

#### GROWTH IN DISCOVERY | 2025

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# Nourishing Discovery



I see many metaphors in the majestic linden tree planted at the end of J. Robert Oppenheimer's Directorship. "Tree of knowledge" is merely the most obvious. With its branches soaring for sunlight from the center of our campus in every available direction, it represents as well the Institute's commitment to discovery across diverse disciplines and questions. As we approach our second century its stature evokes the persistence through time that is a prerequisite of a venerable institution. And its biology raises deep questions that in some ways apply to

all enduring greatness. Among them: how does a long-lived organism, with genetics established in the distant past, keep pace with an always changing environment filled with rapidly evolving creatures of much shorter span?

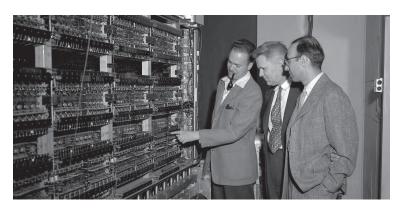
This report focuses on the last: on the many ways in which the Institute has always been changing in order to stay the same—an institution committed to serving the world as a haven for fundamental discovery and the free testing of ideas, without borders of nation or boundaries of ideology. And it focuses on another fundamental

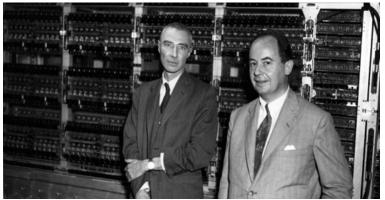
feature of every monumental tree and every great institution: its dependence on the support and participation of a community.

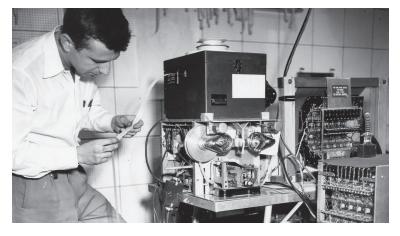
We are just beginning to understand how a tree is nourished (one might say co-created) by a vastly complex biome, both beneath the earth and above it. But we have long known—for as long as we have written record—of the importance of philanthropy for the nourishment of human institutions. This report is a monument to your generosity, and a testament to the capacity of philanthropy to nourish discovery.

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**Left** I John von Neumann, leader of the Electronic Computer Project, stands in front of the computer.

**Top** I James Pomerene, Julian Bigelow, and Herman Goldstine in front of the computer.

Middle | J. Robert Oppenheimer, Director of the Institute for Advanced Study, and John von Neumann stand together in front of the computer.

**Bottom** I Leon Harmon working at the computer from the Electronic Computer Project.

Most renowned for generating world-leading theoretical research, the Institute for Advanced Study is fundamentally characterized by one other defining feature: its commitment to unrestricted freedom of intellectual pursuit. By unburdening its scholars from considering the immediate applications of their work and supporting them to develop knowledge that may seem, at least initially, to have no obvious utility, significant advancements and innovations in various fields will naturally flourish.

Building an institute in service of this mission was the vision of founding IAS Director Abraham Flexner (1930-39), who famously referenced James Clerk Maxwell's "abstruse and remote calculations in the field of magnetism and electricity" to capture the essence of the place he hoped to develop. Maxwell's calculations, while seemingly esoteric, ended up leading to the development of the radio. Now, nearly 100 years after Flexner's Institute (metaphorically) opened its doors, we can reflect on how IAS has supported discoveries of precisely Maxwell's ilk, discoveries that have made unexpected but meaningful impacts.

In a letter to founding IAS Faculty member John von Neumann (1933-55), Kurt Gödel, Professor in the School of Mathematics (1953–78), presented his colleague with a mathematical problem concerning "the mental work of a mathematician concerning Yes-or-No questions" and whether these types of mathematical proofs could be computationally automated. Today, this question is known as the P versus NP problem. It has had wide-ranging implications, likely unforeseen by Gödel: the cryptographic tools upon which our online life is built depend upon the answer. His line of questioning underpins not only the computers that we use on a daily basis, but continues

to drive discovery at the Institute. Avi Wigderson, Herbert H. Maass Professor in the School of Mathematics, has built on the foundation laid by Gödel by exploring the role of randomness in computation, developing theories that have significant implications for modern cryptography.

John von Neumann is himself responsible for one of the Institute's most impactful efforts. Stored in the basement of Fuld Hall was his Electronic Computer Project (ECP), one of the most successful experiments in early computing. Initially constructed for general-purpose algorithms, the project eventually developed into a concern with weather prediction. As a result, in addition to forming the mathematical basis for modern computing software, it also produced one of the first major models of the world's climate. As climate change has become more and more pressing, the types of computer models developed by the ECP have informed both scientific and policy questions.

