

MIT Faculty Newsletter

<https://fnl.mit.edu>

in this issue we offer commentary on MIT's approach toward artificial intelligence, "Neither Fire Nor Ice – Just Chatter" (below) and "Are MIT Faculty Serious About Addressing AI Bias?" ([page 11](#)); an update from the Graduate Student Union Bargaining Committee ([page 4](#)); "University Engagement with China: An MIT Approach" ([page 6](#)); and a photo display on the inauguration of President Sally Kornbluth ([pages 15 and 16](#)).



Inauguration of President Sally Kornbluth

Mary C. Fuller New Chair of the Faculty

Newsletter Staff

PROFESSOR MARY C. FULLER will succeed Lily Tsai as Chair of the Faculty on July 1, 2023, after serving as Chair-elect during the current academic year. Mary is Professor of Literature and a MacVicar Faculty Fellow; she served as Associate Chair of the Faculty in 2011-13, and as Head of Literature 2013-19. Professors Annette Hosoi (Mechanical Engineering) and Elly Nedivi (Brain and Cognitive Science) will serve jointly as Associate Chairs of the Faculty.

Mary was born in Atlanta, to a family with deep roots in the South. Early on, her parents emigrated to Québec so that her father could teach chemical engineering at McGill. She had the good luck to attend public schools that were running what was then a pilot experiment in bilingual education for Anglophone students. She returned to the U.S. to attend

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Neither Fire Nor Ice – Just Chatter

Haynes Miller

ONCE UPON A TIME we worried that the computer would take over our space-ship, or our job. Now computers, armed with novel artificial intelligence algorithms, threaten apocalypse through something much more mundane: an unstoppable flood of alternative facts and false information.

ChatGPT and Bard and other chatbots have caused a panic in academia because of their uncanny ability to write convincing freshman essays. Mathematicians are not so impressed, because these apps are famously bad at arithmetic. This is a temporary glitch, which Steven Wolfram is hard at work to repair. But the deeper problem, again perhaps clearer in mathematics than in some other disciplines, is that if some bit of information can't be found on the web, they will just make things up.

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Editorial

I. Congratulations to our Graduates of the Years of the Pandemic

II. The Faculty Needs Its Own Committee on Graduate Student Union Negotiations

Congratulations to our Graduates of the Years of the Pandemic

MIT'S FACULTY VALUES AND TAKES particular pride in the accomplishments of your Class of 2023, who have overcome unprecedented stresses in the path to graduation. Many of us find it hard to imagine the difficulties you and your classmates have navigated through during these past years of the pandemic. As you have learned and grown under stress, continuing to absorb and generate knowledge and new insights, many faculty have also been influenced and impressed. Your future contributions to your communities and to society will be among the most gratifying outcomes of our academic efforts.

Teaching and mentoring students under these conditions has required development of new skills and commit-

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Subscriptions

\$15/year on campus

\$25/year off campus

**Congratulations to our Graduates
of the Years of the Pandemic**

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ments, by both students and faculty. When successful this has been a source of satisfaction to many faculty, but we hope that adaption to the pandemic stresses and limitations will not be a new normal. Moreover, the values of scientific investigation and assessment, previously taken for granted, have now become arenas for contention and even denial. Defending these values will require the urgent involvement of us all.

The Class of 2023 will be entering a world of considerable uncertainty and an increased level of social and political polarization. During the Trump administration, many of you joined efforts to protect international members of our community from the threat of exclusion or deportation. You became attentive to issues such as immigration, climate change, nuclear disarmament, the reduction of global poverty, and the need to protect fundamental democratic rights. Many of you joined or supported the Women's March, the March for Science, and the March for Climate. Many participated in the 2020 Presidential election as your first engagement with the electoral arena.

During your time here, the campus experienced a revival in student engagement. Examples include the Fossil Fuel Divestment campaign; the continuing

opposition to MIT's agreements with the Saudi Arabian monarchy; the campus die-in led by Black students; the protest and counter forum to Henry Kissinger's role as spokesperson for ethics in artificial intelligence; the activities of MIT Students Against War; and the opposition expressed to the Supreme Court overturning of Roe vs. Wade, as well as other expressions of social, economic, and political concerns.

Sadly, the outbreak of war in Ukraine, with its effects on world food and energy supplies, and increased risk of the use of nuclear weapons, has marred the local easing of threat from the Covid-19 pandemic. We hope you will resist efforts to return to Cold War relations with Russia, China, and other nations. You will thus have to take more seriously your responsibilities as citizens to ensure that our nation's actions in the world increase the prospects of peace and prosperity for the world's peoples, rather than undermining them.

We on the Faculty have watched and supported the burgeoning of your many talents, your creative ambitions, your resilience in the face of setbacks, your thoughtful and quirky self-expression, and your creative and entrepreneurial energy. We hope that, as your individual paths unfold, you will put your powers to work on solving some of the problems that confront us all, and on making our society more responsibly productive and

more supportive of those in need. On behalf of the entire Faculty, we wish the Class of 2023 vision, strength, commitment, wisdom, and success, in addressing the unique challenges we will all face together.

