






# Kevin G. O’Neill





June 2023  
kevin.oneill@duke.edu  
kevingoneill.github.io  
 0000-0001-7401-9802




Education	<b>Duke University</b>	Fall 2018 - Present
	<i>Ph.D.</i> , Psychology & Neuroscience (anticipated 2024)	GPA: 3.96
	<i>M.A.</i> , Psychology & Neuroscience <a href="#">Imagination and Modal Cognition Laboratory</a> — Dr. Felipe De Brigard <a href="#">Pearson Laboratory</a> — Dr. John Pearson	GPA: 3.96
	<b>Rensselaer Polytechnic Institute</b>	Class of 2017
	<i>Bachelor of Science</i> , Cognitive Science and Computer Science	GPA: 3.97
Work Experience	<b>Computer Scientist</b>	2017–2018
	ARCADIA Project — Paul Bello U.S. Naval Research Laboratory	
	<b>Undergraduate Researcher</b>	2015–2017
	Rensselaer Artificial Intelligence and Reasoning ( <a href="#">RAIR</a> ) <a href="#">Laboratory</a> — Dr. Selmer Bringsjord	
	<b>Federal Work Study</b>	2014–2017
	<a href="#">Rensselaer Department of Cognitive Science</a>	
Manuscripts Under Review/ In Preparation	O’Neill, K., Henne, P., Quillien, T., Icard, T., & De Brigard, F. (In preparation). Disentangling double prevention.  	
	O’Neill, K., Henne, P., Pearson, J., & De Brigard, F. (Under review). Modeling confidence in causal judgments. 	
	Krasich, K., O’Neill, K., Murray, S., Nuthmann, A., & De Brigard, F. (Under review). A mind lively and at ease: What fixation durations say about the extent of visual processing.  	
	Murray, S., Henne, P., O’Neill, K., Wang, J., & De Brigard, F. (Under review). What you foresee isn’t what you forget: No evidence for the influence of epistemic states on causal judgments for abnormal negligent behavior.	
	Krasich, K., O’Neill, K., & De Brigard, F. (Under review). Eye-tracking mental simulation during retrospective causal reasoning.  	
	Bringsjord, S., & O’Neill, K. (In Press). Third-millennium computational logic. <i>Minds and Machines</i> .	
Journal Papers	Krasich, K., Simmons, C., O’Neill, K., Giattino, C. M., De Brigard, F., Sinnott-Armstrong, W., Mudrik, L., & Woldorff, M. G. (2022). Prestimulus oscillatory brain activity interacts with evoked recurrent processing to facilitate conscious visual perception. <i>Scientific Reports</i> , 12(1), 22126. 	
	Khoudary, A., Hanna, E., O’Neill, K., Iyengar, V., Clifford, S., Cabeza, R., De	



Brigard, F., & Sinnott-Armstrong, W. (2022). A functional neuroimaging investigation of moral foundations theory. *Social Neuroscience*, 1–17.  



Khoudary, A., O'Neill, K., Faul, L., Murray, S., Smallman, R., & De Brigard, F. (2022). Neural differences between internal and external episodic counterfactual thoughts. *Philosophical Transactions of the Royal Society B*, 377(1866), 20210337.  



Henne, P., & O'Neill, K. (2022). Double Prevention, Causal Judgments, and Counterfactuals. *Cognitive Science*.  


O'Neill, K., Henne, P., Bello, P., Pearson, J., & De Brigard, F. (2022). Confidence and gradation in causal judgment. *Cognition*, 223, 105036.    


O'Neill, K., Liu, A., Yin, S., Brady, T., & De Brigard, F. (2021). Effects of category learning strategies on recognition memory. *Memory & cognition*, 1–15.   

Henne, P., O'Neill, K., Bello, P., Khemlani, S., & De Brigard, F. (2020). Norms affect prospective causal judgments. *Cognitive Science*.  

O'Neill, K., Smith, A. P., Smilek, D., & Seli, P. (2020). Dissociating the freely-moving thought dimension of mind-wandering from the intentionality and task-unrelated thought dimensions. *Psychological Research*.  


Seli, P., O'Neill, K., Carriere, J. S., Smilek, D., Beaty, R. E., & Schacter, D. L. (2020). Mind-wandering across the age gap: Age-related differences in mind-wandering are partially attributable to age-related differences in motivation. *The Journals of Gerontology: Series B*.  


O'Neill, K. & De Brigard, F. (2019). Two challenges for a dual system approach to temporal cognition [Commentary on “Thinking in and about time: A dual systems perspective on temporal cognition” by Hoerl, C. and McCormack, T.]. *Brain and Behavioral Sciences*, 1–77. 




