

Institute goes tuition free for undergraduates with family income below \$200,000

Schmill: "With the need-based financial aid we provide today, our education is much more affordable now than at any point in the past."

By Alex Tang
EDITOR-IN-CHIEF

On Nov. 20, MIT announced that it would become tuition free for undergraduates whose families earned below \$200,000 starting in the academic year 2025-2026. According to an article from MIT News, "eighty percent of American households meet this income threshold." Additionally, undergraduates with family incomes of below \$100,000 can now be expected to bear no portion of the full cost of attending the Institute.

Critically, the announcement clarifies that families with an income between \$100,000 and \$200,000 with typical assets can expect to pay on a sliding scale from \$0 up to a maximum of approximately \$23,970, which is this year's amount for non-tuition expenses.

The announcement marks a significant widening of income eligibility for financial assistance. The new \$100,000 threshold for full cost of attendance is a 33% increase from \$75,000 for the current academic year and the \$200,000 threshold for tuition-free attendance is a stark 43% increase from the current \$140,000. In the announcement, the Institute cited its endowment, namely "generous gifts made by individual alumni and friends," as enabling the expansion in financial aid.

Per the MIT student financials website, financial aid awards stood at \$167.3 million in need-based scholarships during the 2024-2025 academic year, a five percent increase over the prior year during which MIT awarded \$158.2 million. With the announcement, such investment in financial aid awards is expected to top over \$170 million.

According to the Institute, MIT is one of nine colleges that are need blind and full need, meaning that an applicant's financial background is not considered in the admissions process and the Institute strives to meet demonstrated need with aid. Over half of undergraduates receive MIT need-based aid.

The announcement marks the first of several recommendations

put forth by an Institute-wide faculty-led Committee on Undergraduate Admissions and Financial Aid publicly charged by MIT President Sally Kornbluth to review the Institutes' admissions and financial aid policies.

Kornbluth said that "MIT's distinctive model of education — intense, demanding, and rooted in science and engineering — has profound practical value to our students and to society." Kornbluth stated that "today's announcement is a powerful expression of how much our graduates value their MIT experience." She added that "in effect, our endowment is an inter-generational gift from past MIT students to the students of today and tomorrow."

Stu Schmill '86, Dean of Admissions and Student Financial Services, said "with the need-based financial aid we provide today, our education is much more affordable now than at any point in the past," noting that the Institute's reputation and educational value has grown since his time as a student.

According to the article, 87 percent of students in the Class of 2024 graduated debt-free: those with debt had a median debt of \$14,844. The average starting salary was \$126,438 for graduates entering industry.

The announcement comes amidst growth in the Institute's assets as reported by Glen Shor, Executive Vice President and Treasurer and The Tech. MIT's overall net assets climbed 4.3% over the fiscal year 2023 to \$33.6 billion. According to the report, tuition revenue increased by 4.6 percent to a total of \$428.0 million.

The announcement also coincides with the early action admissions cycle for the Class of 2029. In a blogpost on the MIT Admissions blog, Director of Communications and Special Projects at MIT Admissions and Student Financial Services Chris Peterson SM '13 wrote that "we are mission-driven to make MIT a magnet for the most talented students... and to make it accessible to the best students regardless of their financial circumstances."



MICHELLE XIANG - THE TECH

Students gathered in the third floor hallway above the Infinite Corridor to witness MITHenge, a biannual phenomenon where the setting sun aligns perfectly with the corridor, on Saturday, November 9th.

Four 2025 Rhodes Scholars hail from MIT

The four represent the second most number of Rhodes Scholars named in a single year from the Institute.

By Alex Tang, Vivian Hir,
& Karie Shen

EDITORS

Yiming Chen '24, Wilhem Hector '25, Anushka Nair '25, and David Oluigbo '25 have been selected as 2025 Rhodes Scholars to pursue postgraduate studies at Oxford University beginning next fall. The four scholars represent the second most number of Rhodes Scholars named in a single year from the Institute.

According to MIT News, Chen received an international scholarship from the Rhodes' China constituency; Hector is the first Haitian citizen ever to become a Rhodes Scholar and was awarded the Global Rhodes Scholarship. Oluigbo and Nair were U.S. Rhodes winners.

Professor Nancy Kanwisher, a co-chair of the Presidential Committee on Distinguished Fellowships, said that "it is profoundly inspiring to work with our amazing students, who have accomplished so much at MIT and, at the same time, thought deeply about how they can have an impact in solving the world's major challenges... we are thrilled but not surprised to see so many of them recognized this year as finalists and as winners."

A winner's perspective:

In a statement to The Tech, Oluigbo wrote "Winning the Rhodes Scholarship is not just an honor that I am incredibly grateful for but a responsibility—to transform gratitude into action and knowledge into action when it comes to leveraging AI to bridge health disparities."

The Tech spoke with Chen about the Rhodes selection experience, her plans at Oxford, and her experience at the Institute. The interview has been lightly edited and condensed for clarity.

TT: What was getting selected for the Rhodes like?

Chen: I found out at the end of September. I went to Hong Kong for the final interview because I was part of the China constituency, and they did it a bit earlier. The entire experience was surreal. There was a dinner beforehand to get to know everyone, and then the one on my interview the next day, and then they told me the evening of. I honestly couldn't believe it because everybody there was super inspiring and just amazing in their own ways. The entire process of preparing for it had been very introspective; it helped me figure out what I wanted to do with my life and what potential future path could be.

TT: What will you be doing at Oxford next year?

Chen: I will be doing a PhD in computer science, particularly in computer vision, with a focus on medical imaging, which is what I did for my MEng.

TT: What was your MIT experience like, and how has that played into your overall development?

Chen: As an international student, because of COVID, freshman year was online in China... so I talked mostly with people who were also in China in the same time zone and that kind of made me feel imposter syndrome because a lot of my peers had more experience in research and more computer science knowledge. I came in without knowing that I wanted to do computer science at all, but I think overcoming imposter syndrome came with just challenging myself with classes and that made me realize, instead of comparing like laterally with my peers, I should just compare [myself] to my old self and go for vertical growth instead.

I'm really thankful for my experience at MIT. I tried a lot of different things, especially ones outside my comfort zone while also sticking to

some of my hobbies growing up. I took on more leadership and did things to give back to the communities, like organizing concerts, a zoom talent show freshman year, and also participating in traditions, such as being on Ring Committee. Sometimes, I feel like I try to do many things at once, but I don't regret it a single bit looking back. I also really enjoyed the teaching [assistant] opportunities. They taught me a lot about effective scientific communication. These experiences kind of solidified why I wanted to do a PhD and potentially go down the academia route."

Troy Van Voorhis to step down as Chemistry Department Head

In an email to the MIT Chemistry community, Department Head and Haslam and Dewey Professor of Chemistry Troy Van Voorhis announced that he would be stepping down as Department Head after five years of service effective at the end of this academic year.

Van Voorhis wrote "one of my consistent joys has been the privilege of working with all of you" amidst a "period of significant upheaval in our world." Van Voorhis added that he will be taking sabbatical during the 2025 to 2026 academic year.

According to Van Voorhis, Dean of the School of Science Nergis Mavalvala PhD '97 is presently organizing a search committee for the next department head. As of the time of this writing, a decision has yet to have been made.

— Alex Tang

MIT Life Sciences and Health Symposium launch makes call for poster submissions

The inaugural MIT Life Sciences and Health Symposium will take place Dec. 4 on Kresge Lawn from 5:00 to 6:30 P.M. Undergraduates, graduate students, postdoctoral fellows, are encouraged to submit work in the life sciences and engineering for a chance to win cash prizes in the poster categories that include basic scientific discovery, interdisciplinary work, and healthcare applications.

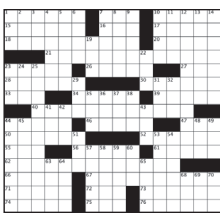
The deadline for submissions is Monday, Nov 25 at 5:00 PM and submissions must include the presenter's name, lab and department affiliation, poster title, and a short abstract. Those with questions are encouraged to contact Katey Provost at kstew@mit.edu.

— Alex Tang

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Compiled by MIT Meteorology Staff and The Tech			

Colder Temperatures in Time for Thanksgiving

By **Adrienne Lai**
CHIEF METEOROLOGIST

It's almost Thanksgiving and thus far this Fall, a jacket has not been required. Well, that's about to change as the temperatures become increasingly more cold, with the highs falling into the lower 50s and the lows into the lower 40s this week. This is the beginning of the end of the incredibly warm Fall we've had, making room for a Winter of who knows what temperatures. Hopefully,

the extended warmth is not repaid by an extended cold into Spring - we will see.

Projected to accompany the downward temperature climb is precipitation, with a 100% chance on today and an 80% chance tomorrow. There has only been a few big rains this season, so brace yourself for the showers. The wind speeds will be increased, above 10 mph for the next few days, indicating the beginning of a rough Winter.

NOVEMBER 21
SITUATION FOR NOON (ET)

Extended Forecast

Today: Chance of rain 100%. High of 52°F (11°C) and East winds 16-20 mph.

Tonight: Low of 42°F (5.5°C) with a 100% chance of rain/ East winds 13-23 mph.

Friday: 70% chance of rain. Sunny with a high of 50°F (10°C)

Saturday: High of 51°F (11°C) and a low of 40°F (4.5°C). 50% chance of rain with West winds 15 mph.

Sunday: Mostly sunny with a high of 52°F (11°C) and a low of 39°F (4.0°C). West winds 11-18 mph.

Sol. to Scientific Literacy
from page 7



PHOTO COURTESY OF ROBERT KRAWITZ

In the first round of the NCAA Division III women's soccer tournament, the Engineers defeated the SUNY Geneseo Knights 3-1 at Steinbrenner Stadium at MIT.

Fire erupts in fume hood of Building 18

Shortly before 12:30 P.M. on Nov. 20, a fume hood on the first floor of Building 18 caught fire. Building 18 houses several laboratories belonging to the Institute's Chemistry Department. Emergency services responded promptly and sections of Ames Street were closed as the building was evacuated. Approximately ten minutes after the fire began, it was extinguished by the Cambridge Fire Department.

It is unclear at the time of writing whether the fire was connected to several repairs conducted in Building 18 earlier this year.

In an email to the MIT Chemistry community on Sept. 3, Richard J. Wilk, Director of Administration and Finance in the Department of Chemistry, stated that "during a routine inspection of the Building 18 fume hood exhaust fans in May 2024, the Department of Facilities identified a problem with the main ductwork connected to the fans at the roof level." Wilk said that the issue extended to about 40% of the laboratory hoods in the building.

Repairs were made in June of 2024, but in his Sept. email, Wilk wrote that there "was more damage than expected and additional work is required to complete the job."

On Sept. 14, a total shutdown of the exhaust fans for hoods of certain rooms took place from 7:00 AM to 3:15 PM, necessitating an essential shutdown of the entire building for the duration of repairs due to the possibility of air imbalances throughout Building 18. In particular, the exhaust fans for hoods in rooms ending in 05, 44, and 63 were closed. At the time of writing, it is unknown which specific room this fire originated in.

Building 18, which is seven stories tall and shares a skybridge with Building 56, was built in 1967 designed by I.M. Pei's firm. It was last renovated in 2003.

— Alex Tang

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THE KNIGHT SCIENCE JOURNALISM PROGRAM @ MIT

MIT Women's Soccer Falls to Colby 0-2 in the NCAA Round of 32

By **Matthew Barnett**

Over the weekend, the MIT Women's Soccer Team hosted games for the first two rounds of the NCAA D-III Women's Soccer Tournament at Steinbrenner Stadium. MIT won their Round of 64 match 3-1 over SUNY Geneseo, but ultimately fell short to Colby 0-2, knocking them out of the tournament and into the offseason.

Barnouw Scores 2 in 2 Minutes to Lead MIT Past SUNY Geneseo, 3-1.

In their Round of 64 match of the NCAA Tournament, MIT faced off against SUNY Geneseo (Geneseo, NY). Geneseo, champions of the Empire 8 conference, entered the game 13-4-3. Notably, senior Natalie Barnouw, the NEWMAC Athlete of the Year, did not start in this game, nursing an apparent injury.

MIT struck first with a goal by senior Meagan Rowlett at 8:51. The score was quickly answered by Geneseo's Abby Foster, tying the game 1-1 at 10:10. The game remained tied heading into halftime.

