projects that push the boundaries of innovation and excellence in education
Dear Members of the Class of 1960:

Twenty-five years ago, you and your classmates came together to create the *Class of 1960 Endowment Fund for Innovation in Education*. Since that time, thirty-one members of the MIT faculty have been named Class of 1960 Fellows and have carried that title with honor. This funding has provided an incredible resource to encourage faculty to pursue pioneering projects and recognized some of our most talented educators who push the boundaries of innovation.

As you approach your fiftieth reunion and prepare to don the cardinal jackets that are a venerable tradition at the Institute, I hope that you will reflect on your class fellowship with pride. The entrepreneurial spirit is alive and well at MIT, thanks in no small part to loyal alumni like you. Please enjoy this overview of some of the Class of 1960 Fellows and their projects.

With my thanks and best wishes to you all,

Sincerely,

Susan Hockfield
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Current Fellow
The Class of 1960 established the Endowment for Innovation in Education (EFIE) in 1983 as a gift to MIT in honor of its upcoming twenty-fifth reunion. The original purpose of the Fund was to support novel courses, projects, or experimental instructional activities needed for the Institute to keep pace with the rapid advances occurring across many disciplines. The annual income from the EFIE is awarded by the Institute provost, without restriction to school or department, to faculty members involved in developing innovative instructional programs at either the undergraduate or the graduate level. Recipients are known as Class of 1960 Fellows and receive grants for periods of generally two years.

The Class of 1960 can be proud of its strong support over the years, bringing the Fund to a book value of approximately $1.6 million. As you can see below, gifts to the EFIE are highest around class reunions, but the generosity of the class remains high every year.
Thanks to careful stewardship of the MIT endowment, its market value has grown to $6.3 million. The MIT endowment is managed internally by the MIT Investment Management Company (MITIMCo). The investment goal for MITIMCo is to generate high rates of return to help provide the resources that allow the Institute to maintain its standing among centers of academic learning worldwide. For the past ten years, the Institute’s endowment has had an annualized return of 15.3 percent, which has led to strong growth for the EFIE, as well.

This growth in the market rate has also increased the amount of income available every year for fellowships. Based on the deans’ recommendations, the provost has awarded $1.67 million since 1991 to thirty-one members of the MIT faculty. As a source of “venture capital” funding for new teaching and learning opportunities, the Class of 1960 Endowment for Innovation in Education is helping the Institute remain ahead of the curve in teaching and research.

As you will find in the following pages, the Class of 1960 Fellows represent multiple departments, and they each have a unique story to tell of their time as members of this venerable body. They have created new degree programs, produced online instructional materials, mapped the human genome, and have all contributed greatly to the level of excellence that is the hallmark of MIT.
Greek and Roman Theater Tour

I was able to use my Class of 1960 Fellowship to travel to Rome, Greece, and Turkey to visit the sites of all the ancient Greek and Roman theaters. I was also able to see the theater at Epidaurus in use with a production of Aristophanes’ *The Birds*. I took my own photographs of all the sites, paying particular attention not only to the spaces themselves but also to their architectural and archaeological contexts. When I returned to the States, I was able to organize the photos for my course in the History of Western Theater. In all, I saw fifty sites from various periods of the development of Greek and Roman theaters.

Alan Brody is a professor of theater arts at MIT. For ten years, he was Associate Provost for the Arts. His plays have won numerous awards and have been produced at such theaters as the Cincinnati Playhouse in the Park, the Aspen Playwrights Conference, the Live Oak Theater in Austin, Texas, the Berkshire Theater Festival, and the Walnut Street Theatre in Philadelphia. His play *The Company of Angels* was the recipient of the 1990 Eisner Award from the Streisand Center for Jewish Culture in Los Angeles. It had its world premiere at the New Repertory Theater in Massachusetts in the spring of 1993, and has been produced at the T. Schreiber Studio in New York and Theater Emory in Atlanta. Among his credits as a director are Vinie Burrows’ internationally acclaimed one-woman show *Sister!* *Sister!* and the world premieres of two operas, T.J. Anderson’s *Soldier Boy*, *Soldier* and Ken Guilmartin’s *The Marriage of Heaven and Hell*.

"After having taught History of Western Theater and relying on the standard textbook accounts of the origins of Greek theater for many years, it was the Class of 1960 Fellowship that allowed me to realize my dream of experiencing the extraordinary spatial arrangements of those theaters first-hand and of sharing my new insights with my students in an informed way. I want to thank the Class of 1960 for making that possible."

