Sébastien M. Crouzet

Civil Status

Age: 31
Citizenship: French
Married, one daughter.

Contact Information

Berlin School of Mind and Brain
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Current Position

Post-doctoral Researcher, Charité University, Berlin, Germany
Principal Investigator: Niko Busch
Topic: Reentrant processing and visual awareness: neural and perceptual mechanisms

Education & Academic Experience

Post-doctoral Researcher, Brown University, Providence, RI, USA **2010-2012**
Principal Investigator: Thomas Serre
Topic: Linking behavioral and electrophysiological data to computational models

Ph.D. in Neurosciences, Université de Toulouse, CNRS, France **2010**
Advisor: Dr Simon J. Thorpe
Committee: F. Vitu-Thibault, G.A. Rousselet, O. Pascalis, B. Rossion, P-G Zanone, D. Bazalgette
Topic: Ultra-rapid recognition of objects in natural scenes.
Highest academic distinction: Très honorable avec les félicitations du jury à l'unanimité.

European Summer School in Visual Neurosciences **Sep 2008**
'From Spike to Awareness', Organisation: K. Gegenfurtner, F. Bremmer, J. Braun.
Rauischholzhausen, Germany

Master in Cognitive Science, *Graduated magna cum laude* **2006**
ENS / EHESS / Ecole Polytechnique / Paris 5 / Paris 6, France

Licence in Cognitive Science, *Graduated magna cum laude* **2004**
Université Bordeaux 2, France

DEUG in Psychology **2003**
Université Paris 5, France

Baccalauréat Scientifique, spécialité Mathématiques **2000**
Lycée Bernard Palissy, Saintes, France

Refereed Journal Articles

Cauchoix M and **Crouzet SM** (2013). How plausible is a subcortical account of rapid visual recognition?. Front. Hum. Neurosci. 7:39. doi: 10.3389/fnhum.2013.00039

Crouzet SM, Joubert OR, Thorpe SJ, Fabre-Thorpe M (2012) Animal Detection Precedes Access to Scene Category. PLoS ONE 7(12): e51471. doi:10.1371/journal.pone.0051471

Crouzet SM and Thorpe SJ (2011). Low level cues and ultra-fast face detection. Front. Psychology 2:342. doi: 10.3389/fpsyg.2011.00342

Crouzet SM and Serre T (2011). What are the visual features underlying rapid object recognition? Front. Psychology 2:326. doi: 10.3389/fpsyg.2011.00326

Crouzet, S. M., Cauchoix, M. (2011). When does the visual system need to look back? *The Journal of Neuroscience*, 15 June 2011, 31(24): 8706-8707

Crouzet, S. M., Kirchner, H., & Thorpe, S. J. (2010). Fast saccades toward faces: Face detection in just 100 ms. *Journal of Vision*, 10(4):16, 1-17, http://journalofvision.org/10/4/16/, doi:10.1167/10.4.16.

Book Chapter

M., Fabre-Thorpe, **S. Crouzet**, G. A. Rousselet, H. Kirchner and S. J. Thorpe (2008). Catégorisation visuelle rapide: les visages sont-ils des objets spécifiques? In *Traitement et reconnaissance des visages: du percept à la personne*. E. J. Barbeau, S. Joubert and O. Felician. Marseille, Solal: 239-260.

Conference Presentations

Sébastien M. Crouzet, Simon Hviid Del Pin, Morten Overgaard & Niko A. Busch (2014) Revealing the dynamics of visual masking using a speeded saccadic choice task. Submitted to VSS2014.

Imri Sofer, Sébastien M. Crouzet & Thomas Serre (2014) A simple rapid categorization model accounts for variations in behavioral responses across rapid scene categorization tasks. Submitted to VSS2014.

Imri Sofer, Kwang Ryeol Lee, Pachaya Sailamul, Sébastien Crouzet & Thomas Serre (2013) Understanding the nature of the visual representations underlying rapid categorization tasks. [Abstract]. Journal of Vision, 13(9), article 658.

Crouzet SM, Hviid Del Pin S, Overgaard M & Busch NA (2013) Dynamics of saccadic responses reveal how object substitution masking interferes with reentrant processing. 55th TeaP - Tagung experimentell arbeitender Psychologen (Conference of Experimental Psychologists).

Crouzet SM, Cauchoix M, Fize D & Serre T (2011) The neural basis of rapid categorization: Linking computational models and electrophysiology. NIPS 2011 workshop on machine learning and interpretation in neuroimaging.

