Department of Brain and Cognitive Sciences

The mission of the Department of Brain and Cognitive Sciences (BCS) is to reverse engineer the mechanisms of the mind. The department's work is anchored by the idea that an understanding of how the brain gives rise to the mind requires investigations in basic science at multiple scales of analysis (genes, molecules, synapses, neurons, networks of neurons, brain regions, individuals, and groups of individuals), and the use of quantitative models that formally describe the links between each of those levels.

Because the path from mechanistic, basic science to comprehensive translation is both critical and unpredictable, BCS aims to offer an environment in which the world's most talented researchers and students can pursue new ideas about the underlying mechanisms of the brain and how they give rise to the mind, and then collaborate when larger groups are needed or translational connections are visible. The department also upholds a core value of MIT—that sufficient, accurate explanations of these processes must ultimately be rooted in the language of mathematics and computation. The mission of BCS thus spans research, teaching, and training in cognitive science, neuroscience, and computation.

The department's experimental efforts are organized around three levels of empirical analysis: cognitive science, the study of behavior to allow inferences about the representations and algorithms of the mind; systems neuroscience, the study of the brain structures and circuits that implement those algorithms and representations; and cellular and molecular neuroscience, the study of the mechanisms that control the construction and maintenance of those brain structures and circuits. Crucially, BCS also applies computational approaches to build formal links within and between these empirical levels. BCS researchers believe that a deep understanding of these mechanisms is the key to ameliorating or eliminating disorders of the mind, building truly intelligent machines, advancing education, and supporting myriad other, unpredictable, world-changing impacts.

A unique and defining identity of the department is that BCS pursues all these levels of analysis in an integrated and synergistic way. In most universities, the study of the brain (neuroscience) and the study of the mind (cognitive science) are housed in separate buildings, often on separate campuses. At MIT, the Brain and Cognitive Sciences Complex, also known as Building 46, houses not only the BCS department and all its primary faculty laboratories, but also the space and facilities of the McGovern Institute for Brain Research (MIBR) and the Picower Institute for Learning and Memory (PILM), where many BCS faculty members carry out their research.

BCS is a community of more than 600 students, faculty, and staff, led by a team of 46 highly respected professors pursuing their individual expertise, from genes to molecules, to neural circuits to algorithms, to complex behavior and cognition. The cutting-edge, innovative research work led by BCS faculty provides a stellar training ground for the next generation of scientific leaders in brain and cognitive sciences. This combined strength puts BCS squarely at the forefront of its mission.

Leadership

The department plays an important umbrella role in building and strengthening the brain and cognitive science community at MIT. Its overall strategy, which focuses on bolstering the subcommunities that naturally cut across all of Building 46, has lowered the walls between the various units and created opportunities for the community to come together.

Building-wide Leadership

The BCS Council includes Jim DiCarlo (BCS department head and chair), Professor Bob Desimone (MIBR director), Professor Li-Huei Tsai (PILM director), Professor Mriganka Sur (Simons Center for the Social Brain director), Professor Tomaso Poggio (Center for Brains, Minds, and Machines director), and senior and junior faculty members spanning all areas of the department. The BCS Council meets monthly and serves as an advisory committee to ensure that well-informed departmental decisions are made, and that all the leaders in the building are comfortable and enthusiastic about those decisions.

Faculty Leadership Roles

The department would not be able to plan and execute its many functions without the support of the faculty; BCS continues to espouse a culture of shared effort. The following faculty members have stepped forward to continue or to take on key leadership roles over the past four years.

- Professor Michale Fee (associate department head for education and chair of the BCS Education Committee)
- Professor Rebecca Saxe (associate department head)
- Professor Laura Schulz (undergraduate officer)
- Professor Matt Wilson (chair of the BCS Graduate Student Admissions Committee, graduate officer, and chair of the BCS Graduate Student Affairs Committee)
- Professor Nancy Kanwisher (BCS space oversight)
- Associate Professor Alan Jasanoff (chair of the BCS Seminar Committee)
- Professor Pawan Sinha (chair of the BCS Diversity Committee)
- Professor Mark Bear (postdoctoral officer for the BCS community)

All primary Brain and Cognitive Sciences faculty members actively serve on one or more of these standing committees.