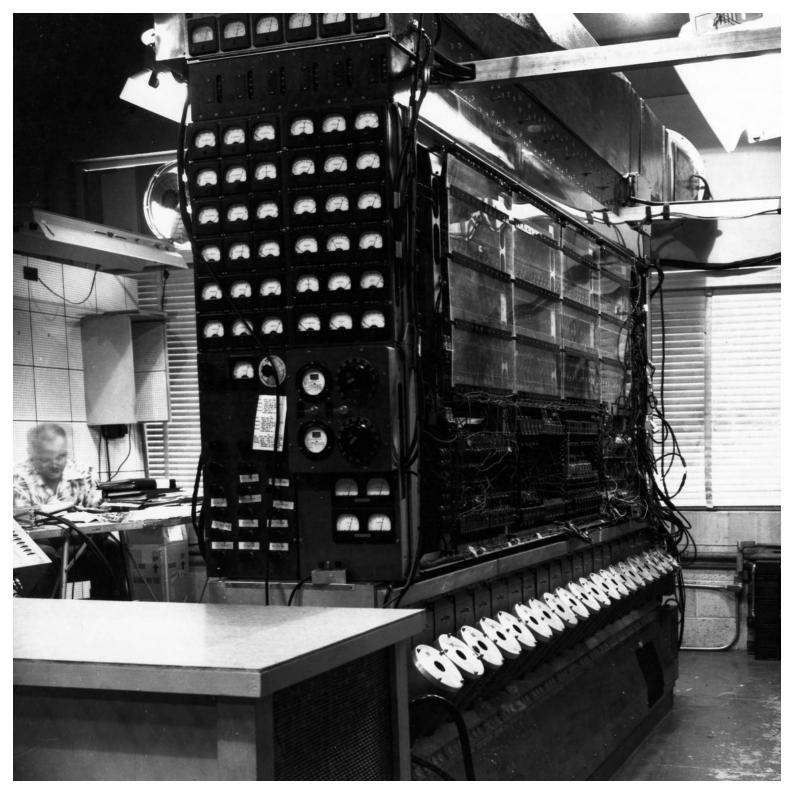
Though many of these historic developments in the field of computer science were not envisioned by Gödel, von Neumann, or their Institute, their work nonetheless laid the bedrock for future generations of theoreticians based at IAS and beyond, and also for the technologies that power our everyday lives.

Such discoveries, with all their latent potential, are most readily achieved when scholars are not inhibited by borders or by dogmas, and when institutions nourish both the collaboration and the independence needed for profound discovery in an ever-more specialized world. Although the campus has changed much since his death in 1959, the Institute for Advanced Study's enduring commitment to these ideals would make it still recognizable to Flexner to this day.



**Top I** John von Neumann and guests examine the computer.

Bottom I Staff members of the Electronic Computer Project, including Lambert Rockefellow, Elizabeth C. Wooden, Norma Gilbarg, Hedvig Selberg, Frank E. Fell, Hewitt Crane, Richard W. Melville, Ephraim H. Frei, Margaret Lambe, Peter Panagos, Gordon Kent, Norman Phillips, Herman Goldstine, James Pomerene, Julian Bigelow, and Gerald Estrin. **Right** I Norman Phillips next to the computer.



The Institute for Advanced Study is both a convener of great minds and a disseminator of knowledge. As an academic community primarily composed of visiting scholars, the ideas cultivated on campus are not restricted to a single place and time. The Members of IAS—from post-docs to visiting professors—ensure an environment of constant renewal. Their paths, to and from IAS, represent links in a global network of discovery.

It takes a village to bring the world's capacity for discovery together. Our scholars arrive from some 40 countries a year, speaking in dozens of languages and disciplines, with families and needs as varied as their

background. They return to their communities carrying with them fresh perspectives on their research questions and enduring collaborations forged during their time on campus, each steeped in the Institute's unique approach to discovery. The value of the foundational research conducted across all four Schools is wide-reaching.

Astrophysicist **Tracy Slatyer** conducted research at IAS as a Member (2010–13) and Junior Visiting Professor (2018–19) in the School of Natural Sciences. Her contributions to particle astrophysics, understanding the nature of dark matter, and her co-discovery of giant gamma-ray structures



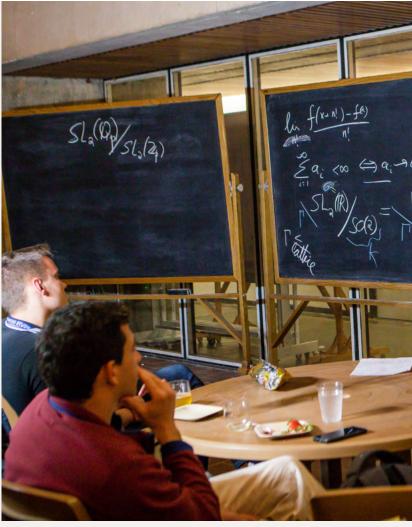


at the center of the galaxy were recognized with the 2021 New Horizons in Physics Prize by the Breakthrough Prize Foundation. She currently serves as a tenured Professor in the MIT Physics Department and was awarded a 2024 Guggenheim Fellowship and appointed a 2024–25 fellow at the Radcliffe Institute for Advanced Study.

