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WEATHER, p. 2 THU: 76°F | 67°F FRI: 76°F | 56°F SAT: 68°F | 50°F

Thursday, September 18, 2025

Charlie Kirk's death provokes unrest at MIT Spencer Sindhusen '27: "To see him slain in cold blood was absolutely horrifying to me"

By Sabine Chu, Vivian Hir

Volume 145, Number 15

On Sept. 10, conservative podcaster and activist Charlie Kirk was shot and killed at a public event at Utah Valley University, a stop of his "The American Comeback" debate tour. Kirk was known for founding Turning Point USA in 2012, a nonprofit organization credited for its role in shaping the conservative youth movement. While his death has prompted condemnations of political violence, others have questioned Kirk's legacy in promoting culturally conservative beliefs, includ-

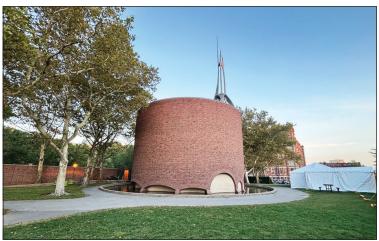
ing his traditional views of women nied the claim and called the stuand pro-life stance on abortion. Tyler Robinson, the current suspect for Kirk's killing, is in custody as of Sept. 18.

On Sept. 11, an anonymous email claiming to represent MIT Campus Conservatives invited the undergraduate body to a memorial at the MIT Chapel at 8 p.m. the following day. The email praised Kirk as "a fierce conservative and Zionist activist, a devoted father, and an inspiring voice for open, thought-provoking debate."

When a student responded and asked whether the message was a joke, the anonymous account de-

dent body a "liberal hivemind entrenched with rabid antisemitism." No memorial was observed on Sept. 12 at the arranged time and place. A vigil was held at Harvard's Widener Library on Sept. 13 with an attendance of over 100 people. MIT Campus Conservatives does not appear to be an Association of Student Activities (ASA)-recognized organization. According to Spencer Sindhusen '27, president of the MIT College Republicans, their group was not responsible for sending the anonymous email

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VIVIAN HIR —THE TECH

The MIT Chapel on Monday, Sept. 15, 2025.

In Memoriam (1938-2025): David Baltimore, 1975 Nobel Laureate and founder of Whitehead Institute

Dr. Baltimore received the Nobel Prize for his 1968 discovery of reverse transcriptase

By Sabine Chu ASSOCIATE NEWS EDITOR

David Baltimore, a former MIT Professor of Biology and founder of the Whitehead Institute for Biomedical Research, died on Sept. 6 at his home in Woods Hole, Massachusetts. He was 87.

In 1975, Baltimore, Dr. Howard Temin, and Dr. Renato Dulbecco received the Nobel Prize for Physiology or Medicine for their discovery of the enzyme reverse transcriptase. This development, which revealed that DNA could be derived from an RNA template, revolutionized the field of molecular biology just 15 years after the discovery of the double helix structure of DNA in 1953.

Dr. Harvey Lodish, an MIT Professor of Biology since 1968, fondly recalled his time working with Baltimore, whom he met at graduate school at Rockefeller University over 60 years ago. Lodish, who described the 1960s as "a tumultuous period" in molecular biology in an interview with The Tech, emphasized Baltimore's pioneering work in the replication of animal viruses as a graduate student.

After a brief stint at the Salk Institute for Biological Studies, Baltimore joined the faculty of MIT, whose biology department was rapidly growing, in 1968. In Lodish's words, MIT had made an active effort to recruit so-called "Young Turks," led by Luria. Lodish added that, out of the "talented, smart young people who everyone thought was going to revolutionize biology," Baltimore "was the smartest."

In the late 1960s, Baltimore, his wife Dr. Alice Huang, and others in the MIT biology department began to study vesicular stomatitis virus (VSV). They discovered that VSV, which invades animal cells, encodes a RNA-dependent polymerase that enables the RNA to be replicated and transcribed without the presence of

At the time, Baltimore was also teaching a graduate course at MIT on viruses, where he and his students read papers authored by Tesoon-to-be Nobel Laureate Salvador min. Temin's work showed that certain RNA viruses were able to cause permanent genetic changes to cells, making them tumorigenic. These results suggested that RNA becomes converted into DNA via enzymatic activity, and in the spring of 1970, Baltimore began work that led to the discovery of reverse transcriptase. The finding upended the central dogma of molecular biology, which postulated that genetic information is only conveyed from DNA to RNA to protein. Since then, reverse transcriptase has become pivotal in both experimental biology and therapeutic development.

In 1970, MIT was shut down for two weeks due to campus protests over the Vietnam War. As a leader in the faculty movement against the

war, Baltimore led a march to Cambridge Rindge and Latin School, where two graduate students, including Jon Kabat-Zinn, were beaten by the Cambridge police.

Despite his involvement in protests, Baltimore was able to continue his research into reverse transcriptase, which he mainly pursued "with his own hands" despite a large research group, according to Lodish. When Baltimore called Temin informing him of his discovery, the two realized that they had achieved the same result independently. Baltimore was just 32.

Lodish described reverse transcriptase as a discovery that changed

Baltimore, Page 3

YouTube streamer IShowSpeed visited MIT on Sept. 5, drawing significant attention from students and passerby

Sol Robert '26: "We did not expect him to come to campus at all, never mind call out and talk to us"

By Vivian Hir

On Sept. 5, 2025, YouTube streamer Darren "IShowSpeed" Watkins Jr. made a surprise visit to MIT, which drew significant attention from students and nassersby Watkins, who has over 43.7 million subscribers on his primary You-Tube channel, is known for his energetic and reactive live streams. He is currently on his "Speed Does America" tour, a 35-day 24/7 livestream marathon in which he will visit 25 states across the U.S. Previously, Watkins livestreamed tours of his travels in continents such as Europe and Asia.

