

## **Curriculum Vitae**

Stanislas Dehaene

Born May 12<sup>th</sup> 1965 in Roubaix (France)  
Married, 3 children

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### **Education/Training**

<b>Year</b>	<b>Institution and Location</b>	<b>Degree</b>	<b>Field of study</b>
1999	Ecole des Hautes Etudes en Sciences Sociales (EHESS), Paris	Habilitation to direct research	Cognitive neuroscience
1989	Ecole des Hautes Etudes en Sciences Sociales (EHESS), Paris	PhD	Cognitive science
1985	University of Paris VI	Masters	Applied mathematics and computer science
1984-1989	Ecole Normale Supérieure, Paris		Mathematics

### **Research and professional experience**

2005-2002-	Professor at the Collège de France, chair of Experimental Cognitive Psychology Director of the INSERM-CEA Cognitive Neuroimaging Unit, Service Hospitalier Frédéric Joliot, Orsay, France
1997-2005	Research Director at INSERM (French National Institute of Health and Medical Research)
1992-1994	Post-doctoral Fellow, Institute of Cognitive and Decision Sciences, University of Oregon (USA), director Michael Posner
1989-1999	Research Scientist, Institut National de la Santé et de la Recherche Médicale (INSERM), Laboratoire de Sciences Cognitives et Psycholinguistique, Paris, France
1984-1989	Ecole Normale Supérieure, Mathematics sections
1982-1984	Ecole préparatoire Ste Geneviève, Versailles (Mathematics section)

### **Honors and major grants**

2007	Gold medal, Association Arts-Sciences-Lettres
2005	Member, French Academy of Sciences
2003	Louis D. Prize, Institut de France (with D. Le Bihan)
2002	Pius XI medal, Pontifical Academy of Sciences
2002	Boehringer-Ingelheim award, Federation of European Neuroscience Societies
2001	Jean-Louis Signoret Prize, IPSEN Foundation
2000	Villemot Prize, French Academy of Sciences
1999	James S. McDonnell Centennial Fellowship
1997	Jean Rostand Award for best general-audience scientific book for <i>La Bosse des Maths</i> (French version of <i>The Number Sense</i> )
1996	Fanny Emden Prize, French Academy of Sciences

### **Administrative responsibilities**

2005-	Piloting committee, Neuroscience funding program of ANR (French NSF)
2001-	Advisory Council, International Association For The Study Of Attention And Performance

2001-2005 Administration Council, French Society for Neuroscience  
 2001-2005 Scientific council, program « Avenir » of INSERM  
 1999- Scientific Council, Institut Fédératif de Recherches 49  
 1999-2005 Scientific counselor, program “Brain and Education” of OECD  
 1997-2005 Scientific Council, Fyssen Foundation, Paris  
 1990-2000 Founder and co-organizer with L. Cohen of the Parisian Club of Neuropsychology at the hôpital de la Salpêtrière (monthly meetings)  
 1990-1992 Lecturer in Cognitive Science

### **Editorial responsibilities**

2003- Editorial board, *PLOS Biology*  
 2001- Editorial board, *Neuroimage*  
 1999-2005 Associate Editor, *Cognition*  
 1998-2003 Action Editor, *Cognitive Neuropsychology*  
 1996- Editorial Advisor, *Editions Odile Jacob*, Paris  
 1991-1997 Editorial board, *Mathematical Cognition*

### **10 main publications**

DEHAENE-LAMBERTZ, G., & DEHAENE, S. Speed and cerebral correlates of syllable discrimination in infants. *Nature*, 1994, **370**, 292-295.

DEHAENE, S., NACCACHE, L., LE CLEC’H, G., KOECHLIN, E., MUELLER, M., DEHAENE-LAMBERTZ, G., VAN DE MOORTELE, P.F., & LE BIHAN, D. Imaging unconscious semantic priming. *Nature*, 1998, **395**, 597-600.

DEHAENE, S., KERSZBERG, M., & CHANGEUX, J.P. A neuronal model of a global workspace in effortful cognitive tasks. *Proceedings of the National Academy of Sciences USA*, 1998, **95**, 14529-14534.

DEHAENE, S., SPELKE, L., PINEL, P., STANESCU, R., TSIVKIN, S. Sources of mathematical thinking: Behavioral and brain-imaging evidence. *Science*, 1999, **284**, 970-974.