November 1983: Class of 1960 EFIE Created

In anticipation of their 25th reunion, the EFIE is created as a class gift

April 1985: Coke Introduces a New Formula

The brand is short-lived; Coke Classic returns to the market in three months
Over the past fifteen years, my colleagues and I have developed many of the tools and generated many of the key information resources of modern mammalian genomics. We have applied these tools and data to pioneer new ways of understanding the basis of disease. Our work includes the mapping and sequencing of human, mouse, and other organisms’ genomes; understanding the functional elements encoded in genomes through comparative analysis; finding the genetic variation within the human population and its relationship to disease susceptibility; comprehending the distinctive cellular signatures of diseases and of response to drugs; and discerning the mutations underlying cancer. We have also developed new analytical and laboratory techniques for genomics that have been applied to a wide range of common diseases, including cancer, diabetes, inflammatory diseases, and many other genetic illnesses.

Eric S. Lander is the founding director of the Broad Institute, and director of its program in Genome Biology and Cell Circuits. A recipient of numerous honors and awards, including an MIT Class of 1960 EFIE award, Lander is also a professor of biology at MIT, a professor of systems biology at Harvard Medical School, and a member of the Whitehead Institute for Biomedical Research. He founded the Whitehead Institute/MIT Center for Genome Research in 1990, which became part of the newly founded Broad Institute in 2003. Lander’s research focuses on the genetic analysis of mutations related to human diseases and developmental processes in humans, mice, and rats.

“The EFIE fellowship could not have come at a better time; we were well into the Human Genome Project and were just beginning to develop the tools we needed to begin to catalog and understand the genetic differences among individuals. This far-sighted funding from the Class of 1960 helped propel our work forward in those early days, and in turn laid the foundation for the amazing discoveries being made today about the complex contributions of genetic changes to both normal human biology and disease.”
Engaging Undergraduates

There are many demands on the resources of time and money, and these can be “exchanged” to some extent. I used much of my funding from the Class of 1960 Fellowship to free up valuable time in order to focus on my teaching and mentoring. This allowed me to do several important things: I was able to try new educational approaches; to think and engage in discussions with colleagues about teaching, learning, and education in general; and to spend my time in direct contact with students. These first two had direct effects on my teaching and thus on my students’ learning, but it may be in the third area that the effects were most profound. I strongly believe that it is important for every student to have a direct relationship with at least one faculty member. Because of the time made available through my fellowship, I was able to establish such direct relationships, while also having more contact with a broader array of students. I learned a great deal through that direct contact that I could not have learned otherwise, and have applied that as I have moved forward in my teaching.

Paul A. Lagace
(Fellow: 1997-1999)

Paul A. Lagace is a professor of aeronautics and astronautics and of engineering systems at MIT. He currently serves as co-director of the Technology Laboratory for Advanced Materials and Structures, and also served for several years as co-director of both the Leaders for Manufacturing Program and the Systems Design and Management Program — two joint ventures of the School of Engineering and the MIT Sloan School of Management. Lagace is a highly regarded authority on the response and failure of composite structures, and is recognized as a national leader in the development of composite structures technology. He was appointed as a MacVicar Faculty Fellow and a Class of 1960 Fellow in recognition of his contributions to undergraduate education.

“The Class of 1960 Fellowship was very important to me, as it allowed me to pursue my passion for education, particularly undergraduate education, and to devote more time and thought to that mission. At a place such as MIT, time is precious — as I am sure all alums remember — and I am particularly grateful to have had more available time because of the generosity of the Class of 1960. I thank the class for enriching my and my students’ educational experiences in this wonderful environment we call the Institute.”
Seeing a need for a new format for freshman physics education, I joined with several colleagues to develop the Technology Enabled Active Learning (TEAL) model during my fellowship. With an initial pilot class of 180 students, course 8.02T was first held during the fall term of 2001, covering freshman electromagnetism. TEAL utilizes laptops and software to focus the students on “active learning” by merging lecture, recitation, and hands-on laboratory exercises into a technologically and collaboratively rich experience. Having expanded since 2001, the TEAL prototype is now in use for all freshman physics classes, with the exception of two smaller highly mathematical versions.

John Belcher is a professor of physics in the Astrophysics Division at MIT, a MacVicar Fellow, and a Class of 1960 Fellow. He has twice received the NASA Exceptional Scientific Achievement Medal: in 1980, for his contributions to the understanding of the plasma dynamics of the Jovian magnetosphere, and in 1990, for his role as Principal Investigator of the Plasma Science Experiment on the Voyager Neptune/Interstellar Mission. Belcher was Principal Investigator on the TEAL/Studio Physics Projects at MIT.

