEG) and transcranial magnetic stimulation (TMS).

Education

Visiting Post-Doc, Brain and Language Lab, Georgetown University, DC, USA, Spring-Summer 2012.

Ph.D. Cognitive Neuroscience, SISSA, Italy, February 2012.

Thesis title:

New Speak: Emergent Linguistic Properties Of Stimulus-Response Associations

Director:

Prof. Raffaella Rumati.

M.A. Natural Sciences, University of Cambridge, March 2011.

B.A. Natural Sciences, University of Cambridge, June 2007.

Austin Friars School, Carlisle, Cumbria, UK, 2004.

Languages

	English	Italian	Spanish
Reading	Very well	Well	Well
Writing	Very well	Moderate	Well
Listening	Very well	Well	Well
Speaking	Very well	Moderate	Well

Computers

Frameworks: [ML] Sklearn/Keras/Tensorflow, [BE] Django/Flask

Programming Languages and Platforms: Python, C++, M-Code, C#, HTML/CSS/JavaScript, R, CUDA, OpenGL, Bash, AWK.

Operating Systems: Linux, Windows, OSX.

Academic Programs: Spyder/Jupyter, Matlab/Octave, TDT (RPvdsEx, ActiveX, OpenEx), LabView, SPM, E-Prime, SPSS, Statistica, Office Suites.

Employment

Webpage Management and Designer, SISSA, Italy, 2010.

Pre-Doctorate Researcher, Cognitive Neuroscience Sector, SISSA, Trieste, Italy, 2005-2006.

Lab Assistant, Microbiology Unit, Nestlé UK, Dalston, Cumbria, UK, 2002.

Research Collaborators

Dr. V. Moca. & Dr. R. Mureşan CONEURAL, RIST, Cluj-Napoca, Romania, 2015

Dr. A. Lazaar. ESI, Frankfurt-Am-Main, Germany, 2014

Dr. A. Langus. SISSA, Trieste, Italy, 2011

Dr. L. Papeo. Harvard University, MA, USA, 2008-2010

Teaching and Mentorship

L. Klein. Ph.D. Studies 2017

N. Merkel. Ph.D. Studies, 2017

N. Sehgal. Bachelors Studies, 2015

A. Freier. Bachelors Studies, 2015

Mentored Projects

Effects of Attention on V1 Gamma Responses during Semi-Chronic Recording. with L. Klein.

Manipulating Gamma-Band Oscillations in Visual Cortex with MEG Neurofeedback. with N. Merkel.

Machine Learning approaches for the Analysis of Neural Connectivity Patterns. with N. Sehgal.

Separating the Roles of Magnocellular and Parvocellular Pathways in V1 Micro-Circuits. with A. Freier and L. Klein

Dimensionality Analysis of Neural Processes in the Visual Cortices. With W. Barnes

Publications

Endogenously generated gamma-band oscillations in early visual cortex: A neurofeedback study. Merkel, N., Wibral, M., Bland, G., & Singer, W. (2018). *Human Brain Mapping*. 39(9), 3487-3502.

Changing High Frequency Oscillatory Patterns in Early Visual Cortex with MEG Neurofeedback. Merkel, N., Bland, G., Wibral, M., Singer, W. (2015) In: 6th European Conference of the International Federation for Medical and Biological Engineering (Lacković, I., Vasic, D., eds), Springer International Publishing, 930-933.

Lectures

Annual ESI Retreat: Gamma-Band Activity Binds Classical Receptive Fields in V1. Ringberg, Germany. June 2016

ESI Board Meeting: Temporal Limits in Primary Visual Cortex. ESI, Frankfurt-Am-Main, Germany. September 2015

FIGGS Seminar: Illusion of cognitive modularity in the motor cortex. FIAS, Frankfurt-Am-Main, Germany. October 2013

Ph.D Defence: Newspeak - Emergent Linguistic Properties Of Stimulus-Response Associations. Trieste, Italy. February 2012

Seminar at the London Workshop of SPM: Introduction to Single Case Analysis of fMRI Data using SPM. UCL, London, UK. October, 2011.

Seminar at the Brain and Language Lab: Clause Subordination Using S-R Sequential Context. Georgetown University, Washington. March, 2011.