The Editorial Board
of the MIT Faculty Newsletter

**The Faculty Needs Its Own Committee on
Graduate Student Union Negotiations**

THE RELATIONSHIP BETWEEN graduate students and their faculty mentors is the most sensitive, important, and most productive component of MIT's academic and intellectual fabric. It is totally unacceptable that the Faculty – a core stakeholder in the University's mission – is sidelined with respect to the Graduate Student Union negotiations. Eventually, we need a Standing Committee to deal with these new issues, and in the meantime an Ad Hoc Committee. This committee must be elected only by faculty (as is our FNL Editorial Board) to avoid conflict of interest.

In the fall, the *Faculty Newsletter* Editorial Board will hold a Faculty Forum on relating to the new union. Faculty interested in serving on the Program Committee should communicate with Managing Editor David Lewis <fnl@mit.edu>. ■

Editorial Subcommittee

Letter to the MIT Faculty: MIT Grad Student Union Bargaining Update

MIT GSU Bargaining Committee

During the MIT administration's negotiations with the Graduate Student Union this spring, the faculty have received several updates by email from the administration about the state of the bargaining process. It has been hard for the GSU to share its perspective with faculty because they don't have access to mailing lists that would reach all of us. Without hearing from both sides, it is difficult to have a well-informed perspective on the bargaining. The union's bargaining team would like us to share the text below – presenting their take on where things stand – with the faculty. We welcome responses and discussion from other faculty members – especially responses that we can print in the next Faculty Newsletter.

WHEN WE WALKED INTO our final scheduled bargaining session on Thursday, May 4, many of us on the [MIT Graduate Student Union \(GSU\) Bargaining Committee](#) were hopeful that we would leave with a contract to recommend to our membership. Our core unresolved issues were a wage increase that accounted for inflation, union shop to secure the longevity of our union and the enforceability of our contract, and the involvement of meaningful, third-party arbitration to resolve grievances of harassment and discrimination.

Up until our last session, Vice Chancellor Waitz and the rest of the [MIT bargaining team](#) had acknowledged that they understood our position and continued bargaining in good faith. We had already started planning for a “vote yes” campaign. We had tentatively begun, amongst ourselves, to congratulate MIT's administration on being one of the few

U.S. universities to negotiate a first contract with graduate students without inciting a labor action. Most of all, we were excited to get back to our research in a safer work environment with better financial security for everyone.

But on May 4, the MIT administration forced us into a position where we could not recommend a contract to our fellow graduate workers. We arrived prepared to negotiate throughout the evening and into Friday. Our counterparts instead turned up with a [single offer, “offered as a package only,”](#) which failed to meet our minimum needs and fell short on several issues that we were still actively negotiating. We were blindsided – not by MIT's bargaining team in the room, but by a nebulous body of administrative “decision-makers” who abruptly decided to undermine months of productive negotiations by denying our union shop provision, in line with [anti-labor arguments of early 20th century industrialists.](#)

In their public communications against union shop, the MIT administration states that they are [protecting “student choice.”](#) But we already made our choice when we voted 2:1 [in favor of forming a union](#) last spring. The administration's last proposal thus undermines our democratic right to self-determination and represents a continuation of their [prior union-busting strategy.](#)

In cases where a graduate worker objects (for any reason) to union membership, the law grants them [“Beck rights,”](#) which restricts their contributions to cover only those costs that directly relate to collective bargaining and contract administration. The reality is that gradu-

ate workers in the bargaining unit will have access to the exact benefits and protections afforded by our collective bargaining agreement, regardless of their views on the union. Therefore, the open shop agreement that the MIT administration is proposing only protects students' [“right” to avoid contributing to the shared costs of providing benefits and protections that they are afforded.](#) This fight today is about ensuring that we all pay our fair share.

The most effective workers' organizations in the USA are all affiliated with national unions, which provide the expertise and resources to help their members' locals succeed. After a months-long research effort, MIT graduate workers voted to affiliate with the [United Electrical, Radio and Machine Workers of America](#) or UE: the country's leading “member-run” union, which also has the greatest representation of higher education workers in the private sector. Contrary to the MIT administration's claim that our national affiliate is a money-grubbing [“third-party organization,”](#) UE spends [half of members' dues to support UE staff](#) in local unions – which, for our MIT local, may well include fellow MIT graduate workers and already includes many MIT alumni. [We have always been transparent about the fact that joining a union requires paying union dues:](#) one-third will directly support our MIT local, two-thirds will go to UE for local staff (as mentioned above) and to other graduate unions around the country (through organizing campaigns). This rank-and-file approach to unioniza-

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**MIT Grad Student Union
Bargaining Update**

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tion and pay is best exemplified by UE's president, who [ranks among the lowest-paid union executives in the country](#) thanks to UE's constitutional requirement that officers' pay is capped at that of the highest-paid UE member.

Our choice to affiliate with UE was made precisely so that we could have a democratic union with strong support from national labor experts. An open shop will result in wasted time on recruitment, fundraising, and combating anti-union messaging instead of protecting the benefits that prompted us to unionize in the first place. This was a lesson learned by

the unionized graduate workers at Harvard. If the MIT administration succeeds in denying us union shop, we could easily see the gains in this contract undercut in future negotiations, making our victories fleeting and hollow.

Protecting this ability is of particular concern to us in the context of other provisions we're currently negotiating, including a grievance procedure with arbitration for harassment and discrimination cases. Everyone benefits when the process for resolving such cases is well resourced. We need knowledgeable union representatives who can help graduate workers navigate such cases, ensure that procedures are followed, and, if necessary, identify arbitrators with relevant expert-

ise. No one is well served by a union that struggles to assist its members.

