

ZACHARY C. IRVING

University of Virginia
Corcoran Department of Philosophy
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EMPLOYMENT

University of Virginia

Assistant Professor, 2018–

- Corcoran Department of Philosophy
- Cognitive Science Program

University of British Columbia

Visiting Scholar, March 2023

- Department of Philosophy

Harvard University

Visiting Scholar, January 2020–August 2020

- Department of Philosophy

University of California, Berkeley

SSHRC Postdoctoral Scholar, January 2016–December 2017

- Project: *A Wandering Lens on the Imagination*
- Supervisor: Alison Gopnik

EDUCATION

University of Toronto

PhD in Philosophy, 2015

- Dissertation: *The Wandering Mind*
- Supervisors: Diana Raffman and Evan Thompson
- Committee: Jennifer Nagel, Andrew Sepielli, and Ronnie de Sousa

Summer Seminars in Neuroscience and Philosophy, Duke University

SSNaP Fellow, Summer 2017

- Project: *How Do You Measure a Wandering Mind?*
- Collaborator: Julia Kam

- 16 Anne M. Cleary, **Zachary C Irving**, Caitlin Mills (2023) "What Flips Attention" *Cognitive Science*
- 15 **Zachary C Irving**, Samuel Murray, Aaron Glasser, and Kristina Krasich (2023) "The Catch-22 of Forgetfulness: Responsibility for Mental Mistakes" *Australasian Journal of Philosophy*
- 14 **Zachary C Irving**, McGrath, Flynn, Aaron Glasser, Caitlin Mills (2022) "The Shower Effect: Mind-Wandering Facilitates Creative Incubation During Moderately-Engaging Activities" *Psychology of Aesthetics, Creativity, and the Arts*
 - 6th highest Altmetrics Attention Score of 461 articles in *PACA*
- 13 **Zachary C Irving**, Jordan Bridges, Aaron Glasser, Juan Pablo Bermudez, Chandra Sripada (2022) "Will Powered: Synchronic Regulation is the Difference Maker for Self-Control" *Cognition*
- 12 Samuel Murray, Kristina Krasich, **Zachary C. Irving**, Thomas Nadelhoffer, Felipe De Brigard (2022) "Mental control and attributions of blame for negligent wrongdoing" *Journal of Experimental Psychology: General*
- 11 **Zachary C Irving** (2021) "Drifting and Directed Minds: The Significance of Mind-Wandering for Mental Agency" *Journal of Philosophy*
- 10 Julia Kam, **Zachary C Irving**, Caitlin Mills, Alison Gopnik, and Robert T Knight (2021) "Distinct Electrophysiological Signatures of Task-Unrelated and Dynamic Thought" *Proceedings of the National Academy of Sciences*
 - 1,779 highest Altmetrics Attention Score of 414,010 articles of a similar age
- 9 **Zachary C Irving**, Aaron Glasser, Alison Gopnik, Chandra Sripada (2020) "What Does 'Mind-Wandering' Mean to the Folk? An Empirical Investigation" *Cognitive Science*
- 8 **Zachary C Irving** and Aaron Glasser (2019) "Mind-Wandering: A Philosophical Guide" *Philosophy Compass*
- 7 Kalina Christoff, Caitlin Mills, Jessica R. Andrews-Hanna, **Zachary C Irving**, Evan Thompson, Kieran C. R. Fox, Julia W.Y. Kam (2018) "Mind-wandering as a scientific concept: Cutting through the definitional haze" *Trends in Cognitive Science*
- 6 Caitlin Mills, Quentin Raffaelli, **Zachary C Irving**, Dylan Stan, Kalina Christoff "Is an off-task mind a freely-moving mind? Examining the relationship between different dimensions of thought" (2018) *Consciousness and Cognition* 58: 20–33

