

Robin D. Thomas, Ph.D.

Present Address: Department of Psychology tel. (513) 529-1749;
 Psychology Department FAX, (513) 529-2420
 Miami University email:thomasrd@muohio.edu
 Oxford, Ohio 45056

Education: Purdue University, B.A. in Psychology, Minor Mathematics (Magna Cum Laude) 1989
 Indiana University, Joint Ph.D. Cognitive Science & Psychology, 1995
 Indiana University, M.A., Mathematics, 1995

Professional Experience:

2008 – Director, Center for Human Psychophysiology, Miami University
 2001 – Associate Professor, Department of Psychology, Miami University
 1999 – 2007 Director, Program in Brain and Cognitive Science, Department of Psychology, Miami University
 2001 Winer Memorial Scholar-in-Residence, Department of Psychological Sciences, Purdue University

Academic Honors and Awards

2007 Outstanding Paper Contribution for 2004-2006, Journal of Mathematical Psychology
 2004 Invitee Winer Memorial Lecture Series, Purdue University
 2002 Invitee Winer Memorial Lecture Series, Purdue University
 2001 Remak Fellow, Indiana University
 1999 New Investigator, American Psychological Association (Division 3)
 1998 New Investigator, Society for Mathematical Psychology
 1998 Faculty Research Award, Air Force Research Lab, Brooks AFB, Texas
 1996 Graduate Career Research Achievement Award, Indiana University Cognitive Science
 National Defense Science & Engineering Graduate Fellowship, 1991-1994
 Cognitive Science Fellowship Award, Indiana University, 1989 – 1991

Consulting and Reviewing

National Institutes of Health – Cognition and Perception Panel Member, 2006
 National Science Foundation – Grant Reviewer
 Air Force Office of Scientific Research – Grant Reviewer
 Psychological Review
 Psychological Science
 Psychonomic Bulletin & Review
 Journal of Experimental Psychology: General
 Journal of Experimental Psychology: Human Perception and Performance
 Journal of Experimental Psychology: Learning, Memory, and Cognition
 Perception & Psychophysics
 Memory & Cognition
 Journal of Mathematical Psychology
 Psychometrika
 Behavior Research Methods

Professional Affiliations

Society for Mathematical Psychology; Psychonomic Society; Visual Sciences Society, Association for Psychological Science; Mathematical Association of America; American Mathematical Society; American Statistical Association; Sigma Xi; National Council of Teachers of Mathematics

Research Interests:

My research spans two broad areas: i) the cognitive and neural processes that underlie our ability to recognize and categorize objects into groups, and ii) mathematical and statistical issues in testing models of perception and categorization. Four specific projects are described below:

Learning, generalization, and neural processes in classification and vision: How people come to know when an object belongs to a given category is a skill that underlies almost all other types of cognitive activity, including memory, language, decision-making, and problem-solving. For example, in order to apply the correct solution to a given problem one must categorize it as belonging to a class of problems amenable to this or that type of solution. Before we can interact with others, we might classify them as people we know or members of groups for which we know something about. My research in categorization processes focuses on the fundamentals of category learning and its neural underpinnings. The current hypothesis regarding how the brain categorizes an object is that two separable systems can be employed: a rule-governed module and a procedurally-based module. We have several projects ongoing that look at

- how learning in one type of task (rule-governed or procedural) can generalize to another using different objects; whether there are preferred sequences of training to enhance generalization
- individual differences in the type of strategy people typically rely upon (e.g., handedness, cognitive style, working memory capacity)
- face processing and influences of category labels on face representation
- single cell neuron behavior in the rabbit in which a categorization task is embedded within a classical conditioning paradigm (collaborative work with Steve Berry)
- decision models of signal detection underlying perception in uncertainty paradigms

Statistical and mathematical issues in modeling of perceptual and categorization processes. I have worked extensively on developing formal models of the categorization and perception processes that, at first glance, appear effortless and straightforward. That there is significant challenge in adequately formalizing these processes can be seen in the absence of competent computer or robot models of even the simplest types of perceptual tasks. One of the overarching concerns in model development is the means by which some models are selected as good representations of the data over others. This model selection issue broaches statistical questions as well as research methods questions. Currently, we have support from the National Science Foundation to explore both statistical and empirical methods for determining which models outperform others as explanations for how we perceive simple events in the environment.