Until May 4, graduate workers and MIT's bargaining team were productively communicating and reaching compromises on many important issues – despite differences in our viewpoints. We're saddened and concerned that MIT's administration no longer seems to share this goal. A timely resolution to the negotiations would have been positive for all of us, but we cannot sacrifice the needs of our membership for the sake of expediency. We remain committed to achieving a contract that provides all graduate workers at MIT with the financial and personal security necessary to focus on the groundbreaking research we came here to do. ■

MIT Staff Emergency Hardship Fund Offers Grants to Those in Need

SINCE ITS ESTABLISHMENT in April 2020, the [MIT Staff Emergency Hardship Fund](#) has provided financial relief to nearly 430 staff and postdoctoral scholars, and has proven to be a vital resource for individuals facing acute setbacks. Funded solely by generous donations from the MIT community, Hardship Fund grants have helped those in financial distress pay for housing, utilities, food, medical care, and other critical expenses.

The impact of Hardship Fund grants is substantial; as one recipient stated to the

review committee: "I am humbled to have asked for this grant, but honored to be able to work for such an amazing place that can offer support like this to our community."

Donations to the fund can be made via credit card, payroll deduction, or wire transfer. In addition – and an important means of support to the fund – MIT faculty and departments may also transfer up to \$2,000 from a discretionary fund. Since the fund was initiated in 2020, there have been close to 200 of these donations.

Please scroll down to the "How to donate" section on the webpage for instructions on Discretionary Fund Transfers via Journal Voucher.

We are grateful to the MIT community members who have made, or plan to make, donations in any amount to support our staff and postdoctoral scholars. If you have any questions, please reach out to the MIT HR Center for WorkLife and WellBeing at worklife@mit.edu or 617-253-1592. ■

University Engagement with China: An MIT Approach

The MIT China Strategy Group
Richard Lester and Lily Tsai (co-chairs)
Suzanne Berger, Peter Fisher,
M. Taylor Fravel, David Goldston,
Yasheng Huang, Daniela Rus

Executive Summary

THE SUBJECT OF THIS REPORT is MIT's future relationship with China. The question it addresses is how the Institute and other American research universities should engage with organizations and individuals in countries whose political leaders are pursuing policies that are irreconcilable with basic human rights and values and that pose security risks to the United States. While China is the focus of this report, some of the findings apply to MIT's relations with other countries, too. The outlook for the China relationship is increasingly uncertain because of the harsher political climate in China, the intensifying geopolitical and strategic rivalry between China and the United States, and concerns over attempts by Chinese interests to gain advantage over the United States by exploiting American university research.

MIT has flourished because it has been a magnet for the world's most talented students, scholars, and innovators, many of them from China. MIT faculty collaborate productively in research and education with colleagues in countries around the world, including China. Now, like the rest of American society, MIT and other research universities must prepare for a period of contentious and potentially confrontational relations between the United States and China. Because the U.S.-China rivalry focuses on competition in science and technology and its convergence with national security, economic security, and human rights concerns, pressures are building in both countries to erect higher barriers to academic research collaborations and educa-

tional exchange, especially in scientific fields.

The challenge for MIT and other U.S. universities is how to manage these pressures while preserving open scientific research, open intellectual exchange, and the free flow of ideas and people – all of them essential for American universities to remain at the global forefront of research, education, and innovation.

This report charts a path for MIT's future relations with China. It recommends an approach that combines selective engagement with targeted risk assessment and management. This approach is designed to help MIT advance knowledge and the needs of the nation and the world – without damaging U.S. interests in national security or the economy, without endangering human rights, and in ways that are consistent with the core values of the Institute.

Some observers will find it difficult to understand why there should be any engagement at all between American research universities and China in the current environment. The authors of this report take seriously the concern that the Chinese government – and other foreign governments – are targeting U.S. research and technology to gain advantage. We recognize too that when researchers at U.S. universities collaborate with individuals or institutions in countries with authoritarian or autocratic governments, the good intentions of their collaborators do not assure good outcomes. Yet even if the geopolitical rivalry between the U.S. and China intensifies further, MIT, other research universities, and the nation can benefit from continued academic rela-

tions with China. U.S. universities should be prepared for scenarios that would force the termination of these relations, but ending them today would weaken the foundations of American science, technology, and innovation.

Open scientific research – defined as research for publication – is the foundation of knowledge, education, and innovation in U.S. research universities. It is vital to turn back the erosion of support for open scientific research among U.S. officials and the taxpayers who support much of our work before it is too late. At the same time, in the current environment, academic cooperation for its own sake is no longer sufficient, and in every case the likely benefits must be clearly identified and the risks managed effectively. For most U.S. universities this will entail developing new risk management capabilities. For all of them it will require a productive relationship with the federal government.

Most of our recommendations are directed toward MIT itself – the MIT administration and other members of the MIT community, especially the faculty, whose work shapes MIT's engagement with the world. There is also a need for changes in federal policy, though that is not the primary focus of this report. The absence of clear, coherent, consistent federal policy guidance regarding research and education interactions with China is disrupting academic decision-making and has harmed the U.S. scientific enterprise. An integrated government policy framework addressing immigration, research security, and research collabora-

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tion is urgently needed. The policy should be proportionate to the level of risk, and the solutions should not cause greater difficulties than the problems they are intended to solve.

