MIT Faculty Newsletter

http://web.mit.edu/fnl

in this issue we offer extensive responses to the killing of George Floyd, beginning with the Editorial and "Heartsick. Anguished. Enraged." (below) and continuing through page 15; Faculty Chair Rick Danheiser's "'May You Live in Interesting Times': The Year in Review" (page 22); and "On the Risks and Benefits of New International Engagements," (page 24).

See the new Aron Bernstein Memorial Page or visit our website.

Interview with Ragon Institute Director Dr. Bruce Walker

Heartsick. Anguished. Enraged.



THE FOLLOWING INTERVIEW by Faculty Newsletter Editorial Board Chair Jonathan Alan King (**JAK**) with Dr. Bruce Walker (**BW**) was held on May 18, 2020.

JAK: You're part of the Ragon Institute and the Institute for Medical Engineering and Science [IMES] as well as the Massachusetts Consortium on Pathogen Readiness. What's the relationship among them and your role within them?

BW: I'm the director of the Ragon Institute of MGH, MIT, and Harvard, which is my primary role. The Institute was established 10 years ago with the mission of harnessing the immune system to prevent and cure human disease. We have focused on specific goals, the initial goal being to develop an HIV vaccine, and that work is underway

HERE WE GO AGAIN with the grief and outrage of being black in America.

This time, we're trying to survive two pandemics. With Covid, our communities are suffering disproportionate sickness and death borne of longstanding inequality, and enduring exploitation as "essential" workers with no choice but to show up and risk exposure to do the work that keeps the socioeconomic engine going, without fair compensation, health insurance, or even basic resources to prevent the spread of the virus. And the pandemic of racism and violence directed at black people rages on.

Whiteness continues to be weaponized and black lives continue to be criminalized. Endlessly, everywhere, we are surveilled and policed. On a whim or with a casual flexing of the muscle of white privilege, we are removed from



George Floyd Memorial, Minneapolis

Editorial

I. Challenging Systemic Racism at MIT II. Greetings to our Graduates in the Year of the Pandemic

Challenging Systemic Racism at MIT FOLLOWING THE KILLING OF

George Floyd by a white policeman on May 25, protests erupted across the nation against the grotesque wrongs of anti-black racism and its long, tenacious hold on the American social structure. In this hopeful moment fraught with possibilities, it is only right that MIT aims for greater self-reflection. However, self-reflection is not enough. Deliberate and sustained action is required, not some day, not tomorrow, but now.

MIT's long history of inaction on the issue of racism is well documented. There is a pattern.

• An incident motivates an educational campaign directed at the MIT community, or a study and report, including recommendations for change. This takes

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significant time and energy by faculty and students of color. For example: Intuitively Obvious 1996: Video, Website A More Inclusive MIT 2015: Video, Website, student article evaluating progress in *The Tech*, June 2, 2020. The Hammond Report 2010: Executive Report and Recommendations

- This is usually followed by a letter, or a vigil, or a breakfast.
 - No further action is taken.

This pattern is itself a performance of systematic injustice and is insulting both to those who have been wronged and those who have devoted their efforts to bring about change. It is an embarrassment to the Institute.

No wonder that we, along with the Black members of the MIT community and their supporters, are outraged. Their frustration is palpable. For some of their and other reflections see the special section in this issue beginning with Helen Elaine Lee's "Heartsick. Anguished. Enraged." on page one and continuing consecutively. Included are "Voices from the MIT Community Vigil," page 8, and some MIT departmental responses. We also recommend visiting the Support Black Lives at MIT website.

It is important to recognize that MIT's history is part of a larger systemic web of racial injustice that pervades the academy. And although it should not take a mass public outcry for people to educate themselves about the inequities that have been happening around them all along, it is illuminating to read the posts made under #BlackintheIvory. On this platform, Black people are raising their voices about the racism they have experienced and continue to deal with in academia. Once you read about these traumatic experiences, it is impossible to see racism in the abstract or as a distant phenomenon that does not affect you.

Nobody is more dangerous than he who imagines himself pure in heart; for his purity, by definition, is unassailable.

- James Baldwin, Nobody Knows My Name

Recommendations for change fall into three categories: transparency, structural change, and accountability. Demands for transparency and accountability are familiar enough, especially given challenges to the Administration's (in)actions over the past year. We will return to them in our recommendations. But let us first take a moment to clarify the demand for structural change.

Structural change requires modifications to the organization of an institution, that is, transformation of the rules and policies affecting the distribution of power and finances, of credibility and authority; such structural change is needed in order to make the Institute more inclusive, more representative of the institution's constituency, and more consistent with its stated mission. Of course, it is important to hire Black faculty and staff and admit Black students. But we cannot simply rely on the good will of a few individuals to make this happen, and history teaches us that we cannot trust that those who join the MIT community through such efforts will be welcomed as full members. Moreover, appointing individuals, even Black individuals, to do the work of "equity" can – in spite of their hard work - end up being no more than windowdressing in combating racism, without real effect on the broken system.

These individuals are effectively disempowered within the structure and their efforts are compromised. Obviously, changing the culture of MIT would be helpful, but a few more implicit bias workshops will not change culture; substantial structural changes, incentives for adhering to them, and strict accountability measures are necessary. We are talking about more than cosmetic change, more than changing minds. Structural change is not easy. It demands struggle, commitment, discipline, and a radical change of perspective.

In any society or organization, it is not possible to meet everyone's needs or distribute burdens equally. In unjust institutions, the problem is not that some groups lose out, are outvoted, or suffer substantial costs; this happens even in just democracies. Rather, an unjust system is set up so that the pattern of redistribution of costs and benefits over time is skewed: one group makes the sacrifice, another group gets the benefits, over and over and over. In the United States, benefits have systematically gone to White folks. It is time now for those who have benefited to recognize the injustice and accept the price of its fixing.

For to be free is not merely to cast off one's chains, but to live in a way that respects and enhances the freedom of others.

Nelson Mandela

We cannot hope to solve the problems of racism at MIT (or in the wide world) by acting on a few recommendations, but we can better position ourselves to solve the problems.

- 1. The Faculty should establish a Standing Committee on Race. This committee needs to be nominated and elected by the faculty-at-large.
- 2. Working with the Standing Faculty Committee on Race, the Institute Office of Research will develop a Racial Impact Assessment that must be completed by all proposed research projects.
- 3. Funding for research that might be used for increased citizen surveillance, predictive policing, smart prisons, bail determination, and other efforts to control the Black population and activists supporting anti-racism, should be subjected to heightened scrutiny.
- 4. The Institute should take concrete steps to achieve the objectives outlined in the BGSA petition: (i) to develop a 3-year and 10-year strategic plan to address racial bias at MIT by accomplishing the remaining tasks of the 2015 BSU/BGSA recommendations and new addendums to the

Challenging Systemic Racism at MIT continued from preceding page

recommendations, and (ii) to investigate and implement new models for public safety that reduce the scale of policing and increase safety and well-being.

- 5. The Institute should fully cover all unrecovered overhead for research related to racial justice.
- 6. The Institute should undertake changes to the academic structure that promote interdisciplinary research on race and racism. We recommend that funding be provided to form a center or program with funded faculty lines and its own space. (This might be part of a larger center such as the one suggested by Caroline Jones and Sherry Turkle in the January/February 2020 FNL, but must explicitly include in its mission the study of anti-black racism.)
- 7. Efforts should be made to increase commitment to and funding for community-based participatory research that serves Black communities.
- 8. The Institute should make curricular changes that ensure that students graduating from MIT are educated about race and anti-blackness from an interdisciplinary perspective.
- 9. Any department that has less than 15% POC in tenure-track positions, must have at least one senior faculty of color, in the field from another institution on the hiring committee. This person must vote affirmative on the hiring recommendation. This same process should apply to promotion and tenure cases.
- 10. Policy changes should be transparent and guided by faculty, staff, and students. (See also recommendations for implementation from the Hammond Report.)

Especially in this moment:

- 11. We should enable our colleagues, assistants, students, and affiliates to participate in the ongoing Black Lives Matter demonstrations. We call upon those in positions of authority to make room for participation by allowing for flexible leave, schedule shifts, and deadline extensions.
- 12. Voting in local, state, and federal elections is a right. MIT should provide time at full pay for voting by allowing for half-day leave time, schedule shifts, and deadline extensions.

13. We should ensure that support for demonstrators, participation in demonstrations, and arrest in the course of demonstrating will not be used adversely in decisions within the Institute around employment, promotion, funding, partnership, or other support.

MIT often prides itself on being a "leader" in research and its mission requires it to bring "knowledge to bear on the world's great challenges." Racism is one of the greatest of the world's challenges. If MIT is to live up to its mission, now is the time to uproot racism in all forms at MIT and to promote antiracism in teaching, research, and through its service to the nation and the world.

Editorial Subcommittee

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Greetings to our Graduates in the Year of the Pandemic

IN OTHER YEARS, this issue of the *MIT Faculty Newsletter* would be sitting in the laps of the thousands of parents, family members, and friends who would have attended Commencement. We would have expressed our congratulations to both the graduates and their families, and wished them well in taking the next steps along career paths. Unfortunately, the pandemic precluded publication of a hardcopy *Newsletter*, and this electronic version doesn't reach either students or their families.

Nonetheless, MIT's Faculty values and takes pride in the accomplishments of the class of 2020. Teaching and mentoring the students has been a source of deep satisfaction. Their senior year was extraordinarily stressful due to the Covid-19 pandemic. As they have learned and grown, absorbing and generating knowledge and new insights, so have we. Their future contributions to their communities and to society will be among the most gratifying outcomes of our academic efforts.

The class of 2020 will be entering a world of considerable uncertainty and an increased level of social and political polarization. After the last presidential election, many of our graduates rose to the challenges presented by the new administration and its method of

governing. Many joined efforts to protect international members of our community from the threat of exclusion or deportation. They 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 them joined or supported the Women's March, the March for Science, and the March for Climate.

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. In the international arena, conflicts among nations that may have once seemed very far away have intensified. We have to take more seriously our 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.

During their 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 revival of MIT Students Against War, and many other expressions of social, economic, and political concerns.

During their years with us, we on the faculty have watched the burgeoning of their many talents, their creative ambitions, their resilience in the face of setbacks, their thoughtful and quirky self-expression, and their creative and entrepreneurial energy. We hope that, as their individual paths unfold, they will put their 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 2020 - facing a more uncertain environment than any graduating class in decades - vision, strength, commitment, wisdom, and success, in addressing the unique challenges you will face.

The Editorial Board of the MIT Faculty Newsletter

Heartsick. Anguished. Enraged. Lee, from page 1

public space. We know that we may be harassed for being in a Starbucks or a library, entering an Airbnb rental, having a cookout. And we may well pay with our lives for the pleasure of running in the open air or watching birds.

Militarized police brutalize and murder us on the street and in our own homes, and as they show contempt for our lives and humanity, they continue to be protected by police unions and codes of silence and outright lies.

Black women, black queer people, and black trans people continue to be debased and subjected to disproportionate state, institutional, and personal violence.

Injustice after injustice, it's enough to make us explode. We try to keep on seeing it, even as it breaks our hearts, and carry on. But the all of it feels sometimes like more than we can bear. The casual disregard, disrespect, silencing, and devaluation that we experience as facts of daily life. Routine institutional indifference and malignant neglect. Organized, systematic assaults on the rights and resources and opportunities of black people.

The pain of this moment has struck me speechless for a stretch of days and left me wondering what words would go beyond sanguine, institutional reassurances to do justice to the realities we are living. This is what I've got to say.

We must keep talking about the organization and funding of the project of white supremacy that deepens inequality and attacks black lives by strategic design, and we must keep talking about who invests in and profits from this project.

I will keep on seeing, and I will keep on writing stories and novels that honor our complex and beautiful black lives, and trying to expand student understanding and inquiry in the classroom.

WGS (Women's & Gender Studies) will continue to do the work of educating MIT students through the intersectional lens of race, gender, class, and sexuality. We will continue to uphold values of social justice. We will work to hold the MIT Administration and the MIT community as a whole accountable to confronting racial inequity on campus and beyond.

Racial justice is everybody's work. How will you contribute?

Helen Elaine Lee is Director, MIT Program in Women's & Gender Studies; Professor, MIT Comparative Media Studies/Writing (helee@mit.edu).

