

PN

Philosophy
News

2025–
2026



CONSCIOUSNESS & MEMORY

NEW FACULTY

Michael Arsenaault
Allison Balin
Yonathan Fiat
Stephen Menn
Jason Stanley &
Christian Tarsney

FEATURE

A philosophical journey through consciousness, machine dialogue, and invisible beauty while exploring perception, memory, and human understanding

A NEW PHILOSOPHY 'LAB'

Uniting philosophy, computer science, & psychology students

ALUMNI HIGHLIGHTS

Fiona Raye Clarke &
Arash Ghiassi

WELCOME

A message from
our Chair

Developments of note
in 2025–2026

It gives me great pleasure to present you with the latest issue of our magazine. I hope you enjoy reading the longer pieces on the theme of consciousness and memory as well as the shorter notes regarding new faculty, alumni, and the activities that have kept us busy lately.

The fall is always an exciting time in the academic year as we welcome new undergraduate and graduate students and are joined by new faculty members. This past year we were happy to welcome an unusually large number of fantastic colleagues, including Michael Arsenault, Allison Balin, Yonathan Fiat, Stephen Menn, Jason Stanley, and Christian Tarsney. You can read about them in the following pages. In the meantime, we have conducted some more faculty searches and will report on the outcome on the website and in future issues.

Faculty renewal makes me optimistic about the future—not just of our own department, but about the discipline as a whole. Philosophy has an important role to play in and has lots to contribute to the flourishing of society; the areas of teaching and research of our new colleagues and graduate students demonstrate this impressively. Moreover, I am optimistic because the department is fortunate to have generous friends. We have previously reported about the substantial donation by F. Michael and Virginia Walsh that made possible the establishment of the Walsh Chair in the History of Philosophy, which is now occupied by Stephen Menn, the inaugural chairholder since January 1, 2026.

However, not all was rosy these past months. We lost the Richard Charles Lee and Esther Yewpick Lee Chair in Chinese Thought and Culture, when the Faculty of Arts & Science decided to use this chair to support other areas of East Asian studies. Despite this, the department remains strongly committed to the study of Chinese philosophy. In fact, we are embarking on a fundraising campaign for an endowed position in the field. If you are interested in helping us, please don't hesitate to reach out to me.

One of the great strengths of philosophy at the University of Toronto is our tri-campus setup. This allows us not only to have a large faculty complement but lets us experiment with new teaching formats and areas. One impressive example is the Embedded Ethics Education Initiative in computer science education. Started by faculty members from computer science and philosophy on the downtown campus, this endeavour has now expanded to the University of Toronto Mississauga and the University of Toronto Scarborough

“Philosophy has an important role to play in and has lots to contribute to the flourishing of society; the areas of teaching and research of our new colleagues and graduate students demonstrate this impressively.”

campuses. The UTSC Department of Philosophy is also currently conducting a teaching-stream search to support the program.

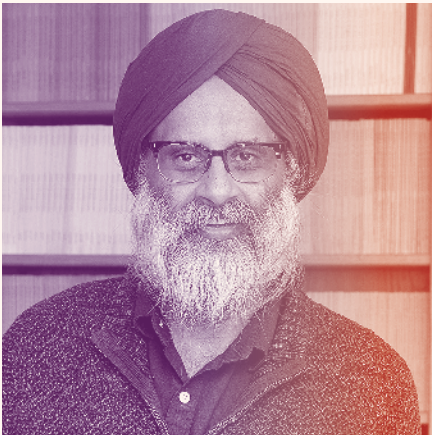
Philosophers on all three campuses are understandably proud of what we have achieved, both at the undergraduate and graduate levels. We teach more students than any other discipline in the humanities and our students are very successful. Despite the large workload my colleagues shoulder as a result, we are also a research powerhouse. In the last round of the competition for Insight Grants from the Social Sciences and Humanities Research Council of Canada, U of T philosophers won a record number of 12 new awards, more than any other discipline. Moreover, we are thrilled that our colleague Sara Aronowitz has recently been awarded a Tier 2 Canada Research Chair in Philosophy of Learning and Memory. You can read more about Sara's research group in the magazine.

Let me end by congratulating Deborah Black and Peter King on their recent retirement at the end of June. With their groundbreaking work on medieval philosophy, they contributed to maintaining the university's strengths as one of the leading international centres for the study of the history of philosophy and medieval philosophy, in particular. This is a bittersweet moment for me personally as they were two of my closest colleagues. Thank you, Deborah and Peter, for an incredible run as members of our department. Even though your active service comes to an end, we hope that we can keep you involved in as many future activities as possible.



Martin Pickavé
Chair, Department of Philosophy
Faculty of Arts and Science
Chair, Graduate Department of Philosophy

Highlights in brief from UTM Philosophy



Gurpreet Rattan ▼
*Chair, Department of Philosophy
University of Toronto Mississauga*

Developments of note in 2025–2026: In the fall, UTM Philosophy welcomed **Matt Delhey** and **Zain Raza** into limited-term appointment positions, and **Martin Dimitrov**, **Liang Zhou Koh**, **Rareş Ilie Marinescu**, and **David Rattray** into teaching positions associated with their postdoctoral fellowships. We also welcomed sessional instructors **Jack Beaulieu** and **John Hurst**, and we were happy to see **Logan Fletcher** return.

Andrew Sepielli took up his new position as associate chair, undergraduate after **Marleen Rozemond** stepped down to take a half-sabbatical and a six-month Jackman Humanities Institute Fellowship award. **Jennifer Nagel** began her term as tri-campus placement officer, while **Sergio Tenenbaum** continued as director for the Centre for Ethics. **Nilanjan Das** is visiting professor at Cornell University for Winter 2026.

The department also launched its new **Logic Minor** and began the UTM instalment of the **Embedded Ethics Education Initiative**, which brings ethics into classes offered by the Department of Mathematics and Computational Sciences. Thanks to **Elliot Carter**, **Steven Coyne** (St. George), **Matt Delhey**, **Zain Raza**, and others for organizational and instructional support.

UTM Philosophy continues to enjoy outstanding support from its staff: **Elliot Carter**, **Robert Eberts**, **Yasmine El-Gebali**, **Eden Finer**, and **Jane Medeiros**.

Notable student honours and highlights: The **Philosophy Academic Society** held an exciting lecture series that brought limited-term appointments and postdoctoral fellows into conversation with Society members. Some lectures from the series included “Dharmakirti on External Objects,” “Rational Zombies and Inference,” and “The Stoics on Why the Cosmos Is God.” The Society’s offshoot club, **the Symposium**, also got students from within and without philosophy to discuss literature, poetry, and philosophy.

Noteworthy events and offerings: The department again chose an outstanding group of students to constitute its **Socrates Project** class for 2025–26, which puts the best students in UTM Philosophy in the classroom as teaching assistants in our introductory philosophy courses. Students also get to conduct independent research with a faculty member.

December saw the arrival of the newest member of our community, **Anaïs Allyn Brown Aizenman**, daughter to our colleague **Brookes Brown** and her partner, **Ya’ir Aizenman**.

In late February, we hosted the **UTM Career Centre Networking Series Philosophy Event**, with alumni passing on their insights and experiences about career opportunities for philosophy graduates.

In March, high school teams from across Ontario competed in the **Ontario Ethics Bowl Provincial Championship**. The two-day event included more than 50 matches with over 100 students and dozens of volunteer judges. The Provincial Championship has been a fixture on the UTM Spring calendar for the past six years.

What to look forward to in the year ahead: In the summer, UTM Philosophy will team up with **Camp UTM** to offer two summer camps for children: “Little Thinkers” for kids aged six to nine and “Philosophy Explorers” for kids between the ages of eight and eleven.

At the time of writing, UTM Philosophy is actively engaged in searching for a position in **Language, Epistemology, Mind or Metaphysics** from a stellar field of candidates.

I will be on leave for 2026–27, and so UTM Philosophy can look forward to a new person in the role who will also oversee the cyclical review of the department, as part of the University of Toronto Quality Assurance Protocol Framework. The review offers an exciting time to reflect on how best to think about building an even more vibrant department and further enhancing the student experience.

The year in 1-3 sentences: UTM Philosophy continues to reach and teach increasing numbers of students at UTM and to expand its outreach, forging connections with other UTM departments through new programs and initiatives, as well as with the larger community in Mississauga and Ontario. Its faculty continue to teach enthusiastically, research and publish deeply and extensively, receive prestigious awards and honours, and contribute to the larger University of Toronto community.

Highlights in brief from UTSC Philosophy



Julia Nefsky ▼
*Chair, Department of Philosophy
University of Toronto Scarborough*

Developments of note in 2025–2026: It has been a very full and rewarding year for UTSC Philosophy. We were delighted to welcome **Christian Tarsney** as a new tenure-stream assistant professor. Christian works in ethics and political philosophy, with a focus on ethically motivated decision-making under conditions of uncertainty. His addition strengthens our department on multiple fronts, including political philosophy, normative ethics, and applied ethics.

Another major milestone was the approval of our new minor in **Artificial Intelligence, Mind and Society** by the UTSC Academic Affairs Committee, expected to launch in September 2026. The minor is designed to give students a foundational, non-technical understanding of AI technologies and the ethical and social questions they raise. Students in the program will engage with both new and long-

standing philosophical questions about mind, communication, intelligence, creativity, autonomy, and responsibility in relation to AI technologies and their broader social significance.

This year also saw the successful completion of our external review, which recognized the tremendous strengths of our department in both research and teaching, and it provided valuable guidance to inform our future trajectory.

Notable student honours and highlights: We warmly congratulate the following students on achieving significant honours this year: the **Graduation Prize** went to **Musab Aras** and **Haylyn Fung**; **Esther Levine** and **Misha Abdul Matin** won the **Sobel Memorial Award**; **Kira Jensen** received an undergraduate fellowship at the Jackman Humanities Institute for 2025–26; **Ivy Liu** was awarded the department’s **Katherine Nagel Philosophy Prize** while the inaugural **Waheed Hussain Award** went to **Mariah Cartwright**. This is a new endowed award in honour of our beloved late colleague, Waheed Hussain. We are extremely grateful to the friends, family, and colleagues whose generosity made this possible.

Noteworthy events and offerings: In February, the department hosted its third annual regional **High School Ethics Bowl**, welcoming about 100 high school students and their teachers to campus. This event has become a highlight of each year, and I am deeply grateful to the graduate students, faculty, alumni, and undergraduates who volunteered their time as judges and moderators.

We also had some high school class visits, in which students came for a day of philosophy and university-level experience on campus in the fall term. Thank you so much to **Alexandra Gustafson** for her leadership on both the Ethics Bowl and these high school visits.

Our **Embedded Ethics** initiative continues to expand in its second year at UTSC. This year, **Michael Kirley** and **Julia Minarik** have taken the lead in delivering ethics modules across several computer science courses, in close collaboration with course instructors.

Student life in the department remains vibrant. The **Association of Philosophy Students** has been especially active this year, organizing a range of successful initiatives, including Controversy Night, a peer mentorship program, writing workshops, and an undergraduate conference.

What to look forward to in the year ahead: As I write this, the department is in the process of searching for a new faculty member in **History of Modern Philosophy** or **Political Philosophy**, as well as a three-year joint **CLTA position with computer science** in the **Ethics and Philosophy of Technology**. I very much look forward to welcoming these new colleagues to our department.

The year in 1–3 sentences: This past year was marked by terrific collaboration, innovation, and reflection, including various new academic and outreach initiatives. Our faculty were, as always, highly engaged in research, and shared their work both through their publications and talks at institutions and conferences around the world. Our faculty and instructors delivered a wide and impressive array of courses, including an **Advanced Seminar on the Ethics of Consciousness** and **Topics in Africana Philosophy**. It’s been a great pleasure working with such talented faculty and staff, as well as seeing our student population grow and thrive.

GRADUATE DEPARTMENT



Christian Pfeiffer
*Associate Chair, Graduate
(Director of Graduate Studies)*

A few notes about the September 2025 graduate cohort:
From a pool of more than 550 applicants, we selected an excellent 26 students to join us: 12 for the PhD program and 14 for our master’s program. Forty-six percent of the class identified as women or non-binary. The PhD students hailed from Amsterdam, Cambridge, Groningen, Princeton, the University of Reading, and U of T, while the MA students came from McGill, Regina, UBC, U of T, and Western. These students work on a wide variety of philosophical topics, complementing and integrating well into our extant graduate community.

