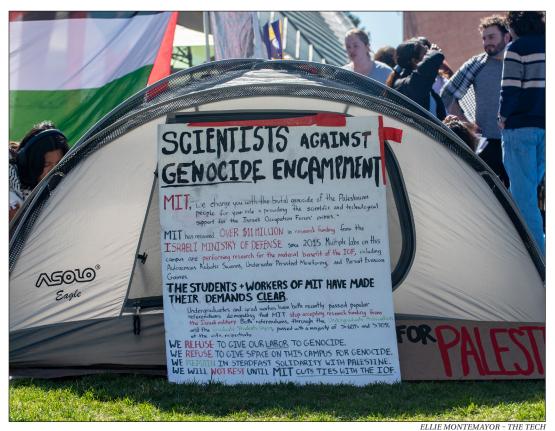
thetech.com

WEATHER, p. 2 Sunny. SAT: 63°F | 47°F Mostly sunny.

Thursday, April 25, 2024 Volume 144, Number 7

Pro-Palestinian encampment established on Kresge Oval The encampment, titled the "Scientists Against

Genocide Encampment," follows similar movements college campuses nationwide across



A list of demands leans against a tent in the encampment, dubbed the "Scientists Against Genocide Encampment" by its organizers, on Kresge Oval, Monday.

By The Tech News Staff

On the evening of Sunday, April 21, a student encampment dubbed the "Scientists Against Genocide Encampment" led by the Coalition for Palestine (C4P) was established on Kresge Oval, the latest in a number of protests that have occurred on the Institute's campus since the beginning of the Israel Palestine

At the time of this writing, MIT Police has maintained a small police presence on Kresge and the administration has not yet publicly taken steps to address the encampment.

The encampment was erected as a response to the arrests of over 100 pro-Palestinian Columbia University student protestors on Thursday, April 18. According to organize the encampment will continue until the Institute meets the organizers' lists of demands.

Other Boston-area universities, including Emerson College and Tufts University, are also holding their own encampments — also erected on Sunday night - in coordination with the team from MIT.

Neighboring Harvard University was the most recent addition within the Boston area as student encampments have begun in campuses across the nation. The action stemmed from the suspension of the Harvard Undergraduate Palestine Solidarity Committee, a student group, on Monday April 22.

MIT student groups adopt referendums; protests sparked at campuses across the country

This move follows the adoption of two referendums by the Undergraduate Association and Graduate Student Union. On the week of March 23, Referendum #2, a ballot item in the 2024 Undergraduate Association election that would bind the UA to back a ceasefire and call for the re-recognition of the Coalition Against Apartheid, passed with a 63.73 percent majority. A similar referendum by the Graduate Student Union was also passed.

The encampment of numerous university campuses across the country to protest the Israel-Palestine conflict was sparked last week by Columbia University students who established what was named the "Gaza Solidarity Encampment," with many attending being arrested and subject to disciplinary action by University administration.

The response of students on MIT's campus to these arrests began with an April 19 "emergency walkout" that culminated in a standing rally in front of the Stratton Student Center, where undergraduate and graduate students voiced solidarity with the arrested Columbia students.

Following coordination with other Boston-area schools and national pro-Palestine activist organizations, the Coalition for Palestine launched its encampment.

Hannah Didehbani '24, a leader in the C4P, listed demands students have for MIT's administration: calling for a ceasefire, disclosing Institute investments, cutting ties and divestment from the Israel Ministry of Defense, and dropping disciplinary action against student organizers.

Didehbani stated that each of the Boston colleges participating in the nationwide encampment demonstrations shared this same list of demands. She clarified that these demands, while being fundamentally similar, are more specific to each campus — for example, C4P is focusing heavily on cutting research ties with the Israel Ministry of Defense

Alejandro Tañon '25, an organizer for the encampment, stated, "Right now, MIT receives more than \$11 million in funding from the Ministry of Defense of Israel for a variety of different projects and labs... most of this research is used for military

Encampment began Sunday and

Campus organizers launched the Scientists Against Genocide Encampment at 7:00 p.m. on Sunday evening, after gathering supplies, setting up tents, and calling on students to participate.

By nightfall, dozens of students huddled under a large gray

ARTS, p. 8

Encampment, Page 2

Students organize walkout following student arrests at Columbia University

Undergraduate and graduate student voice solidarity with the Columbia students arrested

By The Tech News Staff

Editor's note: Ellie Montemayor '26, one of the students described in the article, is a publisher of The Tech. She was not involved in the publication of this article.

On April 19, the Coalition for Palestine (C4P) organized a student walkout in solidarity with the 108 Columbia University students that were arrested on April 19 for an encampment protesting the Israel-Palestine conflict. The walkouts began at 11:15 AM from 32-123 and 10-250, alongside a campus-wide call made on social media, and culminated at 12:30 on the steps to the Stratton Student Center.

"Over the last six months, we have witnessed the genocide of the Palestinian people and have seen MIT's complicity exposed," Kirmina Monir '24 stated in room 32-123. "Today, we join schools in the Boston area in walking out of class in solidarity with Palestine and our fellow students at Columbia who are facing harsh repression, including the brutal arrest of over 100 students, for standing with Palestine." A similar speech was made in room 10-250 by Ellie Montemayor '26. Organizers from both classrooms led supporters across campus towards the Student Center.

The walkout featured speeches from four student activists - Dan Zeno G, Kathleen Julca '25, Aaliya Hussain '25, and Mohamed Mohamed G.

At the Student Center, Dan Zeno G, a member of the MIT Graduates For Palestine (G4P) began a speech describing his background as his past service as a United States Air Force captain, and his present effort in "fighting with the resistance."

"No force inspires more awe in the blood-soaked imperial age than a people united than a people united to break their chains," Zeno began, eliciting applause. Zeno also spoke about the tens of thousands of Palestinian casualties since Oct. 7, and how "entire city blocks [have been] reduced to rubble by U.S.-

Kathleen Julca '25, a member of Globally Indigenous Students for Justice, posed "What will we tell our children? Will we tell them we stood by because it was too complicated? Will we tell them we did nothing because we want it to be peaceful, or will we tell them that we organized for our fellow

Aaliya Hussain '25, of MIT Divest, called the walkout "an expression of a shared humanity," and that protesting is a "way of expressing our creed."

"Protests by the encampment of Columbia, and the countless protests against the genocide have rocked the world," Aaliya declared. "They honor what Dr. Martin Luther King Jr. calls are 'inescapable networks of mutuality,' whereby we all share in a mutual garment of destiny."

Hussain asserted that "the right to freely express ourselves is under attack." These attacks manifest as "the persecution of student organizers for Palestine," alluding to the events at Columbia.

'We stand strong against repressive administrations; Columbia has reignited all of us," Mohamed Mohamed G, a C4P organizer said. "When the Columbia students were suspended, when they were attacked by the police, when they were attacked by their own administration — in Congress and on campus they never backed down."

Mohamed urged the crowd to tell the MIT administration that "[they] won't back down" and that "[they] have a greater cause.

Speaking to The Tech, Isa Liggans 25, a member of C4P, stated that he was not afraid to participate in the student walkout, regardless of the current atmosphere surrounding pro-Palestine

"You know you're doing something right," Liggans said. "I'm Muslim, and for me, I don't have anything to be afraid of, as long as I know I'm keeping my way. Even when it comes to arrests or someone going to attack us. At least for us, nothing like that has really happened - nothing to the extreme of Columbia is happening here."

Liggans said that he will not prevent himself from doing "something that's good" just because he fears the repercussions of it. "[Consequences from administration] doesn't make us afraid," Liggans said.

Hazardous material alarm goes off in Building 13 on two consecutive days

On April 17 and 18, the MIT community was alerted to a hazardous materials alarm triggered in Building 13. Emergency services responded to both incidents. On April 17, the building closed for nearly two and half hours, while the April 18 closure was for less than 20 minutes.

According to the MIT campus map, Building 13 houses the following groups: the Chemical Beam Epitaxy Group, Electroceramics Group, Center for Materials Science and Engineering, and Microphotonics Center. Buildings 9, 10, and 12 are connected to the Building 13 structure. At the time of publication, no additional hazardous materials alarms have been reported from Building 13.

— Alex Tang

WORLD & NATION:

PROTEST MOVEMENT, TRUMP TRIAL, **NONCOMPETE AGREEMENTS**

ISRAEL PLANS, HEAT WAVE, WITH-DRAWN TROOPS

WORLD & NATION, p. 4

WIRED **CAMPUS LIFE, p. 6**

EDGERTON SHOWCASE

SCIENCE, p. 7

ZAKARIA DISCUSSES REVOLUTIONS DUNE: PART TWO SIERRA, ELGAR, DVORAK **OPEN LETTER ON MIT CLI-MATE PROJECT GLOBAL SHADING** TO STOP THE KILLING OPINION, p. 10

SECTIONS

World & Nation 4
Campus Life 6
Science 7
Arts 8
Opinion 10
Photo Gallery12
Entertainment 12

Weather Systems Other Symbols Weather Fronts $\dot{\bigtriangledown}$ Thunderstorm **

Sunny weather to settle APRIL 25 SITUATION FOR NOON (ET) into the weekend

By Phoebe Lin SENIOR METEOROLOGIST

Expect some drier and warmer days to settle into the Boston region Thursday and Friday as a drier air mass arrives riding some surface winds moving south out of Canada! Showers may return closer to Sunday along with dewpoints rising back up into the 40s and 50s later this

With the magnolias blooming and the weather starting to calm down, hopefully we can all spend some time enjoying the sunshine before the

last final push of the semester. According to the Climate Prediction Center, this summer is expected to be warmer than average for the Northeast and most of the US, so enjoy the cool weather while it lasts!



Extended Forecast

Today: Sunny. High around 54°F (12°C). Northwest winds around 10-15 mph.

Tonight: Clear. Low around 38°F (3°C). Northwest winds 8-12 mph.

Friday: Sunny. High around 55°F (13°C) North winds around 8-12 mph.

Saturday: Mostly sunny. High around 63°F (17°C) and low around 47°F (8°C). South winds 8-12 mph.

Sunday: Chance showers. High around 65°F (18°C) and low around 50°F (10°C), Southwest winds around 8-12 mph.

Dialogues Across Differences: Murad Idris hosts panel on anti-Palestinian racism

Idris is an associate professor of political science at the University of Michigan

By Tina Zhang NEWS EDITOR

On April 18, Murad Idris, associate professor of political science at the University of Michigan, held the fourth panel of MIT's Dialogues Across Differences: Building Community of MIT speaker series at the Schwartzman College of Computing. Idris' research focuses on political theory, political theology, and political thought and intellectual history as an Arab and Muslim-American studies

Idris's panel was titled, "What Hinges on Anti-Palestinian Racism." MIT President Sally Kornbluth opened the panel with an introduction and facilitated the talk. The panel consisted of Idris's talk followed by a question and answer session with the audience moderated by Course 17 professor Fotini Christia.

Idris discussed instances of anti-Palestinian racism and highlighted a lack of transparency and conversation about this issue in the US. He stated that Palestinian life is devalued and that certain forms of violence towards Palestinians have often been justified in various contexts.

He argued that anti-Palestinian racism works as a hinge and added that that it acts as a proxy for anti-Muslim racism. Idris also examined the complex relationships among anti-Palestinian racism, antisemitism, and Islamophobia during the panel.

Additionally, he chronicled a history of anti-Palestinian discourse, one that has shifted from a state of insurgency to terrorism. Idris further examined a shift in language in such discourse over time that connoted violence. Idris ended the talk by emphasiz-

ing increased dialogue about issues such as anti-Palestinian racism, antisemitism, and Islamophobia to reduce ignorance and to ensure that people stay informed.

The final Dialogues Across Differences event will be held on May 9 in the Schwarzman College of Computing with speakers Susannah Heschel, professor of Jewish studies at Dartmouth College, and Ezzedine Fishere, senior lecturer on politics of the Middle East also at Dartmouth.

Their panel is titled, "A Model for Discussing Conflict and War in the Middle East."

Graduate Student Union passes referendum on ceasefire in Palestine

On April 19, the MIT Graduate Student Union (GSU) adopted a resolution that called on their members to "join the global call for an immediate and permanent ceasefire in Gaza and an end to the Israeli government's military siege and blockade of the Gaza strip." 980 graduate students out of 7,344 voted in this election, with 70.5 percent voting in favor.

The resolution was titled, "Resolution affirming the need for a permanent ceasefire in Gaza and ceasing MIT labor support for Israeli military objectives." 664 students voted "Yes," 278 voted "No," and 38 abstained.

The resolution states that as adopted, the GSU "oppose[s] all threats and intimidations towards MIT workers and community members engaging in political speech on these issues." The GSU alleges that "two MIT graduate workers protesting in support of Palestine have had their

right to union representation violated by the MIT administration during disciplinary hearings held against them."

