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Volume 141, Number 2 Thursday, February 25, 2021



A frozen, glistening Charles River greets students Tuesday noon with the conclusion of MIT's Q-Week.

2,129 undergraduates move into dorms Feb. 13–15, experience Quarantine Week

Students noted fast COVID-19 testing at Johnson and convenient dining

By Nicole Chan

ASSOCIATE NEWS EDITOR

Undergraduate students moved onto campus starting Feb. 13 and transitioned into Quarantine Week (Q-Week).

2,129 undergraduate students arrived during move-in weekend, with first-year students arriving on Feb. 13 and returning students arriving on Feb. 14 and 15, Senior Associate Dean of Housing and Residential Services (HRS) David

Friedrich wrote in an email to The Tech. Friedrich wrote HRS has "received encouraging feedback from students about their positive movein experience."

Friedrich also included data about the number of students residing in each dorm. Maseeh Hall and New Vassar house the most students, with 288 and 284 respectively. Simmons Hall, Next House, and MacGregor House each house over 200 students; and Baker House, New House, Site 4, East Campus, and McCormick Hall each house over 120 students.

The Tech interviewed several undergraduate students on their experience with move-in weekend and Q-Week via email.

Morgan Schaefer '24 wrote that "there were people and signs everywhere directing us where to go" and that "everything ran very smoothly and efficiently" on her arrival day Feb. 13. Katherine Miner '24 wrote that "the Office of the First Year made instructions incredibly clear."

Meanwhile, Toomas Tennisberg '23 wrote that "I arrived late due to flight scheduling" and "had to find someone to let me in" after a doorbell intercom "cut off without warning." Tennisberg waited with a friend who was also late until

someone let them in. Regarding her first COVID-19 test on campus, Miner wrote that testing at the Johnson Athletic Center "was also incredibly fast given

Move In, Page 2

Feb. 26 is the **last day to add** half-term subjects offered in the first half of term and to change grading options for these subjects.

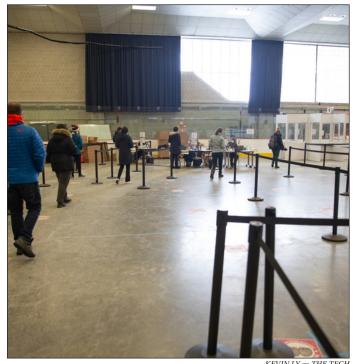
Access to academic and research spaces and in-person learning begins March 1.

MIT affiliates should complete the COVID-19 Vaccine Eligibility Form.

The deadline to submit nominations for the MIT Awards is March 26.

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Send news and tips to news@ tech.mit.edu.



Students stand in line at the Johnson Athletic Center Feb. 20 for what was originally supposed to be the final test before the conclusion of Q-Week.

MIT Student Worker Alliance holds virtual rally to support mistreated dining hall workers

Chief shop steward Sims' final warning removed by Bon Appetit management prior to rally on Monday

By Kristina Chen EDITOR IN CHIEF

The MIT Student Worker Alliance held a virtual rally Monday in support of workers at MIT's dining halls.

The rally came after Mark Sims, chief shop steward of MIT's dining hall workers' union and McCormick Hall cook, received a final warning from Bon Appetit management, which used racially stereotyped terms to describe Sims, after Sims brought up the concerns of a fellow

The hour-long rally, held over Zoom, started at 6 p.m.,and saw nearly 150 attendees, including students, staff, and faculty. The rally began with a series of student and dining worker speakers and ended in breakout rooms where students and workers discussed their experiences with racial discrimination or harassment at MIT.

The student organizers of the rally were Fiona Chen '21, Yara Komaiha '21, Danielle Geathers '22, Faduma Khalif '22, Ki-Jana Carter G, and Lucky Pattanaik G.

Chen wrote in an email to The *Tech* on behalf of the organizers that they were "incredibly excited and energized by the number of students" who attended the rally and felt that the event "really showed the power of building solidarity between students, staff, and faculty, and using public pressure to effectuate change at MIT."

She added that the organizers hope to "continue to build on this momentum" to support dining workers and other MIT employees in the future.

Speakers at the rally included Sims, McCormick cook Rabindra Rajbanshi, Carter, former McCormick co-president Afeefah Khazi-

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MIT ENABLED EPSTEIN

Punishing Lloyd is not enough to change Institute values.

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MIT must educate students on race. OPINION, p. 6

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Replicating the feelings of food in outer space. SCIENCE, p. 12

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WEATHER

Spring weather is (briefly)

By Conrad Goffinet STAFF METEOROLOGIST

As the country digs itself out of the massive snow storms that made their way across the country last week, many have been left wondering when the first signs of spring will appear. For Cambridge, those signs came on Wednesday when the Mercury finally rose

above 50 degrees. The clouds parted, the sun shone, and the birds excitedly sang in the trees. For a brief, evanescent moment, the times seemed to be "precedented" again. Another pleasant day is on the way, with temperatures poised to return to the 50s on Sunday. Temperatures are going to drop off later in the week, so get out there and enjoy the nice weather while it lasts.

Extended Forecast

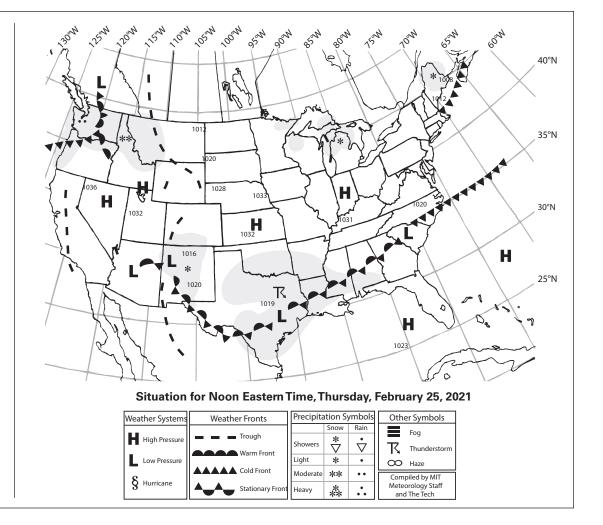
Today: Sunny, with a high of 45°F (7°C). Winds gusting up to 36 mph out of the west.

Tonight: Mostly clear, with a low of 24°F (-4°C). Winds from the west of 9-17 mph.

Tomorrow: Sunny, with a high of 38°F (3°C). Winds out of the west up to 9mph. Clear at night with a low of about 29°F

Saturday: Rain in the afternoon and evening, with a high of 48°F (9°C). Wind gusts out of the south as high as 28 mph. Low of 40°F (4°C) at night.

