Joel David Hamkins

Mathematician, philosopher and teacher exploring infinity and mathematical worlds

Joel David Hamkins is a mathematician, philosopher, and teacher whose subject is infinity: what different sizes of infinity mean, what mathematical rules can establish about them, and what happens when those rules leave more than one answer possible. Since 2022 he has been John Cardinal O'Hara Professor of Logic at the University of Notre Dame in the United States. Trained in mathematics at Caltech and Berkeley, he spent more than two decades teaching and researching in New York before appointments at Oxford and Notre Dame brought philosophy to the center of his institutional life. Notre Dame faculty profile, education and appointment record

His work reaches several kinds of reader. Other logicians encounter him through technical research in set theory—the study of collections and the hierarchies of infinity—and through collaborations that extend computation and games beyond their usual finite limits. Students and readers outside those specialties encounter his books on mathematical proof and philosophy, public lectures, and answers on MathOverflow, a forum where researchers ask one another mathematical questions. He is especially associated with the set-theoretic multiverse, the view that there are several legitimate mathematical conceptions of sets rather than one uniquely correct universe containing them all. Alongside that disputed philosophical position, he has maintained a substantial technical research program and a growing practice of writing for people learning mathematics. Research and books, multiverse article

[External image / 外部圖片] Portrait of Joel David Hamkins
Joel David Hamkins in his University of Notre Dame faculty portrait. University of Notre Dame; photographer not stated · Rights retained by the source and respective rights holders; no open license stated. · Image source

1. Caltech and the choice of logic

Hamkins studied pure mathematics at the California Institute of Technology in Pasadena. As a freshman, he took a logic course and wondered what to study next. A friend pointed out that logic was not exhausted by this one course: there were further courses and a whole research field. In his 2013 interview with Richard Marshall, he remembers being drawn to incompleteness, independence, and reasoning about proofs themselves. Mathematical logic gave his interest in mathematics a direction. Marshall interview, restored at 3:16

He graduated from Caltech with a mathematics B.S., awarded with honor, in 1988, and

continued to Berkeley for graduate study. He received a C.Phil. in 1991 and his mathematics Ph.D. in May 1994. His later professional identity as a philosopher developed from this mathematical education and subsequent research. Official education record

Hamkins also remembers neglecting his homework arguments while learning LaTeX, the mathematical typesetting system: the pages looked impressive, but his grades suffered. Fridman interview, near 3:37–3:41

2. Graduate training at Berkeley

Hamkins' s doctoral adviser was W. Hugh Woodin, a leading investigator of large cardinals and the foundations of set theory. Berkeley' s dissertation catalogue dates Hamkins' s thesis to 1994 and records its title, Lifting and Extending Measures by Forcing; Fragile Measurability. The title locates him in a highly technical research world concerned with the survival and transformation of strong infinite structures. Berkeley dissertation record

Some context makes the apprenticeship intelligible. Set theory studies collections and the hierarchies of infinity they generate. Its standard axioms, usually abbreviated ZFC (Zermelo–Fraenkel set theory with the axiom of choice), provide a remarkably powerful common foundation for mathematics. But they do not settle every question that can be expressed in their language. Forcing is a disciplined method for constructing models in which additional sets appear and particular mathematical statements change their truth values. A large cardinal is an infinite size with unusually strong structural properties; assumptions about such cardinals extend the reach of ordinary set theory. Research in this area demands knowing both what can be changed and what a construction must preserve.