Ronan Eldan, Visitor (2021) and von Neumann Fellow (2021–22) in the School of Mathematics, is currently a Senior Principal Researcher in the Machine Learning Foundations group at Microsoft. In 2023, Eldan and a collaborator introduced a novel technique for removing specific content from large language models (LLMs) without retraining them from



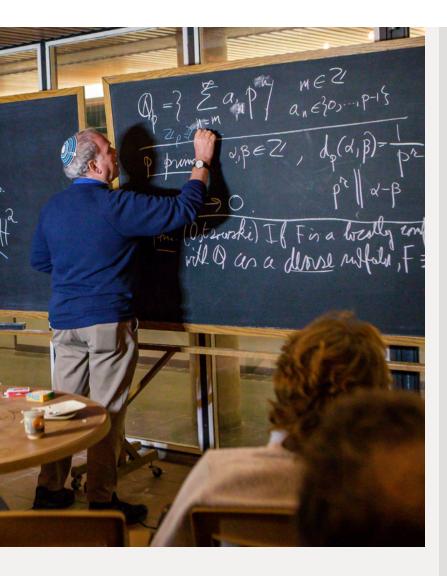




scratch. To show how his technique works in practice, Eldan trained his LLM to "unlearn" the Harry Potter books. This was a significant breakthrough: the paper is the first to present an effective method for unlearning in generative language models, providing a solution that is both time-efficient and minimally disruptive to the model's overall performance. His work may go some way to addressing legal and ethical issues faced by developers and users of LLM models, along with original authors and publishers.

The research of **Cord Whitaker**, Friends of the Institute for Advanced Study Member (2019–20) in the School of Historical Studies, has

significantly impacted the study of the Middle Ages, particularly in the contexts of race and racism. His work constituted a paradigm shift in his discipline, showing readers the value of the Middle Ages to the work of racial justice through highlighting how medieval literature and rhetorical practices contributed to the development of race as a concept, influencing modern racial ideologies. As an Associate Professor in the Department of English and Creative Writing at Wellesley, Whitaker continues to shine light on Black and African American medievalism, religious and cultural conflict in the Middle Ages, and the modern literary and political uses of medievalism.



Lindsey Cameron, Member (2023–24) in the School of Social Science, came to IAS from the University of Pennsylvania, where she serves as an Assistant Professor of Management and Sociology at the Wharton School. Cameron's time at IAS was dedicated to her multinational comparative ethnography book project, which considers how algorithmic management reconfigures work in the gig economy. During her IAS Membership, and drawing on her wide-ranging eight-year study of ride-hail work, Cameron testified as an expert witness in a legal case in Massachusetts, the settlement of which established a landmark hourly minimum wage for ride-hailing drivers in the state.

The founding of the Institute for Advanced Study in 1930 has profoundly influenced the establishment of similar research institutions worldwide, ten of which are members of the Some Institutes for Advanced Study (SIAS) consortium. Each promotes a model centered on intellectual freedom, interdisciplinary collaboration, and a commitment to the highest standards of scholarship.

#### Stellenbosch Institute for Advanced Study | South Africa

The Stellenbosch Institute for Advanced Study (STIAS), is the first SIAS member founded in Africa. Located on part of the historic Mostertsdrift, it aims to pursue sustainable strategies to combat global challenges, specifically those affecting Africa.

#### Nantes Institute for Advanced Study | France

Another member of SIAS, NIAS brings together researchers in the humanities and social sciences, especially from developing countries. It places special emphasis on an intense North-South dialogue, welcoming a broad range of research topics and disciplines.

#### **Dublin Institute for Advanced Studies | Ireland**

The Dublin Institute for Advanced Studies (DIAS), which describes itself as the world's second such institution in reference to the Institute for Advanced Study, attracts scholars from three disciplines: Celtic studies, theoretical physics, and cosmic physics.

#### Tsung-Dao Lee Institute | China

TDLI was proposed by Tsung-Dao Lee, Member (1951–53, 1957–58) and Faculty (1960–92) in the IAS School of Mathematics /Natural Sciences. Frank Wilczek, Member (1977–78) and Faculty (1989–2000) in the IAS School of Natural Sciences, served as the founding director of TDLI, which focuses on advancing research in physics and astronomy.

