**Douglas B. Markant**
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Last updated: August 9, 2023

**EDUCATION**

| | |
|---|---|
| 2008—2014 | New York University |
| | Psychology: Cognition and Perception |
| | M.A. completed May 16, 2012 |
| | Ph.D. completed January 27, 2014 |
| | |
| 2001—2005 | Cornell University |
| | B.A. Psychology |
| | Minors in Information Science and Cognitive Science |

**POSITIONS**

| | |
|---|---|
| 2017—present | Assistant Professor |
| | Department of Psychological Science |
| | University of North Carolina at Charlotte |
| | |
| 2014—2017 | Postdoctoral Researcher |
| | Center for Adaptive Rationality |
| | Max Planck Institute for Human Development, Berlin |
| | Advisors: Dr. Ralph Hertwig and Dr. Tim Pleskac |
| | |
| 2005—2008 | Research Assistant |
| | Psychiatry Neuroimaging Laboratory |
| | Brigham and Women's Hospital, Harvard Medical School, Boston |
| | Advisor: Dr. Martha Shenton |

**PEER-REVIEWED JOURNAL ARTICLES**
*Underlined names denote student co-authors.*

**Markant, D.** and Galati, A. (2023). Development of a Concept Inventory on Open and Transparent Research Practices. *Collabra: Psychology.*
[*[preprint]* *[code and data repository]*]

**Markant, D.** (2021). Chained study and the discovery of relational structure. *Memory and Cognition 50,* 95–111. doi: 10.3758/s13421-021-01201-1
[*[link to publisher]* *[data repository]*]

Wesslen, R., Karduni, A., **Markant, D.,** and Dou, W. (2021). Effects of uncertainty visualizations on myopic loss aversion and equity premium puzzle in retirement investment decisions. *IEEE Transactions on Visualization and Computer Graphics 28*(1), 454–464. doi: 10.1109/TVCG.2021.3114692
[*[link to publisher]* *[preprint]* *[code and data repository]*]

Jones, A., **Markant, D.**, Pachur, T., Gopnik, A., and Ruggeri, A. (2021). How is the hypothesis space represented? Evidence from young children's active search and predictions in a multiple-cue inference task. *Developmental Psychology 57*(7), 1080–1093. doi: 10.1037/dev0001201
[*[link to publisher]* *[preprint]*]

Karduni, A., **Markant, D.**, Wesslen, R., & Dou, W. (2021). A Bayesian cognition approach for belief updating of correlation judgment through uncertainty visualizations. *IEEE Transactions on Visualization and Computer Graphics 27*(2). doi: 10.1109/TVCG.2020.3029412
[*[link to publisher]* *[preprint]*]

Fantasia, V., **Markant, D.,** Valeri, G., Perry, N., & Ruggeri, A. (2020). Memory enhancements from active control of learning in children with Autism Spectrum Disorder. *Autism 24*(8), 1995–2007. doi: 10.1177/1362361320931244
[*[link to publisher]*]

**Markant, D.** (2020). Active transitive inference: When learner control facilitates integrative encoding. *Cognition 200.* doi: 10.1016/j.cognition.2020.104188

Ruggeri, A., **Markant, D.**, Gureckis, T. M., & Xu, F. (2019). Memory enhancements from active control of learning emerge across development. *Cognition* 186, 82–94. doi: 10.1016/j.cognition.2019.01.010

**Markant, D.** (2018). Effects of biased hypothesis generation on self-directed category learning. *Journal of Experimental Psychology: Learning, Memory, & Cognition.* doi: 10.1037/xlm0000671

**Markant, D.,** Ruggeri, A., Gureckis, T. M., and Xu, F. (2016). Enhanced memory as a common effect of active learning. *Mind, Brain, and Education* 10(3):142–152. doi: 10.1111/mbe.12117

**Markant, D.**, Settles, B. and Gureckis, T.M (2016). Self-directed learning favors local, rather than global, uncertainty. *Cognitive Science 40*(1), 100—120. doi: 10.1111/cogs.12220

Gureckis, T. M., Martin, J., McDonnell, J., Rich, A., **Markant, D.**, Coenen, A., Hamrick, J., Chan, P. (2015). psiTurk: An open-source framework for conducting replicable behavioral experiments online. *Behavior*

*Research Methods.* doi: 10.3758/s13428-015-0642-8

**Markant, D.**, Dubrow, S., Davachi, L., Gureckis, T.M. (2014). Deconstructing the effect of self-directed study on episodic memory. *Memory & Cognition 42*(8), 1211—1224. doi: 10.3758/s13421-014-0435-9
*\* Awarded the 2014 Psychonomic Society's Clifford T. Morgan Best Article Award for Memory & Cognition*

**Markant, D.** and Gureckis, T.M. (2014). Is it better to select or receive? Learning via active and passive hypothesis testing. *Journal of Experimental Psychology: General 143*(1), 94—122. doi: 10.1037/a0032108

Gureckis, T.M. and **Markant, D.** (2012). Self-directed learning: A cognitive and computational perspective. *Perspectives on Psychological Science, 7*(5), 464—481. doi: 10.1177/1745691612454304

Whitford, T. J., Kubicki, M., Schneiderman, J. S., O'Donnell, L. J., King, R., Alvarado, J. L., Khan, U., **Markant, D.**, Nestor, P. G., Niznikiewicz, M., et al. (2010). Corpus callosum abnormalities and their association with psychotic symptoms in patients with schizophrenia. *Biological Psychiatry, 68*(1):70–77.