The resolution, citing precedence when graduate students protested against apartheid in South Africa and during the Vietnam War, calls for MIT to stop using "graduate labor to further Israeli military objectives." It further encourages the graduate community to urge for a ceasefire, highlighting the Institute's provision of funds to the Israeli military since 2015. The resolution claims that this funding has been used to develop technologies like "autonomous robotic swarms" and "algorithms for pursuit-evasion

The MIT Undergraduate Association adopted a similar resolution on March

— Russel Ismael

Against Genocide **Scientists Encampment holds Kresge Oval**

Encampment, from Page 1

canopy declared the "Liberated Zone." Tents in the encampment were named after major cities and villages in the States of Israel and Palestine, including Rafah, Gaza City, Khan Younis, Deir Yassin, and Jerusalem.

Tañon stated that the encampment's goal is to "be here until MIT cuts those ties, stops receiving that funding, doesn't accept any more, and stops doing that [Israeli-sponsored military] research."

"The MIT administration has the capacity to end these programs and this research; it's not just the [principal investigators] themselves," Tañon added. "The United States itself has a really big movement right now, and the student movement has been at the forefront for Palestine."

Monday morning was relatively quiet, but that afternoon, a picket line surrounding the encampment began.

Students from Harvard University arrived at around 5:00 p.m.. According to Didehbani,

the Harvard group was there in "solidarity," adding that most of them had left around 6:00 p.m. and were not planning to spend the

On the encampment's second night, Mohamed Mohamed G announced to those assembled in the plaza "that MIT will no longer be a place where we trade science for profiteering" and "where science is created for war."

"It is now more evident than ever, looking at how these administrations are responding to these student movements, what these schools intend to fight," Mohamed said. "But we would never pretend we are these schools; we are aware of the injustice of this place. We are the people that make MIT run."

On Tuesday night at 5:00 PM, the encampment held a Passover Seder to mark the beginning of Passover. Organizers say that Similar programming events will be held at the encampment, and more are being planned later in the week.

At the time of this writing, the encampment continues into its fifth day.



Do you think YOU can fit the page better than we did?

Join Production, Get Paid, Eat Dinner!



EXECUTIVE COMMITTEE

Publishers Ivotsna Nair '25. Ellie Montemayor '26

Editor-in-Chief Alex Tang '26 Managing Editor Kate Lu '25 **EXECUTIVE EDITOR** Vivian Hir '25

CONTENT

- NEWS
 Javashabari
 Shankar
 '27,
 Tina
 Zhang
 '27,
 & Russel Ismael VS, NEWS EDITOR Staff | Alex Tang '26, Julia Fortt '26, Jessica He '26, Josh Nix '27.

WEATHER Adrienne Lai '25, chief meteorologist.

Staff | Phoebe Lin '24, Rine Pan '24, Yoland Gao '25.

Alor Sahoo '26, campus life editor.

STAFF | Vivian Hir '25, Caroline Chea '25, Vi Trinh '27, Claire Wang '27, Susan Hong '27, Russel Ismael VS.

Anahita Srinivasan '25, ARTS EDITOR.

Staff | Cameron Davis G, Vyshnavi Vennelakanti G,

Teddy Schoenfeld '24, Alexis Yi '25, Vivian Hir '25, Ellie Montemayor '26, Kelly Kim '26.

Hannah Friedman '27, sports editor.

- SCIENCE Karie Shen '27, SCIENCE EDITOR.

STAFF | Russel Ismael VS, Ved Ganesh '27.

- ENTERTAINMENT

Ellie Montemayor '26, ENTERTAINMENT EDITOR.

STAFF | Manaal Mohammed '25.

Srinidhi Narayanan '24, OPINION EDITOR.

— РНОТО Alexa Simao '25 & Omar Orozco '25, PHOTO EDITOR.

STAFF | Alex Laiman '24, Cady Boronkay '24, Jade Chongsathapornpong '24, Kate Lu '25, Melissa Jimenez Camejo '25, Michelle Xiang '26, Ellie Montemayor '26, Alison Soong '27, Emmanuel

PUBLISHING

Ellie Montemayor '26, PRODUCTION EDITOR

Claire Mao '26 & Geoffrey Enwere '26, copy chiefs.

STAFF | Vi Trinh '27.

OPERATIONS

Peter Pu '26, business manager (associate). Li Xuan Tan $^{\prime}26$ & Colin Clark $^{\prime}26$, tech directors (associate).

Staff | Madeline Leaño '26.

Paul E. Schindler, Jr. '74, Barry S. Surman '84, Deborah A. Levinson '91, Saul Blumenthal '98, Daniel Ryan Bersak '02, Eric J. Cholankeril '02, Marissa Vogt '06, Austin Chu '08, Michael McGraw-Herdeg '08, Marie Y. Thibault '08, Angeline Wang '09, Jeff Guo '11, Anne Cai '14, Jessica L. Wass '14, Bruno Faviero '15, Kali Xu '15, Leon Lin '16, Kath Xu '16, Lenny Martinez Dominguez '17, Charlie J. Moore '17, William Navarre '17, Emma Bingham '19, Nafisa Syed '19, Áron

Ricardo Perez-Lopez '20, Nathan Liang '21, Joanna Lin '21, B. D. Colen.

Senior Editors: Arun Wongprommoon '23, Phoebe

THE TECH (ISSN 0148-9607) is published periodically on Thursdays during the academic year (except during MIT vacations) and monthly during the summer by The Tech, Room W20-483, 84 Massachusetts Avenue, Cambridge, Mass. 02139. POSTMAS TER: Please send all address changes to our mailing add THE TECH, P.O. Box 391529, Cambridge, Mass. 02139-7029. TELE-PHONE: Editorial: (617) 253-1541. Business: (617) 258-8324. Facsimile: (617) 258-8226. EMAIL: tt-general@mit.edu (general), tt-ads@mit.edu (advertising). Advertising, subscription, and typesetting rates available. Entire contents © 2024 THE TECH. Printed

SUBMISSION: We accept guest columns and op-eds from members of the MIT community for publication into print and online issues of The Tech. We reserve the right to edit all material before publication. For any content submitted to and published by THE TECH, the creator of the corresponding work grants THE TECH a royalty-free, irrevocable, and perpetual license to use, reproduce, modify, adapt, publish, and create derivative works from such content. All material submitted becomes property of THE TECH.

This issue of The Tech is sponsored by: The Knight Science Journalism Program @ MIT



The Tech.

BOSTON, NOVEMBER 16, 1881.

VOL. I.

38

Tech.

No. 1.

Тесн

VOL. XXI.

BOSTON, OCTOBER 10, 1901.

No. 1.



for 43 Years

Official

of M. I. T.

duate News

BOSTON, MASS., TUESDAY, SEPTEMBER 26, 1911

PRICE TWO CENTS



MARY Official Undergraduate News Organ of Technology

Vol. XLIV No. 1

CAMBRIDGE, MASS., WEDNESDAY, MARCH 19, 1924

Five Cents

21 1925

LIBRARY ous News Service For 50 Years

Volume LI-No. 1

CAMBRIDGE, MASS., WEDNESDAY, FEBRUARY 11, 1931

Price Five Cent







CAMBRIDGE, MASS., TUESDAY, FEBRUARY 11, 1941

Price Five Cents

CAMBRIDGE, . MASS. TUESDAY, JAN. 9, 1951 PRICE FIVE CENTS VOL. LXXI NO. 1

THE OFFICIAL NEWSPAPER







The Tech

A Century

Continuous News Service

Since 1881."

FIVE CENTS

Cambridge Massachusetts

Tuesday, February 3, 1981

Cambridge Massachusetts

Friday, February 1, 1991

Volume 101, Number 1



News Service Since 1881

Volume 111, Number 1

MIT's **Oldest and Largest** Newspaper



Volume 121, Number 1

Tuesday, February 6, 2001

MIT's Oldest and Largest Newspaper



tech.mit.edu

WEATHER, p. 2
TUE: 29°F | 24°F
Snow.

WED: 32°F | 18°F

Tuesday, February 1, 2011

Volume 131, Number 1

olume 141, Number 1

MIT's Oldest and Largest Newspaper



WEATHER, p. 2

THU: 31°F | 27°F

Cloudy, then Sn FRI: 33°F | 22°F Snow.

SAT: 33°F | 16°F Mostly Cloudy.

Thursday, February 18, 2021

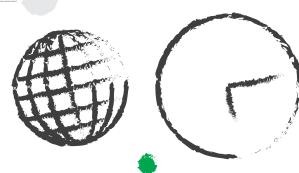


Thanks for reading The Tech. It's readers like you who made it possible to keep The Tech running for the past 140+ years.

> Newspaper is dying! Help extend its life! Be part of history!

No experience needed We have a wide array of departments - writing and non-writing - for all interests!

join@tech.mit.edu











WORLD & NATION is a two-page column featuring news articles syndicated from a selection of major newspaper outlets, covering topics of public interest and critical information which extend beyond the bounds of The Tech's coverage as centered around the MIT and local community. Ownership of syndicated content is retained under their original respective publications, and is republished in this format to serve as an easily-accessible, printed digest for The Tech's readership.

The column consists of two pages, with Side A focused on US news and politics and Side B on topics of international concern. The articles featured here are abridged as to contain only their most essential points; readers are directed to read more about an article from its original publication.

Senate passes Ukraine, Israel aid bill after months-long debate

The Senate overwhelmingly passed a \$95 billion foreign aid bill on Tuesday, delivering billions of dollars in weapons and support to key U.S. allies Ukraine and Israel despite some opposition from both parties' bases. The legislation, which passed by a 79-18 vote, had seemed all but dead for several months due to opposition in the GOP-led House.

President Biden said in a statement he would sign the bill into law as soon as it crosses his desk on Wednesday, and send aid to Ukraine this week. The funds help him deliver on his promise to the nation's NATO allies to continue to aid Ukraine as it enters its third year fending off Russia's invasion.

— Liz Goodwin & Abigail Hauslohner, FROM THE WASHINGTON POST ORIGINALLY PUBLISHED APRIL 23, 2024

Biden's new Title IX rules protect LGBTQ+ students, but avoid addressing transgender athletes

The rights of LGBTQ+ students will be protected by federal law and victims of campus sexual assault will gain new safeguards under rules finalized Friday by the Biden administration. The new provisions are part of a revised Title IX regulation issued by the Education Department, fulfilling a campaign pledge by President Joe Biden. He had promised to dismantle rules created by former Education Secretary Betsy DeVos, who added new protections for students accused of sexual misconduct.

Notably absent from Biden's policy, however, is any mention of transgender athletes.

— Collin Binkley, from AP NEWS ORIGINALLY PUBLISHED APRIL 19, 2024

Biden to forgive \$7.4 billion more in student loan debt for borrowers

The Biden administration said Friday that it is using existing student loan forgiveness programs to cancel another round of student debt, totaling \$7.4 billion for 277,000 borrowers.

Under President Joe Biden, the Department of Education has made it easier for some specific groups of borrowers, like public sector workers, to qualify for loan forgiveness. It also launched a new repayment plan that creates a shorter pathway to loan forgiveness for many low-income borrowers – and is at issue in at least two legal challenges from Republican-led states. In total, the Biden administration has authorized the cancellation of \$153 billion in student loan debt for nearly 4.3 million people. That's more than 9% of all outstanding federal student loan debt.

— Kate Lobosco, from CNN ORIGINALLY PUBLISHED APRIL 12, 2024

OJ Simpson, former football star acquitted of murder, dies at 76

O.J. Simpson, the former football great who was accused of and ultimately acquitted of the brutal 1994 slayings of his ex-wife and her friend, has died, according to his family. He was 76. "On April 10th, our father, Orenthal James Simpson, succumbed to his battle with cancer. He was surrounded by his children and grandchildren. During this time of transition, his family asks that you please respect their wishes for privacy and grace," a statement from his family said.

In May 2023, Simpson posted a video on X, then known as Twitter, revealing that he had recently "caught cancer" and "had to do the whole chemo thing." He added, "It looks like I beat it." Simpson didn't specify the nature of the cancer.

— Emily Shapiro & Patricio Chile, FROM ABC NEWS ORIGINALLY PUBLISHED APRIL 11, 2024

Senate kills the articles of impeachment against Mayorkas

The Senate made short work of the articles of impeachment against Homeland Secretary Alejandro Mayorkas on Wednesday, ending the historic trial before it began in earnest as the Democratic majority brushed aside GOP efforts to prolong the dead-end process.

House Republicans voted to impeach Mayorkas on February 13 on their second attempt after failing at first to get the necessary votes. The Biden appointee became the first Cabinet secretary to be impeached in nearly 150 years. Republicans targeted Mayorkas as soon as they took control of the House, blaming the high number of border crossings on the Homeland Security secretary as the party faced pressure from its base to go after the Biden administration on a key campaign issue.

— Gregory Krieg, Ted Barrett, Annie Grayer, Clare Foran & Morgan Rimmer, from CNN ORIGINALLY PUBLISHED APRIL 17, 2024

Studentprotestmovementcould cause a loud end to semester

Troy Closson

FROM THE NEW YORK TIMES
ORIGINALLY PUBLISHED APRIL 23, 2024

As a wave of pro-Palestinian activism on college campuses showed few signs of abating on Tuesday, the demonstrations have raised new questions about what shape the end of the semester may take for thousands of students across the United States.

At Columbia University, where the arrests of more than 100 protesters unleashed a flurry of national protests, students will have the option to attend their last week of lectures remotely for safety reasons.

At the University of Texas at Austin, protesters announced plans to occupy a campus plaza and said that, at least for them, "class is canceled."