Watkins made a brief visit to MIT around 11 a.m. for about 15 minutes. According to the livestream, Watkins walked from 77 Mass Ave to the Student Center to purchase clothes at the MIT Coop because he did not want to

wear his Revolutionary War costume anymore. "MIT. That sounds like a drug," Watkins said as he shopped for MIT T-shirts in the Coop. As Watkins walked out of the store, students crowded in the lobby of the Student Center to take photos and videos of him and his crew. Before leaving the Student Center, Watkins asked if any students wanted a free MIT shirt and threw the shirt to a student who raised his hand.

Sol Robert '26 appeared briefly in the background of Watkins' livestream at MIT, before he left to visit Newbury Street. Robert was familiar with Watkins' media content before he visited Boston and finds his streams to be "super funny." She and her friend took a photo with Watkins and had a brief conversation with him. In the conversation, Watkins pre-

Speed, Page 2



PHOTO COURTESY OF SOL ROBERT

Sol Robert '26 and her friend take a selfie with YouTube streamer IShowSpeed near 77 Mass Ave on Friday, Sept. 5, 2025.

9/18 IN SHORT

The EECS career fair is on Thursday, Sept. 18 from 4–7

The Fall Career Fair is on Friday, Sept. 19 from 10-4 p.m.

The Cambridge Science Carnival is on Sunday, Sept. 21 from 12–4 p.m.

The MITHIC information and networking session is on Wednesday, Sept. 24 from 12–1 p.m. in Killian Hall.

Interested in joining The Tech? Email tt-join@mit.edu.

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2 THE TECH Thursday, September 18, 2025

Precipitation Symbols Other Symbols **Neather System** Weather Fronts $\dot{\nabla}$ K Thundersto OO Haze

Cooler temperatures and SEPTEMBER 18 SITUATION FOR NOON (ET) clear skies coming this Extended Forecast weekend

Bv Marv Feliz METEOROLOGIST

After a slight smattering of rain today, we are looking forward to clear skies the rest of this week. It's starting to feel like Fall, and I suggest starting to don jackets and pack up the short in favor of some slightly warmer wear. We have highs around 70 and lows treading around 50 for the rest of the week, with Friday being a bit chilly compared to slightly warmer weather on

Today: Slight chance of showers. High around 76°F (24°C). North wind 6-10 mph.

Tonight: Mostly clear. Low of 65°F (18°C). South wind 6-8 mph.

Friday: Sunny. High around 76°F (24°C). Northwest wind 10-14 mph.

Saturday: Sunny. around 68°F (20°C). North wind around 10 mph changing to east towards afternoon.

Sunday: Sunny. High around 71°F (22°C). South wind 6-13 mph.

Speed spotted 77 Mass Ave

Speed, from Page 1

tended to be an MIT transfer student. He asked Robert and her friend what they studied at MIT. "We were super excited since we casually watch his streams, and we did not expect him to come to campus at all, never mind call out and talk to us," Robert wrote to The Tech.

MIT students also saw Watkins in Central Square and outside of Area Four in Kendall Square. "We started yelling at Speed to come to [the] EC party," Audrey Perry '29 wrote. "Speed asked for details about the EC party and got my friend's number." However, Watkins did not show up to the East Campus party on Sept. 5.

Xerco Tchouankeu '29, an IShowSpeed fan, saw Watkins outside his tour bus, parked at the Hyatt Regency Cambridge parking lot. Tchouankeu appeared in the livestream several times and gave Watkins' brother, Dian "Jamal" Watkins, a Chocolate City shirt that he ended up wearing on the livestream.

"I was so happy, especially when I was able to get a picture with him," Tchouankeu wrote. "I've never seen a crowd this hyped before."

Argana Falafel opens in Student Center The halal food vendor replaces Tawakal Halal Café

By Vivian Hir

Argana Falafel, a Middle Eastern and halal food vendor, opened in the Launchpad in the Student Center on Sept. 2, 2025. The new food vendor sells popular Moroccan hot dishes, such as chicken shawarma and kefta kabobs in bowls (\$14.00), wraps (\$9.75), or plates (\$13.00). Argana Falafel also has daily hot specials, including meatballs on Mondays and chicken on Fridays. The store also sells smoothies, lemonade, and desserts.

Argana Falafel replaces Somali restaurant Tawakal Halal Café, which was part of Launchpad from 2023 to 2025. According to Senior Director of Campus Dining Andrew Mankus, Takawal closed in May 2025 because both MIT and the vendor "mutually agreed not to extend the contract." Each food vendor signs an individual contract with MIT, so the conditions and agreements differ by vendor.

Founded in 2021, the Launchpad is a collaboration with CommonWealth Kitchen, a nonprofit incubator that supports immigrant and minority-owned food businesses. The other two Launchpad food vendors are Bibim Box and Carolicious.

MIT Dining chose Argana Falafel as the new food vendor because of the office's "strong relationship" with owner Noureddine Ould-Syiya. Besides managing Argana



The menu board of Argana Falafel on Monday, Sept. 8, 2025.

Falafel, he also oversees Pacific Street Café in the Sidney-Pacific graduate dorm and Courtyard Café at Hayden Library.

Previously, Ould-Syiya operated Shawarma Shack, a food vendor located in the same spot as Argana Falafel before the pandemic. "Building on student preferences and recognizing the continued need for Halal dining options on campus, we felt [that] Argana Falafel was a natural fit for Launchpad," Mankus wrote in a statement to The Tech.