Voineskos, A. N., O'Donnell, L. J., Lobaugh, N. J., **Markant, D.**, Ameis, S. H., Niethammer, M., Mulsant, B. H., Pollock, B. G., Kennedy, J. L., Westin, C. F., et al. (2009). Quantitative examination of a novel clustering method using magnetic resonance diffusion tensor tractography. *Neuroimage, 45*(2):370–376.

Rosenberger, G., Kubicki, M., Nestor, P. G., Connor, E., Bushell, G. B., **Markant, D.**, Niznikiewicz, M., Westin, C.-F., Kikinis, R., Saykin, A. J., et al. (2008). Age-related deficits in fronto-temporal connections in schizophrenia: a diffusion tensor imaging study. *Schizophrenia Research, 102*(1):181–188.

Kubicki, M., Styner, M., Bouix, S., Gerig, G., **Markant, D.,** Smith, K., Kikinis, R., McCarley, R., and Shenton, M. (2008). Reduced interhemispheric connectivity in schizophrenia-tractography based segmentation of the corpus callosum. *Schizophrenia Research, 106*(2):125–131.


## PEER-REVIEWED CONFERENCE PROCEEDINGS

**Markant, D.**, <u>Rogha, M.</u>, Karduni, A., Wesslen, R., and Dou, W. (2023). When do data visualizations persuade? The impact of prior attitudes on learning from visualizations of correlations. *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI 2023). doi:* 10.1145/3544548.3581330
[*[preprint]* *[code and data repository]*]

<u>Karduni, A.</u>, <u>Wesslen, R.</u>, **Markant, D.,** and Dou, W. (2023). Images, Emotions, and Credibility: Effect of Emotional Facial Images on Perceptions of News Content Bias and Source Credibility in Social Media. *International AAAI Conference on Web and Social Media (ICWSM 2023).* doi: 10.1609/icwsm.v17i1.22161
[*[preprint]*]

**Markant, D.,** <u>Rogha, M.,</u> Karduni, A., Wesslen, R., and Dou, W. (2022). Can data visualizations change minds? Identifying mechanisms of elaborative thinking and persuasion. *2022 IEEE Workshop on Visualization for Social Good (VIS4Good)*. IEEE, 2022.

**Markant, D.** (2022). Modeling the effect of chained study in transitive inference. *Proceedings of the 44th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

*[[link to paper]]*

Wesslen, R., **Markant, D.**, Karduni, A., & Dou, W. (2020). Using resource-rational analysis to understand cognitive biases in interactive data visualizations. VisPsych: IEEE VIS2020 Workshop Proceedings.

**Markant, D.** (2020). Effects of "chained" study on spontaneous relational discovery. In Denison, S., Mack, M., Xu, Yang., and Armstrong, B., editors, *Proceedings of the 42nd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

**Markant, D.** (2019). Navigating the 'chain of command': Enhanced integrative encoding through active control of study. In Goel, V., Seifert, C., and Freska, C., editors, *Proceedings of the 41st Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Perri, N., Fantasia, V., **Markant, D.**, De Simone, C., Valeri, G, & Ruggeri, A. (2019). Benefits of active control of study in autistic children. In Goel, V., Seifert, C., and Freska, C., editors, *Proceedings of the 41st Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Adams, K., Kachergis, G., and **Markant, D.** (2017). Children's familiarity preference in self-directed study improves recognition memory. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. J. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp. 1501–1506). Austin, TX: Cognitive Science Society.

**Markant, D.** (2016). The impact of biased hypothesis generation on self-directed learning. In Papafragou, A., Grodner, D., Mirman, D., and Trueswell, J. (Eds.) *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Ruggeri, A., **Markant, D.**, Gureckis, T. M., and Xu, F. (2016). Active control of study leads to improved recognition memory in children. In Papafragou, A., Grodner, D., Mirman, D., and Trueswell, J. (Eds.) *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

**Markant, D.**, Pleskac, T. J., Diederich, A., Pachur, T., and Hertwig, R. (2015). Modeling choice and search in decisions from experience: A sequential sampling approach. In Noelle, D. C., Dale, R., Warlaumont, A. S., Yoshimi, J., Matlock, T., Jennings, C. D., & Maglio, P. P. (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society.* Austin, TX: Cognitive Science Society.

