

CURRICULUM VITAE

Brian Patrick Keane

September 2020

University of Rochester Medical Center
Departments of Neuroscience & Psychiatry
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ACADEMIC APPOINTMENTS

University of Rochester, Rochester, NY.

- Asst. Professor of Neuroscience & Psychiatry (tenure track), 2/2020 – present, University of Rochester Medical Center.
- Member, Center for Visual Science, 6/2020 – present, University of Rochester.

Rutgers, The State University of New Jersey, Piscataway, NJ

- Asst. Professor of Psychiatry (tenure track), 3/2015 – 1/2020, Robert Wood Johnson Medical School.
- Research Associate, 11/2011 – 3/2015, University Behavioral Health Care.
- Postdoctoral Fellow, 10/2009 – 10/2011, University Behavioral Health Care, Center for Cognitive Science.

EDUCATION

University of California, Los Angeles, CA from 2004–2009 (degree awarded 12/2009).

Doctor of Philosophy: Psychology.

Dissertation: Beyond phenomenological connectedness: Functional consequences of filling-in during contour interpolation.

Committee: Philip Kellman (Chair), Hongjing Lu, Dario Ringach, Ladan Shams, Joaquin Fuster (outside).

Rutgers University, New Brunswick, NJ from 1999–2004 (degree awarded 05/2006).

Doctor of Philosophy: Philosophy.

Certificate in Cognitive Science.

Dissertation: Visual objects: Philosophical and cognitive science perspectives.

Committee: Brian McLaughlin (Chair), Zenon Pylyshyn, Jerry Fodor, Alvin Goldman.

University of Pittsburgh, PA, University Honors College, from 1995–1999 (degrees awarded 08/1999).

Bachelor of Arts, Triple Major: Physics & Astronomy, Spanish, Philosophy (Intensive).

Bachelor of Philosophy: Philosophy.

Thesis: Constructive empiricism and minimal epistemic realism: A critical comparison.

Advisors: Wesley Salmon and John Earman.

G.P.A.: 3.85/4.00.

RESEARCH INTERESTS

- Visual perceptual abnormalities in schizophrenia: contour grouping and 3D shape perception deficits.
- Perceptual organization: visual completion of contours and surfaces; surround suppression.
- Functional neuroimaging: Neural basis of normal and pathological vision.
- Philosophical foundations of perception: modularity; visual representation.

HONORS AND AWARDS

- Rutgers/RBHS Travel Award (\$1500). Funding to present talk at Vision Sciences Society, May 2016.
- NIH/NIMH LRP program (~\$18000), Oct 2013– July 2016.
- Young Investigator Travel Award (~\$1200), International Congress on Schizophrenia Res, Jan 2013.
- American Psychological Association Dissertation Award (\$1500—top 6 nationwide), fall 2008.
- UCLA Graduate Division Dissertation Year Fellowship (\$18,000+tuition+fees+travel), 2008–2009.
- Cure Autism Now Fellowship (~\$19,000+tuition+fees+travel), 2007–2008.
- UCLA Graduate Division Year-Long Research Fellowship (\$18,000+tuition+fees+travel), 2006–2007.
- UCLA Graduate Division Summer Research Fellowship (\$4700+travel), summer 2006.
- UCLA Departmental Summer Research Fellowship (\$4500+travel), summer 2005.
- UCLA Edwin W. Pauley Fellowship (\$14,000/yr for two years), 2004–2006.
- Jacob K. Javits Fellowship Alternate (ranked in top 6 in psychology nationwide), spring 2004.
- UCLA Distinguished Achievement Fellowship (\$18,000+tuition+fees), 2004–2005.
- Rutgers University Excellence Fellowship (\$12,000/yr+tuition+fees), 1999–2001 and 2002–2003.
- Summa Cum Laude, summer 1999.
- Phi Beta Kappa, spring 1999.
- University Scholarship (covered almost all tuition for four years), 1995–1999.
- Brackenridge Fellowship (\$2550) for B.Phil. thesis research, summer 1998.
- Augmentation Scholarship (\$7000) to sail around the world on Semester at Sea, fall 1997.

GRANT SUPPORT

- New York Fund for Innovation in Research and Scientific Talent (NYFIRST; \$1,000,000). April 2020 – March 2024. Co-Investigator, University of Rochester Medical Center.
- NIH/NIMH Career Development Award (\$680,092). September 2016–August 2021 (with no-cost extension), Principal Investigator, Rutgers University, Robert Wood Johnson Medical School, “Neural mechanisms of perceptual organization deficits across the schizo-bipolar spectrum”, K01MH108783.
- Brain Health Initiative Seed Grant, Co-Principal Investigator (with Bart Krekelberg), Total amount—\$40,000; Amount to Keane—\$17,724, March 2016 – February 2017, Rutgers University, Robert Wood Johnson Medical School, “Therapeutic effects of transcranial alternating current stimulation in schizophrenia”
- NIH/NIMH NRSA Postdoctoral Fellowship (2nd percentile ranking, \$160,636), Jan 2012–Dec 2014, Rutgers University, Robert Wood Johnson Medical School, “Spatial frequency contributions to contour integration deficits in schizophrenia”, F32MH094102.