Third Year Ph.D Progress Report: Lexicalisation and Grammaticalisation of Novel Words Using S-R Associations. Trieste, Italy. May, 2010.

Second Year Ph.D Progress Report: Comparing Dual-Task Interference of Verb Processing Upon Distal and Proximal Movements. Trieste, Italy. May, 2009.

First Year Ph.D Progress Report: Dual-Task Interference of Verb Processing Upon a Simple Finger Movement. Trieste, Italy. May, 2008.

Posters

Annual ESI Retreat: Gamma-Band Activity Binds Classical Receptive Fields in V1. Ringberg, Germany. July 2016

ESI Systems Neuroscience Conference (ESI-SyNC). Gamma-Band Activity Binds Classical Receptive Fields in V1. FIAS, Frankfurt-Am-Main, Germany. July, 2016.

Annual ESI Retreat: Gamma frequencies and V1: where color contrast fades to isoluminance. Ringberg, Germany. June 2015.

Primate Neurobiology Meeting: Effects of Attention on V1 Gamma Responses during Semi-Chronic Recording. Göttingen, Germany. March, 2015.

6th European Conference of the International Federation for Medical and Biological Engineering: Changing high frequency oscillatory patterns in early visual cortex with MEG neurofeedback. Dubrovnik, Croatia. September, 2014.

29th European Workshop on Cognitive Neuropsychology: Clause Subordination Using Hebbian Associations in the Cortical Motor System. Bressanone, Italy. January, 2011.

Conferences and Workshops Organized

Annual ESI Retreat. Ringberg, Germany. July 2016.

Conferences and Workshops Attended

Google Cloud Day Bogota, Colombia. June 2018.

Annual ESI Retreat. Ringberg, Germany. July 2017.

ESI Systems Neuroscience Conference (ESI-SyNC). ESI, Frankfurt-Am-Main, Germany. July, 2017.

Annual ESI Retreat. Ringberg, Germany. July 2016.

ESI Systems Neuroscience Conference (ESI-SyNC). ESI, Frankfurt-Am-Main, Germany. July, 2016.

SfN Chicago, USA. September, 2015.

Cell Symposia: Engineering the Brain Chicago, USA. September, 2015.

Max Planck Symposium - Primate Neuroscience Göttingen, Germany. September, 2015.

Annual ESI Retreat. Ringberg, Germany. June 2015.

ESI Systems Neuroscience Conference (ESI-SyNC). ESI, Frankfurt-Am-Main, Germany. June, 2015.

Transylvanian Experimental Neuroscience Summer School. The Pike Lake, Romania. June 2015.

NeFF Seminar: Neural Information Dynamics. FIAS, Frankfurt-Am-Main, Germany. December 2014.

Circuits in Neuroscience. MPI, Frankfurt-Am-Main, Germany. September, 2014.

ESI Systems Neuroscience Conference (ESI-SyNC). ESI, Frankfurt-Am-Main, Germany. July, 2014.

Annual ESI Retreat. Ringberg, Germany. June 2014.

GPU Programming Workshop: Hosted by NVIDIA. RZG, Garching, Germany. May 2014.

Second ESI-workshop: Inter-areal interactions. ESI, Frankfurt-Am-Main, Germany. October, 2013.

Statistical Parametric Mapping for fMRI. London, UK. October, 2011.

5th Annual Rovereto workshop on Concepts, Actions and Objects. Rovereto, Italy. May, 2011.

29th European Workshop on Cognitive Neuropsychology. Bressanone, Italy. January, 2011.

The Embodied Mind: Perspectives and Limitations. Nijmegen, Netherlands. October, 2010.

27th European Workshop on Cognitive Neuropsychology. Bressanone, Italy. January, 2009.

Meeting of the Federation of the European Societies of Neuropsychology. Edinburgh, UK. September, 2008.

Summer School on Transcranial Magnetic Stimulation in Cognition. UCL, London, UK. May 2008.

26th European Workshop on Cognitive Neuropsychology. Bressanone, Italy. January, 2008.

Honors, Awards, & Fellowships

ESI Post-Doctorate Fellowship, 2014 - 2017.

MPI Post-Doctorate Fellowship, 2013.

SISSA Ph.D. Fellowship, 2007-2011.

SISSA Pre-Doctorate Fellowship, 2006.

SISSA Pre-Doctorate Fellowship, 2005.