“I used the Class of 1960 Fellowship to fund the initial planning for the TEAL project, before I had gotten long-term funding through the d’Arbeloff Fund and iCampus. The subsequent assessment and evaluations turned out to have been crucially important for the acceptance of the program, because they showed an increase in learning outcomes by a factor of two. The Class of 1960 funding made a real difference in the success of what became a multi-million-dollar project that fundamentally changed the way introductory physics is taught at the Institute.”
Together, we developed and launched MIT’s first interdepartmental minor degree program in 1995. Initially, this degree program was administered by the Center for Biomedical Engineering, and was governed by a curriculum committee that included members from across several departments in the Schools of Engineering and Science. Biological Engineering (BE) was made permanent in 2003 and became a department in the School of Engineering. We all remain deeply involved with the program; Dr. Griffith has chaired the BE Undergraduate Programs Committee since 1998 and led development of the new BE (Course 20) SB degree, which graduated its first class in 2008 and is MIT’s first new undergraduate major in 39 years.

Linda G. Griffith is the School of Engineering Teaching Innovation Professor of Mechanical and Biological Engineering at MIT. She joined the MIT faculty in January 1991 and is the director of the Biotech/Pharma Engineering Center. Griffith conducts research in the field of biomaterials and devices for tissue and organ regeneration. Her work has been featured on several television documentary shows, including Scientific American Frontiers hosted by Alan Alda. She has received such honors as the MacArthur Foundation Fellowship, Popular Science Brilliant 10, NSF Presidential Young Investigator, and the MIT Class of 1960 Fellowship, along with named lectures at academic institutions and societies.

“What a joy it was to receive the Class of 1960 Fellowship! Not being an MIT alumna myself, when I joined the faculty in 1991 I had only the barest idea of how much MIT values quality and innovation in undergraduate education (tremendously!), and how truly off-scale MIT students are in their creativity, energy, and enthusiasm for inventing the future (many logs off-scale!). Any award from students or alumni is a treasure, and I am very honored and grateful to pass along the spirit of the Class of 1960 – through this award from them — to our current students.”
As a professor of mechanical engineering and bioengineering at MIT, Roger Kamm has had the opportunity to play a major role in the development of bioengineering and, in particular, biomechanics at the Institute. A primary objective of his research group has been the application of fundamentals in fluid and solid mechanics to better understand essential biological and physiological processes. His studies over the past thirty years have addressed issues in the respiratory, ocular, and cardiovascular systems with an emphasis on fluid-structure interactions within compliant vessels or tissues. More recently, his attention has focused on two new areas: the molecular mechanisms of cellular force sensation and the development of new scaffold materials for vascularized engineered tissues.

Kamm has worked consistently to promote the field of biomechanics, as reflected by his current leadership positions as vice chair of the World Congress of Biomechanics and vice chair of the U.S. National Committee on Biomechanics. In addition, he chaired the Summer Bioengineering Conference in 2001 and co-organized the 1st Annual Symposium on Frontiers in Biomechanics in 2003, which highlighted new research opportunities for biomechanics researchers. He is a Founding Fellow of the American Institute of Biomedical Engineering, a Fellow of the American Society of Mechanical Engineers, and is the recipient of two Institute-wide education awards: the Class of 1960 Fellowship and the Everett Moore Baker Memorial Award.

“The EFIE Fund provides a welcome incentive for educational initiatives at the Institute. It provides important additional encouragement for moving educational innovation to the top of our agenda.”

Roger D. Kamm
(Fellow: 1999-2001)

Alan J. Grodzinsky is the director of the MIT Center for Biomedical Engineering, with faculty appointments in biological, mechanical, and electrical engineering. He has also chaired the Graduate Program in Biological Engineering (BE) since 1998. Having received all his degrees from MIT (in the department of Electrical Engineering and Computer Science), he appreciates how critically important MIT students are to the education and research missions of the Institute. His innovations in teaching include developing core undergraduate and graduate courses that combine fundamental principles from diverse disciplines to train a new generation of students in biological engineering.

In addition to the Class of 1960 Fellowship, Grodzinsky has received many other awards, including the IEEE/ACM Award for Best Undergraduate Advisor in EECS, the NIH MERIT Award, the ASME Melville Medal, the Kappa Delta Research Prize of the American Academy of Orthopaedic Surgeons, the Borelli Award of the American Society of Biomechanics. He is a founding fellow of the American Institute of Medical and Biological Engineering, past chair of the Gordon Research Conference on Musculoskeletal Biology and Bioengineering, and past president of the Orthopaedic Research Society and the International Cartilage Repair Society. His research interests focus on arthritis, cartilage in injured joints, cell mechanobiology, molecular electromechanics, and tissue engineering. He and his group have published over 200 journal articles and reviews in these fields.

“The Class of 1960 Fellowship has been enormously helpful in enabling us to develop curricula and teaching materials for courses in biological engineering at MIT.”

