

## **Anna Kosovicheva**

Department of Psychology  
University of Toronto Mississauga  
3359 Mississauga Road • Mississauga, ON, L5L 1C6  
a.kosovicheva [ at ] utoronto.ca • applylab.org

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### **PROFESSIONAL APPOINTMENTS**

- 2021 - Assistant Professor, Department of Psychology  
University of Toronto Mississauga – Mississauga, ON, Canada  
Contractually Limited Term Appointment
- 2015 - 2020 Postdoctoral Researcher, Translational Vision Lab  
PI: Dr. Peter Bex  
Psychology Department, Northeastern University – Boston, MA

### **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

### **RESEARCH INTERESTS**

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

### **GRANTS AND FELLOWSHIPS**

#### **Funded:**

- 2018 - 2020 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), \$192,090
- 2011 - 2014 Graduate Research Fellowship  
National Science Foundation (NSF-GRFP), \$32,000 annually and tuition

#### **Applications under review:**

- 2021 Natural Sciences and Engineering Research Council (NSERC) Discovery Grant – Individual  
“Individual differences in human visual spatial representations”

## 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. Caoli, A., Sabatini, S., Gibaldi, A., Maiello, G., **Kosovicheva, A.**, & Bex, P. J. (2020). A dichoptic feedback-based oculomotor training method to manipulate interocular alignment. *Scientific Reports*, 10, 15634, 1-13.
2. **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.
3. **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.
4. **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.
5. **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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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)
11. **Kosovicheva, A.**, & Whitney, D. (2017). Stable individual signatures in object localization. *Current Biology*, 27(14), R700-R701.
12. 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*.

13. Yamanashi Leib, A., **Kosovicheva, A.**, & Whitney, D. (2016). Fast ensemble representations for abstract visual impressions. *Nature Communications*, 7, 13186.
14. 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.
15. 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.
16. **Kosovicheva, A. A.**, Wolfe, B. A., & Whitney, D. (2014). Visual motion shifts saccade targets. *Attention, Perception, & Psychophysics*, 76(6), 1778-1788.
17. **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.
18. **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.
19. **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:

20. **Kosovicheva, A.**, & Bex, P. J. (Under review). Gravitational effects of scene information in object localization.

#### CONFERENCE PRESENTATIONS (underlined names denote students mentored):

1. Wolfe, B. A., **Kosovicheva, A.**, Stent, S., Rosenholtz, R. (2021). Attentional cueing in the world: temporal and spatiotemporal cues for road hazards. *Abstract to be presented at the Virtual Vision Sciences Society (V-VSS) Annual Meeting*.
2. **Kosovicheva, A.**, & Bex, P. J. (2021). Microsaccades before response initiation reflect angular errors in a peripheral localization task. *Abstract to be presented at the Virtual Vision Sciences Society (V-VSS) Annual Meeting*.
3. 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*.
4. **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*.
5. 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*.
6. **Kosovicheva, A.**, Sridhar, K., & Bex, P. J. (2020). Image predictors of visual localization in natural scenes. *Poster presented at the Virtual Vision Sciences Society (V-VSS) Annual Meeting*.

7. **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.*
8. 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.*
9. **Kosovicheva, A.**, Hawladar, O., Bex, P. J. (2018). Localization errors following saccadic adaptation to a dichoptic step. *Poster presented at the VSS Annual Meeting.*
10. 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.*
11. Hawladar, 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)
12. Rosenholtz, R., Wolfe, B., Sawyer, B., **Kosovicheva, A.**, Reimer, B. (2017). Perceptual and attentional factors in detection of driving-relevant visual events. *Talk presented at the VSS Annual Meeting.*
13. **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.*
14. Ferreira, A., **Kosovicheva, A.**, Bex, P. J., Vera-Diaz, F. A. (2017). Temporal contrast sensitivity in myopia. *Poster presented at the ARVO Annual Meeting.*
15. 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.*
16. **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.*
17. 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.*
18. 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.*
19. **Kosovicheva, A.**, & Bex, P. (2016). Reading rainbows: Measuring the dynamics of word processing. *Talk presented at the VSS Annual Meeting.*
20. 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.*
21. **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.*
22. 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.*

