**Junpeng Lao**, PhD

<http://Junpenglao.xyz>

Born 1986.09.05

Department of Psychology, University of Fribourg

Faucigny 2, 1700 Fribourg, Switzerland

[Junpeng.lao@unifr.ch](mailto:Junpeng.lao@unifr.ch) [JunpengLao@gmail.com](mailto:JunpengLao@gmail.com)

**Education and Professional History:**

**2013.9 – present** Post-doc in University of Fribourg. I am supported by the Swiss National Science Foundation (n° 100014\_138627 and n° 100014\_156490/1)

**2012.9 – 2013.9** Research assistant in University of Fribourg. I was supported by National Center of Competence in Research (NCCR) Affective sciences financed by the Swiss National Science Foundation (n° 51NF40-104897).

**2009.10 – 2013.9** University of Glasgow, Ph.D in Cognitive Neuroscience, Thesis title: “Tracking the temporal dynamics of cultural perceptual diversity in visual information processing”. Advisor: Prof. Roberto Caldara and Prof. Lars Muckli.

**2005.9 – 2009.6** Sun Yat-Sen University, B. Sc. in Psychology. Thesis title: “Control deprivation and styles of thinking”. Advisor: Prof. Xinyue Zhou.

**Software and Algorithms:**

***i*Map4** – Linear Mixed Model solution for statistical fixation mapping of eye movement data. It is a data-driven statistics Matlab toolbox implementing linear mixed model and non-parametric statistics based on permutation and bootstrap spatial clustering. It also has a full graphical user interface. *i*Map4 is one of the three finalists of the SMI Computing Competition in ECEM 2015.

Cite as: Lao et al. (2016). *i*Map4: An Open Source Toolbox for the Statistical Fixation Mapping of Eye Movement data with Linear Mixed Modeling. *Behavior Research Methods.* [doi: 10.3758/s13428-016-0737-x](http://link.springer.com/article/10.3758/s13428-016-0737-x)

**Strategy quantifier for face viewing** – It is a Bayesian Generative model for quantifying the face viewing strategy (global or local). Using Gaussian Mixture Models, it quantifies a given observer’s fixation strategy during free-viewing of face stimuli base on the fixation location information only. It output a scale value between 0 and 1 to indicate how global or local the observer is.

**JAEFA** - Convolution-based algorithm for eye movement event detection

**Preprints**

**Lao, J.** (2016). Reproducible Research with End-to-end Machine Inference Using Deep Learning and Bayesian Statistics, *Journal of Brief Ideas*, [doi: 10.5281/zenodo.203086](http://beta.briefideas.org/ideas/dc4f3d8981cbea107f013cbb8f2f2cb7)

**Journal Articles:**

Garcia-Burgos, D., **Lao, J.**, Munsch, S., & Caldara, R. (2017). Visual attention to food cues is differentially modulated by gustatory-hedonic and post-ingestive attributes. *Food Research International,* [doi: 10.1016/j.foodres.2017.04.011](http://www.sciencedirect.com/science/article/pii/S096399691730159X)

Ruffieux1, N., Ramon1, M., **Lao1, J.,** Colombo, F., Stacchi, L., Borruat, FX., Accolla, E., Annoni JM., & Caldara, R. (2016). Residual Perception of Biological Motion in Cortical Blindness. *Neuropsychologia,* 93,301-311. [doi: 10.1016/j.neuropsychologia.2016.11.009](http://dx.doi.org/10.1016/j.neuropsychologia.2016.11.009)

1*Joint first authors*

Geangu1, E., Ichikawa1, H., **Lao1, J.,** Kanazawa, S., Yamaguchi, M. K., & Caldara2, R., & Turati2, C. (2016). Culture shapes 7-month-olds perceptual strategies in discriminating facial expressions of emotion. *Current Biology,* 26, *663–664.* [doi: 10.1016/j.cub.2016.05.072](http://www.cell.com/current-biology/abstract/S0960-9822(16)30605-4)