Hamkins received support during his graduate training from a U.S. National Science Foundation (NSF) graduate fellowship, a U.S. Department of Education graduate fellowship, and Berkeley research funding. His CV records a sequence of fellowships and research awards alongside his degrees. Curriculum vitae, education and grants

His work after the doctorate continued to investigate how large cardinals behave when the surrounding mathematical universe changes. In The lottery preparation, published in 2000, he developed a flexible way of preparing a large cardinal to withstand later forcing. Earlier methods achieved forms of resilience; his construction accommodated a range of later choices and cardinal contexts. Forcing work of this kind involves constructing a model, checking the properties a change must preserve, and identifying where another change destroys them. "The lottery preparation"

Hamkins and Woodin later differed philosophically: Woodin pursues a uniquely correct set-theoretic universe; Hamkins favors a multiverse. He describes the disagreement through the research each view encourages. Fridman interview, near 2:38–2:42

3. Teaching and research in New York

After a 1994–1995 visiting assistant professorship at Berkeley, Hamkins joined the City University of New York (CUNY) in 1995. The New York appointment became the long institutional base of his career, lasting until his move to Oxford in 2018, with numerous leaves and visits elsewhere. Appointments

At CUNY he taught undergraduate and master's students at the College of Staten Island, and doctoral students at the Graduate Center in Manhattan. In his 2013 account, most undergraduate mathematics majors intended to become teachers; almost all the master's students were high-school teachers seeking certification. He joined the Graduate Center's mathematics doctoral faculty in 1997, computer science in 2002, and philosophy in 2013. CUNY account

This meant teaching both people whose principal work would be explaining mathematics in schools and people preparing to conduct original research. A first encounter with proof required elementary examples and time to learn what an adequate argument looks like. A doctoral project required specialized reading, a manageable unsolved question, and the supervisor's judgment about the student's developing work. Both kinds of teaching recur in his published course materials.

The settings differed physically as well: Staten Island's wooded campus bordered parks, while the Graduate Center occupied a site in midtown Manhattan. Its logic seminars brought together faculty, students, and visitors from across the city. By 2013 he also served on the mathematics program's Executive Committee. CUNY account

He became an associate professor in 1999, received tenure in 2000, and became a full professor in 2003. CUNY appointment history

His early institutional support included a College of Staten Island research award providing released time in 1995–1996. A later CUNY fellowship leave supported a sabbatical in 2007. CV funding record

4. A year in Kobe, 1998

In 1998 Hamkins spent January through December at Kobe University as a Japan Society for the Promotion of Science fellow. He joined the university's logic group, with Philip Welch as his official mentor. Jörg Brendle arrived at Kobe at roughly the same time. JSPS fellowship record

During the year, Hamkins sent friends brief accounts of his Japanese experiences approximately every two weeks. These emails later became A Mathematician's Year in Japan, a collection he published on Kindle in 2015. His announcement describes the mixture of pleasure, unfamiliarity, and difficulty he experienced as a junior professor living abroad. It is a small, personal publishing project alongside the research papers, written first for people who knew him. Hamkins on the book's genesis

The friendship with Brendle lasted. At Brendle's sixtieth-birthday conference in Kobe in

September 2025, Hamkins recalled their nearly simultaneous arrival and the happiness of that formative year. He said he sometimes wondered how his life might have developed if he had stayed in Japan. His banquet remarks then turn into an explicitly playful fictional story; the recollection preceding it conveys his continuing attachment to the place and his friend. Kobe retrospective and banquet remarks

5. New problems and visiting appointments

The late 1990s and early 2000s reveal a researcher whose work was already moving beyond a narrow dissertation specialization. One striking example was the theorem that every group has a terminating automorphism tower, published in 1998. An automorphism is a symmetry of a mathematical structure; an automorphism tower repeatedly takes the group of symmetries of the preceding group. Earlier termination results imposed a condition concerning the group's center. Hamkins removed that restriction. "Every group has a terminating automorphism tower"

He continued working on automorphism towers with the group theorist Simon Thomas. Their papers brought forcing methods to questions about how the tower's height can vary. This was a sustained partnership across set theory and group theory, rather than a single departure from his main field. Automorphism-tower publication sequence

