

ROBERT M. FRENCH

Emeritus Research Director, French National Center for Scientific Research (CNRS)

LEAD-CNRS UMR 5022

Pôle AAFE - Esplanade Erasme

P.O. Box. 26513, University of Burgundy and Franche-Comté

21065 Dijon, France

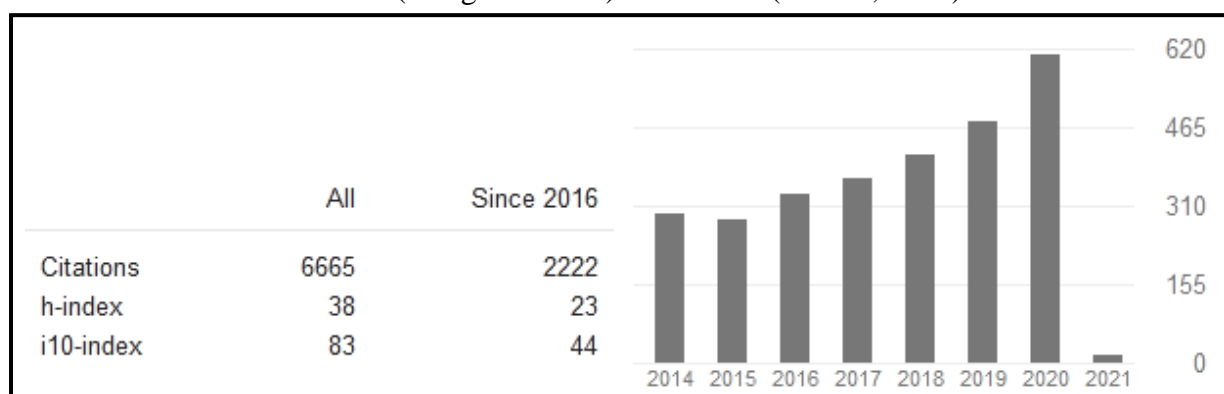
e-mail: robert.french@u-bourgogne.fr

tel: +33 06.50.46.42.20

FAX: +33 03.80.39.57.67

Sec.: +33 03.80.39.57.81 / 39.65

Citations (Google Scholar) since 2014 (Jan. 24, 2021)

**Education**

8/85 - 5/92 Graduate student in computer science at the University of Michigan, Ann Arbor, Michigan. Ph.D. in computer science.

1972 - 74 Attended Indiana University; M.A. in mathematics.

1969 - 72 Attended Miami University of Ohio; graduated in three years with honors; B.S. in mathematics.

Awards and Honors

1990 Scholarship, McDonnell Foundation Summer Institute in Cognitive Science

1972 Elected President of the Senior Class of Miami University of Ohio.

1971 Junior Award in Mathematics, Miami University of Ohio.

1971 Elected to Phi Beta Kappa.

Employment

3/19 - present Emeritus Research Director, French National Center for Scientific Research (CNRS)

0/04 – 03/19 Research Director, French National Center for Scientific Research (CNRS)

1/01 – 9/04 Professor of Quantitative Psychology and Cognitive Science, Department of Psychology, University of Liège, Belgium.

5/98 – 12/00 Associate Professor, Quantitative Psychology and Cognitive Science, Department of Psychology, University of Liège, Liège, Belgium

5/95 – 4/98 Research Scientist, Department of Psychology, University of Liège, Liège, Belgium

- 9/94 - 5/95 Post-doctoral Fellow, Department of Psychology, University of Wisconsin, Madison, WI;
Lecturer in Cognitive Science in the Department of Educational Psychology, University of Wisconsin, Madison, WI
- 9/92 - 6/94 Visiting Assistant Professor of Computer Science at Willamette University, Salem, OR
- 4/92 - 8/92 Post-doctoral fellow at the Center for Research on Concepts and Cognition, Indiana University, Bloomington, IN.
- 8/85 - 3/92 Research Assistant in Computer Science, Univ. of Michigan, Ann Arbor, MI;
- 1/91 - 3/91 Visiting Lecturer in Computer Science, Earlham College, Richmond, IN.
- 5/88 - 8/88 Visiting researcher at CREA, Ecole Polytechnique, Paris, France
- 1/76 - 8/85 Free-lance translator/interpreter in Paris, France
- 1/75 - 6/75 Instructor of Mathematics at Hanover College, Hanover, IN.
- 9/72 - 12/74 Teaching Assistant in Mathematics, Indiana University, Bloomington, IN.

Ph.D Dissertation

Title: Tabletop: An Emergent, Stochastic Computer Model of Analogy-Making

Co-chairs: Douglas R. Hofstadter and John H. Holland (University of Michigan)

Thesis committee: Douglas Hofstadter, John Holland, Daniel Dennett, Arthur Burks, John Laird, Steve Lytinen

Defense date: December 3, 1991 (Ph.D. awarded at the end of the 1991-92 academic year, i.e., May, 1992, University of Michigan, Ann Arbor, Michigan, U.S.A.)

Grants and Awards

- 2019: EPSRC Network+Human-Like Computing travel grant. A Dual-Systems Approach to Deep Learning. 12 months.
- 2018: Identification rapide des substances dopantes par analyses des spectres de masse après apprentissage. Agence Française pour la Lutte contre le Dopage (AFLD): 30.000 euros, 12 months, renewable.
- 2017: Contrat de collaboration de recherche CNRS-CEA: La détection automatique des substances toxiques dans les mélanges poudreux et gazeux. CNRS n°163082. 12 months.
- 2014: University of Burgundy partner, NANTISTA: Neuromorphic Architecture for Nuclear Threat Identification for Security Applications, ANR-14-CE28-0017. 42 months.
- 2010: Principal Investigator for Open Research Area (joint ANR/ESRC, France/UK) grant Grounding Early Time Perception In Motor Activity, ORA-10-056 (GETPIMA). Three partners. Total amount of award: 510,000 euros.
- 2007: Co-Principal Investigator for European Commission FP6 grant NEST PATHFINDER no. 029088, *Humans — the Analogy-making Species (ANALOGY)*. Nine partners. Total amount of award: 1.8 million euros.
- 2005: Co-Principal Investigator for European Commission FP6 grant NEST PATHFINDER no. 516542, *From Associations to Rules in the Development of Concepts (FAR)*. Five partners. Total amount of the award: 1.3 million euros.
- 2005: Co-Principal Investigator for a Burgundy regional FABER grant: Total amount of the award: 139,500 euros
- 2002: Principal Investigator for a Fonds de la Recherche Grant, Université de Liège. “La modélisation connexionniste de l’oubli catastrophique et de l’apprentissage chez les bilingues.” Award: 16,922 euro (~\$15,300).

- 2001: Research Partner on Economic and Social Research Council (ESRC) Research Grant no. R000239112 (“A computational account of early infant categorisation”, Coordinator: Denis Mareschal, 2001-2004). Total amount of the award: £262,572 (= 403,326 €).
- 1999: Principal Investigator for Research Training Network Grant HPRN-CT-1999-00065 from the European Commission: 48-month research project with 5 partners in Britain, France and Belgium. Total amount of award: 980,000 euros
- 1998: Principal Investigator for a Fonds de la Recherche Grant, Université de Liège. “La modélisation informatique de l’organisation mémoire chez les humains, en particulier, chez les bilingues” Award: 1,300,000 BEF (~\$30,000).
- 1998: CGRI-FNRS-British Research Council Collaborative Research Grant (with D. Mareschal, Birkbeck, London and M. Thomas, University College, London)
- 1997: CGRI-FNRS-British Research Council Collaborative Research Grant (with D. Mareschal, University of Exeter): “Category variability as the key to selective memory loss in aphasic patients: a connectionist approach.”
- 1996: CGRI-FNRS-British Research Council Collaborative Research Grant (with D. Mareschal, University of Exeter) entitled “The role of catastrophic interference in infant concept acquisition: A connectionist modeling approach.”

Publications*

Books

- French, R. M.** (1995). *The Subtlety of Sameness: A theory and computer model of analogy-making*. Cambridge, MA: MIT Press.

Edited Books

- French, R. M.** and Thomas, E. (2008). *From Associations to Rules: Connectionist Models of Behavior and Cognition*. Singapore: World Scientific.
- French, R. M.** and Cleeremans, A. (2002). *Implicit learning and consciousness: An empirical, philosophical, and computational consensus in the making*. London, UK: Psychology Press.
- French, R. M.** and Sougné, J. (2001). *Connectionist models of learning, development and evolution*. Berlin: Springer-Verlag.

Translated Books

- Henry, J. and **French, R. M.** (1985). *Gödel, Escher, Bach: les Brins d'une Guirlande Eternelle*. French Translation of *Gödel, Escher, Bach: an Eternal Golden Braid* by Douglas R. Hofstadter. Paris, France: InterEditions.

Peer-reviewed articles

Articles in Peer-reviewed Journals

- French, R. M.**, Simic, V., Thévenin, M. (2021). The Peak Correlation Classifier (PCC) Applied to FTIR Spectra: A Novel Means of Identifying Toxic Substances in Mixtures. *IET Signal Processing*. doi: 10.1049/iet-spr.2019.0575.