Applications of categorization to clinical problems. In collaborative work with Dr. Fofi Constantinidou supported by the National Institutes of Health, we have developed a comprehensive cognitive retraining program targeting categorization and related processes (e.g., feature identification and similarity judgments) for individuals who have suffered traumatic brain injury. Our thesis is that because categorization is a process that lies at the heart of almost all other cognitive processes, by retraining this skill, greater functional benefit can be realized for patients. We have acquired significant preliminary support for the efficacy of our approach. Future work will concern i) the identification of the “active ingredient” in our protocol, ii) the relationship between standard neuropsychological assessments and effectiveness, and iii) the illumination of basic categorization processes that may be disrupted due to brain injury.

Applications of concept understanding to technology interface design. In collaboration with human factors engineers at Lexis-Nexis, we are researching how to best organize and display taxonomic information such that users of technology may best do their work. Whether navigating around a website, searching through a specialized database, or browsing an online catalog, information seekers engage in a variety of behaviors designed to satisfy some desire for input (Rice, McCreadie, & Chang, 2001). Knowing how they go about this task effectively is one of the most important goals of research in technology intensive industries. A significant body of work concerns how information should be structured in an information retrieval system. Oddly, little of that work incorporates what is known from the cognitive science of knowledge representation. Most current efforts are informed by computational linguistics or logic. In preliminary work published in the *Proceedings of the HFES*, we have investigated the perceived usability and actual performance consequences of navigation tools for browsing hierarchically organized information structures.

Grants

Ohio Board of Regents (OBOR), Research Incentive Award (PI with Co-Authors D. Bergen, M. Cronley, K. Hugenberg, K. Hutchinson, J. Kiper, E. Schussler, P. Wessels, & Q. Zhou, August 2008 – August 2009). *Psychophysiology: A Window into the mind*. \$49,980.

National Science Foundation (September, 2006 – August 2009). Adapting systems factorial technology to the problem of model selection. \$217,525

President's Sheriff Award, (with S. Wright, L Actis, A. Shukla, & M. Cybulski, 2005-2008), *Paving the Way for Computational Research at Miami University*. \$150,000

NIMH (Co-Investigator with F. Constantinadou, September 2004 – August 2008) Project Title: *Effects of a Systematic Categorization Program in TBI*. \$213,000

Miami University Research Advisory Council (MURAC) Shoupp Award (with D. Gardner & S. Krsocak, May 2004-August 2005). *Exploring the Usability of Navigation in a Hierarchical Information Resource*. \$4000

Ohio Super-Computer Center, Cluster Ohio Project, (with S. Wright, L Actis, A. Shukla, & M. Cybulski), *Advancement of Computational Research at Miami University* \$192,000

Proctor & Gamble Initiative on Interactive Technologies (with Jay Smart, Marv Dainoff, 2002-2003) *Interactivity in VE as a Tool for Displaying Information about Complex Systems* \$15,000

NIMH Cognitive Science Program (August 1998 - July 2001), Project Title: *Relating Categories and Perceptual Representations*. \$108,340

Committee on Faculty Research, Miami University (1997-8) Project Title: *The Relationship between Human Perception and Categorization*. \$15,000

Publications

Constantinadou, F. & Thomas, R. D. Principles of cognitive rehabilitation: An integrative approach. In press, in M. Ashley (Ed.) *Traumatic Brain Injury Rehabilitation (3rd edition)*. CRC Press.

Constantinadou, F., Thomas, R.D., Haron, L. Benefits of categorization training in patients with TBI during post acute rehabilitation: Additional evidence from a RCT. In press, *Journal of Head Trauma Rehabilitation*.

