

Anna Kosovicheva

Northeastern University
Psychology Department
125 Nightingale Hall • 360 Huntington Ave.
Boston, MA 02115
akosov [at] northeastern.edu • annakosov.net

EDUCATION

- 2015 University of California, Berkeley, Ph.D., Psychology
Cognition, Brain, and Behavior Program
Advisor: Dr. David Whitney
Dissertation: *The Effects of Motion on Position Representations for Perception and Action*
- 2009 University of California, Berkeley, B.A., Psychology, Highest Honors

PROFESSIONAL APPOINTMENTS

- 2015 - Postdoctoral Researcher, Translational Vision Lab
PI: Dr. Peter Bex
Psychology Department, Northeastern University, Boston, MA

RESEARCH INTERESTS

Visual perception: localization, eye movements, spatial and binocular vision, translational vision science, strabismus, amblyopia

GRANTS AND FELLOWSHIPS

- 2018 - 2021 Ruth L. Kirschstein Postdoctoral Individual National Research Service Award (NRSA)
"Oculomotor deficits and plasticity across gaze posture in strabismus"
National Institutes of Health (F32 EY028814), \$188,390
- 2011 - 2014 Graduate Research Fellowship
National Science Foundation (NSF-GRFP), \$32,000 annually and tuition

AWARDS AND HONORS

- 2020 Elsevier/Vision Research Travel Award, V-VSS Meeting
2017 Travel Award, ARVO Meeting, National Eye Institute
2015 Travel Award, Norman Henry Anderson Fund, Psychology Department, UC Berkeley
2013, 2014 Graduate Division Travel Grant, UC Berkeley
2012 Abigail Reynolds Hodgen Publication Fund, Social Sciences Division, UC Berkeley
2009 Highest Distinction in General Scholarship, UC Berkeley
2009 Highest Honors in Psychology, UC Berkeley
2008 Katherine Craig Swan Undergraduate Research Award, UC Berkeley

PUBLICATIONS

Published & Forthcoming Papers (underlined names denote students mentored):

1. **Kosovicheva, A.** & Bex, P. J. (2020). Perceptual effects of unequal saccadic adaptation produced by a dichoptic step. *Journal of Vision*, 20(5):7, 1-21.
2. **Kosovicheva, A.**, Alaoui-Soce, A., & Wolfe, J. M. (2020). Looking ahead: When do you find the next item in foraging visual search? *Journal of Vision*, 20(2):3, 1–24.
3. **Kosovicheva, A.**, & Bex, P. J. (2020). What color was it? A psychophysical paradigm for tracking subjective progress in continuous tasks. *Perception*, 49(1), 21–38.
4. **Kosovicheva, A.**, Ferreira, A., Vera-Diaz, F. A., & Bex, P. J. (2019). Effects of temporal frequency on binocular deficits in amblyopia. *Vision Research*, 163, 52-62.
5. Wolfe, B., Sawyer, B. D., **Kosovicheva, A.**, Reimer, B., & Rosenholtz, R. (2019). Detection of brake lights while distracted: Separating peripheral vision from cognitive load. *Attention, Perception, & Psychophysics*, 81, 2798–2813.
6. Wolfe, B., Fridman, L., **Kosovicheva, A.**, Seppelt, B., Mehler, B., Reimer, B., & Rosenholtz, R. (2019). Predicting road scenes from brief views of driving video. *Journal of Vision*, 19(5):8, 1–14.
7. Vera-Diaz, F. A., Bex, P. J., Ferreira, A., & **Kosovicheva, A.** (2018). Binocular temporal visual processing in myopia. *Journal of Vision*, 18(11), 1-12.
8. Manassi, M., Liberman, A., **Kosovicheva, A.**, Zhang, K., & Whitney, D. (2018). Serial dependence in position occurs at the time of perception. *Psychonomic Bulletin & Review*, 25(6), 2245-2253.
9. Chen, Z. *, **Kosovicheva, A.** *, Wolfe, B. A., Cavanagh, P., Gorea, A., & Whitney, D. (2018). Unifying visual space across the left and right hemifields. *Psychological Science*, 29(3), 356 – 369. (*co-first authors)
10. **Kosovicheva, A.**, & Whitney, D. (2017). Stable individual signatures in object localization. *Current Biology*, 27(14), R700-R701.
11. Wolfe, B., Fridman, L., **Kosovicheva, A.**, Seppelt, B., Mehler, B., Reimer, B. (2017). Perceiving the roadway in the blink of an eye – Rapid perception of the road environment and prediction of events. *Conference Proceedings, Driving Assessment 2017*.
12. Yamanashi Leib, A., **Kosovicheva, A.**, & Whitney, D. (2016). Fast ensemble representations for abstract visual impressions. *Nature Communications*, 7, 13186.
13. Wolfe, B., Dobres, J., **Kosovicheva, A.**, Rosenholtz, R., & Reimer, B. (2016). Age-related differences in the legibility of degraded text. *Cognitive Research: Principles and Implications*, 1(1), 22.
14. Wolfe, B. A., **Kosovicheva, A. A.**, Yamanashi Leib, A., Wood, K., & Whitney, D. (2015). Foveal input is not required for perception of crowd facial expression. *Journal of Vision*, 15(4), 1-13.
15. **Kosovicheva, A. A.**, Wolfe, B. A., & Whitney, D. (2014). Visual motion shifts saccade targets. *Attention, Perception, & Psychophysics*, 76(6), 1778-1788.
16. **Kosovicheva, A. A.**, Sheremata, S. L., Rokem, A., Landau, A. N. & Silver, M. A. (2012). Cholinergic enhancement reduces orientation-specific surround suppression but not visual crowding. *Frontiers in Behavioral Neuroscience*, 6(61), 1-11.

