

## ***Complete list of publications***

### **Original articles in peer-reviewed journals**

1. TOULOUSE, G., DEHAENE, S., & CHANGEUX, J.P. Spin-glass models of learning by selection. *Proceedings of the National Academy of Sciences, USA*, 1986, **83**, 1695-1698. Reproduit dans *Spin glass theory and beyond*. Mézard, M., Parisi, G., & Virasoro, M.A. (Eds.). World Scientific Publishing (Singapour), 1988, pp. 432-435.
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3. DEHAENE, S., CHANGEUX, J.P., & NADAL, J.P. Neural networks that learn temporal sequences by selection. *Proceedings of the National Academy of Sciences, USA*, 1987, **84**, 2727-2731.
4. DEHAENE, S. Discriminability and Dimensionality effects in visual search for featural conjunctions: A functional pop-out. *Perception & Psychophysics*, 1989, **46**, 72-80.
5. DEHAENE, S. The psychophysics of numerical comparison: a reexamination of apparently incompatible data. *Perception & Psychophysics*, 1989, **45**, 557-566.
6. DEHAENE, S., & CHANGEUX, J.P. A simple model of prefrontal cortex function in delayed-response tasks. *Journal of Cognitive Neuroscience*, 1989, **1**, 244-261.
7. DEHAENE, S., DUPOUX, E., & MEHLER, J. Is numerical comparison digital? Analogical and symbolic effects in two-digit number comparison. *Journal of Experimental Psychology: Human Perception and Performance*, 1990, **16**, 626-641.
8. COHEN, L., & DEHAENE, S. Neglect dyslexia for numbers? A case report. *Cognitive Neuropsychology*, 1990, **8**, 39-58.
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12. KERSZBERG, M., DEHAENE, & CHANGEUX, J.P. Stabilization of complex input-output functions in neural clusters formed by synapse selection. *Neural Networks*, 1992, **5**, 403-413.
13. DEHAENE, S. Temporal oscillations in human perception. *Psychological Science*, 1993, **4**, 264-270.
14. DEHAENE, S., BOSSINI, S., & GIRAUX, P. The mental representation of parity and numerical magnitude. *Journal of Experimental Psychology: General*, 1993, **122**, 371-396.
15. DEHAENE, S., & CHANGEUX, J.P. Development of elementary numerical abilities: A neuronal model. *Journal of Cognitive Neuroscience*, 1993, **5**, 390-407.

16. MAZOYER, B.M., DEHAENE, S., TZOURIO, N., MURAYAMA, N., COHEN, L., LEVRIER, O., SALAMON, G., SYROTA, A., & MEHLER, J. The cortical representation of speech. *Journal of Cognitive Neuroscience*, 1993, **5**, 467-479.
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18. COHEN, L., DEHAENE, S., & VERSTICHEL, P. Number words and number non-words: A case of deep dyslexia extending to arabic numerals. *Brain*, 1994, **117**, 267-279.
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26. DEHAENE, S. Electrophysiological evidence for category-specific word processing in the normal human brain. *NeuroReport*, 1995, **6**, 2153-2157.
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### **Films**

1. DEHAENE, S., & GIBRAT, J.P. *La bosse des maths*. Documentary, 52 minutes, coproduced by ARTE/Transeurope Film, broadcasted on ARTE in 2000.
2. DEHAENE, S., & GIBRAT, J.P. *Dans le secret des émotions*. Documentary, 52 minutes long, coproduced by ARTE/Transeurope Film, broadcasted by ARTE on April 2<sup>nd</sup>, 2004. This documentary received the "Trophy Mif-Sciences" , 2<sup>nd</sup> Price, at the 2003 international Teleciencia festival in Vila Real, Portugal ; Production Price at the 17<sup>th</sup> International Scientific Film Festival in Orsay, France (2004).

### **Main invited lectures**

Co-organizer, Congress "Physics, Mathematics and Cognitive Neurosciences". "A simple model of prefrontal cortex function in delayed-response-tasks". Ecole Normale Supérieure, Paris (France), 24-27 January 1989.

Conference "Modèles élémentaires des fonctions cognitives". Collège de France, 19 June 1989.

Congress "Sciences de la Cognition". Grands colloques de prospective, Ministère de la Recherche et de la Technologie. Paris (France), 28-31 January 1991.

Conference "Studies of language comprehension with the PET scan: Processing of French and Tamil stories by monolingual French subjects (J. Mehler & S. Dehaene). American Association for the Advancement of Science, Chicago, 8-10 February 1992.

Conference "A model of acalculia and elementary number processing". World Congress on Neural Networks, Portland, Oregon, 14 July 1993.

Conference "Mechanisms of numerical processing". Cognitive Neuroscience Symposium, XXXII International Union of Physiological Science. Glasgow (Ecosse), 1-6 August 1993.

Conference "La représentation mentale des objets mathématiques". Collège de France, Paris, 25 April 1994.

Conference "Sequential computations in the human brain: Analysis using high-density event-related potentials and oscillatory reaction time distributions". Symposium on Dynamics of Neural Processing, Washington D.C., 6-8 June 1994.

Conference "Towards an anatomical and functional model of number processing". International SISSA workshop on "Concepts of number and simple arithmetic", Trieste, Italie, 10-14 December 1994.