And at the University of Michigan, administrators were already looking ahead and bracing for graduation. They set up designated areas for demonstrations, and

agreed to "generally be patient with lawful disruptions."

"Commencement ceremonies have been the site of free expression and peaceful protest for decades," the university said in an online message, adding, "And they will likely continue to be."

The steps are an acknowledgment that the last weeks of the spring could be among the most difficult for administrators at some of the nation's most prestigious universities. On Tuesday, the campus police at the University of Minnesota took nine people into custody after they erected a protest encampment, following dozens of arrests at Yale and New York University.

Other demonstrations continue to emerge from coast to coast, including at the University of New Mexico and Emerson College. At California State Polytechnic University, Humboldt, students took over a campus building, and barricaded the exits with chairs and trash bins.

The pro-Palestinian student movement has disrupted campus life, especially for Jewish students. Many have said they no longer feel safe in their classrooms or on university quads as the tone of protests at times has become threatening. Speaker Mike Johnson said he would meet with Jewish students at Columbia University on Wednesday and give remarks about the "troubling rise of virulent antisemitism on America's college campuses," according to a news release.

At the same time, many school leaders may face the possibility of graduation ceremonies transforming into high-profile stages of protest over the war in Gaza.

No matter how administrators approach these final weeks, the stakes are uniquely high for students who are graduating. Many graduated from high school in the first months of the coronavirus pandemic, and never walked across the stage or celebrated alongside their classmates.

Takeaways from Day 6 of the Trump hush money trial

Jeremey Herb, Lauren del Valle, & Kara Scannell

FROM CNN

ORIGINALLY PUBLISHED APRIL 23, 2024

Judge Juan Merchan appeared poised on Tuesday to sanction Donald Trump for violating the gag order in his criminal hush money case after peppering the former president's lawyers with questions about why Trump's social media posts were acceptable.

Tuesday began with a hearing on Trump's 10 alleged violations of the gag order, and it ended with former American Media Inc. chief David Pecker talking about how he vetted allegations of an alleged affair between Trump and Playboy playmate Karen McDougal in 2016 while in constant communication with Trump's then-fixer, Michael Cohen. (Trump has denied the affair.)

Even with an abbreviated day for the Passover holiday, the onetwo punch of the gag order violations and the testimony about the "catch-and-kill" deals to bury negative stories about Trump during the 2016 election added up to a frustrating day in court for Trump, who fumed about the news coverage of the trial and the limitations of the judge's gag order.

Pecker will return to the stand on Thursday after court is dark on Wednesday. He has spoken now about two of the three catch-andkill deals – but not adult film star Stormy Daniels, which is likely coming on Thursday.

Here are takeaways from Tuesday's day in court:

Merchan issued the gag order before the trial began, limiting Trump from publicly discussing witnesses, the jury or the district attorney's staff. Merchan expanded the order, which Trump has appealed, to cover his own family after Trump attacked his daughter.

He has not yet ruled on the district attorney's motion to sanction Trump for allegedly violating the gag order, but it wasn't hard to tell the judge's sentiments.

Merchan rejected the explanations that Trump attorney Todd Blanche offered for the offending posts, after Trump's attorney tried to argue that posts about Stormy Daniels and Michael Cohen were political and not about the case.

When Blanche tried to argue that Trump's response to a Cohen post about Michael Avenatti, Daniels' former lawyer, was political because it discussed pardons, the judge grew frustrated.

"So the pardon is what makes it political?" Merchan asked Blanche.

"Of course," Blanche responded.

"When your client is violating a gag order, I expect more than one word," Merchan said after Blanche argued that pardons were political in nature.

Merchan also pressed Blanche on Trump's intentions, after Trump's attorney argued that reposts of others on Truth Social were not necessarily subject to the gag order.

U.S. bans noncompete agreements for nearly all jobs

Andrea Hsu

FROM NPR

ORIGINALLY PUBLISHED APRIL 23, 2024

The Federal Trade Commission narrowly voted Tuesday to ban nearly all noncompetes, employment agreements that typically prevent workers from joining competing businesses or launching ones of their own.

The FTC received more than 26,000 public comments in the months leading up to the vote. Chair Lina Khan referenced on Tuesday some of the stories she had heard from workers.

"We heard from employees who, because of noncompetes, were stuck in abusive workplaces," she said. "

One person noted when an employer merged with an organization whose religious principles conflicted with their own, a noncompete kept the worker locked in place and unable to freely switch to a job that didn't conflict with their religious practices." These accounts, she said, "pointed to the basic reality of how robbing people of their economic liberty also robs them of all sorts of other freedoms."

The FTC estimates about 30 million people, or one in five American workers, from minimum wage earners to CEOs, are bound by noncompetes.

It says the policy change could lead to increased wages totaling nearly \$300 billion per year by encouraging people to swap jobs freely.

The ban, which will take effect later this year, carves out an exception for existing noncompetes that companies have given their senior executives, on the grounds that these agreements are more likely to have been negotiated. The FTC says employers should not enforce other existing noncompete agreements.

The vote was 3 to 2 along party lines. The dissenting commissioners, Melissa Holy-

oke and Andrew Ferguson, argued that the FTC was overstepping the boundaries of its power. Holyoke predicted the ban would be challenged in court and eventually struck down.

Shortly after the vote, the U.S. Chamber of Commerce said it would sue the FTC to block the rule, calling it unnecessary, unlawful and a blatant power grab.

For more than a year, the group has vigorously opposed the ban, saying that noncompetes are vital to companies, by allowing them to better guard trade secrets, and employees, by giving employers greater incentive to invest in workforce training and development.

"This decision sets a dangerous precedent for government micromanagement of business and can harm employers, workers, and our economy," wrote Suzanne P. Clark, president and CEO of the U.S. Chamber, in a statement.

Israel planned bigger attack on Migrants drown in English Channel hours after IIK passes Rwanda policy Iran, but scaled back to avoid war

Ronen Bergman & Patrick Kingsley

FROM THE NEW YORK TIMES ORIGINALLY PUBLISHED APRIL 22, 2024

Israel abandoned plans for a much more extensive counterstrike on Iran after concerted diplomatic pressure from the United States and other foreign allies and because the brunt of an Iranian assault on Israel soil had been thwarted, according to three senior Israeli officials.

Israeli leaders originally discussed bombarding several military targets across Iran last week, including near Tehran, the Iranian capital, in retaliation for the Iranian strike on April 13, said the officials, who spoke on the condition of anonymity to describe the sensitive discussions.

Such a broad and damaging attack would have been far harder for Iran to overlook, increasing the chances of a forceful Iranian counterattack that could have brought the Middle East to the brink of a major regional conflict.

In the end — after President Biden, along with the British and German foreign ministers, urged Prime Minister Benjamin Netanyahu to prevent a wider war - Israel opted for a more limited strike on Friday that avoided significant damage, diminishing the likelihood of an escalation, at least for now.

Still, in the view of Israeli officials, the attack showed Iran the breadth and sophistication of Israel's military arsenal.

Instead of sending fighter jets into Iranian airspace, Israel fired a small number of missiles from aircraft positioned several hundred miles west of it on Friday, according to the Israeli officials and two senior Western officials briefed on the attack. Israel also sent small attack drones, known as quadcopters, to confuse Iranian air defenses, according to the Israeli officials.

Military facilities in Iran have been attacked by such drones several times in recent years, and on several occasions Iran has said it did not know who the drones belonged to - a claim interpreted as Iranian reluctance to respond.

One missile on Friday hit an antiaircraft battery in a strategically important part of central Iran, while another exploded in midair, the officials said. One Israeli official said that the Israeli Air Force intentionally destroyed the second missile once it became clear that the first had reached its target, to avoid causing too much damage. One Western official said it was possible the missile had simply malfunctioned.

The officials said Israel's intention was to allow Iran to move on without responding in kind, while signaling that Israel had developed the ability to strike Iran without entering its airspace or even setting off its air defense batteries. Israel also hoped to show that it could hit those batteries in a part of central Iran that houses several major nuclear facilities, including an uranium enrichment site at Natanz, hinting that it could have also reached those facilities if it had tried.

hours after UK passes Rwanda policy

Five migrants, including a child, died in an attempt to cross the English Channel from France to Britain in an overcrowded small boat on Tuesday, hours after Britain passed a bill to deport asylum seekers to Rwanda in a move to deter the dangerous journeys. The deaths occurred when a boat carrying 112 people set out to cross one of the busiest shipping lanes in the world and panic took hold among the passengers not far from the shore.

Rescuers picked up 49 people, with four taken to hospital, but others stayed on the boat, determined to get to Britain. The French coastguard was still searching for any survivors. "A tragedy occurred on a boat overloaded with migrants early this morning. We deplore the deaths of five people, a seven-year-old girl, a woman and three men," local prefect Jacques Billant told reporters.

— Yves Herman & Hannah Ellison, FROM REUTERS ORIGINALLY PUBLISHED APRIL 23, 2024

Venezuela's main opposition bloc agrees on candidate to challenge Maduro in presidential election

Venezuela's main opposition coalition agreed Friday to unite behind former diplomat Edmundo González as its challenger to President Nicolás Maduro in this summer's election, acting one day before the deadline to formalize its candidate.

The decision was reached unanimously by the 10 parties in the Unitary Democratic Platform, Omar Barboza, the coalition's executive secretary, said after a five-hour meeting that included discussions of other possible candidates.

> — FROM AP NEWS ORIGINALLY PUBLISHED APRIL 20, 2024

Asia's heat wave hundreds

Saif Hasnat & Mike Ives

FROM THE NEW YORK TIMES ORIGINALLY PUBLISHED APRIL 22, 2024

Hundreds of millions of people in South and Southeast Asia were suffering on Monday from a punishing heat wave that has forced schools to close, disrupted agriculture, and raised the risk of heat strokes and other health complications.

The weather across the region in April is generally hot, and comes before Asia's annual summer monsoon, which dumps rain on parched soil. But this April's temperatures have so far been unusually high.

In Bangladesh, where schools and universities are closed this week, temperatures in some areas have soared above 107 degrees Fahrenheit, or 42 degrees Celsius. Those numbers don't quite capture how extreme humidity makes the heat feel even worse.

"Due to increasing moisture incursion, the discomfort may

increase" over the next 72 hours, the Bangladesh Meteorological Department said in a notice on Monday. In Dhaka, the capital, the humidity was 73 percent, and many areas in the country have experienced daily power outages.

The heat wave could lead to more cases of certain diseases, including cholera and diarrhea, said Be-Nazir Ahmed, a public health expert in Bangladesh and a former director of the national Directorate General of Health Services.

Mr. Ahmed said that people should ideally try to work earlier in the morning and later at night, when temperatures are lower. But that is easier said than done in a country where many people work outdoors.

Nur-e-Alam, who pulls a rickshaw by hand in Dhaka's Mogbazar area, said he had scaled back to five to seven hours a day, down from eight to 10, because of the

His earnings have taken a hit. He expected to make 500 to 600 takas, or about \$5, on Monday, about half his usual wage.

scorches

millions

"I haven't experienced heat like this before," Mr. Alam said. "Every year gets hotter, but this vear is extreme."

The heat wave poses similar challenges in neighboring India, where extreme temperatures have strained power grids, forced school closures, and threatened the production of wheat and other

Temperatures in some areas did not dip below 108 degrees Fahrenheit last weekend. The national meteorological department said on Sunday that it expected heat wave conditions in some states for another five days.

The heat has collided with the start of India's six-week general election, in which nearly a billion people are eligible to vote. The election authorities are working to provide water on voting days, and some political parties are bringing water and cooling devices to cam-

With Paris Games looming, Chinese doping scandal rocks Olympic sport

Officials with the world's leading sports anti-doping agency scrambled on Monday to contain a scandal involving 23 elite and Olympic swimmers from China who tested positive for a performance-enhanc-

The scandal, which comes less than a hundred days before the Paris Summer Games, is linked to positive doping tests collected in 2021 that the World Anti-Doping Agency (WADA) and Chinese officials never publicly disclosed. "We had no evidence of wrongdoing," said WADA President Witold Banka during a press conference with reporters that often turned combative.

> — Brian Mann, From NPR ORIGINALLY PUBLISHED APRIL 22, 2024

\$14.5M Toronto airport gold heist results in charges for 9 people

Police said nine people are facing charges in what authorities are calling the biggest gold theft in Canadian history from Toronto's Pearson International airport a year ago.

Peel Regional Police said Wednesday that 6,600 gold bars worth more than 20 million Canadian dollars (\$14.5 million), and CA\$2.5 million (\$1.8 million) in foreign currencies were stolen. The gold was melted down and used to purchase illegal firearms, police said.

Those charged include a Air Canada warehouse employee and a former Air Canada manager who gave police a tour of cargo of the facility after the theft. A jewelry store owner is also charged.

> — FROM AP NEWS ORIGINALLY PUBLISHED APRIL 17, 2024

US troops to withdraw from Athens swallowed up by orange Niger, State Dept. official says

ORIGINALLY PUBLISHED APRIL 22, 2024

US Deputy Secretary of State Kurt Campbell met with Niger's Prime Minister Ali Lamine Zeine on Friday and they agreed - after Niger's demands - that the US would militarily withdraw from the country, according to a State De-

In the coming days, there will be conversations over the timeline for the withdrawal with the Department of Defense, the official said.

partment official.

