



Education

B.A. Psychology (2004)
Skidmore College. Saratoga Springs, New York

Ph.D. in Cognitive Science (2010)
Rensselaer Polytechnic Institute. Troy, New York
Advisor: Brett Fajen

Postdoctoral Fellow (2010-2013)
The University of Texas, Austin
Advisor: Mary Hayhoe

Assistant Professor (2013-present)
Rochester Institute of Technology
Chester F. Carlson Center for Imaging Science

Journal Articles:

Fajen BR, Diaz GJ, Cramer, C (2009). Reconsidering the role of movement in perceiving action-scaled affordances. *Human Movement Science*. 30 (3), 504-533.

Diaz GJ, Phillips F, & Fajen BR (2009). Intercepting Moving Targets: A little foresight helps a lot. *Experimental Brain Research*, 195 (3), 345-360.

Diaz GJ, Fajen BR, Phillips F (2012). Anticipation from Biological Motion: the goalkeeper problem. *Journal of Experimental Psychology, Human Perception and Performance*. 48 (4), 848-864.

Diaz, G., Cooper, J., Kit, D., & Hayhoe, M. (2013). Real-time recording and classification of eye movements in an immersive virtual environment. *Journal of Vision*, 13(12), 1–14. doi:10.1167/13.12.5

Diaz, G., Cooper, J., Rothkopf, C., & Hayhoe, M. (2013). Saccades to future ball location reveal memory-based prediction in a virtual-reality interception task. *Journal of Vision*, 13(1), 1–14. doi:10.1167/13.1.20

Diaz, G., Cooper, J., & Hayhoe, M. (2013). Memory and prediction in natural gaze control. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 368(1628).

Morice, A., Diaz, G. J., Fajen, B. R., Basilio, N., & Montagne, G. (2015). An Affordance-based Approach to Visually Guided Overtaking. *Ecological Psychology*, 27(1), 1–25.

Messier, Erik; Wilcox, Jascha; Dawson-Elli, Alex; Diaz, Gabriel; Linte, Cristian, An Interactive 3D Virtual Anatomy Puzzle for Learning and Simulation: Initial Demonstration and Evaluation, *Studies in Health Technology and Informatics*, pp. - (2016)

Diaz GJ; Parade M; Fajen B. The pickup of visual information about size and location during approach to an obstacle. *PLoS ONE* 13(2), (2018)

Binaee, K; Diaz, G., Validation of an augmented reality ground plane for the study of visually guided walking behavior. *Manuscript in Review*.

Binaee, K; Diaz, G. Spatio-temporal demands determine the role of prediction when visually tracking a ball in for certain individuals in a naturalistic ball interception task. *Manuscript in Review*.

Proceedings:

Kothari R, Binaee K, Matthis, J, Bailey R, Diaz GJ. Novel apparatus for investigation of eye movements when walking in the presence of 3D projected obstacles. *Eye Tracking Research and Applications*, pp. -, Charleston, South Carolina, United States (March 14, 2016)

Pieszala, James; Diaz, Gabriel; Pelz, Jeff; Speir, Jacqueline; Bailey, Reynold, 3D Gaze Point Localization and Visualization Using LiDAR-based 3D Reconstructions, *Eye Tracking Research and Applications*, pp. -, Charleston, South Carolina, United States (March 14, 2016)

Binaee, Kamran; Diaz, Gabriel; Pelz, Jeff; Phillips, Flip, Binocular Eye tracking Calibration During a Virtual Ball Catching task using Head Mounted Display, Symposium on Applied Perception, pp. -, Anaheim, California, United States (July 22, 2016)

Messier, Erik; Krueger, Evan; Diaz, Gabriel; Linte, Cristian. "An interactive, stereoscopic virtual environment for medical imaging visualization, simulation and training. SPIE Medical Imaging. Orlando, Florida, United States (February 13, 2017)

Binaee, Kamran; Starynska, Anna; Pelz, J.; Kanan, C.; Diaz, GJ. Characterizing the Temporal Dynamics of Information in Visually Guided Predictive Control Using LSTM Recurrent Neural Networks. (Proceedings of the Annual Meeting of the Cognitive Science Society, 2018).