Govindarajulu, N. S. and Bringsjord, S. and Sen, A. and Paquin, J. C. and O'Neill, K. (2018). Ethical operating systems. In De Mol, Liesbeth and Primiero, Giuseppe (Ed.), *Reflections on Programming Systems: Historical and Philosophical Aspects* (pp. 235–260). Springer. 

---




## Conference Papers




O'Neill, K., Quillien, T., & Henne, P. (2022). A counterfactual model of causal judgments in double prevention. *Conference on Cognitive Computational Neuroscience*. 



O'Neill, K., Krasich, K., Murray, S., Brockmole, J., Nuthmann, A., & De Brigard, F. (2022). Fixation duration variability increases with mind wandering during scene viewing. *Conference on Cognitive Computational Neuroscience*. 


Krasich, K., O'Neill, K., & De Brigard, F. (2022). Eye-tracking mental simulation during retrospective causal reasoning. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 44.   


O'Neill, K., Henne, P., Pearson, J., & De Brigard, F. (2022). Measuring and modeling confidence in human causal judgment. *Proceedings of the Annual Meeting*


of the Cognitive Science Society, 44.   

**O'Neill, K.**, Henne, P., Pearson, J., & De Brigard, F. (2021). Measuring and modeling confidence in human causal judgment. *Workshop on Metacognition in the Age of AI: Challenges and Opportunities, 35th Conference on Neural Information Processing Systems (NeurIPS 2021), Sydney, Australia.*   

Yin, S., **O'Neill, K.**, Brady, T., & De Brigard, F. (2019). The effect of category learning on recognition memory: a signal detection theory analysis. *Proceedings of the 41st Annual Meeting of the Cognitive Science Society.*  

Bello, P., **O'Neill, K.**, & Bridewell, W. (2019). Artificial agency requires attention: the case of intentional action. *AAAI Spring Symposium: Towards Conscious AI Systems.* 

**O'Neill, K.**, Bridewell, W., & Bello, P. (2018). Time-based resource sharing in ARCADIA. *Proceedings of the 40th Annual Meeting of the Cognitive Science Society.* 

Bello, P., Lovett, A., Briggs, G., & **O'Neill, K.** (2018). An attention-driven model of human causal reasoning. *Proceedings of the 40th Annual Meeting of the Cognitive Science Society.* 

---

## Talks

**O'Neill, K.**, Henne, P., Icard, T., Quillien, T., & De Brigard, F. (2023) “Disentangling Double Prevention”. *Society for Philosophy and Psychology.*

**O'Neill, K.**, Krasich, K., Murray, S., Brockmole, J., Nuthmann, A., De Brigard, F. (2023). “Fixation duration variability increases with mind wandering during scene viewing”. *Current Issues in Mind-Wandering Research.*

**O'Neill, K.**, Stern, R., & Eva, B. (2023). “Colliding intuitions about causeless correlations: an investigation of human reasoning errors in collider causal structures.” *Southern Society for Philosophy and Psychology.*

Henne, P. & **O'Neill, K.** (2022-2023). “Double Prevention, Causal Judgments, and Counterfactuals.” *Invited talk for the Causality in Cognition Lab, Stanford; Southern Society for Philosophy and Psychology.*

**O'Neill, K.**, Henne, P., Pearson, J., De Brigard, F. (2022). “Measuring and modeling confidence in human causal judgment”. *Cognitive Science Society; Society for Philosophy and Psychology; Southern Society for Philosophy and Psychology.*

Krasich, K., **O'Neill, K.**, De Brigard, F. (2022). “Eye tracking mental simulations during retrospective causal reasoning”. *Cognitive Science Society; Society for Philosophy and Psychology; Southern Society for Philosophy and Psychology.*

**O'Neill, K.** (2022). “Disentangling Confidence and Causal Judgment”. *Invited talk for the Consciousness Club, Meta Lab, University College London.*

**O'Neill, K.** (2022). “Confidence & Singular Causal Judgment”. *Invited talk for the Cognitive and Neural Computation Lab, University of California Irvine.*

Khoudary, A., **O'Neill, K.**, Faul, L., Murray, S., Smallman, R., De Brigard, F.

(2021-2022). Neural differences between internal and external episodic counterfactual thoughts. *Neuromatch Conference 4.0*.

**O'Neill, K.**, Henne, P., Bello, P., Pearson, J., De Brigard, F. (2021). "Degrading causation". *Invited talk at Causal Cognition Lab, UCL; XPhi Europe*.

Bello, P., **O'Neill, K.**, Bridewell, W. (2019). "Artificial agency requires attention: the case of intentional action". In *AAAI Spring Symposium: Towards Conscious AI Systems*.

**O'Neill, K.**, Bridewell, W., Bello, P. (2018) "Time-based resource sharing in AR-CADIA". *40th Annual Meeting of the Cognitive Science Society*.

