

## Atsushi Kikumoto

Department of Cognitive, Linguistic, Psychological Sciences

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### Education

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2013 – 2019	PhD, Psychology and Cognitive Neuroscience University of Oregon, Eugene, OR
2009 – 2012	Bachelor of Science, Psychology (honors), Biology (minor), University of Oregon, Eugene, OR
2008 – 2010	The Associate of Arts Oregon Transfer (AAOT), Lane Community College, Springfield, OR

### Research Experience

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2020 – present	Postdoctoral Research Associate Brown University, Providence, RI, United States Director: David Badre
2010 – 2019	PhD Graduate Student Researcher University of Oregon, Eugene, OR, United States Director: Ulrich Mayr
2018	Vising Junior Scholar Max Planck Institute of Human Development, Berlin, Germany Director: Ulman Lindenberger, Markus Werkle-Bergner, and Myriam Sander
2010 – 2012	Research assistant University of Oregon, Eugene, OR, United States Director: Ed Vogel
2010 – 2012	Research assistant University of Oregon, Eugene, OR, United States Director: Margaret Sereno

### Publications (\* denotes that authors contributed equally to the work)

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**Kikumoto, A., & Mayr, U.** (accepted at *Proceedings of National Academy of Science*).  
Conjunctive Representations that Integrate Stimuli, Responses, and Rules are Critical for Action  
Selection. <https://doi.org/10.1101/835652>

- Moss, M. E., **Kikumoto, A.**, & Mayr, U. (2020). Does conflict resolution rely on working memory? *Journal of Experimental Psychology: Learning, Memory, and Cognition*.
- Sereno, M. E., Robles, K. E., **Kikumoto, A.**, & Bies, A. J. (2020). The Effects of Three-Dimensional Context on Shape Perception. *Psychological Science*, 956797620901749.
- Kikumoto, A.**, & Mayr, U. (2019). Balancing model-based and memory-free action selection under competitive pressure. *eLife*, 8.
- Hubbard, J\*, **Kikumoto, A\***, & Mayr, U. (2019). EEG Decoding Reveals the Strength and Temporal Dynamics of Goal-Relevant Representations. *Scientific Reports*, 9(1), 9051.
- Kikumoto, A.**, & Mayr, U. (2018). Decoding hierarchical control of sequential behavior in oscillatory EEG activity. *eLife*, 7.
- Kikumoto, A.**, & Mayr, U. (2017). The nature of task set representations in working memory. *Journal of Cognitive Neuroscience*, 29(11), 1950–1961.
- Kikumoto, A.**, Hubbard, J., & Mayr, U. (2015). Dynamics of task-set carry-over: evidence from eye-movement analyses. *Psychonomic bulletin & review*, 1-8.
- Mayr, U., Kleffner-Canucci, K., **Kikumoto, A.**, & Redford, M.A. (2014), Control of task sequences: What is the role of language? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 40(2).

## Publications in preparation

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- Kikumoto, A.**, Sameshima, T. & Mayr, U (in prep). The role of conjunctive representations in stopping actions.
- Tsubomi, H., Fukuda, K., **Kikumoto, A.** Mayr, U., & Vogel, E (in prep). Dropping no-longer necessary items from visual working memory.

## Invited Talks

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- Kikumoto, A.**, Byers A., Mayr, U. (2018, April). “Towards optimal competitive behavior: wins versus losses determine model-based versus random choices in competitive task switching”, Presentation at University of Kansei Gakuin, Kyoto, Japan.
- Kikumoto, A.**, Tsubomi, H., Fukuda, K. & Mayr, U. (2017, August). “Tracking individual representation in visual working memory”, Presentation at Max Planck Research Institute for Human Development, July 2017, Berlin, Germany.
- Kikumoto, A.**, & Mayr, U. (2013, August). “Nature of task set carry-over”, Primate Research Institute Kyoto University, Kyoto, Japan.

## Conference Talks

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**Kikumoto, A.** & Mayr, U. (2019). "Conjunctions between rules and stimulus-response codes drive action selection". Control Processes, May 2019, Providence, RI, USA.

**Kikumoto, A.** & Mayr, U. (2018). "The nature of rule-based action selection". Psychonomic Society, November 2018, New Orleans, LA, USA.

**Kikumoto, A.** & Mayr, U. (2018). "Probing the nature of task-set representations". Presentation for Experimental Psychology Society, January 2018, London, UK.

**Kikumoto, A.** & Mayr, U. (2017). "Competitive task switching: balancing model-based and memory-free action selection". Psychonomic Society, November 2017, Vancouver, BC, Canada.