Words + Words + Words

Sandy Alexandre

AS A BLACK SCHOLAR of literary studies, I want to honor and thank all of the justice-seeking words that came before our 2020 ones – words that either vocally or in written forms of communication sought and fought for racial justice in the world and on this campus. Verily, thank you! I want to make sure to acknowledge that any courage I might have to form what could ultimately be justice-generating words is actually the cumulative effect of so many years of so many people speaking out and making those demands before me - the largest proportion of them agitating before I was even born. Like high decibels shattering glass, the frequency and accumulation of these insistent words can chip away at the structural integrity of systemic racism, thereby exposing it for having lacked true "integrity" all along.

Let me tell you, these words on this page would almost need to be thickly embossed in order to show, clearly and conspicuously, how indebted they are – indeed, how much they stand on the substance and heft of other words more powerful than mine could ever hope to be. But I dare say a better and more feasible alternative to embossing my words on this *Faculty Newsletter* is pointing you to at least some of these preceding words to which I keep referring.

Altogether, the particular set of words I want to point you to constitute <u>9 reports</u> and <u>177 recommendations</u> that have been offered up to the Institute about the varying states of diversity, equity, and inclusion at the Institute throughout the past 10 years at least. So while I take this moment and take up this space in the

Faculty Newsletter to make sure I thank all of the ancestors, activists, agitators, petitioners, grassroot movements, and freedom fighters who paved the way and modeled the courage for us to continue in the struggle for our collective liberation from the racist (and therefore unjust) systems that bind and hamstring all of the ways we move in life – whether some of us know it or not – I want to remind the powers that be that change-seeking words deserve more than just our thanks.

The way to thank words (along with the efforts to put those words together as well-crafted arguments, irrefutable evidence, persuasive data, and stirring *cris de couer*) is to take them seriously: listen to them, read them, analyze them, and take them up on their offer to show and tell us how to

Words + Words + Words
Alexandre, from preceding page

become more fully realized as an institution of higher education. After all, how much higher than another's can we claim the education we offer to be, if it's not poised to evolve with and ahead of the times? How and why do you get to call yourself a higher form of education if you've done the reading but your response to it clearly suggests that you didn't really understand its complexity or that you weren't quite up for the task? Where is the virtue in claiming to be higher if that height could be attributed, if even just facetiously, to our sitting on a pile of insufficiently addressed reports? Why is MIT wasting its community members' precious time by encouraging them to produce reports about systemic problems at MIT that MIT doesn't, then, reciprocate in kind with a commensurately systemic solution to them? MIT can't piecemeal itself out of systemic problems. Halfstepping just won't do.

We are all going to need MIT to value the data of words. Indeed, in the large scheme of the world's history of justice-seeking words, a collection of 9 reports and 177 recommendations isn't really as staggering as it could be, especially if (as the Academic Council Working Group on Community and Inclusion [ACWG] implores) MIT enlists all hands on deck to help implement the sum of those recommendations. To conclude, I'll riff on the word sum.

In that famous play that bears his namesake, Hamlet is at once sarcastic, dismissive, and philosophical when he describes something he is reading as being a bunch of discrete "words, words, words." In the title of this piece, I've adapted the famous repetition of those words in order to remind us that words, especially pleading words, do indeed amount to something.

They add up! In this particular case, these 9 reports and 177 recommendations amount not only to an understanding that

MIT has a serious problem that requires a serious solution but also to a call to action.

So let's thank the words and their creators by getting serious and staying there for posterity. Instead of evading the words and their concomitant lessons, let's respect them for revealing who we are and what we've sadly become by rote. Our claims to being and providing higher education depend on this kind of sustained moral vigilance, our will to always be and do better, and our ability to address the kinds of systemic problems that would bring relief and justice to so many if those tenacious problems were, in fact, proactively stunted and stemmed.

Stem. Now there's a word we might all learn to be grateful for anew, if we had the courage to apply its meaning as a verb – and not as an acronym! – to our approaches to addressing social problems. Stem patterns of racism. Stem racist tendencies. Stem racism.

Sandy Alexandre is an Associate Professor in the Literature Section (alexandy@mit.edu).

The Case Against "#BlackLivesMatter?"

J.C. Woodard

J.C. Woodard was awarded his SB degree in Mechanical Engineering in June of 2018, then earned an SM degree from Tsinghua University as a Schwarzman Scholar, and is now working as a project manager in Shenzhen. The contents of this message were drafted for a social media post in 2016.

THE FOLLOWING WAS PENNED for white America's edification, so that everyone will understand why Black Americans have been furiously marching in the streets. The intention here is to offer perspective on the Black American experi-

ence from a Black American's eyes.

Who am I? I am a 20-year-old, dreadheaded Black male from the South Side of Chicago, currently studying at MIT. My major is Mechanical Engineering with a Chinese minor, and I hope to one day receive a PhD in designing prosthetic systems, but before that can happen, there's this problem that has been bothering me for the past 20 years. See, while composing this, I should've been researching a valveless pumping system, but was much too emotionally ravaged by the current state of American civil affairs

to do so. Instead, I found myself tearing up in the soup section of the local Target.

What reason do I have to be an emotional wreck in the friendly neighborhood Target?

Picture that relative you have who was diagnosed with a malignant, incurable cancer that could take their life at any time.

Now, picture half of your family suddenly diagnosed with the same type of cancer. Death will loom over their shoulders as regularly as the sun rises and falls. Furthermore, when they finally do die, a wide swath of America will stand up and

The Case Against "#BlackLivesMatter?" Woodard, from preceding page

justify their demise based on their perceived history of doing cancer-causing activities.

Living that way should be enough to drive any reasonable man to his knees.

But this thought experiment doesn't do justice to explaining the constant horror that I feel for myself and for my brothers as a Black American male, in a society which vehemently tries to justify the questionable circumstances surrounding our deaths at the hands of law enforcement.

At an early age, my parents ensured I knew how to acquiesce to law enforcement if need be. "Never argue, just comply," my mom would tell me. She, my other family members, and Black America have had such negative experiences with police that they all teach survival techniques like white parents teach manners. I was instructed to be acutely aware of the race of those around me, because it would keep my expectations for equal treatment from fellow citizens as low as they needed to be for a Black boy from the South Side. The Black mother's version of motherly love is ensuring that her children have the mental fortitude to endure the abuses of a world built on their subjugation. The reality is, fortitude wouldn't have saved me from a cop's bullet, and since those were easy to find in my neighborhood, I grew up hypervigilant.

An underrepresented white person wouldn't deserve to be presumed a dangerous villain, but that is how America stereotypes Black Americans. A Black American's criminal record for marijuana possession is used to justify their death, while white Americans go unprosecuted for using harder drugs in larger quantities. Does America only believe in second chances for those with lighter complexions?

Has America been desensitized to the deaths of Black Americans in the same way that Chicagoans have? Is it possible that centuries of lynchings and unquestioned executions of Black Americans has created a culture that averts its eyes instinctively, because that's what people's

parents and their grandparents did? In her expression of "motherly love," is it possible that your mom taught you how to look the other way?

When I was 17, I was at the front door of a peer's house in one of Chicago's more affluent (read: white) neighborhoods. After several minutes of waiting on them to answer, the cops made a surprise appearance. I was doing nothing more than standing in front of a door, playing on my cellular while waiting for it to open. The neighbors called them "because they didn't recognize me on their friend's porch." I would've rather they call me a nigger up to no good than try and blanket their prejudices as innocuous precautions. That's the same kind of culturally ingrained fear that leads to cops having over-dramatic fight-or-flight responses to Black men reaching for their wallets, and now Philando Castile's name rings out in the streets of every major American city, followed by an incensed crowd calling for change. In retrospect, I was lucky, but the next time I might not be.

Please count the number of white people on your hands who have had the cops called on them for trivial reasons. Zero? If I were to do the same for Blacks, I would need more hands.

In December of 2014, after a grand cosigned Darren Wilson's manslaughter of Michael Brown, people who look like me protested in Ferguson and hundreds of other cities across the country. My cohort live-streamed the tear gassing of protesters in St. Louis from our dorm room, appalled at the unreasonable force exercised by "lawmen." Our frustrations mounting, we printed out police brutality posters, grabbed chalk and headed to campus. By morning-time, our handiwork was omnipresent. I was most proud of "#BlackLivesMatter" sprawled across a classroom chalkboard, and eagerly awaited the campus response to our work. How could it be anything but supportive?

If seeing those posters thrown in garbage cans felt like a kick in the face, seeing the chalkboard work replaced with #AllLivesMatter was a conclusive blow to

my confidence in America's people. I was consumed by rage – as a fellow American, how could you ignore and negate our call for attention to a plight affecting so many of us? I couldn't stand the profound apathy in the majority of people I was supposed to call peers. How could MIT not understand #BlackLivesMatter? How could these people, at the brightest Institute in the world, misconstrue our cries for help as something malicious or racist?

This is the same rage that motivates millions of Black Americans to take up arms in the streets, metaphorically and literally. It is mentally consuming and makes friendly people lose it in the face of blissful ignorance for the Black community's current and long-standing crisis. Rage is an effective, accessible motivator, but not a means towards a real solution.

America needs more empathy, which is why I answer all questions about my Black experience with grace. This is how we move away from isolated bubbles and start productive conversation, because therein lies the solution that makes everyone happy. Without this, Black men like me will continue to be executed, and the cyclical pattern of police brutality, minority outrage, and government indifference will rage on.

No one should be condemned for thinking America is post-racial, since the issues at play aren't nationally visible. No one should be berated for, upon first examination, believing that #AllLivesMatter is an appropriate response to today's predicament. That being said, please be informed of what you're standing for and against. My American passport looks the same as yours, and I aspire for the American dream as you do, but our experiences here have been dramatically different. The case against #BlackLivesMatter is that no single hashtag can encapsulate the decades of grief Black Americans have endured, nor can it enclose the numerous data points and arguments supporting our outrage.

#BlackLivesMatterAsMuchAsAllOther LivesButThatsNotWhatAmericalsShowing Us would have been more appropriate.

Voices from the MIT Community Vigil

THE FOLLOWING FOUR MESSAGES

speak to the tragic circumstances triggered by racism, the consequent chronic experience of fear, and the need for our community to recognize and address the continuum of racially inspired situations at MIT as well as those beyond. All of the messages are from the June 2nd MIT Community Vigil (either excerpted or in their entirety). They put forth a call to action; not being racist isn't enough. As Kendyll Hicks says in her message, "We are

tired of thoughts and prayers."

The spoken words carry these messages more forcefully than the text here can. We encourage everyone to hear these and the other 12 messages presented at the Vigil: web.mit.edu/webcast/vigil/.

Kendyll Hicks is a graduating senior in the Department of Electrical Engineering and Computer Science.

GREETINGS MIT FAMILY. My name is Kendyll Hicks and I am an outgoing BSU [Black Students Union] Co-Chair.

For the past week, we have watched again and again the slow and methodical disregard for a black man's life. For 8 minutes and 46 seconds Officer Derek Chauvin fearlessly stared into a camera and continued to dig his knee into George Floyd's throat. George lost consciousness, the officer heard cries saying "you are killing him," and he continued to dig his knee into George Floyd's throat.

But, this isn't about George Floyd. This is about George Floyd, Breonna Taylor, Dion Johnson, Ahmaud Arbery, Tony McDade, Philando Castile, Sandra Bland, Tamir Rice, Eric Garner, Walter Scott, Michael Brown, Alton Sterling, Freddie Gray, Atatiana Jefferson, Trayvon Martin, and so, so many more. My heart has ached and my throat has tangled for too long for the families, whose black mothers, fathers, brothers, sisters, sons and daughters, some whose names we know and countless

others whose we don't, were treated as problems instead of people. Whose bodies were battered by those who were sworn to protect them. Who fell victim to a system that has masterminded the murder of a people. We are gathered here to mourn those precious lives lost. In mourning, I fear for my family, my friends, loved ones, and myself – who wake up in a country where it has always been open season on black bodies and who look in the mirror and think "today, being black could be my death sentence."

But where do our tears go? When will our country stop coddling white killers? When will our institutions begin to truly feel our pain and inherit our tears? When will they realize that not only are we fighting for justice, for fair and humane treatment, but also that we are fighting for our lives? We are tired of thoughts and prayers.