- 5 Matt L. Dixon, Jessica Andrews-Hanna, R Nathan Spreng, **Zachary C Irving**, and Kalina Christoff (2017). “Interactions between the default network and dorsal attention network vary across default subsystems, time, and cognitive states” *Neuroimage* 147: 632–649.
- 4 **Zachary C Irving** (2016) “Mind-Wandering is Unguided Attention: Accounting for the ‘Purposeful’ Wanderer” *Philosophical Studies* 173 (2): 547-571.
 - 21st highest Altmetrics Attention Score of 1,197 articles in *Philosophical Studies*
 - 7th most cited article in *Philosophical Studies* since 2016
- 3 Kalina Christoff, **Zachary C Irving**, Kieran Fox, Nathan Spreng, and Jessica Andrews-Hanna (2016) “Mind-Wandering as Spontaneous Thought: A Dynamic Framework” *Nature Reviews Neuroscience* 17: 718–731.
 - 905th highest Altmetrics Attention Score of 289,182 articles of a similar age
 - 11th highest Altmetrics Attention Score of 2,589 papers ever in *Nature Reviews Neuroscience*
 - 8th most cited article in *Nature Reviews Neuroscience* since 2016
- 2 Michael Arsenault* and **Zachary C Irving*** (2013) “Aha! Trick Questions, Independence, and the Epistemology of Disagreement” with Michael Arsenault *Thought: A Journal of Philosophy* 1 (3): 185–194.
- 1 **Zachary C Irving** (2011) “Style, But Substance: On Graphical versus Numerical Representation in Scientific Practice” *Philosophy of Science* 78 (5): 774–787.

* Shared First Authorship

INVITED PUBLICATIONS

- 5 Sam Murray, **Zachary C Irving**, and Kristina Krasich (2021) “The Scientific Study of Passive Thinking: The Methodology of Mind-Wandering Research” *Philosophy & Neuroscience* F. De Brigard & W. Sinnott-Armstrong (Eds.) *MIT Press*, Cambridge, MA.
- 4 **Zachary C Irving** (2018) “Attention Norms in Siegel’s *The Rationality of Perception*” *Ratio*.
- 3 **Zachary C Irving** (2018) “Psychology Off Tasks: Self-Report in the Sciences of Dreaming and Mind-Wandering” *Journal of Consciousness Studies* 25 (5–6): 63–84.
- 2 Jessica Andrews-Hanna, Kieran Fox, **Zachary C Irving**, Nathan Spreng, and Kalina Christoff (2018) “The Neuroscience of Spontaneous Thought: An Evolving, Interdisciplinary Field” in Kalina Christoff, and Kieran Fox *Oxford Volume on Spontaneous Thought And Creativity* Oxford: Oxford University Press 143–163.

- 1 **Zachary C Irving** and Evan Thompson (2018) “The Philosophy of Mind-Wandering” in Kalina Christoff, and Kieran Fox *Oxford Volume on Spontaneous Thought And Creativity* Oxford: Oxford University Press 87–96.

BOOKS

Zachary C Irving (in progress) *The Wandering Mind: Action and Value in the Stream of Consciousness*

INVITED PRESENTATIONS

“Spontaneity in the Age of Distraction” (July 2023) *The New Daydream Imaginary*, Simon Fraser University

“The Normative Problem of Digital Distractions” (2023) Invited Panel on the Norms and Politics of Attention *Pacific APA*

“Action in the Stream of Consciousness” (2023) Keynote Lecture *The Dynamics of Agency Conference*, University of Helsinki

“The Problem of Circular Attention” (2023) *GoodAttention Project*, University of Oslo

“The Debt Relief Project” (2022) *Canadian Law and Economics Association*

“Default States of Mind and Body” (2022) *Spontaneous Future Cognition*, York St. John University

“Two Channels from Character To Blame” (2022) *Moral Psychology Research Lab*, Harvard University.

“Freedom to Transcend Yourself: Virginia Woolf’s Philosophy of Action” (2022) *Philosophy of Perception Workshop at UCSD*.

“The Stream of Consciousness” (2022) *Southern Society for Philosophy and Psychology*.

“The Stream of Consciousness” (2021) Keynote Lecture *Imagination Conference at The University of Edinburgh*

“The Balancing Norm of Attention” (2021) *Pacific APA*

”The Catch-22 of Forgetfulness: Responsibility for Mental Mistakes” (2020) with Samuel Murray, Aaron Glasser, and Kristina Krasich *Australia Experimental Philosophy Group*

“Affective Control: Obsessive Rumination as Action” (2020) with Aaron Glasser *Southern Society for Philosophy and Psychology*.