Barnouw entered the game at the start of the second half and helped spark the MIT offense to eventually put the game away. 3:27 into the 2nd half, Barnouw scored

a long goal from outside the box to break the tie and put the Engineers up 2-1. After sophomore Arianna Doss drew a foul within the box a minute and a half later, Barnouw took the penalty kick and increased the lead with another score, putting MIT up 3-1. Barnouw would later exit the game after logging only 10 minutes on the field.

The Engineer defense held Geneseo scoreless to close out the game, securing MIT's victory and moving the team on to the Round of 32.

MIT Held Scoreless as Colby Upsets Team at Home

In their Round of 32 match of the NCAA Tournament, MIT took on Colby College (Waterville, ME). Colby, ranked 6th in the NESCAC conference, entered the game 12-4-3. This year, the NESCAC conference gave MIT trouble, handing them their only draw and loss during the regular season (MIT went 2-1-1 overall). Last year, MIT lost 0-4 to this same Colby team on October 22nd, 2023.

Colby's Annie Liebich opened up scoring right before half with a long looping shot from just beyond midfield at 42:32, making the score 0-1.

In the second half, Barnouw entered the game after starting on the

bench just as she did against SUNY Geneseo, but did not produce the same effect. She exited after only 6 minutes of action. At 60:08, Colby scored again, with Liebich sending a long free kick to the goal for Sophie DiGrande to head in over MIT's freshman goalkeeper, Maddie Noll, doubling the deficit MIT had fallen into, 0-2.

Despite Colby's growing lead, MIT fought hard to even the game and keep their season alive. Later shots on goal by Madelyn Popilek '27, Rowlett, and Doss were all denied by Colby's goalkeeper, MK Marshall, who finished the game with 7 saves on 7 shots on goal.

MIT put up a fight to the 90th minute, but ultimately could not overcome the deficit they had fallen into, losing the game 0-2 and ending their season.

A Season in Review

Despite their early exit from the NCAA Tournament, MIT Women's Soccer enjoyed a very successful year. They claimed their 8th consecutive NEWMAC conference title, posted a dominant 21-win season, and saw many of their players and coaches honored with All-Conference distinctions. The team also tied their all-time winning streak record with 15 straight wins (ended by the loss to Colby).

Four Men's Soccer Engineers Make All-Conference Team; Montupally Named Rookie of the Year.

On November 15th, the NEWMAC conference released their Field Hockey postseason awards. The awards are voted on by the league's 10 coaches following the regular season. Despite falling short to Babson in the NEWMAC Championship, the Engineers still took home seven distinctions to cap off a productive 14-5 season.

Freshman Drew Hussar was selected as the Co-Rookie of the Year, sharing the title with Babson's Penny Baroni. Hussar, an every-game starter

(tied for 2nd in the NEWMAC) and 7 assists (tied for 1st in the NEWMAC), Motupally made an instant impact in his first year of collegiate action. This season, three of his goals were game-winners, and he went 2-2 on penalty kicks.

Sophomore Dilin Meloni

was the only player named to the All-Conference First Team. Motupally, Aiden Hallinan (Graduate), and Jack Minor '25 were selected to the Second Team.

— Matthew Barnett

Both Men's and Women's Cross Country Win NCAA Regionals, Advance to the National Championship

By **Alex Tang**
EDITOR-IN-CHIEF

Both MIT's Men's and Women's Cross Country teams won the NCAA East Regional Championship and secured spots at the Division III National Championship on November 23rd in Terre Haute, Indiana.

The men's team, ranked 20th in the nation, was led by Samir Amin '25 who placed fourth overall in a time of 24:46.81 on the 8K course. The scoring positions were rounded out by Sam Coutts '25, Pablo Arroyo '25, Renne Cooper '28, and Yichen Sun '27. The Engineer's scoring five runners all placed in the top fourteen.

The women's team, ranked first in the nation, was led by Lexi Fernandez '26 who placed tenth overall in a time of 22:16.77 on the 6K course. The scoring positions were rounded out by Kate Sanderson '26, Ava Hartman '28, Heather Jensen '27, and Gillian Roeder '25. All five scoring runners placed in the top fifteen and all seven runners placed in the top 35. MIT scored 56 points, beating out Tufts (67) and Bates (147). This year's victory extends the winning streak that the Engineers have had in the East Regional Championship since 2021.

Both teams will be competing at the Division III National Championship on November 23rd in Terre Haute, Indiana. The Men's team won the national title in 2022 and finished 8th in 2023. The Women's team finished 7th in 2022 and 11th in 2023.

The women's team, ranked first in the nation, was led by Lexi Fernandez '26 who placed tenth overall in a time of 22:16.77 on the 6K course. The scoring positions were rounded out by Kate Sanderson '26, Ava Hartman '28, Heather Jensen '27, and Gillian Roeder '25. All five scoring runners placed in the top fifteen and all seven runners placed in the top 35. MIT scored 56 points, beating out Tufts (67) and Bates (147). This year's victory extends the winning streak that the Engineers have had in the East Regional Championship since 2021.

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MIT Women's Soccer Postseason Shines in NEWMAC Awards

On November 14, the NEWMAC conference released its Women's Soccer postseason awards. Voted on by the league's 12 coaches following the regular season, MIT earned numerous accolades following their largely successful 20-1-1 year.

Senior midfielder Natalie Barnouw was voted NEWMAC Athlete of the Year, leading the NEWMAC with 11 goals and 26 points. She scored 4 game-winning goals this season, and played a large role in leading the team to their second-straight NEWMAC title. Barnouw is the 3rd Engineer to win this award in the last 4 years.

Senior Lauren Davis earned Defensive Athlete of the Year honors. She led the best defensive unit in the conference, which shutout teams 14 times and let up more than two goals only twice this season. Davis is the 5th straight Engineer to

take home this honor.

Head Coach Martin Desmarais and his staff (Jeff Katz and KD Dolan) were also voted Coaching Staff of the Year. Ranked No. 3 nationally by the United Soccer Coaches Poll, the team posted a 20-1-1 pre-NCAA Tournament record. They clinched their 2nd straight NEWMAC title and made their eighth straight appearance in the NCAA Tournament.

Six Engineers earned First Team All-Conference honors for their outstanding performances this year. Joining Barnouw and Davis were midfielder Ashley English '25, forwards Meagan Rowlett '25 and Sean Luk '26, and defender Madeline Seebeck '27.

Midfielder Leena Mehen-dale '26 was the sole Engineer named to the Second Team.

— Matthew Barnett

Five Field Hockey Engineers Claim All-Conference Honors; Hussar Selected Co-Rookie of the Year.

On November 13th, the NEWMAC conference released their Field Hockey postseason awards. The awards are voted on by the league's 10 coaches following the regular season. Despite falling short to Babson in the NEWMAC Championship, the Engineers still took home seven distinctions to cap off a productive 14-5 season.

Freshman Drew Hussar was selected as the Co-Rookie of the Year, sharing the title with Babson's Penny Baroni. Hussar, an every-game starter

at left back, helped cement the team's defense throughout the year. She contributed to a unit that ranked 2nd in the NEWMAC in average goals against (1.05).

Junior Bailey McIntyre, sophomore Audrey Oh, and sophomore Audrey Tomovski were voted to the All-Conference First Team. Senior Ashley Lederman and sophomore Maeve Zimmer were voted to the Second Team.

— Matthew Barnett

Smith Downs MIT 3-2 in NEWMAC Championship, Ending 31-Game Streak.

By **Matthew Barnett**

In a tight, back-and-forth outing, Smith College upset No. 4 MIT on Sunday in five sets, ending their season-long 31 game winning streak and preventing them from claiming their 4th straight NEWMAC title. Smith defeated MIT by set scores of 25-17, 21-25, 25-21, 16-25, and 15-11.

In the first set, MIT fell to a 6-12 deficit that quickly grew to 13-22. Despite scoring 3 of the next 4 points, MIT could not overcome Smith's early momentum and fell short in the set.

In the second set, MIT broke out to a 5-0 lead, forcing Smith to take a timeout. Smith then battled back to even the set 8-8. Sparked by a kill by Consecrata Rozario G, MIT went on a 10-1 run. Smith

promptly responded and brought the game within a point, 22-21. Two straight kills by Rozario and a service ace by Ella Gragg '25 ended the set in favor of MIT.

The third set was largely controlled by Smith; after opening with a 6-1 run, Smith never gave up control of their lead. While MIT brought the deficit down to 18-21, late efforts by Gragg and Elise Echarte '27 to extend the set fell short as Smith squashed MIT's comeback attempt, taking the frame 25-21.

MIT found its rhythm in the fourth set. Led by Ali Gibbs '26 and Echarte (both of whom scored 4 kills each in this set), MIT took advantage of several attacking errors by Smith to win the set 25-16.

Smith opened the fifth set with a 5-1 rally, capturing momentum to push the score to 9-3. Despite

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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.

Migrant Gets Life Sentence for Killing Laken Riley in Case Seized On by Trump

A 26-year-old migrant from Venezuela was convicted on Wednesday of murdering Laken Riley, a Georgia nursing student whose killing has been repeatedly cited by President-elect Donald J. Trump in his push for the mass deportation of millions of undocumented people.

Ms. Riley, 22, was attacked in February while running on a trail on the University of Georgia campus in Athens. A day later, the authorities charged Jose Antonio Ibarra, a migrant who had entered the country illegally, in connection with the killing.

— Rick Rojas, FROM THE NEW YORK TIMES
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

The FBI arrested a man who's been charged with planning an attack on the New York Stock Exchange

A Florida man was arrested Wednesday and charged with a plot to “reboot” the U.S. government by planting a bomb at the New York Stock Exchange this week and detonating it with a remote-controlled device, according to the FBI.

Harun Abdul-Malik Yener, 30, of Coral Springs, Florida, was charged with attempt to use an explosive device to damage or destroy a building used in interstate commerce.

— Hallie Golden, FROM ASSOCIATED PRESS
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Musk and Ramaswamy float ending remote work for federal employees and ‘large-scale firings’

Incoming administration advisers Elon Musk and Vivek Ramaswamy floated ending remote work for federal workers, calling the practice a “privilege” left over from the pandemic. The two tech industry figures raised the idea in an opinion piece published online in The Wall Street Journal, saying it would be a straightforward means for shrinking the federal workforce.

“Requiring federal employees to come to the office five days a week would result in a wave of voluntary terminations that we welcome: If federal employees don’t want to show up, American taxpayers shouldn’t pay them for the Covid-era privilege of staying home,” the two men wrote.

— David Ingram, FROM NBC NEWS
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Senate defeats effort led by Bernie Sanders to block planned US arms sales to Israel

The Senate on Wednesday voted down an effort led by Vermont independent Sen. Bernie Sanders to block a series of planned US weapons sales to Israel. The failure of the long-shot effort highlights that despite criticism from the left that the Biden administration and Israel are not doing enough to protect civilians in Gaza, there remains widespread bipartisan support on Capitol Hill for US military assistance to Israel.

The Senate votes come as scrutiny over US support for Israel’s war against Hamas has intensified as the humanitarian crisis in Gaza has grown worse amid Israel’s ongoing military campaign.

— Clare Foran, FROM CNN
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Los Angeles officials move to establish city as sanctuary for immigrants and LGBTQ youth

Los Angeles officials on Tuesday moved to cement the city and its schools as sanctuaries for immigrants and LGBTQ youth as the city positions itself to push back strongly against President-elect Donald Trump’s platforms on immigration and gender.

The Los Angeles City Council, which represents the second-largest US city, unanimously voted to adopt a “sanctuary city” ordinance that prohibits city resources from being used in immigration enforcement or to cooperate with federal immigration agents, unless required by state law.

— Elizabeth Wolfe & Veronica Miracle, FROM CNN
ORIGINALLY PUBLISHED NOVEMBER 19, 2024

Trump picks Project 2025 affiliates after distancing

Patrick Svitek

FROM THE WASHINGTON POST
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

In one of his earliest interviews as a leader of Donald Trump’s transition team, Howard Lutnick was emphatic.

“Absolutely zero. No connection. Zero,” Lutnick said on CNBC, referring to ties between the transition team and Project 2025, the conservative blueprint for a second Trump term that had become a political liability for the Republican nominee.

But just over two months later, Trump has won the presidency and is assembling an administration that includes some picks for key positions that stand in stark contrast to his repeated efforts to distance himself from Project 2025.

