



Jay McClelland

Lucie Stern Professor in the Social Sciences, Professor of Psychology and, by courtesy, of Linguistics and of Computer Science

CONTACT INFORMATION

- **Alternate Contact**

Reneé Rittler - Administrative Services Manager

Email rittler@stanford.edu

Tel 6507237431

Bio

ACADEMIC APPOINTMENTS

- Professor, Psychology
- Professor (By courtesy), Linguistics
- Professor (By courtesy), Computer Science
- Member, Bio-X
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Wu Tsai Human Performance Alliance
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Professor, Department of Psychology, (2006- present)
- Director, Center for Mind, Brain, Computation and Technology, (2006- present)

HONORS AND AWARDS

- Distinguished Scientific Contribution Award, American Psychological Association (1996)
- Member, National Academy of Sciences (2001-)

PROGRAM AFFILIATIONS

- Symbolic Systems Program

PROFESSIONAL EDUCATION

- Ph. D., University of Pennsylvania , Cognitive Psychology (1975)

LINKS

- Jay McClelland's Home Page: <https://stanford.edu/~jlmcc/>
- Center for Mind, Brain, Computation and Technology: <https://neuroscience.stanford.edu/mbct/home>

- PDP Lab: <http://web.stanford.edu/group/pdplab/index.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research addresses topics in perception and decision making; learning and memory; language and reading; semantic cognition; and cognitive development. I view cognition as emerging from distributed processing activity of neural populations, with learning occurring through the adaptation of connections among neurons. A new focus of research in the laboratory is mathematical cognition and reasoning in humans and contemporary AI systems based on neural networks.

Please visit my web page for more information.

Teaching

COURSES

2025-26

- Neural Network Models of Cognition: PSYCH 209 (Win)

2024-25

- Foundations of Cognition: PSYCH 205 (Spr)

2023-24

- Neural Network Models of Cognition: PSYCH 209 (Win)

2022-23

- Foundations of Cognition: PSYCH 205 (Spr)
- Neural Network Models of Cognition: PSYCH 209 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Joshua Ryu

Doctoral Dissertation Advisor (AC)

Satchel Grant, Sabrina Jones

Master's Program Advisor

Amrita Malhotra, Nicolo di Borgoricco

Doctoral (Program)

Satchel Grant, Jerome Han, Violet Xiang

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Reflections on David E. Rumelhart and the Rumelhart Prize** *TOPICS IN COGNITIVE SCIENCE*
McClelland, J. L.

2025

- **Grounding mathematics in an integrated conceptual structure, part I: experimental evidence that grounded rules support transfer that formal rules do not.** *Frontiers in psychology*
Mickey, K. W., McClelland, J. L.
2025; 16: 1507670
- **Language models, like humans, show content effects on reasoning tasks.** *PNAS nexus*
Lampinen, A. K., Dasgupta, I., Chan, S. C., Sheahan, H. R., Creswell, A., Kumaran, D., McClelland, J. L., Hill, F.
2024; 3 (7): pgae233
- **Systematic Human Learning and Generalization From a Brief Tutorial With Explanatory Feedback.** *Open mind : discoveries in cognitive science*
Nam, A. J., McClelland, J. L.
2024; 8: 148-176
- **Causal interventions expose implicit situation models for commonsense language understanding**
Yamakoshi, T., McClelland, J. L., Goldberg, A. E., Hawkins, R. D.
edited by Boyd-Graber, J., Okazaki, N., Rogers, A.
ASSOC COMPUTATIONAL LINGUISTICS-ACL.2023: 13265-13293
- **Capturing advanced human cognitive abilities with deep neural networks** *TRENDS IN COGNITIVE SCIENCES*
McClelland, J. L.
2022; 26 (12): 1047-1050
- **A weighted constraint satisfaction approach to human goal-directed decision making** *PLOS COMPUTATIONAL BIOLOGY*
Li, Y., McClelland, J. L.
2022; 18 (6): e1009553
- **Data Distributional Properties Drive Emergent In-Context Learning in Transformers**
Chan, S. C. Y., Santoro, A., Lampinen, A. K., Wang, J. X., Singh, A. K., Richemond, P. H., McClelland, J. L.
edited by Koyejo, S., Mohamed, S., Agarwal, A., Belgrave, D., Cho, K., Oh, A.
NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2022
- **Placing language in an integrated understanding system: Next steps toward human-level performance in neural language models** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
McClelland, J. L., Hill, F., Rudolph, M., Baldrige, J., Schutze, H.
2020; 117 (42): 25966-25974
- **Do estimates of numerosity really adhere to Weber's law? A reexamination of two case studies** *PSYCHONOMIC BULLETIN & REVIEW*
Testolin, A., McClelland, J. L.
2021; 28 (1): 158-168
- **Integration of new information in memory: new insights from a complementary learning systems perspective.** *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*
McClelland, J. L., McNaughton, B. L., Lampinen, A. K.
2020; 375 (1799): 20190637
- **Intrusions into the shadow of attention: A new take on illusory conjunctions** *ATTENTION PERCEPTION & PSYCHOPHYSICS*
Henderson, C. M., McClelland, J. L.
2020; 82 (2): 564-584
- **Exemplar models are useful and deep neural networks overcome their limitations: A commentary on Ambridge (2020)** *FIRST LANGUAGE*
McClelland, J. L.
2020; 40 (5-6): 612-615
- **Numerosity discrimination in deep neural networks: Initial competence, developmental refinement and experience statistics** *DEVELOPMENTAL SCIENCE*
Testolin, A., Zou, W. Y., McClelland, J. L.
2020; 23 (5): e12940