Mankus sees Launchpad as a "dynamic space" that provides students with "local, diverse" food options. "We're excited to welcome Argana Falafel and look forward to the value it brings to our community," Mankus

Ould-Syiya did not respond to The Tech's request for comment by the time of publication.

Have something to say? Write opinion for The Tech!

tt-opinions@mit.edu



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Baltimore shaped the life sciences at MIT

Baltimore, from Page 1

"everyone's research." During this "huge ferment," Professor Luria founded the MIT Center for Cancer Research (a precursor to the Koch Institute for Integrative Cancer Research). Luria, Baltimore, and Lodish were able to recruit more faculty to MIT, including Professor of Biology Robert Weinberg '64, PhD '69, who is known for research on human oncogenes.

In 1982, Edwin Whitehead approached Baltimore with a proposal to start a biomedical research institute affiliated with MIT after being rebuffed by several other institutions. Baltimore was able to overcome doubts in the MIT community following a year of intense discus-

sion over the potential impact of hosting a separate entity. Once the Whitehead Institute was approved, Baltimore began recruiting faculty, including Lodish and Weinberg.

Ruth Lehmann, the current director of the Whitehead Institute and MIT Professor of Biology, wrote to The Tech that upon its foundation, Whitehead's "nimble administration and financial independence," which was unique among biology institutions, "offered flexibility and support" to scientists to pursue "high-risk research directions aimed at exploring the unknown." Baltimore also launched the Whitehead Fellows program, which enabled talented early-career biologists to jumpstart their research careers as principal investigators in

lieu of the typical time-consuming postdoctoral, pre-tenure process.

One notable Whitehead Fellow is Professor of Biology Eric Lander, who later became the Founding Director of the Broad Institute. The Broad was also launched with the help of Baltimore, along with the financial contributions of Eli and Edythe Broad. In a tribute to Baltimore published on the Broad's website, Lander praised Baltimore's approaches to science, mentorship, and administration, writing, "David had a singular ability to inspire people."

Both Lodish and Lehmann emphasized how the unusual physical structure of the Whitehead building, which includes a cafeteria, auditorium, open spaces, and long interior

corridors, encouraged scientists to collaborate. Lodish said that this environment has allowed him to publish research papers with many other Whitehead faculty. Lehmann also underscored Baltimore's influence on the Kendall Square-based biotechnology hub and the establishment of other research institutes

Lehmann credited Baltimore for discoveries across fields from immunology to virology. For instance, Baltimore discovered Rag genes, which are critical in mediating antibody diversity, a hallmark of adaptive immunity. Baltimore also contributed to science policy and the private sector.

After leaving Whitehead in 1990, Baltimore became the president of Rockefeller University. Around this time, a researcher affiliated with him was accused of scientific fraud. Although the allegations were cleared, Baltimore resigned as president in 1991, but remained on the Rockefeller faculty until 1994.

After returning to MIT for a few years, Baltimore was appointed the president of the California Institute of Technology in 1997. He held this role until 2006, but remained Caltech faculty until his death. There, he studied HIV and AIDS at a time when many scientists were afraid to touch an increasingly politicized subject — a reflection of Director Lehmann's words that Dr. Baltimore's "most important lesson for young scientists is not to be afraid to tackle big questions."

Anonymous email calls for memorial at Chapel

Unrest, from Page 1

and had no knowledge about the vigil beforehand.

Sindhusen says Kirk played an important role in shaping his conservative politics, despite having held liberal beliefs in his youth. He credits Kirk for increasing youth engagement in conservative movements and for influencing the outcomes of the 2016 and 2024 elections. "To see him slain in cold blood was absolutely horrifying to me," Sindhusen wrote.

Sindhusen disagrees with those who believe that Kirk left behind a legacy of "many hateful-isms who polarized the country." Instead, he commends Kirk for being "genuinely enthusiastic to engage with the youth," even with those who shared different views from him. Sindhusen was "repelled" by some reactions to Kirk's death, in particular the "celebrations in one form or another," and hoped that society could be "more civilized" and respectful in regards to differences in political beliefs.

MIT Democrats declined to comment about students' responses to Kirk's death.

Incidents surrounding Kirk's death were not limited to the undergraduate body. On Sept. 11, the Broad Institute of MIT and Harvard announced on its X account that an employee had been suspended "in response to a deeply offensive comment" on their personal social media. The next day, the Broad posted an update stating that this employee was no longer working at the Institute.

David Cameron, Director of External Communications for the Broad Institute, sent a statement to *The Tech* identical to the X post announcing the Broad employee's termination. Cameron wrote, "There is no place in any institution, nor in our society, for statements such as this."

On Sept. 12, President Kornbluth sent out an email to the MIT community regarding recent campus incidents related to political violence and Kirk's death. She cited "several instances of disturbing im-

agery and text on campus," including a hand-drawn swastika and some messages on an email list that allegedly promoted violence.

Kornbluth condemned these acts, stating that hatred for political and ideological differences has become normalized and could lead to violence. "Belonging to the MIT community is a privilege, not a right, and it comes with the responsibility to treat each other with decency and respect." Kornbluth wrote. The MIT Police is currently investigating the incidents.

PO YOU LIKE DOODLING DURING CLASS? ARE YOUR PSETS COVERED WITH DRAWINGS? IF SO, BECOME A TECH ILLUSTRATOR!

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Mirror mirror on the wall, who's the most performative of them all?

MIT Infinite hosts university's inaugural performative male contest

By Grace Zhang CO-COPY CHIEF

Dressed in baggy jeans while holding a matcha latte in one hand and their most thought-provoking feminist literature in the other, students competed for the honor of being the ultimate Performative Male. They advocated for women's rights (and wrongs) and freestyled interpretative dances to an audience of around 100 people invested in the theatrics of it all.