Cauchoix M., Crouzet S., Fize D. & Serre T. (2011) Visual features and dynamics of rapid recognition in monkey visual cortex. SFN 2011

Crouzet S M, Stemmler T, Capps M, Fahle M & Serre T (2011) Single-trial decoding of binocular rivalry switches from oculometric and pupil data. Vision Science Society, Naples, Florida.

Brilhault A, Mathey M, Jolmes N, Crouzet S M & Thorpe SJ (2011) Saccades to color: an ultra-fast controllable mechanism to low-level features. Vision Science Society, Naples, Florida.

Thorpe S J, Brilhault A, Mathey M, Crouzet S M, 2010, "Colour based target selection for ultrarapid saccades: The fastest controllable selection mechanism?" Perception 39 ECVP Abstract Supplement, page 158

Mathey M A, Crouzet S M, Thorpe S J, 2010, "The accuracy of ultra-rapid saccades to faces" Perception 39 ECVP Abstract Supplement, page 171

Crouzet, S. M. & Thorpe, S. J. (2010) Power spectrum cues underlying ultra-fast saccades towards faces [Abstract]. Journal of Vision, 10(7): 634

Mathey, M. A., Crouzet, S. M. & Thorpe, S. J. (2010) Ultra-rapid saccades to faces : the effect of target size [Abstract]. Journal of Vision, 10(7): 635

Crouzet S, Mathey M, Thorpe S J (2009). Ultra-fast saccades to faces: A temporal precedence effect? Perception 38 ECVP Abstract Supplement, page 157.

Crouzet, S. M., Joubert, O. R., Thorpe, S. J., & Fabre-Thorpe, M. (2009). The bear before the forest, but the city before the cars: Revealing early object/background processing [Abstract]. Journal of Vision, 9(8):954

Fabre-Thorpe, M., Crouzet, S. M., Wu, C.-T., & Thorpe, S. J. (2009). At 130 ms you "know" where the animal is but you don't yet "know" it's a dog [Abstract]. Journal of Vision, 9(8):786

Thorpe, S. J., Crouzet, S. M., Macé, M. J., Bacon-Macé, N., & Fabre-Thorpe, M. (2009). Masking in a high-level gender discrimination task is essentially entirely pre-cortical [Abstract]. Journal of Vision, 9(8):546

S Crouzet, H Kirchner, S J Thorpe (2008). Saccading towards faces in 100 ms. What's the secret? Perception 37 ECVP Abstract Supplement, page 119.

S J Thorpe, H Kirchner, S Crouzet, P Bayerl, H Neumann (2008). Processing times for optic flow patterns measured by the saccadic choice task. Perception 37 ECVP Abstract Supplement, page 40.

Crouzet, S., Thorpe, S. J., & Kirchner, H. (2007). Category-dependent variations in visual processing time. Journal of Vision, 7(9):922,922a, http://journalofvision.org/7/9/922/, doi:10.1167/7.9.922.

Thorpe, S., Crouzet, S., & Kirchner, H. (2007). Saliency maps and ultra-rapid choice saccade tasks. Journal of Vision, 7(9):30, 30a, http://journalofvision.org/7/9/30/, doi:10.1167/7.9.30.

Simon J. Thorpe, Sébastien Crouzet, Holle Kirchner and Michèle Fabre-Thorpe (2006). Ultra-rapid face detection in natural images : implications for computation in the visual system. First French Conference on Computational Neurosciences, pp. 124-127. Abbaye des Prémontrés, Pont à Mousson, France.

Simon J. Thorpe, Sébastien Crouzet and Holle Kirchner (2006). Comparing processing speed for complex natural scenes and simple visual forms. Perception, vol. 35, p 128.

Invited Talks

Invited by David Sheinberg, Brown University, Providence, RI, USA **Mar 2012**
An early cortical basis for speed of sight.

Invited by Simon J. Thorpe, CERCO-CNRS, Toulouse, France **Jan 2012**
Rapid Visual Processing of Natural Scenes: Linking Behavioral and Electrophysiological Data to Computational Models.

In-House Seminar, Neuroscience Department, Brown University, Providence, RI, USA **Nov 2011**
Rapid Visual Processing of Natural Scenes: Linking Behavioral and Electrophysiological Data to Computational Models.

Invited by Aude Oliva, MIT, Cambridge, MA, USA **May 2009**
Revealing early visual processing of natural scenes using a saccade choice task.

Editorial Service

Frontiers in Perception Science (review editor); Animal Cognition; Cerebral Cortex; Attention, Perception, & Psychophysics; Brain Topography; IEEE Transactions on Pattern Analysis and Machine Intelligence; PLoS ONE; Psychological Science; Seeing and Perceiving.