DEHAENE, S., NACCACHE, L., COHEN, L., LE BIHAN, D., MANGIN, J. F., POLINE, J. B., & RIVIERE, D. Cerebral mechanisms of word masking and unconscious repetition priming. *Nature Neuroscience*, 2001, **4**, 752-758.

SIMON, O., MANGIN, J. F., COHEN, L., BRUANDET, M., PINEL, P., HENNEL, F., POLINE, J. B., BIHAN, D. L., & DEHAENE, S. Topographical arrangement of hand, eye, calculation, and language related areas in the human intraparietal sulcus. *Neuron*, 2001, **33**, 475-487.

DEHAENE-LAMBERTZ, G., DEHAENE, S., & HERTZ-PANNIER, L. Functional neuroimaging of speech perception in infants. *Science*, 2002, **298**, 2013-2015.

PICA, P., LEMER, C., IZARD, V., & DEHAENE, S. Exact and approximate arithmetic in an Amazonian indigene group. *Science*, 2004, 306,499-503.

SERGENT, C., BAILLET, S., DEHAENE, S. Timing of the brain events underlying access to consciousness during the attentional blink. *Nature Neuroscience*, 2005, **8**, 1391-1400.

DEHAENE-LAMBERTZ G., HERTZ-PANIER, L., DUBOIS, J., MERIAUX, S., ROCHE, A., SIGMAN, M., DEHAENE, S. Functional organization of perisylvian activation during presentation of sentences in preverbal infants. *PNAS*, 2006, 103, 14240-14245.

## ***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.
2. NADAL, J.P., TOULOUSE, G., CHANGEUX, J.P., & DEHAENE, S. Networks of formal neurons and memory palimpsests. *Europhysics Letters*, 1986, **1**, 535-542.
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.
9. DEHAENE, S., & CHANGEUX, J.P. The Wisconsin Card Sorting Test: Theoretical analysis and modelling in a neuronal network. *Cerebral cortex*, 1991, **1**, 62-79.
10. DEHAENE, S., & COHEN, L. Two mental calculation systems. *Neuropsychologia*, 1991, **29**, 1045-1074.
11. DEHAENE, S., & MEHLER, J. Cross-linguistic regularities in the frequency of number words. *Cognition*, 1992, **43**, 1-29.
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.
17. COHEN, L., GRAY, F., MEYRIGNAC, C., DEHAENE, S., & DEGOS, J.D. Selective deficit of visual size perception: Two cases of hemimicropsia. *Journal of Neurology, Neurosurgery, and Psychiatry*, 1994, **57**, 73-78.
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.
19. DEHAENE, S., & COHEN, L. Dissociable mechanisms of subitizing and counting: Neuropsychological evidence from simultanagnosic patients. *Journal of Experimental Psychology: Human Perception and Performance*, 1994, **20**, 958-975.
20. DEHAENE, S., POSNER, M.I., & TUCKER, D.M. Localization of a neural system for error detection and compensation. *Psychological Science*, 1994, **5**, 303-305.
21. COHEN, L., & DEHAENE, S. Amnesia for arithmetic facts: a single case study. *Brain and Language*, 1994, **47**, 214-232.
22. DEHAENE-LAMBERTZ, G., & DEHAENE, S. Speed and cerebral correlates of syllable discrimination in infants. *Nature*, 1994, **370**, 292-295.
23. DEHAENE, S., & AKHAVEIN, R. Attention, automaticity, and levels of representation in number processing. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 1995, **21**, 314-326.
24. COHEN, L., & DEHAENE, S. La lecture des nombres dans l'alexie pure: Effets de la tâche et de la spécialisation hémisphérique. *Revue Neurologique (Paris)*, 1995, **151**, 480-485.
25. COHEN, L., & DEHAENE, S. Number reading in pure alexia: The effect of hemispheric asymmetries and task demands. *NeuroCase*, 1995, **1**, 121-137.
26. DEHAENE, S. Electrophysiological evidence for category-specific word processing in the normal human brain. *NeuroReport*, 1995, **6**, 2153-2157.
27. DEHAENE, S. The organization of brain activations in number comparison: Event-related potentials and the additive-factors method. *Journal of Cognitive Neuroscience*, 1996, **8**, 47-68.
28. KOPERA-FRYE, K., DEHAENE, S., & STREISSGUTH, A.P. Impairments of number processing induced by prenatal alcohol exposure. *Neuropsychologia*, 1996, **34**, 1187-1196.
29. DEHAENE, S., TZOURIO, N., FRAK, V., RAYNAUD, L., COHEN, L., MEHLER, J., & MAZOYER, B. Cerebral activations during number multiplication and comparison: A PET study. *Neuropsychologia*, 1996, **34**, 1097-1106.
30. COHEN, L., & DEHAENE, S. Cerebral networks for number processing: Evidence from a case of posterior callosal lesion. *NeuroCase*, 1996, **2**, 155-174.