But federal policy, no matter how well-crafted, cannot be a substitute for effective actions taken at the university level. MIT and other universities must draw on their more detailed knowledge of educational and research practices and principles to develop effective risk management processes of their own. These actions will complement U.S. policy and will help avoid the imposition of external restrictions that would further damage U.S. education, research, and innovation.

Recommendations to MIT

- The report affirms several principles and lines that should not be crossed in any of MIT's international engagements. These include not engaging in collaborative activities that could compromise the integrity or objectivity of our academic work; not engaging in research collaborations that might help foreign governments use advanced technologies against the United States; not accommodating attempts by prospective partners to exclude MIT people from participation in activities based on nationality, race, gender, or ethnicity; and not engaging in collaborations that might contribute to human rights abuses by foreign governments against their own citizens. The Institute's existing elevated-risk review process helps to ensure that these lines are not crossed in China-related engagements.¹ It also provides guidance on activities that would not violate those principles, but nonetheless require careful balancing of risks and benefits. An important

¹ MIT's elevated-risk review process, introduced in 2019, focuses on proposed academic engagements with certain countries, including China, that merit additional faculty and administrative review beyond the usual evaluations that all international projects receive.

aspect of this review process is to consider the risks of not undertaking proposed engagements, as well as the risks of doing so. There are important areas of research and education in which MIT, the academic community, the nation, and the world would be better off with more, rather than less, scientific collaboration with China.

- Recommendations to strengthen MIT's risk management capabilities include:

- Developing informational resources to help principal investigators (PIs) better understand the context in which proposed research collaborators in China are operating, including the ways in which organizations and individuals in China are connected to, and might have obligations to, the Chinese government or the Chinese Communist Party;

- Providing training and other guidance at the individual school level to help PIs educate members of their research groups about the norms and expectations for sharing information, samples, or equipment outside the groups;

- Strengthening and systematizing internal reporting systems for disclosures of conflict of interest, conflict of commitment, and current and pending support, and also for reviewing informal collaborations with colleagues in China and other countries posing significant security risks.

- Circumstances that should disqualify a company from having a relationship with MIT include:

- Any direct involvement in government intelligence activities or a direct relationship with the Chinese armed forces as a provider of systems, products, or services with military applications;

- Credible evidence that the company's activities are contributing to the suppression of human rights in Xinjiang or elsewhere in China.

- MIT should not engage in research collaborations with China's national defense universities, military research institutes, or national defense key laboratories at civilian universities.

- MIT executive and professional education programs should not enable or empower organizations that are contributing to the suppression of human rights or that have direct connections to Chinese military or intelligence activities.

- MIT's research is led by PIs, and their role in risk assessment and management is central. Recommendations to MIT PIs include the following:

- Before embarking on collaborations involving China, PIs should develop assessments of the expected benefits of collaborating with the Chinese entity specifically, including broader benefits to MIT, the research community, and the country. The expectation of unique benefits is not a necessary condition for collaborations to take place, but it is relevant to the overall assessment of risks and benefits.

- PIs are responsible for ensuring that all members of their research groups understand the norms and expectations regarding the sharing of information outside the group and for continually reinforcing those norms.

- In departments and fields where students are not members of research groups or laboratories and/or where graduate students commonly engage in research and scholarship that is independent from their advisors, these advisors should provide guidance to graduate students regarding international collaborations and student responsibilities for informing the department of such collaborations.

- Faculty may receive compensation at any level for their outside work, but they should take into account that high-pay compensation for consulting with foreign entities may be considered by the wider community as endorsement of that entity's activities well beyond the specific service the faculty member provides. Faculty are advised to exercise extra caution before accepting compensation for outside activities from the Chinese government or from government-funded programs, and to disclose such activities fully in required disclosures of conflicts of interest and commitment and current and

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**University Engagement with China:
An MIT Approach**

Lester and Tsai et al., from preceding page

pending support. If faculty are considering entering into contractual relationships with Chinese entities as part of their outside work, they are encouraged to seek advice from MIT's Office of General Counsel before doing so.

– Faculty should not participate in “talent recruitment” programs that are designed to transfer technology to China.

– Faculty should not hesitate to recommend their MIT students or postdocs or other students they know for positions in China, but they should avoid writing letters of recommendation for non-MIT students in programs in which they have been paid to teach with a *quid pro quo* that they write such letters. They should also avoid playing organizational or administrative roles, either with or without compensation, in programs that seek to channel graduates into jobs in China.

- MIT should not appoint as postdocs or visiting researchers individuals who are known by MIT to be currently employed by Chinese military and security institutions.

– Responsibility for determining who is admitted or accepted from overseas by U.S. universities is shared with the federal government, through the exercise of the latter's visa-granting authorities. Further clarification and stabilization of federal visa and immigration policies governing admittance of students from China is urgently needed. We urge that federal policies restricting student visa eligibility be clearly specified and limited in scope.

Our primary concern today is that the continuing uncertainty about federal visa and immigration policies is deterring outstanding Chinese students and scholars from applying to MIT and other universities and from staying in the U.S. once here. This situation has negative implications not only for MIT but more broadly for the strength of the U.S. science, technology, and innovation enterprise.

- MIT should expand the opportunities available to our students to become knowledgeable about China's history, society, culture, language, politics, economic development, and science, and to develop practical, hands-on knowledge of Chinese business practices and innovation capabilities. Other resources should be developed to help MIT faculty experts and their students gain a deeper understanding of Chinese scientific and technological capabilities and advances.

