# Cameron Buckner

August 16, 2024

University of Florida

Department of Philosophy

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## EDUCATION

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| 2011 | Ph.D. in Philosophy, Indiana University, Bloomington |
| 2004 | B.S. in Computer Science and B.A. in Philosophy, Texas Tech University |

## EMPLOYMENT

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| 2024- | Professor and Donald F. Cronin Endowed Chair in the Humanities, Philosophy Department, University of Florida |
| 2019-2024 | Associate Professor, Philosophy Department, University of Houston |
| 2014-2019 | Assistant Professor, Philosophy Department, University of Houston |
| 2013-2014 | CLASS Postdoctoral Fellow and Director of Digital Humanities Initiative, University of Houston |
| 2011-2013 | Visiting Assistant Professor, Philosophy Department, University of Houston |
| 2011-2013 | Humboldt Postdoctoral Fellow, Philosophy II, Ruhr-University Bochum |

## RESEARCH INTERESTS

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| AOS: | Philosophy of psychology and cognitive science, philosophy of mind, artificial intelligence |
| AOC: | Philosophy of science, philosophy of language, logic |

## AWARDS AND FELLOWSHIPS

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| 2024 | Visiting Professor at EAISI, Eindhoven University of Technology, June 15-July 7 2024 |
| 2023 | Senior Fellowship in Philosophy of AI and Animal Cognition, Ruhr-University Bochum |
| 2022 | Visiting Fellow and Life Member, Clare Hall, University of Cambridge |
| 2019 | Visiting Fellow (Summer 2019, Summer 2020—postponed to Summer 2022), Leverhulme Centre for the Future of Intelligence, University of Cambridge |
| 2019 | Award for Excellence in Research, Scholarship, & Creative Activity, University of Houston (2 awarded across all Colleges at the Assistant Professor Level - $8000) |
| 2018 | American Philosophical Association Article Prize (for best article published between 2016-2018 by a scholar under 40 or within 10 years of PhD – $2000) |
| 2017 | Assistant Professor Excellence Lecture (APeX), University of Houston |
| 2016 | Griffiths Memorial Award, Southern Society for Philosophy and Psychology (for paper/presentation "A forward-looking theory of content"—best paper award, one per year for best paper/presentation from a scholar within 5 years of PhD) |

## GRANTS

2020-2021   "Understanding Deep Neural Networks" – National Science Foundation Scholars Grant #2020585– Science Technology, & Society division, $139,360.00.  (Role:  PI)

2015   German Research Foundation (DFG) grant for conference "The Nature and Origins of Human Cognition" with Richard Moore (co-PI), Albert Newen, and Michael Pauen, €11,995 (Role:  Co-PI)

2015   University of Houston New Faculty Fund, $6,000 (to perform research at University of Vienna Department for Cognitive Biology, Summer 2015) (Role:  PI)

2013   DFG grant for conference "What Is Cognition" with Ellen Fridland (co-PI), Albert Newen, and Michael Pauen, €11,995 (Role:  Co-PI)

2011-2014   Joint NEH-DFG Bi-lateral Digital Humanities Grant with Colin Allen (co-PI) and Mathias Niepert (co-PI), $172,215 for Indiana University and €126,400 from DFG for the University of Mannheim (Role:  Proposal Co-Author and Graduate Researcher)

2009-2011   NEH Digital Humanities Grant for with Colin Allen (PI) and Mathias Niepert, $400,000 (Role:  Proposal Co-Author and Graduate Researcher)

2007-2008   NEH Digital Humanities Initiative Startup with Colin Allen (PI) and Mathias Niepert, $29,800 (Role:  Proposal Co-Author and Graduate Researcher)

2006-2007   IUB New Horizons Grant for 2006-2007 with Colin Allen (PI) and Mathias Niepert, $43,000 (Role:  Proposal Co-Author and Graduate Researcher)


## PUBLICATIONS

### Monograph:

1. (2023) **Buckner, C.** *From Deep Learning to Rational Machines: What the History of Philosophy Can Teach Us about the Future of Artificial Intelligence* . Oxford University Press. (130,000 words) https://global.oup.com/academic/product/from-deep-learning-to-rational-machines-9780197653302


### Peer-Reviewed Journal Articles

1. (In Press)   Gentry, H., & **Buckner, C.** Transitional Gradation and the Distinction between Episodic and Semantic Memory. *Philosophical Transactions of the Royal Society: B.*

2. (2023a)  **Buckner, C.**  Black Boxes or Unflattering Mirrors?  Comparative Bias in the Science of Machine Behavior. *The British Journal for the Philosophy of Science,* 73(3). *https://www.journals.uchicago.edu/doi/pdf/10.1086/714960*

3. (2022) **Buckner, C.**  A Forward-Looking Theory of Content.  *Ergo,* 8(13). https://journals.publishing.umich.edu/ergo/article/id/2238/

4. (2020)  **Buckner, C.**  Understanding Adversarial Examples Requires a Theory of Artifacts for Deep Learning.  *Nature Machine Intelligence* 2, 731-736.