Faculty

BCS faculty members are widely recognized as being among the leaders in their respective fields. The department is proud to count among its current faculty five members of the National Academy of Sciences, three members of the National Academy of Medicine, and 14 members of the American Academy of Arts and Sciences. The BCS faculty also includes a National Medal of Science awardee, a winner of the Kavli Prize, a winner of the Breakthrough Prize in Life Sciences, eight winners of the Troland Research Award from the National Academy of Sciences, a recipient of the National Science Foundation Faculty Early Career Development Award, a Gairdner International Award recipient, a McKnight Scholar, a Vallee Scholar, and one recipient of the PAMI Azriel Rosenfeld Lifetime Achievement Award. These are just a few of the many accolades that members of the BCS faculty received this year.

The MIBR and the PILM are critical components of the BCS community: 23 of the 34 BCS primary faculty are also investigators in MIBR and PILM. The department is a nearly fully encompassing umbrella that seeks to enable the success of those two great institutes. All 13 of the PILM investigators have either their primary (10) or secondary (three) appointments in BCS, and 14 of 15 MIBR investigators have their primary (11) or secondary (three) appointments in BCS.

Three BCS faculty members have core appointments at the Broad Institute; one holds the title of Institute Professor. The faculty members who held joint appointments this past year in BCS represented Chemical Engineering, Mechanical Engineering, the Media Lab, Biology, Biological Engineering, the Sloan School of Management, and the Weizmann Institute of Science (Rehovot, Israel). BCS faculty members in turn hold secondary appointments in many of those departments as well as in Linguistics and Philosophy and the Institute for Medical Engineering and Science.

Since 2018, the faculty ranks of BCS have grown. Effective July 1, 2019, Evelina Fedorenko will join BCS as an assistant professor and Morgan Sheng will join BCS as a professor with a core appointment in the Broad Institute. Professor Polina Anikeeva (Materials Science and Engineering) and Professor David Rand (Sloan School) came on board this year as joint faculty members, enhancing the interdisciplinary expertise that strengthens the BCS community. Faculty recruitment continues to be a high priority for the department.

Development

Strategic outreach efforts broadly aim to increase the department's profile as a cutting-edge hub for innovation in brain and cognitive sciences. The primary goal of the program is to increase philanthropic funds to support students, faculty, and, more broadly, research into fundamental neuroscience and cognitive science. The BCS resource development program includes individual giving, planned giving, foundation and corporate support, donor communications, stewardship, and donor-centric events. During continued economic uncertainty, philanthropic support is a critical source of funding to advance the department's research and educational missions.

New gifts and pledges to BCS in fiscal year 2018 and fiscal year 2019 (to date) have nearly doubled compared with previous years. Fundraising efforts have resulted in new endowed and expendable gifts, increasing both restricted and discretionary available funds. Notable gifts include the Bill and Linda Young Professorship; the department has selected Professor Elly Nedivi, an exceptional faculty member, as the inaugural Young Professor. Additional gifts also included a generous $500,000 graduate fellowship pledge from Irene Cheng, approximately $120,000 in expendable funds toward the Research Scholars Program, and a $500,000 pledge from a BCS Visiting Committee member to create a matching opportunity for graduate fellowships; a $500,000 gift toward a graduate fellowship will be matched to reach the full $1 million endowment level. Efforts to secure the matching funds are underway. The department estimates that its efforts resulted in approximately $6.5 million in new gifts and pledges in FY2019. The number of donors has also increased, suggesting improved donor engagement.

The department welcomes gifts of any amount to support a broad range of activities (including faculty, students, research, and resources). However, fundraising efforts are focused on three priorities: graduate fellowship funding, computational resources and intelligence-related research, and the Research Scholars Program, a post-baccalaureate scholarship program for outstanding college graduates from underrepresented minority groups or economically disadvantaged backgrounds. This program is meant to lower barriers to scientific training in neuroscience.