- Finally, we propose that a committee of MIT faculty and staff should be tasked with planning for the implementation of these recommendations. ■

The MIT China Strategy Group includes the following members:

Richard Lester (*co-chair*), Associate Provost for International Activities; Japan Steel Industry Professor of Nuclear Science and Engineering.

Lily Tsai (*co-chair*), Chair of the Faculty; Ford Professor of Political Science; Director, MIT Gov/Lab.

Suzanne Berger, John M. Deutch Institute Professor and Professor of Political Science.

Peter Fisher, Thomas A. Frank (1977) Professor of Physics; Director, MIT Office of Research Computing and Data.

M. Taylor Fravel, Arthur and Ruth Sloan Professor of Political Science; Director, Security Studies Program.

David Goldston, Director, MIT Washington Office.

Yasheng Huang, Epoch Foundation Professor of International Management; Director of Action Learning at MIT Sloan School of Management.

Daniela Rus, Andrew (1956) and Erna Viterbi Professor of Electrical Engineering and Computer Science; Director, Computer Science and Artificial Intelligence Laboratory.

Elizabeth Dupuy, Senior Advisor, Office of the Associate Provost for International Activities; Staff to the MIT China Strategy Group.

Please contact chinareport@mit.edu with any questions or comments.

To download a PDF copy of the entire report select: https://global.mit.edu/wp-content/uploads/2022/11/FINALUniversity-Engagement-with-China_An-MIT-Approach-Nov2022.pdf.

Mary C. Fuller New Chair of the Faculty
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Dartmouth College in the early years of coeducation, received a PhD in English and American Literature from Johns Hopkins, and joined the Literature faculty in 1990 after a year as visiting lecturer.

Her academic career began in a fairly traditional way with the study of early modern English drama. In a graduate seminar conducted by her advisor Stephen Orgel, a famous editor of Shakespeare's plays, she and her colleagues encountered among the sources for Shakespeare's *Tempest* the "Bermuda pamphlets," narratives of a storm and shipwreck that waylaid an early expedition to the English colony at Jamestown. Before departing Hopkins for a job at Stanford, her advisor suggested that she should consider focusing on these sources in maritime history.

His advice opened the door to a deeply interdisciplinary research area. Many sources like the Bermuda pamphlets survive, some in manuscript, some in print, and some accumulated into collections that have had an outsized role as both historical sources and (in effect) arguments about the past. Early modern voyagers used writing to manage and record a complex encounter with the world, and the documents they produced served and continue to serve a surprising variety of purposes.

Mary's first two books focused on early English writing about North America and the Atlantic world, and on how collective understandings of that past have been shaped out of the stories told by early modern sources as these have been selectively remembered and forgotten. Her forthcoming book, *Lines Drawn Across the Globe* (2023) has a broader focus, studying a multi-volume collection of hundreds of travel narratives, royal letters, ships' logs, maps, price lists, and commen-



Mary C. Fuller

taries printed in 1600 to document the global reach of English merchants and mariners. Assembled by an English minister who knew many of his voyager/authors, this vast work covers regions from the Arctic to the Straits of Magellan, from Sierra Leone, Russia, Morocco, Iceland, the Ottoman Empire, Mongolia, the Caribbean, and Persia. Its contents call on disciplinary knowledge from archaeology, botany, cartography, ethnography, geography, the history of information, library studies, mining and metallurgy, naval history, religious history, sociology, and numerous national and regional histories. Building the intellectual networks that made her own book possible was one of the fascinating aspects of the project. Being responsible to its subjects called for long and deep reflection.

At MIT, Mary teaches poetry. Her introductory classes look at modern and contemporary American poetry; she's interested in how to approach poems from a naïve perspective, and in teaching students how to ask questions that are both answerable and have answers that accumulate into insight. As a specialist in the early modern period, she also teaches

the works of Dante, John Milton, and Edmund Spenser in more advanced classes, aiming to make students confident readers of these influential and complex works and to use them (as the authors might have wished) to engage with fundamental debates about choice, freedom, power, and the way to live.

At MIT, Mary has served on the Nominations Committee, the Committee on the Undergraduate Program, the Committee on the Graduate Program, SOCR, the Faculty Policy Committee, and the Corporation Joint Advisory Committee, on numerous other advisory and steering committees at the Institute. In addition to the MacVicar Fellowship, she has received the SHASS Levitan Prize, the Levitan Teaching Award, and the Outstanding Veteran Advisor award for first-year advising. She has held research fellowships at the Folger, Newberry, John Carter Brown, and Huntington Libraries, and received funding from the National Endowment for the Humanities.

Soon after joining the faculty, Mary also began studying the Japanese martial art of aikido. She was fortunate in meeting Mitsunari Kanai Sensei, who had been an apprentice of aikido's founding master, and for many years took the Red Line to Kanai Sensei's dojo in Porter Square for training five or six days a week. She began teaching classes at area dojos in the late '90s, as well as travelling nationally and internationally for seminars with different teachers. Like any art or physical discipline practiced seriously, aikido provided hours of sustained focus that were a great respite from the demands of academic life; as a martial art devoted to harmonizing conflict, aikido also has offered useful lessons on the joys of working with people who are willing to come at you. She continues to study as her schedule permits, and holds the rank of godan (fifth degree black belt). ■

Neither Fire Nor Ice – Just Chatter

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When challenged, they will apologize or make a joke.