Sunday: Mostly cloudy, with a high near 51°F (11°C) Low of 39°F (4°C) at night.



Miner: "The meals are often pretty bland," less options for dietary restrictions

Move In, from Page 1

the influx of first-years moving in." Miner added that "getting tested was extremely easy" and that "having everything in the Atlas app makes testing so convenient."

Schaefer echoed this sentiment that the COVID testing process is "very simple," while the Atlas application is "not too confusing to

In terms of dining during Q-Week, Miner said that it is "especially convenient" since "you don't have to travel outside in this brutal Boston winter." Tennisberg described the process of getting food as "walk in, get food, walk

"The meals are often pretty bland, with less options for those with dietary restrictions like myself." Miner wrote. She has been "forced to take chances" when "guessing if a meal was safe to eat." Schaefer wrote that she was "pleasantly surprised" by campus dining "after reading and hearing many comments from upperclassmen and students who were on campus in the fall."

Students were allowed a onehour window daily for exercise outside of their dorms during Q-Week.

Miner wrote that the one-hour outside time "helped clear my mind from a busy week starting classes" and has spent it "exploring the academic side of campus."

Schaefer wrote that "it was hard to fully take advantage of the one hour outdoor time" because of the "cold and snowy" weather. The one-hour time limit "feels a bit too prison-like to place restrictions on the amount of time students can spend getting fresh air."

Q-Week restrictions were officially lifted noon Feb. 23.

DSL plans to meet with student leaders to foster dialogue about workers

Dining Rally, from Page 1

Syed '21, New Vassar cook Radames Moran, and Bon Appetit catering driver Said Kouhail.

Rally attendees showed their support for speakers through messages in the chat and audible applause and cheers between speakers. Additionally, Husayn Karimi '19 led attendees in a call and response chant of "When workers' rights are under attack, what do we do?", "Stand up, fight back."

Sims said at the rally that the retaliation against him is "unacceptable" because it prevented him from speaking up for other workers. The discipline was removed from Sims' file earlier on Monday, an action that he described as "convenient" for Bon Appetit.

Sims also said that as chief shop steward and representative for the union, he advocates for workers in situations where "a person of color gets disciplined for the same things that a person not of color" is not disciplined for and makes sure that the work environment for dining hall staff is "safe and comfortable."

Sims thanked attendees of the rally for their support and for coming together so that "things are made right." He said that he will continue to represent and speak for "what is just and right."

Carter said that the discipline against Sims "failed because of the strength of the dining workers Union and because all these students showed solidarity by organizing and attending this rally."

He also said that the "issues facing dining hall workers at MIT are not disconnected from the issues" facing undergraduates and graduate students, mentioning the Reject Injustice through Student Empowerment campaign, a coalition of student groups that organize to fight racism and sexism at

"If we allow racism ... [and] antiworker practice to go unchecked in dining halls, then you can't be surprised when the same actions show up" in labs or classrooms, Carter

Rajbanshi, Moran, and Kouhail also emphasized the need for students and workers to "stick together" to demand better treatment for

Vice President and Dean for Student Life Suzy Nelson wrote in an email to *The Tech* that while MIT is not able to comment on "individual personnel matters" of Bon Appetit and Local 26, it expresses "clearly to all vendors that the fair treatment of those working" at MIT is a "top priority."

She wrote that MIT is aware of the concerns from students over Sims' discipline and is planning to meet with student leaders to discuss these concerns to "foster a productive dialogue" between students, Bon Appetit, and the Division of Student Life (DSL) and to "strengthen our community for all those who engage with dining and residential life."

Chen wrote that the Student Worker Alliance is "exploring ... ways that MIT could play a role in improving the working conditions for all of the dining workers" by posing questions such as how DSL can be more informed about mistreatment of dining hall workers and whether it would be beneficial for MIT to set up conflict resolution or anti-dscrimination mechanisms for dining hall workers.

Nelson added that "it is important to MIT, and to me personally, that we actively promote... safe, respectful, diverse, equitable, and affirming" work environments and that MIT's contract with Bon App tit "stipulates" that Bon Appetit take steps to achieve this, including participating in diversity, equity, and inclusion and harassment prevention training and having a fair treatment policy and a hotline where incidents may be reported.

The MIT Student Worker Alliance also previously advocated for dining hall workers' rights at the onset of the COVID-19 pandemic.



A dining worker in McCormick's dining hall serves students.

Solution to Optional

Solution to Required

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Thursday, February 25, 2021

The Tech 3

DEI strategic plan, MIT-China relations, vaccine roll-out discussed at February faculty meeting

First draft of DEI strategic plan to be available by March, plan to be finalized by May

By Kristina Chen

EDITOR IN CHIEF

Faculty members discussed MIT's Diversity, Equity, and Inclusion (DEI) Strategic Action Plan, issues surrounding MIT's relations with China and international research collaborations, and updates on vaccine roll-out at the Feb. 17 faculty meeting.

Associate Provost Tim Jamison, Institute Community and Equity Officer (ICEO) John Dozier, and Deputy ICEO Maryanne Kirkbride presented updates on MIT's development of a strategic action plan for DEI. Those involved with developing the plan include the DEI steering team which includes the Institute's Committee on Race and Diversity

An estimated timeline for the strategic plan presented to faculty projects that a first draft of the plan will be available in March and a second draft in April. Both drafts will receive community engagement before a final draft is developed in May, as well as an implementation plan and a public launch of the strategic action plan.

Dozier outlined a model of MIT's DEI efforts. The model begins with the Institute-wide strategic action plan after which are plans for each academic, research, and administrative units. The implementation plan will guide work with each of these units. Dozier said that the Institute would work with these units to develop their own plans that "articulate with the overarching Institute-wide strategic plan."

The model also includes metrics, target, and reporting and infrastructure and capacity. Dozier said that the effort "is intended to align with accountability" and "with a way that we can measure our progress."

Dozier named three pillars upon which the efforts stand: composition, belonging, and achievement, adding that "instead of coming from members of our community and being reported to or given to our leadership team," the efforts are "something that is being owned by us as a community collectively."

The development of the strategic plan will be informed by previous contributions, such as the Black Students' Union and Black Graduate Student Association's 2015 recommendations, the National Academies of Science, Engineering, and Medicine working group's recommendations, and other reports and projects from the past 30 years. The steering team will also consult internal data to compare with

external data as it relates to DEI and meet internally and with MIT groups — such as the Human Resource senior leadership team, the Undergraduate Association, and the Graduate Student Council — to receive feedback.

Kirkbride said that the Institute will ensure that it is making progress by providing metrics to identify areas of improvement and need, coordinating and facilitating access to training and consultation for those implementing DEI plans, and being able to hire "senior level staff experts" who can help with plans.