5. (2019a) **Buckner, C.**  Deep Learning:  A Philosophical Introduction.  *Philosophy Compass*. 14(10) e12625.

6. (2019b)  **Buckner, C.**  Rational Inference:  The Lowest Bounds. *Philosophy and Phenomenological Research* 98(3) 697-724.
   (Awarded the 2018 American Philosophical Association Article Prize —for best article written by a philosopher under 40 or within 10 years of PhD)

7. (2018d) **Buckner, C.**  Empiricism without Magic:  Transformational Abstraction in Deep Convolutional Neural Networks.  *Synthese*, 195(12), pp5339–5372.

8. (2017) **Buckner, C.,** & Yang, K. Mating Dances and the Evolution of Language: What's the Next Step? *Biology & Philosophy*, 32(6), pp 1289–1316.
9. (2016a) Bugnyar, T., Reber, S., and **Buckner, C.** (Equal contributions) Ravens Attribute Visual Access to Unseen Competitors. *Nature Communications 7*. doi:10.1038/ncomms10506
10. (2016b) **Buckner, C.** Transitional Gradation in the Mind: Rethinking Psychological Kindhood. *The British Journal for the Philosophy of Science.* 67(4), 1091-1115.
11. (2015a) **Buckner, C.** A Property-Cluster Theory of Cognition. *Philosophical Psychology*, 28(3), 307-336.
12. (2015b) **Buckner, C.** Functional Kinds: A Skeptical Look. *Synthese*, 192(12), 3915-3942.
13. (2014) **Buckner, C.** The Semantic Problem(s) with Research on Animal Mindreading. *Mind & Language,* 29(5), 566-589.
14. (2013) Murdock, J., **Buckner, C.**, & Allen, C. Evaluating Dynamic Ontologies. *Communications in Computer and Information Science,* 272, 258-275. Springer Berlin-Heidelberg.
15. (2013a) **Buckner, C.** Morgan's Canon, Meet Hume's Dictum: Avoiding Anthropofabulation in Cross-Species Comparisons. *Biology & Philosophy*, 28(5), 853-871.
16. (2013b) **Buckner, C.** In Search of Balance: Essay Review of Povinelli's *World without Weight*. *Biology & Philosophy*, 28(1), 145-152.
17. (2011) **Buckner, C.** Two Approaches to the Distinction between Cognition and Mere Association. *International Journal for Comparative Psychology*, 24(1), 1-35.
18. (2011) **Buckner, C.**, Niepert, N., & Allen, C. From Encyclopedia to Ontology: Toward Dynamic Representation of the Discipline of Philosophy. *Synthese* 182(2), 205-233.
19. (2010) Weinberg, J., Gonnerman, C., **Buckner, C.**, & Alexander, A. (Equal contributions). Are Philosophers Expert Intuiters? *Philosophical Psychology*, 23(3), 331-355.
[(2012) Reprinted in *Experimental Philosophy and Its Critics*, eds. Horvath, J. & Grundmann, T., Routledge.]

**Editor-Reviewed Book Chapters**
20. (2023b) **Buckner, C.** Transformational Abstraction in Deep Neural Networks. *Mind Design III.* (Eds.) Haugeland, J., Craver, C., & Klein, C. MIT Press. [https://mitpress.mit.edu/9780262546577/mind-design-iii/](https://mitpress.mit.edu/9780262546577/mind-design-iii/)
21. (2018c) **Buckner, C.**, and Garson, J. Connectionist and Post-Connectionist Models. *Routledge Handbook of the Computational Mind*, eds. Colombo, M., & Sprevak, M. Routledge, pp 92-106.
22. (2018b) **Buckner, C.** Scaffolding Intuitive Cognition. *Oxford Handbook of 4E Cognition*, eds. Newen, A., de Bruin, L., & Gallagher, S. Oxford University Press, pp 821-840.
23. (2018a) **Buckner, C.** Understanding Cognitive and Associative Explanations in Comparative Psychology. In *The Routledge Handbook of Philosophy of Animal Minds*, eds. Andrews, K. & Beck, J. Routledge, 409-419.
24. (2014) Mag Uidhir, C., & **Buckner, C.** (Equal contributions) A Portrait of the Artist as an Aesthetic Expert. In *Aesthetics and the Sciences*, eds. Currie, G., Kieran, M., & Meskin, A. Oxford University Press, 121-143.

**Edited Volume**
25. (2017) What Is Cognition? eds. **Buckner, C.**, & Fridland, E. *Synthese* 194(11), 4191-4388.

**Peer-Reviewed Articles in Conference Proceedings**

26. (2014) Murdock, J., **Buckner, C.**, & Allen, C. Containing the Semantic Explosion. Proceedings of Philoweb 2012 Workshop, WWW 2012 in Lyon, France.