- **Quasi-compositional mapping from form to meaning: a neural network-based approach to capturing neural responses during human language comprehension** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*
Rabovsky, M., McClelland, J. L.
2020; 375 (1791): 20190313
- **Transforming task representations to perform novel tasks.** *Proceedings of the National Academy of Sciences of the United States of America*
Lampinen, A. K., McClelland, J. L.
2020
- **Generative Continual Concept Learning**
Rostami, M., Kolouri, S., McClelland, J., Pilly, P., Assoc Advancement Artificial Intelligence
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2020: 5545-5552
- **Developing the knowledge of number digits in a child-like robot** *NATURE MACHINE INTELLIGENCE*
Di Nuovo, A., McClelland, J. L.
2019; 1 (12): 594-605
- **A mathematical theory of semantic development in deep neural networks.** *Proceedings of the National Academy of Sciences of the United States of America*
Saxe, A. M., McClelland, J. L., Ganguli, S.
2019
- **Value-based decision making: An interactive activation perspective.** *Psychological review*
Suri, G. n., Gross, J. J., McClelland, J. L.
2019
- **Modelling the N400 brain potential as change in a probabilistic representation of meaning** *NATURE HUMAN BEHAVIOUR*
Rabovsky, M., Hansen, S. S., McClelland, J. L.
2018; 2 (9): 693–705
- **Modelling the N400 brain potential as change in a probabilistic representation of meaning.** *Nature human behaviour*
Rabovsky, M., Hansen, S. S., McClelland, J. L.
2018; 2 (9): 693-705
- **Different Presentations of a Mathematical Concept Can Support Learning in Complementary Ways** *JOURNAL OF EDUCATIONAL PSYCHOLOGY*
Lampinen, A. K., McClelland, J. L.
2018; 110 (5): 664–82
- **Concepts, Control, and Context: A Connectionist Account of Normal and Disordered Semantic Cognition** *PSYCHOLOGICAL REVIEW*
Hoffman, P., McClelland, J. L., Ralph, M.
2018; 125 (3): 293-328
- **Distinct Representations of Magnitude and Spatial Position within Parietal Cortex during Number-Space Mapping** *JOURNAL OF COGNITIVE NEUROSCIENCE*
Kanayet, F. J., Mattarella-Micke, A., Kohler, P. J., Norcia, A. M., McCandliss, B. D., McClelland, J. L.
2018; 30 (2): 200–218
- **Bayesian statistics to test Bayes optimality.** *The Behavioral and brain sciences*
Turner, B. M., McClelland, J. L., Busemeyer, J.
2018; 41: e246
- **The dynamics of multimodal integration: The averaging diffusion model.** *Psychonomic bulletin & review*
Turner, B. M., Gao, J., Koenig, S., Palfy, D., L McClelland, J.
2017
- **Building on prior knowledge without building it in** *BEHAVIORAL AND BRAIN SCIENCES*
Hansen, S. S., Lampinen, A. K., Suri, G., McClelland, J. L.
2017; 40: e268