31. PERANI, D., DEHAENE, S., GRASSI, F., COHEN, L., CAPPA, S.F., DUPOUX, E., FAZIO, F., & MEHLER, J. Brain processing of native and foreign languages. *NeuroReport*, 1996, **7**, 2439-2444.
32. KIEFER, M., & DEHAENE, S. The time course of parietal activation in single-digit multiplication: Evidence from event-related potentials. *Mathematical cognition*, 1997, **3**, 1-30.
33. DEHAENE, S., & COHEN, L. Cerebral pathways for calculation: double dissociation between Gerstmann's acalculia and subcortical acalculia. *Cortex*, 1997, **33**, 219-250.
34. DEHAENE, S., DUPOUX, E., MEHLER, J., COHEN, L., PAULESU, E., PERANI, D., VAN DE MOORTELE, P.F., LEHERICY, S., & LE BIHAN, D. Anatomical variability in the cortical representation of first and second languages. *NeuroReport*, 1997, **8**, 3809-3815.
35. DEHAENE, S., & CHANGEUX, J.P. A hierarchical neuronal network for planning behaviour. *Proceedings of the National Academy of Sciences USA*, 1997, **94**, 13293-13298.
36. COHEN, L., VERSTICHEL, P., & DEHAENE, S. Neologistic jargon sparing numbers: A category-specific phonological impairment. *Cognitive Neuropsychology*, 1997, **14**, 1029-1061.
37. KOECHLIN, E., DEHAENE, S., & MEHLER, J. Numerical transformations in five month old human infants. *Mathematical Cognition*, 1997, **3**, 89-104.
38. PERANI, D., PAULESU, E., SEBASTIAN GALLES, N., DUPOUX, E., DEHAENE, S., BETTINARDI, V., CAPPA, S.F., FAZIO, F., & MEHLER, J. The bilingual brain: Proficiency and age of acquisition of the second language. *Brain*, 1998, **121**, 1841-1852.
39. COHEN, L., & DEHAENE, S. Competition between past and present. Assessing and explaining verbal perseverations. *Brain*, 1998, **121**, 1641-1659.
40. DEHAENE, S., NACCACHE, L., LE CLEC'H, G., KOECHLIN, E., MUELLER, M., DEHAENE-LAMBERTZ, G., VAN DE MOORTELE, P.F., & LE BIHAN, D. Imaging unconscious semantic priming. *Nature*, 1998, **395**, 597-600.
41. DEHAENE, S., LE CLEC'H, G., COHEN, L., VAN DE MOORTELE, E., & LE BIHAN, D. Inferring behaviour from functional brain images. *Nature Neuroscience*, 1998, **1**, 549-550.
42. DEHAENE, S., KERSZBERG, M., & CHANGEUX, J.P. A neuronal model of a global workspace in effortful cognitive tasks. *Proceedings of the National Academy of Sciences USA*, 1998, **95**, 14529-14534.
43. DEHAENE, S., SPELKE, L., PINEL, P., STANESCU, R., TSIVKIN, S. Sources of mathematical thinking : behavioral and brain-imaging evidence. *Science*, 1999, **284**, 970-974.
44. KOECHLIN, E., NACCACHE, L., BLOCK, E., & DEHAENE, S. Primed numbers : Exploring the modularity of numerical representations with masked and unmasked semantic priming. *Journal of Experimental Psychology : Human Perception and Performance*, 1999, **25**, 1882-1905.

