

# Sébastien M. Crouzet

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CIVIL STATUS      Age: 31  
Citizenship: French  
Married, one daughter.

CONTACT INFORMATION      Berlin School of Mind and Brain      e-mail: [seb.crouzet@gmail.com](mailto:seb.crouzet@gmail.com)  
Luisenstraße 56, 10117 Berlin, Germany      web: <http://scrouzet.github.com>

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      **Crouzet SM**, Overgaard M & Busch NA (2014). Visual masking leaves fastest saccadic responses intact. *PLoS ONE*, 9(2), e87418. doi: 10.1371/journal.pone.0087418

    Cauchoux 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.**, Cauchoux, 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, Cauchoux 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.
- Cauchoux 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 ECVF Abstract Supplement, page 158
- Mathey M A, Crouzet S M, Thorpe S J, 2010, "The accuracy of ultra-rapid saccades to faces" *Perception* 39 ECVF 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 ECVF 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 ECVF 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 ECVF 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.

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|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------|
| INVITED<br>TALKS          | <i>Invited by David Sheinberg, Brown University, Providence, RI, USA</i>                                                                                                                                                                                                                 |                                                                   | <b>Mar 2012</b>     |
|                           | An early cortical basis for speed of sight.                                                                                                                                                                                                                                              |                                                                   |                     |
|                           | <i>Invited by Simon J. Thorpe, CERCO-CNRS, Toulouse, France</i>                                                                                                                                                                                                                          |                                                                   | <b>Jan 2012</b>     |
|                           | Rapid Visual Processing of Natural Scenes: Linking Behavioral and Electrophysiological Data to Computational Models.                                                                                                                                                                     |                                                                   |                     |
|                           | <i>In-House Seminar, Neuroscience Department, Brown University, Providence, RI, USA</i>                                                                                                                                                                                                  |                                                                   | <b>Nov 2011</b>     |
|                           | Rapid Visual Processing of Natural Scenes: Linking Behavioral and Electrophysiological Data to Computational Models.                                                                                                                                                                     |                                                                   |                     |
|                           | <i>Invited by Aude Oliva, MIT, Cambridge, MA, USA</i>                                                                                                                                                                                                                                    |                                                                   | <b>May 2009</b>     |
|                           | Revealing early visual processing of natural scenes using a saccade choice task.                                                                                                                                                                                                         |                                                                   |                     |
| EDITORIAL<br>SERVICE      | Animal Cognition; Attention, Perception, & Psychophysics; Brain Topography; Cerebral Cortex; Frontiers in Perception Science (review editor); IEEE Transactions on Pattern Analysis and Machine Intelligence; Journal of Vision; PLoS ONE; Psychological Science; Seeing and Perceiving. |                                                                   |                     |
| TEACHING<br>CERTIFICATION | <b>Qualification pour la fonction de Maître de conférences</b> - section 69 - Neurosciences<br>08/02/2012 - 31/12/2016 (numéro de qualification : 12269224957)                                                                                                                           |                                                                   |                     |
| TEACHING<br>EXPERIENCE    | <b>Instructor</b> (14 sessions of 90 min)                                                                                                                                                                                                                                                |                                                                   | <b>2013/2014</b>    |
|                           | <i>Master program, Berlin School of Mind &amp; Brain, Berlin, Germany</i>                                                                                                                                                                                                                |                                                                   |                     |
|                           | Seminar on visual perception. Teaching in English language.                                                                                                                                                                                                                              |                                                                   |                     |
|                           | <b>Statistics Tutorial</b> (6h)                                                                                                                                                                                                                                                          |                                                                   | <b>Dec 2012</b>     |
|                           | <i>Doctoral school, Berlin School of Mind &amp; Brain, Berlin, Germany</i>                                                                                                                                                                                                               |                                                                   |                     |
|                           | Using the R environment for data analysis, statistical computing and graphics. Teaching in English language.                                                                                                                                                                             |                                                                   |                     |
|                           | <b>Guest lecture</b> (2h)                                                                                                                                                                                                                                                                |                                                                   | <b>2011</b>         |
|                           | <i>Computational Vision course, CLPS1520, Brown University, Providence, RI, USA</i>                                                                                                                                                                                                      |                                                                   |                     |
|                           | Object recognition in natural scenes. Teaching in English language.                                                                                                                                                                                                                      |                                                                   |                     |
|                           | <b>Teaching Assistant</b> (96h over 3 years)                                                                                                                                                                                                                                             |                                                                   | <b>2006 to 2009</b> |
|                           | <i>Department of Psychology, Université Toulouse Le Mirail, Toulouse, France</i>                                                                                                                                                                                                         |                                                                   |                     |
|                           | Introduction to Neurosciences                                                                                                                                                                                                                                                            |                                                                   |                     |
|                           | <b>Instructor</b> (30h over 3 years)                                                                                                                                                                                                                                                     |                                                                   | <b>2006 to 2009</b> |
|                           | <i>School of Psychomotricity, Faculté de Médecine de Rangueil, Toulouse, France</i>                                                                                                                                                                                                      |                                                                   |                     |
|                           | Visual system and eye movements                                                                                                                                                                                                                                                          |                                                                   |                     |
|                           | <b>Instructor</b> (24h over 2 years)                                                                                                                                                                                                                                                     |                                                                   | <b>2006 to 2007</b> |
|                           | <i>School of Psychomotricity, Faculté de Médecine de Rangueil, Toulouse, France</i>                                                                                                                                                                                                      |                                                                   |                     |
| ACADEMIC<br>MENTORING     | Epistemology of neuropsychology                                                                                                                                                                                                                                                          |                                                                   |                     |
|                           | <b>Instructor</b> (10h)                                                                                                                                                                                                                                                                  |                                                                   | <b>2006</b>         |
|                           | <i>School of Psychomotricity, Faculté de Médecine de Rangueil, Toulouse, France</i>                                                                                                                                                                                                      |                                                                   |                     |
|                           | Sleep, emotions                                                                                                                                                                                                                                                                          |                                                                   |                     |
|                           | Marie Mathey                                                                                                                                                                                                                                                                             | <i>Master student in Toulouse, France</i>                         |                     |
|                           | Rohan Katipally                                                                                                                                                                                                                                                                          | <i>Undergraduate student at Brown University, Providence, USA</i> |                     |
|                           | Robin Martins                                                                                                                                                                                                                                                                            | <i>Undergraduate student at Brown University, Providence, USA</i> |                     |
|                           | Simon Ludwig                                                                                                                                                                                                                                                                             | <i>Master student at Freie Universität, Berlin, Germany</i>       |                     |

