

Report to the President year ended June 30, 2025, The MIT Quest for Intelligence

The MIT Quest for Intelligence (The Quest) is focused on research at the interface of Natural Intelligence (NI) and Artificial Intelligence (AI). Over the past year, Quest scientists and engineers have presented our work broadly, published significant papers, and developed new tools; their work has been recognized with honors and awards, most notable was the 2024 Kavli Prize in Neuroscience awarded to Nancy Kanwisher, Walter A. Rosenblith Professor. The Quest's tools and technologies are used in research institutions worldwide. In a rapidly changing research landscape, our organization is flourishing, thanks to a strong leadership team, dedicated supporters, creative researchers, and an energetic staff. The Quest researchers are engaging with colleagues in disciplines across the Institute and in universities and institutions worldwide. We were excited to launch Matter of Minds, a biennial one-day conference at which the Quest community, inside and outside MIT, share research results, discuss topics of immediate impact and interest, and consider new ideas.

Leadership and Affiliated Researchers

James DiCarlo, Peter de Florez Professor of Systems and Computational Neuroscience, is the Quest Director; Nicholas Roy, Professor of Aeronautics and Astronautics, is the Director of MIT Quest Systems Engineering; Professor Joshua Tenenbaum is the Director of Science; Leslie Pack Kaelbling, Panasonic Professor in the Department of Electrical Engineering and Computer Science is the Director of Research; Vikash Mansinghka, principal research scientist, presently on leave from the Institute, was the Director of Modeling and Inference; and Erik M. Vogan is the Executive Director. The Center for Brains, Minds, and Machines (CBMM) is led by Tomaso Poggio, the Eugene McDermott Professor.

Researchers representing labs, centers, and academic departments across the Institute are involved in Quest-sponsored research:

- Schwarzman College of Computing (SCC), Electrical Engineering and Computer Science Department (EECS): Associate Professor Jacob Andreas; William Freeman, Thomas and Gerd Perkins Professor; Tomas Lozano-Perez, School of Engineering Professor of Teaching Excellence; Professor Martin Rinard; Leslie Kaelbling.
- Computer Science and Artificial Intelligence Laboratory (CSAIL): Daniela Rus, Director, and Andrew (1956) and Erna Viterbi Professor of Electrical Engineering and Computer Science.

- Brain and Cognitive Sciences Department (BCS): Associate Professor Ev Fedorenko; Nancy Kanwisher; Rebecca Saxe, John W. Jarve (1978) Professor, associate dean of the School of Science; Laura Schulz, John and Dorothy Wilson Professor; Associate Professor Steven Flavell; Professor Roger Levy; Jim DiCarlo; Josh Tenenbaum; Vikash Mansinghka; Tommy Poggio.
- Sloan School of Management: Abdullah Almaatouq, Douglas Drane Career Development Professor in Information Technology and Management; John Horton, Associate Professor of Information Technologies; Thomas Malone, Patrick J. McGovern (1959) Professor of Management; David Rand, Erwin H. Schell Professor.
- Department of Mechanical Engineering: Faez Ahmed, Henry L. Doherty Associate Professor in Ocean Utilization.
- Department of Aeronautics and Astronautics: Nick Roy.
- Political Science: Adam Berinsky, Mitsui Professor of Political Science.

Research

Researchers in the Quest aim to understand intelligence — how brains produce it and how it can be replicated in artificial systems. This challenge requires organized, collaborative efforts from specialists spanning MIT, representing science, engineering, the humanities, and social sciences.

To address this challenge, the Quest has established “*Missions*,” long-term collaborative projects rooted in foundational questions in and centered around a single domain of intelligence, and “*Platforms*,” systems that enable Missions research in new directions and benchmarking and testing interfaces that use data, both from the Missions and other sources, to help the researchers refine and expand their work. This past year, the Quest continued support for the Developing Intelligence, Embodied Intelligence, Language, and Perceptual Intelligence Missions; the incubating Collective Intelligence Mission has been terminated. During the spring, the Quest organized a workshop on Social Intelligence, an area of research under consideration as a future Mission. The Quest provides institutional support, guidance, and engineering support for each Mission. Brain-Score, the Intelligence Observatory, and the Scaling Inference Platform are providing significant research support and resources to the Missions and to other groups inside and outside MIT. Additionally, we collaborated closely with the Children Helping Science team, which supports the work of the Developing Intelligence Mission.