An even more consequential enlargement came through infinite-time Turing machines, developed in conversations involving Jeffrey Kidder and Andrew Lewis. The joint Hamkins–Lewis paper was deposited on arXiv in August 1998 and became a foundational publication of the theory. It extends the familiar step-by-step machine model into ordinal time—a mathematical ordering of steps that can continue beyond any finite number— with explicit rules for what happens at limit stages. This produces a mathematical account of computations beyond ordinary finite-time computability. Original Hamkins–Lewis paper

The machines have rules for ordinary successor steps and for limit stages, when infinitely many earlier steps have already occurred. Their tapes and outputs can then be studied with mathematical precision. Hamkins has explicitly described them as mathematical objects: physical implementation is unnecessary to the investigation. Hamkins's explanation and clarification

While employed at CUNY, he held visiting appointments at Carnegie Mellon in 2000–2001 and Georgia State in 2002–2003. Later visits took him to Münster, Amsterdam, Vienna, the Newton Institute in Cambridge, and the Fields Institute in Toronto. His CV records a recurring pattern of returning to New York after research periods elsewhere. Curriculum vitae, appointments

His New York work also included editing a book with logicians Noam Greenberg, Denis Hirschfeldt, and Russell Miller. Effective Mathematics of the Uncountable, published by Cambridge University Press in 2013, introduces several approaches to computation on infinite structures. Many contributors had taken part in conferences at the CUNY Graduate

Center in 2008 and 2009. The volume placed his work on infinite-time machines beside other approaches, giving advanced students a route into a field without a single agreed method. Author’s account and conference links, CV bibliography

6. Modal logic and the Amsterdam collaboration, 2003–2008

By the early 2000s, Hamkins was beginning to turn the techniques of forcing into questions about necessity and possibility. His 2003 paper A simple maximality principle, developing an idea associated with Christophe Chalons, studies a principle according to which a statement that can be made permanently true by forcing is already true. The idea has philosophical resonance, but its investigation involves precise consistency arguments and a formal modal language. “A simple maximality principle”

Forcing gave him a family of related mathematical worlds to compare. He began asking which claims about possibility and necessity hold across their connections: whether a statement can become true, whether it survives every further extension, and what follows when these conditions are combined. This is modal logic, the study of reasoning with “possibly” and “necessarily,” applied to a precise mathematical setting.

This became a sustained collaboration with Benedikt Löwe, connected to the Amsterdam Institute for Logic, Language and Computation. Their paper was first submitted in 2005 and published in 2008. They characterize the modal principles about forcing that ZFC proves: assuming consistency, the resulting logic is exactly the system called S4.2. The abbreviation names a precise package of rules about possible and necessary statements. Original preprint, publication and explanation

His Amsterdam visits and Dutch NWO support overlap this collaboration. Over the longer New York period, his funding record includes NSF research awards, CUNY research support, the Japanese fellowship, a German DFG visiting professorship, and a Simons collaboration grant. These supplemented the university appointment with support for research and exchanges with other logicians. Appointments and awards

7. Supervising students and developing set-theoretic geology

At CUNY, Jonas Reitz proposed looking at forcing backward: start with a model and ask where it could have come from. Hamkins initially resisted, but Reitz persisted and they investigated together. Reitz completed his doctorate in 2006. Student record, Fridman interview

The eventual field, set-theoretic geology, was developed with Reitz and Gunter Fuchs. A ground is a model from which the current universe can be obtained by forcing. Investigating grounds asks which layers underlie a world and what their intersections reveal. Their substantial joint preprint appeared in 2011, with revisions before its 2015

journal publication. Fuchs–Hamkins–Reitz preprint, Hamkins' s publication page

His graduate-student relationships became a large part of his working life. He supervised dissertations on large cardinals, forcing, and models of set theory; several students later became coauthors. When the Graduate Center held a Set Theory Day for his fiftieth birthday in March 2016, its organizers—Victoria Gitman, Roman Kossak, and Miha Habič—invited his past and present students to speak about their work. His announcement expresses pleasure in seeing them become independent researchers and colleagues. Set Theory Day announcement, student archive

8. His multiverse position

Hamkins stated his position explicitly in the 2012 article The set-theoretic multiverse: there are many legitimate concepts of set, each associated with a mathematical universe. The proposal concerns mathematical foundations, rather than physical cosmology. "The set-theoretic multiverse"

The continuum hypothesis asks whether an infinite cardinality lies strictly between those of the natural numbers and the real numbers. Forcing produces worlds in which the hypothesis holds and worlds in which it fails. Hamkins regards such variation as mathematical knowledge, rather than merely an obstacle to finding one final answer.