This is the first problem: These applications are spectacular purveyors of false information. They never reveal sources; there are no footnotes. And after all these assertions are computer generated – so they must be correct, right? because computers don't make mistakes. This flaw in the preservation of truth will grow exponentially as the chatbots increasingly prey on each other, magnifying their own false statements.

They also represent a direct threat to our system of democracy – already under threat from human agents. Very soon when a federal agency opens a comment period, it will be flooded with highly believable comments from many apparently genuine concerned citizens and interest groups – thousands of comments generated from prompts created by programmers working for wealthy individuals or wealthier corporations. The comment inboxes of our elected officials and our newspapers will fill up with opinions from myriad constituents, exhibiting a variety of styles and subtle variations of point of view – and all fake.

U.S. security services are rightly concerned about the potential for [attacks by foes](#), as well as friendly competitors, creating panics or military errors. And they are hard at work weaponizing this technology for their own potential use. It's not too different from a biological weapon.

I am far from alone in fearing this future; an [excellent article](#) appeared

already in *The New York Times* in January, and more recently Turing Award winner Geoffrey Hinton has [resigned from Google](#) in order to warn of these risks.

Here are two suggestions for mitigating this looming disaster.

(1) Every fragment of AI generated text should bear an indelible watermark iden-

Very soon when a federal agency opens a comment period, it will be flooded with highly believable comments from many apparently genuine concerned citizens and interest groups – thousands of comments generated from prompts created by programmers working for wealthy individuals or wealthier corporations. . . . This is a highly complex computer science challenge! – one that our School of Computing, with its avowed ethical commitment, should throw itself into immediately and forcefully.

tifying it as such – the way we mark cigarette packages as dangerous, or list ingredients on food packaging. This is a highly complex computer science challenge! – one that our School of Computing, with its avowed ethical commitment, should throw itself into immediately and forcefully.

(2) Every statement of “fact” made by generative AI should be footnoted with a reference to its source. This could be done in a way that doesn't interrupt the flow of the text, by hyperlinks or by a link to a separate page. (Thanks to my colleague Franz Ulm for this suggestion.)

This threat must be contained, by law and treaty, as biological weapons have been. Suggesting effective legislation is a major “design” project. This could be a great collaboration, proving the value of the system of “bridge appointments” created when the College of Computing was founded: It will involve Political

Science, Linguistics, Literature, Comparative Media Studies. This would be a wonderful issue on which MIT, in its current computational phase, could take the lead in dramatic style.

A good start, very helpful in moving a national discussion of this clear and present danger, would be a detailed and forceful statement of the dangers of this technology by the leadership of the College. ■

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Are MIT Faculty Serious About Addressing AI Bias?

Bernhardt L. Trout

TOGETHER WITH MIT STUDENTS, staff, and non-MIT colleagues, I recently made an educational video on the ethics of AI bias. It was posted over a month ago on MIT's OCW website and can be found here: https://www.youtube.com/watch?v=NgaW_p7gsRc. Given how important MIT faculty, and for that matter the whole AI community, state the issue of AI bias is, I thought it would be of help. The video is explicitly different from all of the other treatments of AI bias. It shows the limits of the technical approach, addresses foundational aspects of bias, and presents the beginning of a holistic solution. While it is a dramatization of a class (clearly with no intended connection to real people or classes), it is also meant to be funny and entertaining.

As I thought that our colleagues in EECS would be particularly interested, I sent them the link to the video, requesting feedback, and sent announcements through EECS channels to reach the broader MIT AI community. Indeed, I did get feedback of a sort. I was called in by an administrator who related that some deans had a concern about an administrative issue. Aside from that non-substantive point, one of our non-EECS colleagues gave me some helpful comments. That was it. MIT faculty are no doubt busy, but too busy to spend some time thinking about a subject that they say is very important? Perhaps my messages went to everyone's spam except the deans'. Or perhaps MIT AI researchers are doing an extended study of the video and issues raised therein and are reserving feedback until completion. In addition to those, I have some other possible explanations.

Maybe the video is too literary for MIT faculty's tastes (at least for STEM faculty). I grant that one would need to go below

the surface to see that every detail was chosen with great care, and thus, it would likely require multiple viewings together with thinking through the issues raised, including paying close attention to each word and phrase. For example, thinking about what "You are starting to understand" (not "beginning") means close to the end of the video in the context of a particular articulation of a solution which itself is shown to be something different from what it seems at first. And this is after the video works through the consequences of the disjunction between the mathematical and the moral, raises students' deepest longings, and addresses the foundations of political communities. By contrast, we STEM faculty want packaged solutions, dislike ambiguity, and tend to scorn words, viewing mathematical precision as superior to the literary.

Or maybe the breadth of the message goes against the forces moving us to become more and more narrow. In academics, we get credit for advances in our specific sub-fields. This is reflected in how we view our curricula and teaching. Our educational officers, to name an overriding example, are centripetal in their approach to curricula, despite this being contrary to the needs and desires of students. And lest we forget, there is always that academic turf to protect. When I started *Ethics for Engineers* in 2009, it was to address ABET's request to include ethics teaching in the engineering curriculum. I thought we should do this in a serious way, a way that necessitates thinking about these issues within the broad realm of knowledge. By all measures, the students appreciate this approach. In particular, they appreciate the broadening and deepening of their understanding of what it means to be an engineer in society

and how better to think through the ethical decisions that they will need to make. However, since then and despite what is good for our students, MIT's education has become narrower. Ironically, with the proliferation of more and more varieties of majors, minors, and other academic options, the courses and course requirements for each of these has become narrower in scope. It seems that no one remembers the vision of the Lewis Report, which after the horrendous atrocities of WWII made possible by technology, restructured MIT to broaden engineering education.