Science and Engineering of Intelligence

BCS continued to embrace its natural role in the future of intelligence research and education at MIT. To address the increasing demand for computational resources, BCS launched the CompCore in March 2018, with the goal of providing in-house advanced computing capabilities to researchers in the BCS complex; Ila Fiete and Josh McDermott are faculty heads of the project. With dedicated space in Building 46 (office space for dedicated engineering staff, a common space, and a meeting room equipped with a projection system), the CompCore will provide ongoing support, training, development, setup, and guidance for BCS graduate students, researchers, and faculty. It will also serve as a central point of contact for the OpenMind High Performance Computing Cluster system (currently provided by MIBR, with plans for BCS to manage these services in future). The CompCore will also provide machine learning specialization and development, technical support for special projects, and resources to bring innovation to current methods of data analysis, model building, and more. In June 2019, BCS successfully recruited a computational support specialist to staff the CompCore. The specialist will maintain the computer cluster OpenMind and facilitate its use as an efficient resource got Building 46 researchers, with the goal of expanding support across computation needs more broadly within the community.

In conjunction with the CompCore launch, BCS hosted its first fellow under the BCS Fellows in Computation program. This program provides talented junior scientists with the opportunity to develop a research program in computation without financial constraints or concurrent teaching demands. Fellows in Computation is a two-year program that offers postdoctoral researchers the opportunity to explore the breadth of computationally related neuroscience and cognitive science research at the department.

There is significant overlap between BCS and MIT's Quest for Intelligence (Quest). Launched in February 2018, the Quest is an Institute-wide initiative to advance the science and engineering of both human and machine intelligence. It is organized under two connected entities: the Core and the Bridge. The activities of the Core are aligned with one of the key research directions of BCS—the natural science of intelligence—and BCS is strongly represented in the leadership team of the Core: Jim DiCarlo is the director of the Core, Josh Tenenbaum is one of the scientific directors, and Tomaso Poggio is the founding scientific advisor. Since its launch, the Quest has made progress in identifying novel research projects, so-called moon shots through the Core and missions through the Bridge, that can be supported through Quest seed funding. Following a call for white papers that received an enthusiastic response from the MIT community, the Quest Core is organizing a series of ongoing workshops to connect like-minded investigators from across MIT to refine ideas into formal projects. Major moon shot themes include the intelligence of language, the intelligence of development, neuromorphic hardware, symbolic representation in the brain, collective intelligence, and embodied intelligence.

In October 2018, MIT announced the founding of the Stephen A. Schwarzman College of Computing, an institutional commitment to strengthening MIT's position as a key international player in computer science, artificial intelligence, data science, and related fields. BCS is hopeful that this new entity will interact with the department, the Quest, and the broader MIT community, and that BCS will be active in the organization of the college, with the goal of ensuring a synergistic and strategic relationship across all efforts related to intelligence. The college will surely drive the need for resources, such as the BCS CompCore, that serve bridges for computing within BCS and across campus. Ensuring the availability of sufficient computing support for existing and incoming faculty laboratories remains a priority for BCS.

Education and Training

BCS provides its students and postdoctoral researchers with a dynamic interdisciplinary curriculum designed to educate them in cognitive science, systems neuroscience, cellular and molecular neuroscience, and computation. The undergraduate program provides tiered and broad instruction on topics drawn from molecular, cellular, and systems neuroscience; cognitive and perceptual psychology; applied mathematics; computer science and artificial intelligence; linguistics; and the philosophy of the mind. The graduate program provides advanced instruction on current research topics and methods and emphasizes faculty mentoring to achieve cutting-edge research progress. For its postdoctoral researchers, BCS seeks to facilitate opportunities to focus on developing and executing cutting-edge research projects within individual faculty laboratories, and to provide opportunities for faculty mentors, grant-writing and oral presentation training, teaching experience, and industry networking. Through the department's undergraduate, graduate, and postdoctoral programs, BCS students work with renowned faculty members, have access to state-of-the-art equipment, and are able to seize upon remarkable opportunities to participate in cutting-edge research projects.