“Mind-Wandering Makes Us Free: Virginia Woolf’s Philosophy of Action” (2020) Talk Shop, *Harvard University*

- “Telic and Atelic Attention: Counting Mental Stuff” (2019) *University of California, Riverside*
- “Intentional Mind-Wandering and Amanasikāra” (2019) *American Academy of Religion, San Diego, California*
- “Beyond Importance: Exploration as An Attention Norm” *Norms of Attention Conference, University of Virginia*
- “Mind-Wandering Makes Us Free: Cognitive Science Meets Virginia Woolf” *Universidad Externado, Bogota*
- “Harnessing the Wandering Mind” (2019)
- *Mind, World, and Attention: Themes from Indian and Buddhist Philosophical Theory, New York University*
 - *Workshop on Consciousness, Meditation, and the Resting Brain, University of Oslo*
 - *Mind-Wandering and Mental Action, Universidad de Antioquia*
 - *Spontaneity Retreat, University of British Columbia*
- “Spontaneous Attention: Mind-Wandering, Creativity, and Contemplation” (2019) *New York University: Mind, World, and Attention: Themes from Indian and Buddhist Philosophical Theory*
- “Mind-Wandering in Philosophy of Neuroscience” (2019) *Central Virginia Society for Neuroscience, University of Virginia*
- “Mind-Wandering: Empirical Conceptual Analysis” (2019) *University of Michigan Ann Arbor*
- “Meta-Control During Intentional Mind-Wandering and Creative Action” (2018) *Duke University.*
- “What is Mind-Wandering? A View from Philosophy and Neuroscience” (2018) *University of Virginia: Cognition and Neuroscience Group*
- “The Wandering Brain: Measuring Freely Moving Thought” (2018) *Summer Seminars in Neuroscience and Philosophy: Presentations from Fellows*
- “Letting Your Mind Wander: Lessons for Higher-Order Control” (2018) *Kings College London.*
- “Author Meets Critics Session for Jennifer Windt’s *Dreaming: A Conceptual Framework for Philosophy of Mind and Empirical Research*” (2017) *Pacific APA, Seattle.*
- “The Philosophy of Mind-Wandering” (2016) *Cognition Area Seminar: Psychology Department, University of British Columbia, Vancouver.*

“Where is the “Wander” in Mind-Wandering?” (2015) *Science of Ethics Workshop: Imagination and Alternative Possibilities*, University of Michigan, Ann Arbor.

“Executive Resources and Mind-Wandering: Friends or Foes?” (2015) with Kalina Christoff and Kieran Fox (co-authors) *Society for Applied Research in Memory and Cognition XI Invited Symposium: Mind-Wandering in the Real World*, Victoria, BC.

PEER REVIEWED PRESENTATIONS

Glasser, Aaron* and **Zachary C Irving*** (2022) “Affect in Action” *Society for Philosophy and Psychology* Madrid.

Samuel Murray, Kristina Krasich, **Zachary C. Irving**, Thomas Nadelhoffer, Felipe de Brigard (2021) “Responsibility for Non Believers: Negligence and Mental Self-Management” *Society for Philosophy and Psychology* Princeton, NJ.

“Intentional Mind-Wandering” (2019) *Society for Philosophy and Psychology*, University of California, San Diego.

“Mind-Wandering and Human Freedom” with Nikolina Cetic (co-author) (2019) *Society for Philosophy and Psychology*, University of California, San Diego.

“What Does Mind-Wandering Really Mean?” (2018) with Verity Pinter, Alison Gopnik, and Chandra Sripada (co-authors) *Society for Philosophy and Psychology*, University of Michigan, Ann Arbor.

“Reflections on the Wandering Mind: A Puzzle for Dual Process Theory”

- (2017) *Eastern APA*, Baltimore.
- (2014) *Society for Philosophy and Psychology*, University of British Columbia.

“Is Mind-Wandering Disunified or Unguided? A Critique of Carruthers’ The Centered Mind”

- (2016) *Society for Philosophy and Psychology*, University of Texas at Austin.
- (2016) *Pacific APA*, San Francisco.