**O'Neill, K.**, Bringsjord, S. "Solving the lottery paradox in a cognitive calculus". (2016) *International Association for Computing and Philosophy*.

---

**Poster  
Presentations**

Fernández-Miranda, G., **O'Neill, K.**, Stanley, M., Kushnir, T., & De Brigard, F. (2023). "The influence of perceived control on forgiveness". *Preconference on Justice and Morality, Society for Personality and Social Psychology*.

Krasich, K., Simmons, C., **O'Neill, K.**, Giattino, C.M., Sinnott-Armstrong, W., De Brigard, F., Mudrik, L., & Woldorff, M.G. (2022). "Prestimulus alpha oscillatory activity interacts with evoked recurrent processing to facilitate conscious visual perception." *Society for Neuroscience*.

**O'Neill, K.**, Quillien, T., Henne, P. (2022). "A Counterfactual Model of Causal Judgments in Double Prevention". *Conference on Cognitive Computational Neuroscience*.

**O'Neill, K.**, Krasich, K., Murray, S., Brockmole, J., Nuthmann, A., De Brigard, F. (2022). "Fixation duration variability increases with mind wandering during scene viewing". *Conference on Cognitive Computational Neuroscience*.

Khoudary, A., **O'Neill, K.**, Faul, L., Murray, S., Smallman, R., De Brigard, F. (2022). Neural differences between internal and external episodic counterfactual thoughts. *Cognitive Neuroscience Society Annual Meeting*.

**O'Neill, K.**, Henne, P., Bello, P., Pearson, J., De Brigard, F. (2021). "Measuring and modeling confidence in human causal judgment". *Workshop on Metacognition in the Age of AI: Challenges and Opportunities, 35th Conference on Neural Information Processing Systems (NeurIPS 2021), Sydney, Australia*.

**O'Neill, K.**, Henne, P., Bello, P., Pearson, J., De Brigard, F. (2021). "Confidence effects on causal judgment". *Psychonomics*.

**O'Neill, K.**, Henne, P., Bello, P., Pearson, J., De Brigard, F. (2021). "Degrading causation". *Society for Philosophy and Psychology Annual Meeting*.

Khoudary, A., Hanna, E., **O'Neill, K.**, Iyengar, V., Clifford, S., Cabeza, R., De Brigard, F., Sinnott-Armstrong, W. (2021). "A functional neuroimaging investigation of moral foundations theory". *Society for Philosophy and Psychology Annual Meeting; 2020 meeting of the Cognitive Neuroscience Society*.

Smith, A., O'Neill, K., Smilek, D., Seli, P. (2019) "On the utility of the dynamic framework of mind wandering". *Psychonomics*.

Yin, S., O'Neill, K., Brady, T., De Brigard, F. (2019) "The effect of category learning on recognition memory: a signal detection theory analysis". *41st Annual Meeting of the Cognitive Science Society*.

Lovett, A., Briggs, G., O'Neill, K., Bello, P. (2018). "Strategic deployment of attention in online causal judgment: a computational model". *Journal of Vision*, 18(10), 741-741.

Bello, P., Lovett, A., Briggs, G., O'Neill, K. (2018) "An attention-driven model of human causal reasoning". *40th Annual Meeting of the Cognitive Science Society*.

---

Teaching	<b>Coursework</b>	
	<i>Entering Mentoring Series</i>	2022
	<i>Certificate in College Teaching</i>	2018-2021
	<b>Teaching Assistant</b>	
	<i>PSY482S: Psychology of Imagination</i> — Dr. Tamar Kushnir, Duke	Fall 2021
	<i>PSY204L: Research Methods &amp; Statistics</i> — Dr. Angela Vieth, Duke	Spring 2021
	<i>PSY102: Cognitive Psychology</i> — Dr. Ruth Day, Duke	Fall 2020
	<i>Neuromatch Academy</i> — pod-089-solid-firefly	Summer 2020
	<b>Guest Lecturer</b>	
	<i>Computational Modeling</i> ,	Spring 2023
Mentorship	<i>Moral Judgment</i> — Cognitive Neuroscience Research Internship, Duke	Fall 2022
	<i>Are Humans Rational?</i> — Dr. Selmer Bringsjord, RPI	Fall 2016 - Spring 2017
	<i>Intro To Logic</i> — Dr. Selmer Bringsjord, RPI	Fall 2016 - Spring 2017
	<b>Morgan Biele</b>	2022
	<i>Mental Images Guide Counterfactual and Causal Thinking across Development</i>	
	Duke University	
	<b>Sara Rose Shannon</b>	2022
	<i>Assessing the Plausibility of Unconscious Arithmetic</i>	
	Duke University	
	<b>Mya Harris, Anthony Salgado</b>	2022
	<i>The Memory Basis of Norm Effects on Causal Judgment</i>	
	Duke University	
	<b>Yuleika Martinez Castillo</b>	2022
	<i>R for Data Science</i>	
	Duke University	
	<b>Gabriela Fernández Miranda</b>	2021-2022
	<i>Memory, Forgiveness, and Future Thinking</i>	
	Duke University	
	<b>Ari Khoudary</b>	2020-2021
	<i>A Functional Neuroimaging Investigation of Moral Foundations Theory</i>	