* Abstracts and full-text versions of most of my published articles can be found on my Web site: <http://lead.u-bourgogne.fr/people/rfrench.html>

- Zuidema, W., **French, R. M.**, Alhama, R. G., Ellis, K., O'Donnell, T. J., Sainburg, T., Gentner, T. (2020). Five ways in which computational models can help advancing Artificial Grammar Learning research, *Topics in Cognitive Science*, 12(3). 925-941.
- French, R. M.** (2019). Missing the forest for the trees: Why cognitive science circa 2019 is alive and well. *Topics in Cognitive Science*, 11(4), 880-883.
- Thomas, E., **French, R. M.**, Alize, G., and Coull, J. (2019). Having your Cake and Eating It: Faster Responses and Reduced Muscular Activation while Learning a Temporal Interval, *Neuroscience*, 410, 68-75.
- French, R. M.** and Géhant, P. (2019). The Barycenter Theorem: Averaging Possible-Paths to Produce Optimal Discrete Straight-line Segments. *College Mathematics Journal*, 50(2), 103-114.
- Casteran, M., Hilt, P., Mourey, F., Manckoundia, P, **French, R. M.**, and Thomas, E. (2018). Shifts in Key Time Points and Strategies for a Multisegment Motor Task in Healthy Aging Subjects. *The Journal of Gerontology: Series A*, 73(12), 1609–1617.
- Glady, Y., **French, R. M.**, and Thibaut, J-P. (2017). Children's Failure in Analogical Reasoning Tasks: A Problem of Focus of Attention and Information Integration? *Frontiers in Psychology*, 8:707. doi: 10.3389/fpsyg.2017.00707
- French, R. M.**, Thévenin, M., Hamel, M., and Montbarbon, E. (2017). A Histogram-Difference Method (HDM) for Neutron/Gamma Discrimination Using Liquid and Plastic Scintillators. *IEEE Transactions on Nuclear Science*, 64(8), 2423-2432. ISSN 0018-9499, doi: 10.1109/TNS.2017.2720798
- Mareschal, D. and **French, R. M.** (2017) TRACX2: a connectionist autoencoder using graded chunks to model infant visual statistical learning. *Phil. Trans. R. Soc. B* 372(1711) doi: 10.1098/rstb.2016.0057.
- White, O. and **French, R. M.** (2017). Pupil diameter may reflect motor control and learning. *Journal of Motor Behavior*, 49(2). 141-149. doi: 10.1080/00222895.2016.1161593
- Addyman, C., Rocha, S., Fautrelle, L., **French, R. M.**, Thomas, E., and Mareschal, D. (2017). Embodiment and the origin of interval timing: Kinematic and electromyographic data. *Experimental Brain Research*, 235(3), 923-930 .
- French, R. M.**, Glady, Y. & Thibaut, J. P. (2017). An evaluation of scanpath-comparison and machine-learning classification algorithms used to study the dynamics of analogy making. *Behavior Research Methods*, 49(4), 1291-1302. doi:10.3758/s13428-016-0788-z
- Thomas, E. and **French, R. M.**, (2017). Grandmother cells: Much ado about nothing. *Language, Cognition & Neuroscience*, 32(3), 342-349.
- Tummeltshammer, K., Amso, D., **French, R. M.** and Kirkham, N. Z. (2016), Across space and time: infants learn from backward and forward visual statistics. *Developmental Science*, 20(5), doi:10.1111/desc.12474
- Addyman C., **French R. M.**, & Thomas E. (2016) Computational models of interval timing. *Current Opinion in Behavioral Sciences* 8, 140-146.
- Thibaut, J.-P. and **French, R. M.** (2016). Analogical reasoning, control and executive functions: A developmental investigation with eye-tracking. *Cognitive Development*, 38, 10-26.
- Fautrelle, L., Mareschal, D., **French, R. M.**, Addyman, C., and Thomas, E. (2015). Motor activity improves temporal expectancy. *PLoS One*. 2015 Mar 25;10(3):e0119187. doi: 10.1371/journal.pone.0119187.
- French, R. M.** and Thomas, E. (2015). Interactive effects of explicit emergent structure: A major challenge for cognitive computational modeling. *Topics in Cognitive Science*, 7(2), 206-216.
- French, R.M.**, Addyman, C., Mareschal, D., & Thomas, E. (2014). GAMIT – A Fading-Gaussian Activation Model of Interval-Timing: Unifying Prospective and Retrospective

- Time Estimation, *Timing and Time Perception Reviews*, Vol. 1, Art. 2, December, 2014.
- Laroche, D., Tolambiya, A., Morisset, C., Maillefert, J. F., **French, R. M.**, Ornetti, P. and Thomas, E. (2014). A classification study of kinematic gait trajectories in hip osteoarthritis. *Computers in Biology and Medicine*, 55, 42–48.
- Carlini, A. and **French, R. M.** (2014). Visual tracking combined with hand-tracking improves time perception of moving stimuli. *Scientific Reports*, 4, Art no.: 5363 doi:10.1038/srep05363
- French, R. M.**, Addyman, C., Mareschal, D., & Thomas, E. (2014). Unifying prospective and retrospective interval-time estimation: A fading-Gaussian activation-based model of interval-timing. *Procedia - Social and Behavioral Sciences*, 126, 141-150.
- French, R. M.** (2013). Author's Response to "Don't Give Up on the Turing Test", *Communications of the Association for Computing Machinery*, 56(3), 8.
- French, R. M.** (2012). Moving Beyond the Turing Test. *Communications of the Association for Computing Machinery*, 55(12), 74-77.
- Addyman, C. and **French, R. M.** (2012). Computational modeling in cognitive science: A manifesto for change. *Topics in Cognitive Science*, 4(3), 332-341.
- French, R. M.** (2012). Dusting off the Turing Test. *Science*, 336,160-161.
- French, R. M.**, Addyman, C., and Mareschal, D. (2011). TRACX: A Recognition-Based Connectionist Framework for Sequence Segmentation and Chunk Extraction. *Psychological Review*, 118(4), 614-636.
- Cowell, R. A. and **French, R. M.** (2011). Noise and the Emergence of Rules in Category Learning: A Connectionist Model. *IEEE Transactions on Autonomous Mental Development*, 3(3), 194-206. (E-pub: 2010)
- Thibaut, J.-P., **French, R. M.**, and Vezneva, M. (2010). Cognitive load and semantic analogies: searching the semantic space. *Psychonomic Bulletin and Review*, 17(4), 569-574.
- Thibaut, J.-P., **French, R. M.**, and Vezneva, M. (2010). Analogy-Making in Children: the role of cognitive load and executive functions. *Journal of Experimental Child Psychology* 106, 1-19.
- Nair, S. S., **French, R. M.**, Laroche, D., Ornetti, P., and Thomas, E. (2010). Application of Least-squares kernel methods and Neural Network Algorithms to the classification of Electromyographic patterns in Arthritis patients. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 18(2), 174-184.
- French, R. M.** (2010). The Red Tooth Hypothesis: A computational model of predator-prey relations, protean escape behavior and sexual reproduction. *Journal of Theoretical Biology*, 262(1):165-76.
- French, R. M.** and Perruchet, P. (2009). Generating constrained randomized sequences: Item frequency matters. *Behavior Research Methods*, 41 (4), 1233-1241
- French, R. M.** (2009). If it walks like a duck and quacks like a duck...The Turing Test, Intelligence and Consciousness. In P. Wilken, T. Bayne, A. Cleeremans (eds.). *Oxford Companion to Consciousness*, Oxford, UK: Oxford Univ. Press. 641-643.
- French, R. M.**, Kus, E. (2008). KAMA: A Temperature-Driven Model of Mate Choice Using Dynamic Partner Representations. *Adaptive Behavior*, 16(1), 71-95.
- Delbé, C., **French, R. M.**, and Bigand, E. (2008). Catégorisation asymétrique de séquences de hauteurs musicales. *Année Psychologique*, 108 (4). 589-616.
- French, R.M.** (2008). Relational Priming is to Analogy-making as One-ball juggling is to Seven-ball Juggling. *The Behavior and Brain Sciences*, 31(4), 386-387.
- French, R. M.** (2007). The dynamics of the computational modeling of analogy-making. In *The CRC Handbook of Dynamic Systems Modeling*. Paul Fishwick (ed.), Boca Raton, FL: CRC Press LLC, ch. 2, 1-18.

