

# Kevin G. O'Neill

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kevin.oneill@duke.edu  
(267) 377-9085

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| Education | <b>Duke University</b><br><i>Ph.D.</i> , Cognitive Neuroscience<br>Imagination and Modal Cognition Laboratory — Dr. Felipe De Brigard<br>Pearson Laboratory — Dr. John Pearson | Fall 2018 - Present<br>GPA: 3.95 |
|           | <b>Rensselaer Polytechnic Institute</b><br><i>Bachelor of Science</i> , Cognitive Science and Computer Science   | Class of 2017<br>GPA: 3.97       |

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| Work Experience | <b>Computer Scientist</b><br>ARCADIA Project — Paul Bello<br>U.S. Naval Research Laboratory                                   | Summer 2017 - Present     |
|                 | <b>Undergraduate Researcher</b><br>Rensselaer Artificial Intelligence and Reasoning (RAIR) Laboratory — Dr. Selmer Bringsjord | Spring 2015 - Spring 2017 |
|                 | <b>Federal Work Study</b><br>Rensselaer Cognitive Science Department  | Fall 2014 - Spring 2017   |

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| Teaching | <b>Teaching Assistant</b><br><i>Cognitive Psychology</i> — Dr. Ruth Day                              | Fall 2020               |
|          | <b>Teaching Assistant</b><br><i>Neuromatch Academy</i> — pod-089-solid-firefly                       | Summer 2020             |
|          | <b>Guest Lecturer</b><br><i>Are Humans Rational?</i> , <i>Intro To Logic</i> — Dr. Selmer Bringsjord | Fall 2016 - Spring 2017 |

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| Under Review/<br>In Preparation | <b>O'Neill, K.</b> , Henne, P., Bello, P., & De Brigard, F. (In preparation). Degrading Causal Judgments.   |  |
|                                 | Henne, P., <b>O'Neill, K.</b> , Bello, P., Khemlani, S., & De Brigard, F. (Under review). Causal Selection and Norms.   |  |
|                                 | <b>O'Neill, K.</b> , Liu, A., Yin, S., Brady, T., & De Brigard, F. (Under review). Category Learning Effects on Memory.   |  |
|                                 | <b>O'Neill, K.</b> , Smith, A. P., Smilek, D., & Seli, P. (Under review). Dissociating the Freely-Moving Thought Dimension of Mind-Wandering from the Intentionality and Task-Unrelated Thought Dimensions. |  |

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| Journal Papers | Seli, P., <b>O'Neill, K.</b> , 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. <i>The Journals of Gerontology: Series B</i> . |  |
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**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* (Vol. 133, pp. 235–260). Cham: Springer.

Bringsjord, S., & **O'Neill, K.** (In Press). Third-millennium computational logic. *Minds and Machines*.

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**Conference  
Papers**

Yin, S., **O'Neill, K.**, Brady, T., & De Brigard, F. (2019). The Effect of Category Learning on Recognition Memory: A Signal Detection Theory Analysis. In *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. In *AAAI Spring Symposium: Towards Conscious AI Systems*.

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

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**Presentations**

Khoudary, M., Hanna, E.K., **O'Neill, K.G.**, 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*.

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*.

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.

**O'Neill, K.**, Bridewell, W., Bello, P. (2018) "Time-Based Resource Sharing in ARCADIA". *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". *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*.

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| <b>Awards/<br/>Honors</b> | NSF GRFP Honorable Mention<br>Duke Chancellors Scholars Fellowship<br>Undergraduate Research Program<br>Rensselaer Leadership Award<br>Mona & Edward Zander '68 Scholarship<br>Dean's List/Dean's Honor List | Spring 2019<br>Fall 2018<br>Spring 2015 - Spring 2017<br>Fall 2014 - Spring 2017<br>Fall 2014 - Spring 2017<br>Fall 2014 - Spring 2017 |
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| <b>Projects</b> | <b>SpikingNeuralNets.jl</b><br>A flexible system for simulating arbitrary systems of spiking neural networks.<br><b>ARCADIA</b><br>A computational framework for attention-centered cognitive modeling.<br><b>MetaProver</b><br>A framework for automated logical and meta-logical reasoning via analytic tableaux<br><b>OSCAR</b><br>A restoration of John Pollock's nonmonotonic natural deduction theorem prover |  |
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| <b>Skills</b> | <b>Programming</b><br>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<br><b>Data Collection/Analysis</b><br>Behavioral, fMRI, eye tracking data<br>Mixed-effect modeling, Bayesian statistics, multivariate statistics<br><b>Artificial Intelligence</b><br>Cognitive modeling, ML, Symbolic AI, NLP, Parallel/High-Performance Computing<br><b>Engineering</b><br>Software development, verification, and visualization<br><b>Languages</b><br>German (intermediate) |  |
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| <b>References</b> | <b>Felipe De Brigard, Ph.D.</b><br><i>Associate Professor</i><br>Philosophy<br>Psychology & Neuroscience<br>Center for Cognitive Neuroscience<br>Duke University<br>felipe.debrigard@duke.edu<br>(919) 660-3028                           | <b>John Pearson, Ph.D.</b><br><i>Assistant Professor</i><br>Biostatistics & Bioinformatics<br>Psychology & Neuroscience<br>Electrical and Computer Engineering<br>Center for Cognitive Neuroscience<br>Duke University<br>john.pearson@duke.edu<br>(919) 613-8338 |
|                   | <b>Paul Bello, Ph.D.</b><br><i>Section Head</i><br>Intelligent Systems<br>Naval Center for Applied Research in<br>Artificial Intelligence<br>Information Technology Division<br>U.S. Naval Research Laboratory<br>paul.bello@nrl.navy.mil |   |