PUBLICATIONS (*mentored co-author)

1. Spronk, M., **Keane, B. P.**, Kulkarni, K., Ji, J. L., , Anticevic, A., & Cole, M. W. (in press). A whole-brain and cross-diagnostic perspective on functional brain network dysfunction. *Cerebral Cortex*. <https://www.biorxiv.org/content/10.1101/326728v1>.
2. Silverstein, S.M., **Keane, B.P.**, Demmin, D.L., & Fradkin, S.I. (2020). Visual impairments in schizophrenia: Their significance and unrealized clinical potential. *Psychiatry Danubina* 32, 72–73. doi:10.24869/psyd.2020.72
3. **Keane, B.P.**, Paterno, D., Crespo, L.P., Kastner, S., Silverstein, S.M. (2019). Smaller visual arrays are harder to integrate in schizophrenia: Evidence for impaired lateral connections in early vision. *Psychiatry Research*, 282, 112636. doi:10.1016/j.psychres.2019.112636
4. Nikitova, N., **Keane, B. P.**, Demmin, D., Silverstein, S. M., Uhlhaas, P. J. (2019). The Audio-Visual Abnormalities Questionnaire (AVAQ): Development and validation of a new instrument for assessing

- abnormalities in sensory perception in schizophrenia spectrum disorders. *Schizophrenia Research*, 209, 227-233. doi: 10.1016/j.schres.2019.03.016.
5. **Keane, B. P.**, Paterno, D., Kastner, S., Krekelberg, B., & Silverstein, S. M. (2019). Intact illusory contour formation but equivalently impaired visual shape completion in first- and later-episode schizophrenia. *Journal of Abnormal Psychology*, 128(1), 57-68. doi: 10.1037/abn0000384.
 6. **Keane, B. P.**, Peng, Y., Demmin, D., Silverstein, S.M., & Lu, H. (2018). Intact perception of coherent motion, dynamic rigid form, and biological motion in chronic schizophrenia. *Psychiatry Research*. (equal contributions), 268, 53-59. doi: 10.1016/j.psychres.2018.06.052
 7. **Keane, B. P.**, Cruz, L. N., Paterno, D., Silverstein, S.M. (2018). Self-reported visual perceptual abnormalities are strongly associated with core clinical features in psychotic disorders. *Frontiers in Psychiatry*, 9, 1-10. <https://www.frontiersin.org/article/10.3389/fpsy.2018.00069> (equal contributions).
 8. **Keane, B. P.** (2018). Contour interpolation: A case study in Modularity of Mind. *Cognition*, 174, 1-18. doi: 10.1016/j.cognition.2018.01.008.
 9. Gupta, T., Silverstein, S. M., Bernard, J. A., **Keane, B. P.**, Papatomas, T. V., Pelletier-Baldelli, A., et al. (2016). Disruptions in neural connectivity associated with reduced susceptibility to a depth inversion illusion in youth at ultra-high risk for psychosis. *NeuroImage: Clinical*, 12, 681–690. doi: 10.1016/j.nicl.2016.09.022.
 10. **Keane, B. P.**, Silverstein, S. M., Wang, Y., Roché, M. W., & Papatomas, T. V. (2016). Seeing more clearly through psychosis: Depth inversion illusions are normal in bipolar disorder but reduced in schizophrenia. *Schizophrenia Research*, 176, 485–492. doi: 10.1016/j.schres.2016.06.015.
 11. **Keane, B. P.**, Paterno, D., Kastner, S., & Silverstein, S. M. (2016). Visual integration dysfunction in schizophrenia arises by the first psychotic episode and worsens with illness duration. *Journal of Abnormal Psychology*, 125(4), 543–549. doi: 10.1037/abn0000157
 12. Silverstein, S. M., Harms, M. P., Carter, C. S., Gold, J. M., **Keane, B. P.**, MacDonald, A., Ragland, J. D., & Barch, D. M. (2015). Cortical contributions to impaired contour integration in schizophrenia. *Neuropsychologia*, 75, 469-80. doi: 10.1016/j.neuropsychologia.2015.07.003.
 13. Mittal, V.A., Gupta, T., **Keane, B. P.**, & Silverstein, S. M. (2015). Visual context processing dysfunctions in youth at high risk for psychosis: Resistance to the Ebbinghaus illusion and its symptom and social and role functioning correlates. *Journal of Abnormal Psychology*, 124(4), 953-60. doi: 10.1037/abn0000082.
 14. Silverstein, S. M., Elliott, C. M., Feusner, J. D., **Keane, B. P.**, Mikkilineni, D., Hansen, N. Hartmann, A., & Wilhelm, S. (2015). Comparison of visual perceptual organization in schizophrenia and body dysmorphic disorder. *Psychiatry Research*, 229(1-2):426-33. doi: 10.1016/.psychres.2015. 05.107.
 15. **Keane, B. P.**, Kastner, S, Paterno, D., & Silverstein, S. M. (2015). Is 20/20 vision good enough? Visual acuity differences within the normal range predict contour element detection and integration. *Psychonomic Bulletin & Review*, 22(1), 121–127.
 16. Feigenson, K., **Keane, B. P.**, Roché, M. W., & Silverstein, S.M. (2014). Contour integration impairment in schizophrenia and first episode psychosis: State or trait? *Schizophrenia Research*, 159(2-3): 515-20. doi: 10.1016/j.schres.2014.09.028.
 17. **Keane, B. P.**, Erlikhman, G., Kastner, S., Paterno, D., & Silverstein, S. M. (2014). Multiple forms of contour grouping deficits in schizophrenia: What is the role of spatial frequency? *Neuropsychologia*, 65, 221–233. doi:10.1016/j.neuropsychologia.2014.10.031
 18. **Keane, B. P.**, Joseph, J., & Silverstein, S. M. (2014). Late, not early, stages of Kanizsa shape perception are compromised in schizophrenia. *Neuropsychologia*, 56, 302-311 (^ co-first authors).
 19. Silverstein, S. M., **Keane, B. P.**, Papatomas, T. V., Lathrop, K. L., Kourtev, H., Feigenson, K., Roché, M. W., Wang, Y, Mikkilineni, D., & Paterno, D. (2014). Processing of spatial-frequency altered faces in schizophrenia: Effects of illness phase and duration. *PLOS ONE*, 9(12): e114642. doi: 10.1371/journal.pone.0114642.
 20. Strauss, M., Barch, D. M., Carter, C. S., Gold, J. M., Luck, S. J., MacDonald A. W. III, Ragland, J. D., Ranganath, C., **Keane, B. P.**, & Silverstein, S. M. (2014). Temporal stability and moderating