Trump has named at least three nominees who are credited by name in Project 2025, a product of the conservative Heritage Foundation: Tom Homan, Trump’s pick

for “border czar”; John Ratcliffe, Trump’s planned nominee for CIA director; and Brendan Carr, his selection to head the Federal Communications Commission. Homan and Ratcliffe were listed as contributors to Project 2025’s 900-plus-page manifesto. Carr wrote an entire chapter on the agency that Trump now wants him to run.

An even more prominent figure in Project 2025, Russ Vought, is reportedly under consideration for an administration job. Vought, who served as director of the Office of Management and Budget during Trump’s first term, wrote the chapter on the “executive office of the president.”

One of the groups that advised Project 2025, America First Legal, is led by Stephen Miller, a former top Trump aide whom Trump has now picked to return to the White House as assistant to the president, deputy chief of staff for policy and homeland security adviser. “As President Trump said many

times, he had nothing to do with Project 2025,” Trump transition spokeswoman Karoline Leavitt said in a statement for this report.

Democrats are claiming vindication after they warned voters not to believe Trump’s claims of having no connection to Project 2025.

“Donald Trump spent months on the campaign trail lying to voters about the clear ties between his campaign and the wildly unpopular Project 2025 agenda,” Alex Floyd, a spokesman for the Democratic National Committee, said in a statement. “Now, he’s finally showing his hand and picking a Cabinet full of Project 2025 lackeys to help him implement his dangerous and extreme blueprint.”

Project 2025 emerged as a lightning rod over the summer, with Democrats going all-out to highlight how, if implemented under Trump, it would give him unchecked power and further endanger reproductive rights, which was already a leading issue in the race.

Three Cabinet picks face sexual misconduct allegations

Ben Kamisar

FROM NBC NEWS
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Three of President-elect Donald Trump’s high-profile picks to join his Cabinet have faced serious allegations of sexual impropriety, complicating the calculus for Republican senators already weighing their professional qualifications as they decide whether to go along with their party leader on key government posts.

His choice for attorney general, former Rep. Matt Gaetz, R-Fla., is accused of having sex with a 17-year-old and paying two other women for sex. Trump’s pick for defense secretary, Pete Hegseth, was accused of sexual assault. And his selection for health and human services secretary, Robert F. Kennedy Jr., was accused this summer of groping a former family babysitter.

Gaetz and Hegseth have denied the allegations. Kennedy responded to the allegation against him over the summer by saying: “I said in my

announcement speech that I have so many skeletons in my closet that if they could all vote, I could run for king of the world.” NBC News reported that he apologized to the woman over text messages this year.

Trump himself has faced various sexual misconduct allegations, which he has denied, though he was found liable last year for sexual abuse in a civil trial over an alleged incident in the 1990s that he also denies. Now, after having won the presidency again, he’s spending early political capital to confirm appointees who have faced sexual misconduct allegations of their own.

“I do think it’s smart politics for the president to pick a fight with Congress — he is a change agent that people sent to disrupt, and there are few institutions people dislike more than Congress. But he undercuts that message when he wants to have a fight over Matt Gaetz,” said Marc Short, an NBC News contributor who was former Vice President Mike Pence’s chief of staff.

“From the last couple of decades we’ve gone from not disclosing payments for nannies as being disqualifying to now, I just think the people around the president know he wants to see them fight through bad news cycles,” Short added.

Gaetz’s years of controversies have been thrust back into the spotlight now that he’s up for a Cabinet post. While one of Gaetz’s former associates pleaded guilty to charges including sex trafficking of a minor, the Justice Department ended its sex trafficking investigation into Gaetz, who resigned from Congress after Trump selected him, and didn’t charge him with any crimes. Meanwhile, a House Ethics Committee investigation had been ongoing before he resigned.

Some details from that investigation have become public — on Monday, a lawyer representing two women who testified in front of the Ethics Committee told NBC News that Gaetz paid them for sex on several occasions, including at a small, invitation-only party in Florida.

Cyclone kills 2 and knocks out power across the US Northwest

Hallie Golden, Martha Bellisle, & Lisa Baumann
FROM ASSOCIATED PRESS
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

A major storm battered the U.S. Northwest with strong winds and rain, causing widespread power outages, closing schools and downing trees that killed at least two people.

The Weather Prediction Center issued excessive rainfall risks through Friday, and hurricane-force wind warnings were in effect as the strongest atmospheric river — a large plume of moisture — that California and the Pacific Northwest has seen this season overwhelmed the region. The storm system, which hit starting Tuesday, is considered a “bomb cyclone,” which occurs when a cyclone intensifies rapidly.

In California the weather service extended a flood watch into Saturday for areas north of San Francisco. Up to 16 inches of rain (40 centimeters) was forecast in Northern California and southwestern Oregon through Friday. Danger-

ous flash flooding, rock slides and debris flows were possible, officials warned.

A winter storm watch was in place for the northern Sierra Nevada above 3,500 feet (1,066 meters), where 15 inches (28 centimeters) of snow was possible over two days. Wind gusts could top 75 mph (120 kph) in mountain areas, forecasters said.

Heavy, wet snow was expected to continue along the Cascades and in parts of far Northern California. Forecasters warned of blizzard and whiteout conditions and near impossible travel at pass level due to accumulation rates of 2 to 3 inches (5 to 7.6 centimeters) per hour and wind gusts of up to 65 mph (105 kph).

Falling trees struck homes and littered roads across western Washington. In Lynnwood, a woman died Tuesday night when a large tree fell on a homeless encampment, South County Fire said in a statement. In Bellevue, east of Seattle, a tree fell on a home and killed a woman, fire officials said.

U.S. Casts Sole Vote Against Gaza Cease-Fire Resolution

Farnaz Fassihi, Euan Ward, and Thomas Fuller
FROM THE NEW YORK TIMES
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

The United States on Wednesday vetoed a United Nations Security Council resolution calling for an immediate and unconditional cease-fire between Israel and Hamas in the Gaza Strip, where fighting has raged for more than 13 months and a humanitarian crisis is intensifying.

Underlining Washington’s diplomatic isolation on the issue, the United States cast the sole vote against the resolution, with the 14 other Council members voting in favor.

The United States said it vetoed the resolution, the fifth the Council has taken up, because it did not make the cease-fire contingent on the release of the hostages still being held in Gaza. The resolution does call for the release of all hostages, but the wording suggests that their release would

come only after a cease-fire was implemented.

The impasse at the United Nations appeared in contrast to cease-fire talks in Lebanon, where a top U.S. envoy, Amos Hochstein, said on Wednesday that there had been “additional progress” in efforts to halt the fighting between Israel and Hezbollah, the Lebanese militant group allied with Hamas. Mr. Hochstein, saying he hoped “to try to bring this to a close if we can,” traveled to Israel on Wednesday evening.

The leader of Hezbollah said Wednesday that the war’s end was now in the hands of Israeli leaders.

The U.S. veto on Wednesday was the fourth time the United States has blocked an effort by the Council to demand a cease-fire in Gaza since last year, when Hamas led an attack on Israel that killed about 1,200 people and took more than 200 others hostage. More than 40,000 people have been killed in Gaza since then, accord-

ing to the local health authorities, and the territory faces the risk of famine, experts say.

In speech after speech at the Council on Wednesday, the 14 diplomats who voted for the resolution said the suffering, death, displacement and starvation unfolding in Gaza was catastrophic and unacceptable. Ending the fighting, they said, was a necessary first step to release the hostages, about 100 of whom remain in Gaza, and to save civilians.

In the eyes of many nations, the Biden administration’s legacy will be colored by its staunch defense of Israel.

“This will sadly further weaken Biden’s reputation in the U.N. bubble,” said Richard Gowan, the U.N. director of the International Crisis Group. “He was once seen as a welcome replacement for Trump. But he leaves office with low marks among most U.N. diplomats who think he has been egregiously obstructive on Gaza.”

U.S. To Supply Ukraine With Anti-Personnel Mines

Andrew E. Kramer and Helene Cooper
FROM THE NEW YORK TIMES
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

The Biden administration has approved supplying Ukraine with American anti-personnel mines to bolster defenses against Russian attacks as Ukrainian front lines in the country’s east have buckled, Defense Secretary Lloyd Austin said on Wednesday.

The decision is the latest in a series of moves by Russia and the United States related to the war in Ukraine that have escalated tensions between the two.

The White House recently granted permission to Ukraine to fire longer-range American missiles at targets in Russia, which the Ukrainians did for the first time on Tuesday.

Moscow in response formalized a new doctrine lowering the threshold for when it would use nuclear weapons.

Mr. Austin said the U.S. decision was prompted by Russia’s increasing reliance on foot soldiers to lead their assaults, instead of armored vehicles. Mr. Austin, speaking to reporters while traveling in Laos, said the shift in policy follows changing tactics by the Russians. Because of that, Ukraine has “a need for things that can help slow down that effort on the part of the Russians,” Mr. Austin said.

“They’ve asked for these, and so I think it’s a good idea,” Mr. Austin said.

The mines that will be provided to Ukraine are called “nonpersistent,” and are designed to self-destruct after a period of time to reduce the long-term threat to noncombatants.

The move is also noteworthy because it is part of a series of actions taken in the waning weeks of the Biden presidency to bolster Ukraine. President Biden in the past has sought to calibrate American help for Ukraine

against his own concern about crossing Russian “red lines” that could lead to direct conflict between Washington and Moscow.

But since the Nov. 5 election that will bring former President Donald J. Trump back to the White House, Biden administration officials have said the potential benefits of the actions outweigh the escalation risks.

The announcement came on a day of increased anxiety in Kyiv, Ukraine’s capital, and across the country. The United States closed its embassy in Kyiv, warning of a “significant air attack,” as Ukraine and the West brace for more intensive assaults by the Russians.

Mines in general have been devastatingly effective in the war in Ukraine, and Russia has made extensive use of them. The mines are planted by hand but can also be scattered remotely with rockets or drones behind opponents’ lines, to catch soldiers as they move to and from positions, a tactic that can assist an offensive.

U.S. and Europeans Move to Censure Iran for Nuclear Secrecy

Steven Erlanger
FROM THE NEW YORK TIMES
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Three key European nations and the United States have moved to censure Iran over its secretive nuclear program, hoping to shore up the credibility of the world’s nuclear watchdog before Donald J. Trump’s return to the White House.

The United States and the three European nations involved — Britain, France and Germany — put forward a resolution on Tuesday condemning Iran for its consistent refusal to answer questions from the International Atomic Energy Agency, the U.N.’s nuclear monitoring organization, about its nuclear enrichment program.

The resolution to censure may be voted on at the agency’s regular meeting of its board of governors in Vienna as soon as Thursday. If the measure passes, it could ultimately lead to retaliatory measures against Iran by the West.

The censure resolution followed the circulation of a report at the agency earlier this week detailing Iran’s expansion of its stockpile of enriched uranium that is close to weapons grade and its consistent efforts to block the IAEA from monitoring its progress.

The countries pushing for the censure are concerned that Iran’s continued recalcitrance presents a significant threat to the Nuclear Nonproliferation Treaty and undermines the credibility of the IAEA itself.

Analysts said that the European countries are also trying to signal that they want to be tough on Iran, wary that the American president-elect may be tempted to cut a separate deal with Iran that also undermines the role of the IAEA.

In a change from past Biden Administration policy, the United States has decided to support the resolution as well.

“We remain tightly coordinated with our E3 partners (France,

Germany and Britain) in advance of the IAEA Board of Governors meeting, and we strongly support efforts to hold Iran accountable,” a U.S. State Department spokesman, Matthew Miller, told reporters on Tuesday in Washington.

Less than 1 percent of the uranium found in nature is the more radioactive form, known as U-235. Uranium enrichment raises that fraction, to 3 to 5 percent for nuclear power plants, and up to 20 percent for some kinds of research. An atomic bomb requires enrichment to 85 percent U-235 or more.

Iran has tried to avoid the condemnation by proposing to cap its production of 60 percent enriched uranium — close to weapons-grade and having no known civilian use — for the foreseeable future and expressing willingness to accept four new agency inspectors to replace the ones Iran banned from entering in September 2023. Experts say uranium at 60 percent can be raised to bomb-grade in a relatively short time.

Israeli officials demand the right to strike Hezbollah under any cease-fire deal for Lebanon

Israeli officials demanded Wednesday the freedom to strike Lebanon’s Hezbollah as part of any cease-fire deal, raising a potential complication as a top U.S. envoy was in the region attempting to clinch an agreement.

The development came as an airstrike hit the historic Syrian town of Palmyra, killing 36 people, according to Syrian state-run media, which blamed the attack on Israel. The Israeli military declined to comment.