27. (2011) Murdock, J., **Buckner, C.**, & Allen, C. Two Methods for Evaluating Dynamic Ontologies. *Proceedings of the 2010 International Conference on Knowledge Engineering and Ontology Development.* AAAI Press. (10% acceptance rate)

28. (2010) Eckart, K., Niepert, M., Niemann, N., **Buckner, C.**, Allen, C., & Stuckenschmidt, H. Crowdsourcing the Assembly of Concept Hierarchies. *Proceedings of the 10th ACM/IEEE Joint Conference on Digital Libraries JCDL.*, Brisbane, Australia, ACM Press. (29% acceptance rate)

29. (2009) Niepert, M., **Buckner, C.**, & Allen, C. Working the Crowd: Design Principles and Early Lessons from the Social-Semantic Web. In *Proceedings of the Workshop on Web 3.0: Merging Semantic Web and Social Web at ACM Hypertext*, Turin, Italy.

30. (2008) Murdock, J., Niepert, M., **Buckner, C.**, & Allen, C. InPhO: A System for Collaboratively Populating and Extending a Dynamic Ontology. In *Proceedings of the 8th ACM/IEEE Joint Conference on Digital Libraries* JCDL., Pittsburgh, Pennsylvania, page 429, ACM Press. (28% acceptance rate)

31. (2008) Niepert, M., **Buckner, C.**, & Allen, C. Answer set programming on expert feedback to populate and extend dynamic ontologies. In *Proceedings of 21st Meeting of the Florida Artificial Intelligence Research Society FLAIRS*. AAAI Press; 500-505.

32. (2007) Niepert, M., **Buckner, C.**, & Allen, C. A dynamic ontology for a dynamic reference work. In Rasmussen, E.M., Larson, R.R., Toms, E., and Sugimoto, S. *Proceedings of the 7th ACM/IEEECS Joint Conference on Digital Libraries*, Vancouver, BC, Canada, pp. 288-297. (26% acceptance rate)


**Shorter Publications and Review Articles**

1. (2022) Buckner et al. "AI Reflections in 2021." *Nature Machine Intelligence*, 4(1).

2. (2019) Gentry, H., and **Buckner, C.** "Locating animals with respect to landmarks in space-time." *Behavioral and Brain Sciences* 42.

3. (2019) **Buckner, C.,** and Garson, J. Connectionism. *The Stanford Encyclopedia of Philosophy.*

4. (2017) **Buckner, C.**, & Fridland, E. What is cognition? Angsty monism, permissive pluralism(s), and the future of cognitive science. *Synthese* 194(11), 4191-4195. (2500 words)

5. (2014) **Buckner, C.** Colin Allen 2050: A Guide for the Undecided. *APA Newsletter on Computing and Philosophy.* 13(2), 8-11. (3,000 words)

6. (2013) **Buckner, C.** Povinelli Weighs in on Human Uniqueness: Review of *World without Weight* by Daniel Povinelli. *Evolution* 67(3), 918-919. (1,000 words)

7. (2013) Murdock, J., **Buckner, C.**, Rose, R., and Allen, C. Computational Philosophy and the Examined Text: A Tale of Two Encyclopedias. *APA Newsletter on Computing and Philosophy*, 12(2), 28-30. (3,000 words)

8. (2012) **Buckner, C.** Ordering Our Attributions of Order. Commentary on Jennifer McMahon's "The aesthetics of perception". *Essays in Philosophy*, 13(2). (4000 words)

9. (2012) **Buckner, C.** Review of *The Ego Tunnel* by Thomas Metzinger. P*hilosophical Psychology*, 25(3), 457-461. (2,000 words)

10. (2009) **Buckner, C.**, Crowley, S., Shriver, A., & Allen, C. How 'Weak' Mindreaders Inherited the Earth. Commentary on Peter Carruthers article, How we know our own minds: The relationship between mindreading and metacognition (with Colin Allen, Stephen Crowley, and Adam Shriver) *Behavioral and Brain Sciences* 32(2):140-141. (1,000 words)

11. (2008) Niepert, M., **Buckner, C.**, & Allen, C.  The World is Not Flat: Expertise and InPhO. *First Monday* [Online], 13(8). (4,200 words)
12. (2007) **Buckner, C.**, Niepert, M., & Allen, C.  InPhO: The Indiana Philosophy Ontology.  In the *APA Newsletter on Philosophy and Computers*, 6(2). (1,400 words)
13. (2005) **Buckner, C.**  The Guessing Game: Teaching Computer Studies in Savusavu, Fiji.  *The Successful Professor*, Volume 4, Issue 2, April 2005. (1,600 words)

**In Progress**
1. Millière, R., and **Buckner, C.** Invited book on generative artificial intelligence for Cambridge Elements Series, Cambridge University Press. (Under Contract)
2. **Buckner, C.**  Animal Social Cognition. *Stanford Encyclopedia of Philosophy* (invited and submitted)
3. **Buckner, C.** "Inner speech for AIs." Chapter for *Communicating with AI: Philosophical Perspectives*. Eds. Cappelen, H., and Dever, J. OUP Press. (in prep)
4. Millière, R. and **Buckner, C.** "Interventional methods for assessing representations in DNNs". *Neurocognitive Foundations of the Mind*. Eds. Piccinini, G.