Alan J. Grodzinsky
(Fellow: 1999-2001)

March 1989: Exxon Valdez Oil Spill
Oil tanker spills eleven million gallons of oil after running aground in Alaska

February 1990: Nelson Mandela Freed
Mandela is released from Victor Verster Prison after twenty-seven years
Improving Student Experiences

I used the Class of 1960 Fellowship to make continuous improvement in the teaching of my field to M.B.A. students at MIT Sloan. With this funding, I re-worked and otherwise modernized about thirty percent of all lectures and cases each year, ensuring that our students are seeing cutting-edge uses of quantitative methods and their applications to improving business processes, creating value to firms, and developing new products. The many business cases and lectures I developed with these funds cover topics such as retail pricing on the Internet, fares and seat inventory management in the airline industry, and critical use of management science/operations research to improve operations service in both the airline and travel industries. I also used these funds to develop cases and lectures for M.B.A. students on demand-side management of electricity consumption to reduce carbon emissions and otherwise promote sustainable energy practices in industry.


Robert M. Freund primarily conducts research on the theory and applications of continuous optimization models. He has also worked on large-scale applications of optimization in pattern classification, data mining, and adaptive conjoint analysis. He has made contributions to convex analysis, combinatorics, and fixed-point theory. Freund was the recipient of the 2007 Longuet-Higgins Prize in Computer Vision and Pattern Recognition, and has received nine MIT awards for his teaching, including the Class of 1960 Fellowship.

“I believe that it should not be necessary to sacrifice education for research, any more than it should be necessary to sacrifice family and community service for career enhancement in business. Now more than ever, it is important for the leading research universities to excel in novel educational programs, to create the educational agenda for the new generation of scientists, and to continue to keep our educational institutions young, vibrant, and in a constant state of renewal. The Class of 1960 Fellowship is a great incentive and recognition for those, like myself, who pursue this goal.”
Flexibility in Design

“Flexibility in Design” is the short title of the project that I created during my fellowship. It is about creating value in technological enterprises and using flexibility to exploit uncertainties. Case studies indicate that introducing flexibility into the design of major long-life systems — oil field development, automobile manufacturing, and communication networks, for example — can increase expected values by around twenty-five percent. The benefits are huge: several hundred million dollars on a billion-dollar project.

This approach derives its power from a new engineering paradigm. The system is designed to be optimally responsive to a range of possible futures, instead of being optimized to a fixed set of requirements. Suitable flexible elements enable system managers to exit unfavorable situations and take advantage of new opportunities. The financially minded will recognize that this approach builds “puts” and “calls” into the physical configuration, and that, because of rapid technological change, the future is uncertain. Thus, these flexibilities can be enormously valuable.

Executing this approach involves consideration of systems performance under many different scenarios over time. Simulation, screening models, and other techniques overcome the implied computational burden. Please feel free to learn more and see case studies at http://ardent.mit.edu_REAL_OPTIONS/.

Richard de Neufville is an engineer and system designer. His research and teaching now focus on inserting flexibility into the design of technological systems. De Neufville is particularly known for innovations in engineering education. He was founding chairman of the MIT Technology and Policy Program and author of five major texts on systems analysis in engineering. This work has been recognized by a Guggenheim Fellowship, the NATO Systems Science Prize, the Sizer Award for Most Significant Contribution to MIT Education, the Martore and MIT Effective Teaching Awards, and the U.S. Federal Aviation Award for Excellence in Teaching.

"Thank you, classmates! Your fellowship came at the perfect time. In 2000, with the formation of our new ‘department,’ the Engineering Systems Division, I handed over the leadership of the Technology and Policy Program I had founded. Free from administrative responsibilities, your help enabled me to jump-start a paradigm-changing research and educational initiative.

Your seed money has led to a twenty-fold increase in outside grants, several prizes, about twenty-five graduate theses, and a book soon to be published by the MIT Press. This is so much fun I have no intention of retiring anytime soon. Thanks so much!”

June 1991: Charles Vest Inaugurated
The 15th president of MIT is formally installed on Tech Day

December 1991: Cold War Ends
The Supreme Soviet of the USSR meets and formally dissolves
Extending the Use of iLabs to 6.002

The Class of 1960 Fellowship has been instrumental in helping me extend the use of iLabs to 6.002, “Circuits and Electronics,” during the spring of 2008. Three different online laboratories were involved: the Microelectronics Device Characterization iLab (to carry out DC characterization of devices and small circuits), the Dynamic Signal Analyzer iLab (to characterize devices and circuits in the frequency domain), and the ELVIS iLab (to take measurements of devices and circuits in the time domain). Every homework assignment included one problem where the students were asked to take measurements on a device or circuit and evaluate the results according to the models developed in class. The use of iLabs in 6.002 represents the most ambitious engagement of iLabs in the curriculum at MIT to date.

“I am grateful to the Class of 1960 for establishing this fellowship, which has allowed me to explore new educational technologies. iLabs is a revolutionary technology with great potential in education. The Class of 1960 Fellowship nurtured this concept in its initial phase and supported its incorporation into MIT’s curriculum. I am honored and grateful to have been chosen for this fellowship, but it is the students — at MIT and beyond — who will benefit from the Class of 1960’s pioneering vision in establishing a fellowship to advance the cause of education.”