With that in mind, MIT Administration, I would like to ask you – do you really care about your black students, faculty, and staff if you're not willing to use your power and resources to protect us? When Covid-19 arrived, MIT sprung into action making masks, ventila-

tors, diagnostics, and pharmaceuticals. Where is that ambition for the public health crisis for which we gather right now? When vicious immigration policies threatened the safety and protection of students, MIT publicly urged the powers that be to make a change. You've proved you can do something, but today you're missing in action. And as so many have noted, to acknowledge and be informed without concrete effort is to be complicit and to support the police terror that's occurring. Stand with us. Publicly demand the accountability of all officers involved. Publicly support for the demonstrations and broader black liberation efforts happening across the country. Do something. Include us in your mandate. Accept this problem as your own. Because we will *never* achieve an equitable and just community on campus if our humanity is being disregarded everywhere else.

So, how do we honor the lives lost? We must listen, learn, educate, speak up, vote, donate, empathize, love, and fight because we are the ones we have been waiting for.

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Voices from the MIT Community Vigil continued from preceding page

Ramona Allen is the Vice President for Human Resources.

FOR SOME OF US, we are at a familiar crossroads. Familiar because, as a person of color, violence has impacted our experiences and family histories in this country since its inception. Like a virus, racism mutates and changes, but leads to a national sickness marked by widespread economic, political, and social inequalities.

As a child growing up in segregated Boston, I had eggs thrown at me, and my school bus was regularly stoned and shot at. I had no choice but to keep moving and so these traumas were never really addressed. But these are collective, deep-seated historical traumas that are now manifesting on the streets. It's exhausting to be a person of color in this country, and quite frankly we are tired.

I'm tired of imagining my husband, family, and friends, people who look like George Floyd and Breonna Taylor, facing a criminal legal system that does not recognize their fundamental worth and humanity. I am deeply disheartened and disappointed by the ways in which the lives of people of color have been devalued... over and over again. That is quite a heavy burden. Black men, women, and trans lives MATTER and this shouldn't have to be a point of discussion.

Fortunately, we convene today as members of a community of teaching, learning and innovation. I draw strength from knowing that at MIT, we continue to be committed to educating students in ways that will "best serve the nation and the world in the 21st century." Watching Commencement just a few days ago warmed my heart and left me feeling encouraged and inspired. I am inspired by our staff and faculty who in countless ways demonstrate their brilliance, thoughtfulness, and kindness.

So I'm counting on you all; my expectations for this community are extremely high.

We have the best and brightest minds here. So we need to lead the country from Cambridge, just like we do in every other way that makes MIT a place of excellence. Innovation, imagination, and creativity are part of our DNA, and we must use these strengths to be part of envisioning new ways of being together as a community.

At this particular crossroads, we must take action, and now.

No more waiting! Educate yourself. Raise awareness. Sign petitions. Donate to bail funds. Support our activists. Protest. Vote. We need ALL people involved, not just people of color, but ALL people to fight for change.

If you are experiencing a new level of consciousness, embrace it.

We need changes in laws, behaviors, and hiring practices. We need to create greater opportunity for people from marginalized communities to access education. Finally, we need to hold each other accountable for that change. Ask your peers what they are doing to enact change. We must harness the strengths of our diverse campus community, and in the spirit of our mission statement, "bring knowledge to bear on one of the world's great challenges."

By working together, let's lead the way MIT!

Malick Ghachem is an Associate Professor in the History Section.

MY NAME IS MALICK GHACHEM and I am a member of the MIT History Faculty and a criminal defense lawyer who teaches in the area of race and criminal

It is profoundly discouraging to consider that who gets to breathe in America circa 2020 is a matter of race. We have seen that this is true in relation to the Covid-19 pandemic in recent months, and the murder of George Floyd shows that it is also true in relation to our policing practices, which must change in radical ways. Such change will require white Americans

and indeed all of us to make sacrifices of the kind we have been generally willing to make in the face of Covid-19 but seem unwilling to make in the face of structural racism. And that is because policing practices are so deeply embedded in our economic organization, in how we think about cities and property, in longstanding doctrines of criminal law and procedure, and many other factors too numerous to mention here. If you can muster the fortitude to watch the extended video of the murder of George Floyd, you will see that at the very end, well after the police have come on to the scene and done their damage, a team of emergency medical personnel from the fire department

arrives to try to save Floyd. I do not know whether overcoming police brutality requires the wholesale abolition of police departments, but if we had police departments that acted more like fire departments – seeking to heal or to put out fires rather than to apply force and escalate tension – we would almost certainly be in a better place.

This past week I received an email from Kaijeh Johnson, a junior at the Peabody Institute, the music conservatory of the Johns Hopkins University. He wrote as follows: "It saddens me to see the divide between the leaders of this country, and

Voices from the MIT Community Vigil continued from preceding page

their citizens of color, continue to grow as weeks go by. Each day I grow more afraid of the world we live in and more afraid of the people I believe are supposed to protect me. I believe there needs to be a change in the system. I believe the voices of America's black and brown citizens need to be heard and their messages taken to heart. I believe it is time for a united front against the injustices that plague our communities. Though I know these things are necessary, I have no clue where to begin." And so he asked me: "With your knowledge of the past and your knowledge of the present, what is the most effective way for young people in 2020 to present [a] united front and achieve results, as our ancestors did during the civil rights movement?"

I want to share with you a modified version of what I wrote back to Kaijeh. For starters, I urged him to make music that would capture this moment and his feelings about it. I told him that he could help to mobilize people of color to vote in the November elections. And that he could work to make his own institution resemble the kind of country he wants to see.

But Kaijeh was particularly interested in what the past could teach us. And so I told him also that change happens on both small and large scales, and that we don't really understand what happens on the large scale. No historian or sociologist

has yet developed a scientific model of the intersecting forces that make for something as big as the Civil Rights revolution of the 1950s and 1960s. Some observers of the opening days, weeks, and even months of the French and Haitian revolutions were aware that they were living through a very unusual time, but none of them could have foreseen the scope of what was to come, and not all of them would have liked what they were going to see. For example, the free people of color who mobilized for political rights at the start of the Haitian Revolution were entirely unaware that their claims would set in motion a process that would lead to the abolition of slavery, a result few of them sought because many of them were themselves slaveholders. The violent white mob that destroyed the property of the British East India Company in Boston Harbor in 1773 was unaware that it was setting in motion the American Revolution, which upset almost every notion of law and order then prevalent in the British Empire. There is no catechism for revolution; every large-scale change is the product of many small changes.

Looking back at the French Revolution in the middle of the nineteenth century, the French political philosopher Alexis de Tocqueville wrote that he saw more continuity than change at the end of it. He would have recognized the American dilemma with racism, which seems to hold constant even when it is said to be changing. But even Tocqueville may have

undersold the role of continuity in a revolution. Making an impact almost always involves working in teams. Teamwork means looking for the particular gifts that different individuals bring to the table. It also means learning to rely on others when your own energy and availability begin to fade. A social movement of the kind that Kaijeh is thinking of almost certainly needs something like a business continuity plan. This is, arguably, what was missing when the Arab Spring of 2011 faded into the Arab Winter.

Finally, I urged Kaijeh to remember the lessons he learned under the Covid-19 lockdown, so that when residential university life and normal economic activity resume, he could find ways to stand up for these lessons when he encounters others trying to slip back into old habits and patterns, as they and we undoubtedly will. We can remember, for example, that people are in fact capable of making great sacrifices and undertaking great risks, but also that the distribution of sacrifice and risk in America is very uneven. How to figure out the right mix of compassion and confrontation that will move others to level the playing field before the next crisis hits is a difficult balancing act, especially so for people of color. But increasingly it seems that we will need more of an appetite and tolerance for productive confrontation in this new era, and so I told Kaijeh to cultivate both the skill and the art of that practice.

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Voices from the MIT Community Vigil continued from preceding page

Corban Swain is a third-year PhD student in Bioengineering.

I WAS NOT ORIGINALLY planning to share about this, but early in June, I was speaking with one of my brothers in the faith, a Black man. He described to me that his six-year-old daughter heard about what happened to George Floyd through a community conversation, and she started asking questions: "What is racism?" "What does it mean?" Then my friend and his wife told their daughter, answering her questions as best they could. And the next day, he asked his daughter, as he did every day, "What was your favorite thing about today?"

And she says, "That you came home safe."

Let that sink in.

No six-year-old should have to be concerned for the rest of her life about the safety of her daddy because of the color of his skin. So when we talk about injustice, it's not just the system, it's not just an incident, it's not just a video. It's children. It's people. It's a lifetime of trauma and mindset that we, as Black people, have to adapt to.

There is a tendency to distance ourselves from the events going on in the country. We have the ability to frame what we see in the news as "over there," mostly separate from our personal lives "over here." However, today that separation is not present for Black people. The things we see in a video are on the continuum of our lived experiences.

Let's bring this home. As hard as it is to admit, the modern-day lynching of George Floyd is on the continuum of our

experiences with inequities in education, representation, and support in the student body and faculty of MIT. As hard as it is to admit, the protests on the streets in more than 140 cities across America and their documented sabotage by incendiary groups is on the continuum of the Black History Month installation in Lobby 7 in 2019 and its desecration with a drawn swastika. In the same way that survivors of assault can be triggered by seeing their perpetrator, as Black people we are triggered and traumatized recalling the ongoing assault - devaluation and death whenever we see our perpetrator – racism - in all of its many forms.

I share all of this to ask you to see with eyes unafraid to examine this continuum in yourself and the spaces you hold. And I speak with hope, knowing that recognition is the first step in the continual work of restoration.

A Faculty Testimonial

Jonathan A. King

YEARS BACK I WAS PRIVILEGED to

have a very talented African-American graduate student. She was awarded her PhD for a superior thesis in physical biochemistry. Though offered a prestigious research fellowship, she decided that the best way to serve her community was to go into science education. She did a postdoctoral fellowship in that field, and then wrote a proposal to the NIH for an outreach program directed to high school biology and chemistry teachers, based on her thesis research, to be located in the Biology Department. She was awarded the grant (very few such grants were then awarded by NIH) as well as full salary as an Instructor.

When we received the notice, I started

the process of getting her appointed as an Instructor. At the levels of Department, School, and Institute I was told her appointment had to be as Technical Instructor, not Instructor, because of some argument that the teachers she would be instructing weren't MIT students. Neither she nor I viewed that appointment as recognizing her substantial accomplishments and professional stature. This was during a period of considerable discussion of the need to make MIT friendlier and more supportive of scientists of color. In her experience, the ensuing reports turned out to be merely public relations.

I told members of the Administration that she wouldn't stay under those condi-

tions, and that we would lose a unique member of our scientific and educational staff. Even the chair of the committee responsible for increasing diversity offered no support. Note that despite the current substantial pool of highly-trained African-American biomedical and biochemical scientists (some of whom have benefitted from Mandana Sassanfar's summer programs), the MIT Biology Department has no Black faculty members. Is it any wonder that Black members of the biomedical research community, inside and outside of MIT, don't all view MIT as a bastion of progress?

Jonathan A. King is a Professor of Molecular Biology and Chair of the Editorial Board of the MIT Faculty Newsletter (jaking@mit.edu).

CMS/W and Racial Justice: A Path Forward

WE SUPPORT BLACK LIVES MATTER

and other activists protesting racism and police violence, spurred by the killing of George Floyd. We must stand with them, speak out strongly, and act with determination.

We believe that CMS/W (Comparative Media Studies/Writing) has a lot to contribute to this cause, both through outreach and in elucidating the power of media in discourse around racial justice. New and emergent technologies too often have served as platforms to stoke racial tension and fear. Ironically, these same technologies - videos and body cams disseminated on social media - also offer evidence to prosecute crimes of violence and racial hatred. Our faculty, uniquely qualified to speak to these issues, have to some degree engaged them in their work. At the same time, we recognize and acknowledge challenges and problems in our own varied disciplines. The makeup and activities of CMS/W do not currently encompass the total experience and interests of equity and justice within media studies to the degree that they should. We must ensure that our department is not only a welcoming place, intolerant of racial discrimination, but also actively works toward doing away with structures that racially discriminate. To this end, in the coming year we must intensify efforts to advance such values and goals. Charity, after all, begins at home.