His philosophical account grows from constructing and comparing models with different properties. Researchers favoring one universe can accept the same constructions while interpreting them as tools for investigating a single intended mathematical reality. They disagree about what those models establish about sets.

Hamkins' s work with Victoria Gitman, formerly his doctoral student, illustrates the difference. Their 2010 paper constructs a natural model satisfying a collection of multiverse axioms, under the assumption that ZFC is consistent, using countable computably saturated models. That is a precise demonstration that the proposed principles can be realized together in a specified setting. It gives philosophical discussion a mathematical object to test, while leaving questions of interpretation open. Gitman–Hamkins, "A natural model of the multiverse axioms"

In a 2024 conversation with physicist Sean Carroll, Hamkins says that he judges philosophies partly by the interesting mathematics they suggest. A skeptical position offering little beyond reasons to distrust existing work has less appeal to him than one that opens further investigations. He also recalls an unintended response to the word "multiverse": emails from people assuming that his work concerned the physical cosmos. His mathematical proposal and physical multiverse theories address different questions. Carroll interview

9. Joining philosophy at NYU and CUNY

The institutional move toward philosophy preceded Oxford by several years. Hamkins held visiting appointments in New York University's (NYU) philosophy department in 2011 and 2015. In March 2013 he joined the CUNY Graduate Center's philosophy doctoral faculty, adding the formal ability to teach and supervise philosophy doctorates to his mathematics and computer-science roles. His announcement presents this as an expansion of a research identity that had already become more philosophical. CUNY philosophy announcement, NYU visits in the appointment record

In the 2021 My Favorite Theorem interview with mathematicians Kevin Knudson and Evelyn Lamb, he describes becoming a philosopher gradually. He also remembers adjusting to a disciplinary habit: philosophers often read the original statements of a problem, while mathematicians frequently learn from later expositions that improve an older argument. Knudson and Lamb interview

He continued to publish mathematical research while gaining responsibilities in philosophy. The new faculty membership allowed him to supervise philosophy doctorates as well as mathematics and computer-science doctorates. The NYU visits gave him additional classes of philosophy students to teach.

His spring 2015 NYU seminar, Logic for Philosophers, shows what that teaching involved. Students completed weekly exercises and an approximately eight-page final paper. Hamkins encouraged group work on exercises but required each student to understand the submitted solution. For the paper he preferred a modest investigation of a new example or variation to a survey of an advanced subject. He supplied possible questions, met students about topics, and invited them to bring drafts for comments. At the end he posted summaries of their projects, which ranged from logical connectives to majority voting and the moves of a chess knight. NYU syllabus and final-paper record

10. MathOverflow and a growing online public

The rise of MathOverflow, the question-and-answer forum for research mathematics, supplied another institutional world without requiring another employment move. Erica Klarreich's 2011 report traces the site to Berkeley graduate students working with an adapted Stack Exchange format. It offered a fast way to find expertise that a researcher's immediate colleagues might not possess, while making those exchanges available to others. Hamkins appears in the report as an enthusiastic participant. Klarreich, "The Global Math Commons"

In his own 2012 assessment, he explains that answering questions had enlarged his mathematics. Sometimes a question from another field seemed to depend on something he knew, but he had to learn enough of that field to establish the connection. Explaining familiar material also exposed gaps and consolidated understanding. Immediate responses revealed what explanations the wider mathematical community found useful. "The use and value of MathOverflow"