The major drawdown will significantly impact the US troop presence on the continent of Africa, and the move comes amid serious US concerns about the country's deepening relationships with Russia and Iran. The New York Times first reported on the expected withdrawal.

Campbell's meeting with Zeine was their second this week, while he was in Washington, DC, for the World Bank's spring meetings.

"We can confirm the beginning

Niger for the orderly withdrawal of US forces from the country," a defense official told CNN.

The DoD is providing a small delegation from the Pentagon and U.S. Africa Command to participate in the discussions. In terms of departure timing, we do not want to speculate and get ahead of the planning discussions," the official

Just last month, Niger said it was revoking its military cooperation deal with the US, and these conversations followed what have been contentious interactions between officials from the two countries in recent months. Last summer the US troops stationed in Niger became inactive after a military coup that pushed out the democratically elected president, Mohamed Bazoum, and installed the military

Throughout the conversation with Campbell this week, Zeine stressed a desire for partnership with the US to continue and made an effort to differentiate this situState Department official said. Still, it appears that both countries will be militarily forced out of the country within a year of one another. The US will maintain a diplomatic presence in the country, the official

Earlier this week in Niger, a senior airman filed a formal whistleblower complaint, warning that the US ambassador to Niger and the defense attache had "intentionally suppressed intelligence" in an attempt to "maintain a façade of a great country-to-country relationship."

And US forces on the continent faced another blow last week when Chadian officials threatened to cancel the Status of Forces Agreement, or SOFA, which determines the rules and conditions under which US military personnel can operate in the country. While the letter did not directly order the US military to leave Chad, officials told CNN that it said all US forces would have to leave a French base in N'Djamena.

haze from Sahara dust storm

Clouds of dust blown in from the Sahara covered Athens and other Greek cities on Tuesday, one of the worst such episodes to hit the country since 2018, officials said. A yellow-orange haze smothered several egions after days of strong winds from the south. limiting visibility and prompting warnings from the authorities of breathing risks.

"It's one of the most serious episodes of dust and sand concentrations from the Sahara since March 21-22, 2018, when the clouds invaded the island of Crete in particular," said Kostas Lagouvardos, weather research director at the Athens Observatory. Greece had already been struck by Sahara dust clouds in late March and early April which also smothered parts of Switzerland and southern France.

> — FROM AGENCE FRANCE-PRESS & AP NEWS ORIGINALLY PUBLISHED APRIL 23, 2024

U.N. finds Palestinian refugee agency suffers from political bias

The United Nations Palestinian refugee agency must do more to ensure its employees are politically neutral and aren't teaching biased content in its schools in Gaza and the West Bank, a U.N.-ordered investigation found Monday. Despite "robust" procedures at the United Nations Relief and Works Agency, known as Unrwa, to uphold the U.N. principle of neutrality, the review found antisemitic content in some textbooks used by Unrwa schools and dozens of biased social-media posts by employees.

"Even if marginal, these issues constitute a grave violation of neutrality," the U.N. report said, noting that some textbooks included maps that didn't mention Israel and labeled Jerusalem the capital of Palestine, which is unrecognized by Israel, the U.S. and most of Western Europe.

> — Margherita Stancati & Alan Cullison, FROM THE WALL STREET JOURNAL ORIGINALLY PUBLISHED APRIL 22, 2024

FACULTY SPOTLIGHT

Wired in a conversation

Meet Prof. Sherry Turkle, an STS Professor

By Vivian Hir & Russel Ismael

EDITORS

Name and Title: Sherry Turkle, Abby Rockefeller Mauzé Professor of the Social Studies of Science and Technology

Department: Science, Technology, and Society (STS)

Classes:

Technology and Self: Science, Technology, and Memoir (STS.043)

Technology and Self: Things and Thinking (STS.044)

To clarify the terms Turkle uses, "conversation" is a meaningful exchange that can only happen between humans, as each human has a lived experience that allows for true empathy and understanding — a factor that cannot be gleaned by a machine.

Connections are the surface-level interactions people have with other people or entities perceived to have "thoughts." An increasingly digital world saw these types of relationships proliferate, as many technologies have only facilitated such behaviors instead of combating them.

As such, Turkle advises us to move away from connections, despite the accessibility of other avenues like phone calls or Facetime, as they still are not a proper substitute for an inperson experience. To use an analogy, it would be like watching a film in mute, but with subtitles — you understand figuratively that a BOOM is supposed to be loud, but without the sound to convey it, you do not get the full experience.

This interview has been edited for length and clarity.

How did you become interested in studying the effect of technology on relationships and connections?

I got to MIT in the late 70s when I was studying the effect of a kind of therapeutic language on how people saw themselves. I was hired as a postdoc to finish my book on French psychoanalysis and to think about AI, which was a new science at the time.

However, my plans were completely turned around. During my first week at MIT, I met groups of students and faculty using computational metaphors to think about the mind. People would talk about information processing errors instead of Freudian slips. It was a way to think of the mind not just in terms of meaning, but also in terms of mechanisms, through a very compelling vocabulary that reached the larger culture.

I changed all my plans. I was no longer an MIT postdoc on the way to a liberal arts position. MIT was the most compelling place to be, to teach, and to research because I didn't see enough represented in the conversation about computing: relationships with our minds and with other people. What were computers doing to us?

My question about how computers affect who we are, emotionally and relationally, has stayed the same, but technology has changed dramatically, so the answers to these questions have changed over the decades.

Do you notice any changes your students experience after taking your classes about technology and self? Is there a change in mindset or approach to using technology?

I am trying to change their mindset. One class is about science and memoir; everyone writes a memoir. One class exercise is to interview another student and write their memoir — a slice of autobiography. After honing those skills, they turn to themselves and write their own piece. It's not a full memoir because it is a class, but the process of interrogating your life, relationships, and what's important, always changes the students.

My students change by looking inward to experience their connection to their work in science, engineering, and design more deeply. It's not just that I see a change, but I am actively working for that change.

In the courses that I teach, we talk about contemporary technologies like generative AI and Facebook. I am asking students to not just focus on the marvelous things, but also on what it is doing to us. How is it changing the way you see yourself and your capacities in the future? And I think that does make a change. It has been very gratifying to be asking these kinds of questions in my teaching.

What things do you do in your personal life to encourage conversation instead of mere connection? Any suggestions for students or anyone?

There are some simple rules. The first thing is to treat conversation as though it is the place where intimacy is born, where relationships are born, where friendships are born, and where you cultivate the self. Treat conversation as though it is a precious thing with each other. It's more than passing information. It's a place where you are working on empathy. I wrote a memoir called The Empathy Diaries. I talk about conversation with full attention as the place where empathy and solitude are born.

I encourage solitude, the capacity to sit with your thoughts and be aware of them. Solitude is where relationships are born, which sounds counterintuitive, but when we are alone, we know ourselves. Then, we come to another person and form reciprocity rather than not knowing ourselves, being terrified to be alone, and coming to people to be told who we are.

At home, there should be a room that is an email-free zone. That's very important, even if you are by yourself. A place where you can think and experience solitude, write a journal, and not be interrupted. I talk in my book about sacred spaces, a space that should be kept for not being pressured into communication.

Why do you think people still depend and rely on technologies for connection, especially texting, even though they are aware that they aren't substitutes for conversation?

Texting is a way of giving you the illusion of companionship without friendship. It's just more convenient. The danger is that we put many conversations into texting, where they become connections. We use technology in places in which talking to each other would be much better. I call it the move from conversation to connection. The reason is that people want to feel less vulnerable. Texting gratifies that fantasy where you can do what you want, but you won't have to give much.

You won't be vulnerable because texting isn't a place where people challenge each other. They won't say, "That last thing you said hurt me; what did you mean by that?" No—it's a place where people leave—they just ghost you. It's in conver-

sation that people have much more nuanced conversations and interactions. I think [conversations] are where intimacy is born and where real friendships happen, but it's difficult. People talk about their desire to have a friction-free life, but the interesting part of friendship is when we disagree with friends—we make them better and learn from it. But you can create a digital world of connection where it doesn't have to be friction-free.

What are we giving up as a capacity for our people? To answer your question more directly, they turn to technology for the lack of vulnerability and then stay in for a friction-free life.

What about video call services like Zoom and Facetime?

Telephones add the voice. The voice is very rich. You can tell when my voice speeds up and gets excited — it's so rich. I am not anti-telephone, I'm not trying to take technology and say, "Oh this is no good, the telephone isn't as good as face-to-face," right? But you can talk to people you really need to talk to, it's a tremendous gift. Being able to Facetime people in distant locations is a gift.

I have a granddaughter, and I Facetime with her, and she says, "Grandma, Grandma!" I don't live in the same city as her, and she showed me her latest creation that she made in preschool. But when I see her in person, it's completely different when she shows me her drawing. We look at it together, we touch the paper, and I hug her.

The way I would put it is that I like to think of my contribution, and my methodology, and my intent, is to try and put technology in its place. It isn't to say it's no good, it isn't to say that we should take it away, it's to put it in its place and ask, "Where does this enhance our human experience?" Sometimes, we're so deep that we forget that it's getting in our way. And of course, that is where I focus my attention.

How should we strike a balance between using technologies for mental health and moving away from superficial connections?

I think this is one of the most important questions to face us today. You have a crisis not just in mental health resources, but also in loneliness. It's a perfect storm: it's a crisis of resources for people to be in conversations with therapists, but we don't have a medical reimbursement system that's creating low-cost resources for people in trouble. Now, we have this technology that says, "I can do it! I'm here! There aren't enough people for these jobs, I'll take on these jobs!"

There's the temptation to say, "AI will solve this problem. Thank God we have a problem that AI can solve. People are lonely, they can talk to their loving robots—they can talk to their avatars, they can talk to Replika, they can talk to Pi—all of these increasingly like-like AIs will dominate the conversation."

On the other side of the equation, I feel that it's conversation that cures: conversation with another human being who remembers what the terrors were when they were growing up and how to bring some of those terrors in their later life. People who have lost people, discovered what it's like to love, and realized it feels like to be lonely — not just read a lot of interactions on the web about these things. What cures us, what helps us, and what helps us thrive is being in deep connection with people who have shared our human experience.

My best example is when I was first introduced to Replika during the pandemic,

and a New York Times reporter said, "This new thing Replika is so fabulous, and everyone is doing it during the pandemic because they don't have enough therapists to talk to because they're lonely." I was in such a state of sensing my mortality and fragility, so I went to Replika to talk about how I felt.

The absurdity of the situation was so dramatic. It [Replika] didn't know what it felt like to be afraid of not being able to say goodbye to the people you love, of not being in a world of connections. It was so clearly the wrong interlocutor for a human moment of crisis that it clarified this question for me in such a dramatic way.

What do you think the future of technology holds for the younger generation? How optimistic are you about people changing their digital lifestyles for the better?

Some days, I'm very pessimistic, and some days I'm very optimistic. Let's start with the pessimistic. I think we now know social media is quite dangerous, no matter how convenient, amazing, and seductive it is. They've made it seductive by saying, "What we're going to do to keep eyeballs on is to make people angry, and then we're going to silo them with people of their own kind in their tribe, where they get angrier and angrier."

You had these congressional hearings about Facebook and TikTok, but nothing has happened yet, so I don't want to say it was a success. However, the tone of those hearings was quite different from when Zuckerberg came in, and he was treated as a visitor from a special, wonderful land. When he said, "We're very careful, and we're very keen about safety," the senators said, "Good, good."

But now we know that when Facebook knew that kids under 13 were getting depressed if they used Instagram or Instagram-like technology, they suppressed that evidence because they wanted Instagram for those under 13. We now know about how these companies operate, what they do, and what their values are.