Wenger, M.J., Copeland, A. M., Bittner, J. L., & Thomas, R. D. (2008) Evidence for criterion shifts in visual perceptual learning: Data and implications. *Perception & Psychophysics*, 70, 1248-1273.

Ye, L. & Thomas, R. D. (2008). The perception of multiple affordances: A multidimensional scaling approach. *Proceedings of the Human Factors and Ergonomics Society, 52nd Annual Meeting*, 1267 – 1271.

DeCaro, M.S., Thomas, R.D., & Beilock, S.L. (2008). Individual differences in category learning: Sometimes less working memory capacity is better than more. *Cognition*, 107, 284-294.

Lea, M.A., Thomas, R.D., Lamkin, N.A., & Bell, A. (2007) Who do you look like? Evidence for the

- existence of facial stereotypes for male names. *Psychonomic Bulletin & Review*, 14(5), 901-907.
- Thomas, R.D. (2006) Processing time predictions of current models of perception in the classic additive factors paradigm. *Journal of Mathematical Psychology* 50, 441-455..
- Gardner, D. L., Thomas, R. D., & Jones, P. H. (2006) A Multilevel navigation aid for hierarchical structures: An innovation case study and empirical evaluation. *Proceedings of the Human Factors and Ergonomics Society 50th Annual Meeting*, San Francisco (pp. 1452-1456).
- Constantinadou, F., Thomas, R.D., Scharp, V.L., Hammerly, M.D., Guitonde, S. (2005). Effects of categorization training in patients with TBI during post acute rehabilitation: Preliminary findings. *Journal of Head Trauma Rehabilitation*, 20, 143-157.
- Dror, I.E., & Thomas, R. D. (2005). The cognitive science laboratory: A framework for the science of mind. In C. Erneling & D. Johnson (Eds.), *Mind as a scientific object: Between brain and culture*. Cambridge: Oxford University Press.
- Constantinadou, F., Thomas, R. D., & Best, P. J. (2003). Principles of Cognitive Rehabilitation: An Integrative Approach. In M. Ashley (Ed.) *Traumatic Brain Injury Rehabilitation* (2nd edition). CRC Press.
- Thomas, R. D. (2003). Further considerations of a general d' in multidimensional space. *Journal of Mathematical Psychology* 47, 220-224.
- Thomas, R. D. (2002). Characterizing perceptual interactions in face identification using multidimensional signal detection theory. In M.Wenger & J.T. Townsend (Eds.) *Computational, geometric, and process perspectives on facial cognition: Contexts and challenges*. Hillsdale, NJ: Erlbaum.
- Thomas, R. D. (2001). Perceptual interactions of facial dimensions in speeded classification and identification. *Perception & Psychophysics*, 63, 625-650.
- Thomas, R. D. (1999). Assessing sensitivity in a multidimensional space: Some problems and a definition of a general d' . *Psychonomic Bulletin & Review*, 6, 224-238.
- Thomas, R. D. (1998). Learning correlations in categorization tasks using large, ill-defined categories. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 24, 119-143.
- Thomas, R. D. (1996). Separability and independence of dimensions in the same-different judgment task. *Journal of Mathematical Psychology*, 40, 318-341.
- Thomas, R. D. (1995). Gaussian General Recognition Theory and perceptual independence. *Psychological Review*, 102, 192-200.
- Townsend, J. T., & Thomas, R. D. (1994). Stochastic dependencies in parallel and serial models: Effects on systems factorial interactions. *Journal of Mathematical Psychology*, 38, 1-34.
- Townsend, J. T., & Thomas, R. D. (1993) On the need for a general theory of pattern similarity. In S.C. Masin (Ed.) *Foundations of Perceptual Theory*. Amsterdam: Elsevier.