He was also drawn to the forum's competitive pleasures. In Klarreich's report he acknowledges finding its points and badges motivating, and jokes that his wife might ask on MathOverflow whether anyone had seen him. The activity could absorb a great deal of attention. For him its attraction lay as much in finding absorbing mathematics as in being useful to strangers. Klarreich's interviews with participants

Independent recognition came from the combinatorialist Gil Kalai, whose January 2014 post marked the approach of Hamkins's thousandth answer. Kalai's selection of examples makes clear that other mathematicians encountered the activity as substantial mathematical exposition, not simply as online visibility. Kalai on Hamkins's MathOverflow answers

The forum also changed his supply of problems. His infinite-chess research began in response to a question by Richard Stanley, as he recalls in the theorem podcast. A question originating outside his own project list became an opening for set-theoretic analysis. My Favorite Theorem, origin of the chess work

11. Infinite chess with Evans and his former students

Infinite chess makes Hamkins's method unusually visible. The board extends indefinitely, while the pieces retain rules analogous to ordinary chess. One has to specify which positions and winning conditions are under discussion; otherwise the apparently simple variation hides several different questions.

In work with Dan Brumleve and Philipp Schlicht, announced in January 2012, Hamkins proved that the mate-in-n problem for specified finite positions is decidable. That is a restricted, precise result: it does not assert that every question about winning in infinite chess has an algorithmic answer. "The mate-in-n problem of infinite chess is decidable"

Another collaboration paired him with Cory Evans, a U.S. National Master. Their work used ordinal numbers to measure the structure of certain forced wins. An ordinal value can describe more than a fixed number of moves: a defending player may choose an arbitrarily long finite delay, or choices may be nested in successively more complicated ways. This turns a board configuration into an explicit representation of transfinite strategic complexity. Their 2014 paper exhibited particular values on the two-dimensional board and proved a broader realization theorem for three-dimensional infinite chess. Evans–Hamkins, "Transfinite game values in infinite chess"

Norman Perlmutter, who completed a doctorate under Hamkins in 2013, later joined Evans and Hamkins in constructing a position of value ω^4, first described in 2015 and published in 2017. The construction organizes mechanisms that compel responses and permit increasingly nested delays. It is not evidence that an ordinary chess game lasts literally ω^4 moves; the ordinal measures the architecture of a winning strategy. Evans–Hamkins–Perlmutter construction

Evans was a CUNY graduate student and Hamkins’ s son’ s chess coach. Their collaboration required repeated repairs: Hamkins proposed a position; Evans found a pawn that could be taken or a bishop that could escape, spoiling the proof. They adjusted the pieces until the chess and mathematical argument worked. Fridman interview, near 3:32–3:34

12. Children’ s activities and the first proof textbook

Hamkins also developed mathematics activities for children, partly through visits to his own children’ s classes. In May 2014 he brought graph-coloring problems to his daughter’ s second-grade classroom. The children tried to color connected points with as few colors as possible, then drew problems to challenge their partners. They explored paths that cross each line exactly once and assembled their work into booklets. He particularly remembered one child telling him she wanted to be a mathematician. “Math for seven-year-olds” classroom account

The account includes the practical adjustments: he had prepared too much for an hour, some problems were left for home, and getting children to draw in one another’ s booklets proved harder than expected. With help from mathematician Andrej Bauer, he posted printable pages for other parents and teachers. When readers later found the folding instructions confusing, he acknowledged that a different arrangement would have been easier. Classroom account and follow-up discussion

A new College of Staten Island course in spring 2017 became the occasion for Proof and the Art of Mathematics. It was intended to fit after calculus and before or alongside abstract algebra and linear algebra, where students need to write proofs rather than mostly calculate. Hamkins was writing a text for the class, beginning with the irrationality of the square root of two and proceeding through number theory, graphs, games, and sets. He wanted substantial results that admitted elementary proofs. 2017 course announcement and book-in-progress