**Markant, D.** and Gureckis, T.M. (2014). A preference for the unpredictable over the informative during self-directed learning. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.) *Proceedings of the 36th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

**Markant, D.** and Gureckis, T.M. (2012). Does the utility of information influence sampling behavior? In Miyake, N., Peebles, D., and Cooper, R., editors, *Proceedings of the 34th Annual Conference of the Cognitive Science Society*, pages 719–724, Austin, TX. Cognitive Science Society.
*\* Awarded the Cognitive Science Society Computational Modeling Prize for higher-level cognition*

**Markant, D.** and Gureckis, T.M. (2012). One piece at a time: Learning complex rules through self-directed sampling. In Miyake, N., Peebles, D., and Cooper, R., editors, *Proceedings of the 34th Annual Conference of the Cognitive Science Society*, pages 725–730, Austin, TX. Cognitive Science Society.

**Markant, D.** and Gureckis, T.M. (2010) Category learning through active sampling. In Ohlsson, S. and Catrambone, R., editors, *Proceedings of the 32th Annual Conference of the Cognitive Science Society*, pages 248–253, Austin, TX. Cognitive Science Society.

Gureckis, T.M. and **Markant, D.** (2009) Active learning strategies in a spatial concept learning game. In Taatgen, N., van Rijn, H., Schomaker, L. and Nerbonne, J. (Eds), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 3145-3150). Austin, TX: Cognitive Science Society.

## BOOK CHAPTERS

Martin, F. & **Markant, D.** (2020). Adaptive learning modules. In M. David & M. Amey (Eds.), *The SAGE encyclopedia of higher education* (Vol. 1, pp. 79-80). Thousand Oaks,, CA: SAGE Publications, Inc. doi: 10.4135/9781529714395.n31

**Markant, D.** & Hertwig, R. (2019). Rivals in the dark: Trading off environmental and strategic uncertainty. In Pleskac, T., Pachur, T. & Hertwig, R. (Eds), *Taming Uncertainty.* MIT Press.

Wullf, D., **Markant, D.** & Pleskac, T. (2019). Adaptive exploration in decisions from experience. In Pleskac, T., Pachur, T. & Hertwig, R. (Eds), *Taming Uncertainty.* MIT Press.

## MANUSCRIPTS UNDER REVIEW OR INVITED FOR RESUBMISSION
*Underlined names denote student co-authors.*

**Markant, D.,** Battisti, A., and Ruggeri, A. (in revision). Developmental changes in the active construction of relational knowledge. Invited for resubmission to *Developmental Psychology.*

Rogha, M., Sah, S., Karduni, A., **Markant, D.,** and Dou, W. (in revision). The impact of elicitation and contrast charts on engagement, recall, and attitude change with news articles containing data visualizations. Invited for resubmission to *IEEE Transactions on Visualization and Computer Graphics*.

## PREPRINTS

**Markant, D.**, Phillips, N. D., Kareev, Y., Avrahami, J., and Hertwig, R. To act fast or to bide time? Adaptive exploration under competitive pressure.
[*[preprint]*]

## DISSERTATION

**Markant, D.** (2014). *Uncertainty sampling: Computational analyses of self-directed exploration and learning* (Doctoral dissertation, New York University). Retrieved from ProQuest Dissertations and Theses.

## ORAL PRESENTATIONS AT PROFESSIONAL MEETINGS

*Underlined names denote student co-authors.*

**Markant, D.**, Rogha, M., Karduni, A., Wesslen, R., and Dou, W. (2023, April). When do data visualizations persuade? The impact of prior attitudes on learning from visualizations of correlations. Talk presented the 2023 CHI Conference on Human Factors in Computing Systems (CHI 2023). Hamburg, Germany.

**Markant, D.** (2022, July). Modeling the effect of chained study in transitive inference. Talk presented at the 44th Annual Meeting of the Cognitive Science Society. Toronto, Canada.

**Markant, D.** (2022, July). Learning the order of things: Modeling encoding- and retrieval-based strategies for transitive inference. Talk presented at the Virtual Annual Meeting of the Society for Mathematical Psychology.

**Markant, D.** and Ruggeri, A. (2021, November). Active control of study enhances relational learning among adolescents. Talk presented at the Annual Meeting of the Psychonomic Society (virtual).

Wesslen, R., Karduni, A., **Markant, D.,** and Dou, W. (2021, October). Effects of uncertainty visualizations on myopic loss aversion and equity premium puzzle in retirement investment decisions. Talk presented at IEEE VIS 2021.

Karduni, A., **Markant, D.**, Wesslen, R., & Dou, W. (2020). A Bayesian cognition approach for belief updating of correlation judgment through uncertainty visualizations. Talk presented at IEEE VIS 2020.

**Markant, D.** (2020, July). Effects of "chained" study on spontaneous relational discovery. Talk presented at the 42st Annual Meeting of the Cognitive Science Society (virtual).

**Markant, D.** (2020, March 21). "Chained study and spontaneous relational discovery." Annual Meeting of North Carolina Cognition Group, Durham, NC, US. (Conference canceled)

Fantasia, V., Ruggeri, A., & **Markant, D.** (December, 2019). "Memory enhancements from active control of learning in children with Autism Spectrum Disorder." Talk presented at the 2019 Annual Meeting of the Italian Association of Cognitive Science (AISC 2019), Rome, Italy.