1*Joint first authors and 2joint last authors*

**Lao, J.**, Miellet, S., Pernet, C., Sokhn, N., & Caldara, R. (2016). *i*Map4: An Open Source Toolbox for the Statistical Fixation Mapping of Eye Movement data with Linear Mixed Modeling. *Behavior Research Methods.* [doi: 10.3758/s13428-016-0737-x](http://link.springer.com/article/10.3758/s13428-016-0737-x)

Bovet, J., **Lao, J.**, Bartholomée, O., Caldara, R., & Raymond, M. (2016). Mapping female bodily features of attractiveness. Scientific Reports, 6, *18551*. [doi: 10.1038/srep18551](http://www.nature.com/articles/srep18551)

Miellet, S., **Lao, J**., & Caldara, R. (2014). An appropriate use of iMap produces correct statistical results: a reply to McManus (2013)“iMAP and iMAP2 produce erroneous statistical maps of eye-movement differences”. *Perception*,*43*, 451-457.

**Lao, J**., Vizioli, L., & Caldara, R. (2013). Culture modulates the temporal dynamics of global/local processing. *Culture and Brain, 1*(2-4), 158-174.

Romeo, M., Vizioli, L., Breukink, M., Aganloo, K., **Lao, J**., Cotrufo, S., Caldara, R., & Morley, S. (2013). A Functional Magnetic Resonance Imaging Paradigm to Identify Distinct Cortical Areas of Facial Function: A Reliable Localizer. *Plastic and Reconstructive Surgery*, *131*(4), 527e-533e.

Miellet, S., Zhou, X., He, L., **Lao, J**., & Caldara, R. (2012). When East meets West: gaze-contingent Blindspots abolish cultural diversity in eye movements for faces. *Journal of Eye Movement Research*, *5*, 1-12.

Zhou, X., He, L., Yang, Q., **Lao, J**., & Baumeister, R. F. (2012). Control deprivation and styles of thinking. *Journal of Personality and Social Psychology*,*102*(3), 460.

**Conference Presentations (Selected):**

**2017.4.20** Lao, J. (2017). Statistical Inferences of Eye movement data using Bayesian smoothing. Bayes@Lund2017. (Lund, Sweden, **oral presentation**)

**2015.9.8 – 9** Lao, J., Miellet, S., Pernet, C., Sokhn, N., & Caldara, R. (2015). *i*Map4: An Open Source Toolbox for the Statistical Fixation Mapping of Eye Movement data with Linear Mixed Modeling. 14th Biannual congress of the Swiss Psychological Society. (Geneva, Switzerland, **oral presentation**)

**2015.8.16 – 21** Lao, J., Miellet, S., Pernet, C., Sokhn, N., & Caldara, R. (2015). *i*Map4: An Open Source Toolbox for the Statistical Fixation Mapping of Eye Movement data with Linear Mixed Modeling. 18th European Conference on Eye Movements. (Vienna, Austria, **oral presentation**)

**2013.9.11 – 12** Lao, J., He, L, & Caldara, R. (2013). Microsaccades Boost Face Identification. 13th Biannual congress of the Swiss Psychological Society. (Basel, Switzerland, **oral presentation**)

**2011.7.15 - 18** Lao, J., Vizioli, L., Miellet, S., & Caldara, R. (2011). Eyes like it, brain likes it: Tracking the neural tuning of cultural diversity in eye movements for faces. *i-Perception* 2(4) 356. (Asia-Pacific Conference on Vision, 2011, **oral presentation**)

**2011.1.9 - 13** Lao, J., Vizioli, L., Miellet, S., & Caldara, R. (2011). Eyes like it, brain likes it: Tracking the neural tuning of cultural diversity in eye movements for faces. Alpine Brain Imaging Meeting 2011. (Champéry, Switzerland, **oral presentation**)

**Teaching:**

Cognitive Neuroscience

Statistical Analysis with MATLAB

Psychology Experiment with MATLAB

**Awards:**

**2010.12** Guarantors of Brain Travel Grant supporting the attendance of the Alpine Brain Imaging Meeting in January 2011

**2010.5** Experimental Psychology Society Grindley Grant supporting the attendance of the Vision Science Society Annual Meeting in May 2010

**2009.9** UK/China PhD Scholarships for Excellence programme funded by China Scholarship Council and the Scottish Government