The performative male contest was organized and judged by the executive board of Infinite, MIT's premier fashion magazine. Held on the steps in front of the Student Center on Sept. 6, the event was open to all. In the first round, contestants stood in two opposing lines, facing off in one-on-one matchups determined by the judges. Subsequent rounds followed the same knockout style, but winners were instead chosen by the crowd.

When asked why she decided to host the contest, organizer and Infinite co-Events Operation Director Louisa Zhu '28 said, "I saw other cities doing [similar events] and thought, 'Boston hasn't had one yet." She saw Cornell host a contest and decided, "Ok, we can't let Cornell host one and not do one [ourselves]."

For those who aren't chronically online, the "performative male" is an internet meme of a man who curates an image specifically to attract women. There are a few commonalities to this trend: the performative male is professing his commitment to feminism, sporting a sustainable tote bag, and listening to Clairo, Mitski, and Laufey, among other things. He doesn't really care about the gender pay gap; it's all for show. And women.

"You gotta have the Docs. Glasses, a nice little beanie, a few Labubus on the backpack," said contestant Robert Lermusiaux '28 about the ideal performative male. "Nice little carabiner. Some good Jane Austen — can never go wrong with Pride and Prejudice."

Unfortunately, Lermusiaux spilled two large cups of matcha during the competition, eliciting boos from the crowd and prompting a sudden cleanup effort. He had gone to the Dunkin Donuts inside the Stud, ordering a whopping 10 matcha lattes.

"It was rough," Lermusiaux admitted. "The little canister things that I used to hold them were not very solid.'

After many close rounds, Olivia Stinson '28 came out on top. Going by the stage name of Oliver, she wooed the crowd by strumming an acoustic guitar and blowing kisses to individuals in the audience. Her look was peak performativity, from her Sharpie mustache to the - not one, but three - bags slung over her shoulders. She won a large matcha boba plushie and a \$25 Kyo Matcha gift card — all small additions to the priceless aura of being MIT's most performative.

When asked about how she felt about her victory, Stinson said, "I feel really good about it, but I don't think I would be here without all of the beautiful women in my life, like my mom, my sister, and my other sister."

The event surpassed the expectations of the organizers, who were impressed by the effort that each participant put into the contest. Someone brought a house plant. According to Zhu, another individual mentioned that they would bring a record player.

"People really went all out for this," Zhu noted. "I thought people would just come out with a matcha in hand and a tote bag."

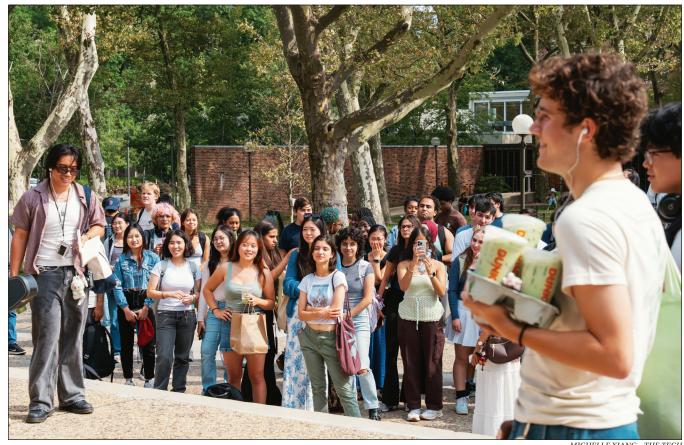
Infinite co-editor-in-chief Chase Vanias '27 agreed with Zhu, adding that turnout was great. He saw people in the audience from other schools in the area. Reflecting on the experience, Vanias enjoyed how he had the opportunity to organize an event that was able to bring "a lot of people together."

To Vanias, the most memorable part of the contest was when a contestant put his wired earbuds in his matcha to listen to it. "I thought that was truly magical," he said.

Audience member Marlo Cyanovich '28 had nothing but praise for the competition, commenting that she came for entertainment and amusement. Just as she had hoped, she found everything quite entertaining and

"I'm definitely looking forward to performatively posting the performative male gathering," Cyanovich said. "It's kinda like meta

As the event neared its end, Zhu left the crowd with a few final words: "Stay performative. Stay loving women."



A crowd gathers for Infinite Magazine's Performative Male contest outside the Student Center on Saturday, Sept. 6, 2025.



A spectator of the Performative Male Contest shows up to The outfit and accessories of an aspiring performative male at support with a Labubu dressed in a Dodgers jersey.



the Student Center on Saturday, Sept. 6, 2025.



Robert Lermusiaux '28 holds multiple matcha lattes for Infinite Magazine's performative male contest on Saturday, Sept. 6, 2025.



day, Sept. 6, 2025.



A matcha spill stains the concrete outside the Student Center Olivia Stinson '28, performing as "Oliver", is named the winner during Infinite Magazine's Performative Male contest on Satur- of Infinite Magazine's Performative male contest as "Oliver" outside the Student Center on Saturday, Sept. 6, 2025.

THE TECH 5

Banshee's "Fairy Rock" takes flight with debut tour

Banshee blends her soft voice and metal-inspired screams in her unique style

Banshee Middle East, Boston Aug. 29 - Sept. 6

> By Angelica Zhu ARTS STAFF WRITER

On Friday, Sept. 6, the upstairs room of the Middle East in Cambridge, Massachusetts, buzzed with the kind of energy only a first tour can create. The crowd anxiously awaited Banshee, a singer-songwriter whose "fairy rock" style has carved out a niche in alternative music since the pandemic, and has gained popularity on TikTok. Born Rachel Dorothea Knight and based in Los Angeles, California, Knight officially started releasing music under the name of Banshee in 2018.

