

# Kuo-Hua Huang

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## Education

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- 2013 - Postdoctoral Fellow, Friedrich Miescher Institute for Biomedical Research, Switzerland  
(Rainer Friedrich Lab)
- 2012 Ph.D., Harvard University, Program in Neuroscience, USA (Florian Engert Lab)
- 2006 Taiwanese Army
- 2004 B.S. in Life Science, National Tsing Hua University, Taiwan.
- 2002 Undergraduate Exchange Program, University of California, Berkeley, Dept. of Mol. & Cell Biology, USA (Mu-Ming Poo Lab)

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## Research Experience

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- (1) Construction of a 3D virtual-reality environment combined with two-photon microscopy
- (2) Automation of behavioral assays (real-time behavioral analysis & closed-loop sensory feedback)
- (3) Development of a head-fixation protocol in adult zebrafish for *in vivo* imaging
- (4) Two-photon calcium imaging and laser ablation
- (5) Extracellular motor nerve recording
- (6) Single-cell electroporation
- (7) Analysis projects: (i) modeling neuronal oscillations in the spinal cord, (ii) noise removal from functional imaging data using principal component analysis, (iii) 3D image registration between *in vivo* and postmortem samples.

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## Teaching Experience

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- 2012 Certificate of Distinction in Teaching Award, Harvard University: Undergraduate laboratory course “two-photon measurement of neural activity during behavior in the larval zebrafish”.

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## Publications

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- **Huang KH\***, Ahrens MA\*, Dunn TW, Engert F. Control of turning behaviors by spinal projection neurons in the larval zebrafish, *Current Biology*, 23(16):1566-73 (2013). (\* equal contribution)
- Ahrens MA\*, **Huang KH\***, Robson DN, Orger MB, Li JM, Schier AF, Engert F. Two-photon

calcium imaging during fictive navigation in virtual environments, *Frontiers in Neural Circuits* 7, 1-13 (2013). (\* equal contribution)

- Valente A\*, **Huang KH\***, Portugues R, Engert F. The ontogeny of operant and classical learning behaviors in zebrafish, *Learning and Memory* (Cold Spring Harbor Press) 19(4), 170-177 (2012). (\* equal contribution)
- Henley JR, **Huang KH**, Wang D, Poo MM. Calcium mediates bidirectional growth cone turning induced by myelin-associated glycoprotein, *Neuron* 44, 909-916 (2004)
- Wong ST, Henley JR, Kanning KC, **Huang KH**, Bothwell M, Poo MM. A p75NTR and Nogo receptor complex mediates repulsive signaling by myelin-associated glycoprotein, *Nature Neuroscience* 5, 1302-1308 (2002)

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## Presentations at International Meetings

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- International Workshop on Zebrafish Neural Circuits and Behavior, Rockville, USA (2017)
- The Ascona Meeting on Neuronal Circuits, Ascona, Switzerland (2017)
- Champalimaud Neuroscience Symposium, Lisbon, Portugal (2016)
- SYNAPSY Conference "The Neurobiology of Mental Health", Geneva, Switzerland (2016)
- Society for Neuroscience conference (2009, 2011, 2016, 2017)

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## Awards and Scholarships

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- 2012 Presidential Postdoctoral Fellowship at Novartis Institute for Biomedical Research
- 2009 Taiwan Studying Abroad Scholarship
- 2005 Taiwan Merit Scholarship
- 2004 Dr. Chu Shum-Yi ZyXEL Scholarship, Taiwan
- 2004 Fellow, The Phi Tau Phi Scholastic Honor Society, Taiwan
- 2002 National Tsing Hua University International Exchange Scholarship, Taiwan

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## Contact Information

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**Prof. Florian Engert** (PhD supervisor)

Department of Molecular and Cellular Biology, Harvard University, USA

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