Wesslen, R., Dou, W., **Markant D.,** & Shaikh, S. (October, 2019). "Human-in-the-loop: Using AI to augment human decision making, not replace it." Bank of America 2019, Data Science & AI Conference, Charlotte, NC.

**Markant, D.** & Padro, M. (November, 2019). "Using metacognitive support to facilitate active learning in ADHD." Talk presented at the Annual Meeting of the Psychonomic Society, Montreal, Canada.

**Markant, D.** (August, 2019). "Navigating the chain of command: Enhanced integrative encoding through active control of study." Talk presented at the 41st Annual Meeting of the Cognitive Science Society, Montreal, Canada.

**Markant, D.** (March, 2019). "The emergence of an active learning advantage for episodic memory." Talk presented at the Society for Research in Child Development (SRCD) Annual Meeting, Baltimore, MA.

**Markant, D.** (May, 2018). "Enhanced memory as a common effect of active learning." Talk presented at the 30th Annual Convention of the Association for Psychological Science, San Francisco, CA.

**Markant, D.** (August, 2016). "Workshop: Active learning: Cognitive development, education, and computational models." Talk presented at the 38th Annual Meeting of the Cognitive Science Society, Philadelphia, PA.

**Markant, D.** (May, 2016). "Hypothesis generation sets the stage for self-directed category learning." Talk presented at the International Meeting of the Psychonomic Society, Granada, Spain.

Gureckis, T. M., Chan, P., **Markant, D.**, and Lake, B. (November 2015). "Adaptive teaching: Improving the efficiency of learning through hypothesis-dependent selection of training data." Talk presented at Anuual Meeting of the Psychonomic Society, Chicago, IL, USA.

**Markant, D.**, Pleskac, T. J., Diederich, A., Pachur, T., and Hertwig, R. (August, 2015). "Modeling choice and search in decisions from experience: A sequential sampling approach." Talk presented at the 25th Subjective Probability, Utility, and Decision Making Conference, Budapest, Hungary.

**Markant, D.**, Phillips, N., Kareev, Y., Avrahami, Y., & Hertwig, R. (August, 2015). "Acting fast vs. biding time: Effects of competition on information sampling." Talk presented at the 25th Subjective Probability, Utility, and Decision Making Conference, Budapest, Hungary.

**Markant, D.**, Pleskac, T. J., Diederich, A., Pachur, T., and Hertwig, R. (July, 2015). "Modeling choice and search in decisions from experience: A sequential sampling approach." Talk presented at the Annual Meeting of the Society for Mathematical Psychology, Newport Beach, CA.

**Markant, D.**, Pleskac, T. J., Diederich, A., Pachur, T., and Hertwig, R. (July, 2015). "Modeling choice and search in decisions from experience: A sequential sampling approach." Talk presented at the 37th Annual Meeting of the Cognitive Science Society, Pasadena, CA.

de Leeuw, J.R., Coenen, A., **Markant, D.**, Martin, J.B., McDonnell, J.V., Rich, A.S., Gureckis, T.M. (July, 2014). "Workshop: Online Experiments using jsPsych, psiTurk, and Amazon Mechanical Turk" in P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.) *Proceedings of the 36th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

**Markant, D.**, Gureckis, T.M., Meder, Nelson, J.D., Pirolli, P., and Yu, C. (August, 2013) "Symposium: Informavores: Active information foraging and human cognition" in M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.) *Proceedings of the 35th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Coenen, A., **Markant, D.**, Martin, J.B., McDonnell, J.V. (August, 2013) "Workshop: Using Mechanical Turk and PsiTurk for Dynamic Web Experiments" in M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.) *Proceedings of the 35th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

**Markant, D.** and Gureckis, T. M. (August, 2012). "One piece at a time: Learning complex rules through self-directed sampling." Talk presented at 34th Annual Meeting of the Cognitive Science Society, Sapporo, Japan.

**Markant, D.** and Gureckis, T. M. (August, 2012). "Does the utility of information influence sampling behavior?" Talk presented at the 34th Annual Meeting of the Cognitive Science Society, Sapporo, Japan.

**Markant, D.** and Gureckis, T. M. (August, 2010). "Category learning through active sampling." Talk presented at the 32nd Annual Meeting of the Cognitive Science Society, Portland, OR.

**Markant, D.** and Gureckis, T.M. (August, 2009) "Modes of information search in active learning." Talk presented at MathPsych 2009, Amsterdam, Netherlands.


**POSTER PRESENTATIONS AT PROFESSIONAL MEETINGS**
*Underlined names denote student co-authors.*

Glass, S. and **Markant, D.** (March, 2023). "The relationship between emotion regulation and self-verification." Poster presented at 2023 Graduate Research Symposium, UNC Charlotte.
*\* Winner of 1st place in poster competition.*

Glass, S. and **Markant, D.** (February, 2023). "The relationship between emotion regulation and self-verification." Poster presented at 2023 North Carolina Cognition Conference, Wake Forest University.

Glass, S., Levens, S., and **Markant, D.** (February, 2023). "The relationship between emotion regulation and self-verification." Poster presented at the Annual Meeting of the Society for Affective Science: *Positive Emotion Pre-conference Workshop.* Long Beach, CA, USA.