Published Abstracts, Technical Reports, and Programs

- DeCaro, M. S., Thomas, R. D., & Beilock, S. L. (2007). On the multiple routes to skill failure: Distraction, over-attention, and task demands. *Abstracts of the Psychonomics Society, 12*, 1080.
- Olzak, L. A., Wagge, J. R. and Thomas, R. D. (2006) Signal detection analysis of an uncertainty discrimination paradigm. *Journal of Vision, 6*(6), 193a, <http://journalofvision.org/6/6/193/>, doi:10.1167/6.6.193.
- DeCaro, M., Thomas, R.D., Beilock, S. (2006). Working Memory Capacity and Categorization: Sometimes Less is More. *Abstracts of the Psychonomic Society, 11*, 4099.
- Olzak, L. A., Wagge, J. R. and Thomas, R. D. (2006) Decision models in an uncertainty paradigm. *Perception, 35s*, 89.
- Olzak, L. A., Wagge, J. R., and Thomas, R. D. (2006) Signal detection rating models underlying the uncertainty paradigm. *Journal of Vision*, in press.
- Thomas, R.D., & Sholl, J. H. (2005). Nonselective effects of stimulus probability in a systems factorial paradigm. *Journal of Mathematical Psychology, 49*,96.
- Lea, M. A., Thomas, R.D., Bell, A.T., Lamkin, N.A., Sholl, J.H. (2005). Who do you look like? Further exploration into the relationship between names and faces. *Abstracts of the Psychonomic Society, 10*, 4112.
- Constantinidou, F., Thomas, R.D., Haren, L. (2006). Effects of categorization training in traumatic brain injury rehabilitation. *Journal of Head Trauma Rehabilitation, (21)* 5, 424.
- Thomas, R.D., Lea, M.A., Karelina, K., Milone, R. & Sholl, J. (2004). Do you look like a Bob or a Tim? *Abstracts of the Psychonomic Society, 9*, 4096.
- Christy, K., Hammerly, M.D., Parker, J.L., Thomas, R.D., Lea, M.L., Karelina, K. (2002). Possible predictors of performance and generalization within an implicit categorization task. *Abstracts of the Psychonomic Society, 7*, 672.
- Constantinidou, F., Thomas, R. D., Scharp, V. L., Hammerly, M. D., & Best, P. (2001). *Categorization Program*. Oxford, OH: Miami University.
- Thomas, R., Lea, M., Hammerly, M. (2000). Category learning as a top-down influence on perception. *Abstracts of the Psychonomic Society, 5*, 500.
- Thomas, R., Hammerly, M., & Lea, M. (2000). Sources of influence on visual perception after classification training. *Investigative Ophthalmology & Visual Science, 41*, B248.
- Thomas, R. D. (1999). Preliminary decision analysis of the data exploitation, mission planning, and communication (DEMPC) system of the Predator unmanned aerial vehicle (UAV). Air Force Research Lab Technical Report, Brooks AFB, Texas.
- Thomas, R. (1999). Category learning influences perceptual processing of simple visual properties of objects. *Investigative Ophthalmology & Visual Science, 40*, B832.

- Thomas, R. (1998). Characterizing additivity and selective influence in some current models of perception. Abstract of paper presented at 30th Annual Meeting of the Society for Mathematical Psychology. *Journal of Mathematical Psychology*, 42, 484.
- Thomas, R. D., Ell, S. W., & Grossman, E. (1998). Exploring the consequences of integrality and perceptual dependencies on component same-different judgments. Abstract of paper presented at the 30th Annual Meeting of the Society for Mathematical Psychology. *Journal of Mathematical Psychology*, 42, 489.
- Thomas, R.D., & Ell, S.W. (1998). Perceptual interactions in a comparison task: A detection-theoretic approach. *Abstracts of the Psychonomic Society*, 3, 327.
- Thomas, R.D., & Criss, A.H. (1997). Handedness as a source of individual differences in category learning. *Abstracts of the Psychonomic Society*, 2, 327.
- Thomas, R.D. (1996). Separability and independence of facial dimensions in classification and identification. *Abstracts of the Psychonomic Society*, 1, 587.