Teaching Certification

Qualification pour la fonction de Maître de conférences - section 69 - Neurosciences
08/02/2012 - 31/12/2016 (numéro de qualification : 12269224957)

Teaching Experience

Instructor (14 sessions of 90 min) **2013/2014**
Master program, Berlin School of Mind & Brain, Berlin, Germany
Seminar on visual perception. Teaching in English language.

Statistics Tutorial (6h) **Dec 2012**
Doctoral school, Berlin School of Mind & Brain, Berlin, Germany
Using the R environment for data analysis, statistical computing and graphics. Teaching in English language.

Guest lecture (2h) **2011**
Computational Vision course, CLPS1520, Brown University, Providence, RI, USA
Object recognition in natural scenes. Teaching in English language.

Teaching Assistant (96h over 3 years) **2006 to 2009**
Department of Psychology, Université Toulouse Le Mirail, Toulouse, France
Introduction to Neurosciences

Instructor (30h over 3 years) **2006 to 2009**
School of Psychomotricity, Faculté de Médecine de Rangueil, Toulouse, France
Visual system and eye movements

Instructor (24h over 2 years) **2006 to 2007**
School of Psychomotricity, Faculté de Médecine de Rangueil, Toulouse, France
Epistemology of neuropsychology

Instructor (10h) **2006**
School of Psychomotricity, Faculté de Médecine de Rangueil, Toulouse, France
Sleep, emotions

Academic Mentoring

Marie Mathey	*Master student in Toulouse, France*
Rohan Katipally	*Undergraduate student at Brown University, Providence, USA*
Robin Martins	*Undergraduate student at Brown University, Providence, USA*
Simon Ludwig	*Master student at Freie Universität, Berlin, Germany*

Official Commitments

Organizer of Cutting EEG 2014 **19–21 February 2014**
Member of the organizing committee for the Cutting EEG 2014: Symposium on cutting-edge EEG methods. Specifically in charge of the proceedings' publication in Journal of Neuroscience Methods.
http://www.mind-and-brain.de/postdoctoral-program/scientific-events/cutting-eeg/
Berlin, Germany

Organizer of the J3CN **2010 to 2011**
Journal Club for Cognitive & Computational Neuroscience, Brown University
https://sites.google.com/a/brown.edu/j3cn/
Providence, USA

Header of the Organizing Committee for the CJCSC'09 **2008 to 2009**
French Cognitive Science Young Researcher Conference
http://fresco.risc.cnrs.fr/cjcsc2009/
Toulouse, France

Header of the Young Researcher Workshop for trend forecasting in Cognitive Science **2009**
Part of the PIRSTEC project funded by the French National Research Agency (ANR)
http://pirstec.risc.cnrs.fr

Students and Post-Docs representative **2006 to 2009**
Brain and Cognition Research Center lab council
Toulouse, France

Founding member of the association inCOGnu **2006 to 2009**
Association of cognitive science students of Toulouse
http://incognu.fr/
Toulouse, France

Fellowships, Grants & Fundings

Grant awarded to Niko Busch **Sep 2012 to Aug 2014**
Deutsche Forschungsgemeinschaft (DFG)

Grant awarded to Thomas Serre **Sep 2010 to Jul 2012**
Defense Advanced Research Projects Agency (DARPA).
I had an active participation in the monthly+trimestrial+annual reports.

4th year of Ph.D. fellowship **Nov 2009 to May 2010**
Fondation pour la Recherche Médicale (FRM)

Postgraduate scholarship **Oct 2006 to Sep 2009**
Délégation Générale pour l'Armement (DGA, French Ministry of Defense)

Master scholarship (bourse d'excellence) **Sep 2005 to Jun 2006**
Université René Descartes Paris 5

Professional Societies

Society for Neuroscience
Vision Science Society

Languages

French: Mother tongue
English: Fluent
German: Currently learning
Spanish: Very elementary

Professional Skills

Operating Systems: Advanced knowledge of Mac OS and GNU Linux.
Programming languages: MATLAB, R, Python.
Experimental testing: Psychtoolbox for MATLAB.
Eye movement recording: SR Research Eyelink, SMI View Eyetracker, Chronos Eyetracker, EOG.
EEG and iEEG analysis: Homemade MATLAB functions and EEGlab.
Statistical Analysis: Parametric and non-parametric tests, Multivariate Pattern Analysis.
Communication and publishing: Advanced knowledge of LaTeX, Adobe Illustrator & the presentation software Keynote (Mac OS); website creation and maintenance with HTML and CSS.

Referees

Dr Simon J. Thorpe
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CNRS, Toulouse, France
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