- **What Learning Systems do Intelligent Agents Need? Complementary Learning Systems Theory Updated** *TRENDS IN COGNITIVE SCIENCES*
Kumaran, D., Hassabis, D., McClelland, J. L.
2016; 20 (7): 512-534
- **Bayesian analysis of simulation-based models** *JOURNAL OF MATHEMATICAL PSYCHOLOGY*
Turner, B. M., Sederberg, P. B., McClelland, J. L.
2016; 72: 191-199
- **You shall know an object by the company it keeps: An investigation of semantic representations derived from object co-occurrence in visual scenes.** *Neuropsychologia*
Sadeghi, Z., McClelland, J. L., Hoffman, P.
2015; 76: 52-61
- **Payoff Information Biases a Fast Guess Process in Perceptual Decision Making under Deadline Pressure: Evidence from Behavior, Evoked Potentials, and Quantitative Model Comparison.** *journal of neuroscience*
Noorbaloochi, S., Sharon, D., McClelland, J. L.
2015; 35 (31): 10989-11011
- **Payoff Information Biases a Fast Guess Process in Perceptual Decision Making under Deadline Pressure: Evidence from Behavior, Evoked Potentials, and Quantitative Model Comparison** *JOURNAL OF NEUROSCIENCE*
Noorbaloochi, S., Sharon, D., McClelland, J. L.
2015; 35 (31): 10989-11011
- **Connectionist perspectives on language learning, representation and processing** *WILEY INTERDISCIPLINARY REVIEWS-COGNITIVE SCIENCE*
Joanisse, M. F., McClelland, J. L.
2015; 6 (3): 235-247
- **Connectionist perspectives on language learning, representation and processing.** *Wiley interdisciplinary reviews. Cognitive science*
Joanisse, M. F., McClelland, J. L.
2015; 6 (3): 235-247
- **Capturing Gradiance, Continuous Change, and Quasi-Regularity in Sound, Word, Phrase, and Meaning** *HANDBOOK OF LANGUAGE EMERGENCE*
McClelland, J. L.
edited by MacWhinney, B., OGrady, W.
2015: 53-80
- **Resilient properties of thought and experience** *LANGUAGE COGNITION AND NEUROSCIENCE*
McClelland, J. L.
2015; 30 (8): 917-918
- **Parallel Distributed Processing at 25: Further Explorations in the Microstructure of Cognition** *COGNITIVE SCIENCE*
Rogers, T. T., McClelland, J. L.
2014; 38 (6): 1024-1077
- **Interactive activation and mutual constraint satisfaction in perception and cognition.** *Cognitive science*
McClelland, J. L., Mirman, D., Bolger, D. J., Khaitan, P.
2014; 38 (6): 1139-1189
- **Why bilateral damage is worse than unilateral damage to the brain.** *Journal of cognitive neuroscience*
Schapiro, A. C., McClelland, J. L., Welbourne, S. R., Rogers, T. T., Lambon Ralph, M. A.
2013; 25 (12): 2107-2123
- **Context, cortex, and associations: a connectionist developmental approach to verbal analogies** *FRONTIERS IN PSYCHOLOGY*
Kollias, P., McClelland, J. L.
2013; 4
- **Incorporating rapid neocortical learning of new schema-consistent information into complementary learning systems theory.** *Journal of experimental psychology. General*