Submitted Manuscripts

- Mauldin, K.N., Hoedt, C.W., O'Brien, W.P., Berry, S.D., & Thomas, R.D. Perception of dimensional interaction in a bivariate bilateral conditioning paradigm. Submitted for publication, *Journal of the Acoustical Society of America*.
- Mauldin, K. & Thomas, R. D. Learning and transfer after category training: Evidence for rule-governed and procedural strategies. Submitted for publication, *Perception & Psychophysics*.
- Silbert, N. H., de Jong, K. J., Thomas, R. D., & Townsend, J. T. Diagonal d' does not (always) diagnose failure of separability: An addendum to Kingston, Diehl, Kirk, and Castleman (2008). Submitted for publication, *Journal of Phonetics*.
- Thomas, R. D. & Purcell, B. A. Evaluating three procedures for the analysis of sorting data using Munsell colors and personality traits. Submitted for publication, *Multivariate Behavioral Research*.
- Thomas, R. D. Wagge, J., & Olzak, L.A. Signal detection decision models for the uncertainty task. Submitted for publication, *Journal of Mathematical Psychology*

Manuscripts in Preparation

- Johnson, J. & Thomas, R. D. Multiple imputation for missing data in regression models: A SAS Macro for the omnibus test and nested sets regression.
- DeCaro, M. S., Carlson, K. D., Thomas, R. D., & Beilock, S. On strategies, working memory, and category learning: Observations of Tharp & Pickering.

Invited Symposia

- Thomas, R.D. (2004, November). Nonselective effects of probability in an additive-factors framework. Winer Memorial Lecture Series, Purdue University
- Christy, K. & Thomas, R. D. (2003, September) *Generalization of implicit category structures*.

Invited address at the Symposium on Categorization and Neuroscience, Rutgers, NJ.

Thomas, R. D., (1999, July) Can one study perceptual interactions in a comparison task? Some theory, some data, and some controversies. Plenary address given at the Thirty-second Annual Meeting of the Society for Mathematical Psychology, Santa Cruz, CA.

Thomas, R. D. (1998, August) On a proposal for a multidimensional d' and the consequences for current tests of perceptual separability and independence. Symposium: *Subjective metrics in stimulus space*. Thirty-first Annual Meeting of the Society for Mathematical Psychology, Nashville, TN.

Thomas, R. D. (1997, July) Organizer and speaker: Characterizing additivity and selective influence in current models of perceptual classification. Symposium: *Selective influence and the analysis of mental architecture*. Thirtieth Annual Meeting for the Society for Mathematical Psychology, Bloomington, IN.

Thomas, R. D. (1997, May). Assessing perceptual interactions: Applications to face recognition. Invited symposium presentation at the Ninth Annual Convention of the American Psychological Society, Washington, D.C.

Dror, I., & Thomas, R. D. (1996, October). The cognitive neuroscience laboratory: Scientific answers about the mind. Invited address at the interdisciplinary conference, *The Mind as a Scientific Object*, Toronto, Canada.

Conference Presentations

Lea, M.A., Thomas, R.D., & Lamkin, N. (2008, July). Evidence for a cross-modal interaction between names and faces. . Poster presentation at the *41th Annual Meeting of the Society for Mathematical Psychology*, Washington, D.C.

Carlson, K.D., Thomas, R.D., DeCaro, M.S. & Beilock, S.L. (2008, July). Working memory and category learning: Decision bound modeling of individual differences in response strategy. Poster presentation at the *41th Annual Meeting of the Society for Mathematical Psychology*, Washington, D.C.

DeCaro, M. S., Thomas, R. D., & Beilock, S. L. (2008, May). Choking under pressure: Multiple routes to skill failure. Paper presented at the *Annual Meeting of the Midwestern Psychological Association*, Chicago IL.