- Abreu, A., **French, R. M.**, Cowell, R. A. and de Schonen, S. (2006). Local-Global visual deficits in Williams Syndrome: Stimulus presence contributes to diminished performance on image-reproduction. *Psychologica Belgica*, 46(4), 269-281.
- Ans, B., Rousset, S., **French, R. M.**, and Musca, S. (2004). Self-refreshing memory in artificial neural networks: Learning temporal sequences without catastrophic forgetting. *Connection Science*, 16, 71-99.
- French, R. M.**, Mareschal, D., Mermillod, M. and Quinn, P. (2004) The role of bottom-up processing in perceptual categorization by 3- to 4-month old infants: Simulations and data. *Journal of Experimental Psychology: General*, 133, 382-397.
- French, R. M.** and Jacquet, M. (2004). All cases of word production are not created equal: Reply to Costa and Santesteban, *Trends in Cognitive Sciences*, 8(6), 254.
- French, R. M.** and Jacquet, M. (2004). Understanding Bilingual Memory: Models and Data. *Trends in Cognitive Sciences*, 8(2), 87-93.
- Van Rooy, D., Van Overwalle, F., Vanhooymissen, T., Labiouse, C., and **French, R. M.** (2003). A Recurrent Connectionist Model of Group Biases. *Psychological Review*, 110, 536-563.
- French, R. M.**, (2002). Natura non facit saltum: The need for the full continuum of mental representations. *The Behavior and Brain Sciences*. 25(3), 339-340.
- Jacquet, M. and **French, R. M.** (2002). The BIA++: Extending the BIA+ to a dynamical distributed connectionist framework. *Bilingualism*, 5(3), 202-205.
- Mareschal, D., Quinn, P. C., and **French, R. M.** (2002) Asymmetric interference in 3- to 4-month-olds' sequential category learning. *Cognitive Science*, 26, 377-389.
- French, R. M.** (2002). The Computational Modeling of Analogy-making. *Trends in Cognitive Sciences*, 6(5), 200-205.
- French, R. M.** and Chater, N. (2002). Using Noise to Compute Error Surfaces in Connectionist Networks: A Novel Means of Reducing Catastrophic Forgetting. *Neural Computation*, 14(7), 1755-1769.
- French, R. M.** and Labiouse, C. (2001). Why co-occurrence information alone is not sufficient to answer subcognitive questions. *Journal of Theoretical and Experimental Artificial Intelligence*, 13(4), 419-429.
- French, R. M.** and Thomas, E. (2001). The Dynamical Hypothesis in Cognitive Science: A review essay of *Mind As Motion*. *Minds and Machines*, 11, 1, 101-111.
- Mareschal, D., **French, R. M.**, and Quinn, P. (2000). A Connectionist Account of Asymmetric Category Learning in Early Infancy. *Developmental Psychology*, 36, 635-645.
- French, R. M.** and Thomas, E. (2000). Why Localist Connectionist Models are Inadequate for Categorization. *The Behavior and Brain Sciences*, 23(4), 477.
- French, R. M.** (2000). Peeking Behind the Screen: The Unsuspected Power of the Standard Turing Test. *Journal of Experimental and Theoretical Artificial Intelligence*, 12, 331-340.
- French, R. M.** (2000). The Turing Test: the first 50 years. *Trends in Cognitive Sciences*, 4(3), 115-121.
- Mareschal, D. and **French, R. M.** (2000). Mechanisms of categorization in infancy. *Infancy (ex-Infant Behaviour and Development)*, 1, 59-76.
- French, R. M.** (1999). Catastrophic Forgetting in Connectionist Networks. *Trends in Cognitive Sciences*, 3(4), 128-135.
- French, R. M.** and Anselme, P. (1999). Interactively converging on context-sensitive representations: A solution to the frame problem. *Revue Internationale de Philosophie*, 3, 365-385.
- Bredart, S. and **French, R. M.** (1999). Do babies resemble their fathers more than their mothers? A failure to replicate Christenfeld and Hill (1995). *Evolution and Human Behavior*, 20(2), 129-135.

- French, R. M.** and Weaver, M. (1998). New-feature learning: How common is it? *The Behavior and Brain Sciences* 21(1), NJ: LEA, 26
- French, R. M.** and Cleeremans, A. (1998) Function, sufficiently constrained, implies form: Commentary on Green on connectionist-explanation. *Psychology* 9(21) psyc.98.9.21.connectionist-explanation.18.french
- French, R. M.** and Thomas, E. (1998). The Dynamical Hypothesis: One Battle Behind. *The Behavior and Brain Sciences*, 21(5), NJ: LEA, 640-641.
- French, R. M.** (1997). Pseudo-recurrent connectionist networks: An approach to the “sensitivity–stability” dilemma. *Connection Science*, 9(4), 353-379.
- French, R. M.** (1996). The Inverted Turing Test: How a simple (mindless) program could pass it. *Psychology* 7(39) turing-test.6.french.
- Cleeremans, A. and **French, R. M.** (1996). From Chicken Squawking to Cognition: Levels of description and the Computational Approach in Psychology. *Psychologica Belgica* 36(1-2), 5-29.
- French, R. M.** (1995). Refocusing the Debate on the Turing Test. *Behavior and Philosophy*. 23(1), 61-62.
- French, R. M.** (1995). Taking the paradox out of the Observer's Paradox, *Journal of Experimental and Theoretical Artificial Intelligence* 7(3), 269-271.
- French, R. M.** (1992). Semi-distributed Representations and Catastrophic Forgetting in Connectionist Networks, *Connection Science*, 4, 365-377.
- Chalmers, D. J., **French, R. M.** and Hofstadter, D. R. (1992). High-level Perception, Representation, and Analogy: A Critique of Artificial Intelligence Methodology. *Journal of Experimental and Theoretical and Artificial Intelligence*, 4(3), 185-211.
- Kaplan, S., Weaver, M., and **French, R.M.** (1991). Active Symbols and Internal Models: Towards a Cognitive Connectionism. *AI and Society*, 4(1), 51-71. Reprinted in A. Clark and R. Lutz (eds.), *Connectionism in Context*. (1992). Springer-Verlag, 91-110.
- French, R. M.** (1990). Subcognition and the Limits of the Turing Test. *Mind*, 99(393), 53-65. Anthologized twice: P. Millican and A. Clark (eds.). *Machines and Thought: The Legacy of Alan Turing* Oxford, UK: Clarendon Press, 1996; S. M. Shieber. *The Turing Test*. MIT Press, 2004.
- French, R. M.** (1989). An Analogy between Western Legal Traditions and Approaches to Artificial Intelligence. *AI and Society*, 3(3), 229-234.
- French, R. M.** and Henry, J. (1988). La traduction en français des jeux linguistiques de Gödel, Escher, Bach. *Méta*, 33(2), 133-142.

Articles in Peer-reviewed Proceedings

- Hinfray, F., Paindavoine, M., Doussot, M., Thévenin, M., and **French, R. M.** (2019). Traitement en temps réel de signaux hautes fréquences pour la détection de menaces radiologiques. *Proceedings of GRETSI 2019, XXVII^{ème} Colloque francophone de traitement du signal et des images*, Lille, 26-29 August 2019 (in press).
- French, R. M.** and Mareschal, D. (2017). TRACX2: a RAAM-like autoencoder modeling graded chunking in infant visual-sequence learning. *Proceedings of the Thirty-ninth Annual Meeting of the Cognitive Science Society*, Austin, TX: Cognitive Science Society, 2031-2036.
- Glady, Y., **French, R. M.**, and Thibaut, J. P. (2016). Comparing competing views of analogy making using eye-tracking technology. *Proceedings of the Thirty-eighth Annual Meeting of the Cognitive Science Society*, Austin, TX: Cognitive Science Society, 1349-1354.
- French, R. M.**, Lukowski-Duplessy, H., Rieth, C., and Cottrell, G. W. (2015). Turn, turn, turn: Perceiving global and local, clockwise and counterclockwise rotations. In R. Dale

- et al. (Eds.) *Proceedings of the Thirty-seventh Annual Meeting of the Cognitive Science Society*, Austin, TX: Cognitive Science Society, 740-745.
- French, R. M.** and Thibaut, J.-P. (2014). Using eye-tracking to predict children's success or failure on analogy tasks. In P. Bello, M. Guarini, M. McShane and B. Scassellati (Eds.), *Proceedings of the Thirty-sixth Annual Meeting of the Cognitive Science Society*. Austin, TX: Cognitive Science Society, 2222-2227.
- French, R. M.** and Cottrell, G. (2014). TRACX 2.0: A memory-based, biologically-plausible model of sequence segmentation and chunk extraction. In P. Bello, M. Guarini, M. McShane and B. Scassellati (Eds.), *Proceedings of the Thirty-sixth Annual Meeting of the Cognitive Science Society*. Austin, TX: Cognitive Science Society, 2016-2221.
- Glady, Y., **French, R. M.**, and Thibaut, J. P. (2014). Adults' Eye Tracking Search Profiles and Analogy Difficulty. In P. Bello, M. Guarini, M. McShane and B. Scassellati (Eds.), *Proceedings of the Thirty-sixth Annual Meeting of the Cognitive Science Society*. Austin, TX: Cognitive Science Society, 535-540
- Glady, Y., **French, R. M.**, and Thibaut, J. P. (2013). Visual Strategies in Analogical Reasoning Development: A New Method for Classifying Scanpaths. In M. Knauff, M. Pauen, N. Sebanz, I. Wachsmith (Eds.), *Proceedings of the Thirty-fifth Annual Meeting of the Cognitive Science Society*. Austin, TX: Cognitive Science Society, 2398-2403.
- Glady, Y., Thibaut, J. P., and **French, R. M.** (2012). Explaining children's failure in analogy making tasks: A problem of focus of attention?. In N. Miyake, D. Peebles and R.P. Cooper (Eds.), *Proceedings of the Thirty-fourth Annual Meeting of the Cognitive Science Society*. Austin, TX: Cognitive Science Society, 384-389.
- Thibaut, J.-P., **French, R. M.**, Missault, A., Gérard, Y., and Glady, Y. (2011). In the Eyes of the Beholder: What Eye-Tracking Reveals About Analogy-Making Strategies in Children and Adults. In *Proceedings of the Thirty-Third Annual Cognitive Science Society Conference*, 453-458.
- Addyman, C., **French, R. M.**, Mareschal, D., and Thomas, E. (2011). Learning to perceive time: A connectionist, memory-decay model of the development of interval timing in infants. In *Proceedings of the Thirty-Third Annual Cognitive Science Society Conference*, 354-359.
- Thibaut, J.-P., **French, R. M.**, Vezneva, M., Gérard, Y., and Glady, Y. (2011). Semantic Analogies by Young Children: Testing the Role of Inhibition. *Proceedings of the Third European Conference on Cognitive Science* (on-line only): <http://nbu.bg/cogs/eurocogsci2011/proceedings/contents.html>.
- Thibaut, J.-P., **French, R. M.**, and Vezneva, M. (2009). Cognitive Load and Analogy-making in Children: Explaining an Unexpected Interaction. *Proceedings of the Thirty-First Annual Cognitive Science Society Conference*, 1048-1053.
- Gill, A.J., **French, R.M.**, Gergle, D., and Oberlander, J. (2008). The Language of Emotion in Short Blog Texts. San Diego, CA, November 2008. *Proceedings of the ACM Conference on Computer Supported Cooperative Work (CSCW 2008)*. pp. 299-302 [acceptance rate: 16%].
- Thibaut, J.-P., **French, R. M.**, and Vezneva, M. (2008). Analogy-making in Children: The Importance of Processing Constraints. *Proceedings of the Thirtieth Annual Cognitive Science Society Conference*, 475-480.
- Gill, A.J., Gergle, D., **French R.M.**, and Oberlander, J. (2008). Emotion rating from short blog texts. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2008)*, pp. 1121-1124. Florence, Italy, March 2008. [Acceptance rate: 18%]
- Gill, A. J., **French, R. M.**, Gergle, D., Oberlander, J. (2008). Identifying Emotional Characteristics from Short Blog Texts. In *Proceedings of the Thirtieth Annual Cognitive Science Conference*, NJ:LEA, 2237-2242.
- Gill, A.J., French, R.M., Gergle, D. and Oberlander, J. (2008). Emotional Features of Short

