*Curriculum Vitae – Professor Tara Keck*

Professional History

2018-Present Professor of Neuroscience and Wellcome Trust Senior Research Fellow

Department of Neuroscience, Physiology and Pharmacology

University College London, UK

2014-2018 Principal Research Fellow (Reader/Associate Professor Equivalent)

Department of Neuroscience, Physiology and Pharmacology

University College London, UK

2010-2014 MRC Career Development Fellow

MRC Centre for Developmental Neurobiology

King’s College London, UK

2006-2010 Postdoctoral Fellow. Advisors: Tobias Bonhoeffer and Mark Hübener

Max Planck Institute of Neurobiology

Martinsried, Germany

Education

PhD in Biomedical Engineering, Boston University, USA (2006)

BA in Engineering Sciences, Harvard University, USA (2001)

Grants

2021-2024 BAME Awarding Gap Fund, £9,690, single PI

2020-2023 Embassy of France in Bangladesh, €200,000, Co-researcher with UNFPA

2020-2024 BIRAX British Council Grant on Ageing, £399,061, Co-PI Inna Slutsky

2018-2023 Wellcome Trust Senior Research Fellowship, £1,566,641, single PI

2018-2023 Royal Society Wolfson Research Merit Award, £62,500, single PI

2014-2015 Wellcome Trust Institutional Strategic Support Fund, £94,815, Co-PI

Francesca Cacucci

2013-2018 European Research Council Starter Grant, £1,292,917, single PI 2011-2012 Royal Society Research Grant, £14,931, single PI

2010-2013 King’s College International Graduate Scholarship, £67,800, single PI

2010-2015 Medical Research Council Career Development Award, £1,344,903,

single PI

Awards

2022 UNFPA Generations and Gender Fellow

2018-2023 Royal Society Wolfson Research Merit Award

2011 Max Planck Society Neuroscience Research Prize Finalist

2009 Rosa Laura and Hartmut Wekerle Foundation Award

2004 IEEE Biomedical Engineering Regional Award

2001-2005 NIH Graduate Training Fellowship Award in Quantitative Biology and Physiology

Select External Engagement

2021-Present Royal Society International Programmes Advisory Group Member

2020-Present International Advisory Panel on Population and Development Expert Member, United Nations Population Fund, Eastern Europe and Central Asia Region

2019-Present External Consultant, Mental Health and Psychosocial Support for Survivors of Gender-Based

Violence, United Nations Population Fund, Bangladesh

2017 Member of the Leopoldina (German Academy of Sciences) German Delegation for the Germany-India Meeting on Learning, Plasticity and Stability

2016 Speaker on Brain Plasticity, United Nations, Bangkok

2016 Member of Royal Society UK Delegation for UK-Japan Frontiers of Science Meeting

Select Professional Activities

2021-Present Academic Co-lead Ageing Well Platform, UCL

2021-Present Equality, Diversity and Inclusion Operational Group Member, Faculty of Life Sciences, UCL

2021-Present Coach on the Coaching Culture Programme to Support Black Staff, UCL

2021-Present Panel Member Marie Sklodowska-Curie Postdoctoral Fellowships, ERC

2020-Present Co-chair, Steering Committee for Racial Equity, Division of Biosciences, UCL

2020-Present Mentor in Royal Society Mentorship Scheme

2019-2021 Guest Editor, Current Opinion in Neurobiology Issue on Learning and Plasticity

2018-Present UK Research and Innovation Future Leaders Fellowships Review College

2016-Present Admission and Advisory Committee for the MRC Doctoral Training Programme in Neuroscience and Mental Health, UCL

Original Research

Barnes SJ, Keller GB, **Keck T**. Homeostatic regulation through strengthening of neuronal network-correlated synaptic inputs. Under review.

**Keck T**. Identifying loneliness levels and key associated risk factors throughout the lifespan in the Republic of Moldova. Under review.

Izutsu T and **Keck T**. Delivering community-level mental health and psychosocial support to survivors of gender-based violence in Bangladesh. United Nations Population Fund, Bangladesh, 2022.

**Keck T.** Loneliness and Social Isolation Among Older People in the Eastern Europe and Central Asia Region, United Nations Population Fund, EECA Region, 2022.

**Keck T** and Izutsu T. Analysis of the Global Guidelines and Scientific Evidence for Effective Virtual Delivery of Mental Health and Psychosocial Support for Survivors of Sexual and Gender-Based Violence in Bangladesh. United Nations Population Fund, Bangladesh, 2020.

**Keck T.** Changes in behaviors and the projected health benefits for members of Healthy Ageing Centres in Bosnia and Herzegovina. United Nations Population Fund, Bosnia and Herzegovina, 2020.

**Keck T.** Analysis of Research Evidence for Psychosocial Support Approaches for Survivors of Gender Based Violence and Recommendations for Implementation in Bangladesh. United Nations Population Fund, Bangladesh, 2019.

Barnes SJ, Franzoni E, Jacobsen RI, Erdelyi F, Szabo G, Clopath C, Keller GB, **Keck T**. Deprivation induced homeostatic spine scaling in vivo is spatially localized to dendritic branches that have undergone

recent spine loss. Neuron. 2017 Nov 15;96(4):871-882.