#### Hamburg Institute for Advanced Study | Germany

Officially opening its doors in 2020, HIAS is modeled directly after the Institute for Advanced Study. It welcomes up to 20 scientists and artists per year to work on projects of their own choice while simultaneously maintaining a strong focus on the Hamburg public.

1 David Young Kim, Felix Gilbert Member (2023–24) in the School of Historical Studies, came to IAS from the University of Pennsylvania. Kim uses cross-cultural and multilingual scholarship to bridge geographical barriers in art history. Drawing from his background as the son of Northern Korean emigrants to Brazil, Kim examines art historiography through a global perspective.

2 María Bárbara Zepeda Cortés, John Elliott Member in the School of Historical Studies (2023–24), hails from Michoacán, Mexico. Her research focuses on reformist movements and the Spanish Enlightenment. At IAS, she is working on a biography of José de Gálvez, an eighteenth-century Spanish statesman known for implementing transformative reforms with worldwide impact.

3 João Jose Reis, Member (2023–24) in the School of Historical Studies, specializes in the history of slavery in Brazil, focusing on urban slavery and the biographies of ex-slaves, among other themes. Reis, who is Brazilian himself, was honored with the 2019 Lifetime Work award by the Brazilian Academy of Letters and the 2010 Order of National Scientific Merit from Brazil's Ministry of Science & Technology.

4 Maryna Viazovska, Member (2023) in the School of Mathematics, was born in Kyiv, Ukraine. She is known for her groundbreaking work in sphere packing, for which she was awarded the Fields Medal in 2022, making her one of only two women to receive this honor.

A geophysicist interested in the properties and processes of Earth's deep interior, **5** Frederik J. Simons, Member (2023–24) in the School of Natural Sciences, brings an unusual set of perspectives to the Institute. Simons, who hails from Belgium, develops statistical and mathematical techniques for the analysis of remotely sensed data





that have led to cross-fertilization between astrophysics, cosmology, planetary science, and geophysics.

**6 Toni Mikael Annala**, Member (2022–24) in the School of Mathematics, investigates foundational questions in the intersection of algebraic geometry and homotopy theory. In particular, together with Ryomei Iwasa and Marc Hoyois, he has been developing the theory of motivic homotopy theory in the absence of homotopy invariance.

Annala joined the Institute from his homeland of Finland, where he held a post-doctoral position after completing his doctorate at the University of British Columbia. There, he was awarded the 2023 Canadian Mathematical Society's Blair Spearman Doctoral Prize for his exceptional contributions to algebraic cobordism.

Yonatan Binyam, Research
Associate and Director's Visitor
(2022–24), was born in Ethiopia
and immigrated to the United States
at the age of ten. His experience
of growing up with the ambiguities
inherent in his Ethiopian-American

identity continue to animate his research interests in the historical formations of social identities. At IAS, Binyam explored the problem of racism and antisemitism as analytic categories in studies of the ancient Greek and Roman worlds.

**3 Muni Zhou**, Bezos Member (2022–24) in the School of Natural Sciences, grew up in Shenzhen, China, a city, in her words, "known

for its rapid development and visionary spirit," and began her journey into plasma physics in the beautiful city of Hangzhou. She uses a combination of analytical calculations and numerical tools to investigate the role of multi-scale plasma processes in a range of space and astrophysical systems.

\*\*Malyani Kansal, Member (2023–24) in the School of Mathematics, originally was a research fellow in neuropsychiatry, having completed medical school in India. However, she later became fascinated with the patterns that can be found in math. Now she studies the Langlands program and moduli stacks of Galois representations.

Australian-born Member (2023–24) in the School of Social Science.

Penelope Deutscher, specializes in twentieth-century and contemporary French philosophy and the philosophy of gender. At IAS, she worked on developing a post-Roe vocabulary for reproductive rights that builds upon and critiques the ideas of French philosopher Michel Foucault.



The new Al Democracy Projects, co-founded by **Alondra Nelson**, Harold F. Linder Professor in the School of Social Science, engaged state and local election officials, journalists, and Al and election experts in some of the first testing and publicly available results of leading Al models' safety regarding election information.



The field-shaping work of **Caroline Walker Bynum**, Professor Emerita in the School of Historical Studies, and her significant impact on historical scholarship well beyond her areas of specialization, has been celebrated in a symposium published in the January 2024 issue of the journal *Common Knowledge*.

# Shaping the Field, Shaping the Future





The European Research Council awarded a Synergy Grant of €10 million to a project led by **Nima Arkani-Hamed**, now Gopal Prasad in the School of Natural Sciences, which includes past IAS Members. The team aims to create a new mathematical language to describe physical phenomena on all scales.

**Nicola Di Cosmo**, Luce Foundation Professor in East Asian Studies in the School of Historical Studies, and an interdisciplinary group of historians, climatologists, and archeologists developed a new tool, called the "dahliagram," to explore how past climate variability contributed to human migrations and other forms of population movement.