- effects of age and gender on CNTRaCS task performance. *Schizophrenia Bulletin*, 40(4), 835-44.
21. *Vlajnic, V. M., Pappathomas, T. V., **Keane, B. P.**, Zalokostas, A., & Silverstein, S. M. (2014). What's in a face? The role of depth undulations in three-dimensional depth inversion illusions. *Perception*, 43(5), 381-94.
 22. *Erlikhman, G., **Keane, B. P.**, *Mettler, E., Horowitz, T. S., & Kellman, P. J. (2013) Automatic feature-based grouping during multiple object tracking. *Journal of Experimental Psychology: Human Perception and Performance*, 39(6), 1625-37. doi: 10.1037/a0031750.
 23. **Keane, B. P.**, Lu, H., Pappathomas, T. V., Silverstein, S. M., & Kellman, P. J. (2013). Reinterpreting behavioral receptive fields: Surface filling-in alters visually completed shape. *PLOS ONE* 8(6): e62505. doi:10.1371/journal.pone.0062505.
 24. **Keane, B. P.**, Silverstein, S. M., *Wang, Y., & Pappathomas, T. V. (2013). Reduced depth inversion illusions in schizophrenia are state specific and occur for multiple object types and viewing conditions. *Journal of Abnormal Psychology*, 122, 506-12.
 25. Silverstein, S. M., **Keane, B. P.**, *Wang, Y., Mikkilineni, D., Paterno, D., Pappathomas, T. V., & Feigenson, K. (2013). Effects of short-term inpatient treatment on sensitivity to a size contrast illusion in first-episode psychosis and multiple-episode schizophrenia. *Frontiers in Psychopathology*, 4(46), 1-11.
 26. **Keane, B.P.**, Silverstein, S. M., Barch, D. M., Carter, C. S., Gold, J. M., Kovács, I., MacDonald, A. W. III, & Strauss, M. E. (2012). The spatial range of contour integration deficits in schizophrenia. *Experimental Brain Research*, 220, 251–259.
 27. **Keane, B.P.**, Lu, H., Pappathomas, T. V., Silverstein, S. M., & Kellman, P. J. (2012). Is interpolation cognitively encapsulated? Measuring the effects of belief on Kanizsa shape discrimination and illusory contour formation. *Cognition*, 123, 404–418.
 28. Silverstein, S. M., **Keane, B. P.**, Barch, D. M., Carter, C. S., Gold, J. M., Kovács, I., MacDonald A. W.III, & Strauss, M. E. (2012). Optimization and validation of a visual integration task for schizophrenia research. *Schizophrenia Bulletin*, 38, 125-34.
 29. Sherman, A., Pappathomas, T. V., Jain, A., & **Keane, B.P.** (2012). The role of stereopsis, motion parallax, perspective, and angle polarity in perceiving 3-D shape. *Seeing and Perceiving* [formerly *Spatial Vision*], 25, 263-85.
 30. Silverstein, S. M., Wang, Y., & **Keane, B. P.** (2012). Cognitive and neuroplasticity mechanisms by which congenital or early blindness may confer a protective effect against schizophrenia. *Frontiers in Psychopathology*, 3, 1-15.
 31. **Keane, B. P.**, *Mettler, E., *Tsoi, V., & Kellman, P. J. (2011). Attentional signatures of perception: Multiple object tracking reveals the automaticity of contour interpolation. *Journal of Experimental Psychology: Human Perception and Performance*, 37 (3), 685–698.
 32. Silverstein, S. M., & **Keane, B. P.** (2011). Perceptual organization impairment in schizophrenia and associated brain mechanisms: review of research from 2005 to 2010. *Schizophrenia Bulletin*, 37(4), 690–699.
 33. Silverstein, S. M., & **Keane, B. P.** (2011). Vision science and schizophrenia research: Towards a review of the disorder—Editors' introduction to special section. *Schizophrenia Bulletin*, 37(4), 681–689.
 34. **Keane, B. P.**, Rosenthal, O., *Chun, N. H., & Shams, L. (2010). Audiovisual integration in high-functioning adults with autism. *Research in Autism Spectrum Disorders*, 4, 276-289.
 35. **Keane, B. P.** (2009). Visual objects as the referents of early vision: A response to a Theory of Sentience. In L. Trick & D. Dedrick (Eds.), *Computation, cognition, & Pylyshyn* (pp. 300-330). Cambridge, MA: MIT Press.
 36. Silverstein, S.M., & **Keane, B. P.** (2009). Perceptual organization in schizophrenia: Plasticity and state-related change. *Learning and Perception*, 1(2), 229–261.
 37. **Keane, B.P.** (2008). On representing objects with a language of sentience. *Philosophical Psychology*, 21(1), 113-127.

38. **Keane, B. P.**, Lu, H., & Kellman, P. J. (2007). Classification images reveal spatiotemporal contour interpolation. *Vision Research*, *47*, 3460-3475.
39. Kellman, P. J., Garrigan, P., Shipley, T. F., & **Keane, B. P.** (2007). Interpolation processes in object perception: Reply to Anderson (2007). *Psychological Review*, *114*(2), 488–508.
40. **Keane, B. P.**, & Pylyshyn, Z. W. (2006). Is trajectory extrapolation employed in multiple object tracking? Tracking as a low-level, non-predictive function. *Cognitive Psychology*, *52*(4), 346-368.

MANUSCRIPTS

1. Hearne, L., Mill, R. D., **Keane, B. P.**, Repovs, G., Anticevic, A., & Cole, M. W. (in preparation). Activity flow underlying abnormalities in brain activations and cognition in schizophrenia.
2. **Keane, B. P.**, Silverstein, S. M., and Papatomas, T. V. (in preparation). Correcting visual acuity beyond 20/20 improves visual perception.
3. **Keane, B. P.**, Erlikhman, G., Paterno, D., & Silverstein, S. M. (in preparation). Intermediate visual shape completion deficits in bipolar disorder.
4. **Keane, B. P.**, Barch, D. M., Mill R., Silverstein, S. M., Krekelberg, B. †, & Cole, M. W. † (in revision) Brain network mechanisms of visual shape completion. BioRxiv:2020.08.03.233403. († co-senior authors).