Jamison named three broad reasons for creating the plan. The first is evidence indicating underrepresented races and ethnicities at MIT and narrative data of staff monologues describing the experiences of these underrepresented groups at MIT. Jamison described the second as "a combination of opportunity and urgency," citing MIT's previous "efforts upon which we can build" and the events of the past 18 months, such as the killing of George Floyd and MIT's relationship with Jeffrey Epstein. The third reason is that peer institutions have also invested "significantly" in DEI, and studies have shown that "diverse groups, led inclusively, achieve better outcomes."

Jamison said that faculty can visit the DEI action plan website for information. Additionally, President L. Rafael Reif sent a Feb. 23 email to MIT community members announcing the creation of a new Institute commitments website to track the progress of MIT's efforts.

Electrical engineering and computer science professor Martin Rinard asked whether faculty could anticipate receiving guidance as to whether particular policies or actions regarding DEI by faculty search committees were legal.

Dozier said that there are many challenges surrounding Rinard's question but that the ICEO hopes to have "more consistent, better-coordinated training for faculty search

Janelle Knox-Hayes, professor in the urban studies and planning department and co-chair of the faculty diversity committee, added that the faculty diversity committee works with faculty searches to review the processes of hiring and to "try to ensure that they're equitable, fair, diverse, and inclusive." She said that "it would be nice to see" the Institute develop a formalized system of bias trainings and guidelines for conduct in search committees.

Additionally, mechanical engineering professor Alexander

Slocum PhD '85 said that MIT can evolve its "top-level thinking of what it means to be a professor." He said that a lot of "really great students would graduate with a Master's and leave because they didn't want to 'play the PhD game," going on to enter industry as engineers and scientists.

Slocum said that he would like MIT to bring "people of variety" into the pipeline of hiring and to investigate hiring "some of these really excellent seasoned engineers in industry."

Provost Martin Schmidt PhD '88, Vice President and General Counsel Mark DiVincenzo, Vice President for Research Maria Zuber, Jamison, and Associate Provost for International Engagements Richard Lester provided updates on Professor Gang Chen's legal case over allegations of federal grant fraud and resources for faculty considering international collaborations.

Schmidt said, regarding Chen's case, that MIT had "tried to address issues publicly, when we felt that there were misrepresentations" or a need for clarification and that "at times, people have expressed concern that perhaps MIT should be speaking more forcefully on this topic." Schmidt said that MIT is working closely with Chen's legal team and is making sure that what MIT says is "aligned with and supportive of" Chen's legal defense.

DiVincenzo said that the legal proceedings for the case would likely "take 12 to 18 months" and "probably more" due to the CO-VID-19 pandemic slowing down court processes. DiVincenzo reiterated that MIT will be supporting Chen by covering his legal fees and communicating with his legal team and the government "with the hope" of providing "appropriate information so the facts can be there" in the case.

Lester described MIT and the U.S.'s relations with China, saying "this has been a difficult period" for Chinese faculty, students, postdoctoral associates, and research staff, citing "the government's focus on foreign influence on American university campuses" and "anti-China rhetoric around COVID."

Lester said that in summer 2020, MIT "began a series of conversations with senior faculty colleagues of Chinese origin" both individually and in small groups to ask what MIT could do to support them. As a result of these conversations, a meeting with Chinese faculty members and senior research staff members to discuss MIT's actions occurred January 2021, coincidentally sched-

uled "a week or so" following Chen's arrest.

At the meeting, Lester said three sets of questions were identified. The first surrounded Chen's legal situations, the second covered the guidance MIT is offering to faculty for international collaborations, and the third discussed the broader issue of relations between MIT and China or other international bodies.

Regarding the third set of questions, Lester made three further points. He said first that MIT had "put in place a process" since January 2019 to work with faculty principal investigators "to assess the risks of proposed new projects" in addition to the regular reviews of sponsored activities executed by the staff at MIT's Research Administration Services and Office of Strategic Alliances and Technology Transfer.

His second point was that MIT continues to work with faculty governance to ensure "a clear understanding of the situation" and "geopolitical environment" between China and the U.S.

His third point was that MIT could probably assume that U.S. policy toward China would have "more continuity than discontinuity" due to the bipartisan views on China within the government and "a realistic appraisal of the nature of the Chinese regime which hasn't been moving in a positive direction."

Lester said that in the past two years, at MIT, over 200 projects from China and Hong Kong have been proposed by principal investigators and others, and most "have gone forward," so it is "reasonable to conclude that collaborations in China and with Chinese colleagues are feasible."

Lester concluded by voicing a "personal observation" that "China is rapidly emerging as the world's largest and most important economy" and will likely be a world superpower "for the rest of the century" at the forefront of fields of science and technology. Thus, Lester said it would "be important" for MIT community members "to have a deep understanding of China's political, cultural, economic, and scientific characters" and "to collaborate with Chinese colleagues."

Zuber said that "international collaborations need to be handled with care and transparency," because it is not illegal to work or collaborate internationally, but it is "essential that proper reporting occur."

Zuber listed government concerns surrounding these collaborations: agreements with foreign entities that impose obligations

contrary to university or federal requirements; failure to disclose activity to that overlaps with activity done under an existing grant; undisclosed significant conflicts of interest; sharing of confidential information such as peer reviews; unlawful transfer of intellectual property, materials, or samples; and data security and cyberattack vulnerability.

Zuber said that while China is currently "the country of greatest tension and greatest interest," there are concerns beyond China, such as the "recent Russian cyber hack."

Zuber explained necessary federal and university level disclosures — sponsor-specific proposal, financial conflict of interest, and outside professional activities disclosures — for researchers participating in international engagements.

She also described resources available for faculty, including Collaborative Institutional Training Initiative training on foreign influence, guidance for international travel, the International Coordinating Committee, and MIT's EthicsPoint hotline.

Vice Chancellor and Chair of the MIT Vaccine Planning Team Ian Waitz and MIT Medical Director Cecilia Stuopis '90 updated faculty on MIT's COVID-19 vaccine roll-out.

Waitz asked faculty to "encourage" others to fill out MIT's vaccine eligibility form, to inform MIT Medical about the number of community members who would like to be vaccinated and whether they can receive vaccines depending on the state's vaccination phase.

Massachusetts began the second step of phase 2 of its vaccination plan Feb. 18 and is vaccinating individuals over the age of 65, those with more than two certain medical conditions, and residents and staff of low income and affordable senior housing.

Stuopis said at the meeting that MIT would be unlikely to receive more vaccine doses from the state, which is "ramping up" its "own large-scale vaccinations sites at Gillette [Stadium] and Fenway [Park]" and at its "CVS and Walgreens distribution networks."