Undergraduate Program

The department's vision for its undergraduate program is that BCS majors should be deeply educated in key phenomena about the mind and the brain. Such an education includes quantitative methods for describing the mechanisms that underlie those phenomena, the procedures by which new phenomena and new mechanisms are discovered, and the myriad connections of knowledge about the mind and the brain with physics, biology, engineering, mathematics, linguistics, and economics. This year, BCS graduated 33 students with bachelor of science degrees.

New Joint Major: Computation and Cognition (Course 6-9)

The department's new joint undergraduate major with the Department of Electrical Engineering and Computer Science was approved in April 2019. The new major, Course 6-9 Computation and Cognition, will lead to a bachelor of science degree in computation and cognition. The course will focus on the emerging field of computational and engineering approaches to brain science, cognition, and machine intelligence. The curriculum is flexible enough to accommodate students with a wide range of interests—

from biologically-inspired approaches, to artificial intelligence, to reverse engineering circuits in the brain. The new major will provide students with outstanding preparation for research and development in the science and engineering of intelligent systems. Students were able to declare a major in Course 6-9 beginning in April 2019.

On the basis of a web-based survey of undergraduates in existing computation- and cognition-related subjects, BCS expects that as many as 50 students per year may enroll in the new joint major, for a steady enrollment of about 150 students. Students majoring in the new course will have the option of pursuing an associated master's of engineering degree; they will be required to take six additional subjects, conduct laboratory research in either Course 6 or Course 9, and write a master's thesis.

BCS expects that graduates of the program will be well positioned for careers in two rapidly emerging fields: the science and engineering of computational approaches to cognition and intelligence, and computational approaches to understanding the architecture, circuits, and physiology of the brain. The department's expectation is that graduates of the new joint course will be attractive to companies working in the area of machine intelligence (Google LLC, IBM, DeepMind Technologies, Facebook, General Electric Co., and so on), and will be highly competitive in graduate programs in the brain and cognitive sciences area.

Graduate Program

The department's rigorous, cross-disciplinary doctorate of philosophy program prepares students to pursue careers in research, teaching, or industry. During their first year of study, students rotate through three different laboratories, gaining exposure to the department's rich diversity of cutting-edge methods, model systems, and research questions. Typically, by the end of their first year, students select a primary faculty thesis mentor to work with in accomplishing their PhD research. Coursework requirements are limited to six subjects, completed during the first two years of study. Although students are encouraged to take advanced seminars throughout the program, the remainder of the program is primarily spent working in a laboratory. Students typically complete the PhD program in five to six years. They leave MIT prepared to train, lead, and collaborate with the next generation of scientists.

The AY2019 class size (entering in fall 2018) was 23 students, selected from 463 applicants. The AY2020 class size (entering in fall 2019) was 19 students, selected from 490 applicant. Eleven of the 19 incoming students are female, five are international students, and four are from underrepresented minority groups.

This year, 17 students graduated with doctorates: Kutay Deniz Atabay, Jacob Donoghue, Alexander Kell, Taekeun Kim, Rosa Lafer-Sousa, Kisuk Lee, Tuan Le Mau, Owen Lewis, Anthony Martorell, Alexander Paunov, Rishi Rajalingham, Darren Seibert, Max Siegel, Michael Stetner, Pedro Tsividis, Amanda Vernon, and Hongyi Zhang.

In alignment with the department's computational goals, this year BCS successfully wrote a training grant application that secured a partnership with the National Institutes of Health. The Program in Computationally Enabled Neuroscience will fund six partial graduate slots starting July 1, 2019.