Thomas, R. D., Wagge, J., & Olzak, L.A. (2007, July). Exploring different decision models of the uncertainty paradigm within the signal detection framework. Poster presentation at the 40th Annual Meeting of the Society for Mathematical Psychology, Irvine, CA

Purcell, B. A., & Thomas, R. D. (2007, July). External and internal validity comparisons of three statistical analysis methods for sorting data using Munsell colors and personality traits. Poster presentation at the 40th Annual Meeting of the Society for Mathematical Psychology, Irvine, CA .

Mauldin, K.N., Thomas, R.D., Berry, S.D. (2007). "Striatal and Limbic Effects of Anterior Cingulate Cortex Lesions during Interdimensional Transfer and Reversal in a Bilateral Classical Conditioning Task". Poster presentation given at the Ohio Miami Valley Chapter of the Society for Neuroscience, Cincinnati, OH.

- Mauldin, K.N., Thomas, R.D., Berry, S.D. (2007). "Striatal and Limbic Effects of Anterior Cingulate Cortex Lesions during Interdimensional Transfer and Reversal in a Bilateral Classical Conditioning Task" . Poster presentation given at the Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- DeCaro, M. S., Thomas, R. D., & Beilock, S. L. (2008, May). Choking under pressure: Multiple routes to skill failure. Paper submitted to the *Annual Meeting of the Midwestern Psychological Association*, Chicago IL.
- DeCaro, M. S., Thomas, R. D., & Beilock, S. L. (2007, November). On the multiple routes to skill failure: Distraction, over-attention, and task demands. Poster to be presented at the *Annual Meeting of the Psychonomics Society*, Long Beach CA.
- Beilock, S. L., & DeCaro, M. S. (2007, November). Choking under pressure: Insights into skill failure and success. Paper to be presented at the *Annual Meeting of the Psychonomics Society*, Long Beach CA.
- DeCaro, M. S., Thomas, R. D., Kendra, M. S., & Beilock, S. L. (2007, May). Working memory and category learning: When less is more. Paper presented to the *Annual Meeting of the Midwestern Psychological Association*, Chicago IL. Received Graduate Student Award: Honorable Mention
- Mauldin, K.N, Hoedt ,C.W., O'Brien ,W.P., Hoffman, L.C., Thomas, R.D. & Berry, S.D. (October, 2006). "Neurobiology of bilateral rabbit eyeblink conditioning: adaptation to categorization experiments." Poster presentation given at the Annual Meeting of the Society for Neuroscience, Atlanta, GA.
- DeCaro, M., Thomas, R.D., Beilock, S. (2006, November). Working Memory Capacity and Categorization: Sometimes Less is More. Presented at the Forty-seventh Annual Meeting of the Psychonomic Society, Houston TX. (November).
- Constantinidou, F., Thomas, R., Haren, L. (2006, October) Retraining Cognition: Effects of Categorization Training after TBI. Paper presented at the European Neuropsychological Societies conference, Toulouse, France, 10/06.
- Constantinidou, F., Thomas, R., & Robinson, L. (2006, September) Categorization Training and Neuropsychological Performance in TBI Rehabilitation. Poster presentation at the American Congress of Rehabilitation Medicine Annual Conference, Boston, MA,.
- Olzak, L. A., Wagge, J. R. and Thomas, R. D. (2006, September) Decision models in an uncertainty paradigm. Paper presented at the 29th European Conference on Visual Perception, St. Petersburg, Russia.
- Olzak, L. A., Wagge, J. R., and Thomas, R. D. (2006, August) Signal detection rating models underlying the uncertainty paradigm. Paper presented at the Optical Society of America Annual Fall Vision Meeting. Optical Society of America, Rochester, N.Y.
- Olzak, L. A., Wagge, J. R. and Thomas, R. D. (2006, May) Signal detection analysis of an uncertainty discrimination paradigm. Presented at the Vision Science Society Meeting, Sarasota, FL.
- Lea, M.A., Thomas, R.D., Bell, A.T., & Lamkin, N.A. (2006, May) A Demonstration of the

relationship between names and faces. Poster presentation at Association for Psychological Sciences, New York, NY.