# SCHOLARLY PRESENTATIONS
## Invited
(No job talks)
2025   XXX Conference on Contemporary Philosophy and Methodology of Science, University of A Coruña
2024   Colloquium Lecture, Texas Tech University, November 2024
2024   Social Cognition and Agency: Being Human in the Age of AI Workshop, Kansas University, September 23-24, 2024
2024   Invited lecture at Bochum-Grenoble-Taipei Memory Colloquium (hybrid), July 9, 2024
2024   Invited lecture at Eindhoven Artificial Intelligence Systems Institute, July 1, 2024
2024   Invited lecture at University of Utrecht, June 25, 2024
2024   Invited lecture at Technical University of Groningen, June 24, 2024
2024   Invited lecture at Delft Technical University Delft Digital Ethics Centre, June 20, 2024
2024   Invited lecture at University of Antwerp Centre for Philosophical Psychology, June 18, 2024
2024   Invited lecture at Technical University Eindhoven Centre for Philosophy of AI, June 18 2024
2024   Invited lecture at Seven Pines Symposium, May 15-18, 2024
2024   Author Meets Critics session on *From Deep Learning to Rational Machines* with Kathleen Creel, Raphaël Millière, and Dan Weiskopf as commentators, Southern Society for the Philosophy of Psychology, March 23, 2024
2024   Colloquium Lecture, Department of Philosophy, John Carroll University, Feb 23, 2024
2024   Master class in generative AI/imagination to Winter School on Imagination (online), Ruhr-University Bochum, Feb 21, 2024
2024   Lecture to Philosophy of Memory group at Ludwig Maximilian University, Munich, Feb 20, 2024
2024   Colloquium Lecture, Cognitive Science Program, University of Edinburgh (online) Feb 14, 2024
2024   Symposium on *From Deep Learning to Rational Machines*, NYU, with commentary by Ryan Healey, Digital Media Lab, Jan 26, 2024

2023   Colloquium Lecture, Department of Philosophy, University of California, Irvine

2023   Colloquium Lecture, Department of Philosophy, National Taiwan University

2023   Colloquium Lecture, Department of Philosophy, University of Illinois Urbana-Champaign

2023   **Keynote** talk at workshop "Mind-Dependent Artifacts and Artifact-Dependent Minds", The New School, New York, NY, September 2023.

2023   Panel on the Social Effects of AI. Who's Responsible for ChatGPT: Building a Public Vision for AI. Indiana University, Bloomington, August 3-5. (Virtual)

2023   "Artificial consciousness worth studying in LLMs." Investigating Consciousness in Humans, Animals, and Artificial Systems. Ruhr-Universität Bochum. June 2023

2023   Interventionist methods for studying representations in language models. Deep Learning in Linguistics Colloquium group, Heinrich Heine Universität, Dusseldorf, June 2023.

2023   Talk at the University of Florida's Working Group on AI Ethics and Policy and College of Liberal Arts, Gainesville, FL April 2023.

2023   Talk at workshop "The Philosophy of Deep Learning", jointly sponsored by Columbia University's Center for Science and Society and NYU's center for Mind, Brain, & Consciousness New York, NY March 2023.

2022   **Plenary** – Thought in Humans and Machines: Multidisciplinary Perspectives, University of Hamburg, November 14-15.

2022   **Plenary** – Philosophy of Machine Learning conference, Eberhard Karl Universität of Tübingen, October 20, 2022.

2022   **Plenary** – Mind & Matter Conference, University of Helsinki, Finland, June 16-18 2022

2022   University of Pittsburgh Center for the Philosophy of Science Annual Lecture Series Speaker, April 22, 2022.

2022   Workshop "Machine Learning, Abstract Thought, and the Expanding Reach of AI", University of Cincinnati, April 7-8, 2022.

2022   Stanford University, Departmental Colloquium Speaker, March 11, 2022.

2022   "On fair comparisons between AI and Humans", symposium on AI and philosophy Central APA, Chicago, February 25 2022.

2022   Author Meets Critics Commentary on Gualtiero Piccinini's *Neurocomputational Explanation*, Central APA Chicago February 24 2022.

2022   Florida Atlantic University, Frontiers in Science Public Lecture Series, January 14, 2022.

2021   Distinguished Speaker Series at Berlin School of Mind & Brain, October 28, 2021.

2021   University of Arizona Cognitive Science Program – Invited Colloquium Speaker, October

2021   Colloquium Lecture, University of Omaha, Nebraska, September.

2021   Neural Mechanisms Online Colloquium Lecture – April 16, 2021 with four commentators: Rosa Cao (Stanford), Mazviita Chirimuuta (Edinburgh), Alessio Plebe (Messina), & Catherine Stinson (Queen's University).

2021   University of Georgia Joint Philosophy & Artificial Intelligence Institute Colloquium Lecture, March 31.

2021   University of Texas at San Antonio Philosophy Colloquium Lecture.

2021   **Keynote** – Symposium on Explanation in Neuroscience and Artificial Intelligence, UNIQUE Centre Montreal, February 10, 2021.

2021   **Keynote** – 18th Annual Gulf Coast Consortia Conference for Computational and Theoretical Neuroscience, January 29, 2021.