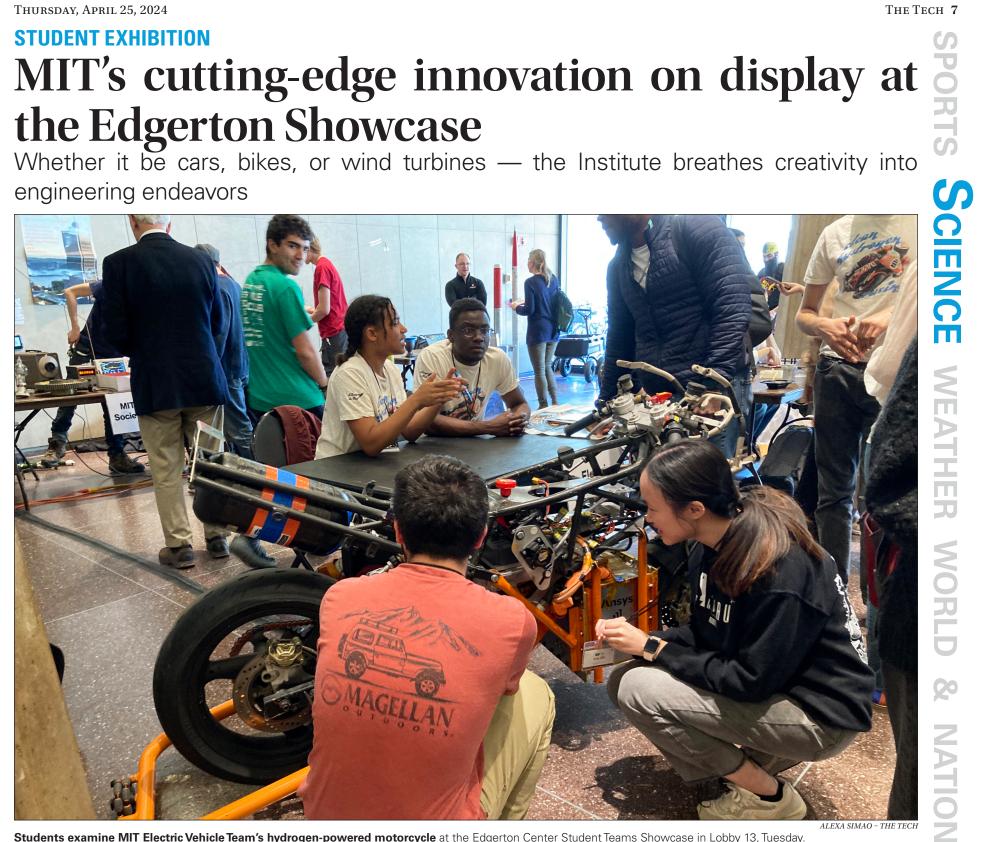
You can't really be in a conversation among sophisticated parents without the parents saying, "My first job is to keep everyone off social media until they're a reasonable age." That's now everyone's opening position—nobody says, "Oh I can't wait to give an iPhone to my kid," which used to be how people talked. No! Now people's starting position is, "I know there are harms, how am I going to do something about it" because everybody has an iPhone.

That's the first point I want to make — I think the atmosphere's changed. People like me and so many other voices and organizations are out there saying, "Not so fast!" I'm optimistic in the sense that we're operating in a much more sophisticated climate. I'm pessimistic in the sense that these technologies are so seductive that they've crept into every aspect of our lives. Now, with the new infatuation with generative AI, people are really talking about using conversation AIs for therapy or counseling, as a kind of buddy for your child, without thinking about where this could go.

I think it would be foolish not to be pessimistic or realistic, but I think our job is to point to the harms and say, "As consumers, I don't care what they're doing, I don't care how many start-ups, I don't care about how many billions, it's not good for us." We should behave as if we're more empowered than I think we've been behaving.



STUDENT EXHIBITION



Students examine MIT Electric Vehicle Team's hydrogen-powered motorcycle at the Edgerton Center Student Teams Showcase in Lobby 13, Tuesday.

By Russel Ismael NEWS EDITOR

Author's Note: Lai is The Tech's Chief Meteorologist. She was not involved in this article's publication.

The third annual Edgerton Showcase took place on April 9 in Lobby 13, giving the MIT community a snapshot of the world of design teams at the Institute. The Edgerton Center has had a long history of assisting student groups with their ambitions, from providing classes in engineering and imaging to monetary support of student organizations and management of the Makerspaces around campus. Many came to see the various student initiatives, ranging from teams prioritizing assistive technology for people with impairments to teams who want robots to fight other robots.

Adrienne Lai '25 and Rachel Mohamed '27 gave the opening ceremony to be gin the event. Lai described how the Institute's design teams are all student-led and have steadily grown the past decades, with 18 student teams now being represented at Edgerton from the six teams the Edgerton had merely a decade ago. Mohammed further spoke about her own experiences in the various build teams, and how she was able to apply what she learned in class to projects of real interest. Many students echoed both Lai and

Mohammed's sentiments, Megan Gupta-She '25, Captain of MIT Motorsports, detailed how she has been helping her team build electric formula-style race cars for three years. Their current design is a single-seater vehicle with aerodynamics reminiscent of a go-kart, as Gupta-She's team focuses more on how to accelerate

"We have worked on this car for one year," Megan Gupta-She said in an interview with The Tech. "We started designing this car in June [of last year], and we have started going through the testing cycle. Now and mid-March, we have been testing the car and trying to make it faster until

This year, Motorsports will participate

in two competitions: Formula Hybrid in New Hampshire, and the FSAE competition in Michigan. So to be competitive, Gupta-She and her team are constantly iterating their design.

'Every year, when we start building a car, we run a set of simulations - what's going to be faster, what kind of architecture, what kind of trade-offs there are with suspensions and center of gravity, battery, capacity versus weight - all these sorts of different things," Gupta-She explained.

The car that Motorsports designed still has not reached its full potential, so Gupta-She's team has been trying to hit their set performance goals to get their car competition-worthy.

Kofi Agyepong '25, a member of the MIT Solar Electric Vehicle (Solar Car) team, has a similar plight of getting their vehicle ready for competition, considering the design they adopted for Gemini their car's name — is experimental.

"[Gemini] is the first ever two-seater we made on the team. Previously, we've only done single-occupancy vehicles," Agyepong said. "We redesigned our suspension, our battery changed significantly, our aerodynamics changed significantly, so I think it's really a new exercise in engineering for the team, which is a really big challenge."

Solar Car builds their vehicle every two years, with Gemini taking two-and-a-half years to complete. Like Motorsports, the Solar Car team is also looking to take their vehicle into competitions. Agyepong described how Solar Car races in the American Solar Challenge, a cross-country race that had cars driving for 2,000 miles like in

'There's two categories: single-occupant and multi-occupant," Agyepong said on how the American Solar Challenge works. "In multi-occupant, you're actually scored on person-miles — the number of miles you drive multiplied by the people in your car, so you're not at a disadvantage."

Agyepong further explained that Solar Car's change from single-occupancy to multi-occupancy was spurred by them winning two competitions in the former

category in 2021 and 2022. Thus, the Solar Car team then transitioned to Gemini because of how they "kind of want to try something new."

New experiences is a topic that JD Hagood '27 will be able to speak about, as he is one of Spokes' newest members. In an interview with The Tech, Hagood said he joined Spokes after being told "how much of a great adventure it was, and how [he's] always loved the outdoors."

Hagood further said that Spokes is a program that has been at MIT for the past decade, and each year, its members "[bike] from D.C. all the way to San Francisco."

"Along the way, we stop at schools, camps, and correctional facilities in order to spread STEAM (Science, Technology, Engineering, Arts, and Mathematics) from coast to coast," Hagood said. "We try to target underserved or rural communities to get these kids interested in STEAM and show them that college isn't far off."

Spokes will be heading out from D.C. on June 1 and will be biking to San Francisco over the course of 75 days. They aim to use Bicycle Route 76 to traverse across the country, although Hagood acknowledged that they may need to use highways for some portions of the trip.

'What I'm looking forward to the most is seeing this beautiful country," Hagood said. "We have a big section planned in Utah, where we go through a lot of the national parks there. That's how we treat ourselves along the way."

Hagood stated that Spokes is biking rather than driving or taking another mode of transportation because "biking will allow [them] to take [their] time as [they] go through communities." Hagood said this will allow them to "really connect" and "see how we can best serve them."

"It also allows us to inspire other kids from coast to coast to stay active and break the stereotype that we here at MIT just have our noses in the books, when that's not true," Hagood said. "We can go outside and touch grass."

Public outreach is a passion of other teams at Edgerton. MIT Wind holds outreach events in Cambridge to engage the community about wind power. MIT Wind is a new team, only beginning this year, but their members are already eager to participate in competitions.

Kirby Heck G, team leader of MIT Wind, stated in an interview with The Tech that as part of the Collegiate Wind Competition in Minneapolis, their team needs to reach out to the public with their work for the Connection Creation Contest.

"It's a very exciting time to be in Boston and in Massachusetts, where we have a lot of offshore wind that's going to be very rapidly installed in the future," Heck stated. "[So we want] to communicate effectively that [wind turbines] are on the whole not affecting wildlife, that they're important to the decarbonization of our electricity grid, and that there's an immense opportunity here in Massachusetts and across the entire Atlantic coast to be deploying these offshore."

In terms of design, Heck stated that their team's goal is to build a replica wind turbine that is 18 inches, or 45 centimeters,

'We're going to test it in a wind tunnel," Heck said. "Our main goal is to maximize controllability, maximize power production, and minimize any risks related to failure, either from the foundation or from the blades or any other components of the

Since the turbine will not be a full-scale replica, Heck and his team are looking into how factors like the blades' aerodynamics or the wind turbine's energy conversion efficiency will be different. Heck said that this experience is particularly important for undergraduates, as models like these are "more related to the kinds of things that undergrads would be learning in their

Heck said, "I think it's a great pairing between what we can build physically and connecting into the theory that classes fo-

The Edgerton Showcase showed to the Institute and its community that its students do live up to MIT's motto. Mens et manus was indeed found during this

SPORTS

ARTS

LIFE FUI

EVENT REVIEW

Fareed Zakaria discusses revolutions from the 1600 to the present

A fascinating book talk about major movements that shaped the world

Age of Revolutions

Fareed Zakaria

First Parish Church, Cambridge

April 5, 2024

By Vivian Hir & Russel Ismael

EDITORS

On April 5th, Fareed Zakaria gave a talk for his new book, Age of Revolutions, to a packed audience in First Parish Church at Harvard Square. Harvard Book Store hosted the event and Harvard Psychology Professor Steven Pinker was the moderator for the talk. Zakaria is the host of Fareed Zakaria GPS on CNN, a widely known global affairs TV program, and a columnist for The Washington Post. Age of Revolutions is his sixth book. In Age of Revolutions, Zakaria covers major revolutions that changed the world, from the French Revolution to the Industrial Revolution. Besides analyzing past movements, Zakaria discusses current revolutions happening domestically and internationally, such as geopolitics and globalization. From these revolutions, Zakaria considers what these changes entail for the future of the 21st century.

At the start of the talk, Pinker asked Zakaria about his conception of revolution. Zakaria's response was that a revolution is an era in which "deep, structural changes" happen in a society. He used the Dutch Golden Age as an example of a revolution because the Dutch underwent an "Economic Revolution," where a new economy was based on entities like the Dutch East India Company in the 17th century. Following this, a domino effect led the Dutch from becoming a merchant republic, to advancing in global navigation, to "inventing the modern world."

Although the Dutch Golden Age may seem to simply serve as a case study, Zakaria didn't stop there. Instead, he effectively drew parallels between the Dutch Golden Age and modern America, discussing the political revolution in the Netherlands in which progressive and conservative factions formed. He indirectly referenced Trump's 2016 campaign,

highlighting the coexistence of both progress (technological modernization) and backlash (anti-immigrant sentiment) in society. By doing so, Zakaria finely underscores that history is not simply a sequence of independent events, but rather ones with many intersections, patterns that reappear throughout centuries.

Pinker commented on Zakaria's response as "fascinating" for its "antithesis" between progress and backlash, a concept that exists throughout the talk. Pinker then asked Zakaria an interesting question, using his hands to draw a rough chart measuring world progress over time. Pinker started the graph with exponential growth, but then ended the graph with a plateau for the "last ten years." He asked Zakaria, "How do we interpret the leveling off and decrease in progress?" Afterward, Pinker asked what he predicted the trend would look like for the uncertain future.

Zakaria agreed with Pinker's graph, sharing his observations of trends that reverse some aspects of progress, in particular a "decrease in intellectual consensus." He started by discussing issues in the U.S., citing the Tea Party movement in 2009 as the start of "insurgency in the Republican Party" because of its focus on culture and identity.

On a global scale, he pointed out how much backlash can "consume society and politics," notably the recent uprisings in Iran. He further said that although the U.S. made some good progress, like with Barack Obama during 2008 and 2009, such times did not take the U.S. back to the 1940s and 1950s, economy-wise.

In regards to Pinker's question, Zakaria responded with some uncertainty, jokingly calling it the "billion dollar question" because of inflation. He said that there are "many possible futures depending on people's actions and reactions," but was confident that progress made in some areas would be hard to reverse. Despite this, Zakaria said the future could be complicated like a "rollercoaster ride."

Going off of human progress made over time, Pinker presented Zakaria with the following modern paradox: although people are living richer and longer lives, people are struggling to find meaning and purpose in life. Zakaria said that unlike in the past, humans nowadays have more choices in determining their purpose in life. He opined that "there's something human beings love about devoting themselves to a cause greater than their own,"

whether it be religion or some other avenue. Zakaria asked the audience to think about "the cathedrals, symphonies, and all the great art" in history, and how all of it was done in service of an "awesome god."

While more choice may appear "liberating," Zakaria masterfully argued that liberation can also be "anxiety-producing" because of the "burden" that comes with deciding one's challenge instead of "consulting the familiar and rooted." Ultimately, Zakaria believes that a major problem society faces is the "lost customs, traditions, and communities," which give rise to loneliness and religious revival. The rhetoric behind this is about taking a person back into a world "where we can all be one."

Continuing on the paradox of progress and the lack thereof, Pinker transitioned into the topic of how the U.S. compares to the rest of the world — the U.S. is one of the wealthiest and most technologically advanced countries, but lags behind others in terms of health and happiness. Zakaria attributed the U.S.'s global presence to the results of the U.S. being a victor in WWII, allowing the U.S. to create the international order "de novo." Zakaria emphasized that such an opportunity would "not happen again to the U.S.".