Although the concert was supposed to begin at 7 p.m., the opener KANNER took the stage closer to 7:45 p.m. This delay did little to dampen the excitement of the audience crowd. The Middle East's basement is known for its intimacy: its low ceilings, brick walls, and tightly packed floor encourage a closeness that can feel claustrophobic at times, but at the same time allows the performers to directly interact and party with

KANNER opened with an energy that instantly lit up the room. The Los Angelesbased artist is still making out her identity in the crowded indie-pop scene. She embraced maximalism both in her music and visually. Her bright red curls practically illuminated under the stage lights, and her neon-green glitter eve shadow shined as she bounced around the stage in a sportyethereal outfit: a jersey top with a fluffy skirt that stuck me as a blend between Charli XCX and Chappell Roan.

Her set included at least eight songs, each marked by sharp electronic textures and an emotional rawness brought out by her powerful voice, including "BULL IN A CHINA SHOP" and "meat," a collaboration with Hey Violet. She highlighted "Kissing Concrete," a reflection on the importance of being "selfish" enough to protect one's well-being. KANNER's performance thrived on contrasts: abrasive yet glamorous, vulnerable yet commanding. Her voice carried elements of pop and punk, making it the perfect opener for Banshee by setting the scene for a night of artists who resisted categorization.

After a short break, the room dimmed, and Banshee stepped onto the stage donning a dreamy, cottagecore-meets-gothic white dress that was a part of her viral Tiktok outfit. Her long, curly red hair flowed down to her waist, adding to her spirit-like appearance.

The beginning of her set featured songs showcasing the duality of her style: gentle melodies that can suddenly shift into guttural growls and metal-inspired screams. This tension between delicacy and intensity was what drew a large portion of her fanbase. She also shared unreleased songs, giving the audience ideas to where "fairy rock" might lead next. These songs leaned heavily on contrasts: soft vocals over distorted guitars or whispered verses exploding into screams.

Midway through, Banshee briefly left the stage and retired wearing a tiara and a shorter white dress embroidered with flowers. The second half of the show focused on fan favorites such as "Sirencore" and "Force of Nature," and her interpretation of Lana Del Rey's "High by the Beach" with her cover.

Throughout the night, Banshee focused on the experience and enjoyment of the audience, many of whom she shared several sweet moments with. Some audience members handed her handmade bracelets, while others were invited to sing into the mic. These moments created an atmosphere that felt less like a concert with a performer and her fans, and more like a communal gathering of fellow music enjoyers.

A lot of Banshee's music focused on the self and fighting on despite being oppressed or abused, which has ties with her personal past. "I may be a doe/ But my knees will not tremble," she sings in her 2025 Fables album. I was particularly struck by the way she was able to convey emotion using her voice, and I sensed fear, anticipation, and anger as she moved through her lyrics.

Banshee's voice remained her greatest asset. The way she shifted from delicate tones to guttural growls is truly impressive. However, her stage presence sometimes felt unsure. Compared to KANNER's confident control, Banshee appeared sometimes shy, often pointing the mic to the audience or dancing with a sense of hesitation.

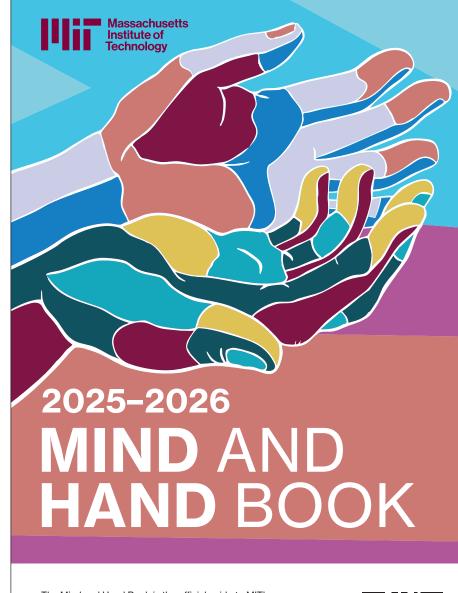
This isn't necessarily a flaw—it may even enhance her appeal. Many fans are drawn to her because of her image of a musician rather than a polished pop star. Still, in moments when the energy dipped, I felt that she had room to grow in commanding a crowd. Whether this growth comes from more touring, increased confidence, or simply more time remains to be seen.

Nonetheless, one thing was clear: Banshee's "fairy rock" has found its audience. The Middle East was filled with fans who not only knew the lyrics to her songs but also brought gifts and were eager to support her growth.

The concert was not perfect, but it was unforgettable. It captured the essence of an artist still finding her place on stage while already having a large fanbase because of social media. If Banshee occasionally seemed unsure, the crowd's enthusiastic response suggested that her fans are more than willing to grow alongside her.







The Mind and Hand Book is the official guide to MIT's expectations of all undergraduate and graduate students, including the policies on academic integrity, alcohol, drugs, hazing, and sexual misconduct.

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WEATHER

Women's soccer 5-1 to start 2025 season

The Engineers opened 2025 as road warriors, with five of their first six games being away...and two being in Texas

By Matthew Barnett

Women's soccer is off to a hot start to the 2025 regular season. Following a 21-2-1 campaign and second-round exit to Colby last year, the Engineers are aiming for greatness again, vying for their third consecutive NEWMAC title and first NCAA National Championship. In line with these aspirations, the Engineers have opened with five straight wins this season.