Duke University

**Jason Chen, Corey Elowski, Ari Khoudary, Cambria Revsine** 2020  
*Predicting fMRI Responses: a Machine Learning Approach*  
Neuromatch Academy

**Georgia Hadjis, Anna Dorokhova,** 2020  
**Alex Vargas, Wen Jian, Sarah Hanson**  
*Predicting Social Task Performance and Brain Activities Based on Emotional Task and Relational Task: an Analysis of the HCP Dataset*  
Neuromatch Academy

---

<b>Awards/ Honors</b>	Duke IBRC Research Mini-Grant	2022
	Cognitive Science Society Student Travel Grant	2022
	Southern Society for Philosophy & Psychology Travel Award	2022
	NSF GRFP Honorable Mention	2019
	Duke Chancellors Scholars Fellowship	2018
	Undergraduate Research Fellowship	2015–2017
	Rensselaer Leadership Award	2014–2017
	Mona & Edward Zander '68 Scholarship	2014–2017
	Dean's List/Dean's Honor List	2014–2017

<b>Projects</b>	<b>SpikingNeuralNets.jl:</b> A system for simulating systems of spiking neural networks <b>ARCADIA:</b> A computational framework for attention-centered cognitive modeling <b>MetaProver:</b> Automated logical and meta-logical reasoning via analytic tableaux <b>OSCAR:</b> A restoration of John Pollock's natural deduction theorem prover	
<b>Skills</b>	<b>Programming</b> Python, R, C/C++, Java/Javascript, Clojure/Scheme/Lisp, Julia, MATLAB, HTML/CSS, Prolog, Unix, Git, L <sup>A</sup> T <sub>E</sub> X <b>Data Collection/Analysis</b> Behavioral, fMRI, eye tracking data Mixed-effect modeling, Bayesian statistics, multivariate statistics <b>Artificial Intelligence</b> Cognitive modeling, ML, Symbolic AI, NLP, Parallel/High-Performance Computing <b>Software Engineering</b> Software development, verification, and visualization <b>Languages</b> German (intermediate)	
<b>Service</b>	<b>Cognitive Neuroscience Research Internship</b> 2022 Lecturer, Research Mentor <b>Duke Center for Cognitive Neuroscience</b> 2022 Graduate Representative <b>Duke Institute for Brain Sciences Methods Meetings</b> 2020–Present Founder <b>Duke Philosophy of Neuroscience Journal Club</b> 2020–Present Co-Founder <b>Duke University Neuroscience Experience (DUNE)</b> 2020 Volunteer <b>Cognitive Science, Duke Psychology &amp; Neuroscience</b> 2021-2022 Panelist, Graduate School Information Session <b>Duke Cognitive Neuroscience Admitting Program</b> 2019-2022 Recruitment <b>Cognitive Science, Cognitive Systems Research, International Conference on Machine Learning, Journal of Experimental Psychology: General, Memory &amp; Cognition</b> Ad-Hoc Reviewing	
<b>Affiliations Past &amp; Present</b>	Association for the Advancement of Artificial Intelligence (AAAI) Cognitive Science Society (CSS) International Association of Computing and Philosophy (IACAP) Psychonomic Society (PS) Society for Philosophy and Psychology (SPP) Southern Society for Philosophy and Psychology (SSPP)	

---

**References****Felipe De Brigard, Ph.D.***Associate Professor*

Philosophy

Psychology &amp; Neuroscience

Center for Cognitive Neuroscience

Duke University

[felipe.debrigard@duke.edu](mailto:felipe.debrigard@duke.edu)

(919) 660-3028

**John Pearson, Ph.D.***Assistant Professor*

Biostatistics &amp; Bioinformatics

Psychology &amp; Neuroscience

Electrical and Computer Engineering

Center for Cognitive Neuroscience

Duke University

[john.pearson@duke.edu](mailto:john.pearson@duke.edu)

(919) 613-8338

**Paul Bello, Ph.D.***Section Head*

Intelligent Systems

Naval Center for Applied Research in

Artificial Intelligence

Information Technology Division

U.S. Naval Research Laboratory

[paul.bello@nrl.navy.mil](mailto:paul.bello@nrl.navy.mil)