Glass, S., Levens, S., and **Markant, D.** (March, 2022). "The relationship between emotion regulation and preferences for self-verifying feedback." Poster presented at the annual meeting of the Society for Affective Science (virtual).

**Markant, D.** (July, 2021). "Capturing uncertainty in relational learning: A Bayesian model of discrimination-based transitive inference." Poster presented at the 43rd Annual Meeting of the Cognitive Science Society (virtual).

Padro, M., Mostafavi, M. and **Markant, D.** (July, 2020). "Risk preferences and option generation: Do risk-takers generate more risky courses of action?" Poster presented at the 42st Annual Meeting of the Cognitive Science Society (virtual).

Padro, M. and **Markant, D.** (March, 2019). "Navigating the 'chain of command': How working memory impacts active learning. Poster presented at 2019 North Carolina Cognition Conference.
*\* Winner of 1st place in poster competition.*

**Markant, D.** (November, 2018). Enhanced integrative encoding through active control of learning. Poster presented at the Annual Meeting of the Psychonomic Society, New Orleans, LA.

**Markant, D.,** Jones, A., Pachur, T., Gopnik, A., & Ruggeri, A. (July, 2018). Identifying the structure of hypotheses that guide search during development. Poster presented at the 40th Annual Meeting of the Cognitive Science Society, Madison, WI.

Kachergis, G., Adams, K., **Markant, D.** (August, 2017). "Children's familiarity preference in self-directed study improves recognition memory." Poster presented at the 39th Annual Meeting of the Cognitive Science Society. London, England, UK.

**Markant, D.,** Pleskac, T., Diederich, A., Pachur, T., & Hertwig, R. (November, 2016). "Modeling adaptive exploration in decisions from experience: A sequential sampling approach." Poster presented at the Annual Meeting of the Psychonomic Society, Boston, MA.

**Markant, D.**, Phillips, N., Kareev, Y., Avrahami, Y., & Hertwig, R. (November, 2015). "Acting fast vs. biding time: Effects of competition on information sampling." Poster presented at the Annual Meeting of the Society for Judgment and Decision Making, Chicago, IL, USA.

**Markant, D.**, Pleskac, T. J., Diederich, A., Pachur, T., and Hertwig, R. (May, 2015). "Modeling choice and search in decisions from experience: A sequential sampling approach." Poster presented at the Workshop on Memory Processes in Judgment and Decision Making, Holstein, Swizerland.

**Markant, D.**, Chan, P., Coenen, A., Martin, J., McDonnell, J., Rich, A. and Gureckis, T. M. (November 2014). "psiTurk: An open-source framework for conducting reproducible behavioral experiments online." Poster presented at the 2014 meeting of the Society for Computers in Psychology, Long Beach, CA, USA.

Chan, P., **Markant, D.**, Lake, B. and Gureckis, T.M. (July 2014). "Adaptive teaching: Improving the efficiency of learning through hypothesis-dependent selection of training data." Poster presented at the 36th Annual Meeting of the Cognitive Science Society, Quebec City, Canada.

**Markant, D.** and Gureckis, T.M. (August 2013). "Adapting search based on hypothesis space sparsity." Poster presented at the 35th Annual Meeting of the Cognitive Science Society, Berlin, Germany.

**Markant, D.**, Dubrow, S., Davachi, L., Gureckis, T.M. (August 2012). "The role of exploratory decision-making in enhancing episodic memory." Poster presented at the 34th Annual Meeting of the Cognitive Science Society, Sapporo, Japan.

Gureckis, T. M. and **Markant, D.** (November, 2011). "How search in the mind guides search in the world." Poster presented at the Annual Meeting of the Psychonomic Society, Seattle, WA.

**Markant, D.** and Gureckis, T. M. (August, 2011). "Sampling at the Margins to Learn Perceptual Categories." Poster presented at the 33rd Annual Meeting of the Cognitive Science Society, Boston, MA.

**Markant, D.** and Gureckis, T. M. (November, 2010). "An Exploration of Active Sampling in Perceptual Classification Tasks." Poster presented at Annual Meeting of the Psychonomic Society, St. Louis, MO.

**Markant, D.** and Gureckis, T. M. (August, 2010). "Discovering complex categories through active sampling." Poster presented at IEEE International Conference on Development and Learning, Ann Arbor, MI.

Gureckis, T.M. and **Markant, D.** (2009) "Active Learning Strategies in a Spatial Concept Learning Game." Poster presented at the 31st Annual Conference of the Cognitive Science Society, Amsterdam, Holland.