Jesús A. del Alamo joined the faculty of MIT in the Department of Electrical Engineering and Computer Science in 1988, and he is currently the Donner Professor and a MacVicar Faculty Fellow. His current research interests are microelectronics technologies for communications and logic processing. In addition to the Class of 1960 Fellowship, del Alamo has received several other teaching awards from MIT: the Baker Award, the Edgerton Junior Faculty Achievement Award, the Smullin Award, and the Bose Award. He was also an NSF Presidential Young Investigator. He is a member of the Royal Spanish Academy of Engineering, a Fellow of the IEEE, and editor of IEEE Electron Device Letters.

March 1993: Computing Power Increases
Intel Corporation ships the first Pentium processing chips

May 1994: “Chunnel” Opens
Channel Tunnel connects UK and France for the first time since the Ice Age
Shakespeare Electronic Archive

In the MIT Shakespeare Project, we have pursued the vision of the multimedia archive as both an active classroom and a collaborative environment through a number of projects: Laserdisc/hypercard systems, streaming video-based discussion, and annotation (as in our current iCampus project).

Through this work, we have learned that educational technology is more than just a convenience; the availability of performance recordings leads to rapid, flexible sharing and discussion, and allows students to formulate insights about both verbal and non-verbal aspects of the creation of meaning in performance.

Since 1992, we have pioneered the use of computers in developing new ways of studying text, image, and film records of Shakespearean publication and production. A focus of this project has been the installation of an ambitious multimedia research and teaching archive at the Folger Shakespeare Library, the Henry E. Huntington Library, and MIT, with an internet version available. The “Hamlet on the Ramparts” public website (http://shea.mit.edu/ramparts/) makes much archival material that was previously accessible only to a few scholars available to the public for the first time.

We also have an extremely exciting and successful new project in the Shakespeare Electronic Archive entitled Shakespeare Performance in Asia. It will have full production videos and is currently being worked on by an international team of scholars in the U.S., U.K., Japan, and Singapore.

The Class of 1960 Fellowship has provided precious resources for the development of the Shakespeare Electronic Archive, the ‘Hamlet on the Ramparts’ website, and our new ‘XMAS’ system of using Shakespeare films on DVD as the basis for video-enriched student discussions and commentaries with ‘one click’ video segments created by students. When I first studied Shakespeare many years ago, we only read the text, and the richness of Shakespeare in performance and on film remained in the background. Thanks to the Class of 1960 and its commitment to education, we are moving the study of dramatic literature into the 21st century.

Peter S. Donaldson (Fellow: 2001-2003)

Peter S. Donaldson is a Shakespearean scholar, a Fellow of the Royal Historical Society, and director of the Shakespeare Electronic Archive. Donaldson was head of the literature faculty from 1990 to 2005 and has been a professor of literature at MIT since 1988. He is a Renaissance Scholar whose studies focus primarily on Shakespeare and film, as well as on Machiavelli. He has gained much international recognition for his innovative approach to linking Shakespeare studies with new multimedia technologies.
The Class of 1960: Educational Entrepreneurship

CDIO (Conceive - Design - Implement - Operate)

Conceived in MIT’s Department of Aeronautics and Astronautics in the late 1990s, CDIO is an innovative educational program for producing the next generation of engineering leaders. CDIO was developed in direct response to industry and education accreditor assertions that graduating engineering students, while technically adept, lacked many of the abilities required in real-world engineering situations. Aero-Astro took up the challenge to reform engineering education.

Under the leadership of then Department Head Edward Crawley, Aero-Astro implemented a CDIO-based syllabus that provided students with an education stressing fundamentals, but also incorporating skills like teamwork, communication, ethics, and social responsibility. I served as co-chair (with Professor Crawley) for the implementation within our department. I focused in particular on the introduction of hands-on and active learning experiences throughout our curriculum.

Ten years later, these improvements are still in regular use in MIT’s Department of Aeronautics and Astronautics, and CDIO has been adopted by more than thirty schools throughout North America, Europe, the UK, Asia, Africa, and New Zealand in what has become the CDIO Initiative: http://www.cdio.org.

Ian A. Waitz
(Fellow: 2002-2004)

Ian A. Waitz is the Jerome C. Hunsaker Professor and head of the Department of Aeronautics and Astronautics at MIT. He is also director of the Partnership for Air Transportation Noise and Emissions Reduction (PARTNER), an FAA/NASA/Transport Canada-sponsored Center of Excellence. His principal areas of interest are the modeling and evaluation of the impact of aviation on climate, air quality, and noise, including the assessment of technological, operational, and policy options for mitigating these impacts. Waitz received a NASA Turning Goals Into Reality Award for Noise Reduction in 2003 and the FAA Excellence in Aviation Research Award in 2007. He is a Fellow of the AIAA and an ASME and ASEE member. He teaches graduate and undergraduate courses in the fields of thermodynamics, energy conversion, and propulsion. He has been appointed a MacVicar Faculty Fellow and a Class of 1960 Fellow in recognition of his teaching.