Conference "Neuronal models of prefrontal cortical functions". New Academy of Sciences meeting on "Structure and function of the human prefrontal cortex", New York, 2-4 March 1995.

- Conference “A hierarchical model for planning in working memory”. Workshop on Memory : From neuron to Cognition, French Academy of Sciences, Paris, 17-18 April 1997.
- Conference “Représentation cérébrale d’un acquis culturel : les chiffres arabes.” Collège de France, Paris, 5 Mai 1997.
- Conference « The number sense ». The Smithsonian Institute, Washington D.C., 29 October 1997.
- Conference « Les bases cérébrales de l’arithmétique ». Palais de la Découverte, Paris, 22 October 1997.
- Plenary lecture “Cerebral bases of number sense”. CNRS Institute for Cognitive Science, Inauguration Meeting, Lyon, April 23-25 1998.
- Conference « A neuronal model of a global workspace in effortful cognitive tasks », Gulbenkian Foundation Symposium on Consciousness, Lisbon, July 22-25 1998
- Plenary Lecture, International Meeting « Neuroscience and Society », Collège de France, Paris, October 5-6 1998.
- Two Lectures on « Imaging conscious and unconscious arithmetic computations », Rutgers University, USA, October 19-21, 1998.
- Invited Lecture on « Cerebral representations of numbers », Institute for Advanced Studies, Bremen, Germany, February 1, 1999
- James S. McDonnell Centennial Fellowship Lecture on « The cognitive neuroscience of numeracy », National Academy of Sciences, Washington, April 8, 1999.
- Invited Lecture on « Present and future of human neuro-imaging », European Molecular Biology Organization (EMBO), Heidelberg, Germany, June 12, 1999.
- Plenary Lecture on « Contributions of brain imaging to the cognitive neuroscience of number processing », European Society for Cognitive Psychology (ESCOP), Gent, Belgium, September 3, 1999.
- Invited Lecture on « New images of the calculating brain: conscious and unconscious computations ». Vatican Jubilee Conference « Architectures of the mind, Architectures of the brain », Rome, September 8, 2000.
- Invited Lecture on « Advances in cognitive neuroimaging: visualizing the cerebral circuits for conscious and subliminal reading ». Riken Institute, Tokyo, September 21, 2001
- Two invited lectures at Harvard University (« Cerebral bases of number sense » and « Cerebral substrates of conscious and unconscious computations : the workspace hypothesis » ). Boston, March 4-5, 2002.
- 4<sup>th</sup> Pinkel Lecture « Cerebral bases of number sense in the parietal lobe », University of Pennsylvania, Philadelphia, March 7, 2002.
- Plenary lecture on “Visual masking and consciousness : Investigations with functional neuroimaging”. Federation of European Neuroscience Societies (FENS), Paris, July 14, 2002.

- Invited lecture on “Cerebral bases of a cultural acquisition: Word reading”. Conference “Genes and cultures”, Collège de France, Paris, October 15-16, 2002.
- Invited lecture on “The neural bases of subliminal word priming and conscious word recognition”. MIND lectures series, Dartmouth University, Hanover, January 18, 2003.
- Invited lecture on “Using priming to decipher the conscious and unconscious representations of words”. University College London, March 24, 2003.
- Invited lecture on “Cerebral constraints on reading and arithmetic: Education as a “neuronal recycling” process”. Conference on Mind, Brain and Education, 400<sup>th</sup> anniversary of the Pontifical Academy of Sciences, Vatican, November 7-8 2003.
- Invited lecture on “Subliminal processing and conscious access in visual word recognition”, Queens College, Oxford, January 21 2004, and Cognitive MRC Cognition and Brain Sciences Unit, Cambridge, January 22, 2004.
- “How can a primate brain learn to read and to calculate: the neuronal recycling hypothesis“, Conférence invitée, OECD-CERI meeting on Learning Sciences and Brain Research. Madrid, 1-3 Mars 2004.
- “Access to consciousness: Simulations and experimental tests of a neuronal workspace model”. Conférence invitée, BIAL foundation 5<sup>th</sup> Symposium “Behind and beyond and the brain”. Porto, 31 Avril – 3 Mai 2004.
- Deux cours sur “Reading and calculating” et “Access to consciousness”. National Yang-Min University, Taipei, Taiwan, 8-13 Mai 2004.
- “The organization of the human non-verbal number system: Towards a complete mathematical theory”. Cours au “2004 Summer Institute in Cognitive Neuroscience”, Hanover, New Hampshire, 28 Juin – 3 Juillet 2004.
- Deux conférences sur “The visual word form area” et “The number sense”. International Dyslexia Association meeting, Philadelphie, 3-5 Novembre 2004.
- “Distributed overlapping representations of number and size in human parietal cortex”, Symposium on Parietal Cortical Function, Université de Leuven, Belgique, 9 Décembre 2004.
- “The sense of number in animals and humans”. Neuroscience Colloquium Series, University of Tübingen, Allemagne, 13 Janvier 2005.
- “How a primate brain comes to know some mathematical truths”. Rencontre internationale de la foundation IPSEN “Neurobiologie des valeurs humaines”, Paris, 24 Janvier 2005.