**INVITED PRESENTATIONS**

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|---|---|
| April, 2023 | Markant, D. (2023, April 4). "Learning the order of things: How people construct relational knowledge through active exploration." Psychology Research Seminar, Davidson College. |
| October, 2022 | Markant, D. (2022, October 16). "When does the data speak for itself? Toward formal models of persuasive data visualization." Keynote presentation at TREX 2022: Workshop on Trust and Expertise in Visualization, IEEE VIS 2022. |
| September, 2022 | Markant, D. (2022, September 8). "When does the data speak for itself? Effects of prior attitudes and beliefs on learning from data visualizations." Cognitive Seminar, UNC Chapel Hill. |
| August, 2020 | Markant, D. (2020, August). "Constructing relational knowledge from experience: Active control in transitive inference." The Reasoning Lab, Naval Research Laboratory. |
| December, 2019 | "A new curriculum on open and transparent practices in Research Methods," with Dr. Alexia Galati. 2019 Winter Meeting of the Charlotte Area Network for the Teaching of Psychology (CANTOP), Charlotte, NC. |
| October, 2019 | "Human-in-the-Loop: Using AI to augment human decision making, not replace it." Panel discussion at 2019 Data Science and AI Conference, Bank of America, Charlotte, NC. |
| October 2018 | "Enhancing memory through active control." University of North Carolina at Greensboro. |
| November, 2016 | "Uncertainty-driven exploration." *Summit on Human Problem Solving and Artificial Intelligence,* Sandjerg, Denmark. |
| October, 2016 | "Constructing rules through active exploration: Evidence from human category learning." *Neurocuriosity 2016: Second Interdisciplinary Symposium on Information-seeking, Curiosity and Attention*, London, UK. |
| August, 2016 | "CHASE-ing the dream: A sequential sampling framework for modeling decisions from experience." *4th Summer School on Decisions from Experience*, Warwick Business School. |
| April, 2016 | "On choosing your own adventure: Effects of active control on learning and memory." Affective Brain Lab, University College London. |
| November, 2015 | "Hypothesis generation sets the stage for self-directed learning." Experimental Psychology Seminar, University College London. |
| March, 2015 | "Acting fast vs. biding time: Exploration in competitive environments." Center for the Study of Rationality, Hebrew University of Jerusalem. |

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| December, 2013 | "Bayesian models of self-directed information gathering" (with Todd Gureckis). BBN Workshop on Bayesian Cognitive Modeling for the Intelligence Community, BBN Raytheon. |
| July, 2013 | "What you don't know can help you: Uncertainty-driven sampling during learning." Center for Adaptive Rationality, Max Planck Institute for Human Development. |
| May, 2013 | "Into the unknown: How uncertainty guides active learning." University Seminar Series, Stevens Institute of Technology. |
| April, 2013 | "Decomposing the `active' learner: Effects of self-directed control on learning and memory." Department of Psychological and Brain Sciences, Indiana University. |


**AWARDS AND HONORS**

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|---|---|
| 2019 | Catalyst Program Fellow, University of North Carolina at Charlotte |
| 2014 | Psychonomic Society Clifford T. Morgan Best Article Award (*Memory & Cognition*) |
| 2013 | American Psychological Association Dissertation Research Award |
| 2013 | Learning Analytics Summer Institute (LASI), Stanford University |
| 2012 | Computational Modeling Prize in Higher-level Cognition for paper presented at the 2012 Meeting of the Cognitive Science Society |
| 2012 | Robert J. Glushko and Pamela Samuelson Foundation Student Travel Grant for attendance to the 2012 Meeting of the Cognitive Science Society |
| 2011 | Graduate Summer School: "Probabilistic Models of Cognition", Institute of Pure and Applied Mathematics, UCLA |
| 2010 | Graduate School of Arts and Sciences Travel Award, NYU |
| 2010 | Honorable Mention, NSF Graduate Research Fellowship Program |
| 2008—2013 | MacCracken Fellowship, NYU Graduate School of Arts and Sciences |


**EXTERNAL FUNDING PROPOSALS**

| | |
|---|---|
| **Decision pending** | DOD Department of Army<br>Title: "Toward Seamless Human-Automation Handovers -- An Adaptive Haptic Shared Steering Control and Path Planning Paradigm for Ground Vehicles"<br>Co-investigator; $373,786 direct costs requested<br>Submitted: November 2022 |
| **Not funded** | NSF: Research Traineeship (NRT) Program<br>Title: "Trustworthy Human-AI Interdisciplinary Consortium (THInC)"<br>Co-investigator; $2,263,018 direct costs requested |

Submitted: September 2022

NSF: AI Research Institutes
Title: "Advancing the Neurocognitive Foundations of AI through Human Centered Creative AI"
Co-investigator; $17,787,403 direct costs requested)
Submitted: May 2022

NIH: National Institute of Child Health and Human Development (NICHD)
Title: "Engaging endogenous selective attention control to promote children's learning from relevant contextual information"
Co-investigator; $1,827,875 direct costs requested
Submitted: October 2021

NSF: Research on Emerging Technologies for Teaching and Learning (RETTL)
Title: "Privacy-preserving Infrastructure for Personalized Dialogue System to Support Self-Regulated Learning in Computer Science"
Co-investigator; $590,362 direct costs requested
Submitted: October 2021

IARPA: Better Extraction from Text Towards Enhanced Retrieval (BETTER)
Title: "PRIMD: Personalized Retrieval of Information in Multilingual Data"
Co-investigator
Submitted: September 2018