“I am grateful to the Class of 1960 for highlighting teaching and for putting a program in place to provide incentives for faculty innovation in this area. In one’s very busy life at MIT, it is easier to make time for these important activities when they are recognized and honored.”

December 1995: Human Genome Unlocked
1960 Fellow Eric Lander and colleagues create a rough map of the human genome

February 1996: Artificial Intelligence Reaches New Heights
Chess computer “Deep Blue” defeats world champion Garry Kasparov
Pedagogical Development

As a Class of 1960 Fellow, I took the opportunity to attend conferences with symposia on educational practices that provide useful guidance — as in developing teaching methods and syllabi for a new subject — held by groups such as the Materials Research Society, the American Physical Society, and the American Chemical Society.

Educational development continues to be a very important component of my work at MIT. As undergraduate chair in Course 3, I have continued to refine the undergraduate curriculum, including making changes based on an extensive survey conducted in 2007. A colleague and I also introduced a new graduate subject on nanoscale processing of materials during the 2006-2007 academic year.

Caroline Ross
(Fellow: 2003-2005)

Caroline Ross is a professor of materials science and engineering at MIT. She joined the Institute in 1997 after spending six years in research and development at Komag, a hard disk manufacturer in San Jose, California. Her background includes a B.A. and Ph.D. (1988) in materials science from Cambridge University, UK, and a postdoctoral fellowship at Harvard University. Her research is focused on magnetic materials, particularly for data storage applications in hard disks and patterned media, magnetic random access memories, materials for magneto optical applications, magnetic and electronic devices, thin film technology and film growth, and templated self-assembly processes, such as the formation of ordered structures in block copolymers.

“I am very grateful for the Class of 1960 Fellowship. The funding enabled me to make several trips to meetings and conferences that would not otherwise have been possible. I have had the opportunity to present my research and to meet colleagues.”

July 1996: Successful Cloning of Mammals
“Dolly” the sheep is born, the first mammal to be cloned from adult cells

September 1998: New Era in Search Engines
Google, Inc., is founded in Menlo Park, California, by Larry Page and Sergey Brin
MIT Graduate Program in Science Writing

and a group of MIT faculty and administrators conceived, developed, and launched a new master’s degree program at MIT. Designed to make science more accessible to the general public, the new program, begun in fall 2002, is geared toward graduate students with good writing skills, a thorough knowledge of science, and an involvement in the arts and humanities. It consists of one year of course work, a forty-page thesis, and a summer internship, and strives to enable students to translate the complex work done at MIT and other research centers to the world at large. Students have a chance to work closely with a distinguished core of award-winning journalists, authors, and scholars, and have remarkable access to labs and researchers throughout the Institute.

“I’m appropriate and gratifying that a Class of 1960 Fellowship acknowledging my role in helping found MIT’s Graduate Program in Science Writing should help support the creation of a work of popular science writing. The research and travel for my recently published book, Faux Real: Genuine Leather and 200 Years of Inspired Fakes — and the time to write it — were largely made possible by the Class of 1960’s generosity. I found myself grateful each day that I enjoyed the time and resources to work on this extraordinarily interesting writing project, and I am grateful now, in retrospect, as well. Thank you for such a well-conceived and genuinely useful class fellowship.”

Robert Kanigel (Fellow: 2003-2005)


September 1998: Bioengineering Minor Created at MIT
Later named as a separate major, it is the first new course in 39 years

2000: Book Awards Presented to MIT Faculty Member John Dower
1960 Fellow Dower receives the Pulitzer Prize and National Book Award
Visualizing Cultures
**Image-Driven Scholarship**

We launched Visualizing Cultures (VC) at MIT in 2002 to explore the potential of the Web for cultivating innovative image-driven scholarship and learning. The VC mission is to use new technology and hitherto largely inaccessible visual materials to reconstruct the past as people of the time viewed the world (or imagined it to be).

Visualizing Cultures has been recognized by the National Endowment for the Humanities as an outstanding humanities educational website. Please visit us online at [http://visualizingcultures.mit.edu](http://visualizingcultures.mit.edu).