- Blog Texts. *Proceedings of CHI2008, Workshop on Measuring Affect in HCI: Going Beyond the Individual*, Florence, Italy, March 2008.
- Cowell, R. A. and **French, R. M.** (2007). An Unsupervised, Dual-Network Connectionist Model of Rule Emergence in Category Learning. In S. Vosniadou, D. Kayser and A. Protopapas (eds.) *Proceedings of the Second European Conference for Cognitive Science*, 318-323.
- Gill, A. and **French, R. M.** (2007). Semantic distance and author personality perception through texts. In S. Vosniadou, D. Kayser, A. Protopapas (eds.) *Proceedings of the 2007 European Cognitive Science Society*, 682-687
- French, R. M.** and Kus, E. (2006). Modeling Mate-Choice using Computational Temperature and Dynamically Evolving Representations. In *Proceedings of the 28th Annual Cognitive Science Society Conference*, NJ:LEA, 1323-1328.
- Delbé, C., Bigand, E., **French, R. M.** (2006). Asymmetric Categorization in the Sequential Auditory Domain. In *Proceedings of the 28th Annual Cognitive Science Society Conference*. NJ: LEA. 1210-1215.
- Abreu, A. M., **French, R. M.**, Annaz, D., Thomas, M., de Schonen, S. (2005) A « visual conflict» hypothesis for global-local visual deficits in Williams Syndrome : simulations and data. *Proceedings of the 27th Annual Cognitive Science Society* Mahwah, NJ: LEA, 45-50.
- Mermillod M., **French R.M.**, Smeets, H. and Spencer, J. (2005). A neural network investigation of the head preference: problems explaining empirical results by bottom-up processes alone. In A. Cangelosi, G. Bugmann and R. Borisjuk (Eds.), *NCPW 9: Modelling Language, Cognition, and Action*. World Scientific, 2005.
- Mermillod, M., **French, R. M.**, Quinn, P. and Mareschal, D., (2003). The Importance of Long-term Memory in Infant Perceptual Categorization. *Proceedings of the 25th Annual Conference of the Cognitive Science Society*. NJ:LEA 804-809.
- French, R. M.**, Mermillod, M., Quinn, P., Chauvin, A., and Mareschal, D. (2002). The Importance of Starting Blurry: Simulating Improved Basic-Level Category Learning in Infants Due to Weak Visual Acuity. *Proceedings of the 24th Annual Conference of the Cognitive Science Society*. NJ:LEA. 322-327.
- French, R. M.** and Labiouse, C. (2002). Four Problems with Extracting Human Semantics from Large Text Corpora. *Proceedings of the 24th Annual Conference of the Cognitive Science Society*. NJ:LEA. 316-322.
- Ans, B., Rousset, S., **French, R. M.**, and Musca, S. (2002). Preventing Catastrophic Interference in Multiple-Sequence Learning Using Coupled Reverberating Elman Networks. *Proceedings of the 24th Annual Conference of the Cognitive Science Society*. NJ:LEA. 71-76.
- Labiouse, C.L., **French, R. M.**, and Mermillod, M. (2002). Using Autoencoders to Model Asymmetric Category Learning in Early Infancy: Insights from Principal Components Analysis. In J.A. Bullinaria, and W. Lowe (Eds.). *Connectionist Models of Cognition and Perception: Proceedings of the Seventh Neural Computation and Psychology Workshop*, Singapore: World Scientific, 51-63.
- Sougné, J. and **French, R. M.** (2001). Synfire chains and catastrophic interference. *Proceedings of the 23rd Annual Conference of the Cognitive Science Society*. NJ: LEA, 270-275.
- French, R. M.**, Mermillod, M., Quinn, P. C., and Mareschal, D. (2001). Reversing Category Exclusivities in Infant Perceptual Categorization: Simulations and Data. *Proceedings of the 23rd Annual Conference of the Cognitive Science Society*, NJ:LEA, 307-312.

- French, R. M.**, Ans, B., and Rousset, S. (2001). Pseudopatterns and dual-network memory models: Advantages and shortcomings. In R. French and J. Sougné (eds.), *Connectionist Models of Learning, Development and Evolution: Proceedings of the Sixth Neural Computation and Psychology Workshop*. London: Springer, 13-22.
- Labiouse, C. and **French, R. M.** (2001). A connectionist model of person perception and stereotype formation. In R. French and J. Sougné (eds.), *Connectionist Models of Learning, Development and Evolution: Proceedings of the Sixth Neural Computation and Psychology Workshop*. London: Springer, 209-218.
- French, R. M.**, Brédart, S., Huart, J., Labiouse, C. (2000). The Resemblance of One-year-old Infants to Their Fathers: Refuting Christenfeld and Hill (1995). *Proceedings of the 22nd Annual Conference of the Cognitive Science Society*, 148-153.
- French, R. M.** (2000). The Chinese Room: Just Say “No!”. *Proceedings of the 22nd Annual Conference of the Cognitive Science Society*, 657-662.
- French, R. M.** and Ferrara, A. (1999). Modeling time perception in rats: Evidence for catastrophic interference in animal learning. In *Proceedings of the 21st Annual Conference of the Cognitive Science Conference*. NJ:LEA, 173-178.
- Mareschal, D. and **French, R. M.** (1999). A Connectionist Account of Perceptual Category-Learning in Infants. In *Proceedings of the 21st Annual Conference of the Cognitive Science Conference*. NJ:LEA, 337-342
- French, R. M.** and Mareschal, D. (1998). Could Category-Specific Semantic Deficits Reflect Differences in the Distributions of Features Within a Unified Semantic Memory? In *Proceedings of the Twentieth Annual Cognitive Science Society Conference*. NJ:LEA. 374-379.
- French, R. M.** (1998) A Simple Recurrent Network Model of Bilingual Memory. In *Proceedings of the Twentieth Annual Cognitive Science Society Conference*. NJ:LEA. 368-373.
- French, R. M.** (1997). Selective memory loss in aphasics: An insight from pseudo-recurrent connectionist networks. In J. Bullinaria, G. Houghton, D. Glasspool (eds.). *Connectionist Representations: Proceedings of the Fourth Neural Computation and Psychology Workshop*. Springer-Verlag. 183-195.
- Sougné, J. and **French, R. M.** (1997). A Neurobiologically Inspired Model of Working Memory Based on Neuronal Synchrony and Rythmicity. In J. Bullinaria, G. Houghton, D. Glasspool (eds.). *Connectionist Representations: Proceedings of the Fourth Neural Computation and Psychology Workshop*. Springer-Verlag. 155-167.
- French, R. M.** and Ohnesorge, C. (1997). Homographic self-inhibition and the disappearance of priming: More evidence for an interactive-activation model of bilingual memory. *Proceedings of the 19th Annual Cognitive Science Society Conference*, New Jersey: LEA, 241-246.
- Mareschal, D. and **French, R. M.** (1997). A connectionist account of interference effects in early infant memory and categorization. *Proceedings of the 19th Annual Cognitive Science Society Conference*, New Jersey: LEA, 484-489.
- French, R. M.** (1997). Using pseudo-recurrent connectionist networks to solve the problem of sequential learning. *Proceedings of the 19th Annual Cognitive Science Society Conference*, New Jersey: LEA. 921.
- French, R. M.** (1997). When coffee cups are like old elephants or Why representation modules don't make sense, *Proceedings of the International Conference New Trends in Cognitive Science*, A. Riegler and M. Peschl (eds.), Austrian Society for Cognitive Science, p. 158-163.
- French, R. M.** and Ohnesorge, C. (1996). Using interlexical nonwords to support an interactive-activation model of bilingual memory. *Proceedings of the Eighteenth Annual Cognitive Science Society Conference*, New Jersey: LEA. 318-323.