Invited talks:

Issues in Cognitive Science (2004-2010)
Rensselaer Polytechnic Institute

Rochester Institute of Technology (2013)
Rochester, New York
Internal Models for Predictive Saccades in a Natural Interception Task

The University of Rochester (September, 2013)
Department of Brain and Cognitive Sciences
Rochester, New York
Internal Models for Predictive Saccades in a Natural Interception Tasks

Rensselaer Polytechnic Institute (March 2013)
Department of Cognitive Science
Troy, New York
Internal Models for Predictive Saccades in a Natural Interception Task

The Ohio University (2014)
Division of Physical Therapy
Athens, Ohio
Virtual Reality Investigations of Eye Movements and Prediction in Visually Guided Action

The Beijing Film Academy (2015)
The Future of Virtual Reality in Film and Animation
The Role of Science in Virtual Reality

Oral presentations of my work:

Anticipation from Biological Motion: the goalkeeper problem
Annual Meeting of the Vision Sciences Society (2011)
Naples, Florida

Internal Models for Predictive Saccades in a Natural Interception Task
Natural Environments Tasks and Intelligence (2012)
The University of Texas at Austin
Presented by collaborator Mary Hayhoe

Internal Models for Predictive Saccades in a Natural Interception Task
Annual Meeting of the Vision Sciences Society
Naples, Florida (2012)

Internal Models for Predictive Saccades in a Natural Interception Task
Society for the Neural Control of Movement (2012)
Venice, Italy

Prediction Compensates for Occlusion of a Bounced Ball
Annual Meeting of the Vision Sciences Society
Naples, Florida (2013)

Predictive Eye Movements in Natural Vision
Annual Meeting of the Vision Sciences Society
St Pete's Beach, Florida (2018)
Presented by collaborator Mary Hayhoe

Investigating the Differences in Predictive Oculomotor Strategies Using Long Short-Term Memory Recurrent
Neural Network Models
Annual Meeting of the Vision Sciences Society
St Pete's Beach, Florida (2018)
Presented by Graduate Student Kamran Binaee

The Classification and Statistics of Gaze-In-World Events
Annual Meeting of the Vision Sciences Society
St Pete's Beach, Florida (2018)
Presented by Graduate Student Rakshit Kothari

Funding

Dean's Research Initiation Grant (Rochester Institute of Technology). Co-PI <i>Virtual Medical Imaging Augmentation and Simulation for Surgery and Therapy: Evaluating New Paradigms for Anatomy Teaching and Training</i> , November 20, 2016 - August 31, 2016, \$20,000.	2015
Dean's Research Initiation Grant (Rochester Institute of Technology). Co-PI. <i>Machine Learning for Gaze Event Detection During Natural Behavior</i> , \$15,000.	2017
Daydream Labs of Google Inc. <i>Machine Learning for Gaze Event Detection During Natural Behavior</i> , Co-PI. \$100,000.	2018
The National Academy of Sciences. <i>Behavioral Analysis of cashiers and customers during cash transactions</i> . Co-PI. \$65,000.	2017-2018
The UNYTE Foundation - <i>Developing a virtual reality approach to study and rehabilitate vision after stroke</i> . Co-PI. \$10,000.	2018-2019

Workshops, Symposia, and Conferences

Session Chair: Optical Society of America, Section on Color and Vision (2018)

Provided a free Workshop on Eye Tracking in Virtual Reality: European Conference on Eye Movements (2017).
~40 attendees.

Co-Organizer: University of Rochester Symposium, *Frontiers in Virtual Reality* (2018).

Provided a free Workshop on Eye Tracking in Virtual Reality. Vision Sciences Society (2018). ~30 attendees.
Sponsored by OSA Vision Technical Group.

Graduate Advising

Graduate Students - MA

- Rahul Golpinathan (MA Computer Science: Spring 2013-Fall 2013)

Graduate Students – Ph.D.

- Kamran Binaee (2013 – expected graduation 2018)
- Rakshit Kothari (2014 – expected graduation 2019)
- Sanketh Satyanarayana Moudgalya (temporary position - summer of 2016)
- Cayla Fromm (2016 – expected graduation 2021)