-
- McClelland, J. L.
2013; 142 (4): 1190-1210
- **A Differentiation Account of Recognition Memory: Evidence from fMRI** *JOURNAL OF COGNITIVE NEUROSCIENCE*
Criss, A. H., Wheeler, M. E., McClelland, J. L.
2013; 25 (3): 421-435
 - **Integrating probabilistic models of perception and interactive neural networks: a historical and tutorial review.** *Frontiers in psychology*
McClelland, J. L.
2013; 4: 503-?
 - **Retrospective. R. Duncan Luce (1925-2012).** *Science*
McClelland, J. L.
2012; 337 (6102): 1619-?
 - **R. Duncan Luce (1925-2012)** *SCIENCE*
McClelland, J. L.
2012; 337 (6102): 1619
 - **Generalization Through the Recurrent Interaction of Episodic Memories: A Model of the Hippocampal System** *PSYCHOLOGICAL REVIEW*
Kumaran, D., McClelland, J. L.
2012; 119 (3): 573-616
 - **Can native Japanese listeners learn to differentiate /r-/ on the basis of F3 onset frequency?** *BILINGUALISM-LANGUAGE AND COGNITION*
Ingvalson, E. M., Holt, L. L., McClelland, J. L.
2012; 15 (2): 255-274
 - **Two Mechanisms of Human Contingency Learning** *PSYCHOLOGICAL SCIENCE*
Sternberg, D. A., McClelland, J. L.
2012; 23 (1): 59-68
 - **Using time-varying evidence to test models of decision dynamics: bounded diffusion vs. the leaky competing accumulator model** *FRONTIERS IN NEUROSCIENCE*
Tsetsos, K., Gao, J., McClelland, J. L., Usher, M.
2012; 6
 - **Using time-varying evidence to test models of decision dynamics: bounded diffusion vs. the leaky competing accumulator model** *FRONTIERS IN NEUROSCIENCE*
Tsetsos, K., Gao, J., McClelland, J. L., Usher, M.
2012; 6
 - **Predicting native English-like performance by native Japanese speakers** *JOURNAL OF PHONETICS*
Ingvalson, E. M., McClelland, J. L., Holt, L. L.
2011; 39 (4): 571-584
 - **Dynamic Integration of Reward and Stimulus Information in Perceptual Decision-Making** *PLOS ONE*
Gao, J., Tortell, R., McClelland, J. L.
2011; 6 (3)
 - **A PDP model of the simultaneous perception of multiple objects** *CONNECTION SCIENCE*
Henderson, C. M., McClelland, J. L.
2011; 23 (2): 161-172
 - **Testing multi-alternative decision models with non-stationary evidence** *FRONTIERS IN NEUROSCIENCE*
Tsetsos, K., Usher, M., McClelland, J. L.
2011; 5
 - **Are there mental lexicons? The role of semantics in lexical decision** *BRAIN RESEARCH*
Dilkina, K., McClelland, J. L., Plaut, D. C.
2010; 1365: 66-81

- **Emergence in Cognitive Science** *TOPICS IN COGNITIVE SCIENCE*
McClelland, J. L.
2010; 2 (4): 751-770
- **Letting structure emerge: connectionist and dynamical systems approaches to cognition** *TRENDS IN COGNITIVE SCIENCES*
McClelland, J. L., Botvinick, M. M., Noelle, D. C., Plaut, D. C., Rogers, T. T., Seidenberg, M. S., Smith, L. B.
2010; 14 (8): 348-356
- **Integration of Sensory and Reward Information during Perceptual Decision-Making in Lateral Intraparietal Cortex (LIP) of the Macaque Monkey** *PLOS ONE*
Rorie, A. E., Gao, J., McClelland, J. L., Newsome, W. T.
2010; 5 (2)
- **Integration of Sensory and Reward Information during Perceptual Decision-Making in Lateral Intraparietal Cortex (LIP) of the Macaque Monkey** *PLOS ONE*
Rorie, A. E., Gao, J., McClelland, J. L., Newsome, W. T.
2010; 5 (2): e9308
- **Matching Exact Posterior Probabilities in the Multinomial Interactive Activation Model**
Khaitan, P., McClelland, J. L.
edited by Ohlsson, S., Catrambone, R.
COGNITIVE SCIENCE SOCIETY, INC.2010: 623
- **Semantics in the wild: Context-sensitive inferences about mammals**
Glick, J., McClelland, J.
edited by Ohlsson, S., Catrambone, R.
COGNITIVE SCIENCE SOCIETY, INC.2010: 668
- **Complementary processing systems: A PDP model of the simultaneous perception of multiple objects**
Henderson, C., McClelland, J.
edited by Ohlsson, S., Catrambone, R.
COGNITIVE SCIENCE SOCIETY, INC.2010: 2395
- **Locating Object Knowledge in the Brain: Comment on Bowers's (2009) Attempt to Revive the Grandmother Cell Hypothesis** *PSYCHOLOGICAL REVIEW*
Plaut, D. C., McClelland, J. L.
2010; 117 (1): 284-290
- **Modeling Unsupervised Perceptual Category Learning** *IEEE TRANSACTIONS ON AUTONOMOUS MENTAL DEVELOPMENT*
Lake, B. M., Vallabha, G. K., McClelland, J. L.
2009; 1 (1): 35-43
- **How do we get from propositions to behavior?** *BEHAVIORAL AND BRAIN SCIENCES*
Sternberg, D. A., McClelland, J. L.
2009; 32 (2): 226-+
- **A connectionist model of a continuous developmental transition in the balance scale task** *COGNITION*
Schapiro, A. C., McClelland, J. L.
2009; 110 (3): 395-411
- **Is a Machine Realization of Truly Human-Like Intelligence Achievable?** *COGNITIVE COMPUTATION*
McClelland, J. L.
2009; 1 (1): 17-21
- **The Place of Modeling in Cognitive Science** *TOPICS IN COGNITIVE SCIENCE*
McClelland, J. L.
2009; 1 (1): 11-38
- **Precis of Semantic Cognition: A Parallel Distributed Processing Approach** *BEHAVIORAL AND BRAIN SCIENCES*
Rogers, T. T., McClelland, J. L.