My thanks go to **Jessica Gelber** and the members of the admissions committee for selecting a terrific group of students, and of course to all the members of our community, both graduate student and faculty, who helped with recruitment.

Notable graduate student honours:
Our graduate students continue to impress both as scholars and community members. Many of their numerous academic successes are listed in the News Highlights section of this magazine. To that we can add a solid number of published articles and conference presentations, as well as, of course, the organization of the 2025 Annual Toronto Graduate Philosophy Conference, which featured **Nancy Cartwright** (Durham) and **J. David Velleman** (John Hopkins) as keynote speakers.

A scholarly community relies on more than academic excellence; it depends equally on building strong and supportive bonds of assistance, care, and friendship. The department

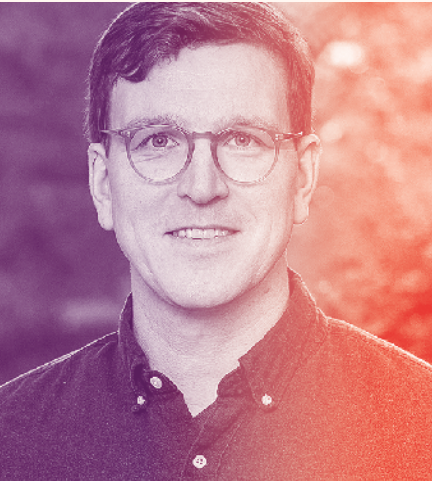
honours students who commit their time and energies to the common good with our Graduate Student Service Awards, which in 2025 went to **Faisal Bhabha**, **Josh Brecka**, **Alex Drusda**, **Zoe Leslie**, **Yi-Cheng Lin**, **Sooyoung Moon**, and **Jules Sheldon**.

Changes in the Graduate Office:
I will be stepping down as Director of Graduate Studies in July. Gwen Bradford will replace me and the graduate office will be in excellent hands!

The year in 1-3 sentences:
This was my second year as director of graduate studies, and I was made aware on a daily basis that the Graduate Office could not function without **Belinda (Piercy)** and **Evan (Drapeau)**. Their work is incredible, and I thank them for their dedication.

The 2025–26 academic year is the first year during which we are operating under the new budget model. While this has presented challenges, the Graduate Department continues to thrive. This would certainly not have been possible without the ingenuity of our chairs, **Arthur Ripstein** (interim chair) and **Martin Pickavé** (chair), but I also wish to take this opportunity to thank all the faculty members who contribute to graduate funding, as well as our graduate students who applied (often successfully) for external grants. Our graduate program could not exist in its current form without the combined efforts of its members.

ST. GEORGE UNDERGRADUATE DEPARTMENT



Mike Miller
Associate Chair, Undergraduate

Personal notes on my first year as director of undergraduate studies:
This was my first year of a three-year term serving as director of undergraduate studies. I took over from **Jim John**, and I am very grateful to him for leaving our undergraduate programs in excellent shape. I am thankful to both Jim and **Martin Pickavé** for their help in getting up to speed with all of our undergraduate initiatives. I owe special thanks to **Eric Correia**, our undergraduate administrator: the continued success of our undergraduate programs is due, in large measure, to his constant diligence.

Developments of note in the 2025–2026 year:
The Department has maintained its remarkable run of growth in recent years. Across all our programs, we have 1981 specialists, majors, and minors, and we offered 125 courses. These courses span all major areas of philosophy, many distinct

historical periods, and philosophical traditions from around the world. Our undergraduates have an enviable amount of choice between engaging courses, all with excellent instructors. We welcomed several new faculty colleagues to the undergraduate classroom in 2025–2026: **Mike Arsenault**, **Allison Balin**, **Gwen Bradford**, **Yonathan Fiat**, and **Stephen Menn** all added to our undergraduate offerings.

Notable undergraduate student honours:
The Hypatia and Spinoza Undergraduate Essay Prizes were once again awarded at our **World Philosophy Day** celebration. Both prizes are sponsored by a generous gift from our donor **Anita Angelini**. The winner of the Hypatia Prize was **Zifan Nameer** with honourable mention going to **Feiyang Andrew Xu** and **Chi Zhang**. The winner of the Spinoza Prize was **Matthew DeKock** with honourable mention going to **David Meng** and **Benjamin Carr**. The award ceremony was followed by a talk by **Paul Boghossian** (NYU).

Significant events:
A highlight of the year was our annual **Undergraduate Philosophy Research Conference**, organized by **C. Dalrymple-Fraser**. The conference had a new streamlined format and was remarkably well-attended. The keynote speaker was **Arianna Falbo** (TMU).

We also had another year’s worth of very successful high school outreach events. **Philosophy Saturday**, the professional development event that we host annually for GTA high school philosophy teachers, took place in May and was very well attended. **Regina Rini** of York University discussed themes in the philosophy of technology; **Jessie Hall** of the Institute for the History and Philosophy of Science and Technology spoke about whether the states of Large Language Model–type AI systems represent objects in the world in the

way we think our belief states do; **Meredith Scott** of Albert Campbell Collegiate Institute led a classroom demonstration of some of her teaching techniques; and our very own **Reza Hadisi** gave a talk on Descartes’s and al-Ghazali’s epistemologies.

2025 also saw the latest iteration of the **Aristotle Contest**, our popular philosophy essay contest for Canadian high school students. We had over 70 submissions, and the top essays were superb. **Yiwen (Molly) Mao** of Oakville Trafalgar High School in Oakville, ON, won first place; **Sophie Zhang** of Havergal College in Toronto, ON, won second place; and **Diksha Mehta** of W. H. Croxford High School in Airdrie, AB, won third place.

The year in 1-3 sentences:
Up to this point I have focused on success, but there have also been challenges. The prevalence of generative AI has forced us to revisit how we approach philosophy instruction. As a faculty we are having interesting discussions—both formally at teaching lunches, and informally in the hallways of the department—about how to approach assessment in the age of AI. In many cases, instructors have turned to more in-class writing and increased one-on-one discussion with students. Our instructors are meeting the challenge, often with significant ingenuity. The rise of AI has reemphasized the need for the skills that we help students to develop in our philosophy courses, and we are working actively to ensure that this happens.

NEWS HIGHLIGHTS

Learn about some major achievements by members of the department.

● Undergraduate Honours

The 2025 tri-campus undergraduate philosophy essay awards went to **Matthew DeKock** (Spinoza), for “Do External Goods Contribute to *Eudaimonia*?” and to **Zifan Nameer** (Hypatia) for “How Is Metaphysics Metaphysically Possible?”

St. George students **Max Williams** and **Salem Kakish** (Scotia Capital Markets Bursary in Philosophy), **Emily Britton** (Thomas J. Lang Scholarship in Philosophy), **Jonah Stein** (Sunflower Scholarship), **Dalia Golovco** (Dr. Danny Goldstick Award), **Yihong Chen** and **Petrina van Nieuwstadt** (Marc Yegani Memorial Scholarship), **David De Martin** (John F. M. Hunter Memorial Scholarship), **Dihan Niloy** (George Kennedy Scholarship), **Rad Fathi** (John Macdonald Scholarship in Philosophy), and **Chi Zhang** (Thomas A. Goudge Scholarship in Philosophy) were awarded scholarships for 2025.

Chi Zhang (supervised by Franz Huber) also received a 2025 University of Toronto Excellence Award (UTEA).

Two Philosophy students earned 2025–26 undergraduate fellowships at the Jackman Humanities Institute. **Kira Jensen** (UTSC) received the Zoltan D. Simo Undergraduate Award in the Humanities for her project “Rights of Nature, Wrongs of Power: The Dystopia of Eco-Constitutionalism” (supervised by Katharin Rankin). **Petrina van Nieuwstadt** (St. George) was awarded the James Fleck Undergraduate Award in the Humanities for her project “Algorithmic Conditioning, Cinematic Form, and the Data Subject” (supervised by Katherine Blouin).

Petrina van Nieuwstadt also took away the “Who’s Afraid of AI” Undergraduate Student Forum and AI Commentary Contest Award for her essay, “Why AI Needs Philosophy.”

UTM student **Faith Leung** was awarded the Seneca Prize; **Prisha Nuckchady** received the Erindale Prize; **Marisa Klassen** was honoured with the Department of Philosophy Commemorative Graduating Achievement; **Ayra Wibowo** was recognized with the Jacqueline Brunning Award; and **Eithar Abdulkareem** earned the Mississauga Prize.

Six students received honours from UTSC: The Graduation Prize in Philosophy went to **Musab Aras** and **Haylyn Fung**; **Esther Levine** and **Misha Abdul Matin** were honoured with the J. Howard Sobel Memorial Award; **Ivy Liu** earned the Katherine Nagel Philosophy Prize; and **Mariah Cartwright** received the inaugural Waheed Hussain Award.

● Graduate Honours

Kristen Beard was awarded the 2024–25 Martha Lile Love Teaching Award for her work teaching PHLB13 Philosophy and Feminism. She also received a 2025 Marc Sanders Foundation Media Fellowship for Podcasting.

Faisal Bhabha, Joshua Brecka, Alex Drusda, Zoe Leslie, Yi-Cheng Lin, Sooyoung Moon, and **Jules Sheldon** emerged as the recipients of the department’s 2025 Graduate Students Service Awards.

Jovy Chan (“Managing the Human Herd in a Digital World”) received the 2025 David Savan Dissertation Prize.

Alexander de Guzman’s essay “Outsourced Deliberation: Attention, Advertising, and the Myth of Control” received the 2025 Martha Lile Love Essay Award.

● Defended Dissertations

Kristen Beard, “How to Say Things without Words: Social Dynamics and Inferential Communication” (Cheryl Misal and Nate Charlow)

Eamon Darnell, “Second Order Axiomatic Theories of Truth” (Philip Kremer)

Greg Horne, “Realizing the World: Experience and Physics” (Bill Seager)

Liang Zhou Koh, “Knowing Together” (Jennifer Nagel)

John R. Miller, “*Wahkootowin* Ethics: A Métis Approach to the Ethics of Kinship” (Andrew Franklin-Hall)

David Rattray, “Getting Purposes in Mind” (Denis Walsh)

● Faculty Honours

Sara Aronowitz was promoted to associate professor with tenure and named a Canada Research Chair (Tier 2) for Philosophy of Learning and Memory.

Tarek Dika was promoted to associate professor with tenure.

Alexander Koo was promoted to associate professor (Teaching Stream).

Michael Miller began his term as director of undergraduate studies at St. George.

Jennifer Nagel took on the role of placement officer in the department.

Andrew Sepielli was promoted to the rank of full professor and now serves as associate chair at the UTM Department of Philosophy.

Owen Ware was promoted to the rank of full professor.

● Book Publications

Robert B. Gibbs, *What Could a University Be? Revolutionary Ideas for the Future* (UBC Press, 2025).

Franz Huber, *Causality, Counterfactuals, and Belief: More Means-End Philosophy* (Oxford University Press, 2026).

Michael Kremer and **Cheryl Misak**, *Margaret Macdonald and Analytic Philosophy in the 1930s: Unpublished Letters with Biographical and Interpretive Essays* (Oxford University Press, 2025).

Rasmus Rosenberg Larsen, *Psychopathy Unmasked: The Rise and Fall of a Dangerous Diagnosis* (MIT Press, 2025).

Carl Séan O'Brien and Sarah Klitenic Wear, eds., *Platonic Principles: Essays in Honor of Lloyd P. Gerson* (Franciscan University Press, 2025).

Aaron Segal and **Nicholas F. Stang**, eds., *Systematic Metaphysics: Historical and Contemporary Perspectives* (Oxford University Press, 2026).

● Of Further Note

Paul Boghossian (NYU) delivered the 2025 UNESCO World Philosophy Day Lecture, titled “Should We Be Moral Relativists?”

Sally Haslanger (MIT) gave the 2026 Roseman Lecture in Practical Ethics, under the title “The ‘Care Crisis’: A Systems Approach.”

Department members were treated to three colloquia this past year: **Casey O’Callaghan** (Washington University in St. Louis), “What’s to Fear in Losing a Sense?” (September 18, 2025); **Barry Maguire** (University of Edinburgh), “Socialism and the Collective Ownership of the Means of Production” (December 4, 2025); and **Mi-Kyoung (Mitzi) Lee** (University of Colorado Boulder), “Justice as a Natural Virtue in Aristotle’s Ethics” (March 26, 2026).

Yiwen (Molly) Mao from Oakville, Ontario, (1st prize), **Sophie Zhang** from Toronto, Ontario, (2nd prize), and **Diksha Mehta** from Airdrie, Alberta, (3rd prize) emerged as the winning essayists in the 2025 Aristotle Contest for high school students sponsored by the Department of Philosophy and the Ontario Philosophy Teachers’ Association.