Postdoctoral Program

Postdoctoral researchers are an important part of the BCS community (BCS, MIBR, and PILM), contributing to the depth and breadth of the community's work. The department and its affiliated institutes appoint postdoctoral researchers on the recommendation of a faculty sponsor. This population of postdoctoral researchers is now approximately a quarter of the total BCS community

Working alongside faculty who are experts in their fields, postdoctoral researchers hone their skills as scientists and teachers. The interdisciplinary nature of the BCS program exposes them to multiple areas of research, and prepares them to advance to tenure-track positions at major universities or significant research positions in industry. Postdoctoral researchers who have their own external funding are called postdoctoral fellows; those paid by grants awarded to a particular laboratory or group are called postdoctoral associates. In the past year, the BCS community housed approximately 60 postdoctoral fellows and 100 postdoctoral associates.

Selected Faculty Research Highlights

Below are snapshots of a few of the research discoveries made by BCS faculty members and their research teams in AY2019. More information, including full descriptions of the work highlighted below, can be found on the BCS web page.

A Glimpse of Conversation

One mystery of the brain is the so-called cocktail party problem—how are people able to carry on a one-on-one conversation in a crowded room, tuning out the noisy background to focus on a single voice? Professor Joshua McDermott published a study describing a new method of manipulating the frequencies of voice recordings to examine how the harmonic sound frequencies contained in speech affect the ability to understand natural sound in the real world. McDermott and his team presented participants with whispered words and phrases as well as speech samples that had been rendered harmonic or inharmonic by a signal processing methodology developed by their collaborators. In some cases, participants heard one speech sample at a time; in others, a speech sample was superimposed on another speech sample or on noise to simulate the sound of many people talking. The biggest effect on what participants heard occurred when the researchers simulated whispered speech. Unlike either harmonic or inharmonic speech, concurrent samples of whispered speech were reported to be nearly impossible to understand. The findings provide some explanation of why speech is voiced rather than whispered. With this insight, McDermott sees the potential of developing better hearing-aid algorithms that will improve the devices' ability to tune out background noise.

Fundamental Rule of Brain Plasticity

Human brains are famously flexible, or plastic, because neurons can do new things by forging new or stronger connections with other neurons. But if some connections strengthen, neuroscientists have reasoned, neurons must compensate lest they become overwhelmed with input. Professor Mriganka Sur of PILM demonstrated for the first time how this balance is struck: when one connection, called a synapse, strengthens, immediately neighboring synapses weaken through the action of a crucial protein, activity-regulated cytoskeleton-associated protein (Arc). Synapses that are strengthening release increased Arc to weaken their neighbors. This helps explain how learning and memory might work at the individual neuron level because it shows how a neuron adjusts to the repeated stimulation of another. This finding offers an explanation of how synaptic strengthening and weakening combine in neurons to produce plasticity. This information allows us not only to understand how neuronal circuits develop and remodel in a physiological setting, but also provides clues that will be important in identifying how these processes go awry in various neurological diseases.

Roles of Gene Linked to Alzheimer's Disease

People with a gene variant called APOE4 have a higher risk than those without it of developing late-onset Alzheimer's disease; APOE4 is three times more common among Alzheimer's disease patients than it is among the general population. However, little is known about why this version of the APOE gene, which is normally involved in the metabolism and transport of fatty molecules such as cholesterol, confers higher risk of Alzheimer's disease. To shed light on this question, Professor Li-Huei Tsai (director, PILM and Aging Brain Initiative) and her research team performed a comprehensive study of APOE4 and the more common form of the gene, APOE3, in brain cells derived from a type of induced human stem cells. They found that APOE4 promotes the accumulation of the beta amyloid proteins that cause the characteristic plaques seen in the brains of people with Alzheimer's disease; they also found that this effect could be reversed by editing the gene to turn it into the APOE3 variant. In another experiment, the researchers created three-dimensional organoids, or miniature brains, from cells with genes that are known to cause early-onset Alzheimer's disease. These organoids had high levels of amyloid aggregates—and exposure to APOE3, but not APOE4, cleared most of them away. Tsai believes that APOE4 may disrupt specific signaling pathways within brain cells, leading to the changes in behavior that the researchers saw in this study, revealing possible avenues for therapeutic intervention. The findings also suggest that if gene-editing technology could be made to work in humans, which many biotechnology companies are now trying to achieve, it could offer a way to treat Alzheimer's disease patients who carry the APOE4 gene.