45. SPELKE, E., & DEHAENE, S. Biological foundations of numerical thinking. *Trends in Cognitive Sciences*, 1999, **3**, 365-366.
46. PINEL, P., LE CLEC'H, G., VAN DE MOORTELE, P.F., NACCACHE, L., LE BIHAN, D., & DEHAENE, S. Event-related fMRI analysis of the cerebral circuit for number comparison. *NeuroReport*, 1999, **10**, 1473-1479.
47. CHOCHON, F., COHEN, L., VAN DE MOORTELE, P.F., & DEHAENE, S. Differential contributions of the left and right inferior parietal lobules to number processing. *Journal of Cognitive Neuroscience*, 1999, **11**, 617-630.
48. COHEN, L., DEHAENE, S., NACCACHE, L., LEHERICY, S., DEHAENE-LAMBERTZ, G., HENAFF, M.-A., MICHEL, F. The visual word form area: Spatial and temporal characterization of an initial stage of reading in normal subjects and posterior split-brain patients. *Brain*, 2000, **123**, 291-307.
49. LE CLEC'H, G., DEHAENE, S., COHEN, L., MEHLER, J., DUPOUX, E., POLINE, J.B., LEHERICY, S., VAN DE MOORTELE, P.F., & LE BIHAN, D. Distinct cortical areas for names of numbers and body parts independent of language and input modality. *NeuroImage*, 2000, **12**, 381-391.
50. COHEN, L., DEHAENE, S., CHOCHON, F., LEHERICY, S., NACCACHE, L. Language and calculation within the parietal lobe: A combined cognitive, anatomical and fMRI study. *Neuropsychologia*, 2000, **38**, 1426-1440.
51. COHEN, L., & DEHAENE, S. Calculating without reading: Unsuspected residual abilities in pure alexia. *Cognitive Neuropsychology*, 2000, **17**, 563-583.
52. STANESCU, R., PINEL, P., VAN DE MOORTELE, P.-F., LE BIHAN, D., COHEN, L., & DEHAENE, S. Understanding dissociations in dyscalculia. A brain imaging study of the impact of number size on the cerebral network for exact and approximate calculation. *Brain*, 2000, **123**, 2240-2255.
53. DEHAENE, S., & NACCACHE, L. Towards a cognitive neuroscience of consciousness : Basic evidence and a workspace framework. *Cognition*, 2001, **79**, 1-37.
54. ANDRADE, A., KHERIF, F., MANGIN, J. F., WORSLEY, K. J., PARADIS, A. L., SIMON, O., DEHAENE, S., LE BIHAN, D., & POLINE, J. B. Detection of fMRI activation using cortical surface mapping. *Human Brain Mapping*, 2001, **12**(2), 79-93.
55. DEHAENE, S. Subtracting pigeons : Logarithmic or linear ? *Psychological Science*, 2001, **12**, 244-246.
56. NACCACHE, L., & DEHAENE, S. Unconscious semantic priming extends to novel unseen stimuli. *Cognition*, 2001, **80**, 215-229.
57. NACCACHE, L., & DEHAENE, S. The Priming Method: Imaging Unconscious Repetition Priming Reveals an Abstract Representation of Number in the Parietal Lobes. *Cerebral Cortex*, 2001, **11**, 966-74.
58. PINEL, P., RIVIERE, D., LE BIHAN, D., & DEHAENE, S. Modulation of parietal activation by semantic distance in a number comparison task. *Neuroimage*, 2001, **14**, 1013-1026.