2020   Colloquium talk to Manifold Lab at Manchester Metropolitan University.

2020    Workshop on GPT-3 and Human Understanding – Joint Collaboration between OpenAI and NYU.  October 1, 2020.

2020    Lectures to Helsinki Summer School in Philosophy of Artificial Intelligence at the University of Helsinki, Helsinki Finland, August 5-7 2020 (Postponed due to Covid).

2020    Invited Departmental Colloquium to TU Eindhoven Philosophy and Ethics Group – June 2, 2020.

2020    Plenary lecture at ESI/VDSP Winter School for Machine Learning in Physics, Vienna, Austria, February 15, 2020.

2020    Lecture to MD Anderson Cancer Center Data Science Workgroup, January 29, 2020.

2020    Symposium on Associationism and Its History, Eastern American Philosophical Associations, January 10, 2020.

2019    Lecture on the philosophy of deep learning to Human and Machine Intelligence Group, University of Virginia, October 21, 2019.

2019    Colloquium Lecture, University of Cincinnati, October 4, 2019.

2019    Invited lecture at Varieties of Mind Workshop, University of Cambridge, June 18-21, 2019.

2019    "The Comparative Psychology of Artificial Intelligences" – Technical University of Munich, Munich, Germany, March 1, 2019.

2019    "Rational Inference without Cortex" – University of Connecticut, Expression, Communication, and Origins of Meaning (ECOM) Research Group, February 15, 2019.

2018    "Mechanistic explanation and avian intelligence."  Avian Cognition and Brain Consortium. Berlin, Germany, June 24-25, 2018.

2018    Invited Lecture on Animal Minds, Texas A&M Commerce, April 27, 2018

2018    Crick Lecture, University of Evansville, April 13, 2018.

2018    Plenary symposium on association, Southern Society for Philosophy and Psychology, San Antonio, TX, March 15-17.

2017    **Keynote** – Interdisciplinary Neuroscience Showcase, University of Mississippi, March 30-31.

2017    Invited Speaker, Humboldt Colloquium:  Global Research in the 21st Century, Washington DC, March 2-4.

2016    Colloquium Lecture at Rational Animals conference, Ruhr-University Bochum, Germany, October 4-6.

2016    **Keynote** – York Graduate Conference, Toronto, Canada, April 8.

2015    Philosophy Colloquium Lecture at University of Nevada Las Vegas, December 4.

2015    Invited lecture – "The Rewards of Associative Modeling—at the 2015 Congress on Logic, Methodology, and Philosophy of Science, Helsinki, August 3-8.

2015    **Keynote** – "Semantic and Episodic memory—What's the difference again? -- "The Self in Time. Prospective Cognition in Animals and Humans" LMU Munich, Munich, Germany, July 30-August 1st, also delivered to Rice University CogTea, September 30.

2015    **Keynote** – "Minding our Models"—at Nature and Origins of Human Cognition Conference, Berlin, June 18-20.

2015    "Philosophy of Comparative Cognition" – Southern Society for Philosophy and Psychology, New Orleans, LA, April 2-4.

2015    "Ravens attribute their own prior visual access to unseen competitors" – SSPP Pre-Workshop at Loyola University New Orleans, April 1.

2013    "The Debate over Animal Theory of Mind:  Moving Forward" – University of Vienna, CogBio Lecture Series, July 22.

2013     "The Problem of Cognition:  Definition or Explication?" – What Is Cognition? Workshop, Ruhr University, Bochum, June 29.

2013     "Philosophy and the Digital Humanities," Central APA, New Orleans.

2012     "A Property Cluster Theory of Cognition" – Colloquium lecture at Berlin School of Mind and Brain, May 15.

2012     "Functional Kinds" – Invited Lecture at Workshop on Explanatory Power, Ruhr-University Bochum, May 4-5.

2012     "Dynamic Ontology" – Invited talk in main colloquium series at Munich Center for Mathematical Philosophy, April 25-28.  (Lecture published on iTunes: [https://cast.itunes.unihttps://cast.itunes.uni-muenchen.de/vod/clips/pmY60Fb5dq/quicktime.mp4muenchen.de/vod/clips/pmY60Fb5dq/quicktime.mp4](https://cast.itunes.unihttps://cast.itunes.uni-muenchen.de/vod/clips/pmY60Fb5dq/quicktime.mp4muenchen.de/vod/clips/pmY60Fb5dq/quicktime.mp4))

2012     "Mindreading and Metarepresentation:  Where to Draw the Line" – Presented at Winter Conference on Animal Learning and Behavior, Winter park, CO, January 28-Feb 1.

2011     "Mentality Is about Flexibility:  What Comparative Neuropsychology Can Teach Us about Rational Intentionality".  Mind and Perception Workshop, Rice University, September 9.

2011     **Keynote** – "Computational Methods for the 21$^{st}$ Century Philosopher:  Recent Advances and Challenges in Cognitive Science and Metaphilosophy".  Keynote address at the International Association for Computing and Philosophy 25$^{th}$ Anniversary meeting, University of Aarhus, Denmark, July 6.