Stuopis added in a Feb. 17 email to the MIT community that those who qualify for the vaccine under the state's current phase "should seek to obtain vaccination through" the Commonwealth of Massachusetts' process.

MIT Medical will share further information with the community when the Commonwealth resumes shipping the vaccine to Medical.

Have something to say? Write **opinion** for *The Tech*!

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EDITORIAL

Undergraduates must follow MIT's COVID-19 policies The health of our classmates and community members is in our hands

By The Tech Editorial Board

Within one day of the U.S.'s COVID-19 death toll reaching half a million individuals, an MIT Alert Sunday evening announced that Q-Week had been extended by 34 hours, to 5 p.m. Tuesday from the original endpoint of 7 a.m. Monday. A later announcement Tuesday morning stated that the original extension to 5 p.m. had been shortened to noon after all undergraduates were tested following Q-Week's

In the Sunday evening announcement, Dean for Student Life Suzy Nelson and MIT Medical Director Cecilia Stuopis wrote that the reasoning for the extension was that multiple students were not testing at the right times, in addition to reports of violations of MIT's COVID-19 undergraduate policies. Where the testing miscommunication is understandable — between the hectic rush of moving-in and classes starting — people choosing to meet and to go to off-campus apartments during Q-Week is a clear dismissal of the policies.

Yes, the many rules and regulations can be confusing, and MIT's administration has seldom been competent in matters of student life. However, the undergraduate student policies are distinctly informed by Centers for Disease Control and Prevention (CDC) guidelines and state regulations.

With regard to Q-Week, the CDC advisory on travel recommends that after traveling, individuals not only get tested but also stay home and self-quarantine for a full seven days (even if the test is negative). Breaking self-quarantine to gather in person both puts MIT community members in danger and shows a concerning disregard for publicly available health guidelines. The other violation cited by Nelson and Stuopis - socializing without face coverings in an

off-campus apartment - also directly opposes CDC recommendations and scientific evidence indicating that wearing a mask prevents the transmission of COVID-19. Students at a school renowned for its STEM programs should know better.

MIT's decision to allow undergraduates to socialize without face coverings in pods after O-Week shows a deliberate level of trust in our maturity, judgement, and empathy. Peer institutions Harvard, Columbia, and Princeton have no pod program, heavily limit the number of student guests undergraduates can host in their rooms, and strongly advise or require wearing masks during these gatherings. The least that MIT students can do is to demonstrate they are worthy of this trust by following the rules that will afford them the privilege of regularly socializing sans masks in pods.

As we've seen in conversations on the MIT Confessions Facebook page, graduate students already do not trust undergraduates to abide by community guidelines. Furthermore, in a June 2020 survey, only 36% of undergraduate respondents believed that it was "extremely" or "very" likely that all on-campus undergraduates would follow MIT's COVID-19 policies. Only one week into the spring semester, those who doubted the ability of all oncampus undergraduates to follow health and safety guidelines have been proven

The repercussions of COVID-19 policy violations go beyond disciplining the offending group, impacting the rest of the undergraduates on campus and those living off campus but still involved in UROPs or in-person classes, not to mention graduate students, staff, and faculty. Members of MIT's dining hall, facilities, security, and other support staff put their lives and families' lives at risk daily to earn their livelihood and to ensure undergraduate's safety and wellbeing at campus. Reciprocating their sacrifice with flagrant rule-breaking is disrespectful and embarrassing.

Not only did the Q-Week extension result in extra ennui, but there were also students, we among them, who had made plans and appointments with external institutions that had to be rescheduled or canceled. Jeopardizing the health and routines of fellow undergraduates while simultaneously ignoring Institute guidance is selfish and disruptive. While you might not think twice about endangering yourself and your classmates, there are dozens of undergraduates who are thousands of miles from home or who have no option but to stay on campus - and even more who are diligently observing guidelines whose ability to safely attend school is being compromised by your actions.

We know it's already been a long year and being sequestered in a few hundred square feet is stifling, but we still have an entire semester to go. The Division of Student Life asked students to pack light; if these violations continue, everyone may be forced to move out — again. For the remaining 13 weeks of the semester, it's imperative that everyone on campus makes sure to get tested twice a week and follows the COV-ID-19 policies closely. Following these policies is a 2,425-way street: Each and every undergraduate on campus should comply with protocols that prioritize their physical health, and even this cannot guarantee that no one contracts the virus.

Editorials are the official opinion of The Tech. They are written by the Editorial Board, which consists of Publisher Joanna Lin, Editor in Chief Kristina Chen, Managing Editor Chloe McCreery, Executive Editor Wenbo Wu, and the opinion editor, a position that is currently vacant.

OPINION POLICY

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GUEST COLUMN

Don't be surprised by the administration's decision on Seth Lloyd

Top MIT administrators who enabled Epstein's sex trafficking operation are still covering their tracks

By Alonso Espinosa Domínguez, Matt Hodel, Rebecca Lizarde, and Gabe Fields

This past December, Professor Seth Lloyd, who raked in hundreds of thousands of dollars in donations from child sex trafficker Jeffrey Epstein, was reinstated to his post as an MIT professor with a few minor penalties following a drawn-out investigation. Lloyd, a professor of physics and mechanical engineering, had a close personal and professional relationship with Epstein. He traveled to Epstein's private island (where it is believed that children were trafficked as recently as 2019), visited him in prison after his felony conviction for child prostitution, attended meetings with him on campus, and received \$225,000 in funding from Epstein between 2012 and 2017.

Although Lloyd claims not to have known about the extent of Epstein's crimes, this is hard to believe considering the number of news articles and public lawsuits which were filed during their association. Academics who were in Epstein's circles have said that Epstein was very open about the fact that he had "two interests: science and pussy," and often had young women hovering around and giving him massages. One anonymous professor recalled that at a "scientific conference" held by Epstein, "sometimes he'd turn to his left and ask some science-y questions. Then he'd turn to his right and ask the model to show him her portfolio." Lloyd himself confirmed when speaking to student protesters in 2019 that Epstein often traveled with young women, describing it as "creepy" (all of these academics insisted they could tell the women were over 18, but we can assume some were not).

Lloyd described his receipt of donations as an act of "rehabilitation" following Epstein's prison term. He elaborated, "It wasn't money that I needed. I took it because I thought that it was my obligation to do so, because I had said I was going to help with him coming back into society." The true meaning of this statement is that Lloyd directly aided Jeffrey Epstein by taking his money. Epstein was able to evade prosecution for decades precisely because of the web of powerful figures that he developed using philanthropic donations, in combination with blackmail, intimidation, and access to his trafficked girls. While some in his social and professional networks, like MIT's AI guru Marvin Minsky, allegedly participated directly in the trafficking ring, others like Lloyd enabled Epstein by growing his network, granting legitimacy to the conferences held at Epstein's private island, and building his credentials as a science philanthropist.