Cara Waterfall established the Donald E. Waterfall Scholarship Fund in honour of her father, the philosopher and longtime teacher **Donald E. Waterfall** (1943–2021), an alumnus of and former sessional instructor in the department.

▼
For more news, go to <https://philosophy.utoronto.ca/news>

New Faculty Faces

Six new faculty members bring their expertise and enthusiasm to the department.



Michael Arsenault ▼
Assistant Professor

Michael Arsenault completed his graduate work in philosophy at the University of California, Berkeley. After that, he joined the TIDA Project (Text and Idea of Aristotle’s Science of Living Things) as a *wissenschaftlicher Mitarbeiter* (postdoctoral fellow) and the PONS Group (Philosophy of Neuroscience Group) as a *Lehrstuhlassistant* (roughly, assistant professor), both at the Universität Tübingen in Germany. His primary research interest lies in ancient theories of perception, especially

Aristotle’s, and he maintains an active research interest in philosophy of perception and philosophy of mind more generally. His current project focuses on perceptible qualities and the structure of the perceptible world in Aristotle.

Please tell us briefly about your research.

When I was an undergrad here at U of T, I was primarily focused on contemporary philosophy of language and mind. As I was transitioning to graduate school, I came to think that I should explore the questions in which I was interested through their history. We make all kinds of assumptions about the nature of perception and conscious experience, for example, which are supposed to be backed by the unmatched introspective access that each of us has to our own minds. But a careful investigation of the history of philosophy shows that philosophers in different times and places make completely different assumptions about the mind, backed by what is presumably the same unmatched access. So I’m interested in exploring the *differences* between the way(s) ancient philosophers, and especially Aristotle, think about the mind and the way(s) we do, in the hopes of getting some critical distance from our assumptions about the mind.

Is there something about yourself or your work that might surprise us? Maybe something you enjoy doing when not thinking philosophy?

Despite having the stage presence of a block of wood, I was in a pretty successful rock band in high school. We had a proper manager, played at many of the good venues in Toronto, etc. But when it came time to decide whether to study jazz or I knew-not-what at U of T, I decided I couldn’t

handle the late nights and buzzing ears. The band became yet more successful after they got a more charismatic bassist.

Please tell us about something you recently read, listened to, or watched/saw that had an impact and why.

I’m re-reading *Middlemarch*, which is tied for my favourite novel with *Daniel Deronda*. I really enjoy Eliot’s narratorial voice, and especially her imputations about her characters’ motivations, though I suddenly find Casaubon more alarming now that I’m a professional academic.



Allison Balin ▼
Assistant Professor (CLTA)

Allison Balin works in epistemology and ethics. She is particularly interested in rationality and the normativity of rationality. Among other topics, she thinks about permissivism, epistemic standards, and higher-order evidence.

She also thinks about the limits of blame, particularly in cases of prudential blame, or the sort of blame we ascribe when someone suffers as a result of their own imprudence.

Please tell us briefly about your research.

My research is in epistemology and, more recently, ethics. One recurring theme in my research is epistemic standards and whether (and how) they might be normatively binding for a rational agent. There’s a popular position in epistemology that relies on this idea that something about me could make it rational for me to think one thing, but something about you

could make it rational for you to think something different, even if we have all the same evidence. I am interested in whether there’s any reasonable way to make sense of the supposed normatively binding power of epistemic standards, and whether views that rely on epistemic standards could be right. My own feeling is that there’s no easy way to make sense of such positions. More recently, I’ve gotten interested in meta-normativity more generally, and whether anything “standard-like” (for instance, dispositions, preferences, or the like) could be normatively binding in other domains (such as the practical or the moral).

Another strand of my research concerns blame, with a special focus on prudential blame. Sometimes when people act imprudently, we do something that looks a lot like blaming them. Imagine that someone is running late for their flight because they didn’t plan their time appropriately. We might blame them for this. I’m interested in the relationship between moral blame and prudential blame, the ways in which they are wrongly presumed to be related (especially in popular discourse), and how this bears on issues related to victim blaming.

Is there something about yourself or your work that might surprise us? Maybe something you enjoy doing when not thinking philosophy?

I’m a huge fan of Bob Dylan, and I’ve seen him play six times since 2011: twice in Philadelphia, twice in Boston, once in New York, and once in Raleigh.

Please tell us about something you recently read, listened to, or watched/saw that had an impact and why.

I recently rewatched the 1983 film *El Norte*. It tells the story of a brother and sister—Indigenous Mayans—who flee Guatemala due to the persecution and murder of the Maya during the

Guatemalan Civil War. The film follows them as they make a gruelling and horrifying journey from Guatemala, up through Mexico, and finally to the United States. It’s hard to capture what’s so striking about this film, but perhaps it’s the combination of how unassuming, tragic, and cinematically beautiful it is. There’s a feeling that there’s nowhere they’re allowed to be, and nothing in their power to be done about it. I first saw this film more than 15 years ago, and it has always stuck with me. I recommend it to anyone who hasn’t seen it.



Yonathan Fiat ▼
Assistant Professor

Yonathan Fiat works mainly in epistemology, especially in connection with the philosophy of science and with decision theory. Before joining U of T, he received his PhD from the MIT department of linguistics and philosophy.

Please tell us briefly about your research.

I spend my time thinking about knowledge, rationality, the foundations of statistics, and how they are related. One of the main questions I’m exploring is how what we *do* affects what we *know*. It’s uncontroversial that our actions affect what we see and hear, and so what evidence we have, and

New Faculty Faces

ultimately, our knowledge. On most views, this is the only way in which our actions affect our knowledge. After all, we think that people who disregard the evidence and simply believe what they want are not particularly admirable.

I suspect that this is too quick. Here's a simple example: according to a view called *predictivism*, predictions play a special role in scientific theory. According to this view, if I use a theory to make a successful prediction, it supports the theory more than if I had instead designed the theory to fit the data. What I find most interesting about this view is that it gives us some amount of voluntary control over what we're justified in believing. By choosing which theory to use to make predictions, we can actively change what we should believe.

Is there something about yourself or your work that might surprise us? Maybe something you enjoy doing when not thinking philosophy?

I absolutely love the reality TV show *The Traitors*. I have a secret dream to teach an epistemology seminar about it. Epistemologists have been thinking for a long time about *common knowledge* and how it's related to questions of communication and cooperation. But those discussions are often very dry. *The Traitors* is a kind of real-life study in shared and private knowledge and how they affect behaviour.

Please tell us about something you recently read, listened to, or watched/ saw that had an impact and why.

I recently read *Piranesi*, Susanna Clarke's 2020 book, and enjoyed it tremendously. I don't usually look for impact when reading, but this book had an almost therapeutic effect on me. As many readers have noted, *Piranesi* can be read as an allegory for life under the COVID-19

lockdowns. It was a very stressful period for me (and for many others), and the book helped me gain a new perspective on it.

I also find the story of its publication inspiring. Clarke's previous book, *Jonathan Strange & Mr Norrell*, came out in 2004, and it took her more than 15 years to publish her next book. The result was well worth the wait, and it's a nice reminder that it can take a long time to produce meaningful work.



Stephen Menn ▼
Michael and Virginia Walsh Chair in the History of Philosophy

Stephen Menn is the inaugural Michael and Virginia Walsh Chair in History of Philosophy. His main areas of research are ancient Greek philosophy (with current projects in Aristotle, in the pre-Socratics, and in neo-Platonism), medieval Arabic and Latin philosophy, and the history and philosophy of mathematics. Dr. Menn also forms part of the graduate program in classics at U of T and maintains links with Humboldt University in Berlin, where he held a regular chair between 2011 and 2015, and is now an honorary professor of philosophy and a member of the faculty of the graduate program in ancient philosophy.

Please tell us briefly about your research.

I work mainly on ancient Greek philosophy and the different Greek sciences (especially the mathematical disciplines, a little bit on medicine, also *grammatikê technê*, the science of language applied to correcting and interpreting the texts of the poets), and then developments from Greek philosophy and science in the medieval Arabic- and Latin-writing worlds. In Greek philosophy I am especially interested in how Aristotle tries to develop various domains of philosophy into what he thinks of as "sciences," building on, criticizing, and correcting ideas from Plato and the pre-Socratics and trying to make them live up to his own ideal of science; and I'm interested in how the other side can respond to Aristotle's criticisms, and in particular in how later Platonists do respond to his criticisms of Plato. Much of my work takes the form of trying to understand the overall aim of some text and how the arguments of each particular part of the text function in support of that aim. I have a very long study of this kind on Aristotle's *Metaphysics*, in a draft available on my Berlin website, and similar shorter studies of, for instance, the *Analytics*, *Physics*, and *De Anima*.

I am also deeply interested in how later philosophers interpret, criticize, or defend earlier philosophers, often in the form of commentaries. In Arabic I am interested not just in people who call themselves *falâsifa*, using a Greek-derived word because they think of themselves as continuing some Greek philosophical school, but also in Islamic disciplines such as *kalâm* and sufism, and how these different ways of thinking rival each other or refute each other or make positive use of each other's results. In the Islamicate world I am interested not just in Muslim but also in Jewish and Christian authors, and recently I have been studying texts in Syriac, the original language of two of the main Christian communities.

I am also interested in the history of mathematics down to the present and in philosophical reflection on it; maybe my most basic philosophical interest is in how and under what conditions the different sciences were able to happen at all and to make progress. I also have serious interests in Indian philosophy and in Greek poetry: when I teach in classics, it is more usually Greek poetry than Greek philosophy, although sometimes I make connections.

Is there something about yourself or your work that might surprise us? Maybe something you enjoy doing when not thinking philosophy?

I got a PhD in mathematics 40 years ago, and I have kept on working on mathematics, although in ways that would be hard to do in a math department, both because I work very slowly and because I work on old-fashioned areas, far from what most mathematicians would see as the cutting edge. I've been working for a long time on a project starting from a 19th-century theorem in Euclidean geometry, Feuerbach's theorem (he's the brother of the philosopher!)—it's very easy to state, but at first glance it looks like it must be false, and when you've satisfied yourself that it's true, it's such a simple statement that it looks like there must be some obvious reason why it's true. But apparently there isn't. There are lots of proofs, but they all seem to work by magic—they don't seem to explain *why* the theorem is true, so people keep coming up with more proofs, literally hundreds. Some of the proofs prove generalizations of the theorem, which might be explanatory, except that the generalizations too are proved by magic, and they create a further *explanandum*: why should the same result be a special case of several very different generalizations, so different that it seems they couldn't have a common generalization? You can think of this as a problem about

the principle of sufficient reason: Do we have a right to demand, not just a proof of a theorem, but an explanatory proof? And what makes a proof explanatory (or more explanatory)? It turns out that there is a common and explanatory generalization, but it isn't a statement in Euclidean geometry: the different generalizations can only be brought together in a higher theory, the algebraic geometry of singular cubic surfaces in projective 3-space, in turn partly explained by the geometry of the Veronese quartic surface in 5-space. After decades of doing this on the back burner, I think I mostly know the answer, but there are still new surprises.

Please tell us about something you recently read, listened to, or watched/ saw that had an impact and why.

Three books I read and found inspiring last term. (1) Andrew Laird's *Aztec Latin*, on Spanish and native Mexican scholars at the college of Santa Cruz de Tlatelolco in the 16th century and their role in the writing both of Mexican Latin literature and of classical Nahuatl literature. (My stepfather taught Nahuatl; I read the language and am seriously interested in the literature and culture.) (2) Our former classics colleague Regina Hörschele's book (in German) on the development of Greek epigram and especially on the idea of a *book* of epigrams, either all epigrams written by a single author or a single author's collection of earlier epigrams with his own imitations or responses. (3) Benjamin Nathans's history of the Soviet dissident movement, *To the Success of Our Hopeless Cause*. The moment I found most inspiring was when, in 1970, Brezhnev and Kosygin and Andropov decide they need to summon Sakharov for a conversation to persuade him to give up his "immature and harmful" political activities. They never actually do it, because each of them is terrified of a one-on-one conversation with Sakharov. It's close to what Plato says about people who seem powerful and

confident but are terrified of being questioned and having the coherence of their views tested.