— Tia Goldenberg & Kareem Chehayeb, FROM ASSOCIATED PRESS
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Ukraine fires UK-made Storm Shadow missiles into Russia for first time, say reports

Ukraine launched the British-French-made Storm Shadow missiles at targets inside Russia for the first time on Wednesday, according to a Russian military blog and Reuters, a day after Ukraine fired US-made ATACMS missiles into Russia.

Ukraine’s use of the UK-supplied missiles to hit Russian territory was confirmed to Reuters by an official on condition of anonymity. British media also reported the use of the cruise missile on Wednesday, citing sources.

— Lauren Kent, Allegra Goodwin and Oren Liebermann, FROM CNN
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Hong Kong jails 45 pro-democracy campaigners for subversion

A Hong Kong court has sentenced dozens of pro-democracy leaders to years in jail for subversion, following a controversial national security trial. Benny Tai, 60, and Joshua Wong, 28, were among the so-called Hong Kong 47 group of activists and lawmakers who were involved in a plan to pick opposition candidates for local elections.

Tai received 10 years while Wong received more than four years. A total of 45 people were jailed for conspiring to commit subversion. Two of the defendants were acquitted in May. This was the biggest trial under the national security law (NSL) which China imposed on the city shortly after explosive pro-democracy protests in 2019.

— Koh Ewe and Phoebe Kong, FROM BBC
ORIGINALLY PUBLISHED NOVEMBER 19, 2024

Japan will watch China’s military after Beijing admits violating Japanese airspace

Japanese officials said Wednesday they are closely watching to see if China keeps its promise to prevent further violations of Japan’s airspace after explaining that an incursion by a Chinese military aircraft nearly three months ago was unintentional and caused by turbulence.

Tokyo protested and sought an explanation from Beijing after a Chinese Y-9 reconnaissance plane briefly entered Japanese airspace off the southern main island of Kyushu on Aug. 26, prompting Japan’s military to scramble fighter jets and warn the plane.

— Mari Yamaguchi, FROM ASSOCIATED PRESS
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Indian billionaire charged with fraud

Indian billionaire Gautam Adani has been charged with fraud in the US, which has accused him of orchestrating a \$250m (£198m) bribery scheme and concealing it to raise money in the US. The criminal charges, filed on Wednesday in New York, are the latest blow to 62-year-old Mr Adani, one of India’s richest men, whose business empire extends from ports and airports to renewable energy.

In the indictment, prosecutors alleged the tycoon and other senior executives had agreed to the payments to Indian officials to win contracts for his renewable energy company expected to yield more than \$2bn in profits over 20 years.

The Adani Group did not immediately respond to a request for comment.

— Natalie Sherman, FROM BBC NEWS
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

Son of Norway’s Crown Princess arrested on suspicion of rape

The 27-year-old son of Norway’s Crown Princess has been arrested on suspicion of rape, Norwegian police said Tuesday. Marius Borg Hoiby was born before his mother Mette-Marit married Crown Prince Haakon and became a princess in 2001. He was arrested for violating the criminal code which concerns “sexual intercourse with someone who is unconscious or for other reasons is unable to resist the act.”

Police specified that he is accused of carrying out a “sexual act without intercourse” on a victim “said to have been unable to resist the act.”

The alleged victim is a woman in her 20s who did not know Hoiby before she met him on the day of the alleged incident, her lawyer Hege Salomon told CNN. She was not in a relationship with Hoiby.

— Catherine Nicholis, FROM CNN
ORIGINALLY PUBLISHED NOVEMBER 20, 2024

VIVIAN'S REFLECTIONS

Dear Brother

By Vivian Hir
EXECUTIVE EDITOR

Dear Brother,

I have been thinking about you a lot this past week, especially your younger self. I am not sure why I decided to dig up the videos and photos that I took during middle school on my iPhone 4. Part of the reason was that I was bored and did not feel motivated to work on assignments due a week later, so I decided to procrastinate by going through my digital archives. But perhaps the underlying reason was this subconscious desire to revisit your past self.

I still can't believe that the videos and photos I have of you are almost a decade old. You were in fourth grade, while I was in sixth. You were inseparable from your stuffed animal Chirpy, and so was I. The small, yellow duck was an extension of you—adored for its cute voice, and loved for its upbeat personality. When I found the videos with you and Chirpy, I wasn't sure what to expect. I forgot what exactly happened in those videos, but guessed they involved Chirpy doing something silly. I was right, but forgot that we talked about random things like potatoes or pupils.

In one video, your potty humor joke got stuck in my brain; the phrase's cadence and beat sounded like a catchy remix one would find on today's TikTok. I watched the iMovie trailer called "Chirpy—The Weird Bird," and "Escape—a True Story," the other trailer we made in the summer of 2015. Both were incredibly cringe, but I laughed so loudly that I wondered if my neighbors could hear me across the thin walls. I won't go into details about some of the videos because it would be embar-

rassing to write it all out here, but watching them instantly brought me back to my childhood. Honestly, I laughed the most I had in a while.

After I finished watching the videos, I sent them to you and our parents because I wanted to remind you of our past lives, and then went to bed. Although I fell asleep within a reasonable time, I spent some time thinking about how much I missed the younger you. I know that I don't really get anything out of missing the younger you besides simply feeling more reminiscent: no one stays a child forever, people grow up, and life just keeps moving. As the years passed by and you grew older, I gradually forgot about your childhood self. But those videos captured the relationship we had when we were children. It wasn't until I watched the videos now as a young adult that I realized how much has been lost between us over time.

Although we still text each other regularly and have brief calls every week, our relationship feels much more distant than before. Part of the growing distance was inevitable—you go to college in the Midwest, while I am in New England. Technically, you left home a year earlier than me for boarding school, even though I am two years older than you. The only time we get to see each other is when we return home during winter or summer break.

It's unfortunate that when I sometimes call you, I end up not knowing what to say to you after five minutes of small talk. Surely there must be more to talk about other than college and life updates. I miss the times I hung out in your room before I left home for college, sometimes chatting to you about random things, or simply existing next to you.

I miss the camaraderie we once had. Sure, we still tease each other, but it's not the same as what the videos captured. I miss how playful, lighthearted, and non-chalant we once were. I wonder if the change wasn't really under our control and just a reflection of the transition from childhood to adulthood.

As I reflected upon the videos, I realized that I took many things for granted: your presence, your childlike humor, and your carefree nature. Even though we sometimes fought as siblings, I remember the happy memories we shared together. At the time, I didn't consider how I would look back on the videos nine years later with nostalgia. The idea that we would eventually become adults and live our own separate lives was so far away.

One thing that stood out to me in the videos was how close we were. I didn't think too much about the nature of our relationship at that time; I thought ours was ordinary. When I compare our current relationship to our past one, however, I can't help but feel sad that we have drifted apart quite a bit. We've always had different personalities and interests, but they weren't apparent until I met your guy friends this year. Our current social circles are total opposites. Never had I felt so out of place before.

I consider your friend group to be fratty and preppy, while you think mine is nerdy and lame. I never understood why you enjoy partying and clubbing with your friends, while you never understood why I like spending my weekend nights going to classical music concerts. That's just one example of our conflicting differences. We judge each other when we shouldn't and sometimes fail to understand each other.

Other times, the text messages we send each other are critical and negative. I admit that I've contributed to this problem, and I am sorry for this.

Although this letter has taken a negative turn, I don't want to end it on a sad note. I acknowledge that our relationship has changed a lot, but I am grateful that we still regularly keep in touch, even if it is a short text exchange or a brief phone call. I cherish the time we have together, even if that means a few weeks out of the entire year.

I wish I had told you this before I left, but it was fun spending a week with you in New York City this past summer. I still remember the dinner we had at BCD Tofu House and I told you stories of my social ineptitude while you listened intently; you stared at me in horror, which made it even funnier. I think about the time we got ice cream at Van Leeuwen after the jazz club performance and you took a candid picture of me using your Sony camera. I never really liked how I look in photos, but it was a photo that I truly liked—my eyes crinkled in joy, and my smile was genuine. The week was short, but I am glad that we got to spend a lot of time together exploring the city through the meals we ate, the fun activities we did, and the long conversations we had in the apartment.

I am aware that the time we get to see each other is limited, but I am thankful for the countless memories we've shared together. You are the closest reminder I have of my childhood, as so much of your past is interwoven into mine. I hope that we can remain close despite our uncertain futures.

Your older sister,
Vivian

ADVICE

When budding romance clashes with existing friendships

By Auntie Matter

ok.. hear me out. i know this is going to sound bad, but i recently started talking to this guy over the summer. we really hit it off, and i think i'm starting to catch feelings. the problem is, my friend dated him last year and things didn't end well. he knows we are friends, but she doesn't know we've been talking. should i tell her? am i a bad friend?

Dear distressed-in-the-dms,

First, apologies for the delay. Even if this matter has been resolved, Auntie's entire family wanted to pitch in to answer this for other readers. Our undergrad population isn't that huge, so catching feelings for a friend's ex is not an uncommon situation.

We must analyze why things didn't end well between him and your friend. Perhaps he cheated, physically and/or emotionally? Or was it simply incompatibility? Or something else? I assume you know these details.

Our advice assumes your friend is able to look beyond her acrimonious breakup and be truly happy for you. If this isn't the case, please think carefully about why this is so. What did he do? How did it affect her? If she ices you out over pursuing this relationship—either for reasons you agree with or reasons you don't—would you understand why, or do you feel it would be unjustified? Would you feel betrayed in her shoes? Even though you seem pretty set on pursuing this crush, we encourage you to think through these important questions first.

One final note before you decide to move forward: we encourage you to reflect on whether your crush is likely to hurt you the same way he hurt your friend. Maybe this is not an issue, depending on their shared history, but it's worth thinking about beforehand.

Now we address the core of your question. First of all, you are not a "bad friend"—you caught feelings and are wondering how to act on them. The fact that you're asking for advice suggests that you're a conscious friend. To this end, we believe that you should tell your friend ASAP. It won't be easy. To set the tone beforehand, consider texting them and saying that you want to talk about something important one-on-one. It's best to keep it direct.

If you want to go forward with this, here's how we suggest structuring the conversation:

1. The introduction: Keep it brief and say that you have to say something important first without interruption.
2. The body: Explain that you have romantic feelings for her ex, and that you recognize it can create an awkward dynamic if he's around her.
3. The mitigation: Emphasize that while you're in the talking stages, you won't ever purposefully make her uncomfortable. This includes talking about him constantly or bringing around the guy without letting her know.
4. The conclusion: You highly value this friendship and you hope that if she ever feels uncomfortable, she'll let you know. Also, you hope she can eventually be happy for you in the scenario this relationship works out, even though that's a lot to ask from her.

5. The addendum: if the relationship ever starts to look more serious, you will restart dialogue with your friend, perhaps even at a predetermined time. As an example, maybe you promise to have another, more serious conversation about this situation in a few months, if applicable.

This outline might seem strange. We are not suggesting that you "hide" your crush from your friend. Rather, we suggest you compartmentalize your friendship and your romantic interests while you can. If your crush progresses into a full-blown relationship, maybe tensions will have cooled enough for your friend and then-boyfriend to have cordial interactions. Maybe not, though—the Matter family would need to write a whole other answer for that situation. That's a very tough situation.

Honestly, there's a pretty high chance that after this conversation your friend will be openly angry or surprised with you. If we were her, some of us might just walk out of the conversation. It will be scary, but having open communication like this will let her express her anger and confusion without it bubbling up. If your friendship is strong, we're confident that you'll find your way back. Also, don't count your chickens before you hatch—you haven't even gone on a date with the guy! Bottom line: if you're doing this, talk with your friend ASAP, and then see what transpires with your crush. Don't do it the other way around.

Best of luck,
Auntie's Family



MOVIE REVIEW

The tragicomedy of America's urban underbelly in Anora, Sean Baker's glossiest film yet

The film, which won the Palme d'Or at this year's Cannes, is a joyous, manic romp that subverts both expectations of the classic "hooker with a heart of gold" stock character story and even the rest of Baker's filmography.