Our faculty must continue to recruit students from diverse backgrounds and create pathways of support for them not only to participate in the department, but to thrive in it and to shape it to their benefit, their needs, their communities' needs, and their careers. Our faculty and staff must continue to work closely with students who come to study with us from disadvantaged, underrepresented backgrounds, to overcome barriers and challenges facing them, and to support them in pursuing programs that are meaningful to them. We need to assess our progress in this regard by scrutinizing results for the last five years, in order to ascertain our successes and failures and in so doing inform future courses of action. This review should be our top priority, especially in light of a recent graduate student's charge of racism against the department. There is no conceivable way to understand that complaint unless we carry out a penetrating analysis to discover what we as a department can learn from it. Self-criticism and self-awareness of this kind could help improve the departmental atmosphere for present and future black students.

We must devise and implement welldefined procedures for handling racialbias complaints. In particular, we need to know how the MIT Committee on Discipline operates in resolving such complaints for undergraduates and for graduate students. We need to know how faculty and administrators who are subjected to racial tension and intimidation should respond and report. For context, our department should request data on the number, character, and disposition of cases involving charges of racism Institute-wide, as part of the provost's annual report to the faculty. Our department should set aside part of a departmental meeting to discuss the annual provost report on diversity presented annually to the MIT faculty.

In addition to student evaluations of CMS/W subjects, our department should distribute an annual survey to graduate students, faculty, and staff seeking views on accessibility to race-related resources.

The faculty should strengthen our curriculum by revising our undergraduate and graduate syllabi to reflect a greater diversity of voices. This effort is essential to our core curriculum and extends beyond the subjects that explicitly mention race or racism in their titles. We must continue to promote racial equity and diversity in our subject offerings, in substance as well as in stated objective.

Extracurricular activities constitute an important means to promote critical dialogues and occasions that raise awareness and support for inclusive interactions. In particular, our department should host more events that probe our racial climate. For example, we could sponsor a talk and discussion surrounding an important but nearly forgotten study by the former MIT Dean for Student Affairs, Shirley M. McBay, entitled "The Racial Climate on the MIT Campus," published more than three decades ago. Another work, so far little studied but deserving of concentrated discourse, is Clarence Williams's Technology and the Dream: Reflections on the Black Experience at MIT, 1941-1999 (MIT Press, 2001), which consists of interviews exposing unsettling, painful experiences of race and race relations at the Institute.

CMS/W and Racial Justice continued from preceding page

We should develop a Diversity Plan that outlines our departmental goals and actions each year. We should also regularly review our committee makeup and departmental progress in action. CMS/W should assess and discuss on an annual basis its progress with minority recruitment and retention, or perhaps more often at some regular departmental meetings. Exit interviews of faculty and staff who leave the Institute should be part of the annual review. In-depth postmortems for failed promotion and tenure cases should be a standard part of our endeavor to build a flourishing, vibrant department - similar to morbidity and mortality (M&M) conferences incorporated in the medical profession across the country.

The department should demand a more serious and rigorous performance from the Faculty Diversity Committee within SHASS, with a transparent accounting of every search and every promotion case. An explicit statement outlining procedures to ensure that guidelines and practices of equity and fairness have been adhered to all along the way should be prepared and submitted with every promotion and tenure case.

The role of Human Resources in helping or hindering progress toward racial justice should be carefully evaluated. In particular, does Human Resources have a role in promotion and tenure processes? Is their role restricted to staff, and do they exercise their role equitably and justly?

Our department should address what happened with the Institute Community and Equity Office, whose status and authority were lessened in recent restructuring within the upper administration. The mandate of the Office previously required a senior faculty member with status on Academic Council to speak out on questions of promotion and tenure, generally and in the context of particular cases. Even though the current directorship carries a position on Academic Council along with other vice presidents for nonacademic affairs, the position now carries with it no tenured faculty rank at the senior level. But maximum force and authority for minority promotion and tenure reviews on Academic Council demand independence of thought, of judgment, and of influence, guaranteed only with tenured senior-level faculty status. Otherwise, the Office exerts no direct formal weight in the MIT system of promotion and tenure, where faculty rank stands paramount, by the Institute's traditions and its own policies and procedures.

Our department should encourage the annual evaluation by faculty and staff of performance by Institute administrators department heads, deans, provost and associates, and president - so that these administrators can become more accountable and benefit from the community's reaction to their handling of racial issues. No such formal mechanism exists to accommodate opinions from students and faculty. Related to administrative performance is the issue of judgment about policies affecting recruitment and hiring of black faculty. Our department should request that the Administration rescind the current policy that prevents targets-of-opportunity minority hires by departments with a certain percentage of minorities already in place. We should also take every opportunity to urge the Administration to reconsider its tight constraint on the total number of faculty hires.

While resources are scarce, our department, the School, and the Institute must allocate resources to expand efforts to support marginalized individuals and groups. Further, we must seek additional funds to carry out actions we choose regarding diversity and inclusion at all levels.

As a department, we can do certain things; as a School, other things; and as an Institute, still others. But we can also act as individuals, and as groups. Each of us, separately and together, can continue to fight for justice. We can speak about the media - its uses and abuses, legal and illegal - about politicians and leaders, and about individuals and agencies that foment or perpetuate racial bias. We can and must promote racial justice. As thoughtful educators, we recognize covert and coded messages and practices that are stealthily employed to achieve racist goals. We must use our expertise and knowledge to speak out against injustice and to consider our own actions critically and honestly. Home, as we said, is the place where charity and action begin.

Vivek Bald Marcia Bartusiak Ian Condry Sasha Costanza-Chock Junot Díaz Paloma Duong Fox Harrell Heather Hendershot Eric Klopfer Helen Elaine Lee Thomas Levenson Alan Lightman Kenneth R. Manning Seth Mnookin Nick Montfort James G. Paradis Lisa Parks Justin Reich Paul Roquet Edward Schiappa T.L. Taylor William Uricchio Jing Wang

Literature's Statement of Solidarity

THE LITERATURE SECTION of the Massachusetts Institute of Technology stands against racism and the policing policies that enforce it. We abhor the racial profiling and the violence that have resulted recently in yet more murders of Black American citizens. We support the protesters and journalists who, calling attention to these barbarous acts, have themselves been attacked. Our loyalty is with Black communities who have fought ceaselessly for justice, and yet for centuries have been ignored, silenced and continuously subjected to state-sanctioned violence. However, words alone cannot bring about the systemic changes that will dismantle white supremacy; concrete, collective actions must be taken not only to make reparations for past and present wrongs but also to effect transformative and lasting change in our own institution and beyond.

At the same time, as scholars of literature, we recognize the unrivalled potency of language and the arts to organize, mobilize, inspire, and help effect such change. Across the diaspora, Black authors have used literature to bear witness to violence and injustice against communities of color in the present; to redress racist narratives of the past; and to envision possible futures beyond white supremacy. Teaching and studying their texts serves a vital role in shaping an antiracist ethos,

and opens up spaces to consider related injustices such as border policing and the dispossession of indigenous land. Literature also cultivates an imaginative flexibility that can expose – and prompt efforts to undo – the workings of white privilege; it thus helps build the stamina to sustain a world in which we would all want to live, where all would be able to thrive.

Readers are never too young or too old to encounter literature that illuminates the problems we're facing. This linked list of resources includes a diverse sample, from children's picture books to works of cultural analysis, from novels and poems to plays and films.

Statement from MIT Anthropology

IN THE MIDST OF Covid-19's unfolding and unequal death tolls and of ongoing police, state, and everyday violence against Black, Brown, Asian, and Indigenous communities in the United States and elsewhere, we in MIT Anthropology stand against racist white supremacy, believing, with anthropologist Leith Mullings, that

"[A]nthropology is uniquely positioned to make a decisive contribution to the critical interrogation of contemporary racism. With its emphasis on underlying social relations and the informal workings of structures, networks, and interactions that produce and reproduce inequality, anthropology has a set of theoretical perspectives and a methodological tool kit that lends itself to interrogation of new forms of structural racism and to unmasking the hidden transcripts of the process through which difference is transformed into inequality."

 Interrogating Racism: Toward an Antiracist Anthropology, 2005 We are dedicated to naming and fighting racism as an institutional and structural form of inequality and violence – work we seek to do in our teaching, our research, and our administrative practice. This is work, too, that depends upon a multiracial, feminist, and queer determination to support and amplify the works and voices of students, faculty, and staff of color.

Statement from the Graduate Student Council (GSC)

To the Graduate Student Community,

WE ARE DEEPLY ANGERED and heartbroken by the recent killings of George Floyd, Breonna Taylor, Ahmaud Arbery, Tony McDade, as well as the countless others who have lost their lives due to racist violence and police brutality. We write to you to express our unwavering solidarity in the fight against systematic and structural racism, white supremacy, and the long-standing oppression faced by Black communities and other communities of color in the United States, Canada, and beyond.

We are a community that needs to

stand together. We take it as our duty - in fact, as core to the very mission and purpose of the GSC, to represent and advocate on behalf of the interests and concerns of all graduate student members of the APA – to call out this injustice. We also call for the continued care and support of our Black graduate students. To those who are currently teaching, we encourage you to create space in your classrooms for your students to process, and to provide proper accommodations for those who are hurting right now. To those who are taking courses, we encourage you to call on your professors to provide proper accommodations in ways that will not systematically burden Black students.

The GSC is committed to amplifying the voices of historically marginalized members of our profession, and to continually organizing in support of making our discipline a more genuinely inclusive and welcoming place for everyone, regardless of race, gender identity, sexual orientation, creed, or class. Therefore, it is especially important to affirm that Black Lives Matter and that we have a responsibility to work together for justice. We encourage those who can to be involved in their local communities and to educate themselves on the issues involved.

Interview with Dr. Bruce Walker continued from page 1

right now. We have an HIV vaccine in efficacy trials in South Africa, developed by Dan Barouch, one of the founding members of the Institute.

I also have academic appointments at Harvard and at MIT. At MIT, I'm in the Biology Department and also in the Institute for Medical and Engineering Science. I also have an academic appointment at Harvard in the Department of Immunology. In addition, I have a clinical appointment at Mass. General Hospital, where I am an MD in the infectious disease division. So I wear a number of different hats.

JAK: You do indeed. And at the Ragon Institute and MassCPR?

BW: The Ragon Institute was established to bring people together across disciplines to combat really important global infectious disease issues. HIV and TB are two that we were already working on when the Covid epidemic, soon to become pandemic, started. We knew that we had a lot we could contribute based on our knowledge from HIV and TB and Zika and other infectious diseases we had been investigating. And so, we sought to basically use the model of the Ragon Institute of bringing people together to see if we could do that on a larger scale, and we teamed up with other local scientists to establish the Massachusetts Consortium on Pathogen Readiness (MassCPR), which is, in a way, kind of a pop-up store. We set it up in very short order. We've been able to bring together people from the University of Massachusetts, MIT, Harvard, BU, and Tufts, and all of the academic hospitals and the Department of Health, to organize around trying to do something about the Covid-19 pandemic.

JAK: How is it structured?

BW: We have six different working groups that are comprised of 500 scientists from

these different entities that are working on everything from epidemiology to pathogenesis to treatment to vaccines. I am coleading the overall effort with Arlene Sharp at the Harvard Medical School [HMS], but in truth we see ourselves more as facilitators, helping to convene people around specific focus areas, bringing scientists together to have a bigger impact. But it's been energizing to be involved with so many terrific scientists in this unprecedented, unmatched ecosystem that we have here in biomedicine.

JAK: Regarding funding. Are most of these people working on their existing NIH funding? Or did they get supplemental funding?

BW: We gave out \$16.2 million in funding that was distributed among all 15 institutions involved in this consortium. Those funds were raised from the Evergrande Group in China and from Mark and Lisa Schwartz here in the U.S., as well as from a number of other donors. So, yes, we have given out funding. The Ragon Institute also gives out funding. We're funded through a philanthropic gift from Terry and Susan Ragon, and we also support collaborative scientific projects that historically have been focused predominantly on TB and HIV, as well as basic immunology to try to understand the intersection between the immune system and various pathogens.

JAK: Faculty are not always aware of the interests, skills, and talents of their peers, especially in a big institution. And these are very big institutions. So if some research group, let's say the Biology Department, thinks that they have some contribution to make to the MassCPR effort, can they join in? What's the path?