Center for Brains, Minds, and Machines

[CBMM](#) is a multi-institutional, NSF-funded Science and Technology Center headquartered at MIT. For twelve years, CBMM’s research, education, and outreach programs have been an important part of the MIT environment, exploring the ways that

the natural science of the brain and mind plays a key role in advancing machine intelligence. As the final no-cost-extension on the NSF funding ends this year, CBMM leadership has focused on preserving its legacy of educational and outreach programs and has worked closely with the Quest to continue to nurture and grow the community of intelligence researchers that CBMM nucleated over a decade ago.

The CBMM Outreach Program hosted short-term training programs for the thirteenth year: the Quantitative Methods Workshop, an intensive seven-day program on computational and cognitive neuroscience methods which is held in January, and ten-week summer Undergraduate Summer Research Internships in Neuroscience.

Engineering Team

The Quest Engineering Team continues to develop and maintain software systems that accelerate and integrate the work of the Quest Missions and Platforms. Over the course of the past year, the team's efforts have primarily focused on the release of Brain-Score 2.0 and on work with [Children Helping Science \(CHS\)](#). Updating Brain-Score's infrastructure, improving its stability, and allowing integration with other tools enable it to be adopted by groups and disciplines outside the original audience. For CHS, the Engineering Team is integrating data annotation tools into the iCatcher platform, allowing users to do research more quickly and scalably. They have developed new safeguards and tools that ensure security and compliance, working within resource limitations, while allowing the CHS userbase to customize annotations to their needs. The team continues to supervise UROPs who are contributing significantly to Quest research efforts.

Quest Missions

Developing Intelligence: Scaling AI the Human Way

Lead PI: *Tenenbaum*

Collaborators: *Schulz, Saxe, Mansinghka*

Asking if it is possible to build AI that starts like a baby and learns like a child, this Mission broadly aims to understand how human learners grasp new concepts from very few examples, and how children build upon layers of concepts to reach an understanding of the world with the flexibility to solve an unbounded range of problems. The researchers are building computational models of the core common-sense knowledge that represents the “start-up software” of the brain, the perception algorithms that allow infants to grasp the state of the physical world and other agents' goals in terms of these common-sense representations, and the learning algorithms used by babies over the first 18 months to grow, enrich, and ultimately move beyond their initial mental models. Progress towards these goals will have many technological and societal payoffs, including robots that can more flexibly adapt to new situations and robustly perceive their environments, and a better understanding of how children learn for the

purposes of early childhood education and developmental interventions. Over the last year, the team's advances include:

- Extending the CHS platform from laptop to mobile devices, making remote studies for babies & children accessible to many more families.
- Beginning work to bring iCatcher+ (also developed at MIT) to the CHS platform so researchers can automatically code infant gaze time data.
- Designing the first integrated vision-and-physics models that can extract 3D, probabilistic representations from real videos and make human-like predictions about future physical outcomes, for use as general models of adult and infant cognition.
- Working on development of computational models – based on the aforementioned stimulus-computable vision-and-physics models – that capture graded responses to physical prediction errors ranging across developmental stages from infancy to adulthood, revealing systematic shifts in surprise sensitivity and probabilistic reasoning over intuitive physics given the full spectrum from probable to improbable to impossible events.
- Developing a novel extension to the classic violation-of-expectation paradigm, enabling efficient and scalable quantification of the magnitude of surprise across physical and social domain while controlling for order effects and attentional confounds, thereby providing a more precise diagnostic tool for probing core expectations in infancy.
- Creating a web-based eye-tracking behavioral method allowing for large-scale online data collection and developing generative probabilistic models to investigate real-time mental simulation and hypothesis updating during physical reasoning in children and adults.

Embodied Intelligence Mission

Lead PIs: Kanwisher, Kaelbling

Collaborators: DiCarlo, Lozano-Perez, Roy, Tenenbaum

The goal of this Mission is to understand the mental representations that underlie physical interaction with the real world. In particular, the focus is on the presence and utility of direct 3D representations of the shapes of objects that an agent is interacting with.

The team has designed a set of physical manipulation problems, focused on finding an object of a known size that is initially not apparent, by moving other objects out of the way. Solutions to these problems might be implemented in a “model-free” or a “model-based” way. In the model-based strategy, the agent builds a 3D mental representation of the observed scene, and performs geometric reasoning to decide whether the target object might be hidden. In the model-free strategy, the agent has simply learned a

strategy for moving things, which does not require 3D reconstruction of the scene or spatial reasoning. These methods can be differentiated in terms of the patterns of errors, reaction times, and ability to perform well in novel situations.