- French, R. M.** and Ohnesorge C. (1995). Using non-cognate interlexical homographs to study bilingual memory organization. *Proceedings of the Seventeenth Annual Conference of the Cognitive Science Society*, NJ: LEA. 31-36.
- French, R. M.** (1994). Dynamically constraining connectionist networks to produce distributed, orthogonal representations to reduce catastrophic interference. *Proceedings of the Sixteenth Annual Conference of the Cognitive Science Society*, NJ: LEA. 335-340.
- French, R. M.** and Messinger, A. (1994). Genes, Phenets and the Baldwin Effect: Learning and Evolution in a Simulated Population. In Brooks, R. and Maes, P. (eds.). *Artificial Life IV*. Cambridge, MA: MIT Press, 277-282.
- French, R. M.** (1994). Catastrophic forgetting in connectionist networks: Can it be predicted, can it be prevented? In Cowan, J.D., Tesauro, G., and Alspector, J. (eds.). *Advances in Neural Information Processing Systems 6*. San Francisco, CA: Morgan Kaufmann. 1176-1177.
- Hofstadter, D. R. and **French, R. M.** (1992). Probing the Emergent Behavior of Tabletop, an Architecture Uniting High-level Perception with Analogy-making, *Proceedings of the Fourteenth Annual Cognitive Science Society Conference*, Hillsdale, NJ: LEA. 528-533.
- French, R. M.** and Hofstadter, D. R. (1991). Tabletop: An Emergent, Stochastic Model of Analogy-making, *Proceedings of the Thirteenth Annual Cognitive Science Society Conference*, Hillsdale, NJ: LEA, 708-713.
- French, R. M.** (1991). Using Semi-distributed Representations to Overcome Catastrophic Forgetting in Connectionist Networks. *Proceedings of the Thirteenth Annual Cognitive Science Society Conference*, Hillsdale, NJ: LEA. 173-178.
- French, R. M.** (1988). Subcognitive Probing: Hard Questions for the Turing Test. *Proceedings of the Tenth Annual Cognitive Science Society Conference*, Hillsdale, NJ: LEA. 361-367.
- French, R. M.** and Weaver, M. (1987). The Role of Categories in the Generation of Counterfactuals: A Connectionist Interpretation. *Proceedings of the Ninth Annual Cognitive Science Society Conference*, Hillsdale, NJ: LEA. 938-944.

Encyclopedia articles (peer-reviewed)

- French, R. M.** (2003) Catastrophic Forgetting in Connectionist Networks. In Nadel, L. (Ed.) *Encyclopedia of Cognitive Science. Vol. 1*, pp. 431 - 435. London: Nature Publishing Group.
- Kokinov, B. and **French, R. M.** (2003) Computational Models of Analogy-making. In Nadel, L. (Ed.) *Encyclopedia of Cognitive Science. Vol. 1*, pp.113 - 118. London: Nature Publishing Group.

Non peer-reviewed articles

Book Chapters (not peer-reviewed)

- Defays, D., **French, R. M.**, and Sougné, J. (1999). L'apport de l'intelligence artificielle à la psychologie. In J. A. Rondal, *Introduction aux Sciences Psychologiques*. Brussels: Labor; Paris: Magnard. 379-415.
- French, R. M.** (1995). The Problem of Representation and the Necessary Interaction Between Top-down and Bottom-up Processing. In B. Kokinov (ed.). *Perspectives in Cognitive Science*, Sofia: New Bulgarian University Press, 103-107.
- French, R. M.** and Hofstadter, D. R. (1995). Tabletop, Battle-Op, ..., In *Fluid Concepts and Creative Analogies* by D. R. Hofstadter, New York, NY: Basic Books.

French, R. M. and Hofstadter, D. R. (1995). The emergent personality of Tabletop, a perception-based model of analogy-making. In *Fluid Concepts and Creative Analogies* by D. R. Hofstadter, New York, NY: Basic Books.

Book Reviews and Essays (not peer-reviewed)

French, R. M. (2018). Reflections on Connectionist Modeling. In Farrell, S. and Lewandowsky, S. *Computational Modeling of Cognition and Behavior*. Cambridge University Press. pp. 366-368.

French, R. M. (2008). A new manifesto for child development research. *Behavioral and Brain Sciences*, 31(3). 339-340.

French, R. M. (2004). For historians of automated computing only: A review of *Who Invented The Computer? The Legal Battle That Changed Computing History* by Alice Rowe Burks. *Endeavour*, 28(3), 94-95.

French, R. M. (2002). Review of Daniel Levine's *Introduction to Neural and Cognitive Modeling*. In *Biological Psychology*, 60(1), 69-73.

French, R. M. (1999). Constrained connectionism and the limits of human semantics: a review essay of Terry Regier's *The Human Semantic Potential*. In *Philosophical Psychology*, 12(4), 515-523.

French, R. M. (1996). Problems with 'An Invitation to Cognitive Science,' a review of J. Leiber's *Invitation to Cognitive Science* (Blackwell Publishers, Cambridge, MA). In *Minds and Machines*, 6(1), 92-95.

French, R. M. (1996). Review of Paul M. Churchland, *The Engine of Reason, the Seat of the Soul* (The MIT Press, Cambridge, MA). In *Minds and Machines*, 6(3), 416-421.

Other Publications (not peer-reviewed)

French, R. M. (1988). The Banach-Tarski Theorem, *The Mathematical Intelligencer*, 10(4).

French, R. M. (1987). Singe, un générateur aléatoire de texte, *Pour la Science* (French edition of *Scientific American*), June 1987, 17-22.

French, R. M. (1987). Le théorème de Banach-Tarski. *Pour la Science*, Feb., 112-117.

French, R. M. (1985). Pangrammes et anagrammes, *Pour la Science*, July, 11-15.

Patents

French, R. M. and Thévenin, M., Procédé et système de caractérisation d'une source de rayonnement ionisant à caractériser, submitted April 28, 2017, no. 17 53811.

French, R. M., Simic, V., and Thévenin, M. (2018). Procédé de détection d'un composé dans une composition à identifier et dispositif de détection, submitted May 28, 2018, no. 18 54468

Professional activities

Grant Review Boards and Expert Consultancy

- Evaluator for the European Commission: ERC starting grants, EC Brussels, March 9-13 and June 1-5, 2020 (remote) + evaluation of projects from Dec. 2, 2019 to March 1, 2020 and from March 17 to May 20, 2020.
- Evaluator for the European Science Foundation. Région Grand Est, Direction de la Compétitivité et de la Connaissance Service Enseignement Supérieur, Recherche et Innovation. 2019.
- Evaluator for the European Commission: ERC starting grants, EC Brussels, March 5-9 and May 28 - June 1, 2018.

- External evaluator for the National Science Foundation (NSF, U.S.A.) Graduate Research Fellowship Program for 2017 (GRFP 2017), January 2017.
- External evaluator for the European Commission, H2020 FET-OPEN, November 2015.
- External evaluator for the European Research Council (ERC), Consolidator call, 2015, Panel SH4, "The human mind and its complexity", September 2015.
- External evaluator for the Social Sciences and Humanities Research Council (SSHRC), Canada, December 2010.
- Grant evaluation panel for European Commission FP7 Future and Emerging Technologies (FET-OPEN), September 13-16, 2010.
- Grant evaluation panel for European Commission FP7 ICT, June 5-9, 2010.
- Grant evaluation panel member for IGERT for the National Science Foundation (NSF), Washington, D.C., June 18-19, 2007.
- NSF external evaluator, September 2006.
- Grant evaluation panel for European Commission FET-OPEN FP7, June 26-27, 2007
- Grant evaluation panel for European Commission FET-OPEN FP7, June 11-15, 2007
- Invited to Key Technologies for European Commission FP7 workshop, September 19-20, 2005.
- Grant evaluation Panel for European Commission NEST 6th Framework, November 22, 2004.
- Grant evaluation Panel for European Commission NEST 6th Framework, October 18-22, 2004.
- Consulting panel for the development of research funding themes for the European Commission Seventh Framework Program, 21-22 April, 2004.
- Grant evaluation Panel for European Commission Networks of Excellence/Integrated Projects: Information Society Technologies (IST) 6th Framework, Nov. 10-18, Dec. 8-10, 2003.
- Consulting panel for the European Commission, creation of a nanotechnology call, 10-11 September, 2003
- Consulting panel for the European Commission, creation of a Cognitive Science initiative, 8 May, 2003
- Future Emerging Technologies (FET) – Open European Commission Grant evaluation Panel, March 2002.
- Proposal Evaluator for European Commission Information Technologies Initiative, May 2001
- Proposal Evaluation Panel for the European Commission Neuroinformatics Initiative, Nov. 2000.
- Grant Proposal Reviewer for the Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO).
- Grant Proposal Reviewer for the *Cognitique* Program, France.

Ad Hoc Referee for:

Adaptive Behavior
Artificial Life,
The Behavior and Brain Sciences,
Brain and Cognition,
Cognition;
Cognitive Science Society Conference Proceedings, 1992-2015;
Cognitive Science;
Cognitive Systems Research;
Communications of the ACM;

Connection Science;
European Journal of Cognitive Psychology,
Evolution and Human Behavior,
IEEE Transactions on Autonomous Mental Development
Journal of Experimental Psychology: Learning, Memory and Cognition
Journal of Theoretical Biology
Le Travail Humain;
Machine Learning;
Mind and Language;
Minds and Machines;
Network: Computation in Neural Systems
Philosophical Psychology;
Psychologica Belgica
Psychological Review
Quarterly Journal of Experimental Psychology
Topics in Cognitive Science

Master's theses (Research)

Florence Mourer (2012)
 Elif Kus (2005)

Doctoral Theses Supervised or Co-supervised:

Yannick Glady (2010 - 2013)
 Lori Van Riper (2007 – 2011)
 Milena Vezneva (2007 – 2011)
 Maud Jacquet (2001 – 2005)
 Martial Mermillod (2000 – 2004)
 Jacques Sougné (1995-1999)

Post-doctoral researchers supervised

Alessandro Carlini (2012-2013)
 Yannick Gérard (2012)
 Caspar Addyman (2009-2010)
 Rosemary Cowell (2006 -2008)
 Alastair Gill (2006 – 2007)
 Carlo Fulvi Mari (2000 – 2001).