**INTERNAL FUNDING PROPOSALS**

**Funded**                UNC Charlotte Data Science Initiative Seed Grant
Title: "Curating Heterogenous, Unstructured Health Data to build Personalized Health Infrastructures and Digital Assistants."
Co-investigator; $30,000 requested
Submitted: December 2019
Award amount: $10,000 (2020)

UNC Charlotte Scholarship of Teaching and Learning (SoTL) grant
Title: "Examining the impact of open and transparent research practices in an undergraduate research methods course in Psychology"
Co-PI; $15,000 requested
Submitted: November 2018
Award amount: $15,000 (2019–2020)

UNC Charlotte Faculty Research Grant
Title: "Executive functioning and active learning: The effects of impaired cognitive function on self-directed inquiry."

PI; $8,000 requested
Submitted: October 2018
Award amount: $8,000 (2019–2020)

**Not funded**      University of North Carolina Undergraduate Research Program
Title: "Introduction to Open Science" for undergraduates: Teaching the
foundations of transparent and reproducible research
Co-investigator; $25,238 direct costs requested
Submitted: September 2019

## PROFESSIONAL SERVICE

**Committees**      Program Committee, Annual Meeting of the Cognitive Science Society (2020,
2021, 2022, 2023)
Program Committee, Visualization for Social Good Workshop at VIS2023
(2023)
Psychonomic Society Graduate Conference Award Review Committee (2021)

**Journal reviewing**   *Annual Meeting of the Cognitive Science Society (2009, 2010, 2013–2023)*
*Behavior Research Methods (2014, 2015, 2018)*
*Child Development (2021, 2022)*
*Cognition (2015, 2016, 2018, 2020, 2021, 2023)*
*Cognitive Psychology (2016, 2019, 2020, 2022)*
*Cognitive Science (2013, 2014, 2016, 2018, 2019, 2020, 2021, 2022)*
*Consciousness and Cognition (2019)*
*Cortex (2016)*
*Decision (2014, 2017)*
*Developmental Psychology (2016)*
*Frontiers in Psychology (2020, 2021, 2022, 2023)*
*Journal of Cognition and Development (2016)*
*Journal of Cognitive Psychology (2014)*
*Journal of Economic Psychology (2020)*
*Journal of Experimental Psychology: General (2015, 2016, 2017, 2019, 2021, 2022,
2023)*
*Journal of Experimental Psychology: Human Perception & Performance (2015)*
*Journal of Experimental Psychology: Learning, Memory & Cognition (2015)*
*Journal of Mathematical Psychology (2014, 2016)*
*Judgment & Decision Making (2022)*
*Learning & Memory (2021)*
*Management Science (2018)*
*Memory & Cognition (2013, 2014, 2017)*
*Nature Machine Intelligence (2019)*
*Open Mind (2018, 2019, 2020)*
*PLOS Computational Biology (2014, 2022)*
*PLOS One (2016)*

*Psychological Science (2015, 2017, 2018, 2019)*
*Psychological Research (2022)*
*Psychological Review (2022)*
*Psychonomic Bulletin and Review (2010, 2019, 2020, 2021, 2022)*
*Psychophysiology (2023)*
*Quarterly Journal of Experimental Psychology (2022)*
*Thinking & Reasoning (2021)*
*Topics in Cognitive Science (2017, 2018)*
*Trends in Cognitive Science (2014)*

**Grant reviewing**      *National Science Foundation: Graduate Research Fellowship Program (2022)*
*APA/CDC: "Psychological science addressing COVID-19 pandemic priorities" (2021)*
*Israel Science Foundation (2021)*
*Estonian Research Council (2019)*
*U.S. Department of Defense (2018)*
*National Science Foundation: Decision, Risk, and Management Science (2015, 2016)*

**Editorial boards**      *Frontiers in Psychology (Cognition: Review editor, 2020—present)*

**Memberships**          Cognitive Science Society
Psychonomic Society
Society for Mathematical Psychology
SPARK Society
Association for Computing Machinery (ACM)

**Other service**        Mentor, CogSci mentoring program (2020, 2021)

## SERVICE TO DEPARTMENT, COLLEGE, and UNIVERSITY

**Department of Psychological Science and Affiliated Graduate Programs**
Graduate Program Director, Graduate Certificate in Cognitive Science (Fall 2020–present)
Chair, Health Psychology Experimental Research Seminar planning committee (2022–2023)
Member, Health Psychology Diversity, Equity, and Inclusion Committee (2022–2023)
Member, Health Psychology Experimental Research Seminar planning committee (2021–2022)
Member, Health Psychology Research Series planning committee (2020–2022)
Member, Health Psychology Showcase planning committee (2022–2023)
Member, Health Psychology Climate Survey Recommendation committee (2021–2022)
Member, Psychology M.A. program Advisory Committee (2020–2021)
Member, Lecturer Reappointment Guidelines Committee (2019)

**College and University Service**
Faculty judge for Graduate Research Symposium (2022, 2023)
Member, Psychological Science Department Chair Search Committee (2022)
Member, CLAS Racial and Social Justice Committee (Graduate Student Success) (2020-2021)