Jason Stanley ▼
Professor

Jason Stanley joined the department in the spring of 2025 in a high profile move from the United States due to its political climate after the second presidential election of Donald Trump and following his attacks on American universities. While Dr. Stanley's main areas of research are epistemology, philosophy of language, and political philosophy, he is also the author of seven books that have been translated into 25 languages. He is known for his work on authoritarianism, including the *New York Times* bestsellers, *How Fascism Works: The Politics of Us and Them* (2018) and *Erasing History: How Fascists Rewrite the Past to Control the Future* (2024). Dr. Stanley is also the Bissell-Heyd-Associates Chair, American Studies, at the Munk School of Global Affairs & Public Policy and is a distinguished professor at the Kyiv School of Economics in Ukraine. Prior to joining U of T, Dr. Stanley was a professor of philosophy at Yale for 12 years and held faculty positions at Rutgers University, the University of Michigan, and Cornell University.

New Faculty Faces

Please tell us briefly about your research.

I am lately working in social and political philosophy of language. It's the subject of my 2023 book with Princeton University Press, co-authored by David Beaver, *The Politics of Language*. It's a remaking of the theory of meaning and linguistics to centre social and political speech, which is not merely about information, but also about affect, emotion, and practices. So generally, I'm a philosopher of language and an epistemologist.

I published two books in epistemology and multiple books in the philosophy of language. I also range widely across disciplines. *The Politics of Language*, that 2023 book, was reviewed in *MIND* and *Ethics*: *An International Journal of Social, Political, and Legal Philosophy*, two of the top philosophy journals, and it was reviewed in the top political science journal, *Perspectives on Politics*, and it was reviewed in *Language*, which is the main journal for linguistics.

So as far as I know, it's the only book that's ever been reviewed in those three different disciplines. And it gives you a sense that it's relevant for ethics, it's relevant for political science, it's relevant for linguistics, and it's relevant for metaphysics and epistemology. That sort of reflects my work, which is broad ranging across multiple disciplines—technical philosophy of language, epistemology, social and political philosophy, and cognitive science. I've published work even in the field of neuroscience.

I don't like to be specialized. I don't like to play within one discipline. I think I approach questions not by a discipline but by the question. When I wrote my 2015 book, *How Propaganda Works*, I asked myself

what is propaganda and how does it work? And you can't be constrained to philosophy to do that. So I've switched to asking questions rather than working within a discipline. And when you ask questions, that's an essentially interdisciplinary thing.

I've also asked the question: what is fascism? I've looked at the processes of erasing history, as in my last book from 2024, *Erasing History: How Fascists Rewrite the Past to Control the Future*. So lately my research is about authoritarianism and how it works. I draw on all sorts of sources: how authoritarian politics works, the speech involved, the epistemology of authoritarianism, and the structural features of authoritarianism.

Is there something about yourself or your work that might surprise us? Maybe something you enjoy doing when not thinking philosophy?

I'm a half-time single parent, so I spend half the time with my kids—I just put aside everything and spend time with them. I read them philosophy—I've read them *The Republic*, "The Phaedo," "Euthyphro," and now I'm reading them Aristotle's *Politics*.

I'm also with my 11-year-old at his basketball practices. I try to work half the time and half the time I focus all on my children. They come with me during the summer when I go to Europe for talks.

Please tell us about something you recently read, listened to, or watched/saw that had an impact and why.

I've recently read Molly Crabapple's book, *Here Where We Live is Our Country*. It's a book about the Jewish Bund, which was a movement in Eastern Europe, a labour movement that held up universal values. They were socialists. They were devoted to resisting anti-Semitism, but they

viewed their calling as universal. And they fought Zionists. They were fundamentally committed to "here-ness," that they belonged where they are. They wouldn't say we should go out of Canada because it's too anti-Semitic; they would fight anti-Semitism in Canada. But they also viewed themselves as defending all oppressed people. They did not think that Jewish people should go and live just amongst each other. They were devoted to a universal mission.

And so what Crabapple is doing in that book is she's saying there's a long tradition of Jewish leftism, of Jewish non-Zionism. I wouldn't say anti-Zionism, but non-Zionism. And it was just as powerful as the Zionist movement. And in fact, Canada has a great tradition of that—because federal NDP leader Avi Lewis, his father Stephen Lewis, and their grandfather who started the NDP, David Lewis—they're all descendants. The UJPO (the United Jewish People's Order) in Toronto is celebrating its 100th anniversary. And that's the Bund. Morris Winchevsky—he founded the *Jewish Forward* in the United States—he was a Bund member.

Crabapple provides a foundation of Jewishness that is not connected to Israel and is connected to the values that I associate with Jewishness. And since I'm Jewish, and so many of the Jewish institutions tie Jewish identity essentially to Israel, what she is saying in this book is this is a very new thing. It doesn't have to be this way. We can be Jewish where we are. So, I think it's a very powerful book that gives an identity to many Jewish people that they didn't know they could hold in institutions. The institutions don't want you to be or to say you're Jewish unless you think of Israel as your second home. So I think it's just a very powerful thing for Jewish people like me and my children.



Christian Tarsney
Assistant Professor

Christian Tarsney works mostly in ethics, with a focus on ethically motivated decision-making under conditions of uncertainty. He is interested in questions like how much weight we should give to tiny probabilities of extremely good or bad outcomes, how to deal with uncertainty about basic moral principles, and how to make choices that affect (or might affect) the size of the future population. He also recently started thinking about philosophical questions related to artificial intelligence, such as what it means for an AI system to be "deceptive," and whether there is a natural tendency for AI agents to engage in power-seeking behaviour.

Please tell us briefly about your research.

Most of my research to date has been in ethics and ethically motivated decision theory. My dissertation was about what to do when you're uncertain about basic moral principles (e.g., Kantianism vs. utilitarianism)—a topic that our colleague Andrew Sepielli played a huge role in putting on the agenda in the early 2010s! Since then, I've worked on population ethics and on "extreme

risks" (roughly, situations involving small probabilities of extremely good or extremely bad outcomes), among other topics. A distinctive feature of my work is that on the one hand, it's very theory-driven (I'm inclined to think that the basic normative truths are simple and general), but on the other hand, it spends a lot of time working out the implications of those abstract theoretical ideas for real-world "applied ethics" questions (the ultimate point of ethics, in my mind, is to figure out *what to do* in important practical contexts, e.g., how to handle trade-offs between the present generation and the long-term future). In the past couple years, I've also started working on philosophical questions connected with AI. I'm still feeling my way into the area, figuring out where I can contribute. But it seems likely that AI will profoundly transform human civilization over the coming century (or less) in ways that could be very good or very bad (or somewhere in between), and it would be great if philosophers could help steer those transformations in a positive direction.

Is there something about yourself or your work that might surprise us? Maybe something you enjoy doing when not thinking philosophy?

I started grad school fully intending to become a philosopher of time! I got fascinated, as an undergrad, by the *temporal value asymmetry* (or bias toward the future), the fact that we care more about our future experiences than our past experiences, and so prefer positive experiences to be in the future and negative experiences to be in the past. I thought I'd spend my PhD years figuring out once and for all whether those attitudes can be justified, and how, if at all, they're connected to the idea that time "passes" or "flows" in a past-to-future direction. But I ended up shifting focus to ethics around my

third year. I've written or co-written a few papers on the temporal value asymmetry over the years, but I never felt as though I could get any real traction on the central philosophical questions I was originally gripped by. Maybe some day!

Please tell us about something you recently read, listened to, or watched/saw that had an impact and why.

Harvey Lederman's essay "ChatGPT and the Meaning of Life" comes to mind. It's a beautifully written, thoughtful reflection on how we'll find meaning and purpose in a world where AI can do everything better than we can. I'm assigning it in my AI Ethics course this term. It prompted me to think about whether my main motivation as a philosopher is to push forward the frontiers of inquiry and add something *new* to the world, or whether I'd be happy merely trying to understand ideas that others (human or AI) have created. I'm not sure!

We were also pleased to have several new part-time Assistant Professors, Teaching Stream joining us in 2025–26: **Kristen Beard** (UTSC), **Andriy Bilenkyy** (St. George), **C Dalrymple-Fraser** (St. George), **Matthew Delhey** (UTM), and **Zain Raza** (UTM).

Brian Cantwell Smith
1950–2025



Brian Cantwell Smith, a professor and former dean of the Faculty of Information, cross-appointed to the department of philosophy, passed away peacefully on September 6, 2025. Born in 1950 into a prominent Canadian family known for both its intellectual achievements and its record of public service, he grew up in Canada, India, and the United States. Smith found his calling in the ontology and epistemology of artificial intelligence systems, emerging fields where he could shape the future while staying true to the family traditions of scholarship and commitment to the public interest.

Prior to coming to U of T, Smith was a professor of cognitive science, computer science, philosophy, and informatics at Indiana University, and then the Kimberly J. Jenkins University Distinguished Professor of Philosophy and New Technologies at Duke University.

Smith held U of T’s Reid Hoffman Chair in Artificial Intelligence and the Human from 2018 until his retirement in August 2025. He had cross-appointments in philosophy, computer science, cognitive science, and at the Institute for the History and Philosophy of Science & Technology. As dean, Smith drew on philosophy, computer science, and psychology to redefine what an Information School could be, transforming the small, library-focused faculty into a dynamic interdisciplinary centre.

Smith also contributed to the public discourse on AI. In his 2019 book, *The Promise of Artificial Intelligence: Reckoning and Judgment* (MIT Press), he argued that AI was unlikely to become capable of a particularly human quality involved in intelligence, which he called “judgment” and defined as a form of “deliberative thought, grounded in ethical commitment and responsible action, appropriate to the situation in which it is deployed.”

Smith contrasted this ability to judge with reckoning, which, in the philosophical sense of the word, means calculating. While he acknowledged the startling calculation-based results that can be achieved with current machine learning and large language models, he maintained that judgment is not simply a way of processing the world, but that it emerges from a particular relationship to the world that machines do not have. A system with judgment, Smith declared, must be able not simply to process but also to “care about what it is processing.”

On this, Smith parted company with his good friend, the Nobel laureate and University Professor Emeritus of computer science at U of T, Geoffrey Hinton. “We completely disagreed on the nature of intelligence. And we had a lot of fun arguing about it,” said Hinton. “We had very friendly arguments because Brian was incredibly intellectually generous.”

His profound insight, matched with wit, engagement, and generosity, will be deeply missed not only by those who knew and loved him, especially his partner of 26 years, Dr. Gillian Einstein, but within the fields of philosophy and technology at large.

Tashi Alford-Duguid
1990–2025



Tashi Alford-Duguid, an alumnus of the department of philosophy, died on November 14, 2025, from a brain tumour diagnosed in August 2021. Until his last year, he worked as a lawyer and human rights advocate, first as a staff lawyer at the Canadian Civil Liberties Association, and later as a clerk at the South African Constitutional Court. He completed two degrees at the University of Toronto—an undergraduate degree in philosophy and ancient Greek in 2013, and a master’s degree in philosophy in 2015—followed by law school in Ottawa.

During his time in the department, Tashi discovered a gift for teaching that would later serve him well as a lawyer. He began teaching early, as part of the Socrates Project, in which promising upper-year undergraduates serve as peer teaching assistants for an introductory philosophy course, and he continued on this path as a graduate student. His students loved his gentle humour, his easy empathy, and his seemingly effortless ability to communicate complex material with patience and clarity.

These skills were prized by his law school professors, and later his colleagues in the law. Tashi discovered that oral arguments ought to be approached as teaching exercises. Judges became his students, and he brought them along with the same light touch and intellectual confidence that marked his teaching.

Tashi’s attraction to law originated in a conviction that the law made for an appropriately practical tool with which to pursue the ideals and ideas that grew from his philosophical interests, such as questions about discrimination, and about the nature and limits of political authority. This would shape his professional preoccupation with administrative law and broader issues concerning privacy and rights to healthcare and housing. He would eventually co-author a scholarly article called “Privacy at the Limits of Control” in *Criminal Law and Philosophy*.

Brain tumours are terrifying and implacable killers, yet Tashi refused to be intimidated, finding amusement and interest where others saw only catastrophe. On being told that the initial surgery would impair his arithmetical abilities, he laughed and asked whether the removal of the malignancy would also grant him some cognitive superpowers! His oncologists did not know what to make of him, or his dismissal of what he dubbed the “suburbs” of his brain.

Tashi was someone who inspired deep attachment. As his condition deteriorated, and his world became increasingly small, he was sustained by the regular company and conversation of his many friends and family. When hospitalization finally became inevitable, dozens and dozens of friends camped out at the hospital every day for almost three weeks.

