Tsai-Wen Chen (陳摘文), PhD

Date of birth: July 4, 1979
Nationality: Taiwan
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Positions

2015-present **Assistant Professor**, Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan

2013-2015 **Research Specialist**, Laboratory of Dr. Karel Svoboda, Janelia Research Campus, Ashburn, USA

2010-2012 **Research Specialist**, Genetically Encoded Indicator Project, Janelia Research Campus, Ashburn USA

2008-2010 **Junior Research Group Leader**, Research Center Molecular Physiology of the Brain, Göttingen, Germany

Education

2005-2008 **Ph.D. Neuroscience,** Max Planck Research School, Göttingen, Germany
Advisor: Prof. Detlev Schild

2003-2004 **M.Sc. Neuroscience,** Max Planck Research School, Göttingen, Germany

1997-2001 **B.S. Electrical Engineering,** National Taiwan University, Taipei, Taiwan
GPA: 3.85/4.0, Rank: 9/174

Honors

2009 **Best Poster Award,** PENS winter school, Obergurgl, Austria

2005-2008 **Goerg-Christoph-Lichtenberg-Stipendiums,** Niedersachsen State, Germany

2001 **Asian championship,** Texas Instrument DSP and Analog solution challenge

2001 **First Prize,** 10th NTU technology thesis contest

1998, 1999 **President Award,** (Twice) EE Department, NTU

1996 **Gold Medal,** 27th International Physics Olympiad (IPHO), Oslo, Norway

Publications

Li N, **Chen T-W**, Guo Z, Gerfen C, Svoboda K (2015) A motor cortex circuit for motor planning and movement. ***Nature***, 519 (7541) 51-56.

Dana H, **Chen T-W**, Hu A, Shields B, Guo C, Looger L, Kim D, Svoboda K (2014) Thy1-GCaMP6 transgenic mice for neuronal population imaging *in vivo* ***PloS One,*** *9 (9)*

Thestrup T, Litzlbauer J, Bartholomäus I, Mues M, Russo L, Dana H, Kovalchuk Y, Liang Y, Kalamakis G, Laukat Y, Becker S, Witte G, Geiger A, Allen T, Rome L, **Chen T-W**, Kim D, Garaschuk O, Griesinger C, Griesbeck O (2014) Optimized ratiometric calcium sensors for functional *in vivo* imaging of neurons and T lymphocytes. ***Nature Methods*** *11(2) 175-182*

Chen T-W, Wardill T, Sun Y, Pulver S, Renninger S, Baohan A, Schreiter E, Kerr R, Orger M, Jayaraman V, Looger LL, Svoboda K, Kim D (2013) Ultrasensitive fluorescent proteins for imaging neuronal activity. ***Nature***, 499 (7458) 295-300

Wardill T, **Chen T-W**, Schreiter E, Hasseman J, Tsegaye G, Fosque B, Behnam R, Shields B, Ramirez M, Kimmel B, Kerr R, Jayaraman V, Looger L, Svoboda K, Kim D. (2013) A Neuron-Based Screening Platform for Optimizing Genetically-Encoded Calcium Indicators. ***PloS One,*** *8 (10)*

Marvin J, Borghuis B, Tian L, Cichon J, Harnett M, Akerboom J, Gordus A, Renninger S, **Chen T-W**, Bargmann C, Orger M, Schreiter E, Demb J, Gan W-B, Hires A, Looger L (2013) An optimized fluorescent probe for visualizing glutamate neurotransmission. ***Nature Methods,*** 10 (2) 162-170

Akerboom J*, **Chen, T-W***, Wardill T, Tian L, Marvin J, Mutlu S, Calderón N, Esposti F, Borghuis B, Sun X, Gordus A, Orger M, Portugues R, Engert F, Macklin J, Filosa A, Aggarwal A, Kerr R, Takagi R, Kracun S, Shigetomi E, Khakh B, Baier H, Lagnado L, Wang S, Bargmann C, Kimmel B, Jayaraman V, Svoboda K, Kim D, Schreiter E, and Looger L (2012) Optimization of a GCaMP calcium indicator for neural activity imaging. ***J. Neurosci.*** 32(40) 13819-40 *(*equal contribution)*