**Keck T**, Hübener M, Bonhoeffer T. Interactions between synaptic homeostatic mechanisms: an attempt

to reconcile BCM theory, synaptic scaling and excitation/inhibition balance. Curr Opin Neurobiol. 2017

Apr;43:87-93.

**Keck T**, Toyoizumi T, Chen L, Doiron B, Feldman DE, Fox K, Gerstner W, Haydon PG, Hübener M, Lee HK,

Lisman JE, Rose T, Sengpiel F, Stellwagen D, Stryker MP, Turrigiano GG, van Rossum MC. Integrating

Hebbian and homeostatic plasticity: the current state of the field and future research directions. Philos Trans R

Soc Lond B Biol Sci. 2017 Mar 5;372(1715). pii: 20160158. doi: 10.1098/rstb.2016.0158.

Sammons RP and **Keck T**. Adult plasticity and cortical reorganization after peripheral lesions. Curr Opin

Neurobiol. 2015 Aug 24;35:136-141.

Barnes SJ, Sammons RP, Jacobsen RI, Mackie J, Keller GB, **Keck T**. Subnetwork-specific homeostatic

plasticity in mouse visual cortex. Neuron. 2015 Jun 3;86(5):1290-303.

Lyamzin DR, Barnes SJ, Donato R, Garcia-Lazaro JA, **Keck T**, Lesica NA. Nonlinear transfer of signal and

noise correlations in cortical networks. J. Neurosci. 2015 May 27;35(21):8065-80.

Chen JL, Andermann ML, **Keck T**, Xu NL, Ziv Y. Imaging neuronal populations in behaving rodents:

paradigms for studying neural circuits underlying behavior in the mammalian cortex. J. Neurosci. 2013 Nov

6;33(45):17631-40.

**Keck T**, Keller GB, Jacobsen RI, Eysel UT, Bonhoeffer T, Hübener M. Synaptic scaling and homeostatic

plasticity in the mouse visual cortex in vivo. Neuron. 2013 Oct 16;80(2):327-34.

Ertürk A, Mauch CP, Hellal F, Foerstner F, **Keck T**, Becker K, Jährling N, Steffens H, Richter M, Hübener M,

Kramer E, Kirchhoff F, Dodt HU, Bradke F. Three dimensional imaging of the unsectioned adult spinal cord to

assess axon regeneration and glial responses after injury. Nat Med. 2011 Dec 25;18(1):166-71.

**Keck T**, Scheuss V, Jacobsen RI, Wierenga CJ, Eysel UT, Bonhoeffer T, Hübener M. Loss of sensory input

causes rapid structural changes of inhibitory neurons in adult mouse visual cortex. Neuron. 2011 Sep

8;71(5):869-82. doi:10.1016.

Wierenga CJ, Müllner FE, Rinke I, **Keck T**, Stein V, Bonhoeffer T. Molecular and electrophysiological

characterization of GFP-expressing CA1 interneurons in GAD65-GFP mice. PLoS One. 2010 Dec

31;5(12):e15915.

Holtmaat A, Bonhoeffer T, Chow D, Chuckowree J, De Paola V, Hofer SB, Hübener M, **Keck T**, Lee W-CA,

Knott G, Mrsic-Flogel TD, Mostany R, Nedivi E, Portera-Cailliau C, Svoboda K, Trachtenberg J, Wilbrecht L.

Long-term, high-resolution imaging in the mouse neocortex through a chronic cranial window. Nat Protoc.

2009;4(8):1128-44.

**Keck T** and White JA. Glycinergic inhibition in the hippocampus. Rev Neurosci. 2009;20(1):13-22.

**Keck T**, Mrsic-Flogel TD, Vaz Alfonso M, Eysel UT, Bonhoeffer T, Hübener M. Massive restructuring of

neuronal circuits during functional reorganization of adult visual cortex. Nat Neurosci. 2008 Oct;11(10):1162-7.

Chakravarthy S, **Keck T**, Roelandse M, Hartman R, Jeromin A, Perry S, Hofer SB, Mrsic-Flogel TD, Levelt CN.

Cre-dependent Expression of Multiple Transgenes in Isolated Neurons of the Adult Forebrain. PLoS One.

2008 3(8): e3059 doi:10.1371/journal.pone.0003059.

**Keck T**, Lillis KP, Zhou YD, White JA. Frequency-dependent glycinergic inhibition modulates plasticity in

hippocampus. J Neurosci. 2008 Jul 16;28(29):7359-69.

Netoff TI, Clewley R, Arno S, **Keck T**, White JA. Epilepsy in Small World Networks. J Neurosci. 2004 Sep 15;

24(37):8075-83.

Commentaries and Editorials

**Keck T** and Josselyn SA. Editorial overview: Neurobiology of learning and plasticity. Curr Opin Neurobiol. 2021 Apr 67:iii-v.

R.I. Jacobsen and **Keck T**. The Ups and Downs of Firing Rate Homeostasis. Neuron. 2021 Feb 03;109(3):401-403.

**Keck T**. Microglia tweak retinogeniculate pathways during visual circuit refinement. Neuron. 2020 Nov 11;108(3):397-399.