









# Kevin G. O'Neill

April 2022





[kevin.oneill@duke.edu](mailto:kevin.oneill@duke.edu)




[kevingoneill.github.io](https://github.com/kevingoneill)



 0000-0001-7401-9802



Education	<b>Duke University</b> <i>Ph.D.</i> , Psychology & Neuroscience (anticipated 2023) <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	Fall 2018 - Present GPA: 3.96 GPA: 3.96
	<b>Rensselaer Polytechnic Institute</b> <i>Bachelor of Science</i> , Cognitive Science and Computer Science	Class of 2017 GPA: 3.97
Work Experience	<b>Computer Scientist</b> ARCADIA Project — Paul Bello U.S. Naval Research Laboratory	2017–Present
	<b>Undergraduate Researcher</b> Rensselaer Artificial Intelligence and Reasoning ( <a href="#">RAIR</a> ) <a href="#">Laboratory</a> — Dr. Selmer Bringsjord	2015–2017
	<b>Federal Work Study</b> <a href="#">Rensselaer Department of Cognitive Science</a>	2014–2017
Manuscripts Under Review/ In Preparation	O'Neill, K., Henne, P., Pearson, J., & De Brigard, F. (In preparation). Modeling confidence in human causal judgment. 	
	Krasich, K., O'Neill, K., Murray, S., Nuthmann, A., & De Brigard, F. (In preparation). A mind lively and at ease: What fixation durations say about the extent of visual processing.  	
	Khoudary, M., O'Neill, K., Faul, L., Murray, S., Smallman, R., & De Brigard, F. (Under review). Neural differences in dispositional versus situational-based counterfactual thoughts. 	
	Khoudary, M., Hanna, E., O'Neill, K., Iyengar, V., Clifford, S., De Brigard, F., Cabeza, R., & Sinnott-Armstrong, W. (Under review). A functional neuroimaging investigation of moral foundations theory. 	
	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 simulations during retrospective causal reasoning.   	
	Bringsjord, S., & O'Neill, K. (In Press). Third-millennium computational logic. <i>Minds and Machines</i> .	
Journal Papers	Henne, P., & O'Neill, K. (2022). Double Prevention, Causal Judgments, and Coun-	



terfactuals. *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.**, 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.** (2022). “Confidence and Singular Causal Judgment”. *Invited talk for*

*the Consciousness Club, Meta Lab, University College London.*

**O'Neill, K.**, Henne, P., Pearson, J., De Brigard, F. (2022). "Measuring and modeling confidence in human causal judgment". *Cognitive Science Society*.

Krasich, K., **O'Neill, K.**, De Brigard, F. (2022). "Eye tracking mental simulations during retrospective causal reasoning". *Cognitive Science Society*.

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

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

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

**O'Neill, K.**, Henne, P., Bello, P., Pearson, J., De Brigard, F. (2021). "Degrading causation". *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**

**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, M., 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*.

Khoudary, M., Hanna, E., **O'Neill, K.**, Iyengar, V., Clifford, S., Cabeza, R., De Brigard, F., Sinnott-Armstrong, W. (2020). "A functional neuroimaging investigation of moral foundations theory". *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*.

---

<b>Teaching</b>	<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>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>Mentorship</b>	<b>Yuleika Martinez Castillo</b>	2022
	Duke University	
	<b>Maria Khoudary</b>	2020-2021
	<i>A Functional Neuroimaging Investigation of Moral Foundations Theory</i>	
	Duke University	
	<b>Jason Chen, Corey Elowski, Maria Khoudary, Cambria Revsine</b>	2020
	<i>Predicting fMRI Responses: a Machine Learning Approach</i>	
	Neuromatch Academy	
	<b>Georgia Hadjis, Anna Dorokhova,</b>	2020
	<b>Alex Vargas, Wen Jian, Sarah Hanson</b>	
	<i>Predicting Social Task Performance and Brain Activities Based on Emotional Task and Relational Task: an Analysis of the HCP Dataset</i>	
	Neuromatch Academy	

---

<b>Awards/ Honors</b>	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

---

**Skills****Programming**

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

**Data Collection/Analysis**

Behavioral, fMRI, eye tracking data

Mixed-effect modeling, Bayesian statistics, multivariate statistics

**Artificial Intelligence**

Cognitive modeling, ML, Symbolic AI, NLP, Parallel/High-Performance Computing

**Software Engineering**

Software development, verification, and visualization

**Languages**

German (intermediate)

---

**Service**

**Duke Center for Cognitive Neuroscience**

2022

Graduate Representative

**Duke Institute for Brain Sciences Methods Meetings**

2020–Present

Founder

**Duke Philosophy of Neuroscience Journal Club**

2020–Present

Co-Founder

**Duke University Neuroscience Experience (DUNE)**

2020

Volunteer

**Cognitive Science, Cognitive Systems Research**

Ad-Hoc Reviewing

**Duke Psychology & Neuroscience**

Panelist, Graduate School Information Session

**Duke Cognitive Neuroscience Admitting Program**

Recruitment

---

**Affiliations****Past & Present**

[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 & 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 & Bioinformatics

Psychology & 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)