By Cameron Davis
STAFF WRITER

★★★★★

Anora

Directed by Sean Baker

Screenplay by Sean Baker

Starring Mikey Madison, Mark Eydelshteyn, and Yura Borisov

R. In theaters.

Rapper Pusha T is famous for drawing deeply from his time as a drug dealer in his lyrics; in particular, more than half of them reference cocaine. His response to critics who suggest that he should diversify his lyrics has remained constant throughout his career: "I like to call myself the Martin Scorsese of street rap. [...] No one ever asked Scorsese to make Gone With the Wind," he said in an interview after the release of his acclaimed 2022 album It's Almost Dry. And it's true; the depth of his double- and triple-entendres, the visceral scenes painted by his words, and the dark humor in his songs keep listeners entertained and guessing despite the unchanging subject matter. Grammy noms and Billboard-topping albums don't lie.

In the same vein, director Sean Baker is one of the most exciting, inventive, and genuine directors of his generation, but by some criticisms keeps making "the same movie"—a seedy and unglamorous look into the lives of the American underclass. Sex workers, especially, star in all three of his most famous works: 2021's Red Rocket features a newly-retired male porn star, 2017's The Florida Project finds a single mom turning to sex work in the grimy suburbs outside Disneyworld to make ends meet for her daughter, and 2015's Tangerine centers on a transgender sex worker's chaotic Christmas Eve in Los An-

geles. But to undersell his talent because of this common thread would be akin to counting out Pusha T's discography or Scorsese's Goodfellas.

Baker's latest movie, Anora, appears on its face to succumb to "the same movie" trope, featuring a stripper in New York falling for a rich Russian customer. But the film, which won the Palme d'Or at this year's Cannes Film Festival, is a joyous, manic romp from the beaches of Coney Island to the chapels of Las Vegas and private jet hangars everywhere in between, subverting expectations of the classic "hooker with a heart of gold" stock character story and even the rest of Baker's filmography.

The story opens on Anora, nicknamed "Ani," the aforementioned Brooklyn stripper. In her mid-20s, she's clearly good at her job due to her bubbly personality and efficient routine, but she clashes with customers and fellow strippers alike in her upscale Manhattan club. She speaks Russian because of her Brighton Beach background (a neighborhood known for its Russian immigrant population), so is introduced one night to Ivan. Nicknamed "Vanya," the heir to some oligarch back in Russia is spending his youth, and his dad's money, partying across the United States. He's immediately smitten with Ani and her rusty Russian accent, and after several successful nights together and one blow-out New Year's Eve party, offers her thousands of dollars to be his "girlfriend" for a week. Ani accepts, seemingly excited for the cash but also developing a real crush.

The whirlwind week involves a luxe spur-of-the-moment trip to Las Vegas, and although we keep getting the sense that something might go wrong, nothing does. Vanya is young and dumb but surprisingly kind and chivalrous. Ani clearly likes him but also keeps her guard up enough; his friends are obviously hangers-on, but seem to bring good vibes. This sense of safety follows through an offhand proposal that turns real, and soon enough Ani and Vanya are married in a Vegas chapel and back to Brooklyn to begin their wedded bliss.

But, of course, this can't last forever. Signs begin piling up that Vanya's parents not only don't know he's married,

but would be extremely disapproving if they did know. So, when they find out, the movie ramps up into Baker-classic overdrive, and a multi-borough, multi-city game of hide-and-seek ensues between Ani, Vanya, Vanya's goon handlers, Vanya's parents back in Moscow, and all sorts of Brooklyn lowlife figures. It's a blast.

Baker's directorial skill shines brilliantly throughout the 139-minute runtime, combining Gen Z's raucous aphorisms, love of screentime (video games, FaceTime, selfies), and devil-may-care youth with more serious undercurrents of wealth, class, gender roles, and child-parent power dynamics. Some of the line reads are more cuttingly absurd than anything released since last year's Bottoms, and the portrait of the underbelly of a big city is more chaotic and seedy than any theatrical release since the pre-pandemic Uncut Gems. Perhaps most impressively, the script and story are walk the fine line between the poverty-driven anxieties of Baker's Tangerine and The Florida Project, and Cinderella-story dreamlike aspirations of ease and comfort.

Without ever delving too deeply into either, Baker guides us flawlessly through a New York, and main characters, that can coexist on both sides of that class divide. The story unfolds hectically when it needs to, such as in the frenetic Vegas trip that culminates in a rushed marriage, or in a strip club brawl. But perhaps more importantly, Baker's script really lets us soak in moments where we need to be patient, such as when Ani's newfound fantasy comes crashing down in a long hostage-adjacent scenario, or in the denouement giving closure to a key relationship.

A love story (however dysfunctional!) is only as good as its leads, and Mikey Madison and Mark Eydelshteyn blow their leading actor debuts out of the water here. Madison is truly a star, shiny and glittering (as on the movie's poster) whether grating for tips or batting eyelashes at a new hubby... or cussing out a Russian Orthodox pastor and fighting for her life against hired thugs. Hers is a flawed character, but a strategic one, and it's a pleasure to watch her learn when to hold her ground and when to step back. A prolonged spat between her, Vanya,

and his parents finds her taking small losses for a larger, still-Pyrrhic victory. And although Eydelshteyn doesn't quite hit Madison's brilliance, he wins us over and convinces us, and Anora, that everything will be okay thanks to entertaining boyishness on display in the good (a winning smile) and the bad (a cowardly abscondment). Through their ups and downs, we never doubt their Romeo-and-Juliet initial chemistry, which makes their doomed outcome all the more painful. Did we know deep down there was no other way it could end?

Between Yura Borisov, Karren Karagulian, and Vache Tovmasyan as henchmen hired by Vanya's family, there are so many laugh-out-loud exchanges, especially across languages: Borisov's English and Russian are equally tight-lipped as he repeatedly bites his tongue against superiors; Karagulian's bewildered Armenian reflects how badly he just wants to go home; and Tovmasyan is equally exhausted, and his dialogue is even secondary to some hilarious physical performances.

Set design situates us squarely in Brooklyn mainstays, and I loved seeing some personal favorite spots make cameos, such as Russian restaurant Tatiana's on the Coney Island Boardwalk. In turn, the soundtrack is just as clubby and thumping and fun as Baker's other works, but has an even more eclectic pop taste, such as a climactic scene which begins with Slayyyter's "Daddy AF" and ends with "Where the Hood At" by DMX. That's crazy!

Baker has spent a career imbuing genuine, flawed humanity in characters from all walks of life. Anora is yet another thoughtfully-told notch in his belt. It also offers an optimistically complex, humanizing take on all sorts of other tropes. A Russian oligarch father isn't nearly as bloodthirsty as we expect, and spends most of his screen time giggling; a silent skinhead hired hand actually may have his ward's best interests at heart; people really do have the capacity to surprise us. And so even with his glossiest movie to date, Baker continues to impress with real insights into the tragicomedy of America's urban underbelly.

Scientific Literacy by Charlotte Myers '27

Solution, page 2

Across

- 01 Disobey the Hippocratic oath
07 Chinese chicken general
10 Simply must
15 Way to go
16 Campaigned
17 "The Jungle" author
18 Is christened
20 TLC toddler accessory
21 Cartographer's favorite novel?

- 23 Lloyd, of women's soccer renown
26 Communist command
27 Temporal unit for Swifties
28 World Heritage Site org.
30 Woodchuck, for one
33 Shareable doc format
34 "The Hobbit" protagonist
39 Taunt
40 Mammalogist's favorite novel?

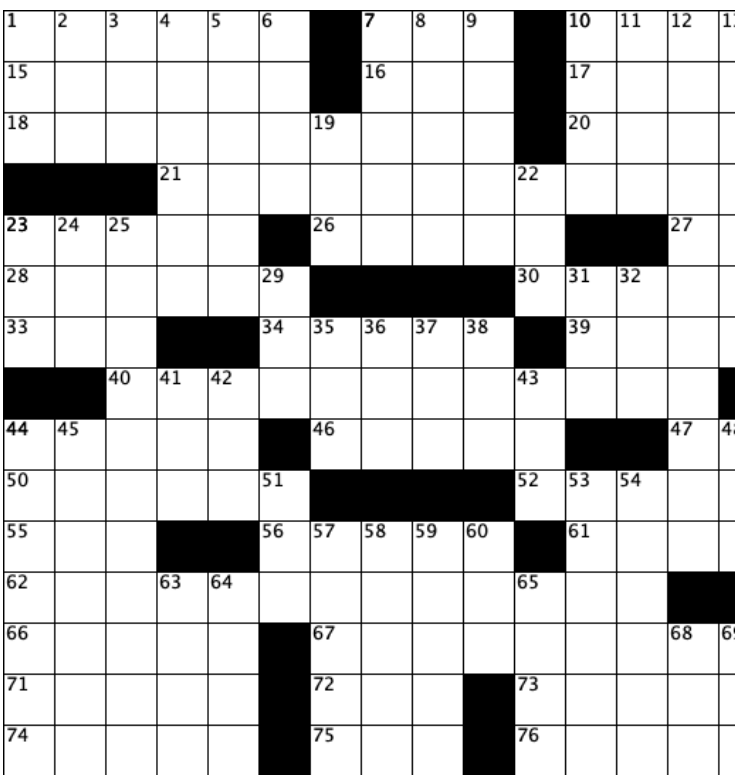
- 44 Pakistani politician Khan
46 Consumed
47 The cruellest mth., according to T.S. Eliot
50 Nincompoop
52 A high point of 54-down
55 Cleopatra killer
56 Consequence of grade inflation
61 Literacy declaration
62 Network engineer's favorite novel?

- 66 Eagle's nest
67 Well-spoken
71 "Paradise Lost" protagonist
72 Disfigure
73 "Wednesday" actress
74 Romantic rendezvous
75 Ant. counterpart in a thesaurus
76 "It's My Party" singer
Gore

Down

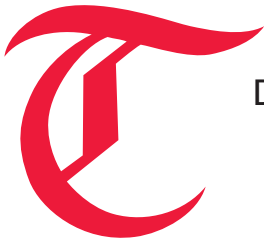
- 01 Actor Daniel ____ Kim
02 Spermatozoa counterpart
03 Nautical pronoun
04 Chronicles
05 Run-down, euphemistically
06 Worm variety
07 One man's treasure
08 "The Metamorphosis" protagonist
09 Daylight savings saving, briefly
10 Tutsi rival
11 One character in 62-across
12 Make a scene?
13 Those who mess with the bull
14 Scheduled
19 Lil ____ X
22 In your wildest dreams?
23 Chalice

- 24 Yes follower
25 Group founded by Ross Perot in 1995
29 ____-Wan
Kenobi
31 Bill gate?
32 "The Pioneer Woman" host
Drummond
35 What the world will end in, according to some
36 "Glee"
Michelle
37 Chiropterologist fascination
38 ____ and only
41 Galaxy descriptor, according to Star Wars
42 6, telephonically speaking
43 Building blocks, to a geneticist
44 Broke a leg?
45 Originate an eggcorn
48 Mendel's fascination
49 Favorite color of 13-down
51 In Excelsis ____
53 The lesser-known Curie



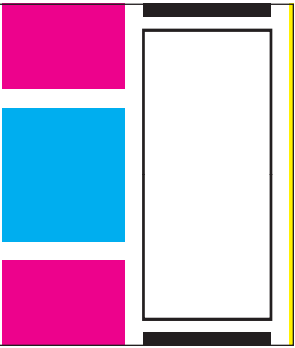
- 54 Kepler's fascinations
57 Building blocks, to a chemist
58 Deviate
59 Pine
60 Puerto Rico hrs.

- 63 Narrow inlets
64 Quitting time?
65 Steel ____
68 Animation frame
69 But a number
70 Produce 2-down



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CONCERT REVIEW

The BSO Ignites with Lisiecki on Mozart and Tchaikovsky's Stunning Pathétique

Philippe Jordan conducts the BSO, solo pianist Jan Lisiecki performs Mozart's Piano Concerto No. 20 in D minor, and the BSO plays Tchaikovsky's Pathétique in B minor

By Jordan Hewitt

Mozart's Piano Concerto No. 20 in D Minor, Tchaikovsky's Symphony No. 6 (Pathétique)

Boston Symphony Orchestra (BSO)

Conducted by Philippe Jordan

Jan Lisiecki on piano

Symphony Hall

November 16, 2024

On the BSO's home turf at Symphony Hall on November 14-16, the well-traveled symphonic conductor Philippe Jordan returned in grand style, leading the orchestra through two splendid pieces that are both minor in key, yet major in historical impact. Widely acclaimed Canadian pianist Jan Lisiecki joined as the piano soloist for Mozart's Piano Concerto No. 20 in D Minor.