Peter Sarnak Peter Sarnak

After the COVID-19 pandemic saw public health erupt into the world's consciousness, **Didier Fassin**, James D. Wolfensohn Professor in the School of Social Science, gave a series of lectures at the Collège de France in Paris, proposing a new analysis of the moral and political issues at stake in the practice of public health. The lectures were published by Polity Press in a book titled *The Worlds of Public Health:* Anthropological Excursions.

**Peter Sarnak**, while serving as the Gopal Prasad Professor in the School of Mathematics, was awarded the 2024 Shaw Prize in Mathematics for his "development of the arithmetic theory of thin groups and the affine sieve, by bringing together number theory, analysis, combinatorics, dynamics, geometry, and spectral theory."

**Avi Wigderson**, Herbert H. Maass Professor in the School of Mathematics, was named by the Association for Computing Machinery (ACM) as the recipient of the 2023 ACM A.M. Turing Award, often referred to as the "Nobel Prize of Computing."





In the fall of 2023, a walk through the Historical Studies - Social Science Library's extensive corridor of books would have brought you into the orbit of Emily Hayes, who was at the time a Visitor in the School of Historical Studies. Hayes found the quiet calm of the library to be the ideal setting for continuing work on her upcoming book.

Hayes, a Research Associate and Associate Lecturer in the School of Law and Social Sciences at Oxford Brookes University, describes herself as "an anthropologically-minded historical geographer of knowledge and science." She is working on a manuscript that delves into the intriguing interplay between

the "magic lantern" and the development of British geography in the late nineteenth and early twentieth century. The magic lantern, also known as *lanterna magica*, is an early type of image projector. It uses paintings, prints, or photographs on transparent glass plates to display larger images on a screen or wall. First developed in the seventeenth century, the lantern went on to become popular for educational and entertainment purposes. Hayes's extensive research on magic lanterns, stemming from her Ph.D. work with the University of Exeter and the Royal Geographical Society with the Institute of British Geographers (RGS-IBG), aims to present this enchanting technology not just

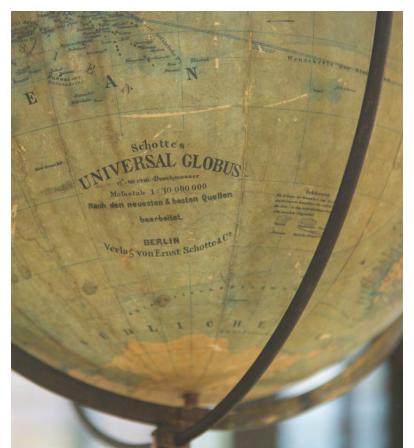


as a set of lenses, mirrors, and slides, but as a tool that fundamentally shaped scientific ideas, concepts, and communities of its era. "We're realizing just how pervasive and important the magic lantern was in shaping ideas and concepts and communities, and in bringing together other new diverse audiences and knowledge makers," states Hayes.

The fundamental paradigm shifts within the natural sciences in the late nineteenth century—and subsequent professionalizing of disciplines like geography, chemistry, and physics—are a feature of Hayes's work. Where once

geography education consisted of maps and atlases, and a long list of names to be learned by rote, the professionalizing practice of geography sought, in Hayes's words, to place the Earth within the broader "cosmological sphere of planets and the solar system," incorporating the study of dynamic cosmic concepts alongside

basic topographical



Terrestrial globe owned by Albert Einstein
Manufactured by Ernst Schotte & Co., Berlin
Globe restoration and display made possible by a gift from
William S. and Betty Kaufmann Wolf Greenberg
March 2013

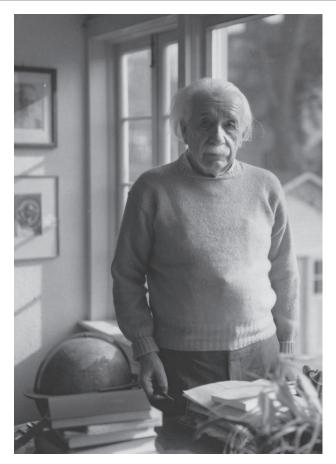


features. The magic lantern contributed to this shift: popular lectures on our solar system used such lanterns to demonstrate a visible "scalar shift," zooming out to show Earth in a new reference frame within the wider cosmos. These shifts in the understanding of space and time (and even space-time, a term coined in 1908) are all part of Hayes's transdisciplinary view of geography.