Mapping the Brain at High Resolution

Researchers have developed a new way to make images of the brain with unprecedented resolution and speed. They can locate individual neurons, trace connections between them, and visualize organelles inside neurons, over large volumes of brain tissue. The new technology combines a method for expanding brain tissue, making it possible to make higher-resolution images, with a rapid three-dimensional microscopy technique known as lattice light-sheet microscopy. The researchers, led by Professor Edward Boyden, Y. Eva Tan Professor in Neurotechnology, showed that they could use these techniques to image the entire fruit fly brain, as well as large sections of the mouse brain, much faster than had previously been possible. The team included researchers from MIT, the University of California, Berkeley, the Howard Hughes Medical Institute, and Harvard Medical School–Boston Children's Hospital. This technique allows researchers to map large-scale circuits within the brain while also offering insight into individual neurons' functions.

Teaching Machines to Reason About What They See

Deep learning systems interpret the world by picking out statistical patterns in data. This form of machine learning is now everywhere, automatically tagging friends on Facebook, narrating Alexa's latest weather forecast, and delivering fun facts via Google search. But statistical learning has its limits. It requires a great deal of data, has trouble explaining its decisions, and is terrible at applying past knowledge to new situations. To give computers the ability to reason more like people, artificial intelligence researchers are returning to abstract, or symbolic, programming. A study by a team of researchers at MIT, the MIT-IBM Watson AI Lab, and DeepMind shows the promise of merging statistical and symbolic artificial intelligence. Led by BCS postdoctoral researcher Jiajun Wu and Professor Joshua Tenenbaum of BCS, the Computer Science and Artificial Intelligence Laboratory, and the Center for Brains, Minds and Machines, the team showed that its hybrid model can learn object-related concepts, such as color and shape, and use that knowledge to interpret complex object relationships in a scene. With minimal training data and no explicit programming, the model could transfer concepts to larger scenes and answer increasingly tricky questions as well as, or better than, its state-of-the-art peers.

How We Tune Out Distractions

Imagine trying to focus on a friend's voice at a noisy party, or blocking out the phone conversation of the person sitting next to you on the bus while you try to read. Both of these tasks require your brain to somehow suppress the distracting signal so you can focus on your chosen input. Professor Michael Halassa and his research team have now identified a brain circuit that helps us to do just that. The circuit they identified, which is controlled by the prefrontal cortex, filters out unwanted background noise or other distracting sensory stimuli. When this circuit is engaged, the prefrontal cortex selectively suppresses sensory input as it flows into the thalamus, the site where most sensory information enters the brain. The researchers are now exploring whether impairments of this circuit may be involved in the hypersensitivity to noise and other stimuli that is often seen in people with autism.

Selected Awards and Honors

Faculty

- Emery Brown received the 2018 Dickson Prize in Science from Carnegie Mellon University.
- The Institute of Electrical and Electronics Engineers named Ted Adelson as an elected fellow for his contributions to "image representation in computer vision."
- Josh Tenenbaum was named *R&D Magazine*'s 2018 Innovator of the Year for his work in cognitive science and artificial intelligence.
- Gloria Choi received the 2018 Peter Gruss Young Investigator Award from the Max Planck Florida Institute for Neuroscience.
- In recognition of his development of CRISPR-Cas9-mediated genome engineering and its applications for medical science, Feng Zhang received the Keio Medical Science Prize.