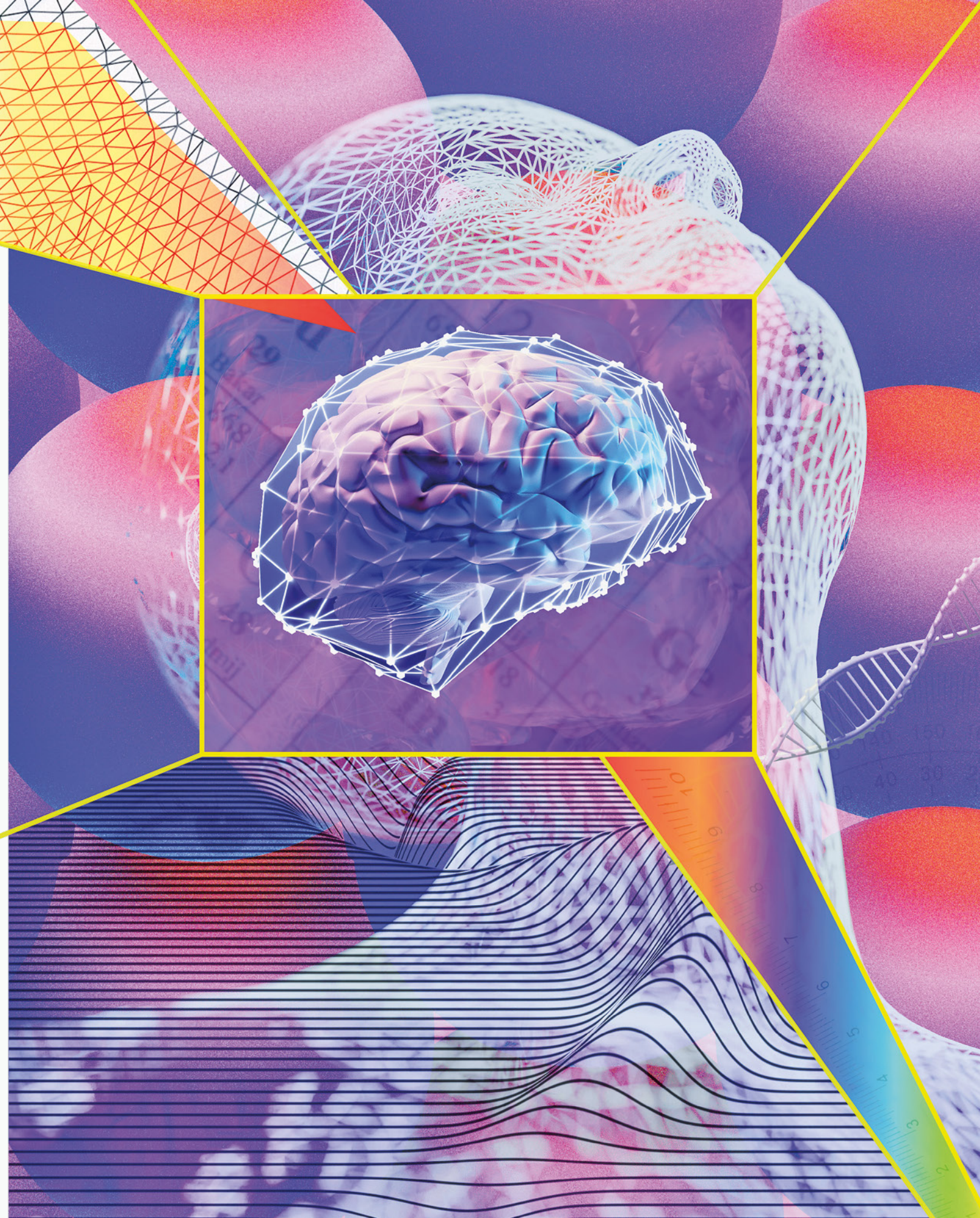
Tashi will be deeply missed for his wit, compassion, and capacity for strikingly original and careful thought. The world is a darker place without him.

ON THE FUTURE *Of* CONSCIOUSNESS

—by **Andrew Y. Lee** ▼

*Solving the puzzle of
consciousness depends on
contemplating both essence
and structure through the
right kinds of questions.*

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An invitation to speculate
What might state-of-the-art consciousness research look like a century from now? Any answer to this question will, of course, prove a matter of speculation. But I want to invite you to speculate with me—even if only for a moment.

This piece means to articulate the direction I believe to be the most promising for the future of consciousness research. The field is moving forward, with great momentum, at an accelerating pace. But where will we eventually land if we simply follow the current trajectory? While consciousness research is flourishing, I suspect our theories today may be merely rough outlines of a more developed science of consciousness to come.

The field of consciousness research remains in its early stages; it has yet to find its Newton or its Darwin. We likely still have to discover the most exciting ideas. And while we cannot yet know their exact form, we can still ask which questions we should pursue today to give ourselves the best chance of reaching those discoveries.

I'll offer an answer. But I'll start with another question.

The big question

Commentators often portray consciousness as a great mystery, framing the field of consciousness research as the endeavour to solve that mystery. At the heart of the mystery lies the following question:

THE BIG QUESTION
What is consciousness?

In other words: What makes it the case that there's something it's like to be a creature? What grounds the fact that an entity has a subjective

Original illustration incorporating images by Maxim Berg and AC, Getty Images/Unsplash+



point of view? What is the ingredient that separates conscious states from unconscious states? Each of these smaller queries expresses a version of the big question.

The big question exerts immense influence on how the field is framed. Those who talk about “solving consciousness” typically mean answering the big question. Those who claim that we “lack a definition” of consciousness usually mean that we haven’t yet answered the big question. Those who speak of *the* question of consciousness—as though the subject matter of the field could be distilled to a single problem—often have in mind the big question.

You might be thinking: But what *else* could there be to consciousness research? Isn’t it obvious that the aim is to explain what consciousness is? I agree about the importance of the big question, and that it belongs at the core of the field. But I think the conceptual weight of the big question often distorts how people think about the scope and target of consciousness research.

The big question offers an example of an *essence question*—a question about the underlying nature of a kind. Other examples include classic questions such as *what is water?* *What is heat?* *What is light?* These questions ask what it is in virtue of which something counts as a member of a kind or an instance of a phenomenon. The answers to essence questions can often be expressed with simple identity statements, such as *water is H₂O*; *heat is molecular motion*; and *light is electromagnetic radiation*.

Similarly, a “big answer” will be expressible in the following form:

THE BIG ANSWER
Consciousness is _____.

A big answer tells us where to draw a line in reality, dividing the conscious entities from the nonconscious entities. If we know the big answer,

and if we can determine whether an entity has the property that marks that divide, then we will be able to tell whether that entity is conscious.

The big question is important. It's one of the hardest questions in science, and it connects to some of the deepest issues in philosophy. It deserves, in my opinion, to play a prominent role in consciousness research. But the study of consciousness is not simply the search for the big answer.

Suppose we suddenly discover the big answer. Imagine that we establish beyond reasonable doubt that to be conscious is to have property X. Substitute whatever you like for "X": having a global workspace, higher-order awareness, a maximal amount of integrated information, recurrent feedback loops, an immaterial soul, etc. Would we then have arrived at the end of consciousness research?

Not quite, and not yet. Even if we were to find the big answer, many questions about consciousness would remain open. The big answer would help us determine *whether* a given entity is conscious, but it wouldn't tell us *what it's like* to be that entity. It's one thing to know *which* things are conscious; it's another thing to understand the different *ways* in which something can be conscious. The big answer marks a dividing line between conscious entities and nonconscious entities, but it wouldn't tell us how to map the space on the conscious side of that divide.

As an example, think about conscious artificial intelligence. To determine whether artificial consciousness is possible at all, we need to make progress on the big question. But even if we knew that certain artificial systems are conscious, many questions would remain unsettled. What are the experiences of artificial systems like? How do they differ from human experiences, and how do they differ from each other? Could we ever grasp the experiences of artificial systems with radically different cognitive architectures?

Settling the big question would mean a massive step forward. It would resemble in scope discovering the nature of water, or heat, or light. But while finding the big answer would solve a major mystery, it would still leave many questions open. The big question is only one piece of the puzzle. How should we think about the other pieces?

From essence to structure

The big question, as I mentioned, constitutes an essence question. You might then wonder: what role have essence questions played in other fields of inquiry?

A natural place to look is in our most successful sciences. When we consider the great natural sciences—physics, chemistry, and biology—or even more recent fields, such as linguistics and computer science, it's evident that they do much more than simply answer essence questions. Most active research projects in contemporary science aren't naturally framed as "What is X?" questions. The centres of gravity in cutting-edge inquiry lie elsewhere.

It's useful to contrast essence questions with what I'll call *structural questions*. These questions concern modelling, mapping, measurement, and mechanisms, rather than underlying natures. Some examples of structural questions include: *How do we model fluid dynamics? Which measurement scale is isomorphic to the range of temperature values? Is light continuous or discrete?*

Structure, in the most general sense, deals with the features that can be wholly captured through mathematical descriptions. Structural questions might concern the space of possible states of a system, the dimensions along which members of a domain vary, the parts into which an object can be decomposed, or the relations that a kind bears to other kinds. Structure is a matter of form—differentiation, composition, variation, pattern, quantity—rather than intrinsic nature.

WHAT ARE THE EXPERIENCES OF ARTIFICIAL SYSTEMS LIKE?

Now here's a striking, though speculative, hypothesis: *As a scientific field matures, its focus tends to shift from essence questions to structural questions.*

Take chemistry. The science of chemistry does much more than answer essence questions, such as *what is water?* Or *what is gold?* In fact, one of its most significant breakthroughs, the construction of the periodic table, was a discovery that systematized relations between chemical elements.

This pattern recurs in other fields. State-of-the-art scientific research tends to focus on structural questions. That doesn't mean that essence questions vanish entirely. New essence questions arise (*What is dark matter?*) and old ones return in new forms (*What is intelligence?*). Over time, however, the most foundational essence questions tend to migrate from science to philosophy (*What is life? What is computation?*). And in later stages, the essence questions that remain active (*What is working memory? What is quantum entanglement?*) are typically accompanied by a suite of structural questions.

The pattern that emerges is a transition from essence to structure. I believe this pattern may hint at the direction most promising for the future of consciousness research.

The structure of consciousness

Conscious experiences are richly structured. Think about how perceptual experience can be decomposed into different sensory modalities (vision, audition, olfaction, etc.); how colour experiences vary in dimensions corresponding to hue, saturation, and brightness; how pain experiences come in different magnitudes; and how spatial experience decreases in acuity from the centre of one's visual field to its periphery.

As a case study, consider colour experience. It's a simple but powerful observation that colour experiences stand in systematic structural relations to each other. For example, red is more similar to orange than to green. These similarity relations can be mapped onto a quality space model—a geometric representation of a domain of qualities. More similar colour qualities are modelled by points that are closer in the geometric space, and the dimensions of the space represent ways of varying with respect to colour.

To study the structure of consciousness in effect means mapping the state space of conscious experiences. There's a vast realm of possible experiences—human, animal, artificial—and we directly access only a tiny corner of that space. To answer the big question—to find the essence of consciousness—means identifying the universal property that unites this whole space. But the aim of consciousness research is not only to figure out what's common across all conscious entities but also to analyze the structure of this space.

Structural questions about consciousness won't be settled simply by finding the big answer. Even if we know which things are conscious, we won't necessarily know how the experiences of one conscious system relate to the experiences of another, how to carve experiences at their natural joints, how to decompose conscious experiences into parts and dimensions, or how to model them mathematically.

The structure of consciousness will also prove key in the search for the neural correlates of consciousness. A central aim of consciousness research is to find systematic mappings between brain states and conscious states. But to have any hope of identifying those mappings, we need a better understanding of the structure of conscious experiences themselves.

Would we have to settle the big question before studying the structure of consciousness? Well, the history of science tends to tell a different story: we often answer essence questions only by making progress on structural ones. For example, the nature of genes became clear only after the discovery of the double-helix structure of DNA, and the equations of thermodynamics led to the discovery that heat is molecular motion. Perhaps the story of consciousness will follow a similar arc.