But Pinker asserted that the happiness issue can be traced back to the many freedoms U.S. citizens were given. He used the example of how in the past, many couples met each other through their family or churches, until the 1920s, when many other people had the economic freedom to move into cities. In the past, arranged marriages were ubiquitous, but today, not many people would be willing to exchange their freedom for the perceived security of greater happiness. Although some people bemoan U.S. secularization, this is only happening in response to greater economic freedom as churches are becoming more and more obsolete. Pinker further explained that "the aspiration for a perfect society is what leads to dystopian nightmares."

Pinker is also skeptical of American-led initiatives around the globe. He cited how two decades ago, the U.S. invaded Iraq without the permission of the United Nations Security Council, and that there are many international treaties that the U.S. has ignored because it benefited them. He asked Zakaria why the U.S. is "punching below these measures" if "we are the most advanced scientifically."

Zakaria explained that this is because the

U.S. plays an unusual role in the world — they are its creators. Without the U.S. having the advantage it had back in 1945, then the world would be radically different because the European nations at the time were more focused on preserving their empires. Through Franklin Delano Roosevelt's careful machinations as the "great liberal who presided over the U.S.," the U.S. became the world's premiere peace-keeper, so it did not have to abide by its rules. He acknowledged that although the U.S. "has been a terrible global hegemon," the alternatives, like North Korea or the Soviet Union, would not have been better.

The book talk ended with Pinker selecting a couple of questions from the audience, the first one being, "What does the future of the climate crisis look like?" Zakaria responded frankly, saying that he was "not perfectly equipped to answer this question," which elicited some laughs from the audience. Despite this, Zakaria shared his thoughts that were on the more pessimistic end, arguing that various factors such as the rise in nationalism and challenges in finding a cheap, zero-emission energy source are preventing countries from globally cooperating.

Pinker concluded the talk with a question from the audience about whether Zakaria's outlook on the future was hopeful. Although the talk's environment was primarily formal and intellectual, Zakaria lightened the mood with his effective sense of humor. He said, "I am an immigrant, so I have to be optimistic." Jokes aside, Zakaria finished the talk on an inspirational note, saying that a better future can happen, but requires people to "fight for a better future." He closed off strongly by stressing the amount of progress humans have made in the past hundred or so years, which in the long run, "will make us win."

Overall, Zakaria's discussion about Age of Revolutions was insightful and informative, as he swiftly moved between arguments, skillfully breaking down complex trends and issues that may have initially puzzled the audience. He succinctly summarized the major revolutions that occurred in the past four hundred years, identifying major themes and takeaways that are relevant to recent trends in the world. It is without a doubt that Zakaria's keen understanding of politics and history makes Age of Revolutions a worthwhile read for those wanting to make sense of this complicated, interconnected world.

DID YOUR MIT ESSAYS GET YOU IN?

The Tech is collecting successful application essays (**hint:** yours!). Email your pieces to cl@tech.mit.edu!

MOVIE REVIEW

Dune: Part Two looks and sounds great, but its wooden characters leave much to be desired

The second installment of Villeneuve's trilogy pales in comparison to other spacefaring epics, particularly thanks to two unmemorable and uncharismatic leads

Dune: Part Two

Directed by Denis Villeneuve

Screenplay by Denis Villeneuve and Jon Spaihts

By Cameron Davis

STAFF WRITER

In the hype around Dune: Part Two, director Denis Villeneuve's second installment of an epic three-part adaptation of Frank Herbert's eponymous 1965 novel, much has been said about Star Wars. Fans have highlighted how George Lucas's spacefaring world overtly cribs from Herbert's spice-driven politics, economics, and conflicts. Some have even celebrated Dune: Part Two as the more compelling success for grandiose interplanetary stories, complete with its

modern visual effects and star-studded

Ever since watching the film in theaters, though, I can't help but feel that the comparison falls short. While Dune: Part Two certainly makes use of gripping otherworldly shots, engaging character and set design, and a memorable, haunting score, it completely lacks the humanity and real character plot arcs of much better films (like Lucas's masterpiece original trilogy, which has all of those things in spades.).

Picking up where Dune: Part One left off, House Atreides is in rubble af-

ter the successful Harkonnen attack has destroyed its city, military forces, and, seemingly, family leadership. In fact, though, son Paul and mother Lady Jessica have escaped and are surviving in the desert of Arrakis through an uneasy partnership with the Fremen brokered by military leader Stilgar.

Stilgar suggests Lady Jessica take the Water of Life, a sandworm-based hallucinogenic poison that, although it can be deadly, connects the women who take it to a godlike ancestral power. Lady Jessica accepts, becoming a menacing cultish figure directing the Fremen to support

CONCERT REVIEW

Bringing Together the Old and Sierra, Elgar, Dvorak at the BSO The BSO explores sounds from the Romantic

Romantic Era 21st-Century and

Sierra's "Sinfonía No.

Elgar's "Cello Concerto in E Minor,"

Dvorak's "Symphony No. 7"

Boston Symphony Orchestra

Conducted by Domingo Hindoyan

Boston Symphony Hall

Mar. 30, 2024

By Melbourne Tang

The old and the new are constantly at odds in music. Performers seek to distinguish their artistic voices from established musicians, but straying too far from standard interpretations runs the risk of displaying poor taste. Composers are both inspired and suffocated by those before them. This much-anticipated BSO concert juxtaposes the old and new, with two works from standard classical music repertoire and one commissioned work written in 2021.

The concert opened with the American premiere of Roberto Sierra's Sinfonía No. 6. As the concert's only living composer, Sierra introduced the piece at the start of the concert — an infrequent occurrence in classical music concert halls. Born and raised in Puerto Rico, Sierra introduces instruments, rhythms, and melodies of Afro-Caribbean music to the classical concert hall. Sinfonía No. 6 successfully combines influences across centuries and cultures. For instance, elements of the Sinfonía mirror Beethoven's Sixth Symphony ("Pastoral"). Along with using conventional symphonic form, Sierra depicts energetic daily scenes (I. Reflexión Urbana, "Urban Reflection") and a feisty storm (III. Huracán, "Hurricane") similar to Beethoven's "Pastoral" Symphony.

Sierra's style grows partly from his studies in Europe with György Ligeti. Likely following in the footsteps of Ligeti's avant-garde style, the tonal qualities of the Sinfonía are atypical of Western classical music. Contemporary pieces that defy conventional tonal systems often do not resonate with concertgoers, but Sierra's Sinfonía No. 6 utilizes Puerto Rican dance rhythms to evoke emotions and connect to the audience. The variety of percussion including the guiro, claves, bongos, and maracas spoke to my internal pulse, transporting me with the music as it ebbed and flowed, peaked and diminished. This refreshing piece moved the audience to give a standing ovation, a kind of reception that isn't commonly found for modern compositions.

The next piece on the program was the emblematic Cello Concerto in E minor by Edward Elgar. Elgar's Cello Concerto is synonymous with the cellist Jacqueline du Pre. Despite her great success, du Pre had to cut her career short at the age of 28 and passed away at 42 due to her battle with multiple sclerosis. Her interpretation of the Elgar concerto mirrors the tragedy of her life story, in part leading to the popularity of her rendition. Inadvertently, du Pre's sorrowful and painful interpretation sets the expectation for what Elgar's Cello Concerto "should" sound like.

Yet in this BSO concert, Pablo Ferrández shared a different interpretation of the concerto. His sound was restrained but always tinged with warmth, evoking nostalgia more than suffering. Rather than employing a very expressive vibrato, Ferrández played with the timing of his notes to pull at our heartstrings. For instance, he delayed the resolution of harmonic tension in a few cadences to build a restrained sense of pain. While I thoroughly enjoy du Pre's interpretation, Ferrández provided a fresh perspective on Elgar's concerto, showing that the concerto can evoke both agony or mildly sweet nostalgia.

The other classic work on the program was Antonin Dvorak's Seventh Symphony. Dvorak was a composer who sat at the crossroads of the old and new. In the late nineteenth century when Dvorak began his career, the Austro-German tradition of classical music dominated the musical landscape. At the same time, however, there was a wave of non-German nationalistic composers who sought to incorporate music from their countries. This included Betrich Smetana and Dvorak for the Czech, Edvard Grieg for the Norwegians, and Modest Muzzorgsky for the Russians, among others.

While Dvorak's career was launched by his Slavonic Dances, he had to appeal to Germanic tastes for his music to be sold. Dvorak began the Seventh Symphony in 1884; Johannes Brahms, the great German composer who helped launch Dvorak's career, had just written a new symphony, and Smetana, the founder of modern Czech music, had just passed away. Would Dvorak succumb to the



Cellist Pablo Ferrández plays the Elgar Cello Concerto.

splendor of Germanic ideas that moved him in a performance of Brahms' symphony, or would he showcase the Bohemian style even more strongly in light of Smetana's death?

In the first movement, Dvorak uses a melody very similar to the cello solo in Brahms' Piano Concerto No. 2, and the general structure and development of the symphony follow closely with the Germanic tradition. Nevertheless, the third movement feels particularly like a Slavic folk dance with its variety of rhythms, and the triple meter was delightful to hear. The last movement (Finale) stood out for the intense tremolo in the strings, which made the energy feel tangible, the whole atmosphere momentous. Overall, I would argue that the Seventh Symphony is one of Dvorak's more Germanic works as only one movement hints at his Slavic roots, in contrast to his later Ninth Symphony which includes sounds from both Bohemia and America throughout. While Dvorak fluctuated in how much he embraced the old and the new, he always included some Slavic contributions.

As highlighted by this BSO concert, it has been important both in the past and the present to be open to new music, whether that means new musical ideas, new compositions, or new interpretations. Dvorak helped popularize musical ideas previously not presented in mainstream music at the time. Sierra similarly brought sounds from his culture to the classical music hall in this American premiere of his Sinfonía No. 6. Cellist Pablo Ferrández shared an imaginative interpretation of Elgar's often-played cello

Each piece tickled our ears with exciting sounds, demonstrating the value of being receptive to new music. Programming modern compositions together with more established works can continue to bring fresh works into the spotlight. Expanding the genres of music we listen to can also introduce us to refreshing ideas. So next time you attend a concert or open Spotify, bring a set of open ears and an open heart.

he wary Fremen through learning their language, customs, traditions, and way of riding the sandworms. This effort warms up the icy Chani, and the two begin falling for each other. The backdrops to their budding romance include Lady Jessica's increasing machinations on Paul's behalf to enable his ascendance to the role of "Lisan al Gaib" ("messiah"), the interplanetary politics of the universal Emperor's plans and his relationship with his daughter, and violent Harkonnen leadership changes.

Each of these storylines is driven by exciting and memorable performances: Rebecca Ferguson as the unnervingly powerful Lady Jessica, Christopher Walken and Florence Pugh as the somewhat goofy pushover figurehead Emperor and his daughter, and Austin Butler, Dave Bautista, and Stellan Skarsgard as intensely bald, roided-up Harkonnens. they're all overshadowed However, by the milguetoast and zero-charisma leads, Timothee Chalamet and Zendaya, who can neither convincingly sell their character arcs nor their romantic chemistry.

Aside from his omnipresence on

mediately forgettable; his internal struggles are conveyed in starts and stops, and the burdens he shoulders are more those of a simple pawn than a more complex leader in his own right. Paul, and his crafting by Chalamet, is certainly also a far cry from the thoughtful, empathetic Luke that Mark Hamill so delicately molded into another hot-headed revolutionary leader

And for all their parallels, Zendaya's Chani is no Leia; her romantic feelings, her own principles, and her challenges with Paul's ascendence are all told mostly in magazine-photoshoot smolders from across the dunes, rather than convincing acting.

(Wooden dual leading performances aside, I want to give a special shoutout to Javier Bardiem, whose first-disciple Stilgar is critical to the evolution of Paul's leadership, but who is also full of plenty of weirdo-religious-uncle comic relief in an otherwise overly-serious film.)

Ultimately, the actors and their characters work towards conveying a story based on Herbert's epic novel, one rife with religious allegories, Islamic influences, and stories of conflict and revoluthe war in the Middle East and its coverage by media.

There's no way Herbert could have anticipated the complexity of these reallife parallels almost sixty years after he wrote his book, but Villeneuve nods to them throughout, although with some notable omissions (such as the use of the word "jihad", a central part of the original text but replaced with "holy war" or "crusade" in the film).

But with the underwhelming performances, it's harder to grapple with the messages that Dune: Part Two is conveying. The protagonist is of course Paul, a rebel fighting against an occupying force while the international order looks on uncaringly — an inherently political statement — but because his challenges are so dull and quickly resolved, the deeper themes don't come to the surface. Maybe they will in the next Dune installment, but such is the risk of a middle film, in service of neither starting nor ending the trilogy.

So if the story isn't compelling, and the main characters don't have interesting or sympathetic arcs, why see Dune: Part Two? Put simply, the film

her son. He, meanwhile, is endearing Twitter memes, Chalamet's Paul is imtion that feel imminently relevant given looks and sounds incredible. Villeneuve has sharpened his teeth on perfecting his direction of visually captivating, sonically immersive movies for years, from the gritty Mexico of Sicario to the ephemeral alien interactions of Arrival to the futuristic cityscapes of Blade Runner 2049.