2010     "The Myth of Semantic Expertise in Philosophy, Psychology, and Computer Science" – presented at Success Strategies for Emerging Faculty in STEM fields, Newark, University of Delaware, September 12.

2010     "In Search of a Viable Distinction between Cognition and Mere Association" – Presented at the Tri-State (Plus) Conference on Animal Learning and Behavior, Bloomington, Indiana, April 9.

2009     "Learning from Mistakes:  A Neo-Dretskean Theory of Content"–Annual Nelson Lecture, presentation delivered to the IUB Department of Philosophy, Bloomington, IN, April 24.

2008     Comment on Marcello Guarini's presentation "Fodor's Analysis of Neural Network Behavior" at the 2008 meeting of North American Conference on Computers and Philosophy, Bloomington, IN, June.

2007     "An Introduction to the Indiana Philosophy Ontology Project" – Presented at the 2007 Meeting of the North American Association for Computers and Philosophy, Chicago, July 28.

2005     "Inferential Heuristics: Modeling the Mind's Good, Bad, and Ugly" – Philosophy Department Colloquium at the University of Cincinnati, February.

**Refereed**

2024     "The bot talking with itself" – Modelling Inner Speech with DNNs – Philosophy of Science Association, New Orleans, LA Nov 14-17.

2023     "Interventional Methods for Relating Representations in DNNs to Representations in the Brain". Society for Philosophy and Psychology (SPP) 2023. Pittsburgh, PA. June 21.

2023     "An Ecological-Rationality-Based Framework for Understanding Progress in AI", Governance of Emerging Technology and Science, Phoenix, AZ May 18-19.

2022 "Sentimental machines--artificial moral and social cognition in the age of deep learning", Philosophy of Science Association biannual meeting, Pittsburgh, PA, Nov. 10-13

2022 "Ibn Sina invented Deep reinforcement learning (with episodic control)" Southern Society for Philosophy and Psychology, March 2022

2020 "Interpreting Deep Learning's Susceptibility to Adversarial Examples" Philosophy of Science Association, November, 2020 (Postponed due to Covid-19)

2020 "Behavior-reading animals meet mind-reading machines" – Society for Philosophy and Psychology, June 10, 2020. (Postponed due to Covid-19)

2020 "The Deeper Riddle of Induction" – Southern Society for Philosophy and Psychology, Louisville, KY  March 13, 2020.(Postponed due to Covid-19)

2019  "Abstraction in Deep Convolutional Neural Networks", German Society for the Philosophy of Science, February 25-27, 2019.

2018 "The comparative psychology of artificial intelligences: anthropomorphism and anthropocentrism in deep learning's 'interpretation problem'" – Philosophy of Science Association 2018 Biennial Meeting, Seattle, Washington Nov 1-4.

2018 "From Association to Reason:  The Power of Transformational Abstraction" – (could not attend conference to deliver presentation) – Eastern American Philosophical Association, Savannah, GA, January 3-6.

2017 "From Association to Reason:  Transformational Abstraction in Deep Learning Neural Networks" – Society for Philosophy and Psychology, June 29-July 1 (20% acceptance rate).

2017 "From Association to Cognition: Bootstrapping Hierarchical Abstraction" – 24th International Conference on Comparative Cognition – April 22nd.

2017 "From Association to Reason:  The Power of Transformational Abstraction" – Southern Society for Philosophy and Psychology, March 22.

2016  "A Forward-Looking Theory of Content" – Southern Society for Philosophy and Psychology March 12,
  **Winner of the Griffiths Memorial Award**
  -Also presented at Society for Philosophy and Psychology, June 2-4, 2016 (15% acceptance rate)

2015 "The Rationality of Intuitive Judgment" – Eastern Philosophical Association, January 6-9 2016, Southern Society for Philosophy and Psychology, New Orleans, April 2-4.

2014 "Functional Kinds:  A Skeptical Look" – Boulder Conference on the History and Philosophy of Science, Oct 10-12.

2014 "Concepts, Kinds, and Transitional Gradation".  Southern Society for Philosophy and Psychology, February 8th.

2013 "The Semantic Problem(s) with Research on Animal Mindreading".  Southern Society for Philosophy and Psychology, February 28th.

2012 "Heuristics and Intelligence."  Computability in Europe 2012 Turing Centenary Conference, Cambridge, England June 18-23.

2012 "Containing the Semantic Explosion" with Jamie Murdock – WWW 2012 Philoweb Workshop with Tim Berners-Lee and Stevan Harnad. Lyon, France, April 16-20.

2011 "In Defense of the Distinction between Cognition and Mere Association." – Symposium paper 2 hour session with two commentators. at the 2010 Meeting of the Pacific Division of the American Philosophical Association, in San Diego, CA, April 20-23.

2010    "X-Phi Beyond the Survey:  Heuristics and Reflection." – Poster presentation at the 2010 meeting of the Society for Philosophy and Psychology, Portland, OR.

2010    "In Search of a Viable Distinction between Cognition and 'Mere Association'" – Presented at the Workshop on Novel Approaches to Animal Cognition, CISAB 2010, Saturday, March 27, Bloomington, IN.