BW: We welcome everybody. In fact, there are a number of MIT faculty that are part of the MassCPR already. MIT is very much a part of it. Jim Collins, for example, with his diagnostics efforts, and Pardis Sabeti, with diagnostic efforts at the Broad, and Michael Birnbaum at the Koch

Institute are some of the MIT faculty who are very much engaged. All it takes is signing up, which can be done through our website (masscpr.hms.harvard.edu). People can participate in weekly working group calls in their areas of interest. The working group calls have been extraordinary. There have often been 100 people per call, and I personally have come to know so many people in the Greater Boston area and at the University of Massachusetts in Worcester. So for me personally, it's really changed the work environment here in that I have a much better sense of the extent of talent in all these different areas, and it's really remarkable to be on these working group calls, and see the collaborations starting in real time.

JAK: Concerning virology, 20 years ago Don Wiley solved the flu hemagglutinin, Jim Hogel solved the polio structure, and sadly they're no longer with us. Who is providing the structural virology input?

BW: There are a couple of people who are doing structural biology. Steve Harrison at Children's Hospital, and Aaron Schmidt, who is part of the Ragon Institute, and also part of HMS, and Bing Chen, who is also at Children's Hospital. Jonathan Abraham, an MD/PhD at the Brigham and Women's Hospital, also an infectious disease specialist, is also doing structural work, which I see as a critical component of the MassCPR effort.

JAK: This kind of collaboration normally would be very difficult, given all the different institutions. But in this period of coronavirus, it sounds like you've managed to overcome the inability of people to physically travel and work together. But some of those things still must be rate limiting. Can you say a few words about some of the more difficult areas of concern?

BW: Actually, there might never have been a better time to try to set something like this up, because on the one hand,

Interview with Dr. Bruce Walker continued from preceding page

most people had extra time because their labs were partially shut down. And also because there was no alternative other than Zoom calls. This entire consortium got to know each other through Zoom calls, and didn't feel deprived because the engagements were only electronic, but rather felt delighted to have social and intellectual interaction. So it's a strange dynamic that I think really contributed to the success that we've achieved thus far, very open to everybody. Nobody has to travel to get to these things. They start on time and end on time when we do a call. [LAUGHTER]

And people really have participated. The buy-in has been really great. And I think most people would say that it's dramatically changed the sphere of people they call their colleagues now, because they've gotten to know each other through the science, and through these calls.

JAK: What are some of the recent developments that you're most excited about?

BW: I think our vaccine development efforts are really encouraging. Moderna is part of the MassCPR, and they have a vaccine that looks like it's getting reasonable responses in humans. We have another vaccine, through Dan Barouch at the Ragon Institute and Beth Israel Deaconess Medical Center, that Jansen Pharmaceuticals has picked up and has made a commitment to making a billion doses of the vaccine. We have animal data that should be out soon in terms of protection. And so that's on the vaccine front.

On the treatment front, Boston University and the National Emerging Infection Disease Laboratory, the NEIDL, has a BSL-4 high containment facility, which is required in our view in order to do experiments with live virus in animal models. The NEIDL also has significant BSL-3 laboratories, where they are able to safely screen with live virus for drug compounds

effective against SARS-CoV-2. Together with investigators at the NEIDL, we have set up a platform for high throughput drug screening and for repurposing drugs and testing new concepts. We've also been able to generate a very large cohort of people who have been Covid infected and from whom we've been able to get specimens, and that has played a really big role in understanding how the immune

laboration and a remarkable degree of commitment to solving the problems rather than worrying about publishing papers.

JAK: That all sounds very exciting. But let me be the Devil's advocate for a moment. You mentioned a number of really public/private partnerships. Historically the industry has been very focused on intellec-

Diagnostics is another area where we've made huge progress. Jim Collins at MIT is developing a face mask that turns color if it's exposed to Covid. So if you put it on, and you're infected, it tells you that you're infected, or tells at least the people around you that you're infected.

system functions and malfunctions and is giving us insights that are going to be important for ultimately containing the disease and developing vaccines.

Diagnostics is another area where we've made huge progress. Jim Collins at MIT is developing a face mask that turns color if it's exposed to Covid. So if you put it on, and you're infected, it tells you that you're infected, or tells at least the people around you that you're infected. There are others: Michael Springer at Harvard Medical School is developing a strip-based rapid test, and Connie Cepko is developing an assay that turns color when Covid is present. Both are intended to become point-of-care diagnostics that are going to be really important to starting back up our normal lives. And then we've developed antibody assays that allow us to rapidly determine who's been infected and who has not yet been infected, which we see as critical to getting the whole economy up and running again. So those are just some of the things that I think have been incredibly exciting about what people in the MassCPR have done. And it is worth noting that, even where you might expect that all the people working on diagnostics would be competing with each other, in fact it's just the opposite. They're sharing reagents. They're giving each other ideas. And they're all pushing forward. It is a remarkable degree of coltual property rights, and many times I've gone to a meeting and seen somebody I know withhold data because they hadn't yet filed for their patent. Or require signing non-disclosure agreements by collaborators. Have you run into that? Are you requiring non-disclosure agreements?

BW: Of course not, though our working groups have been closed meetings and are not open to the public. And the IP [Intellectual Property] follows inventorship in this organization, and we have not had issues. In fact, everybody has been really interested in solving the problem and not worrying about the IP-related issues. Those things may come later, but as of now, really the engagement has been terrific.

JAK: Concerning President Trump's Operation Warp Speed: Are you going to be getting direct support from Operation Warp Speed? Is there anything you can say relative to that?

BW: We'll be trying to get funding from all different avenues. Initially the vaccine-related work was being funded by Mark and Lisa Schwartz, and is being taken forward with funding from Jansen Pharmaceuticals. So there's a clear path to development there. For other things that

Interview with Dr. Bruce Walker continued from preceding page

we're working on, we'll hope to get funding from additional sources. Including Warp Speed.

JAK: Again about the Warp Speed: Do you have any sense of how long it might take for any vaccines or treatment? Any level of it from your point of view rather than a political point of view?

BW: I can tell you that the vaccine that we're developing at the Ragon Institute and BIDMC will go into people in August or September, or perhaps even sooner. And larger trials will be done in the fall, with the hope that by early 2021 we'll have a vaccine that can be ramped up and deployed. The important issues to understand here include that it takes a while and an enormous capacity to be able to make the billions of doses that are going to be required. There are seven billion people in the world, and if all of them need to be immunized, then we've got a huge challenge in front of us. Now, we know that it's reasonable to think that an adenovirusbased vaccine, which is what we're doing with Jansen Pharmaceuticals, can be scaled to that level. What's less clear is the mRNA vectors and how you get to scale with those to be able to provide enough doses. But knowing that's the target, and acting on that now to build capacity is how this is being approached, and that's really important.

JAK: All the efforts around the world were kind of launched when the Chinese groups completed the sequences, the RNA sequence,

and they shared it. How do you feel about the Trump Administration's charges that the Chinese are trying to steal U.S. intellectual biomedical property? And does that impact on your collaborative work with the Chinese groups?

BW: I feel this is a global problem, and we're trying to come up with global solutions. The discussions with the Chinese that we've had have been extremely helpful, because they are ahead of us in terms of the wave of this pandemic. So, they were able to start studying it sooner. And I think that their sharing of that information has been very helpful, including sharing of the sequence that allowed everybody in the world to get started on this. So I hope that we can find in our response to this pandemic a sense of global cooperation that is really necessary for us to effectively combat it.

JAK: I come from the biophysical side, former president of the Biophysical Society, and I work with structural virologists. I'm going to ask you to comment on the importance of key publicly-funded resources including the Protein Data bank, and Genbank.

BW: These are critical. In fact, we're developing a T-cell-based vaccine that starts with structure and by applying network theory to crystal structures. Gaurav Gaiha at the Ragon Institute developed an algorithm that allows us to identify highly networked amino acid residues that are key targets for effective immune pressure,

because they can't mutate, so the virus falls apart. We published a paper in *Science* last year showing that concept actually identified residues in HIV that when targeted by the immune system caused the virus to become crippled if it mutated to try and escape. And it turned out that there are individuals who target those specific highly networked residues. So it kind of makes sense, and I can't stress enough how important the crystal structural data have been for allowing those experiments to be done.

JAK: Thank you so much for your time, Dr. Walker. This has really been most illuminating.

BW: You're most welcomed.

Jonathan Alan King is a long-time Professor of Molecular Biology at MIT. His research group worked out the major steps in the assembly of double stranded DNA phages and viruses, including identification of the procapsid precursor in DNA packaging, and the critical role of recycling scaffolding proteins in virus capsid assembly. He currently chairs the Editorial Board of the MIT Faculty Newsletter. A former President of the Biophysical Society, Prof. King sits on the Society's Public Affairs Committee, which has produced recommendations for coronavirus research as well as popular coronavirus exposition.

Ramping Up On-Campus Research at MIT

Maria T. Zuber Tyler E. Jacks

AFTER TWO MONTHS OF sequestering researchers from campus to address health concerns for our community as the world battled the effects of the Covid-19 pandemic, plans are underway to restart campus research operations. As the Commonwealth of Massachusetts emerges from what is hopefully the most serious stage of the pandemic, MIT is undertaking intensive planning and an ongoing operational pilot aimed at ramping up on-campus research in a manner that prioritizes the safety of the MIT and surrounding community. The health and safety of the MIT community are our dominant concerns as MIT seeks to safely and equitably restore its research operations.

The planned scale-up of on-campus research has been a faculty-driven process overseen by the Senior Team and the Legal, Ethical and Equity (LEE) Committee¹. The LEE Committee was formed to ensure that new protocols are reviewed by a community group to ensure that we are complying with our laws, policies, and, most importantly that the guiding principles are consistent with our values and standards. To begin, the Vice President for Research (VPR) convened over 20 Department, Lab, and Center (DLC) directors to obtain input on the factors of greatest importance to them about restarting on-campus research. The VPR then appointed the Research Ramp Up Lightning Committee² that included a subset of these DLC Heads and additional faculty and senior staff to develop a restart report. The Committee's draft report was circulated to MIT PIs for comment. The Lightning Committee incorporated the feedback into a final report discussed below. The Offices of the VPR and Deputy Executive Vice President are now working with a subgroup of the Lightning Committee and other senior leaders and staff to develop an operational plan to

would be great cost in shutting down, final experiments needed to complete theses, and Covid-19 work whose outcome could address the current public health crisis. The Provost and VPR made final decisions as to which projects were the highest priority, based on recommendations from Department Heads and Deans. As is usually the case in choosing among proposed research in internal competitions, it was extremely difficult to

Based on the recommendation of the Lightning Committee Report, the fundamental tenet of MIT's ramp-up plan is PI empowerment. PIs are empowered to structure their research activities as they see fit to accommodate prescribed daily occupancy and density levels detailed in guidelines from the Centers for Disease Control and Prevention (CDC) and the Commonwealth of Massachusetts.

implement the research ramp up (RR) according to the guidance contained within the Lighting Committee Report.

The ramp-down of on-campus research was a rapid and painful process that necessitated prioritizing "critical research" that could be performed on campus during the stay-at-home advisory. Prioritized were long-running projects, studies that made use of specialized animals or equipment for which there

DiBerardinis, Vladimir Bulovic, James DiCarlo, John Donnelly, Tolga Durak, Elazer Edelman, Sarah Farrington, Peter Fisher, James Fox, Leny Gocheva, Ronald Hasseltine, Tyler Jacks, Timothy Jamison, Jacqueline Lees, Colleen Leslie, Aude Oliva, Nicholas Roy, Daniela Rus, and Dennis Whyte. This membership represents the original Lightning Committee plus members added to consider implementation.

prioritize given the many worthy projects put forth.

Developing a Research Ramp-up Plan

The research ramp-up presented the opportunity to operate differently. Based on the recommendation of the Lightning Committee Report, the fundamental tenet of MIT's ramp-up plan is PI empowerment. PIs are empowered to structure their research activities as they see fit to accommodate prescribed daily occupancy and density levels detailed in guidelines from the Centers for Disease Control and Prevention (CDC) and the Commonwealth of Massachusetts. Criteria such as prioritizing projects with major deliverables on key grants and con-

¹ The Legal, Ethical, and Equity (LEE) Committee consists of two faculty members and the Chief Counsel, with additional representation of staff, graduate, and undergraduate students.

² Marc Baldo, Suzanne Blake, Lou

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tracts, or accelerating progress for graduate students or postdoctoral scholars were offered as possibilities, but ultimately decisions rest with the PI.

The figure below is a relative timeline that summarizes MIT's ramp-down and ramp-up of on-campus research.