> Sets are burnished with the unforgiving heat of real-world filming destinations including Abu Dhabi, Jordan, and Namibia. Visual effects are core to the worldbuilding, particularly the infamously dangerous sandworms whose gargantuan presence contributes to the most exciting scene in the film.

> Fight choreography draws on martial arts and short-blade combat to keep scenes engrossing and vicious. Cinematographer Greig Fraser frames long-shot dunes just as well as black-and-white gladiatorial arenas, and everything is made all the more epic with Hans Zimmer's legendary scoring.

> While it's still worth a watch if you can find a big screen and loud speakers, Dune: Part Two is eventually no more than a continuation of the flat characters and muddled messages of its predecessor.

LETTER TO THE EDITOR

An open letter urging dissociation from the fossil fuel industry in MIT's new climate project To President Kornbluth, Professor Lester, Professor Zuber, and members of the

Climate Project Selection Committee

We, the undersigned MIT community members, are optimistic about the new Climate Project and are excited to see that MIT is committing its own money to this effort. However, we call for a commitment to prevent fossil fuel influence in this project.

The fossil fuel industry has repeatedly demonstrated that they are unwilling to change their business model of indefinite oil and gas production, and association with the industry for climate and energy research is an inherent conflict of interest. For decades, MIT has accepted large sums of money from the fossil fuel industry for climate and energy research, and has allowed the industry to influence research directions. This has led to proven bias towards fossil fuels in our research [1], and a skewed focus on technologies that are favored heavily by the industry for the self-serving reason of promoting fossil fuel production while climate experts agree that production must fall.

The new Climate Project is a fresh opportunity to shift our Institute's research towards true climate solutions, free of the ulterior motives of the fossil fuel industry. To accomplish this goal, we call upon the leaders of the Climate Project and the MIT administration to fully dissociate from the fossil fuel industry by taking the following

- Rejecting any funding for the Climate Project from sources defined as fossil fuel companies by the Science Based Targets Initiative [2],
- · Preventing the fossil fuel industry from influencing the research focuses of the Climate Project, and
- Preventing the use of the Climate Project as a career recruiting pipeline or revolving door for fossil fuel companies.

Peer institutions like Princeton [3] and Cambridge [4] have already committed to dissociating from fossil fuel companies for these reasons, and other institutions like Harvard [5], the University of California system [6], and Columbia [7], have divested their endowments from fossil fuel investments out of acknowledgement that the fossil fuel industry is not an ally in the climate fight. As a leader in climate and energy research, MIT should dissociate the Climate Project from the fossil fuel industry in the name of scientific independence and integrity.

The Fossil Fuel Industry's Active Opposition to Climate Action

The fossil fuel industry is fundamentally opposed to climate action. In the past, the industry has discredited climate science through blatant climate change denial and the funding of disinformation. One of the most well-known cases of this is Exxon Mobil's accurate predictions of anthropogenic climate change as early as the late 1970s, predictions they actively hid from the world, instead funneling millions of dollars to climate

Exxon is not the only organization to onagate climate disinformation: virtually all major fossil fuel companies participated in an American Petroleum Institute task force on CO2 in the late 70s and early 80s [9].

disinformation campaigns.

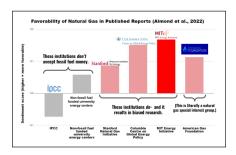
However, as the reality of climate change becomes undeniable, the industry has shifted to a new strategy: continuing status-quo fossil fuel production, while greenwashing their image and selectively promoting "clean" technologies that enable the continued production of oil and gas.

Burning all of the world's developed reserves of fossil fuels will blow past the 1.5 goal set at the Paris Climate Accords. In order to keep global warming below catastrophic levels, we must immediately curb the use of current fossil fuel reserves and not develop any new reserves [10]. Despite this, the top 20 fossil fuel companies are set to spend a staggering \$932 billion on new oil and gas fields between 2022 and 2030 [11]. In comparison, the industry spent a mere 2.5% of its capital expenditures (~\$20B) on clean energy investments in 2022, and oil and gas companies only account for 1% of global clean energy investments [12]. These numbers show a very clear corporate strategy to continue the status quo production of fossil fuels indefinitely, without regard for the world's nearly depleted carbon budget.

The fossil fuel industry has repeatedly stalled climate action through their lobbying efforts, a force that they continue to exert to this day. In 2022 alone, the oil and gas industry spent \$124.4 million lobbying the federal government [13]. In the same year, the Inflation Reduction Act (IRA) required the Department of Interior to offer 60 million acres of land for offshore oil and gas leasing before issuing leases for offshore wind. The IRA also reinstated four offshore oil and gas leasing sales that were previously paused by President Biden. These pro-fossil fuel clauses have set our climate goals back by promoting increases in US oil and gas production, and are a direct result of the fossil fuel industry's

Despite this, fossil fuel companies continue to portray themselves as "green", with over 60% of their corporate messaging including a claim about sustainability [14]. Most major fossil fuel companies have also released climate plans in recent years, but these plans are completely misaligned with the Paris Accords in critical areas. They largely fail to include scope 3 emissions [15] (emissions from the burning of their products), rely on dubious carbon offsets, and do not include plans to scale back production [16]. Congressional investigators recently obtained an internal Shell email from 2020 in which they internally admitted that their advertised "net zero" plan had "nothing to do with our [Shell's] business

The fossil fuel industry has also worked to influence research agendas and policy through hundreds of millions of dollars in donations to U.S. universities in the past decade [18]. They have heavily promoted technologies such as "natural" gas to greenwash themselves and further entrench fossil fuel infrastructure - a tactic that MIT has participated in by accepting fossil fuel money and influence in our climate and energy research.



How Fossil Fuel Influence at MIT has Delayed Climate Solutions

During the early 2010s, MIT aided the fossil fuel industry in promoting "natural" (methane) gas as a "bridge fuel". A semantic analysis [19] of reports published by university energy centers and environmental groups from 2010-2020 showed that fossil-funded universities were significantly more favorable of "natural" gas in their reports than nonfossil-funded universities and centers; the fossil-funded MIT Energy Initiative (MITEI) had the most favorable views out of any group

studied (see figure below). Methane has a global warming potential 86 times that of carbon dioxide over 20 years, making natural gas systems worse than coal for global warming in this time frame if above leakage rates of 0.2%, which is far below real leakage rates (between 0.65% and 66.2%) [20]

MITEI was founded in 2006, and has since accepted ~\$450 million from fossil fuel companies [21]. Companies that donate enough money have a direct influence on MITEI's research portfolio [22]. Unscientifically favorable reports such as MITEI's "The Future of Natural Gas" - which was co-authored by a former executive at BP, and included many other conflicts of interest [23] - enable the fossil fuel industry to entrench new fossil fuel infrastructure and continue their dangerous strategy. This report was the central focus of a 2011 congressional hearing presented by Ernest Moniz, in which he did not disclose any conflicts of interest [24]. The Obama administration fully embraced natural gas in 2012 [25], at a time when fracking was under intense scrutiny, and Moniz was appointed as Obama's Secretary of Energy in 2013.

The fossil fuel industry used MIT to push the false climate solution of "natural" gas during the 2010s, and they continue to prioritize other self-serving technologies such as carbon capture and sequestration (CCS) here to this day. While fossil fuel industry proponents of CCS claim that we can rely on this technology to negate the effects of burning fossil fuels by capturing the emissions and storing them underground, the reality is that their widespread over-promotion of CCS is a delay tactic.

The IEA has warned that the history of CCS has "largely been one of unmet expectations" and "underperformance" [26]. Analysis has also shown that renewables, along with improved storage systems, are a significantly more energy and resource efficient climate strategy for grid electricity production than fossil fuels with CCS [27]. 79% of carbon captured today is used to squeeze more oil out of previously depleted wells in a process called enhanced oil recovery, which ironically adds to emissions [28]. Over-reliance on CCS would also cost \$30 trillion more than a low-CCS pathway to netzero by 2050, mainly because the cost of the technology has been stagnant for 40 years [29]. Despite the overwhelming evidence against prioritizing CCS and instead focusing on fossil fuel phase-out, it is still heavily researched at MIT - at least partially due to the fossil fuel industry. Out of all clean energy technologies, CCS received the second most funding from the fossil fuel industry at MIT in 2022 [30].

While we do not allege that MIT researchers who currently accept fossil fuel industry funding are acting in bad faith, the reality is that accepting fossil fuel funding for energy and climate research allows the industry to influence which technologies are prioritized and legitimized and which are not - influence that is amplified globally due the high mnact of MIT research. The Climate Project is an exciting opportunity that could provide our university's top minds with no-stringsattached funding to tackle the world's largest challenge. We must reject fossil fuel industry influence to enable our researchers alone, not vested interests, to decide which technologies should be prioritized in the Climate Project.

Sincerely,

The undersigned members of the MIT community.

MIT Divest UA Sustain GSC Sustain Over 200 current undergrads! See the full list here: https://tinyurl.com/

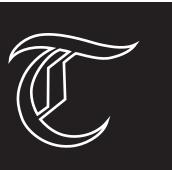
THURSDAY, APRIL 25, 2024

Sign this letter: https://www.mit-divest.

- [1] Douglas Almond, Xinming Du, and Anna Papp. "Favourability towards natural gas relates to funding source of university energy centres". Nature Climate Change, 2022.
- [2] Science Based Targets. "Oil and Gas." 2023.
- [3] Princeton University. Fossil Fuel Dissociation.
- [4] University of Cambridge. Grace on fossil fuel industry ties. 2024
- [5] Jasper Goodman and Kelsey Griffin. Harvard will move to divest its endowment from fossil fuels. The Harvard Crimson, 2021.
- [6] Sam Smithies. UC fully divested from fossil fuels.
- [7] Columbia University. University announcement on Fossil Fuel Investments. Columbia News,
- [8] Shannon Hall. "Exxon Knew about Climate Change almost 40 years ago." Scientific Ameri-
- [9] Neela Banerjee. "Exxon's Oil Industry Peers Knew About Climate Dangers in the 1970s, Too." Inside
- [10] Simon Evans. "New fossil fuels 'incompatible' with 1.5C goal, comprehensive analysis finds." Carbon Brief, 2022.
- [11] Global Witness. "World's biggest fossil fuel firms projected to spend almost a trillion dollars on new oil and gas fields by 2030." 2022.
- [12] IEA. "The Oil and Gas Industry in Net Zero Tran-
- [13] Inci Sayki and Jimmy Cloutier. "Oil and gas industry spent \$124.4 million on federal lobbying amid record profits in 2022." OpenSecrets, 2023.
- [14] InfluenceMap. "Big Oil's Real Agenda on Climate Change 2022." 2022.
- [15] Center for Climate Integrity. "Big Oil's Climate Pledges: A Dangerous Distraction." 2022.
- [16] David Tong. "Big Oil Reality Check." Oil Change International, 2022.
- [17] Hiroko Tabuchi. "Oil Executives Privately Contradicted Public Statements on Climate, Files Show. The New York Times, 2022.
- [18] Amy Westervelt. "Fossil fuel companies donated \$700m to US universities over 10 years." The Guardian, 2023.
- [19] Douglas Almond, Xinming Du, and Anna Papp. "Favourability towards natural gas relates to funding source of university energy centres". Nature Climate Change, 2022.
- [20] Deborah Gordon et al. "Evaluating net life-cycle greenhouse gas emissions intensities from gas and coal at varying methane leakage rates." Environmental Research Letters, 2023.
- [21] Phil McKenna. "MIT's Sloan School Launches Ambitious Climate Center to Aid Policymakers." Inside Climate News, 2024.

- [23] Kevin Connor and Robert Galbraith. "Industry Partner or Industry Puppet?" Little Sis, 2013.
- [24] "Hearing ... to Receive Testimony on the Recent Report of the MIT Energy Initiative entitled "The Future of Natural Gas." U.S. Government Printing
- [25] Whitehouse.gov. "Blueprint for an America Built to Last," 2012.
- [26] IEA. "Net Zero by 2050." 2021.
- [27] Sgouri Sgouridis et al. "Comparative net energy analysis of renewable electricity and carbon capture and storage." Nature, 2019.
- [28] Oil Change International. "Carbon Capture's Publicly Funded Failure." 2023.
- [29] Andrea Bacilieri, Richard Black, Rupert Way. "Assessing the relative costs of high-CCS and low-CCS pathways to 1.5 degrees." Oxford Smith School of Enterprise and the Environment, 2023.
- [30] Conversation with an MIT employee in the Office of the Vice President for Research. March 12,

Have something to say? Write opinion for The Tech!



GUEST COLUMN

Global Shading: A New Trail for MIT to Blaze

By Tom Hafer & Henry Miller

It's going to get hotter for the rest of your life. Probably a lot hotter. What can be done about this? Specifically, is there anything that MIT scientists and engineers could do?

In October 2022, The Tech published a letter from us which posited that global temperatures and their accompanying effects such as drought and flooding will continue to rise for the rest of this century given our current approaches. To illustrate this, we cited MIT's own En-ROADS model using the example of maximal world-wide incentivization of renewable energy and vehicle electrification.