“Mind-Wandering is Unguided Attention: Accounting for the ‘Purposeful’ Wanderer” (2015) *Conference on Intentions*, University of Antwerp, Belgium.

“Venturing Beyond Vanilla: A Risky Extension of Belief-Desire Psychology” (2014) *Formal Epistemology Workshop*, California Institute of Technology.

“Realism’s Risk: How Should We Interpret Buchak’s Risk Function?” (2013) *Formal Epistemology Festival*, University of Toronto.

“I Wander About That ...Why Mind-Wandering is not Task Unrelated Thought” (2013) *Society for Philosophy and Psychology*, Brown University.

“The Epistemic Rationality of Mind-Wandering”

- (2013) *Pacific APA*, San Francisco.
- (2012) *International Workshop on Cognitive Science*, Institute for Language Cognition Logic and Information, Donostia, Spain.

“Style, But Substance: On Graphical versus Numerical Representation in Scientific Practice” (2010) *Philosophy of Science Association*, Montreal, Canada.

SELECTED* MEDIA COVERAGE

**Selection from the over 160 news outlets, blogs, podcasts, radio shows, and Wikipedia pages that have covered my research*

2023 “Why do we get our best ideas in the shower?” Washington Post

2022 “What is the Shower Effect? How Bathing Yields the Best Ideas: Study” NY Post

2022 “New Insights on the Significance of Willpower to Self-Control” Neuroscience News

2021 “Focus is important to productivity. But it’s daydreaming that makes us happy.” Washington Post

2021 “What Actually Happens When Your Mind Wanders?” UVA Today

2021 “The Power of the Wandering Mind” Wall Street Journal

2020 “New Science: Why Our Brains Spend 50% Of The Time Mind-Wandering” Forbes Magazine

2020 “Daydreaming? Study Shows Where Your Brain Goes When You Do” Web MD

2020 “Why do our minds wander? Brain study shows benefits of daydreaming” Inverse Magazine

2020 “Your wandering mind is a ‘feature’, not a bug” Futurity Magazine

2020 “Our minds may be wandering more during the pandemic—and this can be a good thing” World Economic Forum

2020 “UC Berkeley researchers co-author study on thought streams” Daily Californian

2020 “Where do our minds wander? Brain waves can point the way” Berkeley News

2019 “Emergence and Mind-Wandering” Brain Inspired

2017 “Sting’s brain on music offers scientists clues to what fuels creativity” Quirks and Quarks *Canadian Broadcasting Corporation*

2016 “The Brain Machinery Behind Daydreaming” Wall Street Journal

2016 “Brain science suggests “mind wandering” can help manage anxiety” Harvard Health Blog

2016 “A Wandering Mind Isn’t Just A Distraction. It May Be Your Brain’s Default State.” Huffington Post

COURSES TAUGHT

Undergraduate

Philosophy of Neuroscience (UVA: Spring 2019)

Philosophy of Memory (UVA: Fall 2019; Spring 2021)

Consciousness (UVA: Fall 2022; Spring 2021; Fall 2018)

Minds, Machines, and Persons (UVA: Fall 2022; Fall 2021; Fall 2020; Fall 2019; Spring 2018; Fall 2018)

Graduate

Norms of Attention in the Age of Distraction (UVA: Fall 2023)

Stream of Consciousness (UVA: Fall 2021)

Mental Action (UVA: Fall 2020)

Attention Norms in Buddhist and Western Philosophy (UVA: Fall 2019)

Mind-Wandering and the Norms of Attention (UVA: Spring 2018)

ADVISING

PhD Supervisor: Nikolina Cetic, James Reed

PhD Committee: Matthew Andler, Nazim Adakli, Elyse Oakley, Evan Welchance, Nathan Frank, Zachary Veroneau

Research Supervisor: Jordan Bridges, Aaron Glasser

ADMINISTRATIVE ACTIVITIES

Philosophy Liason: Cognitive Science Program (University of Virginia; Spring 2028–present)

GRANTS

Consciousness, Just in Time

Templeton Foundation (\$230,000)