## GRADUATE THESIS AND DISSERTATION COMMITTEES

| **Chair** | Ryan Hall (Ph.D. Health Psychology, ongoing) |
|---|---|
| | Shaina Glass (Ph.D. Health Psychology, ongoing) |
| | Josh Gordon (Ph.D. Health Psychology, ongoing) |
| | Matt Andresen (M.A. Psychology, ongoing) |
| | Travis White (M.A. Psychology, ongoing) |
| | Meagan Padro: "Using metacognitive guidance to facilitate active learning in ADHD" (M.A. Psychology; completed 2019). |

| **Member** | Chris Anderson (M.A. Psychology, ongoing) |
|---|---|
| | Jeba Rezwana (Ph.D. Computer Science, completed 2023) |
| | Philip Zendels (Ph. D. Health Psychology, completed 2023) |
| | Ali Algarni (Ph.D. Computer Science, completed 2022) |
| | Safat Siddiqui (Ph.D. Computer Science, completed 2022) |
| | Ryan Hall (M.A. Psychology, completed 2022) |
| | Jingoog Kim (Ph.D. Computer Science, completed 2022) |
| | Ryan Wesslen (Ph. D. Computer Science, completed 2021) |
| | Michael Brunswick (M.A. Psychology, completed 2021) |
| | Tevin Williams (M.A. Psychology, completed 2021) |
| | Alireza Karduni (Ph. D. Computer Science, completed 2021) |
| | Matthew Granson (M.A. Psychology, completed 2020) |
| | Lauren Johnson (M.A. Electrical Engineering, completed 2019) |

## UNDERGRADUATE HONORS THESES

| **Chair** | Cooper Davis (Psychology, completed 2022) |
|---|---|
| | Title: "Flow, performance, and memory: An examination of the relationship between flow state and episodic memory during computer game play." |
| | Arielle Little (Psychology, completed 2019) |
| | Title: "Do active learning strategies benefit students with ADHD?" |

| **Member** | Justin Castillo (University Honors, completed 2022) |
|---|---|
| | Ricky Rodriguez-Cue (Psychology, completed 2022) |
| | Philip Hinson (Psychology, completed 2019) |

## TEACHING AND INSTRUCTIONAL ACTIVITIES

### Courses taught at UNC Charlotte

| **Undergraduate** | PSYC2103 — Research Methodology II |
|---|---|
| | Fall 2017, Spring 2018, Fall 2018, Fall 2019, Spring 2020, Spring 2021 |
| | PSYC3111 — Psychology of Learning and Memory |
| | Spring 2019, Spring 2020, Fall 2020, Spring 2021, Fall 2021, Spring 2022 |

**Graduate**          PSYC/ITIS/ITCS 6216 — Introduction to Cognitive Science
                      Spring 2018, Fall 2018, Fall 2019, Fall 2020, Fall 2021, Fall 2022

                      PSYC/ITCS 6617 — Computational Human Behavior Modeling
                      Spring 2023

                      HPSY 8601 — Foundations in Psychology I: Physiological, Cognitive, and
                          Affective Bases of Behavior
                      Fall 2022

                      PSYC 6261 — Independent Study in Health Psychology (Experimental Research
                          Seminar)
                      Fall 2022

**Guest lectures, seminars and workshops presented at UNC Charlotte**

February 2023        **Markant, D.** (2023, February 17). "Cultivating a professional online presence."
                     Health Psychology Experimental Research Seminar, UNC Charlotte.

April 2022           **Markant, D.** (2022, April 29). "How interactions with data drive belief updating
                     and persuasion." College of Computing and Informatics Graduate Seminar, UNC
                     Charlotte.

April 2022           **Markant, D.** and Galati, A. (2022, April 8). "Towards open and transparent
                     research practices." Health Psychology Research Series, UNC Charlotte.

March 2022           **Markant, D.** and Galati, A. (2023, March 25). "Assessing the impact of curriculum
                     on open and transparent research practices." *Scholarship of Teaching and Learning
                     Research Showcase* (video series), Center for Teaching and Learning, UNC
                     Charlotte.

March 2022           **Markant, D.** (2022, March 21). "Towards formal models of persuasion during
                     interactive data visualization." Ribarsky Center for Visual Analytics, UNC
                     Charlotte.

March 2020           **Markant, D.** and Galati, A. (2023, March 25). "Assessing the impact of curriculum
                     on open and transparent research practices." Research Showcase, Office of
                     Assessment and Accreditation, UNC Charlotte.

May 2019             **Markant, D.** (2019, May 18). "The probabilistic mind: Introduction to Bayesian
                     cognitive modeling." Guest lecture for *PSYC/ITSC 6617 Computational Human
                     Behavior Modeling*.

May 2018             **Markant, D.** (2018, May 2). "Using PollEverywhere to Engage and Reactivate
                     Knowledge." *Active Learning Academy Spring 2018 Expo*, Center for Teaching and
                     Learning, UNC Charlotte.