Towards the future

I began by asking what the future of consciousness research might look like. I've now offered a speculative answer by extrapolating a pattern from the history of science. If consciousness research is to follow the arc of the most successful sciences, then its future will lie not only in asking what consciousness is but also in mapping and modelling its structure. That's the pattern that recurs across the history of science—and it may well be the most promising path for the future of consciousness. 🌟

● **Andrew Y. Lee** is an assistant professor of philosophy at the University of Toronto Scarborough who is interested in the structure of consciousness. His work examines how structural concepts, such as degrees, dimensions, continuity, discreteness, parts, wholes, isomorphisms, and state spaces, can be applied to conscious experiences. Some of his work can be described as "mathematical phenomenology." He also works on philosophical questions about welfare and value; introspection, perception, and attention; analogue and iconic representation; and infinite sums. His areas of research cut across mind, ethics, metaphysics, epistemology, language, science math, and cognitive science.



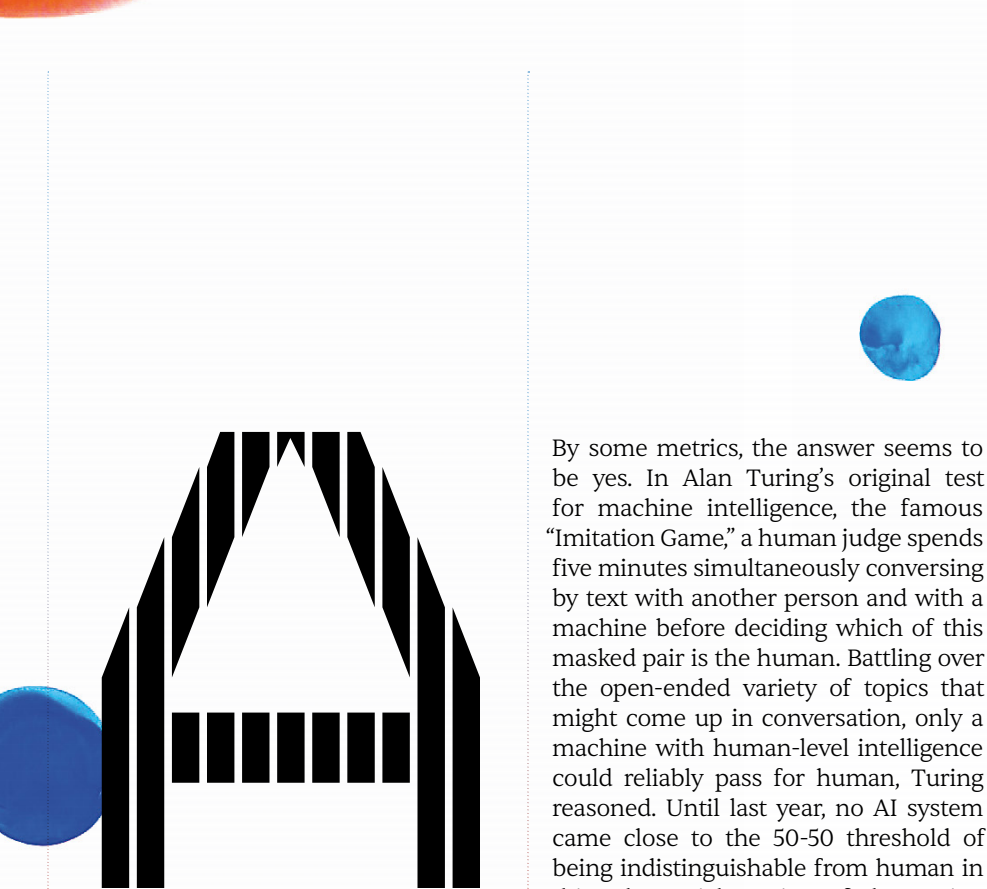
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*An epistemologist looks
closely at what goes on
when we talk to each other*

CONVERSATIONS WITH MACHINES, AND WITH EACH OTHER

—by **Jennifer Nagel**



rtificial intelligence (AI) is gaining on us. Thirty years ago, traditional symbolic AI was already strong enough to beat the best human chess player; these days, neural network AI defeats us across the full range of strategic games. It has been more than a decade since AI became superhuman at subtle perceptual tasks such as face recognition. For a while, it seemed that mathematics would put up some resistance: arithmetical word problems designed for 12-year-olds proved oddly difficult for AI, at least until recently. But in 2022, chain-of-thought reasoning systems started solving those problems by breaking them down into steps, and just two years later, Google's neuro-symbolic hybrid AI reached silver-medal status at the International Mathematics Olympiad. Last year, they took the gold. We seem to be running out of trophies.

Scanning the horizon for a domain in which human intelligence might still have an edge, one puzzle case is the domain most heavily frequented by casual users of AI: conversation. When people chat with AI, as more than 800 million now do every week, are they encountering something that is already better at it than we are?

By some metrics, the answer seems to be yes. In Alan Turing's original test for machine intelligence, the famous "Imitation Game," a human judge spends five minutes simultaneously conversing by text with another person and with a machine before deciding which of this masked pair is the human. Battling over the open-ended variety of topics that might come up in conversation, only a machine with human-level intelligence could reliably pass for human, Turing reasoned. Until last year, no AI system came close to the 50-50 threshold of being indistinguishable from human in this adversarial version of the Turing Test. But in 2025, researchers at UC San Diego found that GPT-4.5 had broken the ceiling: scarily enough, it now outperforms humans at coming across as one of us, winning 73 percent of its head-to-head contests against real people. Judges fooled by GPT-4.5 described it as having "human vibes," and said that "something about the way [it] answered my questions made me feel like I was talking with a genuine, real person." The actual humans in these matchups paled in comparison, faulted by judges for sounding more like imitators and for giving unhelpfully vague answers.

My current research project started with the unhelpfully vague sense that there is something about conversation that AI is still missing. Pinning it down has proved difficult. Of course, there is more to good conversation than getting a swift impression that you are talking to a person, but AI seems to have us beat in various other ways as well. With its pre-trained expertise across a massive range of topics, generative AI can pivot seamlessly from discussing subtle questions of Sanskrit translation to talking you through the installation of your thermostat. It can switch styles effortlessly, automatically matching

your tone, or delivering, on command, anything from slang to sonnet. Newer, state-of-the-art "foundation models" are trained on audiovisual as well as textual input: having ingested millions of movies, podcasts, and videos—alongside virtually every book available online—they are remarkably capable of catching your most obscure allusions, following up with relevant observations of their own if you learn to prompt them well. Of course, not everything they say is true, but human conversationalists can let you down that way too.

Still, there's a crucial dimension of human conversation that generative AI has yet to reach: the natural purposiveness of our interaction. When humans talk to each other in real time, we aren't just taking turns saying things. We are trying to get through to each other, to figure things out together, to make each other laugh, to achieve something. What we achieve is not necessarily practical: empirical studies of conversation suggest that only about 10 percent of our conversational time is instrumental in character, taken up with solving tasks like giving directions or making lunch plans. The other 90 percent of conversational time has no clear connection to action; some call it "intrinsically motivated," others, "idle gossip." Something about this activity proves highly attractive to us: on average, humans spend about a quarter of their waking hours in this kind of conversation, and while some of us are more talkative than others, almost no one takes a vow of silence.

My recent work has been tracing the relationship between the magnetic character of free-range conversation and two core forms of intrinsic motivation: *curiosity* (the desire to expand knowledge) and *efficacy* (the desire to expand competence). Conversation of

"WHEN HUMANS TALK TO EACH OTHER IN REAL TIME, WE AREN'T JUST TAKING TURNS SAYING THINGS."

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"YOU NEVER
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ON ANOTHER
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the kind you naturally fall into when hanging out with friends dovetails neatly with these deep human drives, generally producing mutual satisfaction in participants. It effectively engages exploratory learning, while also pushing us to exercise our cognitive strength on each other. When something big happens, we can't wait to talk to others about it, to tell stories that will have an impact, to update the shared picture of the world held by the group. Ideally, we end up achieving common ground with each other, combining our cognitive powers through conversational interaction. This natural function of conversation stabilizes it for us, conferring equal value on the roles of speaker and hearer by nourishing both sides with increasing knowledge and power to navigate our shared reality.

One of the strangest features of free-range conversation is how easy it feels. Foundation models have shone a new light on the sheer weight of computation needed to produce realistic conversation, and yet chatting with friends does not feel like solving a difficult computational task: it feels effortless. In part, this comes from humans spending so much time in conversation that its basic rules are automatic for us, and we develop an intuitive sense of what others will and will not know. Conversing with old friends somewhat resembles driving a well-travelled route, where autopilot can take over low-level decisions, leaving conscious attention free to focus on what is most interesting. The ease of human conversation also derives from the fact that the necessary computational work is spread between the participants in interaction. A speaker doesn't have to calculate in advance what ways of putting things others will understand, or what they already know, as long as she can watch her addressees' faces for signs of puzzlement or boredom, and change course adaptively.

Humans are unique among animals in the sheer interactivity of our communication: many other animal species send messages, but we appear to be the only species that sends back signals of comprehension or acceptance, or requests for clarification. As we aim to make some impact on others when we speak, our bidirectional system of communication allows us to monitor our success or failure at each conversational turn. To gauge how well things are going, we rely on a small set of "backchannel" signals marking the addressee's frame of mind, tiny marks of comprehension ("Mhm," nodding), acceptance ("Yeah"), surprise or learning ("Oh"), and their opposites ("Huh?"), issued every few seconds. Backchannel flies under the radar of attention, while conversational participants focus on what the main speaker is saying, but it plays a decisive role in guiding speaker behaviour—when to elaborate, when to move on—and in creating a joint sense of what the participants have established, and what they are doing together. As you tell a story or make a point, you experience a moment of reward when your hearer says, "Oh, I see," or "Oh, wow."

Foundation models miss out here, not least because they are mainly trained on textual data that strips out backchannel markers. Fine-tuning on audio content, such as podcasts, has made some AI systems capable of peppering their vocal output with "Uh-huh" and "Oh," but they are strangely bad at this: bad at the timing, bad at the selection of response particles as they pretend to listen. When a model says "Oh, I see," or even "Oh, wow," it is not expressing surprise, or learning. It's generally been trained to flatter, for commercial reasons.

Foundation models don't really learn in the course of conversation with users; for them, genuine learning happens only once or twice a year, when the model is retrained and a new version drops with updated parameters. Of course, what you say is superficially accommodated in the conversation, but you never have the kind of impact on a model that you can have on another person: you won't be able to update its way of looking at the world just by talking. These models are intelligent enough to give you some short-term satisfaction in conversation, playing to your natural curiosity and desire for efficacy. But in the longer term, they aren't engaged in the project of applying their intelligence to figure out the world with you.

Is AI better at conversation than we are? It can seem that way in a brief encounter, but if we take a larger view, there's a dimension of goodness in conversation that AI has yet to touch. ✨

● **Jennifer Nagel** is a professor of philosophy at UTM and in the Graduate Department on the St. George campus. Her research focuses on knowledge, belief, and our capacities to track these states in ourselves and others. She is interested in the history of epistemology, both in the Western tradition back to Plato, and in the classical Indian and Tibetan traditions. She also works in contemporary philosophy of mind, with special interests in metacognition and mental state attribution.

THE RATIONALITY AND
MEMORY RESEARCH GROUP

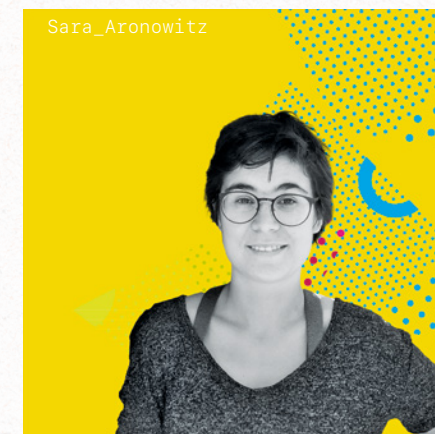


IN THE MAKING:

—by **Piali Roy**

What happens when you put a cluster of philosophers, computer scientists, and psychology researchers in the same room? The result is the Rationality and Memory research group led by Sara Aronowitz, the department's latest Canada Research Chair. Since fall 2025, this rarity in philosophy has brought together undergraduates, graduate students, and postdoctoral fellows in what its founder declares to be “not a lab.”

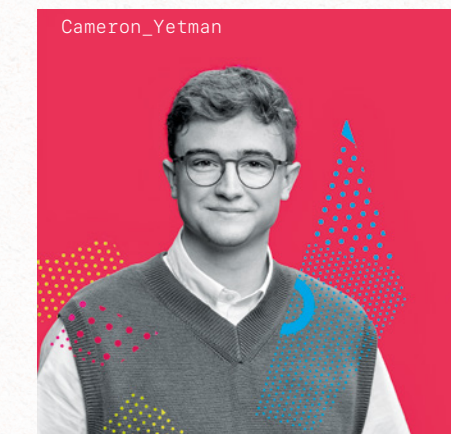
With the added attraction of tasty treats, such as Bánh mì, Turkish sandwiches, and tea, supplied by Aronowitz, members discuss their works in progress in an intellectually welcoming and supportive environment. Topics have included a metaphysical similarity between perception and memory, a novel artificial intelligence (AI) architecture for decision-making, and value preferences in child developmental psychology. Future meetings will include discussing recent papers in philosophy and cognitive science.