The concerto was nothing short of won-

derful. Lisiecki's virtuosic skill cradled Mozart's timeless musicality with control and precision over texture and timing, toeing the complex interplay with the orchestra in a balanced and enthralling display. Truly, Lisiecki was a joy to listen to and to watch — especially in Mozart's second movement titled Romance, where Lisiecki smiled as he played its gentle, sweet theme.

Particularly commendable was the excellent balance between the piano and orchestra. Energetic chaotic sections of the final movement demonstrated this, as the aggressive orchestra hits and string shrieks darted between the piano's intensification and constant relentless dives into sweeping runs over throbbing bass notes. The life of the piece was palpable through the breath-like rise and fall of loud and calm sections, sections filled with orchestral modifications of the theme passed between the strings and horn sections, then space occupied by the piano alone.

The end of the Mozart piece faded into the audience's applause, with Lisiecki returning to perform Chopin's Nocturne in C Sharp Minor (Op. 20). His precise control over timbre and tempo was on full display, and perfect for the theme of the upcoming Tchaikovsky symphony. The brooding, ambivalent provocations of the nocturne opened with lovely minor key arpeggios over a constant bass motif, introducing the feeling of conflict and impassioned yearning that underscored the following symphony.



PHOTO COURTESY OF WINSLOW TOWNSON
Jan Lisiecki on piano in Mozart's Piano Concerto No. 20

Tchaikovsky's Pathétique has a particularly poignant history around it. The Pathétique, or Sixth Symphony, was first performed only nine days after his death. Almost too coincidentally, a note found after his death labeled the main plan of the sixth to be 'LIFE.' Such a tale, imbued with the circumstances of Tchaikovsky's personal life, and quotes from him declaring the symphony as his 'most sincere' and loved work, set the stage for numerous theories about its meaning. Even without the context, however, the symphony commands rapt attention and enthralling intrigue.

The stage was rearranged, with Jordan now clearly central at the front instead of the solo pianist. The conductor's particular gestures were in full view: small, rhythmic hand movements directed at various orchestra sections during quieter sections as if picking cherries; then, wider sweeping moves in which the piece swelled with grandiose layers of sound. The first movement began with the low bassoon meandering through a brooding melody, a solemn quiet to which the piece returned several times as a sober departure from the more complex sections. This creates a pensive mood which contextualizes the conflict Tchaikovsky represents through the symphony. The low rumble of the bass strings seemed to pull the arrangement together as the orchestra entered, bounding into allegro tempo beneath airy strings singing an almost romantic melody.

Perhaps the most impressive aspect of the performance's first movement was its ability to convey the yearning and calling. The wind section was focused heavily

in carrying the melody and creating internal conversation between the flute and clarinet. In an unforgettable moment in this opening movement (perhaps reminiscent of Tchaikovsky's 1812 Overture, which called for five cannon blasts), the timpani and brass sections ignited suddenly, startling some of the

audience who had been led into the momentary calm and quiet of the piece. Here, and for much of the rest of the piece, the bass strings and wind sections shone brilliantly. Anxiety built as the bass marched along, and the strings adding to the growing thunder — and then the piece teetered off this edge of heightened suspense to a constant calm tone.

As a sweet reprieve from the hard clashes of conflict, the delectable waltz of the midsection with contented, syncopated melody was wonderfully executed. But again, as the piece soared energetically with new melodies reverberating through the lines, the urgency built to a breaking point. The minor refrain seemed to burst and the chorus teetered with repetition, even with the timpani leading the melody. The end of the piece gently faded, like the final burning embers of a fiery life, held by the bassoon and strings: small, lamenting and hushed to almost a whisper.

The excited audience reaction matched the truly splendid display of the program, with the Tchaikovsky piece garnering cheers for the wonderful wind and brass sections, and sparking conversations beyond the event.

THEATER REVIEW

Galileo's Daughter tries too much and delivers too little

Central Square Theater adapts historical letters to the modern era

By Kaitlin Yeoh

Galileo's Daughter

Written by Jessica Dickey

Directed by Reena Dutt

Location Cambridge, MA

Dates playing (Nov. 14 - Dec 8)

Tucked between shops and restaurants along Massachusetts Ave is the Central Square Theater, with audience members spilling out of the building and down steps to watch its newest play, Galileo's Daughter. The plot is based on the 124 historical letters sent from Maria Celeste to her father, the renowned scientist Galileo Galilei, throughout her lifetime. Central Square Theater brings a twist to this story by paralleling Maria's (Sandra Seoane-Seri) life and struggles in the 17th century with "The



PHOTO COURTESY OF MAGGIE HALL
Maria Celeste (Sandra Seoane-Seri) and Galileo (Diego Arciniegas) in Galileo's Daughter

Writer" (Caroline Kinsolving), who struggles with her own identity and work as a playwright in the modern day. Through these parallel journeys, Director Reena Dutt attempts to explore the themes of female identity, freedom versus constraint, the danger of truth, and one's relationship with work. Galileo's Daughter is ripe with fresh ideas and interesting concepts, but ultimately fails to say something meaningful about any of them.

Firstly, and perhaps most disappointingly, is the play's shallow exploration of female identity. For a play titled Galileo's Daughter, the show itself does very little to make her into a memorable character. The same three facts about her life are told to the audience by The Writer—Maria Celeste was a "rockstar nun," she dedicated her life to her father's work, and she was "cool and badass."

What does the play show about her character, then? It sets up a few struggles Maria faces, such as being forced to join a convent because she's an illegitimate child, against her wishes to stay as her father's assistant. However, we never see her struggles in the convent, and in the next few scenes, Maria tells her father that she enjoys her life in the convent. We see none of the reasoning behind this sudden change of heart, or what growth in her character her struggles have given her. We're only ever told about who she is, not shown.

The Writer, on the other hand, is a more complex character as she struggles with feeling dragged down by her divorce. It's implied that her interest in Maria's life is because she idolizes Maria; Maria is completely dedicated to her work, courageous, and a hard-working woman who doesn't have a husband or children holding her back. The play tries hard to show parallels between The Writer and Maria: The Writer struggles with feeling confined by her divorce while Maria struggles with feeling confined by the convent and The Writer and Maria are both passionate and dedicated to their line of work.

However, because of Maria's shallowness as a character, any parallels between the two fall flat. The play follows The Writer as she searches for Maria's letters, with the climax of the show occurring when she finally does. What revelations come about finding them? What does this entire jour-

ney mean for The Writer? Apparently nothing, because her revelation comes from the scene after—where a random man she stumbles upon at a bar imparts wisdom on her, kisses her, then leaves. The Writer, after kissing him, dramatically reveals that she's finally "free" and garners the courage to sign and finalize her divorce papers.

Artistic Director Lee Mikeska Gardner claims that The Writer's revelation is "if every woman in the world were allowed to define themselves without the need of validation from a male-dominated society there would be no danger at all." Ironically enough, this revelation is imparted onto The Writer from a man in a single scene. Maria's letters, and by extension Maria, are reduced to a macguffin for The Writer's arc.

Maria's role as a device to further other characters is even more evident in her relationship with her father, Galileo (Diego Arciniegas). In an attempt to make Maria an individual character separate from her father, the play does exactly the opposite, tying all her scenes, her struggles, and wants to him. Arciniegas portrays Galileo as a fun-loving, goofy father who wholeheartedly supports his daughter. This simplified and modernized portrayal of their relationship strips away the opportunity for the story to explore how an understanding of female identity, especially in relation to men, has changed over the years. Furthermore, without any tension between Maria and her father, the play loses its chance to give Maria the ability to assert who she is on her own.

This portrayal of Galileo is only used to further his own character and to help with his own arc of understanding identity in relation to the vast universe. Galileo's conflict comes from wanting to expose the truth that the Earth revolves around the Sun, and not the other way around. Here, the play presents interesting themes. Why is the idea that humans aren't at the center of the universe so terrifying? What does it mean to not be unique? Yet again, it fails to deliver anything meaningful. Galileo, at the end of the play, gives up on his quest to spread this news (for which his motivation is never explained). He turns into a more reserved and regretful man, contrasting his fun-loving attitude from before.

Besides the themes Galileo's Daughter tries and fails to execute, its unique narrative structure and acting choices also fail to make any impact. The show is uniquely set in a black-box theater with only three actors (Arciniegas and Seoane-Seri play multiple side roles) and The Writer is both a character in the show and its narrator.

The multiple roles certainly add a lot of creativity to the show, but felt like a way to get cheap laughs by the end. Arciniegas, besides playing Galileo, also plays an amalgamation of "Italian characters" based on Italian stereotypes. Any time The Writer would come to a revelation, it would be broken by a "joke" from his character, never allowing the audience to truly sit with an idea. Furthermore, Kinsolving spends the majority of the show narrating what she's doing or what she's seeing as a meta-joke for the audience, seeing as The Writer is a playwright. Instead, it felt like a gimmicky and cheap way to pour tons of exposition out without creativity, and caused the show to drag in its pacing.

Overall, while Galileo's Daughter attempts to communicate many ideas and theories, none of them stick to the wall or the audience's minds.

CONCERT REVIEW

A rich soundscape: Hiromi's Sonicwonder is a seamless fusion of genres

Acclaimed jazz pianist Hiromi performs her latest album, Sonicwonderland



PHOTO COURTESY OF ROBERT TORRES
Hiromi performs her debut album, Sonicwonderland, at the Berklee Performance Center on Saturday, November 9.

By Cristine Chen & Vivian Hir

Hiromi's Sonicwonder

Jazz Performance

Celebrity Series of Boston

Nov. 9, 2024

Berklee Performance Center

with a soothing presence. Together, they crafted an uplifting soundscape that rose like a warm sunrise full of hope.

Almost immediately, the audience was transported to Hiromi's next piece "Sonicwonderland," a magical realm that brimmed with whimsical and vibrant energy. The music burst with eclectic, colorful pops of sound, each note prancing playfully in the air. Funky, syncopated melodies wove in and out, building an irresistible groove. The performance pulsed with a contagious energy, its joyous spirit spreading to everyone in the audience.

In "Trial and Error," the music guided the audience through a landscape of sudden pauses and sharp shifts in tone and rhythm. The initial excitement and upbeat energy gradually unraveled into a nervous, frenetic pulse. The dark, introspective moment lingered, unnerving and tense, before the music rebounded with a renewed resilience. The melody grew warmer and lighter as if it was finding its way back from the shadows.

Although "Utopia" also shared the upbeat energy in "Trial and Error," "Utopia" stood out for its calm, mellow qualities. Unlike the previous pieces, the instruments in "Utopia" sounded more reflective, especially the bass's meditative solo that was distinctive for its bubbly texture. The music's melody painted a picture of a utopia filled with hope and promise, from the piano's effortless glissandos to the cymbal's light, shimmering sound.

After "Utopia" was "Up," a lively piece that was an amalgamation of all possible kinds of sounds, from the galactic space sound effects to the trumpet's buzzy, rough melody. By doing so, the various musical textures took the music onto a whole other dimension. The highlight in "Up" was Coye's impressive drum solo. The variation in the tempo, pattern, and volume allowed the solo to build up anticipation and then climb back down, which repeated many times throughout the solo. By doing so, the solo had an entrancing effect that kept the audience on their toes.

Before starting the next set, Hiromi took a moment to reflect on her musical studies at Berklee. She recalled being in her early 20s when she first arrived as a student, spending countless hours alone in the practice rooms, composing parts of pieces that would later appear on her de-

but album. It was during this time that she met David Fiuczynski, now a professor at Berklee, who played on her debut album Another Mind and collaborated with her on several early releases.

Introducing him as her "guitar hero," Hiromi welcomed Fiuczynski to the stage, where he joined her for her encore, plugging in his signature red double-neck electric guitar. Hiromi first played "The Tom and Jerry Show" as a piano solo. Afterwards, Fiuczynski and her bandmates joined her to play "Bonus Stage," the last encore piece.

"The Tom and Jerry Show" was memorable for Hiromi's captivating stage presence. Her playing perfectly captured the humorous and mischievous dynamic between Tom and Jerry; the right hand's rapid descending notes punctuated by the left hand's accented notes were like a game of cat and mouse. What made the piece even more entertaining was when Hiromi plucked the strings in her piano, which elicited some laughs from the audience. Overall, listening to "The Tom and Jerry Show" was like hopping on a thrilling roller coaster ride.

The concert closed with "Bonus Stage," which was met with a resounding "Yes!" from the audience when Hiromi asked if they wanted one more. Although a piano and jazz guitar duet may seem unorthodox, the two complemented each other well: the piano provided a strong underlying beat, while the jazz guitar's electric sound lightened up the atmosphere. Their strikingly different timbres and melodies created a rich sound that was unlike any other musical combination out there.