The writing took longer than his first announcements anticipated. In January 2017 he told a colleague that he was finishing the text while teaching from it; by September, in response to a prospective reader, he reported that other tasks had delayed it. The eventual book appeared three years later. 2017 course discussion

MIT Press published Proof and the Art of Mathematics in September 2020. It includes diagrams, proofs without words, and exercises through which readers practice constructing arguments themselves. Hamkins also examines what makes a visual argument convincing and what it actually establishes. The book received the Mathematical Association of America’ s Daniel Solow Author’ s Award in 2024. MIT Press publication record

A companion volume, Examples and Extensions, appeared in February 2021. It gives fully worked solutions to the odd-numbered exercises and some even-numbered ones, with matching chapter and exercise numbers so readers can move between the books. Some

solutions continue beyond the original question. In its preface, Hamkins asks learners to build examples, formulate conjectures, test corner cases, and seek alternative arguments even after finding a correct proof. Author's companion-volume page, MIT Press edition

13. Oxford, 2018–2022

In May 2018 Hamkins announced that he would move to Oxford that September as Professor of Logic in the Faculty of Philosophy and Sir Peter Strawson Fellow at University College, with an affiliation to mathematics. These were two connected institutional roles: a university professorship and a college fellowship. Oxford appointment announcement

At Oxford he was employed principally in philosophy, with an affiliation to mathematics. He taught philosophy-of-mathematics lectures and graduate seminars, while continuing to supervise technical research. The college fellowship added an Oxford collegiate affiliation to the university role.

During the pandemic, his teaching moved online. In the 2020 philosophy-of-mathematics lectures, students preparing for Oxford's examination paper could attend live on Zoom; the lectures were also recorded. Graduate seminars were more intimate. He co-taught one with philosopher Wesley Wrigley in spring 2020 and another with logician Volker Halbach in early 2021. The Wrigley seminar divided the term between Gödel's incompleteness results and Hamkins's work on potentialism. The Halbach seminar discussed self-reference, truth, and different degrees of consistency strength, including a paper Hamkins was developing. 2020 lectures, Wrigley seminar, Halbach seminar

Oxford also became a setting in which ongoing research could be reorganized for students from neighboring fields. Davide Leonessi's 2021 master's dissertation in Mathematics and Foundations of Computer Science, supervised by Hamkins, studied transfinite game values in infinite Hex and draughts. The project built on the chess work while discovering that different games realize very different degrees of ordinal complexity. Leonessi dissertation and defense record

In parallel, Hamkins's collaboration with the philosopher Øystein Linnebo investigated set-theoretic potentialism. Potentialism regards a mathematical domain as open to enlargement rather than completed once and for all. Their preprint appeared in 2017, was revised in 2018, and was eventually published in 2022. It compares several precise ways domains might grow and determines the modal principles each supports. Hamkins–Linnebo paper and version history

Writing the philosophy lectures

Lectures on the Philosophy of Mathematics, published by MIT Press in March 2021, brings together his teaching on mathematical existence, truth, rigor, and the choice of axioms. The reader encounters mathematical examples and arguments alongside philosophical questions. MIT Press, Lectures

Hamkins wanted readers to encounter mathematical arguments before turning to the philosophical difficulties they raise. The book's chapters therefore begin with subjects such as numbers, geometry, infinity, and computability, and move into questions about what exists and what a proof establishes. He describes the approach as growing from his teaching. Hamkins on the book's design

On his site, readers have pointed out errors and typesetting problems in the published text, and he has acknowledged corrections. The book announcement remains a place to collect these reports. Author's book page and discussion

14. Notre Dame and Infinitely More, from 2022

Notre Dame's appointment was publicly reported in September 2021; Hamkins's own January 2022 announcement marks the start of the position. He would be based in philosophy, affiliated with mathematics, and teach in both departments. He specifically noted the joint Ph.D. program in Logic and Foundations of Mathematics and the Mathematical Philosophy undergraduate minor. Contemporary hiring report, January 2022 announcement