As Hayes engrossed herself in a world where geography and physics merge, she came across a tangible symbol of precisely this interconnectedness—Albert Einstein's globe, displayed at the entrance of the Historical Studies - Social Science Library. The

delicate papier mâché globe originally lived in Einstein's home study at 112 Mercer Street and is now cared for by the Institute's Shelby White and Leon Levy Archives Center. For Hayes, who had an existing interest in Einstein, this "exciting" encounter motivated her to delve deeper into research on the founding IAS faculty member. "I've read more about his life overall, his time at school, and then in Zurich at the Polytechnic and his travels, and then his later works as well," Hayes shares. "It's been incredibly rewarding and it's really thanks to crossing paths with the globe."

Her further work on Einstein saw the globe become a symbol of how the new perspectives on space, time, and science that





were developed in the late nineteenth century—and proliferated through the use of technologies such as the magic lantern—impacted his thinking. "As a boy, he read Alexander von Humboldt's *Cosmos*," she explains. *Cosmos*, which was published in five volumes between 1845–62, "not only gives a broad overview of the universe, discussing celestial bodies such as the Milky Way, cosmic nebulae, and planets, but also covers physical geography on Earth: climate, volcanoes, and the interrelationships among plants, animals, and humans." Through this work, Humboldt presents the world as an interconnected whole, emphasizing the unity in the diversity of all natural phenomena. Hayes believes

that Einstein's youthful exposure to these ideas was formative for his later breakthroughs, such as general relativity. The "physics teaching that he received either in Zurich or later on in life were obviously integral, but I think what we see when you look at the picture of his life overall and his works is somebody who had a strong historical geographical imagination." Einstein's globe is a physical reminder of his impactful cross-disciplinary knowledge—a symbol of the broad, and sometimes unexpected, range of influences that feed into a major discovery.



## "We, too, are living in a moment of transformation."

David Nirenberg, Director and Leon Levy Professor

This conversation between Nirenberg, Homans, and Rojo was one of a series, held between the Director and invited guests, meant to explore the pressures on various cultural forms—like ballet, opera, or the modern university—and the way those those forms of culture are adapting to the emerging future. Through this series, the Institute has been privileged to play host to museum directors and biographers, dancers and scholars alike as they consider what it means for arts and sciences to grow and change while continuing to cultivate the values and characteristics inherent to their forms.







When J. Robert Oppenheimer, Institute Director 1947–66, addressed the American Institute of Architects in the June 1960 issues of the AIA Journal, he was particularly concerned with the growth of science. Science, on the one hand, had "increased knowledge, understanding, insight into nature, and, increasingly, slowly into ourselves as a part of that nature," and, on the other hand, was "the power, the skill, the ingenuity to apply this knowledge to practical ends."

The theme of this address iwas technological horizons, which, for Oppenheimer, were characterized by the growth of this "double-science" which had produced "an interlocking explosion of new knowledge, new technology, of economic growth, each feeding back to the other, each enriching the other." Oppenheimer saw this technological horizon characterized by the continued specialized devotion of scientists to their particular field.

But, while this new age had created numerous new opportunities, it had also created new problems: "it has brought lesions to our society," Oppenheimer stated. Perhaps it might seem odd for a physicist to be addressing a group of architects, but this technological horizon Oppenheimer envisioned went far beyond the specialized world of the scientist.



This world of opportunity and problems necessitated "enormous synapses of communication" between the various sciences, between the sciences and the fine arts, and between all of these fields and the general public. He expressed, "I have in mind a common culture where we talk to each other, not just about the facts of nature which we can test and verify and disprove and find wrong and correct and refine, but about the nature of human predicament, about the nature of man, about law, about the good and bad, about morality, about political virtue."

At the Institute, Oppenheimer's legacy thrives. As a community continually in conversation, scholars here, in Oppenheimer's words, "check up on each other, do what another did, find what another found, and decide whether it is right or wrong."

Commons

When Rubenstein Commons officially opened its doors in May 2023, the Institute gained a nexus of flexible gathering spaces designed to not only support enhanced communication and collaboration among scholars, but also to provide a social hub for the wider IAS community. Conceived as a "social condenser," Rubenstein Commons has become a center for campus life, hosting events from Mathematical Conversations, workshops, and book talks to Happy Hours, live music performances, and trivia nights. Just as the Commons's halls have served as a gathering space for the scholars from across the globe who have visited IAS to attend major meetings of minds—like the 2024 Amplitudes conference informal interactions have also flourished there.

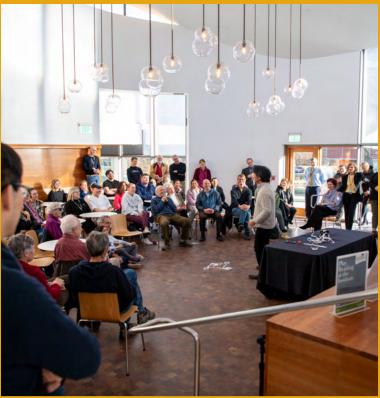
as Collider

Designed to not only support enhanced communication and collaboration among scholars, but also to provide a social hub for the wider IAS community.