The team opened their season with two local road games against Gordon (Aug. 30) and Lesley (Sept. 2). They took down Gordon 2-0, led by a brace (two goals) from reigning NEWMAC Athlete of the Year, Natalie Barnouw Gr. The Engineers then beat Lesley 6-0, driven by a great offensive day with goals from Sean Luk '26, Arianna Doss '27, Emma Wang '27, Maeve Sullivan '28, and two from Alice Vranka

The Engineers continued their string of away games with

an out-of-state trip to Texas, playing two matches at the University of Dallas. In their first match on Sept. 6, MIT took on No. 10 Trinity University, their first nationally-ranked opponent this season. After conceding an early goal, MIT rallied back with three unanswered points to win, besting Trinity

The next day (Sept. 7), MIT took on their hosts, the University of Dallas (UD). In a statistically dominant outing, MIT won 7-0. The Engineers produced

35 shots, 21 on goal, while UD only managed two. In their homecoming match, two native Texans recorded points: Maeve Sullivan '28 scored twice and Arianna Doss '27 scored once.

Returning to Cambridge, MIT hosted Johnson & Wales on Sept. 10 for this season's homeopener. With goals from Barnouw, JoJo Miller '27, and Lauren Won '29, the team secured a 3-0 victory, advancing to 5-0 on the season.

The Engineers then traveled to Waltham, MA to take on No.

19 Brandeis. After falling into a 0-1 deficit, Barnouw volleyed in a free kick from Luk to even the game at 1-1. The score held going into halftime, but a Brandeis goal at 64 minutes would go unanswered, and MIT would fall 2-1 to the Judges, their first loss of the season.

Looking ahead, MIT will be back on the road, taking on Bridgewater State University on Sept. 17. The Engineers will open NEWMAC play at home on Sept. 20 when they face Smith College.

High-Powered offense and stout defense leads football to 2-0 start

MIT has outscored opponents 101-13 through two games to start the 2025 season

By Matthew Barnett SPORTS EDITOR

After finishing the 2024 season 3-6, the Engineers have set out on yet another campaign to secure their first stand-alone NEWMAC title since the 2018 season. Just like last year, MIT opened their season with two straight wins, producing 101 total points of offense — a mark they did not eclipse until their 8th game of the season last year.

In their 46-13 win against Nichols College on Sept. 6, QB Chase Harmon '26 dominated the opposing defense. Passing

212 yards and accounting for five total scores, Harmon distributed the ball efficiently and led MIT into the endzone time after time. His primary targets were WR Colin Volmer '26 and TE Michael Dennison '27, hauling in two and one receiving touchdowns, respectively.

MIT's passing game was supported by strong showings from its running backs. Jimmy Connors '29 ran for 101 yards on 11 attempts, and Andrew Kulhan '28 went for 77 yards, including a 40 yard run to pad MIT's lead with under two minutes to go.

The defense played an equally strong role in securing the win. Andrew Pignataro '27 led the team with seven tackles. Chase Fishman '27 and Connor McHale '27 both forced a turnover in the contest (a forced fumble and interception, respectively).

MIT's special teams also contributed to the box score, with Thomas Shoales '27 blocking and returning an extra point 80 yards for a defensive two point conversion

MIT continued their dominant play against New England College on Sept. 13, shutting out the Pilgrims 55-0. Led by an explosive run game, MIT had four different rushers find the end zone. Connors led all backs with 100 yards and three touchdowns, followed by Andrew Erwin '29 with 89 yards and one touchdown, Kulhan with 50 yards and one touchdown, and Hilal Hussain '26 with 38 yards and one touchdown. Altogether, the team averaged a strong 6.0 yards per carry. QB Harmon remained sharp, completing 14 out of 20 passes for 175 yards, two touchdowns, and one interception.

MIT's defense forced three turnovers to bagel New England College, holding the Pilgrims to less than 100 yards of total offense. Notably, LB Gyeongwu Kim '27 sealed the game with a strong final quarter, recording an early 4th quarter interception and a gameending forced fumble to secure the shutout.

MIT is currently on a bye week, but the team will face a major challenge in their next game. On Sept. 27, they face off against reigning NEWMAC Champions Springfield College at home.





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LIGO celebrates the 10th anniversary of the first direct gravitational wave observation

Dr. Kip Thorne: "This really is a whole new way of observing aspects of the universe that you can't see in any other manner"

By Karie Shen, Eric Wang, and Veronika Moroz

EDITORS

Ten years ago, on Sept. 14, 2015 at 5:51 AM EDT, the Laser Interferometer Gravitational-Wave Observatory (LIGO) installations in Hanford, Washington and Livingston, Louisiana detected a 0.2-second long signal in their data. Later referred to as a "chirp," this signal would be scrutinized for five months before scientists at LIGO announced that it was the first ever direct observation of gravitational waves.

First theorized in the 20th century, gravitational waves can be intuitively described as ripples in a four-dimensional pond. Though humans live in three-dimensions, the physics of large objects in outer space is so complex that scientists prefer to look at it in fourdimensional spacetime: three dimensions for space, and one dimension for time. Just like boats on the Charles make waves as they speed by, large objects with strong gravitational pulls will warp spacetime and produce gravitational waves. The data collected by LIGO in 2015 confirmed the existence of an additional method to observe the universe and confirmed Einstein's prediction of gravitational waves from his theory of general

Since then, new gravitational wave detectors such as the Virgo Interferometer in Italy and the KAGRA detector in Japan have joined in the effort of looking for invisible waves. From its conception in the 1970s, LIGO has been an ambitious attempt to transform the theoretical prediction of gravitational waves into experimental reality.