A 2024 Notre Dame graduate course on Gödel's incompleteness theorems followed his developing book, Ten Proofs of Gödel Incompleteness. Students studied different arguments for why a sufficiently strong formal theory cannot settle every arithmetic truth. The course page supplied installments of the text and reading assignments. 2024 course outline

His subscription publication, Infinitely More, carries mathematical and philosophical essays, puzzles, and serial books. Readers can receive installments by email and join discussions; some material requires a paid subscription. The book-project page includes work on logic, surreal numbers, games, and incompleteness. Infinitely More: about, book projects

The Book of Infinity began when his new Notre Dame department asked which course he most wanted to teach. He proposed a course on infinity he had long hoped to offer, then began writing its material. As chapters were completed he serialized them on Infinitely More. Further teaching, revision, and editing followed before the finished book appeared. His account identifies this project as the original reason for starting the newsletter. Hamkins on the book's origin

MIT Press published the 400-page book on August 25, 2026. Its subjects range from ancient paradoxes and infinite processes to different infinite sizes, the continuum hypothesis, and modern puzzles about knowledge. Hamkins designed more than 200 color figures himself, using LaTeX and its TikZ drawing tools. These are part of his explanatory work, integrated into the chapters rather than supplied solely as illustrations by another specialist. MIT Press edition, Author's account of the figures

15. Research, teaching, and publication in 2024–2026

Hamkins has also worked on the history of logic. With Theodor Nenu, he investigated the common assertion that Alan Turing's 1936 paper proved the halting problem undecidable. Their 2024 preprint, subsequently published in the Journal of Logic and Computation, distinguishes the modern formulation and proof from the equivalent problems Turing actually treated. They regard the attribution as defensible, while asking readers to attend to the original text. Hamkins–Nenu paper and discussion

A reader, Salvador Lucas, pointed out related prior work in the comments. Hamkins acknowledged having missed it and added a reference to the updated article. Discussion beneath the Turing paper

A separate 2024 essay considers how the continuum hypothesis might have acquired a different historical status if mathematical discoveries had occurred in a different order. Hamkins imagines a route through which it could have seemed indispensable to central mathematical ideas. This is a stated counterfactual thought experiment, not a claim that the actual historical sequence was otherwise. "How the continuum hypothesis could have been a fundamental axiom"

His technical research continues. A graduate lecture series announced for Peking University in June–July 2026 connected his early maximality principle with modal forcing, potentialism, modal model theory, and arithmetic potentialism. It required prior graduate-level knowledge of forcing and model theory. Peking University lecture series

A July 2026 Fudan talk announcement describes work in progress with Bokai Yao of Peking University on how definability changes under forcing. In September he announced a talk on the same research for Notre Dame's Logic Seminar, followed by a planned return to CUNY's Logic Workshop in October. The paper was still described as work in progress. Fudan research announcement, current talk announcements

In autumn 2026 the other side of his practice remains equally concrete. A Notre Dame philosophy course on games has no formal mathematical prerequisite. Students are assessed partly by playing games with the professor and explaining their strategic reasoning; a games club provides another setting to practice. The syllabus moves from familiar games toward transfinite ones and philosophical readings. It also requires students to produce their own assessed work rather than submit AI-generated text. Fall 2026 syllabus

16. Colleagues, audiences, and professional supports

Hamkins maintains pages listing his research collaborators and graduate students, including projects and completed dissertations. The long partnerships with Löwe, Reitz, Gitman, Evans, and others have produced different kinds of joint work: technical papers, investigations of games, and philosophical arguments. Former students also appear as coauthors. Research collaborators, graduate students

His university employment remains the base for these activities. CUNY combined college teaching with a doctoral community; later positions placed him directly in philosophy departments. Visiting fellowships and research grants supported periods with other logicians. His books now pass through conventional publishing, self-publishing, and subscriptions, with different audiences and timetables. The public record does not establish the amounts of salary, royalties, or subscription income.

