

TIMOTHY JOSEPH SENIOR, D.Phil. - CV

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SUMMARY

I am currently a Junior Fellow at the Hanse-Wissenschaftskolleg in Delmenhorst and a Visiting Junior Fellow at the centre for Visual Communication and Expertise (VisComX) at Jacobs University, Bremen. In addition to my undergraduate teaching, which spans a wide range of interdisciplinary perspectives related to the brain sciences, I am conducting research into the application of contemporary art practices in the communication of knowledge from neuroscience. It is through this research that I am developing my creative practice, focusing on installation work and the use of contemporary digital media tools.

POSITIONS HELD

2011-2012 Junior Fellow at the Hanse-Wissenschaftskolleg in Delmenhorst, Germany

2010-2011 External Lecturer with the School of Engineering Sciences and Visiting Junior Fellow at the centre for Visual Communication and Expertise (VisComX) at Jacobs University, Bremen, Germany.

2008-2010 Visiting Artist and Senior Research Scholar at ISIS (Information Studies and Information Science), Duke University, North Carolina, USA.

EDUCATION

2004-2008 D.Phil. in *in vivo* electrophysiology at the MRC Anatomical Neuropharmacology Unit, **Oxford University**. Alumnus of Worcester College. Title: *An in vivo* electrophysiological approach to the classification of interneurons in the behaving animal. Advisors: Dr Jozsef Csicsvari and Professor Peter Somogyi.

2003-2004 M.Sc. in Neuroscience at **Oxford University**. Alumnus of Worcester College. Experimental dissertations. 1: The interoceptive function of the insular cortex. An assessment of connectivity-based functional relationships using diffusion tensor imaging. Advisor: Dr Heidi Johansen-Berg, FMRIB, Department of Clinical Neurology. 2: Hippocampal Oscillations under Urethane + Ketamine/Xylazine Anaesthesia. Advisor: Dr Jozsef Csicsvari, MRC Anatomical Neuropharmacology Unit.

2000-2003 B.A. in Biological Natural Sciences at **Cambridge University**. Alumnus of King's College.

FELLOWSHIPS + AWARDS

2011 Teacher of the Year - School of Engineering and Sciences, Jacobs University.

2011 Collaboration Development Grant from the Council for the Arts, Office of the Provost, Duke University (\$3000)

2011 12-month Junior Fellowship at Hanse Wissenschaftskolleg, Delmenhorst, Germany (starting Fall 2011).

2007 Award for one of three top student projects at the Gordon Conference "Inhibition in the central nervous system" (Colby College, Maine: July 22-27, 2007).

2003-2007 Wellcome Trust scholarship (for the Four-year D.Phil. in neuroscience at Oxford University).

2002 Wellcome Trust scholarship for an independent summer study project.

2002 King's College Scholarship.

TEACHING + PROFESSIONAL WORK

2011 Spring - Jacobs University: USC "The Neuroscience of Arts and Politics": 020060

2010 Fall - Jacobs University: "Behavioral Neurobiology": 500341

2010 Spring - Duke University: "The place of Memory": ISIS 120.01; VISUALST 190.02; GERMAN 198.02

2009 Fall - Duke University: "The Exploration of the Biological Sciences through Art": ISIS 120S.02; VISUALST 189.03

2009 General Submissions / Information Aesthetics Gallery jury member for SIGGRAPH 2009

ORGANISED SYMPOSIA/WORKSHOPS

2010 Advanced visual workshop - "The Art of Neuroscience", VisComX - Jacobs University, Bremen (over four days; 23-25.11.10 and 03.12.10)

2009 "The Place of Memory - Visualization of the Neurosciences Symposium" - John Hope Franklin Centre, Duke University, April 24, 2009

SCIENTIFIC PUBLICATIONS

- 2008 Huxter JR, **Senior TJ**, Allen K, Csicsvari J. Theta phase-specific codes for two-dimensional position, trajectory and heading in the hippocampus. *Nat Neurosci*, 11(5):587-94
- 2008 **Senior TJ**, Huxter JR, Allen K, O'Neill J, Csicsvari J. Gamma oscillatory firing reveals distinct populations of pyramidal cells in the CA1 region of the hippocampus. *J Neurosci*, 28(9):2274-86
- 2008 O'Neill J, **Senior TJ**, Allen K, Huxter JR, Csicsvari J. Reactivation of experience-dependent cell assembly patterns in the hippocampus. *Nat Neurosci*, 11(2):209-15
- 2007 Csicsvari J, O'Neill J, Allen K, **Senior TJ**. Place-Selective Firing Contributes to the Reverse Order Reactivation of CA1 Pyramidal Cells during Sharp Waves in Open Field Exploration. *Eur J Neurosci*, 26:704-16
- 2006 O'Neill J, **Senior TJ** & Csicsvari J. Place-selective firing of CA1 pyramidal cells during sharp wave/ripple network patterns in exploratory behaviour. *Neuron*, 49:143-45

SCIENTIFIC CONFERENCE PAPERS

- 2007 Inhibition in the Central nervous system - Gordon Conference, Colby College Maine. Poster presentation. "An in vivo approach to the classification of interneurons in the hippocampus of the rat" (Athors: Senior T, Klausberger T, Csicsvari J).
- 2006 5th Forum of European Neuroscience - Vienna. Poster presentation. "Hippocampal theta oscillations in the anaesthetised and drug-free rat" (Authors: Senior T, O'Neill J, Klausberger T. & Csicsvari J; Abstract vol. 3, A197.15).
- 2005 BNA National Meeting - Brighton. Poster presentation. "Theta oscillations under urethane + ketamine/xylazine anaesthesia" (Authors: Senior, T. & Csicsvari, J; Abstract 37.03).

ART PUBLICATIONS

- 2009 Illustrations for the Canadian journal of post-modern art and writing 'Rampike' (vol. 18/2).
- 2008 Illustrations for "Das schöne Auge des Betrachters," a book of poetry by Christophe Fricker (Berlin: J. Frank, 2009). The book was awarded the Hermann-Hesse-Förderpreis in 2009.
- 2008 Illustrations for *Belletristik* magazine, number 7 (Berlin: J. Frank).

ART FESTIVALS / CONFERENCE PAPERS

- 2011 ISEA 2011 - Istanbul, Turkey (14.09.11-21.09.11). "Art < > Science: An Ontology" (in collaboration with Florian Wiencsek, Jacobs University).
- 2011 Aboagora Symposium ("Rethinking enlightenment") - Turku, Finland (15.08.11-18.08.11). Memory Tower workshop.
- 2011 Subtle Technologies Festival - Toronto, Canada (1.06.11-5.06.11). Memory Tower lecture.
- 2009 SIGGRAPH - The 36th International Conference and Exhibition on Computer Graphics and Interactive Techniques (New Orleans). "Exploring the Memory Tower" - animation.

INVITED LECTURES

- 2011 "The Neuroscience of Arts and Politics" - TEDx, Jacobs University (15.10.11)
- 2010 "Memory Tower": Lighthouse venue in Brighton, UK - <http://www.lighthouse.org.uk/> (30.11.10)
- 2010 "Memory Tower": New Media Institute in Frankfurt, Germany - <http://www.inm.de/> (09.11.10)
- 2009 "An Introduction to Bioart" : 'Innovating Forms Seminar' - John Hope Franklin Centre, Duke University (30.09.09)
- 2009 "Towards the Memory Tower" - John Hope Franklin Centre, Duke University (10.02.09). www.art-sci.info