Born in MIT

Before LIGO, the only detections of gravitation waves were indirect, but these indirect observations provided crucial evidence that such waves existed and could be measured. In 1974, Russell Hulse and Joseph Taylor published their observations on a binary pulsar star system (named the Hulse-Taylor Pulsar) in which two neutron stars slowly spiral towards one another at a rate agreeable with the energy loss caused by gravitational waves. Although Hulse and Taylor would go on to win the Nobel Prize in Physics for their work in 1993, the scientific community still lacked a method to directly observe the effects of gravitational waves.

The first person to propose building LIGO was former MIT professor and physicist Rainer Weiss '55, PhD '62, in 1972. Weiss hypothesized that interferometry, a technique that uses superimposed light waves from lasers to detect any potential phase differences caused by interferences, could be a viable way to detect such waves. Building an extremely sensitive laser system, Weiss hoped, would be enough to detect and measure the mi-

croscopic vibrations caused by gravitational

While interferometry to detect variations had been performed, a system on the scale to detect vibrations via gravity left many experts in the physics community skeptical about the success of LIGO.

"We had [strength of the signals] pinned down, but the distance between what the technology of that era could do and what was required was so enormous that I was very skeptical," renowned theoretical physicist and emeritus professor at California Institute of Technology (Caltech) Dr. Kip Thorne recalled. "It just seemed to me that it would never be possible in my lifetime to achieve the sensitivities that are required."

Despite this, by 1976, discussions with Weiss as well as with the Russian experimental and theoretical physicist Vladimir Braginsky eventually convinced Thorne to devote a large portion of his career to LIGO. Weiss and Thorne would go on to submit a proposal to Caltech for the LIGO project in 1976, which would be approved in 1977. By 1979, the U.S. National Science Foundation approved funding for the joint MIT/CalTech LIGO project.

Silence and Patience

Even though LIGO sites would complete construction in 1999, it would take an additional seven years for LIGO to reach the desired design sensitivity. LIGO's sensitivity would be one of the key focuses throughout LIGO's operational history, striving continuously to lower the threshold of detection until it reached the range of the predicted signal strength of gravitational waves. LIGO's detectors need to be enormous, with each arm stretching 4 kilometers (2.5 miles) in length, because gravitational waves cause incredibly tiny distortions in space. When a gravitational wave passes through Earth, it causes a strain, or a fractional change in length. For the strongest gravitational waves LIGO has detected, this strain is on the order of 10-21, which means LIGO's 4-kilometer arms stretch and compress by roughly 10-18 meters - still unimaginably small, but just large enough for LIGO's ultra-precise laser interferometry system to detect above the noise. The longer the detector arms of LIGO, the larger the absolute change in distance becomes, even though the fractional change remains the same.

The first round of the detectors were not specific enough. "I wasn't necessarily surprised," said LIGO Chief Director Scientist and MIT Kavli Institute Senior Research Scientist Dr. Peter Fritschel. However, for Fritschel, this was not discouraging. "We were all pretty confident that advanced Lego would make detections, but it wasn't clear exactly when," he explained. "It's not as if we installed the detectors and we turned them on and they work at their design sensitivity right away. It's always an incremental progress."

Thorne himself had expected that the first generation of detectors would not be able to have the capabilities to detect the gravitational waves. "When we submitted our construction proposal, we said that this is very difficult, and we will likely have to build two generations of detectors in order to succeed," Thorne explained. "The first generation of detectors, so called initial LIGO, will be at a level of sensitivity where if nature is really kind, we'll see something. If nature is not kind, we won't and we must be prepared to not see anything." Through LIGO's first 15 years of operationability, LIGO would undergo another upgrade of its system to the Advanced LIGO system, finally allowing LIGO to reach the sensitivity necessary for gravitational wave

A Chirp Forty Years in the Making

Soon after the installation of advanced LIGO machines in both the Washington and Louisiana locations, both LIGO installations detected the now famous "chirp." Created by the merging of two black holes 1.3 billion light years away, the chirp marked the first direct observation of a gravitational wave in history.

Despite the discovery, many scientists at LIGO were initially wary. "The concern was that we could have been hacked. Somebody could have put the pulse signal in there somehow," Thorne explained. However, once the signal was confirmed to have been authentic the attitude quickly shifted. "It'd been very exciting, like the previous six to nine months, because of the progress we were making before the first detectors," said Fristchel.

"My own emotional reaction was the deep satisfaction that we had made the right choices at many places along the way to be able to pull this off," recalled Thorne. "Ray Weiss, what I observed in him was primarily an emotional reaction of extreme relief. He seemed to be feeling quite guilty about having convinced hundreds of young people to come into this field to work on this and they didn't have any gravity detections yet, having spent over a billion dollars of taxpayer money."

Shortly after, LIGO would go on to detect a second binary black hole merging event on December 26th of the same year. Three more gravitational wave events would be recorded over the next half year, with one being the first detected neutron star collision.

The Future of Gravitational Wave Detection

Since the initial detection, LIGO has continued to conduct observing runs to observe gravitational waves. However, the LIGO observatories in Louisiana and Washington are now joined by other gravitational wave detectors around the globe. Completed in 2003 and upgraded in 2017, Europe's Virgo interferometer works together with the two stations in the U.S. to help aid in gravitational wave origin location.

When a single gravitational wave observatory detects a signal, it can determine when the wave arrived but cannot pinpoint where it came from. It creates a ring of potential source locations in the sky, all equidistant from the detector. With two observatories, the situation improves dramatically. Since gravitational waves travel at the speed of light, a source that's closer to one detector than the other will reach the nearer detector first. This time difference narrows down the possible source locations to two arc-shaped regions in the sky where the circles from each detector intersect, but there's still ambiguity about which of the two regions contains the actual source.