17. **Kosovicheva, A. A.**, Maus, G. W., Anstis, S. Cavanagh, P., Tse, P. U., & Whitney, D. (2012). The motion-induced shift in the perceived location of a grating also shifts its aftereffect. *Journal of Vision*, 12(8), 1-14.
18. **Kosovicheva, A. A.**, Fortenbaugh, F. C., & Robertson, L. C. (2010). Where does attention go when it moves?: Spatial properties and locus of the attentional repulsion effect. *Journal of Vision*, 10(12), 1–13.

Manuscripts Submitted & In Revision:

19. Caoli, A., Sabatini, S., Gibaldi, A., Maiello, G., **Kosovicheva, A.**, & Bex, P. J. (In revision). A dichoptic feedback-based oculomotor training method to manipulate interocular alignment. *Scientific Reports*.

CONFERENCE PRESENTATIONS (underlined names denote students mentored):

1. Wiecek, E., Nabasaliza, A., **Kosovicheva, A.**, Kazlas, M., Hunter, D. G., Bex, P. J. (2020). Differences in contrast sensitivity and binocular imbalance across the visual field in children with strabismus and anisometropic amblyopia. *Abstract submitted to the American Academy of Optometry meeting*.
2. **Kosovicheva, A.**, Wiecek, E., Kazlas, M., Hunter, D. G., Bex, P. J. (2020). Modulation of stereopsis and sensory eye dominance by gaze direction in strabismus. *Online video presentation for the Association for Research in Vision and Ophthalmology (ARVO) Meeting*.
3. Wiecek, E., **Kosovicheva, A.**, Kazlas, M., Bex, P. J., Hunter, D. G. (2020). Decreased peripheral stereoacuity and ocular dominance in anisometropic amblyopia, strabismic, and normally-sighted young adults. *Online video presentation for the ARVO Annual Meeting*.
4. **Kosovicheva, A.**, Sridhar, K., & Bex, P. J. (2020). Image predictors of visual localization in natural scenes. *Poster presented at the Virtual Vision Sciences Society (VSS) Annual Meeting*.
5. **Kosovicheva, A.**, & Wolfe, J. M. (2019). When do you find the next item?: Using occluders to uncover the time course of visual foraging. *Poster presented at the VSS Annual Meeting*.
6. Alberti, C. F., **Kosovicheva, A.**, & Bex, P. J. (2019). Measuring the field of contrast sensitivity via saccadic foraging. *Poster presented at the VSS Annual Meeting*.
7. **Kosovicheva, A.**, Hawlder, O., Bex, P. J. (2018). Localization errors following saccadic adaptation to a dichoptic step. *Poster presented at the VSS Annual Meeting*.
8. Vera-Diaz, F. A., **Kosovicheva, A.**, Maiello, G. A., Ferreira, A., Walker, L., Bex, P. J. (2017). Binocularity in myopia. *Poster presented at the International Myopia Conference*.
9. Hawlder, O.*, Bex, P. J., & **Kosovicheva, A.** (2017). Sensory effects of dichoptic saccadic adaptation. *Paper presented at the Newfoundland Electrical and Computer Engineering Conference (NECEC)*. (*Best Paper Award in Women in Engineering)
10. Rosenholtz, R., Wolfe, B., Sawyer, B., **Kosovicheva, A.**, Reimer, B. (2017). Detecting driving-relevant events with peripheral vision. *Talk presented at the VSS Annual Meeting*.
11. **Kosovicheva, A.**, Kazlas, M., Hunter, D. G., Bex, P. (2017). What can we learn about strabismus from a 90 second gaze recording?: Rapid evaluation of oculomotor deficits in strabismus. *Poster presented at the ARVO Annual Meeting*.