2008; 31 (6): 689-?

- **A simple model from a powerful framework that spans levels of analysis** *BEHAVIORAL AND BRAIN SCIENCES*
Rogers, T. T., McClelland, J. L.
2008; 31 (6): 729-749
- **Objective assessment of deformable image registration in radiotherapy: A multi-institution study** *MEDICAL PHYSICS*
Kashani, R., Hub, M., Balter, J. M., Kessler, M. L., Dong, L., Zhang, L., Xing, L., Xie, Y., Hawkes, D., Schnabel, J. A., McClelland, J., Joshi, S., Chen, et al
2008; 35 (12): 5944-5953
- **Cooperation of complementary learning systems in memory**
McClelland, J. L.
PSYCHOLOGY PRESS.2008: 2
- **Effects of attention on the strength of lexical influences on speech perception: Behavioral experiments and computational mechanisms** *COGNITIVE SCIENCE*
Mirman, D., McClelland, J. L., Holt, L. L., Magnuson, J. S.
2008; 32 (2): 398-417
- **Modeling Unsupervised Perceptual Category Learning** *7th IEEE International Conference on Development and Learning*
Lake, B. M., Vallabha, G. K., McClelland, J. L.
IEEE.2008: 25-30
- **Modeling Unsupervised Perceptual Category Learning**
Lake, B. M., Vallabha, G. K., McClelland, J. L., IEEE
IEEE.2008: 25-30
- **Connectionist Models of Cognition** *CAMBRIDGE HANDBOOK OF COMPUTATIONAL PSYCHOLOGY*
Thomas, M. S. C., McClelland, J. L.
edited by Sun, R.
2008: 23-59
- **A single-system account of semantic and lexical deficits in five semantic dementia patients** *COGNITIVE NEUROPSYCHOLOGY*
Dilkina, K., McClelland, J. L., Plaut, D. C.
2008; 25 (2): 136-164
- **Language is not just for talking - Redundant labels facilitate learning of novel categories** *PSYCHOLOGICAL SCIENCE*
Lupyan, G., Rakison, D. H., McClelland, J. L.
2007; 18 (12): 1077-1083
- **Language is not just for talking - Redundant labels facilitate learning of novel categories** *PSYCHOLOGICAL SCIENCE*
Lupyan, G., Rakison, D. H., McClelland, J. L.
2007; 18 (12): 1077-1083
- **Unsupervised learning of vowel categories from infant-directed speech** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Vallabha, G. K., McClelland, J. L., Pons, F., Werker, J. F., Amano, S.
2007; 104 (33): 13273-13278
- **Using domain-general principles to explain children's causal reasoning abilities** *DEVELOPMENTAL SCIENCE*
McClelland, J. L., Thompson, R. M.
2007; 10 (3): 333-356
- **Convergent approaches to the understanding of autonomous mental development** *IEEE TRANSACTIONS ON EVOLUTIONARY COMPUTATION*
McClelland, J. L., Plunkett, K., Weng, J.
2007; 11 (2): 133-136
- **Success and failure of new speech category learning in adulthood: Consequences of learned Hebbian attractors in topographic maps** *COGNITIVE AFFECTIVE & BEHAVIORAL NEUROSCIENCE*