- Role: Lead Principal Investigator (Co-PIs: Caitlin Mills and Samuel Murray)

The Financial and Psychological Relief of Insolvency

Three Cavaliers Initiative (\$60,000)

- Role: Co-Principal Investigator (Lead PI: Sheisha Kulkarni)

Debt Relief Project: Making Bankruptcy More Affordable

Social Sciences and Humanities Research Council of Canada (\$60,000 CAD)

National Bureau of Economic Research (\$15,000)

UVA Center for Investors and Financial Markets (\$8090)

- Role: Personnel (Lead PI: Sheisha Kulkarni)

Intuitions as Sampling

Human Machine Intelligence Group (\$6,000)

- Role: Lead Principal Investigator (Graduate Student: Elyse Oakely)

Harnessing The Wandering Mind

Three Cavaliers Initiative (\$60,000)

- Role: Lead Principal Investigator (Co-PIs: Sonam Kachru and Jim Coan)

The Wandering Brain: Measuring Freely Moving Thought

John Templeton Foundation (\$20,161)

- Subgrant of *Summer Seminars in Neuroscience and Philosophy*
- Role: Principle Investigator (Co-PI: Julia Kam)

HONORS AND AWARDS

Award for Excellence in Teaching, University of Virginia's Seven Society

Startup Grant, University of Virginia (Supporting collaborations between philosophy and neuroscience USD 250,000, 2017–2022)

Postdoctoral Award, Social Sciences and Humanities Research Council of Canada (SSHRC) (CAD 81,000, 2016–2017)

Postdoctoral Award, SSHRC (through Kalina Christoff) (CAD 7,000, 2016–2017)

Postdoctoral Award, Templeton Foundation (through Alison Gonpik) (CAD 11,000, 2016–2017)

Research Award, Balzan Styles of Reasoning Project (CAD 14,000; 2015–2016)

Teaching Excellence Award, University of Toronto (Finalist; One of the year's top 12 teaching assistants; 2014)

Michael Smith Foreign Study Supplement, SSHRC (Supporting research at UC Berkeley; CAD 6,000; 2014)

Doctoral Canadian Graduate Scholarship, SSHRC (CAD 105,000; 2011–14)

Entrance Award, Philosophy Department, University of Toronto (CAD 5,000; 2011; Declined)

Masters Canadian Graduate Scholarship, SSHRC (CAD 17,500; 2009–2010)

PROFESSIONAL SERVICE

Referee: *Journal of Philosophy*, *Australasian Journal of Philosophy*, *Phil Quarterly*, *Routledge*, *Analysis*, *Noûs*, *PLOS One*, *Mind & Language*, *Proceedings from the Royal Society B*, *Southern Journal of Philosophy*, *Philosophical Psychology*, *Studies in the History and Philosophy of Science*, *Philosophy and Technology*, and *Spontaneous Generations: A Journal for the History and Philosophy of Science*

Conference Organizer: *Norms of Attention*, University of Virginia

Founder: Berkeley Mind-Wandering Research Group (Berkeley; 2016 to 2017); Attentional Guidance Reading Group (Co-founder Alex Madva; Berkeley; 2014), Attention and Action Reading Group (Co-founder Aaron Henry; University of Toronto; 2013), and Visual Representation Reading Group (University of Toronto; 2010)

RESEARCH ACTIVITIES

Invited Participant/Panelist: *Saliency Workshop at Harvard University*, *Ranch Metaphysics Workshop* (2019, 2018); *UNC Conference on Inference* (2018); *Berkeley Summer Institute on Buddhism and Science* (2017)

Member: Human Machine Intelligence Working Group (UVA: 2018–current); Gopnik Lab (2014–2017); Lombrozo Lab (2014–2015)

Reading Group Member: on Wayne Wu's *Attention* (with Bill Seager; 2015) on Brian Ellis' *The Metaphysics of Scientific Realism* (with Anjan Chakravartty; 2010), on the Philosophy of Perception (with Mohan Matthen; 2009–2011), on the Philosophy of Neuroscience (with Evan Thompson; 2009–2012), on “Metapsychology” (with Jordan Peterson; 2010–2011)