It elicited a response in the following issue by an MIT Sloan School professor asserting that we were "ignoring the many other actions we can take now with existing technologies," and that the correct approach was "silver buckshot" -- in other words, everything, everywhere, all at once.

Well, we tried that. Ignoring political reality, we used En-ROADS to explore maximal world-wide disincentivization of coal, oil, and natural gas usage, as well as deforestation, along with maximal incentivization of renewable energy, vehicle electrification and efficiency, nuclear energy, bioenergy, new zero-carbon energy, and building electrification and efficiency.

We even threw in a 50% reduction in methane – which is especially unrealistic, because most methane emissions come from wetlands and agriculture, from which methane cannot easily be reduced – and the temperature in the year 2100 would go from today's almost 1.5 degrees C above preindustrial times to 2.0 degrees C. This is because adding CO2 is like piling on blankets; reducing the rate at which more blankets are added does not make you cooler.

But the reality is much worse than our highly idealized scenario, because China, Russia, India, and the rest of the world outside the US and the EU will not implement these changes any time soon, and warming will be much greater than the model's predicted 0.5 degrees C. If you think that things are bad now, imagine what it will be like in 50 years

There is, however, something that can be done that would have a near-term effect — global shading. The earth's temperature is quite sensitive to the amount of received sunlight, and reducing that by a few tenths of a percent can make a significant difference. We know this from the observed effect of major volcanic eruptions that spewed significant amounts of ash into the upper atmosphere. For example, worldwide temperatures were reduced by about half a degree for two years after the 1991 eruption of Mount Pinatubo. And it snowed in Virginia on the 4th of July in 1816 after the 1815 eruption of Mount Tambora.

Unfortunately, ejecting ash and chemicals into the atmosphere has adverse health and environmental effects, so this approach is a non-starter. But other means of shading could work. For example, scientists at MIT and elsewhere have looked at giant barriers in space between the earth and the sun. But apart from the cost and complexity, these suffer from an irredeemable obstacle: They would probably require the permission of every nation on earth. Global warming reduction talks have been going on for over 30 years and we have yet to establish hard limits for most of the countries on earth. How long would it take to agree on a totally new concept?

Fortunately, there is a way to approximate that with a system that is environmentally friendly and scalable, and that can be implemented globally or regionally. Deploying a very large but achievable fleet (a few million) of very large (approximately 100 meters in diameter) balloons over the US Southwest would reduce temperatures there by a degree or two and as the cooler air mass travels eastward, providing some benefit for much of the rest of the country.

To make it cooler, you'd add more balloons. If implemented solely within US airspace, this would not require permission from any other nation. And after seeing how this works, other countries might well decide to do the same, until eventually an international compact could be obtained.

The balloons would fly in the stratosphere, well above any aviation, and they would be roughly geo-stationary. This capability was demonstrated in Google's Project

This is not to say that existing CO2 reduction proposals should not be implemented. They should. But they will benefit your grandchildren, not you. Actual reductions in temperature in the immediate term will provide these other approaches much-needed time to become effective.

What is needed is an optimized scientific and engineering approach to this undertaking. Project Loon demonstrated balloon lifetimes of almost a year. Can this be extended to multiple years? NASA's ASTHROS balloon is over 130 meters in diameter -- but it is expensive. Can this be made cheaply and mass produced? Optimized balloon fleet management can undoubtedly result in greater effectiveness, but how and how much?

These are the kinds of questions that MIT could help to resolve. President Kornbluth has announced the MIT climate initiative which includes a category called "wild card" ideas. What fits that definition better than this? And what could members of the MIT community do that could have a greater potential impact than blazing a new trail to provide a near-term solution to the climate

— Tom Hafer '70, Henry Miller '69

GUEST COLUMN

To stop the killing, stop the hate

By Dan Ottenheimer

"As a second-generation Holocaust Survivor, how do you feel about the ongoing tragedy in Gaza?" I was fielding questions after a talk I had given at a local middle school on the Holocaust, and the 8th-grade student wearing a hijab waited expectantly for my answer.

I had been nervously anticipating this question. I am usually very fact-oriented when I tell my Dad's story about being a Jewish child in Nazi Germany, letting the attendees do all the comparisons to current events. Plus I wasn't sure how to take all of my scattered thoughts about the conflict, and turn them into a coherent age-appropriate response.

I thought briefly about a different discussion I had had with a fellow MIT alum about the MIT campus climate. I had expressed the opinion that the students needed to listen and empathize more; because in many conflicts, an equitable outcome requires discussion, negotiation, and compromise. The alum seemed to justify the current protest-heavy campus behavior, saying "But are the student groups you mention in charge of driving the equitable outcome you speak

I had pondered the alum's question for a while. Is protesting, and rallying people to their cause, the only thing that a U.S. student can do to make a difference? The Israel/Palestine conflict has been going on for 75 years, with only brief lulls in between violent flare-ups. Can anything we do here on our campuses make long-term peace and stability more likely 5,000 miles away?

Yes. I believe there is something we can do, but not enough of us are doing it. And I explained it to the 8th-grade student.

"There are descendants of Holocaust survivors who protest strongly against the excessive deaths in Gaza, and call for an immediate ceasefire. And there are descendants of Holocaust survivors who insist that Israel, home to half of the world's Jews including many descended from Holocaust survivors, be allowed to defend itself, to make the country safe from its enemies. But... This is what I believe. The only way to stop the killing, is to stop the hate. And there is a lot of hate in the Middle East right now, on both sides of this conflict."

The region is full of fear, mistrust, anger, and hate. And historical studies show that unchecked hatred leads to demonization and dehumanization, and to remorseless leiling.

So how do you stop the hate? By learning about the other side. By sharing perspectives and narratives; by agreeing jointly that we are all human beings who are entitled to stability and safety; by envisioning together possible equitable solutions to the conflict.

Is this what is happening on MIT's campus? Perhaps among the more moderate students. But there is still a lot of shouting and protesting. In many ways the fear, mistrust, anger, and hatred in Israel/Gaza has transported itself 5000 miles to our lo-

cal campuses (in fact college campuses have been called the second front of the Israel/ Gaza war). I fear that this propagation of hatred will not bring peace to the Middle East; it will only guarantee another 75 years of conflict, if not more.

Which brings me back to the question from that MIT alum. Are you students at MIT in charge of driving an equitable outcome in the Middle East? No, probably not in 2024 while you are students. But what about 2034? We don't know where you will be in ten years, and what you will be doing. But you are MIT students, and that means many of you are going to have significant roles - in academia, industry, and also the government (note that the current Prime Minister in Israel is an MIT alumnus). And the lessons you learn while at MIT will be an important part of who you are in the future.

Will you have learned how to listen to and respect opposing viewpoints? Will you have learned how to engage in difficult conversations and work out equitable solutions to challenging problems? Will you have the conviction that all human beings are deserving of safety and security? If you have learned all this, then perhaps there is a chance that you can help bring about peace in the Middle East. But what if all you learn while at MIT is how to out-shout and out-protest and out-publicize your opponents?

The fight against hatred is a very slow, difficult struggle. It is fought one person at a time, dispelling misconceptions and building understanding. And there are several STEM-oriented non-profits that have been working at it – trying to build bridges between Israelis and Palestinians. Some examples are Our Generation Speaks, Tech2Peace (https://www.tech2peace.com/), and MIT's MEET program (Middle East Entrepreneurs for Tomorrow).

So, what can you do to make long-term peace and stability more likely in this 75-year-old conflict taking place 5000 miles away? You can spend as much effort working with these bridge-building organizations, and learning about opposing viewpoints, as you spend on your next protest or open letter or media campaign.

Let's not propagate the hate; let's stop the hate. One difficult conversation at a time.

— Dan Ottenheimer SB '79 SM '82 (Course II)

Dan Ottenheimer '79 SM '82 (Course II) is an Arlington MA resident and an active MIT alumnus - he is an Educational Counselor, co-chair of his Class Reunion Gift Committee, member of the MechE Alliance, AILG volunteer, and a Choralum who has sung at recent MIT Commencements. Dan's father, Fritz Ottenheimer, was born in Germany in 1925, fled to the U.S. in 1939, and returned to Germany as a U.S. soldier toward the end of World War II. Dan is a volunteer second-generation Holocaust speaker for the organization Facing History and Ourselves, and for the Holocaust Center of Pittsburgh. The views above are his alone, and do not represent the views of any affiliated organization.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Publishers Jyotsna Nair and Ellie Montemayor, Editor-in-Chief Alex Tang, Managing Editor Kate Lu, Executive Editor Vivian Hir, and Opinion Editor Srinidhi Narayanan.

Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

Letters to the editor, columns, and editorial cartoons are written by individuals and represent the opinion of the author, not necessarily that of the newspaper. Electronic submissions are encouraged and should be sent to letters@tech.mit.edu. Hard copy submissions should be addressed to The Tech, P.O. Box 391529, Cambridge, Mass. 02139-7029, or sent by interdepartmental mail to Room W20-483. All submissions are due by noon four (4) calendar days before the date of publication.

Letters, columns, and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or condense letters; shorter letters will be given higher priority. Once submitted, all letters become property

of *The Tech*, and will not be returned. Letters, columns, and cartoons may also be posted on *The Tech*'s website and/or printed or published in any other format or medium now known or later that becomes known. *The Tech* makes no commitment to publish all the letters received.

Guest columns are opinion articles submitted by members of the MIT or local community.

TO REACH US

THE TECH's telephone number is (617) 253-1541. Email is the easiest way to reach any member of our staff. If you are unsure whom to contact, send mail to tt-general@mit.edu, and it will be directed to the appropriate person. You can reach the Executive Committee by emailing *tt-exec@mit*. edu, and the Opinion Editor through ttopinion-editors@mit.edu. Please send press releases, requests for coverage, and information about errors that call for correction to tt-news-editors@mit. edu. Letters to the editor should be sent to tt-opinion-editors@mit.edu. The Tech can be found on the World Wide Web at

The Tech is looking for editorial cartoonists.



12 THE TECH Thursday, April 25, 2024



Students gather to protest at the Scientists Against Genocide encampment, Monday. The students formed a picket line on Monday afternoon and were later joined by supporters from Harvard University.



The Puerto Rican flag, the Palestinian flag, and the Wiphala raised against a central canopy at the Scientists Against Genocide encampment as students work and socialize, Monday.



Runners reach the last mile of the Boston Marathon near Kenmore Square while onlookers cheer them on, Monday, April 15.



Elle Woods (Ellie Lei '26) looks on aghast as her ex-boyfriend Warner (Richard Yeboah '26) proposes to Vivienne (Shorna Alam '25) in Next Act's production of Legally Blonde, Thursday, April 11.



Students and prefrosh enjoy some karaoke in Next House's basement at Next Sing's CPW event, Saturday, April 13.



Members of the classes of 2025 and 2026 enjoyed a joint event at Six Flags New England, Saturday.

Meet your fellow tech staff. (aka, your new 3 a.m. pset support group)



All Talk by Manaal Mohammed '25

Across

01 Actor Eisenberg of "The

Social Network" 06 Colloquial

- 15 Detach
- 16 Triangle, for one
- Top tier violin, briefly 17
- 18 Brief tale
- 19 Vagabonds
- Ginger_ 21
- 22 Cheer
- 23 Big name in jewelry
- Mario's brother 24
- 26 Ripped
- 27 Distraught
- "Doubt it..." 29
- 30 Like most fish
- 31 Maze runner, sometimes
- 34 Thrill
- 35 Reveal
- 36 Wife of Zeus
- 40 Tasty shellfish
- 42 Relaxed
- 43 Hosted, shortly
- 44 Actress starring in "The
- Seventh Veil"
- 46 They might be drawn

- 47 Remove your username from a post, as on Instagram
- ____ Piana 50
- 51 Stage
- 52 Chewy fruit snack
- 54 Ebook distributor
- Andean animal
- 58 Great Plains game 59 Economics Nobel Prize
- winner Robert
- 60 Escalates rapidly
- 61 Frozen yogurt option

Down

01 Exclamation directed at two

- with a lot of tension
- 02 Opening
- 03 Faux bronze
- Thailand, historically
- 05 Bridge tactic 06 Criticize
- 07 White-collar workplace necessity, usually
- 08 Garlicky sauce
- 09 Backstory, as for a video
- game character

- "Think about it!"
- 12 "My Neighbor _____" (Studio
- Ghibli film)
- 13 ___ Ego, "Ratatouille" critic
- 14 L1k3 t415 t3xt
- 20 Big_
- Key, perhaps 25
- 26 Syd ___ Kyd
- 28 "Billy Bathgate" author
- 29 Ash holder
- 32 Did a great job, slangily
- 33 Fictional Kazakhastani
- 35 One might keep tabs on it 37 Feeding tubes?
- 38 Christ the _ (Rio de
- Janeiro landmark)
- 39 Amphetamine brand
- Type of man 41
- Swallows whole
- 43 To a greater extent 45 Annoy
- "__ On Me" (Jack Harlow hit)
- 47 Archangel of wisdom 48 Kind of intelligence
- 50 Tosses 51 Humorist Bombeck
- 19 23 27 40 58 59
- 53 Like some jams
- 55 Jungle music genre
- derivative, shortly 56 Saucer crew