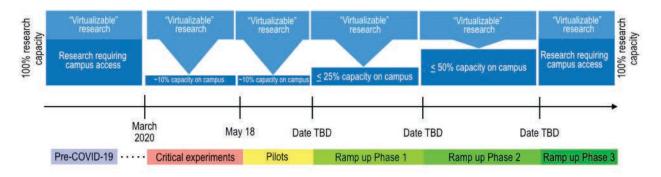
In the pre-Covid-19 era, a PI's research effort consisted of two components: research that required on-campus access and that which could be done remotely ("virtualizable" research). In response to the Covid-19 pandemic, MIT rapidly and significantly scaled back on-campus research activity, resulting in an approximately 90% reduction in the research capacity and population on campus and concentrating PI effort on their "virtualiz-

campus research activity. However, depending on Covid-19 conditions, it could still be affected by limitations on the use of research spaces as mandated by the CDC and Commonwealth guidance that will inform MIT guidelines and policies.

The Lightning Committee has developed detailed guidelines to direct the ramp-up. Each DLC was asked to make a list of all PIs, and to deliver floor plans and instructions for planning to those PIs. PIs were assigned two exercises; the first was to develop a space layout consistent with Covid-19 safety guidelines. All spaces need to adhere to a maximum personal density and spacing at all times. The second deliverable from each PI was a group plan for on-campus research. Researchers eligible to participate in on-campus research are required to fill out an acknowledgment form developed by the

Operationalizing the Plan: RR Pilot

As of May 18, as the Commonwealth's stay-at-home advisory was slowly being lifted, MIT began to pilot new procedures to prepare the campus for a return to research using the personnel already designated to perform critical research in those buildings. During this pilot, the number of individuals approved to access campus did not increase. The pilot featured Buildings 76, E17/E18/E19/E25, and 68, which were chosen for controlled access and suitable lobby space. Individuals enter the building through a single, first-floor entry. They are expected to wear a mask³ and maintain appropriate social distance in the unlikely event there is a queue. When entering the building, individuals swipe their IDs to verify that they have permission to enter. Signage is being posted to summarize guidance for



Plan for ramping up on-campus research at MIT

able" research. The ramp-up concentrates on addressing a phased approach to repopulating the on-campus research activity needed.

During Phase 1, each Pl's on-campus research activity will be capped at 25% of full capacity. Following successful completion of Phase 1, RR Phase 2 will allow Pls to have up to 50% of full capacity on campus. No specific time is set for the transition to Phase 2, but Phase 1 is expected to last at least several weeks. Here, the continued health of personnel will be highly influential in determining the rate at which on-campus activity can progress to a higher capacity. RR Phase 3 will not have a prescribed cap for on-

LEE Committee. That form attests to their willingness to participate in on-campus research. The PIs will receive a list of eligible individuals but are not given information on why an individual is not on the list, nor should they ask the individual directly. MIT has an anonymous hotline that connects to a third party for anyone who wishes to express a concern. In receiving input from the community, the most frequent issue raised was the need to maintain safe working conditions. Access to child care and commuting are also frequently mentioned and are among the factors that contribute to an individual's decision of whether to return to campus at a given time.

building use. In the second part of the pilot, approximately a week later, participants will be asked to complete the acknowledgment form indicating voluntary participation, completion of an Environmental Health and Safety (EHS) training specific to Covid-19 protocols, and complete a daily health attestation questionnaire, which will indicate either that a researcher is cleared to come to campus or should quarantine at home and wait to be contacted by MIT Medical. Researchers agree to frequent hand

³ MIT has a policy on Personal Protective Equipment and will provide masks if needed during the ramp-up.

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washing, and SARS-CoV-2 virus testing, which will also be required of all returning personnel. The pilot will also feature enhanced cleaning of exposed surfaces and guidelines for use of common spaces outside labs (e.g., elevators, lounges). These elements of the pilot will be instructive as to how to ramp-up research activities in other campus buildings.

Additional Considerations

As part of the research ramp-up plan, many of MIT's core facilities, shared resources, other central services as well as animal facilities are being made available to facilitate research activities across campus. However, it is essential that they can function safely and within the policies regarding safe workplace practices and, in some cases, with reduced staffing. For this reason, PI research plans were required to include a prioritized list of core facilities needed. Time spent in core facilities, animal facilities, and other shared facilities needed to be included in the calculation of allowable per-week, on-campus time for these additional facilities and services.

Although the guidance given to this point focuses on research labs, which overwhelmingly represent the greatest fraction of research that must be done on campus, projects that require space on campus other than labs can be submitted to DLC heads for consideration. Indeed, a number of projects in SHASS were deemed a high priority and received campus access during the stay-at-home period. A separate faculty and staff group from the School of Humanities, Arts and Social Sciences (SHASS), the Sloan School, the School of Architecture and Planning (SAP), and the Libraries is being convened to address issues specific to repopulating campus researchers in these disciplines.

The Committee on the Use of Humans as Experimental Subjects (COUHES) is also developing guidance regarding human subject research and recommends a two-step process. First, PIs will need to complete a brief application to restart human subjects research; and second, for approved projects, subjects will need to be screened before coming to campus for their Covid exposure and/or symptoms status.

At the outset, research should be limited to healthy adults and will proceed

at a later time to the vulnerable (children, those with cognitive impairments, etc.). Not until a later stage would those at highest risk (over 65, chronic heart and lung disease, etc.) be allowed on campus. COUHES is developing a web-based tool to facilitate the approval process. Human subject research that requires fieldwork will be considered on a case-by-case basis, given the greatly varying public health state of regions across the globe.

In summary, the ramping up of research activities on the MIT campus will feature a methodical, measured, and phased approach. Safety of MIT and the surrounding community is paramount. The ongoing feedback of the MIT community will be critical to ensure that the process meets the needs of our faculty, research staff, and students as we balance the desire to expand on-campus research operations with ongoing health and safety concerns.

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Rick L. Danheiser

From The Faculty Chair "May You Live in Interesting Times": The Year in Review

MY TERM AS CHAIR of the MIT Faculty began on July 1, 2019. To say that it has been an interesting year would be something of an understatement. Revelations about Jeffrey Epstein's connections to the Media Lab began to emerge in August, setting in motion an often emotionally charged examination of Epstein's relationship with MIT, as well as a highly critical appraisal of how the Institute evaluates potential sources of funding. It would not be until the early months of 2020 that the intensity of these discussions began to diminish, at which point the sudden advent of the Covid-19 global pandemic turned our world upside down. An interesting year indeed.

In this brief column, I thought I would outline just some of the issues that have received significant attention from Faculty Governance during the past year, with particular emphasis on matters of continuing interest that are likely to receive further major attention in the coming year.

The Epstein Affair and Outside **Engagements**

On January 10 the Executive Committee of the MIT Corporation released the longawaited report by the law firm of Goodwin Procter titled "Concerning Jeffrey Epstein's Interactions with the Massachusetts Institute of Technology." Included in the charge given to Goodwin Procter (GP) was the question of who among MIT's senior leadership was aware of the donations from Epstein and approved their acceptance. In the early fall I obtained agreement from the Chair of the MIT Executive Committee for a group of 12 current and former officers of the faculty to meet with representatives of GP with any questions we might have following our review of the report. The meeting with the GP lawyers took place on January 13 and lasted four hours; a summary of our findings was sent to the faculty on January 21 and I have written about these findings in my January/February FNL column "Epstein and MIT: The Unanswered Questions."

In August, soon after the first revelations about Jeffrey Epstein's donations to the Institute, I suggested to my fellow faculty officers and to Provost Marty Schmidt that I believed that MIT needed a group to develop principles and improved processes to define what were and were not acceptable outside engagements. Concurrent with these discussions, President Reif asked Provost Schmidt to convene a committee to review MIT gift processes. After discussions at several meetings of the Faculty Policy Committee (FPC), and after consultation with other key faculty including several former Faculty Chairs, I decided to convene an Ad Hoc Faculty Committee on Guidelines for Outside **Engagements**. The charge to this committee has been to define a set of values and principles, consistent with MIT's mission, to guide the assessment of outside engagements, where outside engagements include grants, gifts, and any other associations and collaborations involving MIT with governments, corporations, foundations, or private individuals, domestic or foreign. The report by this "principles committee" (chaired by Professor Tavneet Suri) was originally due by June 1, but regrettably has been delayed by the emergency due to the coronavirus. Nonetheless Professor Suri, together with several committee members, presented a briefing on the conclusions of the committee at a Community Forum on May 21, and their final draft report will be posted for community comment within the next several weeks.

Faculty Governance

Governance has been a major focus of attention by the Faculty Officers and the Faculty Policy Committee this past year. Questions include: What is the role of faculty governance vis-á-vis that of the Administration

and the MIT Corporation? What should be the role of faculty governance and how can our current system of governance be improved? Are there alternative systems of governance that would better serve the Institute? The overarching goal in these discussions is to make our system of faculty governance more democratic, ensuring that a full range and diversity of views are represented in the discussion of issues and in decision-making. I have previously outlined our aims in my November/December FNL column "A Peculiar MIT Concoction": Our System of Faculty Governance. Our progress this past year toward achieving these goals are outlined below.

The Committee on Nominations. As I discussed in the above-referenced FNL column, the Faculty Officers and the Faculty Policy Committee urged that changes be considered in the way that the key Committee on Nominations is appointed. In contrast to the manner in which candidates for the other 10 Standing Committees of the Faculty are chosen, Rules and Regulations of the Faculty called for the members of the Committee on Nominations to be appointed by the President, who also selected the Chair of the committee. If nothing else, this encouraged a perception that the Administration exercised significant influence over the membership of the committees of faculty governance. At the March Institute Faculty Meeting, I introduced a motion on behalf of the FPC for amending Rules and Regulations so that the membership of the Committee on Nominations would be elected by the Faculty, with the candidates for the election suggested by the elected Officers of the Faculty with allowance for additional candidates to be nominated by the usual process by the Faculty-at-large. This motion was overwhelmingly passed at the April Meeting of the Faculty.

"May You Live in Interesting Times" Danheiser, from preceding page

The Application of Electronic Technology. In my November/December FNL column I suggested that the election of the faculty officers and perhaps members of the faculty committees could be carried out more democratically through online voting rather than by a show of hands at the usually sparsely attended May Institute Faculty Meeting. This was discussed extensively at meetings of the Faculty Policy Committee this year, along with related proposals calling for voting on motions to be carried out online rather than at faculty meetings. The aim of these changes would be to enable wider participation of the faculty in elections and decision-making. As it turned out, the Covid-19 emergency expedited the implementation of these proposals as it became necessary to convene the last three Institute Faculty Meetings of the year virtually using Zoom technology. The results exceeded our expectations, as each meeting attracted several hundred attendees, and votes on several motions and on the election of the new faculty committee members were held electronically at the April and May meetings. The online voting employed a platform developed by FPC members Professors Ike Chuang and Duane Boning, and their system functioned very smoothly and efficiently. It is clear that the application of electronic technology in faculty meetings will continue and see further development and expansion in the coming academic year.

Shared Governance. MIT operates with a system of "shared governance" under which the Faculty, the Administration, and the Corporation all have roles in plotting the direction of the Institute and the management of its day-to-day affairs. In the wake of the revelations concerning Jeffrey Epstein's interactions with MIT, the Faculty Officers heard calls from a number of quarters suggesting that the role of the Faculty in the governance of the Institute should be re-evaluated with the aim of "re-balancing" the faculty's role relative to the Corporation and the Administration. Toward this end, a Faculty Town Hall meeting was convened on February 5 to engage the MIT faculty in a

"community brainstorming session" to consider ways in which the shared governance system of the Institute might be improved. This discussion continued at the Institute Faculty Meeting on February 19 and resulted in an agreement to establish a Working Group on the Faculty and MIT Corporation. I began discussions to set up this working group with Corporation Chair Bob Millard shortly thereafter, but these were suspended in March with the advent of the Covid-19 emergency. A side note: One of the concerns raised by faculty in the above discussions was the fact that the Corporation includes relatively few members with academic backgrounds. A positive development in that regard was the election to the MIT Corporation in June of former Harvard President Drew Faust and former MIT Professor and Provost, and Washington University Chancellor Mark Wrighton.