There is another possibility, likely reinforced by the other two. Maybe there is a perception among MIT faculty that we have to say certain things without believing them. As such, we address aspects of bias along only a few dimensions in our highly multi-dimensional algorithms, so we can say that we are doing something. This by no means intends to indicate that we do not genuinely believe that reducing bias is a good thing, only that it is someone else's task to do the heavy lifting. As such, we might find it easy for us to convince ourselves quickly that checking certain boxes is good enough. But it is not good enough. It is not close to enough, as the video explains. The video, not related to any class, is meant to generate serious thought about a serious problem within the broad societal aspects which encompass bias. Does the complete lack of engagement of MIT faculty working on AI mean that they're not really serious about addressing AI bias? ■

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The Brave New World of Higher Education

Daniel W. Stroock

IN ONE CAPACITY OR ANOTHER, I have spent all but the first of my 83 years at school. Until I was 26, I was a student. As such, I thought of my teachers as employees of first my parents (I went to private schools) and later of the governmental and private funding agencies. I was grateful for the support I received even if at times my use of those funds made me question the judgment of those who provided them.

When I became a faculty member responsible for educating others, I thought of myself playing the same role as those who had educated me: I was an employee of the parents and/or the federal and private foundations who were paying for their education. As time passed, my obligations as an employee evolved.

Following the tumultuous period during and after the Vietnam war, faculty became increasingly responsible for their students' psychological well-being. For example, lest they embarrass weak students, we were first prohibited from posting grades, and then, after hiding grades was determined to be insufficient protection from harsh reality, we were encouraged to inflate grades until they became meaningless.

President Reif espoused and championed the idea that faculty should be their students' surrogate parents. At times his emails made one suspect that, when not

hobnobbing with the pillars of society like the Koch brothers and Stephen Schwarzman, he was attempting to turn MIT into an annex of *Mr. Rogers Neighborhood*. Pandering to students this way, especially during the period when many of their less fortunate peers were dying in Vietnam, was distasteful, but

Thus it was interesting to learn that faculty and students are about to exchange roles.

employees have to either resign or follow their employer's instructions.

Thus it was interesting to learn that faculty and students are about to exchange roles. In a recent meeting with the Mathematics Department faculty, Vice Chancellor Waitz did a superb job of explaining that, as a result of a vote in which approximately half the eligible participants chose to be represented by a union, federal law required MIT to negotiate a contract with its graduate students. As a result, for several months Waitz and his colleagues have been meeting with officers from the Graduate Student Union. Fortunately, Waitz seems to be a remarkably good negotiator who has full mastery of not only the financial but also the educational perils that could result.

For instance, he has convinced the union that MIT, having last year increased their salary by 9%, simply cannot afford to increase it again by the 40% that the union proposed. Also, he appears to recognize there is something strange about the whole situation. MIT accepts approximately 10% of its graduate school appli-

cants, and presumably those whom it does accept applied because they sought the advantages of an MIT education.

However, it appears that half of our students are not satisfied to have us enhance their future prospects, they now want us to pay for the privilege of doing so. Most of them already receive a total compensation package that is twice the average salary of the American working class and higher than that of some junior faculty. You cannot help but admire their self-esteem, but you can question whether it is well-founded and should be rewarded. ■

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FNL Editorial Board Election Results: Three Re-elected; One New Member

THE RESULTS ARE IN for the recent electronic all-faculty/emeritus faculty election for members to the Faculty Newsletter Editorial Board. The only Institute election open only to all faculty and emeritus faculty members, the voting was held between April 26 and May 5. Eligible voters were notified by email, and approximately 20%

of the more than 1000 eligible electorate participated.

The mechanics of the election were overseen by MIT Institutional Research Associate Director Gregory Harris. The entire process simply wouldn't have been possible without his assistance.

Current Editorial Board members

Christopher “Kit” Cummins, Helen Elaine Lee, and Nasser Rabbat were re-elected, as was new candidate Anthony Patera. Each will serve a term of three years.

Voters were able to choose up to four candidates, based on the biographical information each candidate submitted for the election. Below is the “ballot” each winning candidate submitted.

Christopher “Kit” Cummins (current Editorial Board member)

ccclab.mit.edu

I am an MIT alum (PhD 1993, Chemistry) and joined the faculty here in the same department immediately following my first MIT Commencement; subsequently it seems as if I graduated many more times during my time as an Associate Faculty Marshal and member of the Institute's Commencement Committee, representing the School of Science. I've enjoyed serving on Institute committees over the years, including the CAP, as a vehicle not only to serve but also to get to know the Institute and our faculty. I'm a first-year and major advisor, and have served also as our department's UROP coordinator. My research interests reside in devising methods for the synthesis of new molecular forms of matter, and I love to read, write, and edit pieces both inside and outside of my comfort zone. It would be a great honor for me to be re-elected to the FNL Editorial Board, where I may practice and sharpen those skills in service of the true and independent voices of the MIT faculty.