TECHNICAL SKILLS

Matlab, Connectome Workbench, R, Linux shell scripting (proficient), PsychoPy, SPSS

CONFERENCE TALKS (*mentored co-author)

- **Keane, B. P.**, Paterno, D., Kastner, S., Smith, D., & Silverstein, S. M. (2019). Visual shape completion deficits arise in first-episode and chronic schizophrenia, but are less severe in bipolar disorder: Evidence for a novel behavioral biomarker. Talk at Schizophrenia International Research Society. Orlando, FL: April.
- **Keane, B. P.**, Paterno, D., Kastner, S., Smith, D., & Silverstein, S. M. (2018). Lateral interactions in schizophrenia: What is the role of spatial frequency? Talk at Society for Research in Psychopathology, Indianapolis, IN: September.
- **Keane, B. P.**, Peng, Y., Demmin, D., Silverstein, S. M., & Lu, H.. (2017). Intact perception of biological motion, dynamic form, and coherent motion in chronic schizophrenia. Talk at Society for Research in Psychopathology, Baltimore, MD: September.
- **Keane, B. P.**, Kastner, S., *Paterno, D., & Silverstein, S. M.. (2016). Visual integration dysfunction in schizophrenia arises by the first psychotic episode and worsens with illness duration. Talk at Society for Research in Psychopathology, Baltimore, MD: October.
- **Keane, B. P.**, Kastner, S., *Paterno, D., & Silverstein, S. M (2016). Visual shape completion deficits arise in first-episode and chronic schizophrenia, but are less severe in bipolar disorder: Evidence for a novel behavioral biomarker. Talk at Vision Sciences Society, St. Petersburg Beach, FL; May.
- **Keane, B. P.** (2013). Predicting and tracking clinical remission with measures of visual perception: What are the mechanisms of recovery? Talk at the Schizophrenia Conference, “Schizophrenia from advances in neuroscience to evidence-based treatment”, Somerset, NJ; March. (>300 attendees).
- **Keane, B. P.**, *Paterno, D., *Suhail-Sindhu, T., *Erlikhman, G., Kastner, S., & Silverstein, S. M. (2013). Kanizsa shape discrimination and contour integration deficits in schizophrenia: What is the role of spatial frequency? Talk at Society for Research in Psychopathology, Oakland, CA; September.

- Silverstein, S. M., **Keane, B. P.**, Feigenson, K., Wang, Y., Mikkilineni, D. (2013). Reduced sensitivity to the Ebbinghaus illusion is state related in schizophrenia. Talk at Vision Sciences Society, Naples, FL; May.
- **Keane, B. P.**, Kellman, P. J., Lu, H., & Papathomas, T. V., & Silverstein, S. M. (2012). Is interpolation cognitively encapsulated? Measuring the effects of belief on Kanizsa shape discrimination and illusory contour formation. Talk at Society for Philosophy and Psychology, Boulder, CO; June.
- *Mettler, E., *Erlikhman, G., **Keane, B.P.**, Horowitz, T. S., & Kellman, P. J. (2012). Further evidence for automatic feature-based grouping in multiple object tracking. Talk at Vision Sciences Society, Naples, FL; May.
- **Keane, B. P.**, & Silverstein, S. M. (2011). Contour interpolation as a modular process. Talk at Society for Philosophy and Psychology, Montreal, Canada; July.
- Silverstein, S. M., & **Keane, B. P.** (2011). Effects of impaired perceptual organization on later cognitive processes in schizophrenia. *Schizophrenia Bulletin*, 37(1), 227-228. Talk at International Congress on Schizophrenia Research, Colorado Springs, CO; April.
- **Keane, B. P.**, & Kellman, P. J. (2010). Evidence for a modular filling-in process during contour interpolation. Talk at Vision Sciences Society, Naples, FL; May.
- **Keane, B. P.**, Lu, H., & Kellman, P. J. (2009). Filling-in regions influence real and interpolated shape via lightness induction. Talk at Vision Sciences Society, Naples, FL; May.
- **Keane, B. P.**, Lu, H., & Kellman, P. J. (2007). Classification images of spatiotemporal illusory figures: Interpretations and implications. Symposium talk at Vision Sciences Society, Sarasota, FL; May.
- **Keane, B. P.** & Pylyshyn, Z. W. (2006). Tracking mechanisms exhibit only primitive capacities when operating in parallel. Symposium talk at Vision Sciences Society, Sarasota, FL; May.

OTHER INVITED TALKS

- **Keane, B. P.** (2018). Visual perceptual disturbances as a window into schizophrenia: Prospects for a new kind of biomarker. Grand Rounds talk at Rutgers, Robert Wood Johnson Medical School, Piscataway, NJ; January.
- **Keane, B. P.** (2018). Visual perceptual disturbances as a window into schizophrenia: Prospects for a new kind of biomarker. Grand Rounds talk at Rutgers, Robert Wood Johnson Medical School, Piscataway, NJ; January.
- **Keane, B. P.** (2017). Visual perceptual disturbances as a window into the underlying pathophysiology of schizophrenia. Talk at Kessler Institute, West Orange, NJ; October.
- **Keane, B. P.** & Krekelberg, B. (2016). Therapeutic effects of transcranial alternating current stimulation in schizophrenia. Talk at Rutgers Brain Health Initiative Symposium, Branchburg, NJ; December.
- **Keane, B. P.** (2016). Contour interpolation: A case study in cognitive impenetrability. Talk at Zenon Pylyshyn's retirement celebration, Piscataway, NJ; May.
- **Keane, B. P.** (2016). Visual perceptual disturbances as a window into schizophrenia: Prospects for a new kind of biomarker. Talk given to Praxis, a psychiatry interest group for first year students, at RWJ Medical School, Piscataway, NJ; April.
- **Keane, B. P.** (2016). Visual perceptual disturbances as a window into schizophrenia: Prospects for a new kind of biomarker. Grand Rounds talk at Einstein Medical Center, Philadelphia, PA; March.
- **Keane, B. P.** (2016). Visual perceptual disturbances as a window into schizophrenia. Talk at Rutgers-Princeton Center for Computational Cognitive Neuropsychiatry, Piscataway, NJ; February.
- **Keane, B. P.** (2013). Conceptual contributions to perceptual completion deficits in schizophrenia. Talk at the Rutgers Perceptual Science talk series, Piscataway, NJ; February.