Taking an interdisciplinary approach to bring philosophy, computer science, and psychology students together.

For U of T philosophy doctoral candidate Cameron Yetman, who works on the philosophy of mind, cognitive science, and AI, the group was a welcome change from how he initially perceived the university, which he felt was quite siloed. “A group like this is exactly the thing I was looking for,” he says. “When you put open-minded philosophers and scientists with common interests into the same room, the resulting mix of perspectives and expertise is beneficial for everyone.”

F. Ece Özkan, a PhD candidate at UTM in psychological and brain sciences, who first met Dr. Aronowitz in a philosophy and psychology of decision-making class, agrees. “When you present your work to one field only, you tend to get similar questions, but it is important to learn new approaches and get different questions and feedback,” she says. “It is also very stimulating to hear what people are interested in and what methodology they use to answer their questions. It is very broadening to see how similar topics and questions are being approached by different perspectives.”





Images.
Courtesy of
Rationality and
Memory Group

Aronowitz does not gatekeep the group but includes all qualified students. For example, Dominic Le joined as a University of Toronto Excellence Award-winner and fourth-year student in cognitive science and psychology. He met Aronowitz in his second year and would later take her graduate seminar on causality, cognition, and perception. As one of two students interested in developmental psychology work within the group, he was pleasantly surprised by the openness found within sessions.

“The philosophers are interested in the empirical perspective, and the empirical researchers are very interested in the philosophical insights,” says Le. “Everyone is motivated to understand each other.”

Le, who is interested in theories of causal learning, presented on the case of learning to swear. He proposed a multi-structured, serial process for modelling differences in how children may learn swearing (and causal relationships in general) and shared his plans for experiments to test his proposal with the group. According to fellow member Alex de Guzman, a PhD candidate in philosophy at U of T, the following discussion was what makes these gatherings so productive. “The group not only discussed in-depth the philosophical side of his presentation, but members from the psychology department further gave him advice on his experimental design.”

“It’s just a great room to be in and has only gotten more comfortable and compelling as we learn more about what we’re all researching,” adds de Guzman.

This view goes far beyond just listening to each other as Aronowitz is committed to providing the cohort



with more formal research training to prepare them for future academic positions. It is why there is an emphasis on holding practice talks and giving feedback to others. She has also given them an opportunity to act like a “grand council” as described by Le to help determine whether a new post-doctoral candidate would be a good fit with others.

“PEOPLE IN COMPUTER SCIENCE RARELY COLLABORATE CLOSELY WITH PHILOSOPHERS.”

The research group is not only open to U of T students and postdoctoral fellows. Vivyen Sagsen joined the group from York University as a first-year PhD student in philosophy when she was taking a course on causal cognition that was co-taught by Aronowitz. She brought her project offering a new perspective on imagination by drawing on developmental psychology literature regarding pretend play and counterfactual thinking. The feedback she received allowed her to reframe her argument to be clearer especially after group members rearticulated her arguments.

Zijian Zhang, a PhD candidate in computer science at U of T, came across Aronowitz while researching large language models (LLMs) after realizing that memory is a major bottleneck for AI agents. When he read her papers online, he found there was a strong overlap between the questions she was exploring about memory from a philosophical perspective and the ideas that interested him. The group became a valuable place to consider how LLMs represent a qualitative shift in AI and the need to re-examine both AI and human intelligence from the perspective of LLMs. While previous philosophical discussions about AI were often difficult to test experimentally, Zhang is now considering with LLMs how philosophical theories can be validated to some extent through experiments and implementations.

What made the group useful to Zhang was the opportunity to hear criticism from philosophers about some of his nascent ideas, particularly as he says, “People in computer science rarely collaborate closely with philosophers.”

“I used Logical Positivism as an example, and members of Sara’s group pointed out that most people today consider the theory to be flawed,” says



“IT’S BEEN SUPER INVIGORATING TO HAVE AN ACTIVE COMMUNITY OF PHILOSOPHERS OF SCIENCE AND MIND THAT REGULARLY MEET IN THE DEPARTMENT.”



Zhang. “Although I was already aware of that criticism, the discussion reminded me to look for later revisions and reinterpretations of the theory that could serve as references for improving my own framework.”

Adds Zhang, “The experience of drawing key insights from another discipline in such a direct and productive way is something I rarely encountered elsewhere.”

In the case of Rattray, who also completed his PhD in the department and is working with Aronowitz on a joint paper on the nature of curiosity, he had the opportunity to present on the question of how to interpret the neural dynamics of populations of neurons firing in complicated ways over time in the brain and its effect on thought and action. As a precursor to giving a talk at a conference in Florida on philosophy and neuroscience, he found the discussion energizing and enriching.

“I got some helpful feedback about how to clarify some of the presentation, and some really engaging questions that helped me take some additional steps in my reasoning. It’s especially nice to have a supportive and low-stakes environment to try new material out.”

Rattray continues, “It’s been super invigorating to have an active community of philosophers of science and mind that regularly meet in the department.”

Says Yetman, “Sara is the perfect person to organize and moderate a group like this because her interests and expertise roughly cover every area of the science of philosophy.” He adds, “if this is an exaggeration, it’s not a large one.”



● **The Rationality and Memory Research Group** was founded by Sara Aronowitz who is an associate professor and the Canada Research Chair in Philosophy of Learning and Memory. Her research interests include cognitive science, philosophy of science, and philosophy of history.

WAYS OF



A mathematician, playwright, and philosopher discusses memory, mastery, and machines

THE INVISIBLE BEAUTY OF THE WORLD

John Mighton in conversation with **Petra Dreiser**

Original illustration incorporating images by A Chosen Soul, Curated Lifestyle, Taton Moise, Bryan Rugama, Daniel Joshua, Sajjad Salehi, Getty Images/Unsplash+

● **John Mighton** is a Hamilton-born mathematician, playwright, and best-selling author, known for his work to support children's successful math education. He first earned a bachelor's degree in philosophy at the University of Toronto, followed by a master's degree in the same subject at McMaster University. In his thirties, Mighton went on to earn a PhD in mathematics from U of T. He was awarded an NSERC fellowship for his postdoctoral research in knot and graph theory, and is a Fellow of the Fields Institute in Research in Mathematical Sciences.

Having himself struggled with math learning in his youth, Mighton founded JUMP Math as a charity in 2002, developing the program to address student underachievement in the subject. Beyond his many national and international awards recognizing his contributions to math education, Mighton is also a successful and internationally acclaimed playwright.

We spoke to our department's polymath alumnus about learning, memory, and the interconnection of discipline and joy.

"WHY NOT GIVE KIDS ACCESS TO EVERY WAY OF THINKING ABOUT THE WORLD?"

You describe yourself as a math educator and a playwright, but you began your academic career with a degree in philosophy. Why philosophy? And how does it tie into the rest of your life’s work?

Well, I sometimes struggled at school when I was younger, and I didn’t do particularly well in math. I almost failed calculus at U of T the first time. And I also wanted to write, but I wasn’t a very good writer either. My marks were really erratic in all subjects. Sometimes I did well; sometimes I did terribly. But the one thing I maintained from childhood was a burning sense of curiosity and wonder. And at U of T in my undergrad years I discovered that philosophy would allow me to think about, in a deep way, all the subjects that interested me. I felt I’d found a home. And that’s why I did a degree in philosophy.

Philosophy kept alive my sense of curiosity and wonder and made me appreciate even more how mysterious the world is. It also taught me to think and write, I believe. Particularly as I understood more about Wittgenstein’s work, I learned to ask questions in a different way. He was incredible at taking any kind of received idea and looking at it from a perspective that made it seem strange or unnecessary. That really helped me throughout my career of asking deeper questions and always trying to get to the root of people’s concepts or presuppositions.

Tell me more about the questioning of perceived notions.

I learned to question presumptions and received ideas. For example, until I was about 20, I feared that you might need to be born with a gift for a subject to do well in it. I was avoiding working hard because I was afraid of meeting my limits and discovering that I didn’t actually have the right gene or the right mind to do the work. It was part of my procrastination. But when I learned from a book of letters by [the U.S. poet] Sylvia Plath that she had trained herself to write by memorizing poems, writing imitations of poems, and reading everything she could about the structure of poems, I wondered whether maybe I could do something similar. So I started imitating her and other poets, basically following Plath’s training routine, and found that I was finally able to find my own voice in poetry, and then theatre. It took a lot of training and work.

The same happened with math. I started tutoring kids to make some money as a playwright. And I figured since I passed calculus, I could tutor Grade 6. I saw myself going back through concepts that I had found completely mysterious in high school and repeating, working hard, reviewing, returning to the foundations. And I began to think that maybe I could do in mathematics what I’d done in writing—train myself from scratch.

So are you suggesting that anyone can master any subject, and if so, are the techniques of learning always the same?

Yes and no. Research on the brain has revealed principles of learning that are effective across all domains. People should know about those. There’s an article that came out in *Nature Communications* called “The Eighty-Five Percent Rule for Optimal Learning”: evidence suggests that we are both most engaged and that our brains work most efficiently when we’re about 85 per cent proficient at something—we’ve almost got it; we just have to stretch ourselves a bit. It’s also called the **Goldilocks zone**: not too hard, not too easy. If you push yourself out of that zone, it’s neither efficient nor enjoyable, and you’ll give up.

Striving for perfection is not a good thing, and neither is skipping too many steps or trying to learn too many concepts at once. You just suffer from mental overload. Novice learners should be treated as novices, whether you are teaching yourself or someone is teaching you. With scaffolding, gradually you can become expert.

That is connected to another domain of research called **deliberate practice**: you push yourself a little outside your comfort zone and then practise relentlessly. The research there suggests that you do better if you have an expert to guide you who can show you the most efficient paths of training. Another universal technique I learned recently is **retrieval practice**. Apparently, some cognitive scientists say that we have almost unlimited capacity for remembering things—which is surprising to me, because as I’m getting older, I’m forgetting everything. But we have very limited capacity to *retrieve* those memories. So as not to lose everything you’ve learned, you have to build what are called retrieval networks in your brain. When you’re studying,

don’t just highlight everything in yellow; quiz yourself on the subway, try to recall what you’ve learned and to explain it to yourself. And space those self-testing instances out regularly.

That’s actually changed the way I’m studying now. I’m still trying to learn math—new math—and I’m remembering much more than I used to. It’s not that I’m working harder; I’m just being more efficient.

But there’s also a lot of research suggesting that you can’t be a great problem solver in any domain if you don’t have **domain-specific knowledge**. So people should apply the universally efficient ways of learning in any area they want to master, but they will also always need to acquire some knowledge specific to their field of study. There is no avoiding it.

Brains do change at different stages in life, though. How can we take that into consideration when learning?

That’s a good question. For kids, we shouldn’t underestimate what they can do and start giving them foundations early, teaching them more rigorously. They love it. There’s research showing that people thought until recently that you had to almost hide the math when teaching the subject to kids, do some projects, so that eventually they’d have success. It turns out the arrow goes quite the other way. If you’re having success in math, you enjoy it. And so we should be teaching kids in a way that allows them to do deep mathematics with success and enjoy it. I’ve seen behavioural students cheer for math if they were given the occasion to have success and feel smart.

So for young kids, we have to stop underestimating what they can enjoy and what they can learn. We think of kids as stunted if they don’t see any beauty in a mountain or a star, but we think it’s natural for them to graduate



"FOCUS AND IMAGINATION ARE PARTNERS."

from high school with no appreciation for the invisible beauty of the world that we have in mathematics. Why not give them access to every way of thinking about the world?

And for adults, I would say it’s never too late. I didn’t start math until I was in my thirties. I haven’t seen any evidence in math that people’s brains become incapable of learning it. I’m a better mathematician now than when I was younger. I think one of the reasons people do great work in math when they’re young is because when you get older, you’re too distracted all the time to ever think deeply enough. Because math takes real focus and concentration.

We live in an age of distraction. Even younger folk are constantly asked to multitask, and phones, social media, and the like have a hold on most of us almost non-stop. In the face of this reality, what suggestions do you have to help with deep thinking, maybe in particular for university students?