When Lloyd claims he was bringing Epstein "back into society," what he really means is that he was assisting Epstein in strengthening and broadening his network of influence. He cynically cloaks this in the language of restorative justice in order to conceal the fact that he enabled a child sex trafficking operation and benefited from it, through a funded sabbatical and access to Epstein's web of prominent publishers.

In light of these facts, Lloyd's punishments — "professional conduct training," temporary unspecified restrictions on compensation, and temporarily not being able to advise first-year students — are clearly not proportional to his wrongdoings. The basic response should be to remove him from his position, along with all others at the Institute who did the same.

MIT might respond to this piece by saying that they can't revoke Lloyd's tenure be-

cause he didn't engage in a sufficiently serious policy violation. But in fact, the criteria for terminating tenure are quite vague and could easily apply to this situation: "From time to time it may be necessary to take action with respect to a faculty member who engages in conduct incompatible with the responsibilities of faculty membership or who fails to meet reasonable standards of performance. The circumstances that can lead to such action cannot be anticipated in precise terms."

Although Lloyd claims not to have known about the extent of Epstein's crimes, this is hard to believe.

The investigation conducted by MIT into Lloyd's actions conveniently skipped over the question of what role people like him, and the university more broadly, played in enabling Epstein's crimes. The panelists appointed to manage the investigation and decide on disciplinary action included many of Lloyd's colleagues and fellow department members and didn't consult any students or community members in the process. They found no problem with the donations Lloyd received from Epstein, with his visiting Epstein in prison, or more broadly with the fact that he entered into a relationship of patronage with a child sex trafficker, because apparently none of these things "violate any MIT policies." Instead, they looked for the most minor infraction they could punish him for, concluding that when Lloyd received his very first donation from Epstein in 2012, he violated the Institute's vague conflict of interest policy by not explicitly "inform[ing] MIT that Epstein was a convicted sex offender.'

It is absurd — and perfectly in line with MIT's approach to the Epstein scandal that this sin of omission is chosen as Lloyd's token rule violation. When the 2020 report on the Epstein scandal by law firm Goodwin Procter was released, it claimed that Lloyd had purposefully concealed Epstein's identity (pages 19-20 of the report). This recent review panel decided even that claim couldn't be supported, so instead the issue now is that Lloyd didn't explicitly communicate Epstein's sex offender status when he received that first donation in 2012. This information could be found upon a basic Google search, and sure enough, only a few months later in November of that year, MIT's Office of Resource Development discovered Epstein's sex offender status and immediately proceeded to approve a second donation from Epstein to Lloyd (page 21 of the Goodwin Procter report). Clearly, the Institute never had an issue with Epstein's

The real reason that Lloyd will face no serious consequences for enabling a child sex trafficker is because the university's relationship with Epstein was facilitated and approved by members of the top levels of the administration. If they decided to punish Lloyd for the donations he received, they would also be forced to admit the guilt of top officials like President L. Rafael Reif, MIT Corporation Chairman Robert Millard, and Vice President for Resource Development Julie Lucas.

The Goodwin Procter report released last January, when read closely, details the highlevel involvement of top university officials in the relationship with Epstein. In 2013, MIT Vice Presidents Morgan, Newton, and Ruiz formulated an explicit plan to facilitate donations from Epstein and mark them as anonymous. This framework seems to have remained in place until Epstein's arrest in 2019. This policy was reviewed and re-affirmed multiple times over the next several years including by Julie Lucas under whom the policy remained in place (pages 33–35 of the Goodwin Procter report).

Although the paper record of President Reif's involvement was kept purposefully sparse through a strategy of bringing up the Epstein donations as "off-agenda items" in meetings, it's quite clear that Reif was involved in conversations about the plan to accept Epstein's money. At an April 2015 Senior Team meeting, which was around the time the policy was being re-evaluated, Reif wrote "Epstein — Joi Ito' on his copy of the agenda" (pages 36-38 of the Goodwin Procter report). He claims to not remember why. On top of this, Chairman Millard was approached multiple times by Joi Ito in 2016 and 2017 for assistance in cultivating Epstein, whom they both knew personally, as a donor (pages 40-43 of the Goodwin Procter report). He apparently did not find this concerning enough to raise a flag with the Resource Development office or other top administrators.

The clear conspiracy on all levels of the Institute to knowingly accept money from a child sex trafficker has been justified and downplayed in a variety of ways. The Goodwin Procter report concluded that "mistakes of judgement" were made, but that the administrators' actions were acceptable because they didn't "violate any law, breach any MIT policy, or act in pursuit of personal gain" (page 6). When discussing the involvement of senior administrators like President Reif, the report minimizes their complicity by emphasizing that "no provocative terms like 'sex offender' or 'pedophile' were ever used" in their presence while describing Epstein (page 36). This language serves to sidestep the obvious fact that the people running an organization are responsible for the things happening immediately around

It is absurd — and perfectly in line with MIT's approach to the Epstein scandal — that this sin of omission is chosen as Lloyd's token rule violation.

In the MIT Corporation Executive Committee's final statement on the matter, they write (italicized emphasis added by authors), "the report makes clear there were multiple opportunities to stop the Epstein donations and halt efforts by Joi Ito and Seth Lloyd to cultivate him as a donor. It is regrettable that no one with the knowledge, portunity and the authority to do so stepped up to end the Epstein funding." As for what should have been taken into consideration that wasn't, the Goodwin Procter report gives the following criteria (page 55): "(1) whether accepting money from Epstein was consistent with MIT's core values; (2) the impact that MIT's acceptance of Epstein's money would have on the MIT community should those donations become known; and (3) whether it was appropriate to accept donations with a requirement by MIT that they remain anonymous."

Basically, the problem was not that MIT enabled sex trafficking, but that people found out about it. And it's true: The resulting public outrage, bad press, and student protests seriously damaged the university's standing. Many people inside and outside the university were enraged by this blatant relationship with a child sex trafficker, and the events stirred up anger around other issues such as institutional sexism, harassment by faculty, and fraudulent research. Due to this, the university wound up facing a significant dilemma in its response to the Epstein scandal.

On the one hand, the university needed to respond in a way that made it seem like they cared about these issues, while on the other hand, it was important not to respond too strongly, because the entire top level of the administration was implicated, and because at the end of the day, MIT's existence depends on the kinds of cozy and flexible relationships with donors that caused this scandal in the first place. They needed to feign outrage and act as if they wanted to reform the Institute, while also creating as little space as possible for assessments of guilt or interrogation of MIT's other funding sources.