They are testing human performance in virtual reality, compared against computational implementations of both strategies, also using virtual information. In addition, they are extending a commercially available research robotics system to be capable of solving these tasks, via both model-based and model-free pathways. The robotics work is laying the foundation for future experiments with longer time horizons and larger spatial extents, by designing novel modular architectures for intelligent behavior that combine learning and reasoning.

Language and Thought

Lead PIs: Fedorenko, Andreas, Levy

Large language models (LLMs) are fundamental building blocks in many modern AI systems — for language processing, as well as robotics, computer vision, software engineering, and more. For models trained on text to be useful in general AI and scientific applications, they must understand not just the structure of language, but the structure of the world; moreover, their language, reasoning, and world knowledge capabilities must align with those in humans. This research aims to provide a robust theoretically motivated and empirically grounded framework for studying and improving world knowledge and reasoning capabilities in large language models, using an understanding of human cognition to make models better, and using models as a tool to understand human language and cognitive processing. Recently, the team

- Released an evaluation benchmark for social and physical reasoning in LMs ([Elements of World Knowledge](#)) that is being incorporated into major LM evaluation projects, including Stanford's Holistic Evaluation of Language Models (HELM). A paper is now in press at *Transactions of the ACL* (Ivanova, Sathe, Lipkin et al., 2025).
- Developed a cognitive modeling framework, Rational Meaning Construction, in which utterances are interpreted as updates to, and queries against, a probabilistic model that is constructed on-the-fly to support reasoning about a situation described in language. Two instantiations of this work appeared at the Cognitive Science conference (Wong, Collins et al., 2025; Colas et al., 2025), and Lio Wong's thesis on the subject received the Glushko Dissertation Prize from the Cognitive Science Society.
- Developed new algorithms for learning language interactively via targeted queries to a linguistic informant. This work appeared at the annual meeting of the Society for Computation in Linguistics (Breiss, Ross et al. 2024).

- Found that LLM representations capture human neural responses accurately enough to allow for non-invasive ‘control’ of the language circuits (Tuckute et al., 2024 *Nat Hum Beh*).
- Reviewed the state of current research in relating LLM representations to human neural responses to language and identified contemporary research challenges (Tuckute et al., 2024 *Ann Rev Neurosci*).
- Found a strong relationship between the length of chains-of-thought in Large Reasoning Models and human reaction times on diverse reasoning tasks (de Varda et al., 2025 *arXiv*).
- Investigated the relationship between language and long-term semantic memory by studying memorability of words (Tuckute, Mahowald et al., 2025 *GEP:G*, Editor’s choice award) and sentences (Clark, Tuckute et al., accepted with minor revisions).
- Investigated the convergence of representations among different language models, and among vision models (Hosseini et al., 2025 *bioRxiv*).
- Provided a detailed algorithmic explanation for how LLMs perform state tracking and model the changing state of the world described in text, by building on our earlier work on meaning representations in language models (Li et al., ICML 2025).
- Developed a neurosymbolic model of incremental noisy-channel language comprehension ([Clark et al., 2025, CogSci](#); Clark et al., under review).
- Made key initial progress in modeling the semantic conceptual representations in verbs of bodily locomotion ([Langlois et al., 2025, CogSci](#)) and has substantial ongoing progress in advancing relevant modeling techniques using state-of-the-art motion simulators.
- Made significant advances in understanding how grammatical knowledge in LLMs can be characterized as statistical correlational patterns, and demonstrating the range and subtlety of the patterns captured ([Hu et al., 2024, PNAS](#); Hu et al., invited revision under review).
- Made advances in modeling linguistic patterns evident in emergent communication systems as trade-offs among structural and context-specific utility, informativeness, and complexity ([Tucker et al., 2025](#); [Chen et al., in press](#)).
- Contributed an MIT Generative AI Impact Paper on [The Science of Language in the Era of Generative AI](#) (Levy et al., 2025), co-authored by MIT faculty representing MIT’s School of Engineering, School of Science, School of Humanities and Social Sciences, and the SCC.
- Developed and validated a new experimental framework for psychometric testing of visual language models (VLMs; [Pushpita & Levy, 2024](#)).
- Provided a detailed algorithmic explanation for how LLMs perform state tracking and model the changing state of the world described in text, building on our

earlier work on meaning representations in language models (Li et al., ICML 2025).