Doctoral Committees:

Université de Bourgogne-Franche Comte, doctoral committee member for Ugo Andral.
 Dissertation title: Algorithme d'évolution pour laser à fibre optique en régime d'impulsions courtes. (2016).
Université de Bourgogne-Franche Comte, doctoral committee member for Olivier Boisard.
 Dissertation title: Optimization and implementation of bio-inspired feature extraction frameworks for visual object recognition. (2016).
Université de Pierre Mendès-France, Grenoble, HDR doctoral committee member for Benoît Lemaire. HDR thesis title : Modèles computationnels du traitement cognitif des textes : entre sémantique, vision et mémoire. (2014).
Université de Bourgogne, Dijon, doctoral committee member for Yannick Glady, dissertation title: Le raisonnement par analogie et son développement, rôle des fonctions exécutives et du but de la tâche. (2013).

- Université de Bourgogne*, Dijon, doctoral committee member for Lori Van Riper, dissertation title: Les étiologies de la perte auditive chez le nourrisson et des mesures nouvelles pour évaluer l'amélioration de l'ouïe engendrée par les prothèses auditives. (2011).
- Université de Bourgogne*, Dijon, doctoral committee member for Milena Vezneva, dissertation title: Développement du raisonnement analogique : rôle de la composante exécutive d'inhibition. (2011).
- Université de Franche-Comté*, Besançon, HDR doctoral committee member for Fabien Mathy. Dissertation title: Apprentissage, Chunking et Capacité de la Mémoire chez l'Adulte. (2011).
- Université de Bourgogne*, Dijon, doctoral committee member for Charles Delbé, dissertation title: Musique, Psychoacoustique et Apprentissage Implicite Vers un modèle intégré de la cognition musicale. (2009).
- Institut National Polytechnique de Grenoble*, Doctoral committee member for Vivien Robinet. Dissertation title : Modélisation cognitive computationnelle de l'apprentissage inductif de *chunks* basée sur la théorie algorithmique de l'information. (2009).
- Université Libre de Bruxelles*, Doctoral committee member for Antoine Pasquali. Dissertation title: Learning with and without consciousness : Empirical and explorations. (2009).
- University of Queensland, Australia*. Doctoral committee member (rapporteur) for Ruth Jennifer Schulz. Dissertation title: *Spatial Language for Mobile Robots: The Formation and Generative Grounding of Toponyms*. (2008).
- University of Sussex, Brighton, UK* : Bartholomew Baddeley. Dissertation title: Using neural networks for the adaptive control of movements : an investigation into the problem of interference in distributed feedforward networks. Department of Cognitive Science, University of Sussex, Brighton, UK. (2006)
- University of Queensland, Australia*. Doctoral committee member (rapporteur) for James Watson. Dissertation title: *From genes to phenes and back again: Modelling the interaction between individual behaviour and evolution* (2006).
- Université de Liège*, doctoral committee member for Maud Jacquet, dissertation title: *Fluence conceptuelle : Etude à travers la mémoire bilingue et monolingue*. (2005).
- University of Queensland, Australia*. Doctoral committee member (rapporteur) for Scott Boland. Dissertation title: *F AE: The Fluid Analogies Engine. A Dynamic, Hybrid Model of Perception and Mental Deliberation* (2005).
- Université de Liège*, doctoral committee member for Martial Mermillod, dissertation title: Perceptual categorization and memory in human and connectionist systems: evidence from neural computation (2004).
- Université de Pierre Mendès-France*, Grenoble, doctoral committee member (rapporteur) for Serban Musca, dissertation title: Auto-rafraîchissement de la mémoire humaine : Etudes comportementales et simulations en réseau de neurones dual réverbérant (2004).
- Université de Bourgogne*, Dijon, doctoral committee member (rapporteur) for Bénédicte Poulin, dissertation title: Effet d'expertise sur le traitement des structures musicales (2003).
- Université de Liège*, doctoral committee member for Frédéric Simons, dissertation title: Exploration des processus de décision dans une perspective évolutionnaire: le cas de l'effet de cadrage (2002).
- Université Libre de Bruxelles*, doctoral committee member for Maud Boyer, dissertation title: Les mécanismes d'abstraction dans l'apprentissage de séquence: Etudes empiriques et modélisation. (2001).
- Vrije Universitat van Brussel*, doctoral committee member for Dirk van Rooy, dissertation title: A connectionist model of illusory correlation in groups. (2001).

Université Libre de Bruxelles, doctoral committee member for Arnaud Destrebecqz, dissertation title: l'Apprentissage implicite: une étude computationnelle, expérimentale, et neurobiologique. (2000).

Université de Liège, doctoral committee member for Jacques Sougné, dissertation title: INFERNET: A computational model of binding and inference. (1999).

Université de Liège, doctoral committee member for André Ferrara; dissertation title: Dynamique de l'adaptation au temps et modèle de l'horloge interne. (1999).

Université de Paris XIII, referee (rapporteur) for the doctoral committee of Damien Ploix; dissertation title: *Elaboration, Réalisation, et Evaluation d'un environnement de programmation analogique*. (1999).

University of Oxford, Oxford, U.K.: doctoral committee member for Michael Thomas; dissertation title: Knowledge Representation and Connectionist Networks (1997).

Université de Paris XIII, referee (rapporteur) for the doctoral committee of Renaud Dumeur; dissertation title: Synthèse de comportements animaux individuels et collectifs par Algorithmes Génétiques (1993).

Editorships and Journal Affiliations

Senior Editorial Board Member, *Topics in Cognitive Science*, 2012 - 2020.

Senior Editor for Computer Science for the *Macmillan Encyclopedia of the Cognitive Sciences*. London: Nature Publishing Group;

Editorial Review Board for *Frontiers in Cognitive Science*: 2010 - 2013.

Associate Editor of *Trends in Cognitive Sciences*: 2000-2010;

Board of Reviewers, *Cognitive Science* 2000-2005;

Associate for *The Behavior and Brain Sciences*.

Conferences/workshops organized

Organization of the Fifth Computational and Mathematical Modeling of Cognition Summer School at Couches, France, July 6-21, 2018.

Organized (with Jean-Pierre Thibaut) the Third International Conference on Analogy. Held at the University of Burgundy, Dijon, August 6-8, 2013.

Organized the Tenth Neural Computation and Psychology Workshop (NCPW10), held April 12-14, 2007 at the University of Burgundy, Dijon, France.

Organized (with Jacques Sougné) the Sixth Neural Computation and Psychology Workshop (NCPW6). Held at the University Liège, September 16-18, 2000.

Organized an international workshop on implicit learning at the University of Liège, March 28, 1998. Title of the workshop: "The role of implicit memory and implicit learning in representing the world."

Professional Workshops

Invited to lecture at (and co-organized) the 2018 Summer School in Computational and Mathematical Modeling of Cognition, Couches, France. July 6-21, 2018.

Invited to lecture at the Free University of Brussels (ULB), March 21-24, 2018, on computational models of cognition.

Invited to lecture at the 2016 Summer School in Computational and Mathematical Modeling of Cognition, Tolbach (Dobbacio), Italy, July 10-24, 2016.

Invited to lecture at the 2012 Summer School in Computational and Mathematical Modeling of Cognition, Berguen, Switzerland, June 24-July 7, 2012.

Invited to lecture at the ESCOP Summer School 2010 on Computational Modeling, Mallnitz, Austria, July 9-19, 2010.

- Invited to lecture on connectionist networks at the International Cognitive Science Summer Institute at the New Bulgarian University, Sofia, Bulgaria, July 20-27, 2003.
- Invited to lecture at the Santa Fe Complex Systems Summer School, Central European University, Budapest, Hungary, July 23-27, 2001.
- Invited to lecture on computer modeling of analogy-making and on catastrophic forgetting in connectionist networks at the International Cognitive Science Summer Institute at the New Bulgarian University, Sofia, Bulgaria, September 12-24, 1994 and July 2-12, 1995.
- Selected to organize a workshop on catastrophic forgetting in connectionist networks for the 1993 Neural Information Processing Systems (NIPS) conference, Vail, Colorado, December 3-4, 1993.
- Selected to participate in the 1990 Dartmouth Summer Institute in Cognitive Neuroscience, July 4-15, 1990.

Professional Boards

- Member of the TEMPUS Project Evaluation Board for the establishment of a cognitive science program at the New Bulgarian University in Sofia, Bulgaria, 1998-1999.
- Member of the European Committee of the Cognitive Science Society (2013-present)
- Executive Board member of the Belgian Psychological Society (2000-2002).
- International Advisory Board for the New Bulgarian University, Sofia, Bulgaria.

Conference Program Committees

- Cognitive Science Society Annual Conference: 2002-2017 (except 2015)
- Interdisciplinary Conference on Modeling and Using Context, Paris, 2005
- European Cognitive Science Conference, 2003, 2007.
- Artificial Life VII, Portland, Oregon, USA, 2000
- Conference on Computation, Metaphors, and Agents, 1998

Interviews

- James Perkins, BYU Radio, U.S.A., We're far from passing the Turing Test, July 2014
- Brandon Keim <brandon@earthlab.net>, 11 April, 2012, "Artificial Intelligence could be on the brink of passing the Turing Test" <http://www.wired.com/wiredscience/2012/04/turing-test-revisited/>
- Charles Choi, journalist for science news service InnovationNewsDaily which is syndicated by Scientific American, USA Today, MSNBC and Fox News, among others" 11 April 2012
Articles resulting from this interview : 'Turing Test' within reach for Artificial Intelligence computers?
http://www.huffingtonpost.com/2012/04/12/artificial-human-intelligence-computers-turing-test_n_1422103.html
<http://blogs.scientificamerican.com/assignment-impossible/2012/04/12/visions-a-different-point-of-view/>
- John Pavlus, BBC Future. May 10, 2012, Article: "Will we ever pass the Turing Test for computers", BBC Future, May 16, 2012
- Roger Hearing, BBC World Service (radio interview), Special broadcast on Alan Turing, June 23, 2012.
- Catherine Bolgar. The Wall Street Journal On-Line. "Will Computers Control Us? Computers can do complex math but are puzzled by simplicity" Nov. 2, 2005.