To these ends, Lloyd and former Media Lab Director Joi Ito served as convenient scapegoats for the administration. Although almost all of their actions were taken with the full knowledge and approval of top university officials, it became possible early on to frame the Epstein scandal as the moral failing of a few individuals rather than a side effect of how MIT is designed to operate. Ito's very public resignation made it possible to pin blame on him, while also removing the need for the university to take action.

The situation with Lloyd was different, because although there was significant backlash against him, he had no intention of stepping down, and the administration was forced to decide on a response. They had to settle for a middle-of-the-road approach, with a temporary suspension and drawnout investigation that ultimately found no real issues (except a manufactured one).

It's been a while since this scandal first broke out, and the numerous global crises of the last year have allowed those involved to skirt by mostly unscathed. We should not forget that the MIT administration, with the knowledge of President Reif and Chairman Millard, consciously chose to develop a relationship of patronage with a child sex trafficker, and they are directly complicit in enabling his crimes. There is no question that the people involved, from Lloyd to the very top, should have been immediately removed from their posts when this came to light, and they still should be.

However, we can't just let ourselves see the Epstein scandal as the wrongdoings of individual immoral actors, or as a failure of the university to uphold its "values." If we want to truly understand why MIT's regular functioning results in these horrific events, we will need to start asking deeper questions about the political and economic interests that drive the university, as well as questions about the nature and history of gendered violence and how it is perpetuated by our institutions.

Alonso Espinosa Domínguez '20 graduated from MIT with a B.S. in Mathematics.

Matt Hodel SB '17 is a Ph.D candidate in the Department of Physics.

Rebecca Lizarde '24 is a first-year undergraduate.

Gabe Fields '19 is an engineer at the MIT Media Lab (contracted through nextSource).

"Won beautiful day their was an caterpillar sitting, under a tree try to clime up the bark. Unfortunately there was five clouds in the sky that starting to rain and the caterpillar couldnot find any food to eat"

The copy chief called. She said this ain't it.

f this also pains you, oin the copy departmen 6 THE TECH
THURSDAY, FEBRUARY 25, 2021

GUEST COLUMN

Reimagining our MIT curriculum

Is this what an MIT education looks like?

By Danielle Geathers, Kelvin Green II, Tyler Lawal, Myles Noel, Brian Williams, and Sienna Williams

This op-ed accompanies a video created by the Black Students' Union. Before reading this piece, please watch the video.

"Why are you dwelling on all these things that are so far in the past? Maybe if you want to study history, become a history major." As stated by an MIT student in the 1990s, there is a prevalent sentiment that students at MIT, especially Black students, should focus on the future and forgo reflecting on the dark past. Our present-day curriculum requirements seem to agree with this student's assessment. Each year, hundreds of MIT students graduate lacking a fundamental understanding of the effects that anti-Black racism and other systems of oppression have on our present-day technologies, even our own decision-making.

As an institution for learning, we have the opportunity to learn from our mistakes and change this pattern.

"You're walking in the halls. There's no one around and the lights are out. Out of the corner of your eye you spot him; Average black male around 5ft 6" wearing a blue backpack," is the opening to an email sent by East Campus residents during last Black History Month to their dorm community. These MIT students' poor attempt at so-called "comedy" is overshadowed by the covertly racist rhetoric — "Average black male around 5ft 6" wearing a blue backpack," being repeated no less than nine times throughout the email. For those who've seen the "It's Intuitively Obvious" series (1996) produced by MIT, the EC email (2020) is strikingly reminiscent of the fear and ignorance rooted in the minds of the 1993 white members of Phi Beta Epsilon Fraternity who shouted "Fuck Chocolate City. Fuck all niggers," to a group of Black MIT students walking towards their dorm along Amherst Alley.

From being founded by a slaveholder in 1861 to vandalism by swastika on the 2019 Black History Month display, the Institute has largely neglected the goal of reckoning with its own racist history. The work of the MIT & Slavery course is critical to this goal, but its research findings have been limited in their ability to create radical shifts in our Institute curriculum. This institutional failure leads to racism continually rearing its head in the perspectives shared by our students. It is difficult to hold anyone responsible for what they do not know. It is doubly difficult to hold someone responsible for what they were not taught, despite receiving a so-called internationally-renowned and respectable education. Yet, as an institution for learning, we have the opportunity to learn from our mistakes and change this pattern.

As an Institute, we currently have strict standards for what an MIT student must know to graduate. From being able to swim to understanding the replication of DNA, MIT has mandated that students take General Institute Requirements (GIRs) in the fields of mathematics, biology, chemistry, physics, and the humanities, seeing these as critical to a student's education. But by that same logic, why does MIT fail to teach the genesis of the technology we use today? And how it is often rooted in exploitation of land, socio-economic status, even another human's mind and body?

MIT requires its students to demonstrate their ability to swim four lengths of a swimming pool to earn their degree. And yet, this proactive approach designed to prevent students from drowning in the Charles isn't replicated in an approach to prevent students from creating, contribut-

ing, or approving the use of technologies that perpetuate systemic racism at home and abroad?

Our concern for the curriculum is not a new one. In 2015 the Black Students' Union published a list of demands mandating an immersion studies course (BSU 2) that has only been avoided on the merits of its proposed implementation. We do not propose to be the experts on how this knowledge should be implemented in the MIT curriculum, but we remain experts on our experiences as Black students and have conviction that we cannot continue to conduct business as usual. The sloth-like pace of MIT's progress towards an inclusive educational environment is why Black student experiences today match the experiences of Black alumni for decades with uncanny accuracy. Their voices still echo through the Infinite yearning for change.

Our concern for the curriculum is not a new one.

It is MIT's responsibility to educate its students who become leaders in their communities, the world, and beyond. It is a failure that most of our department curricula are devoid of requisite studies on social inequities, absent of historical examples of the human cost of both scientific and technological advancement, and barren of the institutional history lessons which work to lead students to be better than many of the historical figures we learn from in our classes. A Course 7 student graduating during the COVID-19 pandemic without knowledge of the Tuskegee syphilis experiments is unprepared. A Course 20 student who does not know the story of Henrietta Lacks is unprepared. A Course 6 student without an understanding of the effects of implicit bias in machine learning is unprepared. And the list goes on. How many more students will graduate ignorant of the inequities and injustices that developed and continue to impact their field of study?

It is MIT's responsibility to educate its students who become leaders in their communities, the world, and beyond.