Currently, the Mission is

- Designing a new fMRI benchmark of responses to 10,000 sentences, in order to develop the most accurate encoding model of human responses to language to date and to evaluate the importance of syntactic structure in aligning model representations to human neural responses.
- Designing a combined fMRI/model evaluation approach to investigating arithmetic reasoning in humans and machines.
- Performing a deep analysis of how LLMs represent fundamental grammatical generalizations in language, as well as the limitations of LLMs in this regard (e.g., Krivosheyeva et al., 2025).

Perceptual Intelligence

Lead PIs: DiCarlo, Tenenbaum, Mansinghka

The Perceptual Intelligence Mission's goal is to produce machine-executable models of human visual intelligence that work computationally, cognitively, and neurally.

This team of computer scientists, cognitive scientists, and neuroscientists aims to produce new machine-executable models that take visual sensory data as input and

1. Match or exceed the data efficiency, generalizability, and robustness of human vision, unlike current industry "AI" approaches that require large training datasets, struggle with difficult viewing conditions, and often fail to transfer from the factory to the field;
2. Are theoretically well-grounded in being provably constructed by design to implement sound approximate probabilistic inference in generative models that accord with core principles of optics and mechanics, with controllable tradeoffs between perceptual latency and error rate, for fixed-size circuit implementations, unlike industry neural network architectures for vision;
3. And have internal components that simultaneously align with internal brain responses measured across the multiple brain areas in primates (including humans) that are thought to support scene understanding and thus are the leading scientific models of the brain mechanisms of visual perception.

Success in this Mission will result in theoretically grounded, open-source software and tools to catalyze new AI approaches that scale far better in data and compute than current industry approaches, which will allow transformative AI applications far beyond human visual capabilities. It will also unlock the ability to use the brain-aligned models of human visual processing and perception for biomedical applications, such as the development of non-invasive methods for targeted, precision deep-brain modulation. In

the future, other scientific teams will be able to use the same approach to explain human auditory and tactile perception, and this approach will form the foundation for machine executable models of other domains of intelligence that draw on the contents of visual perception, such as planning and navigation.

Collective Intelligence

Lead PIs: Malone, Almaatouq, Rand, Rus

Collaborators: Ahmed, Berinsky, Horton

This Mission studied intelligence at a meta-level: the collective intelligence that arises in groups of individuals, whether those individuals are humans, non-human animals, computers, or combinations of these and other entities. The team's goal was to identify similarities in how intelligence emerges in these different kinds of groups through developing an "ontology of collective intelligence" — a body of theory that identifies a wide range of possible processes and performance prediction models for tasks such as group decision-making. As of December 2024, the Collective Intelligence Mission's efforts have been terminated.

Quest Platforms

Brain-Score

[Brain-Score](#) enables direct comparison between neural representations and behavior of humans or non-human primates with the artificial neural representation and behavior of computational models. Such comparisons help researchers understand how closely aligned a particular computational model is with data collected from biological agents, allowing them to explore areas of similarity or difference. The release of Brain-Score 2.0 in 2024 enabled a Brain-Score Benchmark competition, which identified significant gaps in current computational models' ability to model the primate visual ventral stream. Building on the advancements made in the past year, the Brain-Score team further improved scalability by shifting from on-premise infrastructure to the cloud, which then allowed them to focus on transforming the front-facing public platform into a robust tool for scientific inquiry. In addition to improvements on documentation and the submission process, the platform's core feature — the leaderboard — has undergone a major overhaul, from a static ranking system to an interactive tool allowing researchers to investigate alignment across a variety of features". Through these developments, Brain-Score has been positioning itself as a hub for understanding model behavior to provide insight into natural intelligence.

Intelligence Observatory

The Intelligence Observatory (IO), an initiative to build experimental infrastructure for scalable psychometric testing in humans and models, was launched over the course of the past year. A central focus was the development of formal data abstractions that describe cognitive tasks, agent interfaces, and behavioral measurements. These

abstractions are designed to support interoperable use across artificial and natural agents.

In parallel, the IO developed internal infrastructure for high-throughput online experimentation in human participants, including a scalable orchestration engine now undergoing live pilot testing in collaboration with the Perceptual Intelligence Mission. The IO also supported exploratory work in virtual-reality based task environments, piloting a limited set of VR-based protocols.

Taken together, these efforts position the IO to collect the data needed to enable rigorous, scalable comparisons of computational models against human behavioral data.