Oral Presentations at International Conferences

- 2019 • TRACX2: A domain-general connectionist chunking mechanism applied to elementary music perception, ASIC 2019, Seefeld, Austria, June 7-22, 2019.
- 2018 • Analyzing eye-tracking data to solve an outstanding problem in analogy-making. ASIC 2018, Loano, Italy, June 17-22, 2018.
- 2017 • TRACX2: a connectionist autoencoder using graded chunks to model infant visual statistical learning. ASIC 2017, Interlaken, Switzerland. July 15-20, 2017.
- 2017 • The Histogram-Difference Method (HDM) of neutron-gamma discrimination in plastic and organic scintillators. ANIMMA 2017. Liège, Belgium, Safeguards & Homeland Security Session, June 23, 2017
- 2016: • GAMIT: A new memory model of interval time perception to account for retrospective and prospective timing. ASIC 2016, Val Gardena, Italy, July 4, 2016
- 2012: • The Memory Game paradox: how do children play so well? ASIC 2012, Cala Gonone, Sardinia, Italy, June 7, 2012
- 2011: • TRACX: A Recognition-based connectionist framework for sequence segmentation and chunk extraction, ASIC 2011, Caldes de Boi, Spain, July 7, 2011.
- Creativity and Discovery: Opposite ends of a continuum of constraints. International Conference on Creativity and Cognition, Ahmedabad, India, October 29, 2011
- 2009: • The perils of constrained randomization. Eighth Annual Summer Interdisciplinary Conference, Aosta, Italy. July 27, 2009.
- Cognitive Load and Analogy-making in Children: Explaining an Unexpected Interaction. 31st Annual Conference of the Cognitive Science Society, Amsterdam, Holland. August 1, 2009.
- 2008: • The Red Tooth Hypothesis: Predator-prey relations and the maintenance of sexual reproduction, 12th Annual Symposium on Evolutionary Biology, Marseille, France, Sept. 24-26, 2008.
- Analogy-making in children: The importance of processing constraints. 30th Annual Conference of the Cognitive Science Society, Washington, D.C., U.S.A.
- The emergence of rules in an unsupervised neural network. CSCA Connectionist Models Seminar. Invited talk. University of Amsterdam, Holland, June 27, 2008.
- 2007: • KAMA: A Temperature-Driven Model of Mate-Choice using Dynamic Partner Representations. Tenth Neural Computation and Psychology Workshop, Dijon, France. April 13, 2007.
- Analogy-Making: Resolved and Unresolved Mysteries. Invited Symposia. *B. Kokinov, D. Gentner, S. Christie, L.A. Dumas, K. Kurtz, et R. French.*, EuroCogSci, May 2007, Delphi, Greece.
- 2005: A cat is a cat is a cat: Or is it? Reflections on modeling infant perceptual categorization. Annual Summer Interdisciplinary Conference 2005 (ASIC 2005), July 26, 2005, Briançon, France.
- 2004: Why You'll Remember This Talk and Most Networks Wouldn't or The Problem (and a Solution to) Catastrophic Forgetting in Neural Networks. Keynote Speaker. Ninth Neural Computation and Psychology Workshop, Plymouth, UK. September 8-10, 2004.
- 2003: • The importance of long-term memory in infant perceptual categorization. 25th Annual Conference of the Cognitive Science Society. Boston, MA, U.S.A.
- 2002: • The Importance of Starting Blurry: Simulating Improved Basic-Level Category Learning in Infants Due to Weak Visual Acuity. 24th Annual Conference of the Cognitive Science Society. Fairfax, Virginia, U.S.A.
- Four Problems with Extracting Human Semantics from Large Text Corpora. 24th Annual Conference of the Cognitive Science Society, Fairfax, Virginia, U.S.A.

- Preventing Catastrophic Interference in Multiple-Sequence Learning Using Coupled Reverberating Elman Networks. 24th Annual Conference of the Cognitive Science Society, Fairfax, Virginia, U.S.A.
- 2001:
- Reversing Category Exclusivities in Infant Perceptual Categorization: Simulations and Data. 23rd Annual Conference of the Cognitive Science Society, Edinburgh, U.K.
 - Reversing Asymmetric Infant Perceptual Categorization. European Society for Cognitive Psychology (ES COP), Edinburgh, U.K.
 - Pseudopatterns and dual-network memory models: Advantages and shortcomings, Sixth Neural Computation and Psychology Workshop, Liège, Belgium.
 - The Resemblance of One-year-old Infants to Their Fathers: Refuting Christenfeld and Hill (1995). 22nd Annual Conference of the Cognitive Science Society, Philadelphia, Pennsylvania, U.S.A.
- 1999:
- Modeling time perception in rats: Evidence for catastrophic interference in animal learning. 21st Annual Conference of the Cognitive Science Conference, Vancouver, Canada.
 - A Connectionist Account of Perceptual Category-Learning in Infants. 21st Annual Conference of the Cognitive Science Conference, Vancouver, Canada.
- 1998:
- Do Category-Specific Semantic Deficits Reflect Differences in the Distributions of Features Within a Unified Semantic Memory? 20th Annual Cognitive Science Society Conference, Ann Arbor, Michigan, U.S.A.
- 1997:
- Selective memory loss in aphasics: An insight from pseudo-recurrent connectionist networks. Fourth Neural Computation and Psychology Workshop, London, U.K.
 - A Neurobiologically Inspired Model of Working Memory Based on Neuronal Synchrony and Rhythmicity. Fourth Neural Computation and Psychology Workshop, London, U.K.
 - Homographic self-inhibition and the disappearance of priming: More evidence for an interactive-activation model of bilingual memory. 19th Annual Cognitive Science Society Conference, Stanford, California, U.S.A.
- 1996: Using interlexical nonwords to support an interactive-activation model of bilingual memory. 18th Annual Cognitive Science Society Conference, San Diego, California, U.S.A.
- 1995: Using non-cognate interlexical homographs to study bilingual memory organization. 17th Annual Conference of the Cognitive Science Society, Pittsburgh, Pennsylvania, U.S.A.
- 1994: Dynamically constraining connectionist networks to produce distributed, orthogonal representations to reduce catastrophic interference. 16th Annual Conference of the Cognitive Science Society, Atlanta, Georgia, U.S.A.
- 1993: Catastrophic forgetting in connectionist networks: Can it be predicted, can it be prevented? In Cowan, J.D., Tesauro, G., and Alspector, J. (eds.). Neural Information Processing Workshop on Catastrophic Forgetting, Vail, Colorado, U.S.A..
- 1991: Using Semi-distributed Representations to Overcome Catastrophic Forgetting in Connectionist Networks. 13th Annual Cognitive Science Society Conference, Chicago, Illinois, U.S.A.
- 1988: Subcognitive Probing: Hard Questions for the Turing Test. 10th Annual Cognitive Science Society Conference, Montreal, Canada.

Selected Colloquia

- Is the Dreaded Singularity really right around the corner? Invited talk at the French Atomic Energy Commission (CEA), Orme des Merisiers, Saclay, September 11, 2019.
- TRACX-TRACX2: A recognition-based connectionist framework for sequence segmentation and chunk extraction. Invited talk. Psychology Dept., University of Liège, Belgium. March 12, 2019.
- Artificial Intelligence: In Search of Context or Is the Singularity Really Near? Invited talk at Iconomie, Paris, May 15, 2018.
- The Histogram-Difference Method: A novel algorithm for neutron-gamma discrimination. Invited talk. French Atomic Energy Commission (CEA), October 17, 2017
- TRACX and TRACX2: A Recognition-Based Recursive Autoassociative Connectionist Framework for Sequence Segmentation and Chunk Extraction. Invited talk. Centre for Research on Cognition and Neuroscience (CRCN), Psychology Department, Université Libre de Bruxelles, Brussels, Belgium, June 7, 2017
- A novel explanation for children's exceptional performance on the game of Concentration. Invited talk. Psychology Department, Plymouth University, Plymouth, U.K., October 26, 2016
- Using Support Vector Machines (SVM) for neutron-gamma discrimination, Commissariat de l'Énergie Atomique (CEA), Saclay, France, July 22, 2015.
- How connectionist auto-encoders can explain infants' ability to segment continuous speech streams into words, Psychology Dept., Hertfordshire University, UK, Oct. 23, 2014.
- TRACX : A new memory-based view of how infants segment continuous speech streams into words, Psychology Dept., Université de Pierre-Mendès France, Grenoble, Oct. 2, 2014.
- Learning to beat your five-year-old at the Memory Game! Psychology Dept., Birkbeck College, U. of London, January 23, 2013.
- A neural network explanation of the Memory Game paradox: explaining how children play so well. Psychology Dept., U. of Warwick, UK. November 22, 2012.
- TRACX: A recognition-based connectionist framework for sequence segmentation and chunk extraction. Psychology Dept., U. of Bristol, Bristol, UK, November 21, 2012.
- TRACX: Sequence segmentation using a recursive auto-associator. Laboratoire de Psychologie Cognitive, Université de Provence, Marseille. January 13, 2012.
- TRACX: A recognition-based connectionist framework for sequence segmentation and chunk extraction. Psychology Dept., University of Zurich, Switzerland, May 23, 2011.
- Harnessing noise for robotic communication. University of Lausanne, Switzerland, April 7, 2011.
- L'Hypothèse de la Dent Rouge: Une simulation informatique des relations prédateur-proie et le rapport avec la maintenance de la reproduction sexuelle. Séminaire du Pôle Evolution du Vivant, Université de Bourgogne, Dijon, France, Nov. 6, 2009.
- The Red Tooth Hypothesis: Predator-prey relations, protean escape behavior and sexual reproduction. School of Psychology, Exeter University, UK., Oct. 14, 2008
- KAMA: un nouveau modèle de "mate-choice". Psychology Department, University of Poitiers, Poitiers, France, February 14, 2008.
- The Emergence of Rules in Category Learning: A Semi-supervised Neural Network Model. Invited lecture. New Bulgarian University. July 16, 2007. Sofia, Bulgaria.
- La modélisation informatique en psychologie. University of Burgundy, Doctoral College invited lecture series, April 2006.
- La modélisation, à quoi bon? Invited lecture. RTP-CNRS Workshop « Musique, cognition, et société ». IRCAM, Paris, June 24, 2006