Hiromi radiated pure passion throughout the concert, her beaming smile making it clear just how much she enjoyed sharing her music. Her hands danced across multiple keyboards as she swayed to the rhythm, bouncing her head up and down while shifting between sitting down and standing up. Hiromi describes her music as "a blend of everything I've listened to and learned," and that night, she took the audience with her on a beautiful auditory adventure. Her dynamic performance, technical brilliance, and seamless fusion of genres won over the hearts of many. As Hiromi concluded her set with her bandmates and special guest, the audience erupted with a standing ovation.

PLAY REVIEW

The Huntington's Sojourners Captivates and Stirs Emotion



PHOTO COURTESY OF MARC J. FRANKLIN
Left to right: Nomè SiDone as Ukpong and Abigail C. Onwunali as Abasiama in Sojourners at the Huntington Theatre.

By Alayo Oloko

Sojourners

Written by Mfoniso Udofoia

Directed by Dawn M. Simmons

Location: The Huntington Theatre (264 Huntington Ave, Boston)

Dates Playing: Oct. 31-Dec. 1

Sojourners, by Mfoniso Udofoia, the first play in the nine-play series Ufot Family Cycle, follows the story of Abasiama and her husband Ukpong, a Nigerian couple studying in Houston in the 70s — about a decade after the Nigerian Civil War. As a Nigerian-American, this play resonated with me. In fact, this play has resonated with me for quite some time, ever since I was thirteen and first saw the play as produced by Playwright's Realm in New York City in 2016. Needless to say, I was excited going into The Huntington's production, directed by Dawn M. Simmons. The excitement was clearly warranted because this production held my attention and countless emotionally resonant moments lingered in my head long after the show.

The play starts with Abasiama far into her pregnancy. Her marriage, arranged by her and Ukpong's families, is under strain from their differences. Abasiama is focused on her studies while working at a gas station and intends to follow through on the plan to return to Nigeria after they have received their degrees. Ukpong, on the other hand, has fallen in love with American culture and wants to stay and live free of responsibility.

As the nine-month mark creeps closer, Abasiama meets Moxie, a spirited and bold young woman surviving on her own, and Disciple, a fellow Nigerian — more specifically, a fellow Ibibio student — who is lonely and struggling to express himself in his writing. All of these characters push Abasiama in one way or another to think about her ideas of herself, her marriage, and her responsibility to her family. Through this narrative, the play tackles several themes, such as assimilation, betrayal, love, longing, and friendship.

The four actors in this play work together to bring the play to life, giving dimensionality to each of the characters and creating a connection with the audience. Abigail C. Onwunali gives a powerful portrayal of Abasiama, capturing her rage, grief, happiness and every shade of emotion in between with striking acuity. Even when she isn't speaking, her face brims with expressiveness that is highly compelling. She certainly brought me to tears during this show with her performance. Asha Basha Duniani infuses Moxie with vibrant energy that shines through in both comedic and serious moments. Nomè SiDone plays Ukpong, balancing his charm, inconsiderateness, and overall flighty nature expertly. Joshua Olumide portrays Disciple's nuance well, making me consider the character in a new, perhaps less sympathetic light than previously.

Seeing is Believing, Hearing is Revealing

MIT and Northwestern conducts study that finds humans are more adept at spotting political deepfakes than previously thought.

By Atharva Shah

As artificial intelligence technologies advance, concerns grow about the potential for hyper-realistic deepfake content — media edited or generated with AI — to mislead viewers, especially voters, and undermine democracy. But new research published on September 2nd, 2024 in Nature Communications finds that individuals between the age of 18 and 65 are surprisingly adept at distinguishing real political speeches from AI-generated fakes. The research, conducted by scientists at MIT and Northwestern University, provides some reassurance about humans’ ability to detect digital deception in an era of rapidly evolving AI.

“There’s been a lot of concern that deepfakes would soon be indistinguishable from authentic videos,” said Aruna Sankaranarayanan, lead graduate student on the project. “But our findings show that having sensory information — being able to both see and hear the content — actually helps people spot fakes more accurately than we previously thought.”

The study involved experiments with over 40,000 participants who were asked to evaluate real and fabricated political speeches by prominent figures, such as President-elect Donald Trump and President Joe Biden. The speeches were presented in various formats, including text transcripts, audio clips, and videos.

Across multiple experiments, accuracy in distinguishing real from fake content increased significantly when participants had access to audio-visual information. In the experiment, accuracy rose from just 57% for text transcripts to 86% for videos with audio.

“We were surprised by how much the addition of audio improved people’s ability to detect fakes,” said Sankaranarayanan. “It seems that how something is said — the audio-visual cues — matters even more than what is said when it comes to judging authenticity.”

Even when not explicitly asked to judge authenticity, participants were more likely to express suspicion about fabricated content when presented with video rather than just text or audio. This suggests that visual cues play an important role in triggering people’s natural skepticism.

Sankaranarayanan noted that the findings may inform approaches to media literacy education and social media content moderation; providing full audio-visual content could be key in helping the public distinguish fact from fiction.

Interestingly, the study also found that deepfakes using audio generated by text-to-speech algorithms were harder for participants to detect than those using voice actors, demonstrating the rapid progress in AI voice synthesis technology. Nikhil Singh, a graduate student who worked on crafting the audio for the study, “spent a

lot of effort into making these as realistic as possible,” Sankaranarayanan stated, “accounting for factors like environmental acoustics and how voices change when moving closer to or further from a microphone.”

The researchers examined how the prevalence of fake content affected people’s ability to detect it, finding no significant overall difference in accuracy between groups exposed to high versus low rates of deepfakes. However, participants in the high-exposure group were less confident when identifying fakes — the experiment allowed the participants to list their levels of confidence. This suggests a possible desensitization effect, where individuals heavily exposed to deepfakes are less likely to identify them.

Even though the experiments showed average identification rates of 80%, the 20% is still enough to swing election results. Aya Schwartz, an undergraduate not involved in the study who studies misinformation and its consequences with Dr. Gillian Sinnott at Harvard University, comments: “A technology or policy that identifies deep fakes would allow people to feel more comfortable in determining if media is fact or fiction,” referencing the mistrust of media. “People are able to make informed choices when they believe what they see, a vital part of democracy.” The power of deepfakes, particularly their ability to compel and elicit

a more emotional response, mean that just one solution is not sufficient to solve the problem.

The researchers behind the study acknowledged this limitation and emphasized that their work is just one piece of the puzzle in understanding and combating digital misinformation. “Our study focused on a specific context — political speeches by well-known figures,” Sankaranarayanan explained. “The dynamics could be different for less prominent individuals or different types of media content.”

The team is now exploring how factors such as political affiliation and media literacy affect people’s ability to detect deepfakes. They’re also investigating how exposure to fabricated content might influence political attitudes and voting behavior.

As AI continues to evolve, staying ahead of misuse remains a challenge. Harnessing our natural perceptual abilities, particularly our capacity to integrate visual and auditory information, could be a powerful tool in that effort. “The human brain is remarkably good at detecting subtle inconsistencies,” Sankaranarayanan noted. “By understanding and leveraging these capabilities, we may be able to build more effective defenses against digital deception.”

In an era where seeing is no longer always believing, it seems that seeing and hearing together might be our best bet for discerning truth from fiction in the digital age.

realtalk@MIT: Using AI to bring human conversation to life

A new Media Lab program uses AI to create audio medleys from small group conversations. The goal is to build trust and understanding in the MIT community.

By Hailey Pan & Karie Shen

In today’s digital age, words and information are everywhere—flooding our feeds, congesting our inboxes, and pinging us with text messages. Yet, written words can never bring life to words the way a human voice can. This unique impact of spoken words is the essence behind MIT’s Center for Constructive Communication (C3), a research group aiming to foster conversations that promote shared understanding.

Based in the Media Lab, C3’s work studies the “ancient wisdoms” of human conversation—such as facilitated dialogue, deep listening, and community organizing—alongside digital technologies such as social media to better understand how to promote trust between people in the modern age. Their research is headed by Professor of Media Sciences Deb Roy, who, prior to joining C3, spent years researching social media and false news, sparking his interest in developing novel communication tools. Today, C3 works closely with Cortico, a nonprofit co-founded by Roy, to translate C3’s research into practice.

A program that has recently emerged from C3 is realltalk@MIT. “The past president of MIT asked if we would pilot some of those tools and methods to create a space for talking about values within the MIT community,” Roy stated. Elena Sapora, the program’s former lead, describes realltalk@MIT as “a new form of digital social network that is rooted in small group conversations.” Conversations are done in small groups and moderated by a trained leader. The content is recorded, transcribed, and then fed into an AI model that highlights and extracts excerpts surrounding themes of the conversation. Finally, C3 members string these excerpts together to

construct a distinct audio medley for the community to listen to on their platform Fora. Voice medleys for organizations such as Durham’s Community Engagement Division and the Newark Opportunity Youth Network are available online.

Students at the Institute can organize a “dialogue project” around a topic of interest, and trained realltalk@MIT facilitators will lead small group conversations to produce a voice medley focusing on common themes. Access to the recordings and transcripts will depend on the goal of the project.

The purpose behind these medleys is to overcome the gap between information and human connection by allowing listeners to hear the authentic voices of others in their community. By “hearing people’s voices, just hearing their accents, intonations, and pauses,” Sapora says of her experience listening to the audio clips, “I felt very connected to the person.” Research by C3 backs this sentiment. In a study to compare voice anonymization methods, they found stark differences between voice conversion (VC), which transforms voices to sound like another person without changing linguistic content such as rhythm and accent, and text-to-speech (TTS), which produces synthetic speech such as in Amazon’s Alexa and Apple’s Siri. When comparing human responses to these natural and synthetic voices, they found that VC received similar scores to original voices in terms of the empathy or trust that listeners feel towards the storyteller. On the other hand, TTS resulted in lower scores regarding trust and respect. For them, this work underlined the value of the authentic human voice in sharing experiences and conducting meaningful conversation.

With this aim of cultivating construc-

tion communication, realltalk@MIT launched by gathering students and faculty to discuss light-hearted topics like hobbies and interests to more challenging ones, such as their values, political views, and experiences before and at MIT. When designing the pilot program two years ago, the C3 team sought to “bring the MIT values statement to life,” including Openness and Respect, and Belonging and Community. Professor Dimitra Dimitrakopoulou, the visionary behind the pilot and a sociotechnical scientist, explains that the questions were uniquely phrased to probe how students’ lived experiences reflect the values MIT strives to embody.

“It’s an art,” Dimitrakopoulou says, explaining that questions are carefully designed to draw out personal stories that may help those in the conversation “see their shared humanity.” For example, they often use questions that start with “Tell us about a time when...” or “Share a moment when you felt...”

While Dimitrakopoulou acknowledges that “MIT values are not the ultimate goal of this program,” they have nonetheless played a key role in shaping the program, which officially launched on August 22, 2024, focusing on incoming first-years. This day-long training for 63 Orientation Leaders (OLs) involved participating in a realltalk@MIT session themselves. Participants were led through a facilitator training, where they engaged with a custom app that allows users to identify key moments from conversations and listen to the highlights of others’ discussions.

A “sensemaker” is someone trained to sift through transcripts to find common themes in the discussions. Backed by AI models that recommend themes, Roy says that the sensemaking job is a “human-led, AI-supported process,” holding to C3’s val-

ues of encouraging students to develop civic muscle and “harness the power of AI to build human connection and build trust.” The following day, a second training session was held for graduate student leaders.

The response was overwhelmingly positive—50 percent reported feeling very satisfied, while another 38 percent felt somewhat satisfied. Five were neutral, and only one expressed being somewhat dissatisfied. None were very dissatisfied.

Through these dialogues, realltalk@MIT aspires to “create opportunities for people to build civic soul.” They believe building skills such as facilitating small group conversations and asking questions in ways that encourage people to share experiences over opinions are critical yet overlooked in a society filled with polarization and superficial interactions.

Further, hearing how things are said—tone, inflection, pauses—is worth a thousand words. Audio, and original voices allow listeners to feel the weight of the storyteller’s experiences and emotions.

By applying realltalk@MIT’s principles—asking questions with intention, listening to others’ voices with openness, and responding empathetically—C3 hopes to recast conversations into opportunities to build relationships grounded in respect, understand those who challenge our views, and create a sense of unity rooted in our shared humanity.