2010    "In Search of a Viable Distinction between Cognition and 'Mere Association'" – Presented at the 17th Annual Animal Behavior Conference, Friday, March 26, Bloomington, IN.

2010    "Forward- and Backward-looking Theories of Misrepresentation" – Presented at the Midsouth Philosophy Conference, March 6, Memphis, TN.

2009    "In Search of a Viable Distinction between Cognition and 'Mere Association'" – Presented at the Winter Conference on Animal Learning and Behavior, February 2, Winter Park, CO.

2009    "How I Learned to Stop Worrying about Mental Causation and Love the Hippocampus" – Presented at the 2009 meeting of the North American Association for Computing and Philosophy, June 16, Bloomington, IN.

2009    "Heuristics Are a Natural Kind" – Presented at the 2009 meeting of the Society for Philosophy and Psychology, delivered on June 13, Bloomington, IN.

2009    "Identifying Psychology's Kinds:  A Case Study in Why Neural Mechanisms Matter" – Presented to the Midsouth Philosophy Conference, Memphis, TN, April 17.

2008    "Intentional Explanation and the Sciences of Animal Behavior" – Presented at the 2008 meeting of the IUB Center for the Integrative Study of Animal Behavior CISAB., Bloomington, IN, April.

2007    "A Dynamic Ontology for a Dynamic Reference Work"– With Mathias Niepert, presentation at Joint Conference on Digital Libraries 2007 in Vancouver, June 20, 2007.

2007    "The Role of Rationality in Cognitive Science" – Poster at the 2007 meeting of the IUB Center for the Integrative Study of Animal Behavior CISAB. April.


**PRESS**

2018    Interviewed by Houston ABC13 KTRK regarding the behavior of the great-tailed grackle: http://abc13.com/great-tailed-grackles-capture-our-attention-this-time-of-year/3049668/

2017    Research featured in UH Powerhouse marketing, Press Releases
-http://www.uh.edu/powerhouse/
-http://www.uh.edu/news-events/stories/2017/november/11012017Buckner-Animal-Cognition.php

2017    Houston Public Media (NPR) – Houston Matters UH Moment:  Do Animals Think Rationally?  https://www.houstonpublicmedia.org/articles/shows/uh-moment/2017/11/15/250805/uh-moment-do-animals-think-rationally/

2016    -Raven experiment listed amongst top 7 astounding breakthroughs of 2016: https://www.csmonitor.com/Science/2016/1227/Seven-outstanding-scientific-breakthroughs-in-2016
-Featured in UH Research and Innovation Magazine
http://www.uh.edu/research/news/magazine/2016/raven/
-Interview with *The Christian Science Monitor* regarding a paper from Krupinye et al. that apes can understand false beliefs:  http://www.csmonitor.com/Science/2016/1006/Reading-minds-All-great-apes-might-be-able-to-see-others-points-of-view

-The raven experiment with Bugnyar & Reber in *Nature Communications* was covered by over 100 press outlets worldwide.  It was [ranked by Altametric as the 5th most highly covered article](#) out of 721 articles in *Nature Communications* of a similar age.  Highlights of coverage include:

- *New Scientist –* [Ravens fear of unseen snoopers hints they have a theory of mind](#)
- *The Guardian -* [Ravens can imagine being spied on](#)
- *Washington Post -* [Ravens know when they're being watched](#)
- *The Christian Science Monitor –* [Ravens might possess a theory of mind](#)
- *Cnet –* [Ravens are smart enough to feel paranoid](#)
- *LiveScience -* [Ravens Know When Food-Thieving Rivals Are Watching](#)
- *Vice -* [Ravens Can Imagine They're Being Spied On, Study Finds](#)

2012   Was denkt sich der Affe bloss dabei? Von der Kognition der Tiere wissen wir immer noch sehr wenig.  *Frankfurter Allegemeine Zeitung*, Wednesday July 4, 2012, NR 153.

2009   Petition seeks apology for Enigma code-breaker Turing.  CNN.com, [http://www.cnn.com/2009/WORLD/europe/09/01/alan.turing.petition/index.html.](http://www.cnn.com/2009/WORLD/europe/09/01/alan.turing.petition/index.html.)


**TEACHING**

University of Florida
  Philosophy of the Special Sciences – Fall 2024

University of Houston
  Philosophy of Deep Learning (graduate) – Spring 2020
  Philosophy of Cognitive Science – Spring 2016, Spring 2018, Fall 2019
  New Approaches to Representation (graduate) – Fall 2015
  Logic & Philosophy (graduate) – Fall 2014
  Animal Cognition (graduate) – Spring 2014, Spring 2017
  Philosophy of Language (grad/undergrad) – Fall 2013, Spring 2015, Fall 2016
  Philosophy of the Special Sciences (graduate) – Fall 2023, Fall 2012, Summer 2013 (Bochum)
  Logic II – Fall 2012
  Philosophy of Mind (grad/undergrad) – Fall 2011
  Logic I – Every semester

Indiana University
  Thinking and Reasoning: critical thinking, informal logic, scientific reasoning, and heuristics – Fall 2010.
  Introduction to Symbolic Logic propositional and predicate – Summer 2010.
  Introduction to Philosophy:  Appearance and Reality – Spring 2008.
  Introduction to Ethics – Fall 2007.