- Perceptual categorization in young infants. Invited lecture. Department of Psychology, University Blaise Pascal, Clermont-Ferrand, April 13, 2006.
- Les modèles informatiques de la cognition. Invited lecture. Ecole doctorale, Department of Psychology, Université de Bourgogne, Dijon, France. April 6, 2006.
- Fluidly representing the world: Way, way harder than you think. ESF Exploratory Workshop on Understanding the Dynamics of Knowledge. Invited talk. Sienna, Italy, November 17, 2005.
- Category learning in early infancy. Invited lecture, Dept. of Psychology, University of York, UK., May 31, 2005
- Why you will remember this talk and a Neural Network would not. Invited lecture. Cognitive Science Department, METU University, Ankara, Turkey. June 4, 2004.
- A cat is a cat is a cat. Or is it? Perceptual bottom-up categorization in young infants: a computational model and empirical data. Two invited lectures at Bogazici University, Istanbul, Turkey. March 23-24, 2004.
- The use of auto-encoders to model categorization in young infants. Invited lecture. Department of Psychology. University of Ghent, Belgium. March 2, 2004.
- La suppression de l'oubli catastrophique dans les réseaux de neurones à l'aide du bruit. Invited speaker: Laboratoire d'Electronique, Informatique et Image (LE2I), Dijon, France. December 20, 2002.
- Un modèle connexionniste de la catégorisation chez les enfants en bas âge. Invited speaker: Institut National Polytechnique de Grenoble (INPG), Grenoble, France. December 6, 2002.
- Un modèle connexionniste de la catégorisation chez les enfants en bas âge (et des pertes catégorielles sélectives chez les amnésiques): prédictions et données empiriques. Invited Speaker: Laboratoire d'Etude des Mécanismes cognitifs. Université de Lyon 2, Lyons, France, December 5, 2002.
- Using noise to overcome catastrophic interference in neural networks, SISTA seminar, Katholieke Universiteit Leuven (KUL), Invited lecture, Nov. 21, 2002.
- Les réseaux connexionnistes au service de la psychologie cognitive: Quelques prédictions surprenantes. Invited speaker: GREN, Université Catholique de Louvain, Woluwe, Belgium, February 15, 2002.
- The Turing Test and the Problem of Representation in Artificial Intelligence. Invited speaker, Belgian Association for Psychology Students, Liège, Belgium, March 13, 2001.
- Au coeur de l'abstraction: la variance intra-catégorielle. Invited speaker, ACI Cognitive - Atelier Abstraction" Deuxième Journée Thématique "Catégories abstraites et catégories contextuelles" Ministère de la Recherche, Paris, France, January 11, 2001.
- Why representing the world is (a lot) harder than you think. Invited speaker, Birkbeck College, London, November 3, 2000.
- A dual-memory model connectionist explanation of category-specific deficits in amnesiacs. Invited speaker, NICI, Nijmegen, Holland, March 1, 2000.
- Dogs, cats, butterflies and chairs and their relation to a connectionist explanation of category-specific deficits in amnesiacs. Invited speaker, Department of Cognitive Sciences, New Bulgarian University, Sofia, Bulgaria, January 5, 2000.
- Un modèle connexionniste des déficits cérébraux sélectifs. Invited speaker, Department of Psychology, Université de Pierre Mendez-France, Grenoble, France, February 9, 1999.
- Dogs, cats, butterflies and chairs and their relation to a connectionist explanation of category-specific deficits in amnesiacs. Invited speaker, Department of Cognitive Sciences, Edinburgh University, Edinburgh, Scotland, December 4, 1998.
- Le modèle « pseudo-récurrent » et une explication éventuelle des déficits cérébraux sélectifs chez les amnésiques. Invited speaker, Département de Mathématiques, Université de Genève, Geneva, Switzerland, November 12, 1998.

- Monogamy with cuckoldry: an evolutionarily optimal strategy? Invited speaker. Portland State University, Portland, Oregon, August 17, 1998.
- La compréhension et la modélisation informatique du bilinguisme. Faculty of Experimental Psychology Colloquium, University of Liège, Liège, Belgium, December 9, 1997.
- What connectionism has to say about bilingual memory organization. Invited speaker. Santa Fe Institute, Santa Fe, New Mexico, August 18, 1997.
- Les ruptures analogiques et non-analogiques dans l'histoire de l'architecture. Invited speaker. School of Architecture, University of Liège, Belgium. March 12, 1997
- What makes representing the world so hard for computers? Invited speaker at *Liquid Visions Conference on Science, Technology and Aesthetics*. Lucerne, Switzerland, January 18, 1997.
- Catastrophic interference in connectionist networks: The cruel necessity of keeping representations apart. Invited lecture. Department of Cognitive Science, Oxford University, Oxford, England, May 24, 1996.
- Using interlexical homographs and nonwords to support an interactive-activation model of bilingual memory. Invited lecture. Department of Psychology, Exeter University, Exeter, England, May 21, 1996.
- La subtilité de l'identité: un modèle informatique de l'analogie. Faculty of Experimental Psychology Colloquium lecture, University of Liège, Liège, Belgium, May 14, 1996.
- An interactive-activation model of bilingual memory. Invited talk at the Cognitive Science Department, University of California at Irvine, Irvine, California. November 21, 1995.
- The interactive-activation model of bilingual memory: Support from non-cognate interlexical homographs and nonwords. Invited lecture for the Department of psychology, University of Amsterdam. Amsterdam, Netherlands, October 26, 1995.
- L'emploi des homographes interlexicaux pour étudier l'organisation mémoire chez les bilingues. Invited lecture. Psychology colloquium series, University of Louvain, Louvain-la-Neuve, May 24, 1995.
- Dynamically constraining hidden-layer units to reduce catastrophic forgetting in connectionist networks. Artificial Intelligence and Machine Learning Colloquium, Computer Science Department, University of Wisconsin, September 30, 1994.
- Representation-building in analogical reasoning. In the Symposium "Learning new features of representations" at the Sixteenth Annual Conference of the Cognitive Science Society, August 14, 1994. (see p. 977 of the *Proceedings* of the Conference).
- Tabletop: A stochastic computer model of analogy-making midway between connectionism and traditional AI. Invited lecture, Reed College, Portland, Oregon, November 17, 1993.
- Catastrophic Forgetting and Incremental Learning in Connectionist Networks, Invited Lecture, AAI Spring Symposium, Stanford University, California, March 24, 1993.
- Tabletop: Une architecture informatique à mi-chemin entre le connexionnisme et l'IA traditionnelle. ATO-CI Invited Lecture, Université du Québec à Montréal (UQAM), Montréal, Canada, November 17, 1992.
- Tabletop: A Stochastic Model of Analogy-making as High-level Perception, Invited Lecture for the Psychology Department, University of California at Berkeley, Berkeley, California, May 15, 1992.
- Tabletop: An Emergent, Stochastic Model of Analogy-Making, Invited Lecture for the Computer Science Artificial Intelligence Colloquium, Carnegie-Mellon University, Pittsburgh, Pennsylvania, March 19, 1991.
- Connexionnisme — L'Etat de l'Art aux Etats-Unis, Séminaire Industriel d'Intelligence Artificielle, organized by the AI Research Group of the Electricité de France, the IBM Scientific Research Center and the Expert Systems Department of Renault, Paris, France, April 10, 1990.

Subcognition and the Limits of the Turing Test, Turing 1990 Colloquium, University of Sussex, Brighton, U.K., April 6, 1990.

Tabletop — an Emergent Theory of Analogy-making, Indiana University Cognitive Science Colloquium Series, Bloomington, Indiana, September 18, 1989.

Tabletop, a computer model of analogy-making, Invited Lecture for Apple Computer Inc., Cupertino, California, July 28, 1989.

References

Denis Mareschal, Centre for Brain and Cognitive Development, School of Psychology, Birkbeck College, University of London, Malet St., London WC1E 7HX, UK, tel +44 (0)20 7631-6582/6226 fax +44 (0)20 7631-6312, email: d.mareschal@bbk.ac.uk

Pierre Perruchet, Research Director, French National Center for Scientific Research (CNRS). LEAD-CNRS UMR 5022, U. of Burgundy, Pôle AAFE, Esplanade Erasme, BP 26513, 21065 Dijon, France. pierre.perruchet@u-bourgogne.fr

Daniel C. Dennett, Distinguished Arts and Science Professor, Center for Cognitive Studies, Tufts University, Medford, Massachusetts 02155. Tel.: (617) 381-3261; email: ddennett@diamond.tufts.edu

Richard Shiffrin, Luther Dana Waterman Professor of Psychology and Director of the Cognitive Science Program, Indiana University, Bloomington, IN 47408. Tel.: (812) 855-4972; email: shiffrin@indiana.edu