Scaling Inference

Lead PIs: Mansinghka, Tenenbaum

Collaborators: Rinard, Kaelbling, Roy, Andreas, Freeman, Schulz, Flavell, DiCarlo

A great deal of enthusiasm, in both AI and in brain and cognitive sciences, is focused on building large neural network models. This team is pursuing an alternate scaling route for AI systems and for NI models, based on inference in probabilistic programs. Their AI-facing goal is to show that end-to-end explainable AI systems built using probabilistic programming can match and exceed the speed, robustness, and flexibility of human intelligence, using 100 to 1,000 times less computation than deep learning. Their NI-facing goal is to leverage new techniques for neural mapping of probabilistic programs to build and test these AI systems as computational models of perception and cognition.

The AI-facing goals both draw on and contribute to open-source libraries:

- Gen3D: Real-time 3D-scene perception that learns to perceive new objects and scenes on one GPU in real time, aiming to be more robust than transformers trained offline using 1,000+ GPU-hours.
- GenLM: Trustworthy conversational AI that gives grounded, auditable answers, and aims to be more accurate than GPT4 in data-driven domains, using probabilistic programs built and fine-tuned on one GPU.
- GenJAX: The first GPU-accelerated probabilistic programming stack with programmable inference, enabling rational inference with probabilistic programs to scale via GPUs.

The NI-facing goals draw on and contribute to the emerging spiking Monte Carlo neural network theory of how cortico-subcortical computation can implement fast, robust probabilistic inference.

The group is collaborating with the Embodied Intelligence, Developing Intelligence, and Language Missions to test Gen3D and GenLM as models of NI, as well as enabling adoption of the GenJAX platform more broadly across MIT labs.

Accomplishments over the past year include:

- Open-source release of GenJAX, a multi-paradigm (generative, differentiable, incremental) language for probabilistic programming, with vectorized generative functions that scale on modern accelerators. GenJAX is being used by collaborating labs, e.g. the Flavell lab, for high-throughput analysis of neural and behavioral data. It is also a critical enabler of Gen3D.
- Developing the first prototype of Gen3D, a real-time end-to-end rational 3D vision system that learns in real time on 1 GPU and outperforms video transformers trained with over 500 GPU hours. Gen3D also outperforms differentiable programming baselines from robotics and computer graphics on multiple 3D object perception tasks. Gen3D works by probabilistic inference over multi-resolution generative models of matter, object motion, and camera motion, that automatically and flexibly adapt to the information in the data. It dynamically adapts across the spectrum from very low resolution to high resolution, like human perception and unlike both deep learning and differentiable computer graphics. Gen3D thus provides some of the first empirical evidence that it is possible to outperform modern neural networks and optimization algorithms with probabilistic inference over multi-resolution, symbolic, human-editable models of the world.
- Developing and publishing on GenLM, a language model probabilistic programming framework developed at MIT (with collaborators at the University of Cambridge, McGill, Yale, Mila-Quebec, and ETH Zurich). GenLM enables small open-source models to outperform models over 8 times larger on constrained generation tasks including code synthesis, semantic parsing, and text-to-SQL translation, yielding better translations than prompting alone on several challenging benchmarks. The work was presented at ICLR 2025.
- Founding of GenWeb and other for-profit startups to scale applications of the open-source software in industry.
- Completed the first stage of a collaboration with the nonprofit CHI-FRO.org, including the open-source release of GenJAX and work on major papers supporting a Gen3D and Spiking Monte Carlo Neural Network theory for probabilistic inference in the brain.

Research goals for the next year include:

- Publishing an introduction to a spiking Monte Carlo neural network theory of how probabilistic inference can be scaled to match the efficiency of the brain.
- Further scaling GenLM by increasing the accuracy and efficiency of the GenLM toolkit for controlled generation. This includes fine-tuning base language models for use in Sequential Monte Carlo algorithms, developing methods to better align

and compare generated text sequences during the sampling process, and leveraging chain-of-thought reasoning capabilities in modern language models to improve inference. This work also includes prototyping GenLean, an application of GenLM to auto-(in)formalization based on explicit probabilistic reasoning.

- Entering the second stage of a collaboration with the non-profit CHI2FRO.org to apply the science and open-source technology that this group is developing to build machine executable models of the mind and brain. These include the first language-computable models of cognition, drawing on open-source probabilistic programming technology, and the first behavioral tests of the spiking Monte Carlo neural network theory via collaborations with multiple neuroscience labs. This work aims to thus advance the scientific goals of the Quest and lay the groundwork for applications in mental health.