Zariwala H, Borghuis B, Hoogland T, Madisen L, Tian L, DeZeeuw C, Zeng H, Looger L, Svoboda K, and **Chen T-W*** (2012) A Cre-dependent GCaMP3 reporter mouse for neuronal imaging in vivo. ***J. Neurosci.*** 32(9)*:*3131-41 *(*corresponding author)*

Junek S*, **Chen T-W***, Alevra M, and Schild D (2009) Activity correlation imaging: visualizing function and structure of neuronal populations. ***Biophys. J.*** 96, 3801-3809 *(*equal contribution)*

Chen T-W*, Lin B-J*, and Schild D (2009) Odor coding by modules of coherent mitral/tufted cells in the vertebrate olfactory bulb. ***Proc. Natl. Acad. Sci. U S A.*** 106, 2401-2406 *(*equal contribution)*

Lin B-J, **Chen T-W**, and Schild D (2007) Cell type-specific relationships between spiking and $[Ca^{2+}]_i$ in neurons of the *Xenopus* tadpole olfactory bulb. ***J. Physiol.*** 582, 163-175.

Manzini I, Brase C, **Chen T-W**, and Schild D (2007). Response profiles to amino acid odorants of olfactory glomeruli in larval *Xenopus laevis*. ***J. Physiol.*** 581, 567-579

Chen, T-W, Lin B-J, Brunner E, and Schild D (2006). *In situ* background estimation in quantitative fluorescence imaging. ***Biophys. J.*** 90, 2534-2547

Presentations

Posters

Chen T-W, Li N, Dana H, Svoboda K, (November 2014) Choice-related activity in a cortical motor circuit analyzed with large-scale population imaging. Society for Neuroscience, Washington DC, USA.

Chen T-W, Yu J, Kerr R, Jayaraman V, Looger L, Svoboda K, Kim D (October 2012) Detection of single action potentials and synaptic calcium signals using improved GCaMP6 family calcium indicators. Society for Neuroscience, New Orleans, USA.

Chen T-W*, Wardill T*, Akerboom J, Mutlu S, Schreiter E, Kerr R, Jayaraman V, Looger L, Svoboda K, Kimmel B and Kim D (November 2011) Neuron-based screening for improved GCaMP calcium sensors. Society for Neuroscience, Washington DC, USA.

Chen T-W*, Wardill T*, Mutlu S, Schreiter E, Kerr R, Jayaraman V, Looger L, Svoboda K, Kimmel B and Kim D (June 2011) Neuron-based screening for improved GCaMP calcium sensors: Sensitivity and kinetics. Gordon Research Conference on Calcium signaling, Colby College, Waterville, USA.

Chen T-W, Lin B-J and Schild D (November 2007) Functional imaging of projecting neuron modules in the vertebrate olfactory bulb. Society for Neuroscience, San Diego, USA.

Chen T-W, Lin B-J, Brunner E, and Schild D (March 2006) In situ background estimation in quantitative fluorescence imaging. Joint meeting of the German society of physiology and the federal of European physiology societies, Munich, Germany

*Talk*s

2014 Laboratoire de Physiologie Cérébrale, Université Paris Descartes, Paris, France (invited talk)

2012 Neuroscience Program in Academia Sinica, Taipei, Taiwan (invited talk)

2009 Presentation of the best posters, PENS winter school, Obergurgl, Austria

2009 Microscopy club, Center for Molecular Physiology of the Brain, Göttingen, Germany

2006 Forum Mikroskopie, PhotonicNet GmbH, Göttingen, Germany

2006 Bernstein symposium, Bernstein Center for Computational Neuroscience, Berlin, Germany

2001 Finalist presentation, Texas Instrument DSP and Analog solution challenge, Dallas, U.S.A.

References

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