- **Keane, B. P.** (2012). Perceptual organization deficits in schizophrenia: Why do they happen and why should we care? Talk at the Rose F. Kennedy Intellectual and Developmental Disabilities Center Seminar Series, Albert Einstein College of Medicine, New York City, NY; March.
- **Keane, B. P.** (2012). Suggestions for measuring psychometric functions. Talk at the Rutgers Perceptual Science talk series, Piscataway, NJ; March.
- **Keane, B. P.**, & Silverstein, S. M. (2011). Contour interpolation as a modular process. Talk to Sabine Kastner's Neuroscience of Attention and Perception Laboratory, Princeton, NJ; September.
- **Keane, B. P.**, & Silverstein, S. M. (2011). Contour interpolation as a modular process. Talk presented to Rutgers University Center for Cognitive Science Colloquium, Piscataway, NJ; January.
- **Keane, B. P.** (2010). Beyond phenomenological connectedness: Functional consequences of filling-in during contour interpolation. Talk presented at the Rutgers Perceptual Science talk series, Piscataway, NJ; April.
- **Keane, B. P.** (2008). Audiovisual integration in adults with autism. Talk presented to Autism Speaks, Los Angeles, CA; February.
- **Keane, B. P.** (2005). Classification images reveal dynamic interpolation. Talk presented to UCLA cognitive area faculty and students, Los Angeles, CA; December.
- **Keane, B. P.** (2004). Can multiple objects be tracked predictively? Further clues to enduring visual object identity. Talk presented to Jeremy Wolfe's lab at Harvard Medical School, Cambridge, MA; August.
- **Keane, B. P.** (2004) Can multiple objects be tracked predictively? Further clues to enduring visual object identity. Talk presented to the labs of Marvin Chun and Brian Scholl at Yale University, New Haven, CT; April.
- **Keane, B. P.** (2003). Can objects be tracked without encoding their properties? Talk presented at Rutgers Graduate Philosophy Association, New Brunswick, NJ; April.

CONFERENCE POSTERS (*mentored co-author)

- **Keane, B. P.**, Barch, D. M., Silverstein, S. M., Crespo, L. P., Krekelberg, B., Cole, M. W. (2020). Does visual shape completion selectively depend on non-visual networks? A whole-brain perspective. Poster at Vision Sciences Society, St. Petersburg Beach, FL; May.
- Hearne, L., Mill, R., **Keane, B. P.**, & Cole, M.W. (2020). Activity flow models reveal the role of schizophrenia network abnormalities in cognitive activation and behavioral dysfunctions. Poster accepted for Society for Biological Psychiatry (held virtually due to COVID-19), May.
- *Crespo, L., Barch, D. M., Cole, M. W., Krekelberg, B., Silverstein, S. M., Smith, D. T., Coughlin, B. M. ... **Keane, B. P.** (2019). Why is contour integration impaired in schizophrenia? New insights from a cross-diagnostic parametrically varying behavioral task. Poster at Schizophrenia International Research Society, Orlando, FL; April.
- **Keane, B.P.**, *Crespo, L., Smith, D. T., Barch, D. M., Cole, M. W., Krekelberg, B., *Coughlin, B. M., ... Silverstein, S. M. (2019). Why is contour integration impaired in schizophrenia? New insights from a cross-diagnostic parametrically varying behavioral task. Poster at Vision Sciences Society, St. Petersburg, FL, May.
- Ito, T., **Keane, B. P.**, Mill, R. D., Chen, R. H., Hearne, L. J., Arnemann, K. L., He, B. J., Rotstein, H. G., & Cole, M. W. (2018). A dynamical systems model of intrinsic and evoked activity, variability, and functional connectivity. Poster at Cognitive Computational Neuroscience, Philadelphia, PA; September.
- **Keane, B. P.**, Yujia, P., Demmin, D., Silverstein, S. M., & Lu, H. (2018). Evidence that low IQ, but not schizophrenia, impairs motion integration. Poster at Vision Sciences Society, St. Petersburg, FL; May.
- **Keane, B. P.** (2018). Contour interpolation: A case study in Modularity of Mind. Poster at Rutgers

University Center for Cognitive Science Perceptual Science Forum, Piscataway, NJ; May.