To date, VC’s thirteen units focus on Japan in the modern world, while units in development cover early-modern and modern China. The thrust of these explorations extends beyond Asia per se, however, to address “culture” in much broader ways: cultures of modernization, war and peace, consumerism, images of “self” and “others,” and so on. Images of every sort are introduced and examined in partnership with contributing collaborations and institutions and with the partnership of experts who are devoted to transcending the printed word and hard-bound text.
In 1991, John W. Dower joined the history faculty at MIT, where he is now the Ford International Professor of History. Dower is the author of many publications on modern Japanese history and U.S.-Japan relations. His 1986 book *War Without Mercy: Race and Power in the Pacific War* was honored with several prizes, including the National Book Critics Circle Award for Nonfiction, and was also a finalist for the National Book Award. In Japan, it won the Ōhira Masayoshi Memorial Prize for distinguished scholarship on Asia and the Pacific. *Embracing Defeat: Japan in the Wake of World War II*, which dealt with Japan when the country was under the control of American occupation authorities from 1945 to 1952, was honored with a number of awards and prizes, including the Pulitzer Prize for Nonfiction and the National Book Award for Nonfiction. The Japanese translation of *Embracing Defeat* was awarded “Special Prize” in the Asahi newspaper’s 2001 Osaragi Jiro Prize competition for distinguished nonfiction writing, as well as the Osaka Prefectural Government’s 2002 Yamagata Banto Prize for creative work on Japan by a non-Japanese scholar.

“Receiving the Class of 1960 Fellowship was an extraordinary honor for Visualizing Cultures. The award raised awareness about our work and helped us to gain traction at a critical stage of the project.”

Shigeru Miyagawa has been at MIT since 1991. He is a professor of linguistics and holds the Kochi-Manjiro Professorship of Japanese Language and Culture. Prior to MIT, he was head of East Asian Languages and Literatures at Ohio State University. His publications on syntax, argument structure, and Japanese linguistics include several books/monographs and over forty articles. He was an associate editor of *Language* from 2000 to 2003.

In addition to his linguistics work, Miyagawa runs a laboratory that creates interactive educational programs. StarFestival, which looks at issues of growing up in multilingual, multicultural societies, was awarded Best of Show at the 1997 *MacWorld* Exposition and the Irwin Sizer Award for the Most Significant Contribution to MIT Education. JP NET, which makes the entire MIT Japanese program available on the Web, was one of the first online projects in the world to place an entire academic program on the Internet (1993-1994). For his work in interactive media, the educational technology magazine *Converge* chose him as one of twenty national “Shapers of the Future.” He was on the original team that proposed MIT OpenCourseWare (OCW) and has helped to start OCWs in Japan and elsewhere.

“The Class of 1960 Fellowship was very important to us, for it not only bolstered our spirits but also strengthened our grant proposals for outside support. Thank you, Class of 1960, for having had such far-sighted vision!”

John W. Dower
(Fellow: 2004-2006)

Shigeru Miyagawa
(Fellow: 2004-2006)
Tangible Interface Tool Kits and Tangible Bits

I have put my Class of 1960 Fellowship to use in a couple of educational areas that are important to me. First, I have used it to purchase tool kits and other materials to help my students with the implementation of their class projects in my “Tangible Interfaces” class. Many of these projects have gone on to become published papers and have been accepted at conferences like ACM CHI and ACM SIGGRAPH. Second, this funding is going towards the publication of my *Tangible Bits* book, due out in the next few years. Thanks to the Class of 1960 Endowment for Innovation in Education, the book will be published in color and will include an interactive DVD. In the future, I would like to continue to update the book and the interactive material online so that millions of students can access the ideas and develop them further.

“It is my great honor and pleasure to be named a Class of 1960 Fellow. It means a lot since I care about the innovation of learning environments at MIT. I have been teaching the interactive design studio class MAS 834, “Tangible Interfaces,” for the past ten years. To archive these teachings and my other research, I am currently writing a book about my twelve-year history of tangible user interfaces research at the Media Lab. Thanks again for this wonderful award, and I am very delighted to be able to return it to our current and future students.”

Hiroshi Ishii joined the MIT Media Laboratory as an associate professor of media arts and sciences in October 1995. He founded and directs the Tangible Media Group at the Media Lab, pursuing a new vision of human–computer interaction (HCI). Ishii and his students have presented their vision of “Tangible Bits” at a variety of academic, industrial design, and artistic venues. For this work, he was awarded tenure at MIT in 2001 and was elected to the CHI Academy in 2006.
Projecting MIT to the World

During my time as a Class of 1960 Fellow, I have pursued several different innovative educational avenues. Examples of my recent projects include:

**Designing meaningful international academic and internship experiences for our students.** As the first Director of International Programs for the School of Engineering, I am beginning dialogues within MIT and with potential foreign host institutions and companies in order to craft sustainable and potentially scalable academic exchange and internship opportunities for our undergraduate students.