59. DEHAENE, S., NACCACHE, L., COHEN, L., LE BIHAN, D., MANGIN, J. F., POLINE, J. B., & RIVIERE, D. Cerebral mechanisms of word masking and unconscious repetition priming. *Nature Neuroscience*, 2001, **4**, 752-758.
60. SIMON, O., MANGIN, J. F., COHEN, L., BRUANDET, M., PINEL, P., HENNEL, F., POLINE, J. B., BIHAN, D. L., & DEHAENE, S. Topographical arrangement of hand, eye, calculation, and language related areas in the human intraparietal sulcus. *Neuron*, 2001, **33**, 475-487.
61. DEHAENE, S., LE CLECH, G., POLINE, J. B., LE BIHAN, D., & COHEN, L. The visual word form area: A prelexical representation of visual words in the fusiform gyrus. *NeuroReport*, 2002, **13** (3), 1-5.
62. DEHAENE, S., & MARQUES, J. F. Cognitive Euroscience: Scalar variability in price estimation and the cognitive consequences of switching to the Euro. *Quarterly Journal of Experimental Psychology*, 2002, **55**, 705-731.
63. MOLKO, N., COHEN, L., MANGIN, J. F., CHOCHON, F., LEHERICY, S., BIHAN, D. L., & DEHAENE, S. Visualizing the neural bases of a disconnection syndrome with diffusion tensor imaging. *Journal of Cognitive Neuroscience*, 2002, **14**, 629-636, 2002.
64. PAPPATA, S., DEHAENE, S., POLINE, J. B., GREGOIRE, M. C., JOBERT, A., DELFORGE, J., FROUIN, V., BOTTLAENDER, M., DOLLE, F., DIGIAMBERARDINO, L., & SYROTA, A. In vivo detection of striatal dopamine release during reward: a PET study with 11C-Raclopride and a single dynamic scan approach. *NeuroImage*, 2002, **16**, 1015-1027.
65. COHEN, L., LEHERICY, S., CHOCHON, F., LEMER, C., RIVAUD, S., & DEHAENE, S. Language-specific tuning of visual cortex? Functional properties of the Visual Word Form Area. *Brain*, 2002, **125**, 1054-69.
66. DEHAENE-LAMBERTZ, G., DEHAENE, S., & HERTZ-PANNIER, L. (2002). Functional neuroimaging of speech perception in infants. *Science*, 2002, **298**, 2013-2015.
67. NACCACHE, L., BLANDIN, E., & DEHAENE, S. Unconscious masked priming depends on temporal attention. *Psychological Science*, 2002, **13**, 416-424.
68. HAUSER, M.D., DEHAENE, S., DEHAENE-LAMBERTZ, G., & PATALANO A.L. Spontaneous number discrimination of multi-format auditory stimuli in cotton-top tamarins (*Saguinus oedipus*). *Cognition*, 2002, **86**, B23-B32.
69. PALLIER, C., DEHAENE, S., POLINE, J.B., LEBIHAN, D., ARGENTI, A.M., DUPOUX, E., & MEHLER, J. Brain imaging of language plasticity in adopted adults: can a second language replace the first ? *Cerebral Cortex*, 2003, **13**, 155-161.
70. GREENWALD, A.J., ABRAMS, R.L., NACCACHE, L. & DEHAENE, S. Long-term semantic memory versus contextual memory in unconscious number processing. *Journal of Experimental Psychology: Learning Memory and Cognition*, 2003, **29**, 235-247.
71. PIAZZA, M., GIACOMINI, E., LE BIHAN D., & DEHAENE S. Single-trial classification of parallel pre-attentive and serial attentive processes using functional magnetic resonance imaging. *Proceeding of the Royal Society, London B*, 2003, **270**, 1237-1245.

72. DEHAENE, S., PIAZZA, M., PINEL, P., & COHEN, L. Three parietal circuits for number processing. *Cognitive Neuropsychology*, 2003, **20**, 487-506.
73. COHEN, L., MARTINAUD, O., LEMER, C., LEHERICY,S., SAMSON, Y., OBADIA, M. SLACHEVSKY, A. & DEHAENE, S. Visual word recognition in the left and right hemispheres : Anatomical and functional correlates of peripheral alexias. *Cerebral Cotex*, 2003, **13**, 1313-1333.
74. LEMER, C., DEHAENE, S., SPELKE, E., COHEN, L. Approximate quantities and exact number words: Dissociable systems. *Neuropsychologia*, 2003, **41**, 1942-1958.
75. MOLKO, N., CACHIA, A., RIVIERE, D., MANGIN, J.F., BRUANDET, M., LE BIHAN, D., COHEN, L., DEHAENE, S. Functional and structural alterations of the intraparietal sulcus in a developmental dyscalculia of genetic origin. *Neuron*, 2003, **40**, 847-858.
76. DEHAENE, S., SERGENT, C., CHANGEUX, J.P. A neuronal network model linking subjective reports and objective physiological data during conscious perception. *Proceedings of the National Academy of Sciences USA*, 2003, **100**, 8520-8525.
77. DEHAENE, S., ARTIGES, E., NACCACHE, L., MARTELLI, C., VIARD, A., SCHÜRHOFF, F., RECASENS, C., PAILLIERE-MARTINOT, M.L., LEBOYER, M., MARTINOT, J.L. Conscious and subliminal conflicts in normal subjects and patients with schizophrenia: The role of the anterior cingulate. *Proceedings of the National Academy of Sciences, USA*, 2003, **100**, 13722-13727.
78. JACQUEMOT, C., PALLIER, C., LE BIHAN, D., DEHAENE, S., DUPOUX, E. Phonological grammar shapes the auditory cortex: Functional magnetic resonance imaging study. *Journal of Neuroscience*, 2003, **23**, 9541-9546.
79. BRUANDET, M., MOLKO, N., COHEN, L., DEHAENE, S. A cognitive characterization of dyscalculia in Turner syndrome. *Neuropsychologia*, 2004, **42**, 288-298.
80. PINEL, P., PIAZZA, M., LEBIHAN, D., DEHAENE, S. Distributed and overlapping cerebral representations of number, size, and luminance during comparative judgments. *Neuron*, 2004, **41**, 983-993.
81. COHEN, L., DEHAENE, S. Specialization within the ventral stream: the case for the visual word form area. *NeuroImage*, 2004, **22**, 466-476.
82. DEHAENE, S., JOBERT, A., NACCACHE, L., CIUCIU, P., POLINE, J.B., LE BIHAN, D., COHEN, L. Letter binding and invariant recognition of masked words: Behavioral and neuroimaging evidence. *Psychological Science*, 2004, **15**, 307-313.
83. MOLKO, N., CACHIA, A., RIVIERE, D., MANGIN, J.F., BRUANDET, M., LEBIHAN, D., COHEN, L., DEHAENE, S. (2004) Brain anatomy in Turner syndrome: Evidence for impaired social and spatial-numerical networks. *Cerebral Cortex*, 2004, **14**, 840-850.
84. PICA, P., LEMER, C., IZARD, V., & DEHAENE, S. Exact and approximate arithmetic in an Amazonian indigene group. *Science*, 2004, **306**,499-503.
85. PIAZZA, M., IZARD, V., PINEL, P., LE BIHAN, D., & DEHAENE, S. (2004). Tuning curves for numerosity in the human intraparietal sulcus. *Neuron*, 2004, **44**, 547-555.