"Because we want to localize the sources, we need to basically triangulate. So you need at least three detectors to be able to get an idea of where in the sky the source comes from, and LIGO alone can't do that with just two detectors," explained LIGO Laboratory Deputy Director Dr. Albert Lazzarini '70 PhD '74.

This is why the global network of detectors is so powerful. The network can often localize gravitational wave sources to within tens of square degrees.

With the new detectors like Japan's KAGRA and Italy's Virgo joining the hunt for gravitational waves, newer and more advanced gravitational wave detectors will soon outperform LIGO in its sensitivity capabilities. Moreover, with President Trump's proposal of eliminating one of the antennas and decreasing LIGO's operating budget in 2026 by 40 percent, research at LIGO could get more difficult. Despite this, plans to construct new observatories with arms up to 40 kilometers in length - ten times longer than existing LIGO observatories - are in the works. "If you consider the whole universe, even with our detectors right now, as sensitive as they are, we're still probing what people would call the local universe," Fritschel explained. With the Cosmic Explorer, a planned, next-generation gravitationalwave observatory, scientists will be able to explore events "across the whole visible universe, so it's a big game changer."

This expanded reach could unlock some of the most profound mysteries in cosmology. According to Lazzarini, it is hypothesized that gravitational waves were formed in the early universe. Being able to detect such waves would allow greater insight into the birth of the universe and formation shortly after the

As LIGO approaches its next decade of discovery, it remains both a testament to decades of persistence and global collaboration, as well as a foundation for the future of gravitational wave science. From the first faint "chirp" in 2015 to the ambitious projects now on the horizon, LIGO's story reflects a broader truth: the universe still has much to reveal, and humanity has only just begun to listen.

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Living in the age of prophets

Salman Huseynov '26: "What we should aim for, it seems, is a world with fewer prophets"

By Salman Huseynov

On September 12 of 2025, the MIT community received a message from president Sally Kornbluth in the form of an email: there had been signs of hate speech engraved on the walls of our campus. This news comes as no surprise to us today;

It seems to me that today, we are living among prophets who are sure enough of their convictions to kill, to take a life.

hate has been all around us for a while now. Recently, the conservative political activist Charlie Kirk was shot and killed on a university campus in Utah. Before that, Democrat lawmaker Melissa Hortman was shot and killed in Minnesota. The reactions to the killings are no less violent in nature: the killing of Democrat legislators is largely ignored by the political right, while the killing of Kirk is dubbed as yet another act of the "violent left." On the left, of course, there is a mixture of opinions, ranging from a general condemnation of political violence to "what needs to be done, needs to be done."

During moments like this, I am reminded of the great Russian novelist Fyodor Dostoyevsky's *Crime and Punishment*. In the novel, the young student Raskolnikov murders a woman who he deems a parasite to society, but he can't get away with it and eventually confesses to the murder. The most interesting discourse in the novel is that of Raskolnikov's theory:

"... legislators and leaders of men, such as Lycurgus, Solon, Mahomet, Napoleon,

and so on, were all without exception criminals, from the very fact that, making a new law, they transgressed the ancient one, handed down from their ancestors and held sacred by the people, and they did not stop short at bloodshed either, if that bloodshed — often of innocent persons fighting bravely in defence of ancient law — were of use to their cause... In short, I maintain that all great men or even men a little out of the common, that is to say capable of giving some new word, must from their very nature be criminals — more or less, of course. Otherwise it's hard for them to get out of the common rut; and to remain in the common

To see others as the "common rut," to take away their humanity, becomes increasingly easy.

rut is what they can't submit to, from their very nature again, and to my mind they ought not, indeed, to submit to it..."

Here, Dostoyevsky gives us, I believe, a great definition of a prophet: a person who can transgress the laws precisely because they *know* that they're doing it for a good cause. The keyword here is the word know — something that we, as common believers, lack.

It seems to me that today, we are living among prophets who are sure enough of their convictions to kill, to take a life. Or perhaps they, too, are simply testing whether or not they are prophets, like Raskolnikov did. As Cormac McCarthy put it in the novel *The Road*, today "there is no God and we are all his prophets." It is difficult to say what is the reason for this: in other words, it is difficult to separate the symptoms from the causes.

Even more difficult, however, is to ignore the effects of the internet, the new

propaganda machine of the masses. Sitting behind the screen, behind an anonymous name, I feel real to myself, but everyone else doesn't; they are fake names, behind which are people whose reality is very easy to ignore. To see others as the "common rut," to take away their humanity, becomes increasingly easy. A simple example is the ease of ignoring a message on your phone, compared to not responding to someone who is talking to you face to face.

In his early writings, German philosopher Friedrich Hegel creates a distinction from man and everything else. The ego - subject - becomes the master of everything else — objects. Today this is perhaps more true, or true in a more literal sense, than ever. Hegel defines love as the merging of two selves through the life in the subject seeing a life in the object. In such a way, the object ceases to be an object, becoming a subject and one with the self. Some claim that the internet brings us together and makes the world smaller, but it seems like the opposite is in play: today, we are far too distant from each other to sense the life in each other. This renders love difficult, and at times, impossible.

It is easy to say that the solution to our conflicts is love, but it is also impractical and vague to say so. What we should aim for, it seems, is a world with fewer prophets. Fewer people enacting the will of God, fewer people seeing themselves as not responsible because they are effectively the hand of God. In a time where everyone has their own truth, perhaps we should aim at having less truth, and spending more time in its search, in uncertainty.

Salman Huseynov is an undergraduate student at MIT studying physics and philosophy, with a concentration in literature. His interests lie in the intersection of philosophical literature and current social events.

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