- Constantinidou, F., Thomas, R., Haren, L. (2006, March) Effects of Categorization Training in TBI Rehabilitation. Poster presentation at the Second Federal TBI Interagency Meeting, Bethesda, MD.
- Lea, M. A., Thomas, R.D., Bell, A.T., Lamkin, N.A., Sholl, J.H. (2005, November). Who do you look like? Further exploration into the relationship between names and faces. Presented at the 46th Annual meeting of the Psychonomic Society, Toronto, Canada.
- Coholic, J. & Thomas, R.D., (2005, August). Comparing derived metrics for the analysis of sorting data using Munsell colors. Presented at the 38th Meeting of the Society for Mathematical Psychology, Memphis TN.
- Thomas, R. D., & Sholl, J. H. (2004, July). Nonselective effects of stimulus probability in a systems factorial paradigm. Presented at the Thirty-seventh Annual Meeting of the Society for Mathematical Psychology, Ann Arbor, MI.
- Christy, K. & Thomas, R. D. (2003, August) *Generalization of implicit category structures* presented at the Thirty-fifth Annual Meeting of the Society for Mathematical Psychology, Ogden Utah
- Christy, K., Parker, J.L., Hammerly, M.D., Thomas, R.D. (2002) Cognitive style, generalization, and implicit learning. Presented at the Thirty-fifth Annual Meeting of the Society for Mathematical Psychology, Oxford, OH.
- Lea, M. & Thomas, R.D. (2001, July). Is there a relationship between a man's name and the perception of his facial features? Presented at the Thirty-fourth Annual Meeting of the Society for Mathematical Psychology, Providence, RI.
- Thomas, R. D. (2000, August). Analysis of factorial response time patterns predicted by current models of perception. Paper presented at the Thirty-third Annual Meeting of the Society for Mathematical Psychology, Kingston, Ontario.
- Thomas, R.D. (1999, August). Classification training influences elementary perception of multidimensional objects. Poster presented at the Thirty-second Annual Meeting of the Society for Mathematical Psychology, Santa Cruz, CA.
- Thomas, R. D. (1999, May). Category learning influences perceptual processing of simple visual properties of objects. Poster presented at the Annual Meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.
- Thomas, R. D. & Schreiner, C. (1998, August). Are categorization modules lateralized? If so, how do they interact? Poster presented at the Thirty-first Annual Meeting for the Society for Mathematical Psychology, Nashville, TN.
- Thomas, R. D., Ell, S. W., Grossman, E. (1997, July). Exploring the consequences of integrality and perceptual dependences on component same-different judgments. Paper presented at the 30th Annual Meeting of the Society for Mathematical Psychology, Bloomington, IN.
- Thomas, R. D., & Gallogly, D. P. (1996, August). Some consequences of the RT-distance hypothesis on factorial additivity. Poster presented at the 29th Annual Meeting for the

Society for Mathematical Psychology, Chapel Hill, NC.

Thomas, R. D. (1995, August). Relating identification performance and same-different judgments. Paper presented at the 28th Annual Meeting of the Society for Mathematical Psychology, Irvine, CA.

Thomas, R. D. (1994, August). Assessing perceptual properties using same-different judgments. Paper presented at the 29th Annual Meeting of the Society for Mathematical Psychology, Seattle, WA.

Thomas, R. D. (1993, August). Implications from a counter example to Ashby & Townsend (1986) Theorem 4. Paper presented at the 26th Annual Meeting of the Society for Mathematical Psychology, Oklahoma City, OK.

Thomas, R. D., & Townsend, J. T. (1993, November). Learning distributional information in categorization tasks. Paper presented at the 34th Annual Meeting of the Psychonomic Society, Washington, D.C.

Thomas, R. D., Townsend, J. T. (1990, August). Stochastically dependent models and their identification. Paper presented at 23rd Annual Meeting of the Society for Mathematical Psychology, Toronto, Canada.