23. 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.*
24. **Kosovicheva, A. A.** & Whitney, D. (2014). Stable individual distortions in the perceived locations of static stimuli. *Poster presented at the VSS Annual Meeting.*
25. 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.*
26. Liberman, A., **Kosovicheva, A. A.**, & Whitney, D. (2014). Serial dependence of position perception. *Poster presented at the VSS Annual Meeting.*
27. 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.*
28. **Kosovicheva, A. A.**, & Whitney, D. (2013). A meridional anisotropy of the flash-drag effect. *Poster presented at the VSS Annual Meeting.*
29. 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.*
30. **Kosovicheva, A. A.**, Wolfe, B., & Whitney, D. (2012). Effects of motion-induced mislocalizations on saccade landing position. *Talk presented at the VSS Annual Meeting.*
31. **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.*
32. Silver, M.A., **Kosovicheva, A. A.**, & Landau, A. N. (2011). ERP correlates of orientation-specific surround suppression. *Poster presented at the VSS Annual Meeting.*
33. **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.*
34. **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.*
35. **Kosovicheva, A. A.**, Fortenbaugh, F. C., & Robertson, L. C. (2010). Spatial properties of the attentional repulsion effect. *Poster presented at the VSS Annual Meeting.*
36. 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:

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|------|---|
| 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."          |

#### **RESEARCH SEMINARS**

2020 Whitney Lab, UC Berkeley, Berkeley, CA (June 29, 2020) – *delivered remotely*  
 2020 School of Optometry, Indiana University, Bloomington, IN (March 30, 2020) – *delivered remotely*  
 2020 Department of Psychology, University of Nevada, Reno, Reno, NV (Feb 27, 2020)  
 2020 Department of Psychology, Northeastern University, Boston, MA (Jan 30, 2020)  
 2020 Department of Psychology, University of Central Florida, Orlando, FL (Jan 23, 2020)  
 2019 Department of Psychology, North Carolina State University, Raleigh, NC (Nov 7, 2019)  
 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)

## GUEST LECTURES IN COURSES

2020 Computational Vision, Boston University, Boston, MA (Oct 7 & Oct 13, 2020) – *delivered remotely*  
 2019 Undergraduate seminar in Perception, Northeastern University, Boston, MA (Nov 14, 2019)  
 2019 Undergraduate seminar in Perception, Northeastern University, Boston, MA (Feb 11, 2019)  
 2019 Psychology at Northeastern, Northeastern University, Boston, MA (Jan 31, 2019)  
 2018 Psychology at Northeastern, Northeastern University, Boston, MA (Oct 1, 2018)  
 2016 Undergraduate seminar in Perception, Northeastern University, Boston, MA (Nov 3, 2016)  
 2016 Graduate seminar in Perception, Northeastern University, Boston, MA (March 1 & March 15, 2016)

## OTHER RESEARCH EXPERIENCE & AFFILIATIONS

2015 - 2020 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**

### **Undergraduates**

|             |  |
|-------------|--|
| 2021        | Simran Kanda – Undergraduate student, University of Toronto Mississauga  |
| 2020        | Leah Brodie – Undergraduate student, Northeastern University, Directed Study   |
| 2018        | Kelly Choi – Undergraduate student, Northeastern University, Directed Study  |
| 2016 - 2018 | Jungyeon Park – Undergraduate student, Harvard University, Directed Study  |
| 2015        | Katja Kelleher – Undergraduate student, Northeastern University, Directed Study<br>Faculty Scholar Award, Psychology Department                            |
| 2013 - 2015 | Katherine Wood – Undergraduate student, UC Berkeley, Directed Study<br>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, UC Berkeley  |

### **High school students**

|      |   |
|------|---|
| 2019 | Koushik Sridhar – High school student, Research Science Institute (RSI) summer enrichment program               |
| 2017 | Erin Smith – High school student, RSI program   |
| 2017 | Oishi Hawlader – High school student, RSI program<br>Best Paper Award in Women in Engineering, NECEC Conference |
| 2016 | Joseph Feffer – High school student, RSI program  |

## **MANUSCRIPT REVIEW**

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

## **SCIENCE COMMUNICATION & OUTREACH ACTIVITIES**

|             |   |
|-------------|---|
| 2021 -      | Digital Associate Editor, Psychonomic Society<br>Creation and production of digital content for the Psychonomic Society   |
| 2010 - 2015 | Whitney Lab Outreach Program<br>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)