- Vallabha, G. K., McClelland, J. L.
2007; 7 (1): 53-73
- **Success and failure of new speech category learning in adulthood: Consequences of learned Hebbian attractors in topographic maps** *COGNITIVE AFFECTIVE & BEHAVIORAL NEUROSCIENCE*
Vallabha, G. K., McClelland, J. L.
2007; 7 (1): 53-73
 - **Gradiance of gradiance: A reply to Jackendoff (Ray Jackendoff)** *LINGUISTIC REVIEW*
McClelland, J. L., Bybee, J.
2007; 24 (4): 437-455
 - **Response to McQueen et al.: Theoretical and empirical arguments support interactive processing** *TRENDS IN COGNITIVE SCIENCES*
Mirman, D., McClelland, J. L., Holt, L. L.
2006; 10 (12): 534
 - **A homeostatic rule for inhibitory synapses promotes temporal sharpening and cortical reorganization** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Moldakarimov, S. B., McClelland, J. L., Ermentrout, G. B.
2006; 103 (44): 16526-16531
 - **Connectionist models of development** *DEVELOPMENTAL SCIENCE*
Munakata, Y., McClelland, J. L.
2003; 6 (4): 413-429
 - **Differentiation and integration in human language - Reply to Marslen-Wilson and Tyler** *TRENDS IN COGNITIVE SCIENCES*
McClelland, J. L., Patterson, K.
2003; 7 (2): 63-64
 - **Stipulating versus discovering representations** *BEHAVIORAL AND BRAIN SCIENCES*
Plaut, D. C., McClelland, J. L.
2000; 23 (4): 489-+
 - **Neural models of memory** *CURRENT OPINION IN NEUROBIOLOGY*
Hasselmo, M. E., McClelland, J. L.
1999; 9 (2): 184-188
 - **Considerations arising from a complementary learning systems perspective on hippocampus and neocortex** *HIPPOCAMPUS*
McClelland, J. L., Goddard, N. H.
1996; 6 (6): 654-665
 - **HIPPOCAMPAL CONJUNCTIVE ENCODING, STORAGE, AND RECALL - AVOIDING A TRADE-OFF** *HIPPOCAMPUS*
OREILLY, R. C., MCCLELLAND, J. L.
1994; 4 (6): 661-682
 - **LEARNING THE GENERAL BUT NOT THE SPECIFIC** *CURRENT BIOLOGY*
MCCLELLAND, J. L.
1994; 4 (4): 357-358
 - **LEARNING CONTINUOUS PROBABILITY-DISTRIBUTIONS WITH SYMMETRICAL DIFFUSION NETWORKS** *COGNITIVE SCIENCE*
MOVELLAN, MCCLELLAND, J. L.
1993; 17 (4): 463-496
 - **NEURAL NETWORK MODELS AND COGNITIVE NEUROPSYCHOLOGY** *PSYCHIATRIC ANNALS*
FARAH, M. J., MCCLELLAND, J. L.
1992; 22 (3): 148-153
 - **A COMPUTATIONAL MODEL OF SEMANTIC MEMORY IMPAIRMENT - MODALITY SPECIFICITY AND EMERGENT CATEGORY SPECIFICITY** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
FARAH, M. J., MCCLELLAND, J. L.

1991; 120 (4): 339-357

- **ON THE CONTROL OF AUTOMATIC PROCESSES - A PARALLEL DISTRIBUTED-PROCESSING ACCOUNT OF THE STROOP EFFECT** *PSYCHOLOGICAL REVIEW*
Cohen, J. D., Dunbar, K., McClelland, J. L.
1990; 97 (3): 332-361
- **A SIMULATION-BASED TUTORIAL SYSTEM FOR EXPLORING PARALLEL DISTRIBUTED-PROCESSING** *BEHAVIOR RESEARCH METHODS INSTRUMENTS & COMPUTERS*
McClelland, J. L., Rumelhart, D. E.
1988; 20 (2): 263-275
- **THE CASE FOR INTERACTIONISM IN LANGUAGE PROCESSING** *ATTENTION AND PERFORMANCE*
MCCLELLAND, J. L.
1987: 3-36
- **THE TRACE MODEL OF SPEECH-PERCEPTION** *COGNITIVE PSYCHOLOGY*
MCCLELLAND, J. L., ELMAN, J. L.
1986; 18 (1): 1-86
- **STRUCTURAL FACTORS IN FIGURE PERCEPTION** *PERCEPTION & PSYCHOPHYSICS*
MCCLELLAND, J. L., MILLER, J.
1979; 26 (3): 221-229
- **VISUAL FACTORS IN WORD PERCEPTION** *PERCEPTION & PSYCHOPHYSICS*
JOHNSTON, J. C., MCCLELLA, J. L.,
1973; 14 (2): 365-370