Members of all four IAS Schools meet at the slate blackboards or in the comfortable lounge to exchange ideas, as well as to celebrate events like the World Cup and the Academy Awards ceremony. Like CERN's Large Hadron Collider, with its 27-kilometer ring of superconducting magnets, Rubenstein Commons's 17,175-squarefeet of unscripted spaces act as a collider, enabling unexpected collaboration and supporting the Institute's enduring commitment to nourishing discovery in all its forms.









Top I February 2024 saw Tadashi Tokieda of Stanford University take over the Rubenstein café for a presentation that infused mathematics with magic. He utilized everyday objects from wooden spoons to strips of paper to highlight unique mathematical surprises.

Left I In March 2024, the Rubenstein Commons living room hosted a special pop-up concert at teatime. ensemble132, an American collective of soloists and chamber musicians of the highest caliber, excited scholars' imaginations with a genre-defying program.

Right I Scholars from the School of Social Science gathered in the Rubenstein Commons meeting rooms on a weekly basis for their theme year seminars. In October 2023, UPS Foundation Professor Wendy Brown spoke to a packed audience on the subject of "#NoCopCity and Reparative Democracy."

# Bridging the Gap Between Science and Society

**In July 2023, the Institute's** newest campus building played host to an equally novel workshop, one which brought together a group of aspiring and early-career science journalists to hone their craft at IAS.

With its rich history of producing groundbreaking research and the ongoing foundational contributions of its scholars, the Institute is a veritable playground for science journalists seeking out an inspiring story. However, the relationship between the Institute and the media is distinctly symbiotic: science journalism offers significant benefits to IAS scholarship as well. In a world where science, innovation, and technology increasingly impact our daily lives, it is crucial for the latest developments to be accessible and understandable to the average citizen. This enables both science and the society in which it is intimately embedded to flourish. Science journalists play a vital role in the global dissemination of this scholarship, generated at institutions such as IAS.

To help a new generation of science journalists to take flight, Natalie Wolchover from *Quanta Magazine* and Siobhan Roberts, a frequent IAS Director's Visitor

and New York Times
contributor, convened
the workshop to provide
their attendees with, in
Wolchover's words, "the crucial
knowledge" necessary to secure success in
the profession.

"As with most endeavors, success in science journalism mostly comes down to talent and practice," said Wolchover. "But there's some crucial knowledge you need to add to the mix as well. So, the goal of the program was to provide a cohort of gifted, passionate up-and-coming science journalists with the basic training needed to do the job, all in the span of one week."

The 18 attendees, who were selected from a pool of over 100 international applicants, hailed from across the United States and Canada, as well as the United Kingdom, Germany, Portugal, Nigeria, and the Philippines. The workshop featured daily instructional sessions with guest lecturers, who discussed everything from the logistics of freelancing to climate journalism, scientific biographies, and the art of the



interview. Participants also had the opportunity to engage in collaborative peer review, offering feedback on each other's works-in-progress.

'It is heartening and motivating to write about science and all its societal intersections at a place that not only engages in rigorous scientific research but also in subjects about the world at large, with curiosity and critical inquiry."

#### Siobhan Roberts

The workshop proved highly impactful, even, in Wolchover's words, "at a time of peril for the profession." Their success is evidenced by the impressive array of publications in which the participants' work has been featured, which were tracked in the months following the program. Attendees' articles appeared in a range of prestigious outlets, spanning from renowned scientific journals to popular science magazines and international news platforms. This includes *Nature*, *National Geographic*, *Scientific American*, *Science*, *Quanta* 

Magazine, Live Science, and Chemistry World. The workshop's impact extended globally, with articles from participants also featured in outlets such as GMÁ News in the Philippines.

The Commons's design, which prioritizes collaboration, perfectly complemented the workshop's goals of fostering dialogue and improving science communication skills. Roberts stated that "it is heartening and motivating to write about science and all its societal intersections at a place that not only engages in rigorous scientific research, but also in subjects about the world at large, with curiosity and critical inquiry. In a sense, the journalistic process is analogous to the scholarly process: we observe and hypothesize and investigate, report on our findings, and then open it all up for discussion, at once embracing the uncertainties and trying to make sense of it all in finding a path forward."

Funding for tuition, accommodation, and travel was generously provided by the Simons Foundation, the Institute for Advanced Study, and the Rita Allen Foundation.



When the Institute for Advanced Study was founded in 1930, it was a joining of forces—between educator Abraham Flexner and sibling philanthropists Louis Bamberger and Caroline Bamberger Fuld—that saw the creation of a community dedicated to the unrestricted pursuit of discovery. Today, nearly 100 years later, it is the coming together of a vibrant and diverse intellectual community that continues to support the emergence of new knowledge across the sciences and humanities.