When asked about explanation, Hamkins has defended metaphor and informal pictures as useful to specialists as well as beginners. He enjoys finding a way to make a problem imaginable before giving its exact formulation. His work in recent years includes research talks requiring graduate knowledge of forcing, introductory courses with no mathematical prerequisite, and writing delivered each week to subscribers. Those different audiences now occupy the same working life. Marshall interview, on explanation, Notre Dame games course

Chronological cross-check

This table distinguishes formation, appointments, and publication dates. It supplements the narrative; an article’ s publication year may be substantially later than the beginning of the work.

Date / Verified event / Source

Date: 1988
Verified event: Caltech mathematics B.S.; begins the Berkeley graduate period
Source: Education

Date: 1994
Verified event: Berkeley Ph.D. with Woodin; visiting assistant professorship follows
Source: Dissertation catalogue

Date: 1995
Verified event: Joins CUNY; Staten Island employment becomes the long early base
Source: CUNY

Date: 1997–2013
Verified event: Graduate Center affiliations added: mathematics 1997, computer science 2002, philosophy 2013
Source: CUNY account

Date: 1998
Verified event: Year-long JSPS fellowship in Kobe; first infinite-time Turing-machine preprint
Source: Fellowship, preprint

Date: 2000–2008

Verified event: Lottery preparation; maximality principle; modal forcing collaboration
Source: Lottery, modal forcing

Date: 2011–2015
Verified event: Geology preprint and publication; NYU philosophy visits; explicit multiverse statement
Source: Geology, appointments, multiverse

Date: 2017
Verified event: Staten Island proof course and book in progress; potentialism preprint
Source: Course, preprint

Date: September 2018
Verified event: Takes Oxford university professorship and University College fellowship
Source: Announcement

Date: 2020–2021
Verified event: MIT Press publishes Proof and Lectures
Source: Proof, Lectures

Date: January 2022
Verified event: Begins Notre Dame appointment
Source: Announcement

Date: August 2026
Verified event: MIT Press publishes The Book of Infinity
Source: Publisher

Date: 2024–2026
Verified event: Historical and philosophical papers; continued advanced research and teaching; further book serialization
Source: Turing, Peking lectures, newsletter

Source guide and limits

The principal biographical authorities are Hamkins' s official site, its CV, the Berkeley dissertation catalogue, and Notre Dame' s current faculty page. Autobiographical recollections are identified as recollections rather than contemporaneous observations. The CV is partly stale; its present-tense labels do not override dated appointment announcements. The grants pages and CV also differ in some award end dates, plausibly reflecting extensions, but this account does not assume the explanation or derive personal earnings from award totals.

The three long interviews serve different purposes: Richard Marshall, 2013, for the early choice of logic and explanatory sensibility; Knudson and Lamb, 2021, for professional identity and the origin of the chess interest; and Fridman, 2025, for the LaTeX recollection,

Woodin disagreement, and Reitz episode. The Fridman page warns that its transcript can contain errors; dates and appointments are checked elsewhere.

For independent contemporary views of the online work, the important sources are Klarreich's 2011 report and Kalai's 2014 recognition. Hamkins's own dated 2012 assessment explains what participation changed in his working method. Current ranking claims are not used to estimate quality or income.

The technical passages rely on linked original research records and author explanations rather than treating popular interviews as sufficient authority for a theorem. They explain the minimum machinery needed to understand the professional trajectory. Complete texts of the Japan memoir and all advertised books were not available for this research; publisher descriptions and author accounts are used for editions and stated educational design.

The public sources leave significant areas unresolved: early family and schooling, ordinary daily scheduling, the private reasons for institutional moves, actual salary and royalty arrangements, and the present status of every student listed on an older page.