Dungan, J.B., **Kikumoto, A.** & Vogel, E.K. (2012). "Stability of visual working memory representations across changes in eye positions", Presentation for the Cognitive Science Association for Interdisciplinary Learning (CSAIL), August 2012, Hood River, OR, USA.

## Conference Poster Presentations

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**Kikumoto, A.**, Sameshima, T. & Mayr, U. (2019). "How does stopping of actions affect action-relevant representations?", Poster for the Cognitive Neuroscience Society, March 2019, San Francisco, CA, USA.

**Kikumoto, A.**, Sameshima, T. & Mayr, U. (2018). "Sticky rules: conjunctions between rules and stimulus-response Codes Drive Action Selection", Poster for the Cognitive Neuroscience Society, March 2018, Boston, MA, USA.

**Kikumoto, A.**, Corona, C., Karpf, J. & Mayr, U. (2017). "Towards optimal competitive behavior: wins versus losses determine model-based versus random choices in competitive task switching", Poster for the Cognitive Neuroscience Society, March 2017, San Francisco, CA, USA.

**Kikumoto, A.**, Schäfer, T., Sameshima, T., Anderson, D., McGuirk, W. & Mayr, U. (2016). "Mapping out the representational space for decision using EEG delta oscillations", Poster for the Cognitive Neuroscience Society, November 2016, New York, NY, USA.

Morales, P.J., Hubbard, J., **Kikumoto, A.** & Mayr, U. (2016). "Probability contexts modulate mediofrontal prediction error signals in response to gains and losses". Poster for the Cognitive Neuroscience Society, November 2016, New York, NY, USA.

**Kikumoto, A.**, Corona, C., Sameshima, T. & Mayr, U. (2015). "Decoding hierarchical representations of complex sequences from EEG oscillatory activity", Poster for the Psychonomic Society, November 2015, Chicago, IL, USA.

Tsubomi, H., Fukuda, K., **Kikumoto, A.** & Vogel, E. (2015). "Forgetting no-longer necessary items from visual working memory", Poster for the Psychonomic Society, November 2015, Chicago, IL, USA.

**Kikumoto, A.**, Williams, L., Robson, S. & Mayr, U. (2015). "Using the contralateral delay activity to probe the nature of task set representations", Poster for the Cognitive Neuroscience Society, March 2015, San Francisco, CA, USA.

Jost, K., Mayr, U., **Kikumoto, A.** & Schwarzkopp, T. (2015). "Visual working memory and filtering out distractors: evidence for an age-specific delay in filtering". Poster for the Cognitive Neuroscience Society, May 2015, San Francisco, CA, USA.

**Kikumoto, A.** & Mayr, U. (2014). "Using the contralateral delay activity to probe the nature of task set representations", Presentation for the Psychonomic Society, November 2014, Long Beach, CA, USA.

Hubbard, J., **Kikumoto, A.** & Mayr, U. (2014). "Pupillometric indicator of proactive control in task-switching", Poster for the Psychonomic Society, November 2014, Long Beach, CA, USA.

Dungan, J.B., **Kikumoto, A.** & Vogel, E.K. (2012). "Stability of visual working memory representations across changes in eye positions", Poster for the Society for the Neuroscience (SfN), August 2012, New Orleans, LA, USA.

**Kikumoto, A.** & Mayr, U. (2011). "Passive listening to music engages executive control", Poster for the NorthWest Cognition & Memory (NOWCAM), May 2011, Vancouver, BC, USA.

## Awards and Scholarships

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2018: Pre-doctoral stipend of Max Planck Society (Max Planck Institute of Human Development)

2017: Gregores Research Award (University of Oregon)

2015: Graduate Student Award for the Cognitive Neuroscience Society

2011: Best Poster Presentation Award for the Northwest Cognitive & Memory (NOWCAM)

2009: International Deans Excellence Award Scholarship (University of Oregon)

2008: Shining Star Scholarship (Lane Community College)

## Teaching and Mentorship

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2013 – 2019	Graduate student mentor for Honors Program: Chihoko Hayashi, Lauren Williams (University of Utah), Dagger Anderson, Caitlin Corona (Johns Hopkins University), Megan Carson, Tesufuai Sameshima, Ali Byers, Izabella Dickerson, Vy Tran
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2017	Teaching assistant and lab instructor for PSY302: Statistical method.
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2016	Teaching assistant for PSY449/549: Human Neuropsychology.
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2016	Teaching assistant and guest lecture for PSY438/538: Perception.
2015	Teaching assistant for PSY436/536: Human performance.
2014	Teaching assistant for PSY202: Mind and Brain.
2008 – 2010	Psychology tutor with the CRLA Advanced level tutor certificate

## **Training**

2018: fsl course for neuroimaging analysis at University of Oxford

2017: Model-based neuroscience summer school at University of Amsterdam