**Doctoral Mentoring**

External Examiner for Konstantinos Voudouris, University of Cambridge
PhD in Psychology and Philosophy of Science (Viva date July 8, 2024)

Thesis title: "From Animals to Algorithms: Comparative Psychology for the Study of Artificial Intelligence"

Dissertation Committee member for Akshay Ravindran, University of Houston
Ph.D. in Neuroengineering (Defended December 2021)
Dissertation Title: "Developing Robust Explainable Deep Learning Models using Electroencephalography for Brain-Machine Interface Systems"

Dissertation committee member for Alex Craik, University of Houston
Ph.D. in Neuroengineering (Defended August 1, 2023)
Dissertation Title: "Continuous and Discrete Decoding of Overt Speech with Electroencephalography"

Dissertation committee member for Robert Lazo, University of Arizona,
For Ph.D. in Philosophy (anticipated defense date 2024)

Dissertation committee member for Nuhu Osman Attah, University of Pittsburgh
For Ph.D. in History and Philosophy of Science (anticipated defense date 2024)

**Volunteer Teaching** (Through Rotary International)
Summer 2005 – Savusavu, Fiji
      Advanced computer studies, Savusavu Secondary School, St. Bede's College
Summer 2004 - Savusavu, Fiji
      Advanced computer studies, Savusavu Secondary School

## SERVICE
Editorial Board: *Philosophy of Science* (2023-)
Associate Editor: *The British Journal for the Philosophy of Science* (2021-)
Conference Service:
      Co-Organizer: Minds Online Conference at Brains Blog, 2015-2018
      Program Chair: 1st Annual Texas Digital Humanities Conference 2014, April 10-12 2014
      Board Member: International Association for Computing and Philosophy, 2011-2013.
      Track Organizer: IACAP 2013 (University of Maryland), Computers and Philosophy
      Program Committee: PSA 2024, 2020 AISB workshop on Overcoming Opacity in Machine Learning, 2017 AAAI/ACM Conference on AI, Ethics, and Society, Computability in Europe (CiE) Conference Series, CiE 2013 Milan.
      Two-workshop series entitled "What Is Cognition?" (with Ellen Fridland, Richard Moore, and Anna Strasser) 2013 at Ruhr-University Bochum and 2015 at the Berlin School for Mind and Brain.
      Special Session on Digital Philosophy, Central APA 2013.
      Research Workshop on Digital Humanities January 27, 2012, University of Houston, 8 speakers
      Workshop on Animal Cognition June 28-30, 2012, Ruhr-University Bochum, 12 speakers
Co-Founder: Texas Digital Humanities Consortium, UH Digital Humanities Initiative

Contributing Editor:  Brains Blog (http://philosophyofbrains.com) 2014-2018

Reviewer:  Oxford University Press, Cambridge University Press, *Nature, Analysis, Artificial Intelligence, Behavioral & Brain Sciences, Philosophy and Phenomenological Research*, *Philosophy of Science*, *British Journal for the Philosophy of Science, Synthese*, *Philosophical Quarterly, Minds & Machines, New Ideas in Psychology, Biology & Philosophy*, *Journal of the American Philosophical Association*, *Journal of Cognitive Science, Current Biology*, *Ethology*, *The Monist, Patterns, Philosophical Psychology*, *Psychonomic Bulletin & Review, Evolution*, *Journal of Consciousness Studies,* Cognitive Science Society, the Society for Philosophy and Psychology, the Southern Society for Philosophy and Psychology, the International Association for Computers and Philosophy, Polish Academy of Sciences.

Judge:  CLASS Graduate Scholarship Committee (2024-), Graduate Research and Scholarship Projects best student publication prize, University of Houston 2016, 2017.

Associate: *Behavior & Brain Sciences*

Member: University of Houston Biology of Behavior Institute, Southern Society for Philosophy and Psychology, Society for Philosophy and Psychology, American Philosophical Association, International Association for Computing and Philosophy, Texas Action Group, Center for the Integrative Study of Animal Behavior, the Experimental Epistemology Laboratory

Philpapers Area Editor:  Psychological Explanation, Philosophy of Animal Minds

Internal Committee work:  2022-2023 – Search committee co-chair, Merit Review Committee Chair, 2021-2022-Philosophy Department Merit Review Committee, UH ADVANCE Task Force (2018-2019- NSF-funded diversity in STEM initiative https://uh.edu/advance/ ), UH Digital Research Commons Steering Committee, UH Digital Research Commons Director Hiring Committee 2016-2017, UH Philosophy Department Hiring Committee 2016-2017, UH Digital Humanities Planning Committee, 2011-2013, UH Philosophy Undergrad Program Institutional Effectiveness Committee 2015, 2016, 2017, Graduate Program Institutional Effectiveness Committee 2021

Webmaster: IUB Philosophy Department 2006-2011, UH Philosophy Department 2011-

# REFERENCES

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University of California, Santa Barbara
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