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| OFFICIAL<br>COMMITMENTS              | <b>Organizer of Cutting EEG 2014</b> <b>19–21 February 2014</b><br><i>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.</i><br><a href="http://www.mind-and-brain.de/postdoctoral-program/scientific-events/cutting-eeeg/">http://www.mind-and-brain.de/postdoctoral-program/scientific-events/cutting-eeeg/</a><br>Berlin, Germany |
|                                      | <b>Organizer of the J3CN</b> <b>2010 to 2011</b><br><i>Journal Club for Cognitive &amp; Computational Neuroscience, Brown University</i><br><a href="https://sites.google.com/a/brown.edu/j3cn/">https://sites.google.com/a/brown.edu/j3cn/</a><br>Providence, USA                                                                                                                                                                                                               |
|                                      | <b>Header of the Organizing Committee for the CJCSC'09</b> <b>2008 to 2009</b><br><i>French Cognitive Science Young Researcher Conference</i><br><a href="http://fresco.risc.cnrs.fr/cjcsc2009/">http://fresco.risc.cnrs.fr/cjcsc2009/</a><br>Toulouse, France                                                                                                                                                                                                                   |
|                                      | <b>Header of the Young Researcher Workshop for trend forecasting in Cognitive Science</b> <b>2009</b><br><i>Part of the PIRSTEC project funded by the French National Research Agency (ANR)</i><br><a href="http://pirstec.risc.cnrs.fr">http://pirstec.risc.cnrs.fr</a>                                                                                                                                                                                                         |
|                                      | <b>Students and Post-Docs representative</b> <b>2006 to 2009</b><br><i>Brain and Cognition Research Center lab council</i><br>Toulouse, France                                                                                                                                                                                                                                                                                                                                   |
| FELLOWSHIPS,<br>GRANTS &<br>FUNDINGS | <b>Founding member of the association inCOGnu</b> <b>2006 to 2009</b><br><i>Association of cognitive science students of Toulouse</i><br><a href="http://incognu.fr/">http://incognu.fr/</a><br>Toulouse, France                                                                                                                                                                                                                                                                 |
|                                      | <b>Grant awarded to Niko Busch</b> <b>Sep 2012 to Aug 2014</b><br><i>Deutsche Forschungsgemeinschaft (DFG)</i>                                                                                                                                                                                                                                                                                                                                                                   |
|                                      | <b>Grant awarded to Thomas Serre</b> <b>Sep 2010 to Jul 2012</b><br><i>Defense Advanced Research Projects Agency (DARPA).</i><br><i>I had an active participation in the monthly+trimestrial+annual reports.</i>                                                                                                                                                                                                                                                                 |
|                                      | <b>4th year of Ph.D. fellowship</b> <b>Nov 2009 to May 2010</b><br><i>Fondation pour la Recherche Médicale (FRM)</i>                                                                                                                                                                                                                                                                                                                                                             |
|                                      | <b>Postgraduate scholarship</b> <b>Oct 2006 to Sep 2009</b><br><i>Délégation Générale pour l'Armement (DGA, French Ministry of Defense)</i>                                                                                                                                                                                                                                                                                                                                      |
|                                      | <b>Master scholarship (bourse d'excellence)</b> <b>Sep 2005 to Jun 2006</b><br><i>Université René Descartes Paris 5</i>                                                                                                                                                                                                                                                                                                                                                          |
|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PROFESSIONAL<br>SOCIETIES            | Society for Neuroscience<br>Vision Science Society                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LANGUAGES                            | <i>French: Mother tongue</i><br><i>English: Fluent</i><br><i>German: Currently learning</i><br><i>Spanish: Very elementary</i>                                                                                                                                                                                                                                                                                                                                                   |

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 L<sup>A</sup>T<sub>E</sub>X, Adobe Illustrator & the presentation software Keynote (Mac OS); website creation and maintenance with HTML and CSS.

REFEREES

**Dr Simon J. Thorpe**

Ph.D. advisor  
CNRS, Toulouse, France  
phone: *available on request*  
e-mail: [simon.thorpe@cerco.ups-tlse.fr](mailto:simon.thorpe@cerco.ups-tlse.fr)

**Dr Thomas Serre**

Post-doc advisor  
Brown University, Providence, RI, USA  
phone: *available on request*  
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**Dr Niko A. Busch**

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