- **Keane, B. P.**, Yujia, P., Demmin, D., Silverstein, S. M., & Lu, H. (2018). Evidence that low IQ, but not schizophrenia, impairs motion integration. Poster at Psychiatry Poster Session, Piscataway, NJ; April.
- **Keane, B. P.** (2017). Contour interpolation: A case study in Modularity of Mind. Poster at Vision Sciences Society, St. Petersburg, FL; May.
- *Cruz, L., Paterno, D., Silverstein, S. M., & **Keane, B. P.** (2017). Self-reported visual perceptual abnormalities predict schizophrenia, poor premorbid functioning, and more severe positive symptoms: New Insights from the Bonn Scale. Poster at Vision Sciences Society, St. Petersburg, FL; May.
- *Cruz, L., Paterno, D., Silverstein, S. M., & **Keane, B. P.**, (2017). Visual acuity differences within the normal range strongly alter visual perception: A cautionary tale for schizophrenia research. Poster at Psychiatry Poster Session, Piscataway, NJ; May.
- **Keane, B. P.**, *Paterno, D., Papatomas, T. V., & Silverstein, S. M. (2017). Visual acuity differences within the normal range strongly alter visual perception: A cautionary tale for schizophrenia research. Poster at International Congress on Schizophrenia Research, San Diego, CA; March.
- *Cruz, L., Paterno, D., Silverstein, S. M., & **Keane, B. P.** (2016). Self-reported visual perceptual abnormalities predict schizophrenia, poor premorbid functioning, and more severe positive symptoms: New Insights from the Bonn Scale. Poster at Society for Research in Psychopathology, Baltimore, MD; October.
- *Cruz, L., **Keane, B. P.**, Kastner, S., Papatomas, T. V., & Silverstein, S. M. (2016). Optically correcting visual acuity beyond 20/20 improves visual perception. A cautionary tale for studies of special populations. Poster at Vision Sciences Society, St. Petersburg, FL; May.
- **Keane, B. P.**, Kastner, S., Paterno, D., & Silverstein, S. M. (2016). Visual shape completion deficits are found in first-episode and chronic schizophrenia, but are less severe in bipolar disorder: Evidence for a novel behavioral biomarker. Poster at Rutgers University Center for Cognitive Science Perceptual Science Forum, Piscataway, NJ; May.
- **Keane, B. P.**, Kastner, S., Paterno, D., & Silverstein, S. M. (2016). Visual shape completion deficits are found in first-episode and chronic schizophrenia, but are less severe in bipolar disorder: Evidence for a novel behavioral biomarker. Poster at Psychiatry Poster Session, Piscataway, NJ; April.
- **Keane, B. P.**, Kastner, S., Paterno, D., & Silverstein, S. M. (2015). Visual shape completion deficits arise in first-episode and chronic schizophrenia, but are less severe in bipolar disorder: Evidence for a novel behavioral biomarker. Poster at Society for Research in Psychopathology, New Orleans, LA; September.
- **Keane, B. P.**, Kastner, S., Paterno, D., & Silverstein, S. M. (2015). Contour integration in chronic schizophrenia and first episode psychosis. Poster at Vision Sciences Society. St. Petersburg, FL; May.
- *Roché, M., **Keane, B. P.**, Kastner, S., Papatomas, T. V., & Silverstein, S. M. (2015). Visual acuity differences within the normal range strongly alter visual perception: A cautionary tale for studies of special populations. Poster at Vision Sciences Society. St. Petersburg, FL; May.
- **Keane, B. P.**, Roché, M. W., Silverstein, S. M., *Wang, Y., & Papatomas, T.V. (2014). Depth inversion illusions in schizophrenia and bipolar disorder. Poster at Society for Research in Psychopathology. Evanston, IL; September.
- **Keane, B. P.**, *Erlikhman, G., Kastner, S., *Paterno, D., & Silverstein, S. M. (2014). Contour grouping deficits in schizophrenia: What is the role of spatial frequency? Poster at Cognition Workshop, Cold Spring Harbor, NY; May.
- **Keane, B. P.**, *Erlikhman, G., Kastner, S., *Paterno, D., & Silverstein, S. M. (2014). Lateral interactions in schizophrenia: What is the role of spatial frequency? Poster at Vision Sciences Society. St. Petersburg, FL; May.
- **Keane, B. P.**, *Paterno, D., *Erlikhman, G., Kastner, S., & Silverstein, S. M. (2014). Kanizsa shape perception and contour integration in schizophrenia: What is the role of spatial frequency? Poster at

Schizophrenia International Research Society. Florence, Italy; April.

- *Paterno, D., **Keane, B. P.**, Kastner, S., & Silverstein, S. M. (2014). Is 20/20 vision good enough? Visual acuity differences within the normal range alter contour element detection and integration. Poster at Vision Sciences Society, St. Petersburg, FL; May.
- **Keane, B. P.**, *Joseph, J., & Silverstein, S. M. (2013). Perceptual and conceptual disorganization in schizophrenia: Two sides of the same coin? Poster at Vision Sciences Society. Naples, FL; May.
- *Suhail-Sindhu, T., **Keane, B. P.**, *Paterno, D., *Erlikhman, G., Kastner, S., & Silverstein, S. M. (2013). Kanizsa shape discrimination and contour integration deficits in schizophrenia: What is the role of spatial frequency? Poster at Vision Sciences Society, Naples, FL; May.
- *Wang, Y., **Keane, B. P.**, *Vlajnic, V., Silverstein, S. M., Mikkilineni, D., Zalokostas, A., Papathomas, T. V. (2013). Three-dimensional depth illusions in schizophrenia and bipolar disorder. Poster at Vision Sciences Society. Naples, FL; May.
- * **Keane, B. P.**, *Mikkilineni, D., Papathomas, T.V., & Silverstein, S. M. (2012). Impaired shape integration but normal illusory contour formation in schizophrenia. Poster at Vision Sciences Society. Naples, FL; May.
- **Keane, B. P.**, *Mikkilineni, D., Papathomas, T. V., & Silverstein, S. M. (2012). Impaired shape integration but normal illusory contour formation in schizophrenia: Evidence for a high-level grouping deficit. Poster at Society for Biological Psychiatry. Philadelphia, PA; May.
- Mikkilineni, D., Wang, Y., Paterno, D., Feigenson, K., **Keane, B. P.**, Lathrop, K. & Silverstein, S. M. (2012). Spatial frequency contributions to face perception in schizophrenia. Poster at Society for Research in Psychopathology, Ann Arbor, MI; September.
- Papathomas, T. V., **Keane, B. P.**, Lu, H., Silverstein, S. M., & Kellman, P. J. (2012). Measuring the effects of belief on Kanizsa shape discrimination and illusory contour formation: A replication. Poster at Vision Sciences Society. Naples, FL; May.
- Paterno, D., Wang, Y., Mikkilineni, D., Feigenson, K., **Keane, B. P.**, & Silverstein, S. M. (2012). Reduced susceptibility to visual context in schizophrenia is state-dependent. Poster at Society for Research in Psychopathology, Ann Arbor, MI; September.
- Silverstein, S. M., **Keane, B. P.**, Barch, D. M, Carter, C.S, Gold, J. M., Kovacs, I., MacDonald A. W. III, & Strauss, M. E. (2012). Test-retest reliability of a contour integration test in samples of healthy control and schizophrenia subjects. Poster at Vision Sciences Society. Naples, FL; May.
- *Wang, Y., **Keane, B. P.**, Vlajnic, V., Silverstein, S. M., Mikkilineni, D., Zalokostas, A., Papathomas, T. V. (2012). Reduced depth illusions in schizophrenia: The state of the illness matters the kind of object may not. Poster at Vision Sciences Society. Naples, FL; May.
- Wang, Y., Mikkilineni, D., Paterno, D., Feigenson, K., **Keane, B. P.**, & Silverstein, S. M. (2012). Contour integration and clinical disorganization in schizophrenia. Poster at Society for Research in Psychopathology, Ann Arbor, MI; September.
- **Keane, B. P.**, Kurien, A., & Silverstein, S. M. (2011). Illusory contour perception in schizophrenia: Impaired or intact? Poster at International Congress on Schizophrenia Research, Colorado Springs, CO; April.
- **Keane, B. P.**, Mikkilineni, D., & Silverstein, S. M. (2011). Impaired shape integration but normal illusory contour formation in schizophrenia. Poster at Society for Research in Psychopathology, Boston, MA; September.
- **Keane, B. P.**, Silverstein, S. M., & Kellman, P. J. (2011). Achromatic surface color depends on filling in shape. Poster at Vision Sciences Society. Naples, FL; May.
- *Mettler, E., **Keane, B. P.**, *Erlikhman, G., Horowitz, T.S., & Kellman, P. J. (2011). Automatic feature based grouping during multiple object tracking. Poster at Vision Sciences Society, Naples, FL; May.
- Papathomas, T. V., Zalokostas, A., Vlajnic, V., **Keane, B. P.**, & Silverstein, S. M. (2011). What's in a face? Priors for convexity and 3-D feature configuration. Poster at European Conference on Visual Perception, Toulouse, France; August.