- Mark Harnett was named a 2018 Vallee Scholar by the Bert L. and N. Kuggie Vallee Foundation.
- Steven Flavell, assistant professor in BCS, was named the Lister Brothers Career Development Professor.
- Rebecca Saxe was been named the inaugural John W. Jarve (1978) Professor in Brain and Cognitive Sciences.
- Michale Fee received the 2018 McKnight Technological Innovations in Neuroscience Award for his research on "new technologies for imaging and analyzing neural state-space trajectories in freely behaving small animals."
- Mary Potter was one of four faculty members featured in an MIT Libraries initiative that seeks to highlight MIT's female faculty by acquiring, preserving, and making accessible their personal archives to highlight the accomplishments and challenges faced by women in academia.
- Edward Boyden was elected as a member of the National Academy of Sciences.
- Edward Boyden and Feng Zhang were named Howard Hughes Medical Institute investigators in recognition of their work recognizing, developing, and sharing robust tools with broad utility that have revolutionized the life sciences.
- Mark Bear received the 2018 Beckman-Argyros Award in Vision Research from the Arnold and Mabel Beckman Foundation.
- Earl Miller received the 2019 George Miller Prize in Cognitive Neuroscience from the Cognitive Neuroscience Society.
- Steven Flavell received the National Science Foundation CAREER Award.
- Elly Nedivi was named the inaugural William R. (1964) and Linda R. Young Professor of Neuroscience.
- Li-Huei Tsai received the Hans Wigzell Research Foundation Science Prize for 2018 in recognition of her work "to understand the etiology and possible treatment of Alzheimer´s disease."
- Michael Halassa was appointed a Max Planck Fellow by the Max Planck Florida Institute for Neuroscience.
- Guoping Feng was elected as a member of the American Academy of Arts and Sciences.
- Mark Harnett received the 2019 McKnight Scholar Award from the McKnight Foundation and the BCS Award for Excellence in Undergraduate Advising.
- Laura Schulz received the BCS Award for Excellence in Undergraduate Teaching.
- Steven Flavell received the BCS Award for Excellence in Graduate Mentoring.
- Mehrdad Jazayeri received the BCS Award for Excellence in Graduate Teaching.
- Rebecca Saxe received the BCS Award for Excellence in Postdoctoral Mentoring.

Students

- BCS undergraduate Kate O'Nell '19 received a Marshall Scholarship.
- BCS undergraduates Yotaro Sueoka and Lena Zhu were among the 2019 class of Burchard Scholars selected by the MIT School of Humanities, Arts, and Social Sciences. The program recognizes "promising sophomores and juniors who have demonstrated excellence in some aspect of the humanities, arts, or social sciences."
- The recipients of the Angus MacDonald Award for Excellence in Undergraduate Teaching by a Graduate Student included Andres Crane, Junyi Chu, Mika Braginsky, Michael Lee, Chad Sauvola, Jonathan Gauthier, Maxwell Nye, Anna Ivanova, Jungsoo Kim, and John Tauber.
- The recipients of the Walle Nauta Award for Excellence in Graduate Teaching by a Graduate Student were Jenna Aronson and Nhat Le.
- The recipients of the Walle Nauta Award for Continuing Dedication to Teaching by a Graduate Student included Scarlett Barker, Maddie Pelz, Matthias Hofer, and Luke Hewitt.

Postdoctoral and Research Staff

- At the 2018 Advances and Perspectives in Auditory Neuroscience meeting, Richard McWalter, a postdoctoral associate in Josh McDermott's laboratory, received a Best Talk award. Alex Kell, a BCS graduate student in the McDermott laboratory, received a Best Poster award.
- Matheus Victor, a postdoctoral fellow in Li-Huei Tsai's laboratory, was among 15 researchers across the country who received a Hanna Gray Fellowship from the Howard Hughes Medical Institute.
- Joel Blanchard, a postdoctoral fellow in Li-Huei Tsai's laboratory, received the Glenn Foundation for Medical Research Postdoctoral Fellowship in Aging Research.
- Ruth Rosenholtz was elected to the board of the Vision Sciences Society and was named a fellow by the Association for Psychological Science.

James J. DiCarlo, MD, PhD
Department Head
Peter de Florez Professor of Neuroscience