Promotion and Tenure

MIT's promotion and tenure processes were the focus of discussions at several meetings of the Faculty Policy Committee this past year. These conversations in fact constitute a continuation of a review initiated by then Faculty Chair Bish Sanyal in 2009, which led to a report of a special ad hoc faculty committee chaired by Tom Kochan and Bob Silbey. Discussions on promotion and tenure will continue at FPC in the fall, and I tentatively plan to devote my first FNL column to this subject. Under consideration are improvements in the communication of expectations concerning promotion processes to pretenure faculty, the mentoring of junior colleagues, and in particular, the current promotion process that involves three stages (AWOT, AWIT, and Full Professor) with external reviews required at each stage. The Faculty Officers support a proposal to simplify this process by allowing either the AWOT or Full Professor promotion to be carried out with internal letters only, with the choice being made on a School-by-School basis.

Two Current Crises

Space constraints do not permit me to discuss the role of faculty governance in addressing the many issues that have emerged as a result of the Covid-19 emergency. And I would be remiss if I did not mention also the recent increased focus by the MIT community on equity, diversity, and inclusion in the aftermath of the killing of George Floyd. It is earnestly hoped that this increased attention will continue into the coming year and be accompanied by positive change.

On the Horizon

- In the arena of education, one focus will be on subject evaluations. In early March the FPC called on the Faculty Officers to collaborate with the Office of the Vice Chancellor in appointing an Ad Hoc Committee on Teaching and Mentoring Assessment.
- The FPC discussed the high cost of graduate tuition at several meetings this past year and in response the Provost and Deans Group of Academic Council began deliberations to address this problem.
- With regard to faculty benefits, on the list for attention are the availability and cost of childcare and the availability of convenient and affordable housing for faculty. Analysis of the results of the recently released results of the 2020 Quality of Life Survey will also receive attention in the coming year.
- Climate action is another area for attention in the coming year, and this is particularly important with the approaching end of the five-year "Plan for Action on Climate Change" which was released in October 2015.

In closing, I want to express my sincere gratitude to my fellow Faculty Officers Duane Boning and David Singer for their wisdom and counsel. Both have significant other responsibilities (Professor Singer is Head of Political Science!) but have been unstinting in their effort and dedication throughout this eventful year. And special thanks to Dr. Tami Kaplan, Faculty Governance Administrator extraordinaire, whose familiarity with all aspects of Institute governance, command of MIT's myriad policies and regulations, wisdom and common sense, and remarkable dedication is beyond compare.

Rick L. Danheiser is the Arthur C. Cope Professor of Chemistry and Chair of the Faculty (danheisr@mit.edu).

Richard Lester

I WRITE TO REPORT ON how the Faculty and Administration have together been evaluating the risks of new international engagements – and strengthening our processes for doing so – in the eventful months since my last report on this subject in the *Faculty Newsletter* in the fall of 2018. This report also draws on more than four years of observations in my current role overseeing the international activities of the Institute, and more than four decades of service on this remarkable faculty.

Although my report is mainly about the management of risk, I begin with a larger point about the importance to MIT of international cooperation in research and education. Emphasizing the value of international scientific cooperation seems especially important today, with the world locked in a mortal struggle against a virus that is heedless of national borders. Though many governments today seem more inclined to turn inwards, close their borders, and go it alone, there could be no clearer truth than that workable solutions to the pandemic must be science-based, international solutions.

Of course, at MIT we didn't need the current crisis to demonstrate the value of international engagement. We could simply have looked at what our faculty were doing when the pandemic struck. As of March 1, they were leading or coleading about 2000 internationally-sponsored projects, involving 72 countries. (This total does not include the many other international activities that are supported by gifts from overseas, or by U.S. sponsors, or that have no external sponsors at all.) Or we could have looked

at our student body, which today includes 3400 undergraduate and graduate students from 119 foreign countries. As President Reif observed recently, our international students are a kind of oxygen for us, with each fresh wave energizing our community as a whole.

But if international engagement is part of MIT's DNA, it is very likely that much of what we have been accustomed to doing around the world will be more challenging after the pandemic is over, at least for a time. International travel restrictions, health concerns, worldwide economic deprivation, and social and political unrest will all create new obstacles. And as the world begins its recovery, it will no longer be looking to the U.S. for leadership. America's diminished reputation in the world, and the long and painful period of economic and social reconstruction that awaits us at home, will likely narrow some of our traditional avenues of international engagement.

Despite these headwinds, I fully expect that our faculty and students will remain strongly committed to learning about the world, to helping solve the world's greatest problems, and to working with international collaborators who share our intellectual curiosity and commitment to rigorous scientific inquiry. I further expect that our more than 30,000 international alumni/ae, hailing from 170 countries, will continue to be important partners in these activities, as they have been so often in the past. And so, even though this article is about how we are managing risk, the main work of my office will continue to be to help our community pursue new international opportunities in support of MIT's mission.

So which risks must be considered when new international engagements are proposed?

Some risks can arise in any external engagement, whether domestic or international. In both cases, safeguards must be in place against anything that could compromise the integrity and objectivity of our academic work - for example, pressure on the intellectual independence of the researcher, or attempts to restrict the publication of research results, or potential conflicts of interest and commitment. Other risks include the potential misuse of intellectual property, know-how, and data; the misuse of MIT's name; the possibility of unwanted associations with unethical or illegal behavior by benefactors; or the undermining of MIT's campus culture and core values. And the safety and security of our students, staff, and faculty is obviously of the greatest importance.

None of these risks is limited to international engagements, but other risks are. For example, when we work in or with certain foreign countries, we may need to consider whether our work could contribute to the infringement of political, human, or civil rights, or whether it might indirectly promote or legitimize actions by the country's government (or by others) that would conflict with the core values of the MIT community. (These concerns may arise in our own country too. One difference is that, as an American institution staffed primarily by American citizens, we have various ways to influence outcomes at home.)

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Another important consideration specific to international projects is whether they could adversely affect the national security or economic security of the United States. These are not new issues, but in recent years they have become more prominent because of the closer integration of military and civilian technologies in many fields, and because global economic competition increasingly centers on the kinds of knowledge-intensive industries and activities that are often tied to university research. The need to consider economic security is all the greater because American research universities now routinely engage in applied and translational research, participate in innovation and entrepreneurship, collaborate with industry, and generally play and are expected to play - a more active role as engines of economic growth.

Adding to these concerns is the shift in U.S. foreign policy towards a narrower conception of the national interest, and away from the post-Cold War focus on promoting international flows of trade, knowledge, ideas, and people and supporting the global institutions that underpin the international order. As the U.S. retreats from some of its international commitments and aspirations, and as suspicion of an interconnected world grows in Washington, new questions are being raised about academic globalism. Is it safe for so many foreign students to be coming to the United States? What will they take with them when they leave? Will they take American jobs if they stay? What are American universities giving away when they work overseas? What are foreign governments and companies really buying when they fund university research and educational programs here at home? How susceptible are U.S. universities to foreign government influence and interference?

Such questions are fueling another kind of risk associated with our international engagements – the risk of triggering actions by our own government that would cause reputational or financial harm to us or harm to our culture of openness and free intellectual exchange.

Finally, in addition to this long list of risks, we must also consider the risks – to our students, our faculty, and our institution – of *not* undertaking proposed new international engagements. What learning opportunities will our students miss out on? What avenues of inquiry will be closed off? What benefits of these engagements will we be unable to deliver to our partners, and unable to receive from them?

Assessing Risk

The process for assessing these risks for particular projects must satisfy several requirements. First, since most of our international activities are initiated and implemented by individual faculty members, the review process should provide support to them so they don't have to think through these complex issues on their own.

Second, these reviews should be guided by clearly-articulated values and principles that the MIT community seeks to live by. Of course, a statement of values is just the beginning, not an end in itself. In actual situations these values are sometimes in conflict with each other, and even within close-knit organizations different people prioritize the same values differently. Some internal disagreement is therefore likely whatever the chosen course of action. That is why it is essential to have thoughtful, well-designed, systematic processes that instill confidence that different points of view will be considered carefully in each case, even though not everyone will agree with every outcome. Process should never override principle, but principle without process is a recipe for paralysis.

This is related to a third important requirement: the process should be efficient enough to avoid unreasonable delays for our faculty investigators, who are properly impatient to get on with their work and who are very often in direct competition with rivals at other institutions for access and resources.

Fourth, the process should recognize the Faculty's stake in the reputation of the Institute, and that faculty perspectives don't always coincide with those of the Administration. Faculty representation in risk review is therefore essential. Of course, almost nobody wants a situation in which a few members of the faculty with strongly held views can dictate the intellectual trajectory of another faculty colleague. On the other hand, even a single member of the community can make a constructive difference, as happened last year when an undergraduate student – possibly the only ethnic Uighur at MIT - organized a workshop that brought several expert researchers to the Institute to share their knowledge and insights into the current situation in Xinjiang province in Western China. This raised awareness at MIT of Chinese government repression of the Uighurs and other ethnic groups in Xinjiang and had a significant impact. Our community is knowledgeable, well-connected, and nothing if not curious. Faculty participation in risk review should reflect those assets, but also the practical limits on faculty time.

Fifth, the process must treat our prospective sponsors and donors (who may also be our existing sponsors and donors) with respect and consideration. Very few of them deserve anything less.

Finally, the process should be readily comprehensible not only to the MIT community but also to our external stakeholders, including the U.S. government research agencies with whom we work as well as their overseers in Congress. They must recognize that we are taking their concerns seriously.

Review and Decision Process

We have been working to strengthen our review and decision process since the publication in 2017 of <u>A Global Strategy</u> for MIT, which called for the upgrading of the International Advisory Committee

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(IAC) as one of its recommendations. The IAC had been created a decade earlier as an ad hoc committee of faculty and administrators to evaluate the risks of a specific international project that MIT was then considering, but over time the committee lost effectiveness. In 2017, it was reconstituted as a Standing Committee of the Institute, charged with providing an independent faculty voice in advising the Administration on major, institution-scale international engagements and policies.

In 2018, as China continued to move to the center of foreign policy debate in Washington and new MIT engagements in China were raising complicated questions of national security, economic competitiveness, and human rights, it was becoming clear that we needed to further strengthen MIT's capabilities for thoughtful, systematic evaluation of our international projects. This conclusion was reinforced by the assassination of Saudi journalist Jamal Khashoggi that October and President Reif's subsequent call for a review of all of MIT's Saudi relationships.

In January 2019 we introduced a new and more rigorous process for evaluating engagements that might pose elevated risks for MIT. For now, all engagements involving China, Russia, and Saudi Arabia are covered by this process, as are certain other projects that may also pose special risks.¹

Briefly, here is how the process works. For any proposed sponsored research project, including projects involving these three countries, much of the work of assessing and managing risk is still handled routinely by our sponsored programs staff (now part of OSATT), working with the PI and the sponsor. However, when sponsored projects as well as gifts from the three countries come up, the review process now also involves three separate committees, each working with

the PI – although, as we'll see, not all projects are considered by each committee (see Figure 1, below).

• The International Coordinating Committee (ICC) consists of senior administrative staff with deep experience in handling international projects from legal, financial, contractual, export control, and other administrative perspectives.

specialist advice; and occasionally also from ad hoc faculty committees that may be convened for advice on particularly challenging issues. A key aspect of the process is to raise PI awareness of risks and to work with the PIs to develop information and approaches that may be helpful for risk management. The main questions that are covered in the reviews are summarized in the Table (page 28).²



Figure 1

• The faculty International Advisory Committee (IAC), currently chaired by Professor Rohan Abeyaratne, as just noted is mainly concerned with larger, institution-scale projects, and is particularly focused on ensuring that such projects enhance and do not divert from MIT's core mission of education and research. Its purview is all countries, not just China, Russia, and Saudi Arabia.

• The Senior Risk Group (SRG), consisting of the Vice President for Research, the Vice President and General Counsel, and the Associate Provost for International Activities, considers projects that are judged by the ICC to require additional review by the senior administration.

Other important inputs to these reviews come from MIT's Washington Office; from country and regional experts both here at MIT and elsewhere who are consulted for In the first 12 months following the introduction of the new process in early 2019, 154 projects with Chinese, Russian, or Saudi involvement were proposed, most of them from China or Hong Kong (see Figure 2, next page). Most were sponsored projects, and the great majority involved just one or two PIs. All were initially reviewed by the ICC. Of these, 28 of the more complicated projects from a risk perspective were referred to the Senior Risk Group, where 16 were approved (sometimes with recommended modifications), nine were declined, and three

¹ China, Russia, and Saudi Arabia together account for about 12% of our active international projects.