- Silverstein, S. M., **Keane, B. P.**, Barch, D., Carter, C., Gold, J., Kovács, I., MacDonald III, A., Ragland, D., & Strauss, M. (2011). Spatial range of contour integration in schizophrenia. Poster at Vision Sciences Society, Naples, FL; May.
- **Keane, B.P.**, Mettler, E., Tsoi, V., & Kellman, P. J. (2009). Contour interpolation automatically directs attention during multiple object tracking. Poster at Vision Sciences Society, Naples, FL; May.
- Lu, H., Lee, A., & **Keane, B. P.** (2009). Spatial pattern analysis in biological motion. Poster at Vision Sciences Society, Naples, FL; May.
- **Keane, B. P.** (2008). On representing objects with a language of sentience. Poster at Society for Philosophy and Psychology, Philadelphia, PA; June.
- **Keane, B. P.**, Lu, H., & Kellman, P. J. (2008). Contour interpolation and lightness induction mechanisms interact to produce classification image features in a shape discrimination task. Poster at Vision Sciences Society, Naples, FL; May.
- Mettler, E., **Keane, B. P.**, & Kellman, P. J. (2008). Contour interpolation affects multiple object tracking. Poster at Vision Sciences Society, Naples, FL; May.
- **Keane, B. P.**, Kellman, P. J., & *Elwell, C. E. (2007). Classification images reveal differences between spatial and spatiotemporal contour interpolation. Poster at Vision Sciences Society, Sarasota, FL; May.
- **Keane, B. P.**, & Kellman, P. J. (2006). Classification images reveal interpolation in dynamic displays. Poster at Vision Sciences Society, Sarasota, FL; May.
- **Keane, B. P.** & Pylyshyn, Z. W. (2004). Tracking behind occluders is not based on predicting likely reappearance locations. Poster at Vision Sciences Society, Sarasota, FL; May.
- **Keane, B. P.**, & Pylyshyn, Z. W. (2003). Does tracking disappearing objects in MOT involve predicting the locus of reappearance? Poster at Vision Sciences Society, Sarasota, FL; May.

DISSERTATION COMMITTEE SERVICE

Doctoral Dissertation Outside Committee Member:

- Schielke, Alexander. (2019- present). “Ketamine emulates altered visual perception found in schizophrenia”. Center for Molecular and Behavioral Neuroscience, Rutgers University, Newark.
- Panton, Kirsten. (2019). “Perceptual organization and schizotypy: A window into the mechanisms of schizophrenia?” School of Psychological Science, The University of Western Australia.
- Ahmed, Arnab (2016). “A Quantitative Measure of Visual Processing Changes in Patients with Schizophrenia.” MARCS Institute for Brain Behavior & Development, Western Sydney University.

OTHER ADVISED STUDENTS

- Janelle Liu, high school student, Marlborough School, Los Angeles, CA (Now a UCLA neuroscience doctoral student).
- Nicole Chun, undergraduate, co-author & poster co-presenter, Dept. of Psychology, UCLA.
- Cassandra Elwell, undergraduate, poster co-presenter, Dept. of Psychology, UCLA.
- Everett Mettler, undergraduate, co-author & poster co-presenter, Dept. of Psychology, UCLA.
- Tanvi Singh, undergraduate, Honors thesis advisee, Center for Molecular & Behavioral Neuroscience, Rutgers, Newark (Now at Salus University, Pennsylvania College of Optometry)
- Vicky Tsoi, undergraduate, co-author & poster co-presenter, Dept. of Psychology, UCLA.
- Vanja Vlajnic, undergraduate, co-author & poster co-presenter, Center for Cognitive Science, Rutgers. (Now Clinical Statistician at Bayer)
- Laura Crespo, employed RA, poster co-presenter, Rutgers
- Lisa Cruz, employed RA, co-author & poster co-presenter, Rutgers (Now at Yeshiva clinical PhD program).

