

## Biao Han(韩彪)

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CONTACT INFORMATION South China Normal University  
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Guangdong, China *Mobile:* +86 138 6541 7800  
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RESEARCH INTERESTS *Predictive mechanism and neural oscillations in perception*

APPOINTMENTS **School of Psychology, South China Normal University**, Guangzhou, China  
Distinguished Researcher, January 2019 - Now.  
**Donders Institute for Brain, Cognition and Behaviour**, Nijmegen, Netherlands  
Postdoctoral Scholar, *Supervisor: Floris de Lange*, May 2016 - September 2018.

EDUCATION **CerCo CNRS & Université de Toulouse**, Toulouse, France  
Ph.D. Neuroscience, Behaviour and Cognition, April 2016.  
*Mention: Très honorable (highest honours), Supervisor: Rufin VanRullen*  
**Shanghai University**, Shanghai, China  
M.S., Information and Communication Engineering, April 2012  
**Computational Vision Summer School**, Freudenstadt-Lauterbad, Germany  
Summer School, Vision, July 2015.  
**Interneuron Summer School**, Amsterdam, Netherlands  
Summer School, Neuroscience, June 2014.  
**Vision, Learning, and Pattern Recognition Summer School**, Chengdu, China  
Summer School, Computer Vision and Machine Learning, August 2011.

PUBLICATIONS *Peer-reviewed articles:*

Jie Ma, Lu Shen, Li Song, Qiang Guo, Josef Parvizi, **Biao Han**<sup>Co-corresponding author</sup> and Qi Chen. Pre-stimulus gamma power in human posteromedial cortex shows supra-modal mechanisms in predicting the amplitude and latency of task-induced suppression *Cerebral Cortex* 2023

**Biao Han**, Yanni Zhang, Lu Shen, Lei Mo and Qi Chen. Task demands modulate pre-stimulus alpha frequency and sensory template during bistable apparent motion perception *Cerebral Cortex* 2022

Minxuan Ma, Wenjie Li, Mengling Qin, Yaohong Wei, Qianbao Tan, Lu Shen, Qi Chen and **Biao Han**<sup>Corresponding author</sup>. Application of electrical brain stimulation in the auditory language processing *Advances in Psychological Science* 2021 (*In Chinese*)

Lu Shen, **Biao Han**<sup>Corresponding author</sup> and Floris de Lange. Apparent motion induces activity suppression in early visual cortex and impairs visual detection *The Journal of Neuroscience* 2020

**Biao Han**, Pim Mostert, and Floris P. de Lange. Predictable tones elicit stimulus-specific suppression of evoked activity in auditory cortex *NeuroImage* 2019

Lu Shen, **Biao Han**<sup>Co-first author</sup>, Lihan Chen and Qi Chen. Perceptual inference employs intrinsic alpha frequency to resolve perceptual ambiguity *PLOS Biology* 2019

**Biao Han** and Rufin VanRullen. The rhythms of predictive coding? Pre-stimulus phase modulates the influence of shape perception on luminance judgments *Scientific Reports* 2017

**Biao Han** and Rufin VanRullen. Shape perception enhances perceived contrast: evidence for excitatory predictive feedback? *Scientific Reports* 2016

Hao Zhu and **Biao Han**. Visual saliency via loss coding *International Joint Conference on Neural Networks* 2014

Hao Zhu and **Biao Han**. Bottom-up model of visual saliency: a viewpoint based on efficient coding hypothesis *International Joint Conference on Neural Networks* 2014

Hao Zhu and **Biao Han**. Visual saliency: a manifold way of perception *International Conference on Pattern Recognition* 2012

**Biao Han** and Hao Zhu. Bottom-up saliency based on weighted sparse coding residual *ACM International Conference on Multimedia*, 2011

#### GRANTS

National Natural Science Foundation of China Youth Program (¥240,000) **2021-2023**  
Guangdong Natural Science Foundation General Program (¥100,000) **2021-2023**  
Guangzhou Fundamental Research Program (¥50,000) **2021-2023**  
Guangdong Natural Science Foundation Youth Program (¥100,000) **2020-2022**  
FYSEN Foundation Post-doctoral Study grants (€49,920) **2016-2018**  
China Scholarship Council Award (€43,200) **2012-2015**

#### ACADEMIC SERVICE

##### **Organizer**

*FieldTrip Workshop, South China Normal University*

**August 2016**

##### **Reviewer**

*Frontiers in Human Neuroscience, Experimental Brain Research and etc.*

#### TEACHING EXPERIENCE

##### **South China Normal University**

*Main lecturer: Principles of electroencephalography*

**Udemy**, Online course together with Dr. Mike X Cohen

*Main lecturer: Understand the Fourier transform*

#### CERTIFICATION EXPERTISE

Software design engineer certificate

**May 2008**

Programming:

- MATLAB, Python, C, C++ and others.

Time series data analysis (EEG, MEG and sEEG):

- Time-domain analyses (ERP), Frequency-domain analyses (fourier transform, filtering), Time-frequency analyses (wavelets transform, Hilbert transform, ITPC, Phase opposition, Cross-frequency coupling and etc.), Source reconstruction (Dipole fitting, Beamformers and etc.), Decoding (SVM, LDA and etc.)

fMRI data analysis:

- GLM, Freesurfer, FSL, Population Receptive Field (pRF)