Helen Elaine Lee (current Editorial Board member)

<https://cmsw.mit.edu/profile/helen-elaine-lee/>

Service on the Faculty Newsletter's Board is an opportunity to bring my background as a writer to the MIT community. I am aware of the power of words to unite and inspire us in addressing academic, ethical, social, and political issues, and in agitating for change. The Faculty Newsletter is the MIT forum where we are all able to raise our voices, in affirmation and dissent, and I look forward to continuing to foster faculty engagement in discussions of our community's pressing issues. Through this forum we can all have a role in shaping the Institute and ensuring that we are self-critical, inclusive, equitable, and creative in meeting the myriad challenges and opportunities before us.

Nasser Rabbat (current Editorial Board member)

<https://architecture.mit.edu/people/nasser-rabbat>

Nasser Rabbat is the Aga Khan Professor and the Director of the Aga Khan Program for Islamic Architecture at MIT. He has been a faculty member for the last 32 years and completed his PhD at MIT as well. An architect and a historian, his scholarly interests include Islamic architecture, urban history, heritage studies, Arab history, contemporary Islamic art, and post-colonial criticism. He has published eight books on topics ranging from Mamluk architecture to Antique Syria, 19th century Cairo, Orientalism, and urbicide. His most recent books are *Writing Egypt: al-Maqrizi and his Historical Project* (2022) and *Imarat al-Mudun al-Mayyita (The Architecture of the Dead Cities)* (2018). He has been a contributor to several Arabic newspapers on cultural, political, and artistic issues since 1998.

“Serving on the MIT Faculty Newsletter Editorial Board will allow me to advocate for a more committed engagement with the less fortunate parts of the world at MIT, to promote a better integration of the humanities in MIT's mission and image, and to bring my journalistic experience to the institution in which I have spent all of my career.”

Anthony Patera

https://meche.mit.edu/sites/default/files/cv/Patera_shortCV.pdf

I arrived at MIT in 1975. I obtained my SB and SM in Mechanical Engineering, and my PhD in Applied Mathematics. I then joined the faculty of Mechanical Engineering. I am currently Professor of Mechanical Engineering and Ford Professor of Engineering. My research and teaching interests center on mathematical modeling and computational methods for partial differential equations, with applications in solid mechanics, acoustics, fluid dynamics, and heat transfer.

The Faculty Newsletter plays an important part in the articulation and promotion of faculty participation in the research, education, and service missions of the Institute. Some traditional roles of faculty are now increasingly transferred to professional offices within the Institute. In some cases this shift is well warranted and all parties benefit. However, in other cases, although we might improve our efficiency, we may also sacrifice the holistic academic spirit which has long been a hallmark of MIT. In this context, I believe the Faculty Newsletter can provide a forum for extended and deliberate discussion of faculty imperatives in the MIT of the future.

letters

Commentary on “Never Mind the Firehose, You Can’t Even Lead Them to Water”

To The Faculty Newsletter:

THIS ARTICLE WAS VERY upsetting for me to read [*MIT Faculty Newsletter*, November/December 2022].

I think it makes vast assumptions about the character and intellect of MIT’s student body without the support of thorough research. The author applies their experiences in a *singular* class over the entire student body, and seems to use this experience to demean the very people they are tasked with instructing. If they believe that student engagement is a real issue, why not take the time to interview and engage with the students involved instead of insulting them? They also write that “the lectures are clear and engaging,” but fails to recognize two things here: 1) as a co-instructor, I’m sure their ability to understand and pick up on the material provided by the other co-instructor is

quite high given their likely previous exposure with the subject material; and 2) their ability to process the material within the lecture may not be universal due to previous subject exposure, their learning method, and their brain chemistry (i.e., neurodivergence may affect someone’s ability to engage with, process, and understand information in different formats). I’m unaware of their brain chemistry, but at least given their likely difference in education level from the students they are evaluating, using their own experience as a benchmark is simply and undoubtedly *bad research practice*.

As a student, I would much prefer an instructor who, instead of demeaning their students and creating an environment of disapproval, gets to know and respect them and actively works with them to improve a class’s material and structuring. To me, this individual is not

only clearly disengaged from the student body, but violates MIT’s values. I can not believe the individual even had the audacity to write that “over half of our admitted undergraduates are occupying seats that were denied others that would have longed to benefit from them.” Way to make students feel even more ostracized in an environment that already loves to reinforce to them that they are not enough. Need I remind them that one of MIT’s core values is *Community*, under which is written “We actively work to create a caring, compassionate, healthy, and safe environment that enables all community members to thrive.”

Lauren Carethers
Department of Aeronautics
& Astronautics
Class of 2023

letters

Reflecting as a Student

To The Faculty Newsletter:

CONCERNING CRAIG CARTER’S article, “Never Mind the Firehose, You Can’t Even Lead Them to Water” (*MIT Faculty Newsletter*, November/December 2022):

I am not an expert at teaching, but I am quite knowledgeable about being a

student (McGill Engineering 1977, MIT Sloan 1983, married to an MIT alum 1983 and father of an MIT alum 2017).

My fond recollection of McGill Engineering includes the detail that it was impossible to pass a course without paying attention during the lectures. And the graduating class was about 2/3 the size

of the entering class, so this is based on a considerable dataset of observing cause and effect on my classmates.

Christopher Noble
Director of Corporate Engagement
Environmental Solutions Initiative

Inauguration of Sally Kornbluth



Inauguration of Sally Kornbluth