- Deepthi Mikkilineni, employed RA, co-author & poster co-presenter, Rutgers (Now a resident in anesthesiology).
- Danielle Paterno, employed RA, co-author & poster co-presenter, Rutgers.
- Dillon Smith, employed RA, poster co-presenter, Rutgers.
- Yushi Wang, employed RA, co-author & poster co-presenter, Rutgers (Now a social worker at Rutgers).
- Brendon Coughlin, research volunteer, Rutgers University.
- Timur Suhail-Sindhu, research volunteer, poster co-presenter, Rutgers (Now at Dartmouth for Psychiatry residency).
- Genna Erlichman, graduate student, co-author & poster co-presenter, Dept. of Psychology, UCLA. (Now Data Science Program Director at Insight)
- Jamie Joseph, graduate student, co-author & poster co-presenter, Neuroscience Program, Rutgers.
- Keith Feigenson, postdoctoral student, co-author & poster co-presenter, Rutgers (Now Assistant Professor at Albright College).

SERVICE

- Contributor, 3T Neuroimaging Facility Group (headed by Dr. Gary Aston-Jones), March 2015 – present.
- Contributor, Data & Safety Monitoring Board (headed by Dr. Jessica Ortiz), November 2017 – present.
- Lecture Presenter for Critical Review of the Literature Seminar (3rd yr medical students + psychiatry residents), Robert Wood Johnson Medical School, June 2017, June 2018.
- Brain Health Initiative Symposium Ad Hoc Poster Evaluator, December, 2016
 - Evaluated multiple posters for a poster prize at RBHS event in Branchburg, NJ.
- Reviewer, Rutgers School of Health Professions Intramural Seed Grants Program, July 2018.
- Prison Teaching Initiative (offered through Princeton University), fall 2014:
 - Prepared and gave four clinical psychology lectures at East Jersey State Prison.
- Review Editorial Board, *Frontiers In Human Neuroscience* (Nature Publishing Group):
 - Co-Editor of special issue on visual perception and schizophrenia.
- Ad-hoc reviewer (journals):
 - Acta Psychologica*; *American Journal of Psychiatry*; *Attention, Perception, and Psychophysics*; *Biological Psychiatry*; *Biological Psychiatry – CNNI*; *Bipolar Disorders*; *Cognition*; *European Journal of Neuroscience*; *International Journal of Geriatric Psychiatry*; *Journal of Abnormal Psychology*; *JAMA Psychiatry*; *Journal of Autism and Developmental Disorders*; *Journal of Experimental Psychology: Learning, Memory and Cognition*; *Journal of Psychiatric Research*; *Journal of Vision*; *Mind & Language*; *Neuroimage*; *Neuropsychologia*; *Neuroscience & Biobehavioral Reviews*; *Perception*; *Philosophical Psychology*; *PLOS ONE*; *Psychiatry Research*; *Psychological Medicine*; *Psychological Science*; *Psychonomic Bulletin & Review*; *Psychopharmacology*; *Synthese*; *Vision Research*; *Visual Cognition*; *The World Journal of Biological Psychiatry*.
- Ad-hoc reviewer (conference abstracts): Society for Philosophy and Psychology, April 2012, March 2019.
- Treasurer, Vice President of Rutgers University Graduate Student Association, 2001–2004.
 - Representative to the National Association of Graduate and Professional Students, 2003-2004.
 - Lobbied members of congress to make graduate student stipends federally tax exempt.
- Volunteer philosophy instructor for senior citizens, Rutgers University Academy for Lifelong Learning, fall 2001, spring 2003.

LEAD INSTRUCTOR

- Sensation & Perception, Rutgers University, New Brunswick, summer 2014.
- Introduction to Cognitive Science, Rutgers University, New Brunswick, fall 2011.
- Introduction to Modern Philosophy, Rutgers University, New Brunswick, summer 2004, fall 2003, summer 2002.
- Ethics & Business, Rutgers University, Newark, summer 2003, summer 2001.
- Ethics & Business, Rutgers University, New Brunswick, spring 2002.
- Introduction to Philosophy, Rutgers University, New Brunswick, summer 2001.

TEACHING ASSISTANT

- Research Methods in Psych (with lab), University of California, Los Angeles, spring 2008, spring 2006.
- Introduction to Cognitive Science, University of California, Los Angeles, winter 2008.
- Cognitive Psychology, University of California, Los Angeles, winter 2006.
- Introduction to Philosophy, Rutgers University, New Brunswick, spring 2004, fall 2001.

GUEST LECTURES

- Lecture presented to Mary Rigdon's undergraduate course "Advanced topics in Cognitive Science", Rutgers University, spring 2018.
- Lecture presented to Mary Rigdon's undergraduate course "Advanced topics in Cognitive Science", Rutgers University, spring 2016.
- Lecture presented to Brian McLaughlin & Susanna Schellenberg's graduate course, "Seminar in Philosophy of Mind", Rutgers University, spring 2014.
- Lecture presented to Elizabeth Torres' undergraduate psychology course, "Advanced Topics in Cognitive Science", Rutgers University, spring 2014.
- Lecture presented to Brian McLaughlin & Louis Sass's philosophy/psychology graduate seminar, "Advanced Topics: Philosophy of Psychology", Rutgers University, fall 2012.

WORKSHOPS & TRAININGS

- Certification for Structured Interview for Prodromal Syndromes, Piscataway, NJ, August 2019.
- The Athinoula A. Martinos Center Visiting Fellowship in fMRI at Massachusetts General Hospital, Boston, MA, Oct 2016.
- Cold Spring Harbor Laboratory Workshop in Cognition, Cold Spring Harbor, NY, June 2014.
- Cold Spring Harbor Laboratory Workshop in Schizophrenia, Cold Spring Harbor, NY, June 2012.

MEMBERSHIPS

- Schizophrenia International Research Society (since 2019)
- Society for Research in Psychopathology (since 2013).
- Vision Sciences Society (since 2002).