This year marks the 25th anniversary of the first "It's Intuitively Obvious" production, a series of videotapes depicting MIT students discussing issues of race. Will it be another 25 years before our curriculum meets its educational duties and responsibilities? We need allies in this effort. Students, staff, faculty, administrators and Corporation members — we are asking for your help to ensure that before we turn our brass rats and leave this side of the Charles, we are prepared; prepared to face the rising challenges of an ever awakening world. We must reimagine our MIT curriculum and then, and only then, can we say MIT has succeeded in its mission to "advanced knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century."

Please share the BSU's video and this opinion editorial with your network. Thank you for your acts of solidarity.

Danielle Geathers is a member of the MIT Class of 2022.

Kelvin Green II is a member of the MIT

Class of 2022.

Tyler Lawal is a member of the MIT Class

of 2024.
Myles Noel is a member of the MIT Class

of 2024.
Brian Williams is a member of the MIT

Brian Williams is a member of the MIT Class of 2022.

Sienna Williams is a member of the MIT Class of 2023.



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CURSED THOUGHTS

The things I brought to MIT

And what I left behind

By Ana Reyes Sánchez

I started packing a full week before my flight back to Boston.

First: my clothes. I folded sweaters and shirts and set them on the ground in front of me. I couldn't remember everything I'd left in Boston, so I packed the clothes that felt right:

- The white sweater you can see in all my high school photos. I still remember my delight when I realized it was under \$10 and my mom agreed to buy it.
- The giraffe onesie, passed down from my big, that will get passed down to my
- The pride tank top I bought during Interphase before my freshman year with my roommate - the first purchase I ever made at MIT.
- The matching Muji sweater I have with my dad.
- The black ankle-length dress that I wore to my high school prom — too soon after I had broken up with my girlfriend.

It all fit into one side of my suitcase, looking up at me in neat Marie Kondo squares. My mom sat in front of me, helping me pack up underwear and socks and bras into sandwich bags so they would be easier for me to take out when I get to

She lectured me, in that mom voice, about how I need to fix the holes in my clothes. What about now? I thought. Is this the last time I'll hear that voice?

Next: the sheets.

My mom insisted that I bring queensized sheets so I could dress the bed immediately upon getting to Site 4. She had them vacuum-sealed and ready for me to fit into

I spent the rest of the day cleaning my bathroom of the ants that had settled in the sink. Messy, messy, messy. I rearranged the soaps in my shower and remembered to close the curtain the way that my mom always nagged me to.

And, finally: my "school stuff" (loosely

The first thing I did was sit down on the floor of my sister's room (also loosely defined — she's never lived in this house) and sort through all the different papers I carried back to California in March. I looked down at the philosophy readings I had in my lap and plucked off the most worn pages and made another list in my

- That Enoch reading that I did in Metaethics last spring with one line in particular that I keep thinking about: "We cannot and should not avoid asking ourselves what to do, what to believe, how to reason, what to care about.... Making the decision is up to you. But which decision is the one it makes most sense for you to make is not. This is something you are trying to discover,
- A copy of *The Stranger* that I took from my high school library in my senior year. My dad mentioned at some point that they charged my family \$14 for it. I didn't know how to explain that I'm sorry, but the thoughts, the notes, the pages were
- The readings on love that my philosophy advisor sent to me over IAP; I still haven't read them, but I carry them with
- My notebook from Paradox and Infinity (24.118), a class that I took freshman spring that both amazed and confused me in equal measure.

I kept making the list as I went through more and more pieces of paper. I found, under all that philosophy, a torn off page of Ayn Rand's The Virtue of Selfishness that I had messily scribbled on last spring.

There are all of these thoughts and feelings trapped in my head... I am

It's cut off, and beneath it are all these little circles. What were the words? Around and around — no further from center.

I wrote that in high school, but it's been with me so long that it feels like it's projected everywhere. It's been long enough that I have to sort through the little file folders of memories until I come to the



MAX YU—THE TECH

I thought about how much has changed since high school... Quietly — carefully — I packed that worn down notebook in my backpack.

"and what has come of it?

maybe it was this. maybe life was a loop, and every time she thought she'd reached someplace else it was actually just another point on its circumference, the same distance from the middle as e ery other point.

and what could come of it?

in the end, she's alone. when her friend has moved on with her life, she is still trapped in a never-ending circle, going around and around; no further from center.

Dec. 11, 2019

I pushed the thought away only to find, tucked in the left corner of my middle drawer, my old journal. It's a blue, worn, standard-issue notebook. The edges of the cover are peeling up from years of being packed and unpacked, opened, and folded,

I flipped it open and saw the neat little ovals scrawled in the corner of pages. I could never draw a circle that well, could I? Written everywhere was that same

"I continue to feel like I'm living in a circle. Around and around and no further from center, that's what I wrote, isn't it? But how do I get out of this circle?'

And the joy of living application, March 6, 2018

I sat down on the carpeted floor and started flipping through the pages. It's only been a couple weeks since I last opened this notebook, but I'm a nostalgic person.

I read the poem that I wrote in high school, shortly after leaving the house from an argument. I remembered telling my mom, after coming back, that I was buried by the weight of my friend's hospitalization, college admissions, and leaving home

I said, "I don't know what to do."

She responded, "Mi amor, claro que no sabes. No eres una madre."

I thought about how much has changed since high school. I wrote those words first while crammed into a corner full of poetry books, feeling like a worn-down image of myself. I think about how I write in California: tucked next to a wall, books splayed out in my lap, usually feeling desperate and tired. Quietly - carefully - I packed that worn-down notebook in my backpack.

I haven't changed that much, I suppose. I continued working through the different papers that I have around me. Eventually, I made three piles surrounding me:

- To recycle
- To keep in California
- To bring to Massachusetts

I'm working on a pile of 18.600 psets with disorganized pages when my mom walks in. She looks at the piles next to me, and the neat mounds of envelopes that are to my right. She asks why I'm bringing the letters.

That pile has:

• A collection of birthday cards that I've kept over the years, a reminder that time keeps passing.

- The stack of letters my dad wrote to me after I left home the first time.
- The New Year's letter my big wrote me in response to my own end-of-the-year
- The first letter of many that my high school friend wrote to me after she got out of the hospital.
- The letter I wrote to myself in English class sophomore year that ends, "Ana, coming from the person who knows you best, don't let this desire consume you.... No one person changes the world."

I think about responding, I can't pack you in my suitcase, but god, I'm going to try. I don't say anything.

My freshman year, I got hung up on all the things I had forgotten to bring with me.

Breakfasts in bed, lechiza con galletiza, even just daily family dinners always with tortillas. I bought Oreos yesterday, but I don't have milk. And even if I did, it wouldn't be the same.