² Following the Epstein revelations, a separate committee of administrators, the Interim Gift Advisory Committee, was created specifically to review gifts from other countries and also from U.S. sources. It is concerned with the risks of association with individual benefactors.

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were still under consideration at the end of the year. The IAC reviewed three of these cases (along with several from other parts of the world.) Most cases were dispatched in 4-6 weeks or less, and since parallel processing is usually possible the time actually added to the project development schedule by the new process was typically much shorter.

Saudi Aramco. A notable outlier was the proposed renewal of Saudi Aramco's founding membership in the MIT Energy Initiative (MITEI) for another five years. I would like to provide some background on this case, partly because some of the reporting and commentary about it has been inaccurate. Aramco's first membership term at MITEI had expired in late 2018, and the renewal was put on hold pending the comprehensive review of MIT's relationships with the Kingdom of Saudi Arabia that fall. President Reif's announcement of the results of that review in February 2019 included two key conclusions. First, existing Saudi engagements could continue provided the faculty PIs were willing to proceed (and if they weren't, MIT would assist with the transition). But second, all new Saudi projects, as well as renewals of existing projects, would need to be considered by the more rigorous review process that had just been introduced. In preparation for these and other decisions, President Reif requested faculty guidance on relevant general principles for MIT's future international engagements.

The renewal of Aramco's MITEI membership was the first Saudi-related decision to come up. The matter was considered at length by the IAC – the faculty committee – throughout the spring of 2019, and in June, after extensive consultations with the PIs and other faculty and members of the community, the IAC recommended a moratorium on the Aramco renewal, at least until further faculty guidance was forthcoming on principles of engagement. (The committee originally charged by the faculty offi-

cers to develop such guidance was dissolved before its work got started. This responsibility is now vested in the Ad Hoc Committee on Guidelines for Outside Engagements chaired by Professor Tavneet Suri, which was created last fall in the aftermath of the Epstein disclosures and is expected to report this summer.)

The IAC's moratorium recommendation was accepted by the Senior Risk Group (SRG) in July 2019, and Aramco's judgments in real time, about which different people often have different views.

Did the process work in the Aramco case? It has certainly enabled broad and thoughtful faculty input, but in another respect it has surely failed. Whatever the eventual outcome of the Aramco case, it will have taken MIT almost two years to decide. Admittedly this is partly (though not entirely) the result of the Epstein revelations and the need to work out an insti-

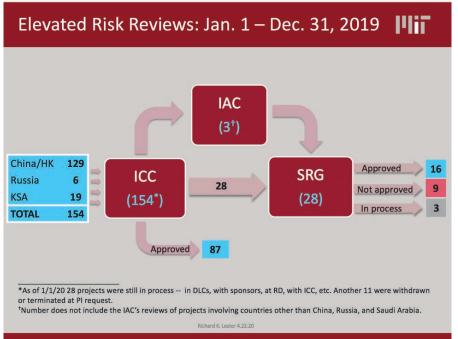


Figure 2

membership remained in suspension through last fall. In February the SRG acceded to a request by Professor Suri's committee to continue the moratorium until that committee's work is completed this summer. So Saudi Aramco is not now part of the MITEI membership consortium, and hasn't been for more than 18 months. The renewal question is likely to come up again after the Suri committee has reported.

The Aramco case is still open, but one lesson from the work of these review committees is clear. No two situations are identical. Each needs to be considered on its own merits, taking all relevant factors into account, making often-fine distinctions that usually couldn't have been predicted in advance, and requiring complex

tutional response to them. Regardless, in the future we must be able to move with much greater speed as well as all due deliberation. On these subjects we look forward to the recommendations of Professor Suri's guidelines committee and the companion committee on MIT's gift processes chaired by Professor Peter Fisher. Much is riding on their ability to craft an approach that corrects the problems revealed by the Epstein debacle, while simultaneously meeting the six requirements for effective management of our international risks that I have sketched on the next page.

And as important as these questions are for MIT's international activities, diffi-

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cult new questions will need to be faced once the pandemic is in check. For example:

- · How will we work with Chinese researchers and students, both in China and on the MIT campus, during what will likely be a protracted period of strategic confrontation between China and the United States?
- · How will we build new educational and research partnerships in other parts of the world, such as Africa, that are likely

to be of increasing interest to our faculty and students and increasing strategic importance to the Institute?

- · How will the world's increased dependence on the digital infrastructure during the pandemic affect the future delivery of services, including education, and what should be MIT's role during what may be a tumultuous period of restructuring and experimentation in global higher education?
- · And how will we achieve our goals for global scientific collaboration, education, and problem-solving, and for bringing the world's most talented students to our

campus, while fending off attempts to close us off from the world, and when America's global leadership threatens to be replaced by mutual distrust and rupture in international relations?

In the international arena, as in so much else, MIT will face great challenges after the pandemic has receded. But I am confident that, drawing on the collective wisdom of our faculty, we will find the best way forward. As always, I welcome feedback and input from the community.

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RISK CATEGORIES FOR FLEVATED RISK REVIEW



1	U.S. national security risk	What is the risk that MIT discoveries and inventions created in the engagement will be used against the national security interests of the United States? What is the risk that foreign partners will gain access to unrelated MIT knowledge and technology that could be used against U.S. national security interests?	
2	Political, civil, and human rights risk	What is the risk that the research outcomes will be used in ways that would infringe on political, human, or civil rights in the foreign country? What is the risk that the engagement will indirectly legitimize actions by the government of the foreign country that are inconsistent with the values of the MIT community?	
3	U.S. national competitiveness risk	What is the risk that the collaboration will strengthen the competitiveness of the foreign entity relative to its American business rivals? Will the collaboration benefit a foreign government in a way that might negatively affect the competitiveness of American firms? Will the foreign entity, as a result of this engagement, benefit from unpublished know-how that MIT researchers have developed during previous U.S. government-funded research? Will the entity benefit from access to MIT equipment or facilities that have been funded by the U.S. government?	
4	Export control compliance risk	Will the project be in compliance with all relevant export control laws and regulations and other regulations on sensitive technologies?	
5	MIT IP risk	What is the risk that MIT will be unable to retain control of MIT-generated IP and know-how?	
6	Data access and publication risk	Is there a risk that the ability of MIT investigators to publish will be restricted? Are there restrictions on the use of data that MIT investigators will participate in generating?	
7	Termination risk	Will MIT be able to terminate this engagement if circumstances require it? Are the termination risks acceptable? What would be the fallout to the investigator and the Institute if things went wrong?	
8	Misrepresentation risk	Are the individuals involved who they say they are? Where is the funding coming from and can we trace it to the source?	
9	Risk to MIT community and core values?	Does the engagement pose a risk to MIT's campus culture and values? Is there any risk that the engagement will lead to discrimination between members of our community? Is there a risk of undue external interference in the direction of research or education?	
10	Reputational risk other than in previous risk categories	Are there risks to MIT's reputation that are not included in any of the previous categories. E.g., Is the entity/individual under investigation by the US government? Are individuals involved who are on the BIS entity list or other USG lists? Are individuals/entities involved that are controversial in-country or in U.S.?	
11	What are the risks to MIT of NOT accepting this engagement?	If we do not accept the engagement, what will be the implications for MIT's core academic mission, our competitiveness, etc.?	

Anonymity, Liquidity, and Mobility: A Quandary

Kenneth R. Manning Lisa Parks

SINCE LAST FALL, WE and many others at MIT have been thinking about the question of fundraising - grants and gifts – and the circumstances surrounding them. We also have mulled over the use of fundraising in promotion and tenure review, and the role and relative weight that money plays in these cases. One issue we are concerned about is the role of anonymous gifts and grants, and whether and how these should factor in promotion and tenure decisions. As the Coronavirus pandemic continues, with funding sources growing scarcer, the Institute will need clear and transparent policies to help guide us through economically uncertain times. The pressure to skirt or relax ethical standards and to compromise longstanding values in the interest of financial stability will, inevitably, intensify in these troubled times.

Financial support has always been vital to advancing and sustaining careers in science, engineering, and (less so) the humanities and social sciences. Fundraising presents challenges all along the pipeline, from the highest to the lowest faculty ranks, and from discipline to discipline. The focus of our present concern is the role that fundraising plays in career advancement for junior faculty from first promotion to tenure.

Fundraising has traditionally been encouraged and rewarded, viewed as an important aspect of junior faculty profiles in promotion and tenure cases. Grants and gifts, the bigger the better as often thought, are itemized on candidates' CVs and professional statements, and discussed and evaluated as part of the

process. At MIT the weight given varies from department to department and across disciplines. Many factors emerge when considering grants and gifts as part of a promotion or tenure case. Funding perceived as a positive result in one context might be thought of as negative in another. There is never, nor should there be, a universal view about how funding should be regarded in a personnel review. In evaluating a grant or gift, one looks at

funds, grantee's relationship to donor, donor's standing as a grant-giving agency or as a bona fide philanthropist, and other vital information. It seems to us that the Institute needs clarification on whether junior faculty should be encouraged (or permitted) to receive and present anonymous funding for consideration in promotion and tenure cases without better guidelines. Lack of transparency about the source, along with a vacuum of informa-

Fundraising has traditionally been encouraged and rewarded, viewed as an important aspect of junior faculty profiles in promotion and tenure cases.

the source and amount of funding, the range of competition for it, the importance and quality of the work funded, and, last but not least, whether the grant's goals have been met beyond the minimal expectations of an annual or final report. Whether or not one supports using grants and gifts as factors in promotion and tenure cases, these are all things that can be observed, measured, determined, and discussed before conclusions are drawn and a decision is made.

But such is not the case with funding given as "anonymous." Though some junior candidates indicate on their professional statements and CVs that an anonymous grant has been "vetted," such a term has no substantive meaning to anyone outside the central administration. Nothing is revealed to faculty reviewers and external reviewers about the source of

tion regarding terms of the gift and related matters as delineated in the gift agreement and elsewhere, make it difficult if not impossible to evaluate an anonymous gift as an accomplishment appropriate for promotion or tenure evaluation.

Though these issues are vital in all faculty reviews, they are particularly important in junior faculty cases because the tenure process functions as a crucial phase of academic socialization. What happens during the early years of one's academic career – what is valued and not valued, what is allowed and not allowed – ends up making a deep imprint on the mindset of that faculty member and will inevitably shape and inform his/her/their future decision-making and practice with regard to fundraising efforts,

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decisions on other colleagues' cases, and graduate mentoring. Graduate students closely monitor what is happening with faculty members' careers, including which parts of the research and fundraising records are celebrated and valued. Establishing guidelines related to anonymous fundraising reporting could have long-term, generational effects.

If MIT continues to sanction anonymous grants and gifts as part of the promotion and tenure process, accompanying gift agreements and related documents should be made accessible to faculty and external reviewers so that they can evaluate pertinent issues. Potential concerns include, but are not limited to, reputation and motive of donor, relationship of donor to recipient, and donor's past history of giving. Criteria clear for everyone need to be developed. While transparency may not eliminate inherent inequities in the system, it would at least lessen, or draw context around, the advantage and privilege that certain candidates might enjoy because of wealthy friends and associates able and willing to support them with strategic gifts.

At a minimum, if an "anonymous" gift or grant is allowed to appear on a CV, MIT should establish an official framework that would generically classify and publicize some of the gift or grant attributes. This might include, for example, donor type (e.g., self, individual, foundation, company), reason(s) for the anonymous designation (e.g., donor moral objections to particular kinds of funding streams, and should have the knowledge and right to be able to navigate those waters accordingly in the academic work environment.

We believe full transparency of information regarding grants and gifts at MIT is preferable. We should know where monies that flow into MIT are coming from. Such transparency enables faculty, staff, and students – as individuals – to make ethical decisions about what units, projects, or faculty they want to ally with and which they may want to avoid.

privacy, project sensitivity, political protection), and scope and purpose (e.g., research topic, curriculum development, lab support). Establishing such categories would require rigorous and inclusive discussion.

We believe full transparency of information regarding grants and gifts at MIT is preferable. We should know where monies that flow into MIT are coming from. Such transparency enables faculty, staff, and students – as individuals – to make ethical decisions about what units, projects, or faculty they want to ally with and which they may want to avoid. Many people have strong political, ethical, or

Attention to these matters is critical, particularly in light of the Institute's recent regrettable history with anonymous gifts across multiple departments, where faculty were allowed, even encouraged, to seek funds from Jeffrey Epstein under the guise of anonymity.

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