12. Ferreira, A., **Kosovicheva, A.**, Bex, P. J., Vera-Diaz, F. A. (2017). Temporal contrast sensitivity in myopia. *Poster presented at the ARVO Annual Meeting.*
13. Bex, P. J., **Kosovicheva, A.**, Ferreira, A., Vera-Diaz, F. A. (2017). Effects of temporal frequency on binocularity and contrast sensitivity in amblyopia. *Poster presented at the VSS Annual Meeting.*
14. **Kosovicheva, A.**, Feffer, J., Alaoui Soce, A., Cain, M. S., Wolfe, J. M. (2017). When does visual search move on?: Using the color wheel to measure the dynamics of foraging search. *Poster presented at the VSS Annual Meeting.*
15. Vera-Diaz, F. A., **Kosovicheva, A.**, Ferreira, A., Bex, P. J. (2017). Effect of temporal vision on binocularity in ametropia. *Poster presented at the ARVO Annual Meeting.*
16. Wolfe, B., Fridman, L., **Kosovicheva, A.**, Reimer, B., Rosenholtz, R. (2017). Seeing the road in the blink of an eye: Rapid perception of the driver's visual environment. *Poster presented at the VSS Annual Meeting.*
17. **Kosovicheva, A.**, & Bex, P. (2016). Reading rainbows: Measuring the dynamics of word processing. *Talk presented at the VSS Annual Meeting.*
18. Wolfe, B., Dobres, J., **Kosovicheva, A.**, Rosenholtz, R., & Reimer, B. (2016). Reduction in legibility with degradation in older and younger observers. *Poster presented at the VSS Annual Meeting.*
19. **Kosovicheva, A. A.**, Wolfe, B. A., Cavanagh, P., Gorea, A., & Whitney, D. (2015). Dynamic recalibration of perceived space across the visual hemifields. *Poster presented at the VSS Annual Meeting.*
20. Yamanashi Leib, A., **Kosovicheva, A. A.**, & Whitney, D. (2015). Perceiving the lifelikeness of crowds: summary statistical representations of abstract visual dimensions. *Poster presented at the VSS Annual Meeting.*
21. Wood, K., Wolfe, B. A., **Kosovicheva, A. A.**, & Whitney, D. (2015). Speeded breakthrough of faces in interocular suppression requires configural information. *Poster presented at the VSS Annual Meeting.*
22. **Kosovicheva, A. A.** & Whitney, D. (2014). Stable individual distortions in the perceived locations of static stimuli. *Poster presented at the VSS Annual Meeting.*
23. Yamanashi Leib, A., Bai, Y., **Kosovicheva, A. A.**, Chang, K., Puri, A., Robertson, L., & Whitney, D. (2014). Ensemble perception of multiple crowd characteristics. *Poster presented at the VSS Annual Meeting.*
24. Liberman, A., **Kosovicheva, A. A.**, & Whitney, D. (2014). Serial dependence of position perception. *Poster presented at the VSS Annual Meeting.*
25. Wood, K., Wolfe, B. A., **Kosovicheva, A. A.**, Yamanashi Leib, A., & Whitney, D. (2014). Foveal input is not required for ensemble coding of emotional faces. *Poster presented at the VSS Annual Meeting.*
26. **Kosovicheva, A. A.**, & Whitney, D. (2013). A meridional anisotropy of the flash-drag effect. *Poster presented at the VSS Annual Meeting.*
27. Wolfe, B. A., **Kosovicheva, A. A.**, Yamanashi Leib, A., & Whitney, D. (2013). Beyond fixation: Ensemble coding and eye movements. *Poster presented at the VSS Annual Meeting.*

28. **Kosovicheva, A. A.**, Wolfe, B., & Whitney, D. (2012). Effects of motion-induced mislocalizations on saccade landing position. *Talk presented at the VSS Annual Meeting.*
29. **Kosovicheva, A. A.**, Maus, G. W., Anstis, S., Cavanagh, P., Tse, P. U., & Whitney, D. (2011). The motion-induced shift in the perceived location of a grating also shifts its aftereffect. *Poster presented at VSS and at the Bay Area Vision Research Day.*
30. Silver, M.A., **Kosovicheva, A. A.**, & Landau, A. N. (2011). ERP correlates of orientation-specific surround suppression. *Poster presented at the VSS Annual Meeting.*
31. **Kosovicheva, A. A.**, Landau, A. N., & Silver, M. A. (2010). Interactions of sustained spatial attention and surround suppression: an EEG study. *Poster presented at the Society for Neuroscience Meeting.*
32. **Kosovicheva, A. A.**, Landau, A. N., & Silver, M. A. (2010). Cholinergic modulation of EEG activity during sustained visual stimulation. *Poster presented at the UC Berkeley Annual Neuroscience Retreat.*
33. **Kosovicheva, A. A.**, Fortenbaugh, F. C., & Robertson, L. C. (2010). Spatial properties of the attentional repulsion effect. *Poster presented at the VSS Annual Meeting.*
34. Landau, A. N., **Kosovicheva, A. A.**, & Silver, M. A. (2010). Interactions of sustained spatial attention and surround suppression: an SSVEP study. *Poster presented at the VSS Annual Meeting.*