There’s some support in research that after intense periods of focus, you should relax, and often your best ideas will then come to you while you’re doing something else. As long as you’re not distracting yourself, you’re actually relaxing or enjoying a walk in nature, or something like that. When you take a break, don’t give yourself high-dopamine rewards by doing something that’s incredibly exciting or distracting, like getting on YouTube, because it’s very

hard to pull yourself back into the more quiet mode you need to focus.

It’s also good to remember that Einstein roamed the universe sitting at a table with a pencil and paper. We need to get back to that. Who knows what the limits of AI are, but at the moment, no machine will do as well as Einstein sitting at a desk with a pencil and paper. We can roam the universe with our imaginations. Be in that deep state of focus. Focus and imagination are partners. The more you learn, the deeper your imagination gets. The more you read, the more subjects you learn. A lot of the greatest discoveries come from people who connect fields that seem to be completely unconnected.

Speaking of AI, of which you seem quite wary, do you think there is a positive place for it as well?

Well, I’m just terrified because we haven’t educated people according to their potential. In fact, we’re backsliding in mathematics. And so people can’t think logically. They can’t even recognize a good argument. They don’t understand risk or probability.

So when AI is so good at manipulating people, we’re in a really dangerous situation. Einstein once said that new scientific discoveries (including the splitting of the atom) have changed everything but our modes of thinking. He implied that we will be overwhelmed by the problems created by these discoveries if we don’t change the way we think. And, well, it’s way worse now. We’ve almost missed a window to educate ourselves to deal with AI.

But Wittgenstein said that when we try to predict the future, we always extrapolate in a straight line, but the world never moves in a straight line. So who knows what’s going to happen with AI? It may be a great thing for us. If we were well educated, I’d say AI would almost certainly be a great boon to us. 🌟

ALUMNI SPOTLIGHT

A few questions to
Philosophy alumni

Fiona Raye Clarke

Year of graduation
Honours BA 2007 (Philosophy Specialist)

Other degrees
LLM 2016 (Osgoode Hall Law School)
LLB 2014 (Juris Doctor Specialist University of Southampton)

Current position
Writer

Brief bio highlights
I was called to the Ontario Bar in 2017 and specialized in criminal defence law at a boutique downtown Toronto firm. Now I am a published freelance writer and a community-engaged artist, serving as a creative writing mentor with the Neighbourhood Arts Network/Toronto Arts Foundation. I am also a produced playwright, published poet, and award-winning screenwriter. In addition, I developed a show with CBC/Radio-Canada and the Canada Council for the Arts, and I had a pilot I wrote air on CBC Kids and CBC Kids YouTube with more than 15,000 views.

What role has philosophy/ your philosophy degree played in your life?

Philosophy was a great base for my law degrees, as I focused heavily on ancient Greek philosophy. At the time of my undergrad, U of T had many of the foremost experts in early Greek, Platonist, and Aristotelian philosophy.



Actually taking classes styled in the Socratic method and coming up with original arguments for my philosophy papers helped my critical thinking skills, preparing me for future court appearances. Learning the importance of punctuality, professionalism, and respect from our professors was a great jumping-off point for law school.

What piece of advice do you have for current students?

Philosophy was derisively compared to “underwater basket weaving” in my day, but I’d say more than a few of my classmates who specialized in ancient Greek philosophy ended up going toward the law route because we knew how to analyze challenging texts and how to put forward our ideas about them. Moreover, in an age of AI, I would say folks steeped in critical thinking and philosophy are exactly what the world needs. It’s becoming a lost art.

What is something you have read, heard, or seen lately that has left you inspired or positively surprised?

As part of my research for a novel I’m writing, I was able to track down a poetry collection by the late U of T professor Michael Lynch, an incredible activist in the early AIDS movement. I had no idea he was one of the people behind the AIDS Memorial in Barbara Hall Park. It’s been inspiring to learn more about his story and to read his moving work, which is sadly out of print, *These Waves of Dying Friends*. Someone should definitely put out a new edition!

What might we find you doing when not at work?

Lately, I’ve been running around after my toddler and making many trips to the pool and the park.

Arash Ghiassi

Year of graduation
Honours BA 2015 (double major in Philosophy & Ethics, Society, and Law)

Other degrees
JD 2018 (Yale Law School)

Current position
Criminal Defence Lawyer, Savards LLP

Brief bio highlights
I represent people who face criminal charges, both at trial and on appeal. I hope one day we will abolish prisons and relegate chains to museums, as we have with other medieval instruments of state violence. In the meantime, I do what I can to reduce the harms of these institutions for my clients.

What role has philosophy/ your philosophy degree played in your life?

I had hoped that my philosophy degree would help me discover certain fundamental truths, including moral truths. It didn’t do that, but it did give me the skills to interrogate and continually revise my own beliefs about those truths. My philosophy degree also helped prepare me for the logical part of legal argumentation, which is an important part of my day-to-day work.

My degree has especially helped me with my appeal files. At higher levels of court, legal arguments tend to get



more abstract, more philosophical, and more policy based. The question is no longer simply, “Is this client guilty?” Instead, we can ask questions like what does it mean to be guilty of this type of offence? What kinds of evidence can we rely on to prove guilt? And what is a fair process for gathering and presenting that evidence?

While these types of “meta” questions are always operating in the background, they become the focus on appeal, when a higher court is called upon to decide if a lower court got something wrong.

What piece of advice do you have for current students?

Dare to stand up for what you believe in. Philosophy can give you the tools you need to think independently, but it’s always easier and less risky not to.

The conditions of our work and study are shaped by the political and economic structures surrounding us. Even in a university, where academic freedom protects us, these structures create incentives that can affect what we think and how we express it. Safeguarding our independent thought requires that we also think about these structural influences.

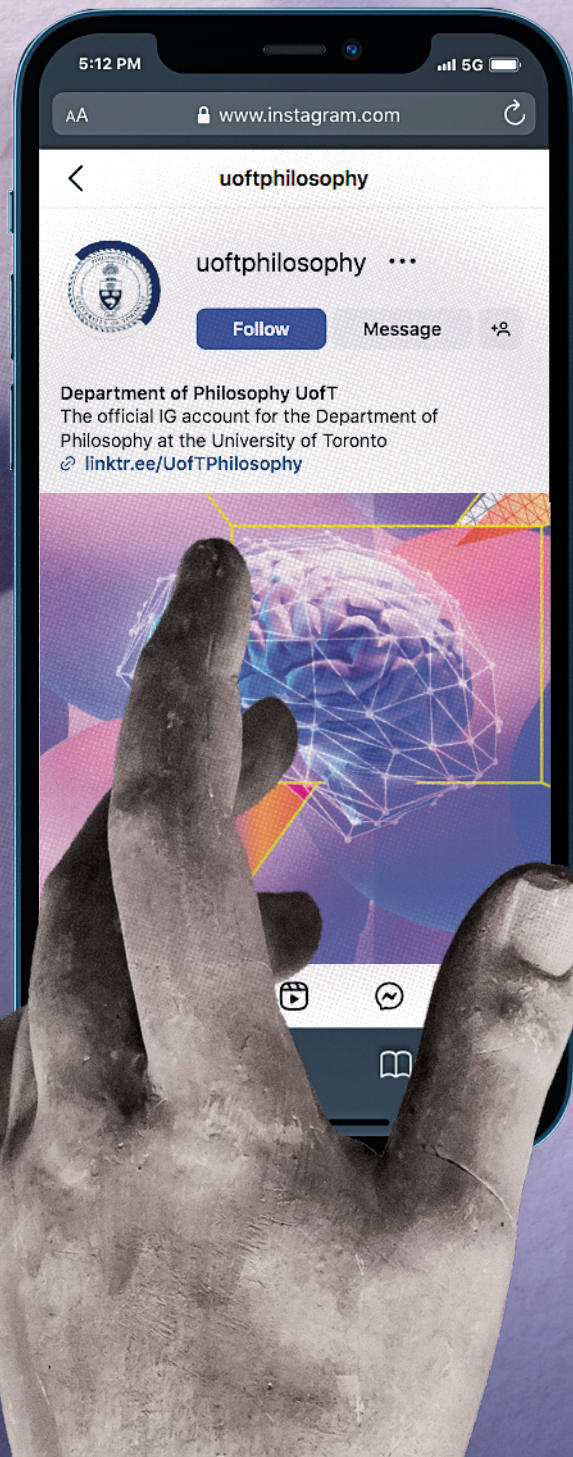
What is something you have read, heard, or seen lately that has left you inspired or positively surprised?

The Freedom Flotilla is one of the most inspiring initiatives I have witnessed.

What might we find you doing when not at work?

I love cooking! Iranian home cuisine is a well-kept secret. I highly recommend *fesenjān*.

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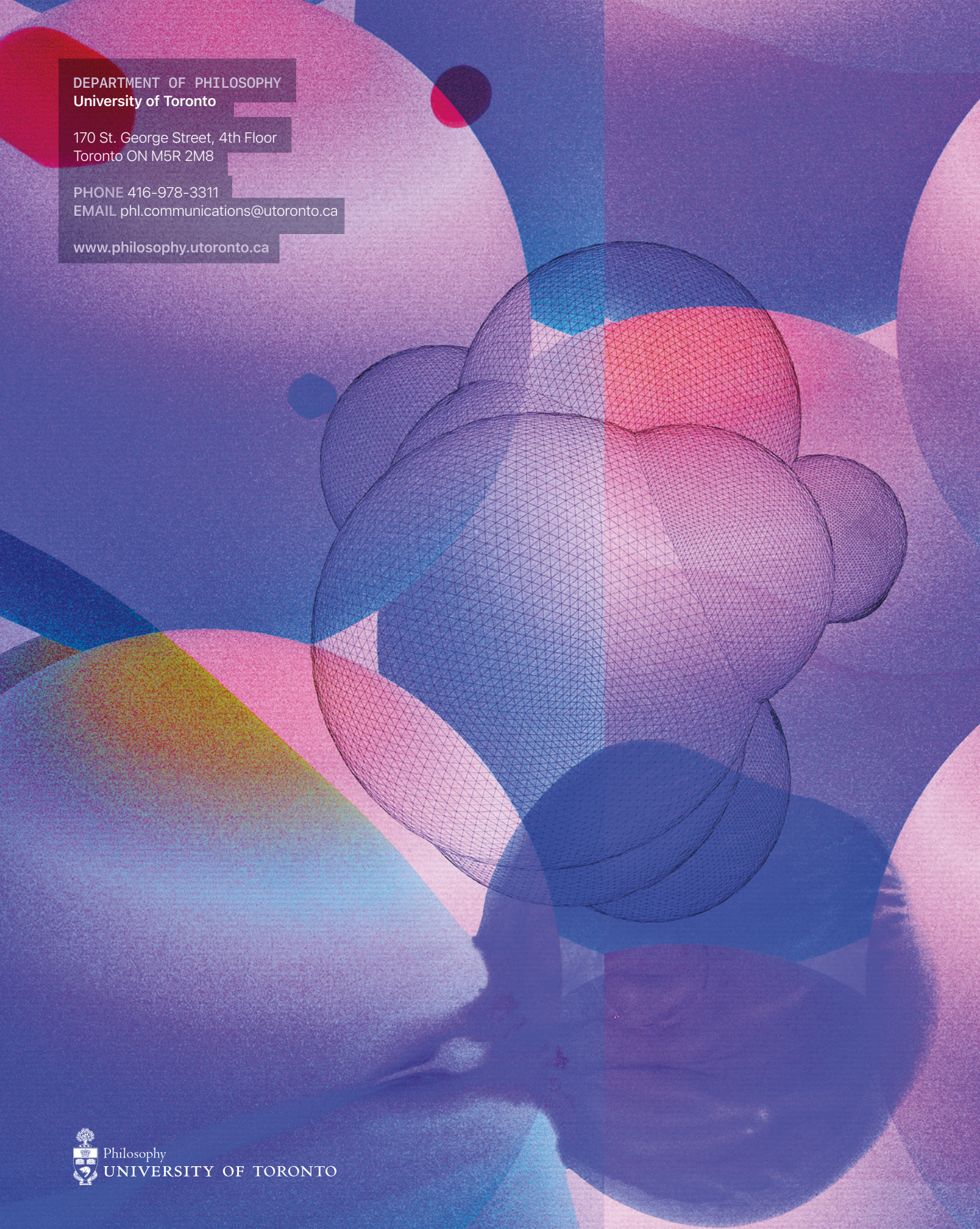
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