This community includes our Institute Faculty, all pre-eminent leaders in their fields, who dedicate themselves not only to the broadening and deepening of our understanding of the world but also to the mentorship of junior Members. These visiting scholars of all career stages join forces with the Faculty to push the boundaries of their own disciplines and, through

sharing insights and knowledge across the four Schools, contribute to unexpected, interdisciplinary breakthroughs. The Institute's staff are another key component of this community. Their daily efforts provide the Faculty and Members with the freedom to pursue their emerging ideas. Also of paramount importance are the Institute's philanthropic supporters. As ardent believers in the mission of foundational discovery, donors stretching from the Bambergers to today have laid a philanthropic foundation that allows the Institute to operate independently, fostering an environment conducive to producing groundbreaking research driven by curiosity.

In May 2024, the Institute mourned the loss of an important member of its community of discovery. James Simons, Member (1972) in the School of Mathematics, made multifaceted contributions to IAS as both a scholar and,

along with his wife Marilyn, as a philanthropist. Simons served as an IAS Trustee from 2001–18, and as Vice Chair from 2010–18, during which time he played a crucial role in guiding the Institute's financial strategies; advanced the Institute's mission through the provision of Simons Foundation funding; and bolstered interdisciplinary research through the establishment of the Simons Center for Systems Biology. Simons's contributions were truly transformative, impacting every scholar at the Institute.

But the year was not without celebration. In August 2024, the establishment of the Jonathan M. Nelson Center for Collaborative Research was announced, an initiative made possible by Trustee Jonathan M. Nelson, Founder and Chairman of Providence Equity Partners LLC and Co-Founder and Executive Chairman of Dynasty Equity. The Nelson Center will support



new and existing Faculty-led initiatives to expand the Institute's capacity for discovery across fields, facilitating the deep understanding of profound questions, which collaborative, cross-disciplinary research is best positioned to address.

The Nelson Center is not the only planned addition to the Institute campus: a restoration and expansion of the Historical Studies - Social Science Library was announced in May 2024, for which the Institute expresses its immense gratitude to Trustee Mark Heising. Heising's gift will allow the Institute to create the spaces our scholars need to do their work, whether they are engaged in solo scholarship in their offices or exchanging ideas with collaborators. Heising dubbed the project "an investment in the unique community of discovery that the Institute cultivates."

#### **PROFILES IN DISCOVERY**

The Institute's vibrant community, devoted to excellence in scholarship, is celebrated in a new video series launched in fall 2024: **Institute Instances**.

The initial episodes feature a past Artist-in-Residence who discusses his musical collaborations with an IAS mathematician, a historian who was inspired by Albert Einstein's cosmic perspective when thinking about transregional histories, a social scientist who unpicks models of how the world works, and a librarian who dives into the storied history of the Institute's Mathematics-Natural Sciences library.

















Institute Instances
Scan to watch the series
and preview upcoming
episodes.



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The following pages acknowledge the many members of the Institute's community of discovery who have nourished the capacity for foundational research over the past academic year. We are extremely grateful to the Trustees, Faculty, Friends of the Institute, Members and Visitors, Staff, organizations, and members of the community listed for their visionary commitment and contributions.

In fiscal year 2023–24 (ending June 30, 2024), gifts and pledges to the Institute totaled more than \$65 million.

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"My time at IAS was transformative. The combination of a

supportive environment, access to world-class scholars, and ample time for reflection and research contributed immensely to my personal and professional growth. I left with a renewed sense of purpose and several new projects in the pipeline. It was truly an unforgettable chapter in my academic journey, and I hope to return in the future to continue the friendships and work that began there."

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"My year at the Institute stands out in my memory, forty years later. It was a valued time in a place devoted to pure research and investigation for its own sake, two things that have meant a great deal to me profes-

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Elena Petronio<sup>†</sup> Giorgio Petronio<sup>†</sup> (1935–2023) (1934–2004)

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had arranged in their estate plans to benefit the Giorgio and Elena Petronio Fellowship Endowments. Elena was a dedicated ambassador of the Institute as a member of the Friends Executive Committee, Einstein Legacy Society, Chair's Circle, and Centennial Council. Both Elena and Giorgio found countless, and often savvy, ways to strengthen IAS through their estate planning to benefit the Institute's unrestricted endowment, the Albert O. Hirschman Chair in the School of Social Science, the Artist-in-Residence program, and Members in the School of Mathematics. Elena and Giorgio were a dynamic couple, who constantly sought new avenues to bolster diverse areas within the Institute, exuding energy and care for the entire IAS community. The Institute expresses deep appreciation in memory of Elena and Giorgio.

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