86. SIMON, O., KHERIF, F., FLANDIN, G., POLINE, J. B., RIVIERE, D., MANGIN, J. F., LE BIHAN, D., DEHAENE, S. Automatized clustering and functional geometry of human parietofrontal networks for language, space, and number. *NeuroImage*, 2004, 23, 1192-1202
87. COHEN, L., HENRY, C., DEHAENE, S., MARTINAUD, O., LEHERICY, S., LEMER, C., FERRIEUX, S. The pathophysiology of letter-by-letter reading. *Neuropsychologia*, 2004, 42, 1768-1780.
88. MARQUES, J.F., DEHAENE, S. Developing intuition for prices in Euros: Rescaling or relearning prices ? *Journal of Experimental Psychology: Applied*, 2004, 10, 148-155.
89. SERGENT, C., DEHAENE, S. Is consciousness a gradual phenomenon ? Evidence for an all-or-none bifurcation during the attentional blink. *Psychological Science*, 2004, 15, 720-728.
90. COHEN, L., JOBERT, A., LE BIHAN, D., DEHAENE, S. Distinct unimodal and crossmodal regions for word processing in the left temporal cortex. *Neuroimage*, 2004, 23, 1256-1270.
91. COHEN, L., LEHERICY, S., HENRY, C., BOURGEOIS, M., LARROQUE, C., SAINTE-ROSE, C., DEHAENE, S., HERTZ-PANNIER, L. Learning to read without a left occipital lobe: A single case of right-hemispheric shift of the visual word form area. *Annals of Neurology*, 2004, 56, 890-894.
92. FEIGENSON, L., DEHAENE, S., SPELKE, E. Core systems of number. *Trends In Cognitive Sciences*, 2004, 8,307-314.
93. DEHAENE-LAMBERTZ, G., PALLIER, C., SERNICLAES, W. SPRENGER-CHAROLLES, L., JOBERT, A., DEHAENE, S. Neural correlates of switching from auditory to speech mode. *NeuroImage*, 2005, 24, 21-33.
94. NACCACHE, L., GAILLARD, R., ADAM, C., HASBOUN, D., CLEMENCEAU, S., BAULAC, M., DEHAENE, S., COHEN, L. A direct intracranial record of emotions evoked by subliminal words. *PNAS*, 2005, 102, 7713-7717.
95. DEHAENE, S., COHEN, L., SIGMAN, M., VINCKIER, F. The neural code for written words : a proposal. *Trends in Cognitive Neurosciences*, 2005, 9, 335-341.
96. HUBBARD, E.M., PIAZZA, M., PINEL, P., DEHAENE, S. Interactions between number and space in parietal cortex. *Nature Reviews/NEUROSCIENCE*, 2005, 6, 435-447.
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### *Diffusion of knowledge*

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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 Telecienca 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.
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