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Born 1986.09.05

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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

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

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, 97,* 199-208. doi: 10.1016/j.foodres.2017.04.011

Lao, J., Miellet, S., Pernet, C., Sokhn, N., & Caldara, R. (2017). *i*Map4: An Open Source Toolbox for the Statistical Fixation Mapping of Eye Movement data with Linear Mixed Modeling. *Behavior Research Methods, 49(2),* 559-575. doi: 10.3758/s13428-016-0737-x

Ruffieux[1], N., Ramon[1], M., **Lao[1], 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
[1]*Joint first authors*

Geangu[1], E., Ichikawa[1], H., **Lao[1], J.,** Kanazawa, S., Yamaguchi, M. K., & Caldara[2], R., & Turati[2], 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
[1]*Joint first authors and* [2]*joint last authors*

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

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:

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

2016.5.13 – 18 Lao, J., Richoz, A-R., Stoll, C., Pascalis, O., Dye, M., & Cladara, R. (2016). Mapping the recognition of facial expression of emotions in deafness. *Journal of Vision,* 16(X):#### (16th annual meeting of Vision Sciences Society)

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**)

2015.5.15 – 20 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. *Journal of Vision,* 15(12): 793 (15th annual meeting of Vision Sciences Society)

2015.1.24 Lao, J., & Caldara, R. (2015). Reverse correlating facial feature use in free-viewing EEG signals. Annual Meeting of Swiss Society for Neuroscience (Fribourg, Switzerland)

2015.1.11 – 15 Lao, J., & Caldara, R. (2015). Reverse correlating facial feature use in free-viewing EEG signals. Alpine Brain Imaging Meeting 2015. (Champéry, Switzerland)

2014.8.24 – 28 Lao, J., He, L, & Caldara, R. (2014). Microsaccades boost face identification as a function of culture. 37th European Conference on Visual Perception. (Belgrade, Serbia)

2014.5.16 – 21 Lao, J., Vizioli, L., Muckli, L., & Caldara, R. (2014). Decoding culture from the human primary visual cortex. *Journal of Vision,* 14(10):1093 (14th annual meeting of Vision Sciences Society)

2014.1.12 – 16 Lao, J., Vizioli, L., Muckli, L., & Caldara, R. (2014). Decoding Culture from the Human Primary Visual Cortex. Alpine Brain Imaging Meeting 2014. (Champéry, Switzerland)

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**)

2013.5.10 – 15 Lao, J., He, L, & Caldara, R. (2013). Microsaccades Boost Face Identification. *Journal of Vision,* 13 (9): 1344(13th annual meeting of Vision Sciences Society)

2012.1.8 – 12 Lao, J., Vizioli, L., Rodger, H., & Caldara, R. (2012). Neural Adaptation Reveals Early Cultural Tunings in Perceptual Sensitivity to Local/Global Shapes. Alpine Brain Imaging Meeting 2012. (Champéry, Switzerland)

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**)

2011.5.6 - 11 Lao, J., Miellet, S., Vizioli, L., Fusco, R., & Caldara, R. (2011). Eyes like it, brain likes it: Tracking the neural tuning of cultural diversity in eye movements for faces. *Journal of Vision*, 11(11): 628. (11th annual meeting of Vision Sciences Society)

2011.3.26 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. Annual Meeting of Swiss Society for Neuroscience (Basel, Switzerland)

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**)

2010.5.7 - 12 Lao, J., Foreman, K., Zhou, X., Lages, M., Hillis, J., & Caldara, R. (2010). Social judgments from faces are universal. *Journal of Vision*, 10(7): 698. (10th annual meeting of Vision Sciences Society)

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