Invited Colloquia

Numerous including Purdue University, Indiana University, University of Washington, University of Virginia, Iowa State University, Ohio State University, SUNY-Binghamton, University of North Carolina, and the University of South Florida, Northern Kentucky University

Commitments to Teaching

(Activities)

Center for the Enhancement of Learning Technologies Faculty Learning Community (2008-2009): Quantitative Literacy across the Curriculum

Presenter, Lilly Conference on College Teaching (November, 2006). Higher level thinking in students: Problems, challenges, and a call for a conversation. Miami University, Oxford OH.

Center for the Enhancement of Learning Technologies Faculty Learning Community (2006-2007): Brain Learning and Pedagogy

Center for Writing Excellence, Workshop Participant (2004). *Integrating writing in content courses.*

Center for the Enhancement of Learning Technologies Summer Fellowship (2001): *Extending and Enhancing Introductory Quantitative Methods in Psychology*

Symposium Organizer and Speaker: *Bringing mathematical psychology to the masses: Issues in teaching and the future of the field.* Thirty-first Annual Meeting for the Society for Mathematical Psychology, Nashville, TN.

Learning Technologies Enhancement Award, Miami University (1996-97) \$25,000: *Bringing*

Multimedia Technologies into Large Classrooms

Chair, Committee to revise the graduate statistics and methods curriculum, Department of Psychology, Miami University

Member, Social Sciences Track of the proposed Master of Arts in Interactive Media Studies, Miami University

Member, Committee for the development of the Master of Science in Computational Engineering (Chair: J. Kiper), Miami University

(Experience) Miami University, Oxford, OH
 Graduate Introductory Statistics, Graduate Correlation and Regression, Introduction to Cognitive Psychology, Mathematical Modeling of Psychological Processes, Introduction to Mathematical Psychology, Cognitive Neuroscience, Cognitive Rehabilitation, Undergraduate Statistics, Language and Thought, Nonparametric Statistics, Perception and Categorization Advanced Undergraduate Seminar, Hemispheric Laterality (Advanced Undergraduate Seminar in Neuroscience)

Indiana University, Bloomington, IN
 Introductory Statistics (Instructor), Research Methods in Psychology (Instructor)

(Dissertations and Theses Chaired)

Michael J. Young, (Ph.D., 1996)
 Mark L. Hammerly (Ph.D., 2003)
 Melissa A. Lea (Ph.D., 2005)
 Kristin Mauldin (Ph.D. 2007, Co-Chair with S. Berry)
 Marci DeCaro (Ph.D. current, Co-Chair with S. Beilock)
 Kristin Mauldin (M.A., 2001)
 Jeff Sholl (M.A., current)
 Krista Carlson (M.A., current)
 Katherine Karelina (Senior Honors Thesis, 2002)
 John Parker (Senior Honors Thesis, 2003)
 Haley Snodgrass (Senior Honors Thesis, 2006)
 Braden Purcell (Senior Honors Thesis, 2007)
 Carly Sellers (Senior Honors Thesis, 2009)

Society Offices and Committee Service

2007 – current Executive Board, Society for Mathematical Psychology
 2007 – current Advisory Board, Department of Psychological and Brain Sciences, Indiana University
 2002 – current Steering committee, Center for the Advancement of Computing Research, Miami University
 2006 – 2007 President, Advisory Board, Miami University Child Development Center
 2003 – 2006 President, Sigma Xi, University Chapter
 1999 – 2006 Computer policy committee, College of Arts and Science, Miami University
 2005 – 2006 Chair, search committee (cognition), Dept Psychology, Miami University
 2001 – 2003 President Elect, Sigma Xi, University Chapter
 1999 – 2001 Secretary, Sigma Xi, Miami University Chapter
 1998 – 1999 Steering Committee, Department of Psychology, Miami University
 1995 – 1996 Member, Chair search committee, Dept. Psychology, Miami University