**Using MIT OpenCourseWare (OCW) to enhance our own education within the Institute.** Not only has OCW helped us modernize and maintain the quality of our educational materials, it continues to open the way for myriad new ideas and innovations in the way we teach and our students learn. In recent years, I have been involved with a variety of projects to pioneer and implement exciting ways to use OCW that have potential to profoundly improve MIT education.

**Creating a Midcareer Acceleration Program (MAP) for our alumni.** Working with the MIT Professional Education Programs (PEP) office, we created MAP, a ten-month, part-time program to help alumni and other professionals meet career “on-ramp” challenges. Launched in 2006, MAP is continuing to grow and thrive.

“Some of my colleagues compare me to a serial entrepreneur – except that I am in education, not in business. If indeed this is the case, then the Class of 1960 Fellowship comes as truly appreciated and timely ‘angel’ seed funding for my endeavors. Many say that MIT is a ‘no-praise zone,’ and that does not only apply to students. Being named a Class of 1960 Fellow and joining the select others who have made so many contributions to MIT education gives me a deep sense of affirmation and gratification. I am grateful for the Class’ support and encouragement as I continue to pursue new and exciting educational projects for MIT.”
The support of the Class of 1960 Endowment for Innovation in Education, I have continued to develop innovative courses and have furthered my research on promoting justice in global supply chains. I am fascinated by the ways that corporate codes of conduct fit into the broader array of institutional policies and practices aimed at regulating and improving working conditions. I have also looked at ways that corporations can alter working conditions through new management systems. For instance, an entrepreneurial approach to these challenges from management can have a profound impact on the conditions workers face every day. Seven years ago, I co-founded what has become MIT Sloan’s flagship international project-based class, the Global Entrepreneurship Lab. G-Lab, as it is usually known, blends traditional classroom learning with a team-project-based internship in which students work directly with host organizations around the world. Having carefully prepared via lectures, readings, and case discussions, as well as through interactions with hosts and their own research and planning, each team spends three intensive weeks on the ground at its host site. By the end of the course, students have carried out what is essentially a four-month, mini-consulting project. About fifty-percent of the MIT Sloan M.B.A. students enroll in this course. In the Fall of 2008, we will extend this course by offering a new section that addresses health delivery in Africa.
Richard M. Locke has been a consistent voice for integrating social and economic concerns into curriculum and research. His teaching case on Nike’s response to NGO pressures to address contractor labor standards was selected for teaching at MIT Sloan’s Fiftieth Anniversary Convocation. In 2005, Locke was named a Faculty Pioneer in Academic Leadership by the Aspen Institute. Locke, along with MIT Sloan colleagues, spearheaded the development of the Laboratory for Sustainable Business (S-Lab). He also pioneered the popular Global Entrepreneurship Laboratory (G-Lab), a course that teaches students about entrepreneurship in developing countries by placing them in internships with an array of startup companies in various emerging markets. For his work developing G-Lab, Locke was awarded the Jamieson Prize for Teaching Excellence in 2008.

Locke is faculty director of the MIT Sloan Fellows Program, a midcareer executive education program. In addition to his work at MIT, Locke has taught at the Università Degli Studi Ca’Foscari in Venice, the Georg-August Universität in Göttingen, Oxford University, and the Federal University of Rio de Janeiro. At MIT, he teaches in both the MIT Sloan School of Management and the Department of Political Science in the School of Humanities, Arts, and Social Sciences.


To the Class of 1960,

I am pleased to write and share with you an update on my current work. First, let me express my gratitude for your support through the Class of 1960 Endowment for Innovation in Education.

One of the most fulfilling aspects of my work continues to be my involvement with MIT Sloan students who, every year, arrive on campus with new ideas and fresh approaches to business challenges. I continue to teach the Global Entrepreneurship Lab, which serves as the cornerstone of MIT Sloan’s commitment to action-based learning. This year, I am team-teaching the new Sustainable Business Lab (S-Lab).

Additionally, I am one of the faculty leads on the MIT Sloan Initiative for Sustainable Business and Society. The Initiative was launched in 2007 and is supporting research that will give us a better understanding of and appreciation for the complementary relationship between social responsibility and business profit. We hope that our work will provide businesses with practical and entrepreneurial solutions to complex global issues.

Thank you again for your contributions to our community. It is an honor to be a recipient of the Class of 1960 Fellowship.

With best regards,

Richard Locke

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**December 2007: John Maeda Named President of RISD**

1960 Fellow Maeda began his presidency of the top flight design school in June.

**June 2010: Class of 1960 50th Reunion**

Continuing a proud tradition, the class will lead the procession for Tech Day.
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page 8, ancient theatre in Athens: courtesy of Alan Brody.
page 11, Professor Eric S. Lander: Maria Nemchuk, Broad Institute of MIT.
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page 38, Professor Hiroshi Ishii with student: Paula Aguilera.
page 39, Professor Hiroshi Ishii: Webb Chappell.