Administration

Research Affiliates and Industry Collaborations

The Quest's engagement program offers companies a variety of ways to advance their strategic goals. Through this program, we host the MIT-Liberty Mutual Insurance Collaboration. In 2024–2025 our total spent volume was \$4.9 million, and the MIT-Liberty Mutual Insurance Collaboration had \$2 million in total secondary research volume.

Development

Over the past year, efforts have been made to strengthen relationships with the Quest donors and to work closely with central RD on strategy and engagement. As a result of these efforts, several donors have made significant gifts and pledges, ensuring our future endeavors.

Education

In August 2024, CBMM hosted the eleventh annual Brains, Minds, and Machines summer course, an influential three-week, multidisciplinary course on the science of intelligence. This course is cultivating a community of leaders knowledgeable in neuroscience, cognitive science, and computer science who will lead the development of true biologically-inspired AI. The course enrolls 35 students — selected out of more than 300 applications per year — who are advanced doctoral students and postdocs from the top universities around the world. Thanks to the support of several generous donors, the course will continue after CBMM's funding ends in August 2025.

The Quest trains and mentors undergraduates interested in neuroscience, psychology, and software engineering through UROP. This year, we supported six fall UROPs, ten spring UROPs, and we are currently supporting four summer UROPs.

The Quest continues to support 50% of a post-doc fellow working in Social and Ethical Responsibilities of Computing (SERC) in SCC; Kevin Mills' appointment will end in July 2025, and Patrick McKee's will begin in August.

Events

In November, we hosted [Matter of Minds: Building the Science of Natural and Artificial Intelligence](#), a one-day conference attended by nearly 200 scholars, students, and supporters from across MIT and beyond who shared research on ongoing projects, celebrated the Quest community, and explored future projects. Through lively discussions, demonstrations, and poster sessions, the event provided the broader Quest community with an opportunity to interact with the key scientists and to engage directly with the cutting-edge research supported by the Quest across its Missions and Platforms.

The Quest and CBMM co-sponsored seminar series hosted seven speakers, presenting industry and academia research in neuroscience, cognitive science, and computer science. These seminars are recorded and hosted on YouTube. We continued to organize "Research Meetings" and "Mission and Platform Updates" at which members of our community gather in an informal setting to present and discuss recent areas of effort.

Communications

Over the past year, much effort has been made to refresh and refine the Quest's graphic identity and improvements have been made to our website to allow us to provide better content about researchers and their work. The Senior Communications Officer works closely with the Senior Development Officer to create opportunities for engagement and stewardship with current and potential philanthropic supporters and with the Events and Projects Coordinator to promote in-person and on-line events. They have collaborated to launch a quarterly e-newsletter to build connections with the extended Quest community and are working on a suite of print pieces for development outreach.

Personnel

The Quest's current staff comprise: Erik Vogan, Executive Director; Devan Monroe, Senior Development Officer; Rachel Kemper, Senior Communications Officer; Brian Pierson, Fiscal Officer; Eve Montie, Events and Projects Coordinator; and Valerie Hoke, Senior Administrative Assistant. The Quest Software Engineering Team are Deirdre Kelliher and Sam Winebrake, who work closely with Esther Alter, Intelligence Observatory Software Engineer; Michael J. Lee, Intelligence Observatory Research Scientist; Mike Ferguson, Research Software Engineer for the Brain-Score Platform, and Kartik Pradeepan, Brain-Score Research Scientist, who joined us July 1, 2024. CBMM staff are Kathleen Sullivan, Managing Director, and Kris Brewer, Director of

Technology. Two positions are currently vacant: Lead Software Engineer and Corporate Engagement Manager. Departing staff over the past year were Frances Hamilton, Senior Development Officer; Jim Neidhoefer, Missions Project Manager; Ethan Pellegrini, Software Engineer; and Tiffany Luong, Research Scientist.

Future Plans

The Quest will continue to expand the research produced by our Missions and will continue to develop machine-executable models of core aspects of natural intelligence that work computationally, cognitively, and neurally. We will also continue to develop and share new Platforms for building and testing models of intelligence, and show that these models are more robust, efficient, and understandable than today's deep learning systems.

While the research of the Quest will continue to develop, we feel the technology has reached a mature stage where the Quest would benefit from increased engagement with industry. As a result, we soon hope to hire a staff person to reorganize and expand the existing corporate program. In the coming year, in alignment with MIT's goals, we will pursue additional funding opportunities, build strategic partnerships, and continue to devote significant efforts to fundraising and stewardship.

James DiCarlo, MD, PhD

Director, MIT Quest for Intelligence

Peter de Florez Professor of Systems & Computational Neuroscience