Other Academic Presentations:

Vision Sciences Society (VSS) Demo Night:

- 2014 Kosovicheva, A., Wolfe, B., Chaney, W., Yamanashi Leib, A., Liberman, A. "Strobwheel"
 2012 Kosovicheva, A., Wolfe, B. "An Aftereffect Based on Texture Element Ratios."

INVITED SEMINARS

- 2019 Research Lecture Series, New England College of Optometry, Boston, MA (Nov 5, 2019)
 2019 Visual Attention Lab Seminar, Brigham and Women's Hospital, Boston, MA (Oct 15, 2019)
 2018 Department of Psychology, Rochester Institute of Technology, Rochester, NY (Dec 5, 2018)
 2016 Research Lecture Series, New England College of Optometry, Boston, MA (Nov 29, 2016)
 2016 Perception and Action Seminar, Brown University, Providence, RI (April 14, 2016)

OTHER RESEARCH EXPERIENCE & AFFILIATIONS

- 2015 - Associated Research Personnel
 Department of Ophthalmology, Boston Children's Hospital
- 2009 - 2010 Staff Research Associate
 Silver Lab, Helen Wills Neuroscience Institute & School of Optometry, UC Berkeley
 PI: Dr. Michael Silver
- 2008 - 2009 Research Assistant
 Cognitive Neuropsychology Lab, Psychology Department, UC Berkeley
 PI: Dr. Lynn Robertson

TEACHING EXPERIENCE

Courses:

- 2017 Part-Time Lecturer (Fall 2017 Semester)
Course: Sensation & Perception, Psychology Department, Northeastern University
Instructor of record for an undergraduate lecture-based course covering the fundamentals of sensation and perception.
Instructor effectiveness rating: 4.45 / 5
- 2010, 2015 Graduate Student Instructor (GSI) (Spring 2010 & Spring 2015 Semesters)
Course: Perception, Psychology Department, UC Berkeley
Taught classroom discussion sections for an undergraduate course in perception.
Instructor effectiveness rating: 6.33 / 7

STUDENTS MENTORED

- 2020 Leah Brodie
Undergraduate student, Northeastern University, Directed Study
- 2019 Koushik Sridhar
High school student, Research Science Institute (RSI) summer enrichment program
- 2018 Kelly Choi
Undergraduate student, Northeastern University, Directed Study
- 2016 - 2018 Jungyeon Park
Undergraduate student, Harvard University, Directed Study
- 2017 Erin Smith
High school student, RSI program
- 2017 Oishi Hawlader
High school student, RSI program
Best Paper Award in Women in Engineering, NECEC Conference
- 2016 Joseph Feffer
High school student, RSI program
- 2015 Katja Kelleher
Undergraduate student, Northeastern University, Directed Study
Faculty Scholar Award, Psychology Department
- 2013 - 2015 Katherine Wood
Undergraduate student, UC Berkeley, Directed Study
Honors thesis completed in 2015; Warner Brown Memorial Prize, Psychology Department
- 2011 - 2013 Valentina Volk
Undergraduate student, UC Berkeley Undergraduate Research Apprentice Program (URAP)
Honors thesis completed in 2013
- 2011 Andrew Chang
Undergraduate student, URAP

MANUSCRIPT REVIEW

Attention, Perception, & Psychophysics, Cognitive Science, eLife, Frontiers in Medicine, IEEE Information Visualization Conference (InfoVis), Journal of Vision, Optometry and Vision Science, Perception / i-Perception, Vision, Vision Research

OUTREACH

2010 - 2015 Whitney Lab Outreach Program

Outreach visits to underserved K-12 schools in the San Francisco Bay Area twice a year, with presentations on topics in visual perception (color, motion, faces, depth). Developed visual illusion demonstrations for students.

MEMBERSHIPS HELD

Association for Psychological Science (APS)

Association for Research in Vision and Ophthalmology (ARVO)

Psychonomic Society

Society for Neuroscience (SfN)

Vision Sciences Society (VSS)