“Even in the toughest, most controversial topics,” Roy explains, acknowledging others’ stances by saying “That’s where you stand, and I respect that,” your opinion may not shift at all, but that’s not the goal here. If there’s anything we want to shift, it’s your stance towards the other person. We differ on some things, but there’s also a lot that we share.”

Meet Nergis Mavalvala PhD ’97, Dean of the School of Science

“MIT has a place of trust in society when it comes to the work that we produce and the students that we produce.”

By Karie Shen & Alex Tang
EDITORS

Dean Nergis Mavalvala PhD ’97 has made remarkable contributions to the Institute since becoming faculty in the Department of Physics in 2002 and becoming the School of Science Dean in 2020. As a researcher, Dean Mavalvala is renowned for her work in gravitational-wave detection, and spearheaded the LIGO (Laser Interferometer Gravitational-Wave Observatory) that made the first direct detection of gravitational waves back in 2016. Recently, Dean Mavalvala has been leading the effort in building the Institute-wide Life Sciences and Health Collaborative.

The Tech recently sat down with Dean Mavalvala, who spoke about topics ranging from how she keeps up with the latest developments in disparate fields of science to her favorite spot to grab a meal in Cambridge.

This interview has been condensed and lightly edited for clarity.

TT: Tell us about your journey to MIT?

I grew up in Pakistan, and then I came to Wellesley as an undergraduate. I did my PhD here at MIT, and I went to Caltech for a postdoc. Then I had this opportunity to come back to MIT to be on the faculty. And that was not an easy decision for me, because I didn’t really know the rest of the department very well. But it was a great decision. Since my PhD years, my research has been on gravitational waves. I’m an experimental physicist, so I’ve been sort of part of the team that designed and built detectors that, you know, made the first discoveries [in the field].

I’ve always thought a lot about what’s enabled me to be successful, and it’s been the work of others. I decided it was time for me to do that for others, and that’s how I became more involved in service and administration. I was Associate Dean of the Physics department for a few years, and then I became the Dean of the School of Science.

What was most attractive to me is the opportunity to work with the students. I’ve been at many other universities, and it’s not like our students are the best, but they really are.

TT: How do you think the world’s perception of MIT has changed over time?

MIT’s reputation has really grown in the 30 years since I’ve been lurking around. Part of the meteoric shift has been the focus on becoming more diverse. When I first arrived here, there was no parity, no gender parity. And that really shifted. You could say, “What difference does that make?”

One was that when you get people from different backgrounds together, the discourse becomes richer. When I was an undergraduate, people were much more singular in what they wanted to do. But there wasn’t a lot of thought about the rest of the world.

We now think a lot more about the rest of the world. That has then allowed us to be more visible to the outside world, not just as a collection of nerds, but also nerds who can think more broadly and have impact outside of just the widgets that we invent.

It’s still evolving in that direction. The work is not done.

TT: You have played a major role in the upcoming launch of the Life Sciences and Health Collaborative. How do you think that the Collaborative will address gaps that you’ve seen at MIT in these disciplines?

Our departments have an external review, which involves a visiting committee that

comes and tells us how we might improve the departments. They would keep telling us that there’s all this amazing life sciences and health research going on in different parts of MIT, but people aren’t really talking to each other. A group of faculty got together and carried out a study called the VITALS report, or the Vision to Integrate, Translate, and Advance Life Sciences. It’s one thing to be anecdotal and another thing to actually go out and measure. They found that there was a large number of people who were hungry to collaborate, but they didn’t know how to find each other. They didn’t know how to fund that kind of work.

The Collaborative’s main function is to help those faculty and researchers come together. It also allows us, as a community, to come up with a handful of moonshots: things that we don’t know how to solve today, but if we put all of our collective efforts together, maybe we can move the needle on them.

There’s this sense that the digital revolution was born at MIT, and then it moved away to Silicon Valley. We also have such a big influence on the growth of the biotech revolution. Should we not take better care of being more coordinated and integrated with biotech companies in the area and hospitals? The Collaborative is essentially a big connector.

TT: How can students look forward to change if they’re working in the life sciences?

One of the biggest parts of this initiative is going to be students, because students are the most likely to be able to work between multiple labs. If you want true collaboration, the students are doing that.

The Collaborative is going to create these opportunities to work in more than one area, to be truly multidisciplinary. Something which we are yet to define are these moonshots we want to go for. The amazing thing of working on a moonshot is that maybe 10 years from now, the students have graduated and there will be some major shift or discovery, and they’ll say, “Wow, I was part of that.”

TT: Your research deals with something pretty abstract. What is your philosophy and your approach to communicating science to the general public?

Since my PhD years, my research has been on gravitational waves. We’re at a moment in time in our society where communication in general is not working really well. For me, communication in science is storytelling. It’s really different from the execution of science, which is very precise and detail-oriented. The universe doesn’t reveal her secrets lightly. You have to work hard and be precise. But once you’ve done that, then you have to step back and understand that, except for a few of your colleagues, most people neither care about nor can follow the details. The key piece of this is, how do you tell a story which is filled with esoteric details and also generate trust that you did it right?

MIT has a place of trust in society when it comes to the work that we produce and the students that we produce. For science communication, that’s very important.

On the research side, I’m an experimentalist. The most important thing is to know which questions are important to ask. Not only are they important, but do we have the means to answer them? Can you see a path to it? If you ask important questions and then you set to work answering them, you will always learn new things.

TT: How has being an educator today changed from when you first joined MIT’s

faculty?

Students are more stressed today. I know many older people who think this is just a lost generation. I have a completely different opinion.

This is a generation that has been burdened beyond breaking point. We have a lot of things to fix on this planet and our society. Since COVID, we have seen learning losses. The university system as a whole—and ours is no exception—has not really reacted to that. We haven’t sat down collectively and said, “Does our curriculum still make sense, given that students are coming in with different gaps than they did 20 years ago?” We have some work to do.

The other unprecedented thing is how accomplished the students are. They’re coming in already having done things that most people in my generation did when we were 40. The cost of that is the stress that they feel, but it just blows my mind away what you guys have done by the time you’re 20.

TT: As the Dean of Science, you oversee many departments. How do you keep up with each of those areas?

I have a little notebook titled ‘Mind Blown.’ Every morning, one of the first things I do is read MIT News. Every morning, a new story pops up, sometimes about an amazing member of our community, sometimes about a scientific discovery, and I can’t tell you how often I have to catalog some one of those stories in my Mind Blown notebook. I have a fantastic Director of Communications, Julia Keller, who is very good at collecting the stories of discoveries and my colleagues.

Everybody at MIT lights up when you ask the question, “What are you working on?” So that’s a wonderful way to learn about the things people are working on. And then I get this incredible answer. Sometimes I don’t understand it, and then I have to poke back a little. Another thing that we do in the School of Science is we have some amount of funds that we give away as grants that are proposal-based. We get these relatively short proposals where people tell you a little bit about the problem they’re working on. So I can’t say I read every article that comes out in Nature and Science, because that would be impossible, but this is a much better way to get a sense of what 300 of your colleagues are doing.

TT: For fun, what does a typical day in your life look like?

I live in Arlington, so it takes me about 25 minutes to bike in. I have an eight-year old son who I dropped to school on his bike on my way here. Most days, my days are spent meeting people, just meeting, meeting, meeting, which I really enjoy. By six in the evening, I bike back to pick my son up.

I’m an avid racket sports player. So some nights I go to a badminton club, some nights I come back to MIT to play squash. I have an older son as well. We’re all cyclists, and we’re all racket sports players.

TT: What is your favorite meal or snack spot in the area? What do you like to cook?

Since I was old enough to have to have an ID, I’ve been going to Miracle of Science right here on Mass Ave, across from Random Hall. Who can’t love that name? It’s a little local place and I’ve known the people who work there for all those years.

I mostly cook Asian food, some South Asian and some East Asian, some Middle Eastern. I’m a year-round griller. I will walk through knee-deep snow to our grill.

Digital simulations help robots learn real-world tasks



PHOTO COURTESY OF IMPROBABLE AI LAB

A robot arm trained with RialTo completes a household task.

By Jienuei Chang

How does a robot learn how to load a dishwasher?

One way is through trial and error, testing different behaviors until something works. This is the concept behind reinforcement learning, where robots interact with their environment and receive feedback in the form of rewards or penalties. The robot takes an action, observes the result, and adjusts its future actions based on whether the outcome was favorable or not. Running this in real life, however, would require a lot of training time and probably leave broken plates on the floor.

Recently, a study published in March from the MIT Improbable AI Lab proposed a “real-to-sim-to-real” pipeline called RialTo that scans the robot’s real-world environment using just a phone, rapidly builds a digital model with accurate geometry and kinematics, and conducts reinforcement learning in the simulation before transferring the results back into the physical world.

“There’s this very famous bridge called Rialto. It’s one of the most famous routes in Venice,” says Marcel Torné Villasevil, the study’s first author and a current PhD student at Stanford. “Real-to-sim-to-real is like that bridge, going from real to real again, but through the simulation.”

Many robots rely on imitation learning: a human manually controls the robot to conduct a task, and the robot tries to copy those motions. This requires many demonstrations, though, and the result is not as robust with environmental disturbances. For example, if a dish is slightly out of place, an imitation-trained robot might grab for empty air instead.

The RialTo pipeline starts off with human demonstrations so the robot can understand its task. Instead of hundreds of demonstrations, it only needs fifteen. Then, the simulation kicks in.

First, existing 3D reconstruction technology scans a real environment. Then, the scene is edited, adding detailed meshes, joints, and objects with estimated physical properties, like a mug with mass or a cabinet drawer with friction. The virtual robot learns to interact with this reconstructed geometry, generating thousands of example valid motion paths, replacing the demonstrations in traditional imitation learning. These examples are then used to train the real robot in a physical environment.

“So just providing a few demos and sparse rewards, you can already train robust policies, or strategies for completing tasks,” says Torné. With this approach, robots can adapt to new situations without extensive human effort.

It’s not a perfect system. Sometimes, the robot abuses the simulation; for example, it jams itself into the bottom of a microwave to exploit a slightly misaligned hinge rather than opening the microwave door properly. But, by using simulations alongside the initial real-world demonstrations, the robot can learn to correct its behavior. The full RialTo pipeline results in a 67% improvement in policy robustness over imitation learning.

Martin Huynh, an MIT graduate student studying autonomous robotics and path optimization who was not involved in the study, says that “this learning pipeline shows significant promise for teaching robots a variety of policies with reduced human intervention.”

Huynh notes that there are still human bottlenecks such as the effort required to manually define interactive objects, but says that RialTo represents an important step in turning reality into simulation. “We may be closer than we think to having robot assistants in our homes — a prospect that is both exciting and a little unsettling, to be honest.”

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A close-up photograph of a hand holding a large, professional camera lens, showing the intricate details of the lens elements and the hand's grip.

LETTER TO THE EDITOR

Letter regarding events at CSAIL

By Cynthia Barnhart
& Melissa Nobles

To The Tech,

In a recent opinion published on November 7 regarding a research project at CSAIL, the authors argued for taking increasing action against the lab.

We want to be clear that recent student disruptions involving CSAIL have already crossed a line. We can agree or disagree on research or policies at MIT, but we cannot at any time accept individualized targeting of staff, students, and faculty that aims to intimidate them from carrying out their work and studies, or which makes them fearful for their security in their offices, labs and other activities. This has happened in this case and in other instances, and is not acceptable.

Accordingly, students involved in these types of activities have been referred to the Committee on Discipline.

As President Kornbluth stated last spring, “In an open academic community, it is certainly acceptable to ask questions about someone’s research and funding sources. But that should never rise to the level of intimidation or

harassment.”

It’s important to make clear that the project at CSAIL was approved in accordance with US law and MIT policy. As with all research on our campus, the project involves work that is open and publishable, with the results available to investigators everywhere and not only in a particular country or countries. The opinion article suggests that this work is proprietary and conducted for a specific use, which is simply untrue.

In fact, the grant supports work focused on a coreset compression algorithm that can improve robotics in a wide array of fields. This is fundamental research that has many applications, as is typical of much of the technical research carried out by our PIs and students. In this respect, it is just one reflection of MIT’s ongoing contribution to the world of knowledge.

Even when they feel strongly about an issue, we expect our students, and all community members, to treat each other and those around them with decency.

Sincerely,
Cynthia Barnhart, Provost
Melissa Nobles, Chancellor

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