I've been feeling guilty the last couple of weeks because I thought that it was unfair that I was homesick for school. [I've been missing] laying down on my spot of the floor and chatting with Dodt and hanging out with my friends. I wondered if it was selfish that I didn't miss California.

But of course I miss my parents.

My mom and dad, who are always so happy to be talking to me, who send me care packages and daily texts, who are outraged on my behalf, and who I've been taking for granted for so long that it was strange the relief when I realized that they were still there."

Sept. 30, 2018

wasn't going to make that mistake again. I was going to pack the clothes, and the books, and the journals, and the letters. And this time, it would work.

When I left my tiny New House single in March, I remember closing the door and seeing naked walls. My wardrobe was open with no hangers, my walls were missing post-its and drawings, my bed had no Koya plushie, no pillows, no sheets.

I didn't leave my room empty this time. The bed was still unmade. There was a half-filled mug from the tea I'd been drinking that was likely bitter by the time I left. It feels like I'm forgetting scraps of myself with my parents.

When I moved into my room in Site 4, still wearing the lab goggles my parents gave me for the plane, I set down that standard issue notebook I'd been carrying from the plane. I unpacked the sheets from the vacuum-sealed bag my mom gave me. I took a shower and remembered to close the shower curtain when I finished.

I am leaving home again. I don't know what to do. *Am I a mother yet?*

A final list of everything that I brought to

- The things that remind me of my family. • The bittersweet taste of home.

CAMPUS

CLASS SPOTLIGHT

A pearl of a project: Transforming the aquafarm of the future

Students in 2.017 create an autonomous surface vehicle to aid local oyster aquafarmers

By Michelle Kornberg

In 2016, the aquaculture industry overtook wild caught seafood for the first time in human history. Our population continues to grow, and our oceans cannot keep up without help. As our climate changes and our need for sustainable food sources grows more pressing, aquaculture — farming fish and mollusks and seaweed — can fill the gap in a delicious and environmentally healthy way. In Massachusetts, some of the most important species for aquaculture are mollusks like oysters, clams, and scallops. The local farms that grow them are able to provide a sustainable food source that prevents overfishing along the depleted New England coastline while using fewer resources and producing less waste than land-based meat Ward Aquafarms, located on Cape Cod, grows their oysters in large mesh bags that float at the surface of the water and are connected together in large arrays of hundreds of bags. Because the undersides of the bags sit in the water, algae and other growth quickly clogs the mesh, preventing the filter feeder crops inside from getting the water flow that they need to grow. Farmers must flip the bags over once a week to let the biofouling dry out and chip off, leaving the mesh clean once again. The method is simple, but the labor is incredibly difficult.

Farm workers must flip thousands of bags weighing up to 50 lbs each from a small kayak that they must fit through the rows of oyster bags. It is this difficult, exhausting, and uncomfortable labor that presents one of the largest barriers to production on the farm.

That's where the students of 2.017 (Design of Electromechanical Robotic Systems) come in! By automating the bag flipping process, farm workers will no longer have to do the arduous manual labor themselves, but can instead direct and supervise an autonomous surface vessel as it navigates through the arrays of oyster bags.

This semester, students in the small, hands-on capstone design class will work with Ward Aquafarms to fabricate and test an autonomous surface vehicle to automate the bag-flipping process. From concept to controls to creation, students will work with researchers and instructors to deliver a vessel that has a meaningful impact on food sustainability in New England.

The class is geared towards juniors and seniors with some background in electron-

ics, robotics, or mechanics. Students will get hands-on experience in mechanical design and fabrication, electronics and autonomy, and even some naval architecture. As a member of the team you'll be solving complex problems in the dynamic ocean environment and getting an immersive experience into working with real world clients.

This spring, 2.017 is a 12-unit class with remote synchronous lectures and in-person lab sessions at the Sea Grant Teaching Lab. Interested students may email *michkor@mit.edu*

This article is part of the column Class Spotlight, which will discuss and recommend interesting, yet not popularly known, classes at MIT. Students or professors who hope to submit further entries or classes for consideration to this column may email cl@tech.mit.edu.

WENBO'S WALKS

Baa

Why do we count sheep to fall asleep?

By Wenbo Wu

EDITOR

The alarm goes off at 7:30 a.m. sharp.

The loud, screeching sound pierces my ears as I struggle to stay asleep. But I'm not built for this kind of endurance. After tossing and turning for a few minutes, I give up and sit up with my legs dangling off the side of my lofted bed.

I pace back and forth across the floor of my room, feeling the cheap, grainy dormitory carpet abrade my soles. Three hours of sleep really make one aware of their surroundings, or at least create such an illusion.

Look, don't be one of the sheeple: Why sleep when one can read up on one's abstract algebra textbook? I'm kid-ding. I love sleep when I can get it, though sometimes I truly cannot fall asleep regardless of how physically or mentally drained I am.

I feel fine. I feel alert. My entire being feels like it's drifting in an ethereal bubble; the world is my ball pit. My vision is distorted, but I can still walk. That's all that matters for the sake of this column anyhow. Despite being in quarantine, I can still walk in circles around the arches in the so-called Random Hall four-room.

Yet, one can probably throw a kin-ball at me from 10 feet away and I'll hardly notice. It can hit me and I'll hardly flinch. In fact, in times like these, I wish someone would hit me with a kin-ball just to wake me up somehow, seeing as I'm not going to sleep again anytime soon.

Speaking of sheep and baby goat kids, they both require, somewhat ironically, very little sleep to function. I'm starting to suspect that maybe *I'm* the sheeple here, not those of you who do get the recommended hours of rest per night. Fine. I accept.

Despite my sleep deprivation, I'm still more alert than an MIT Alert can ever hope to be.

Specifically, in regard to MIT Alert texts, I just absolutely love knowing that after spending a week in quarantine essentially without

seeing the light of day, I'll get to spend another 34 hours in isolation because people didn't get their COVID-19 tests!!

I'm just kidding. As much of an introvert as I am, I still need to socialize sometimes over things other than problem sets or club activities. Having originally expected that I would be able to interact with my friends again after 7 a.m. Feb. 22, 5 p.m. Feb. 23 can't come soon enough.

I continue to pace, half of my brain trying to figure out what the heck representation theory actually means (existentially) while the other half's gone on vacation thinking about sheep and grass and, for some reason, the delicious taste of catnip. The alarm is still ringing outside. I'm certain that everyone on this side of the building is awake by now.

A kin-ball flew across the room, and drained me of my glum and gloom!

My best friend says I often talk in my sleep. He claims that I speak in couplets whenever I doze off. Assuming the claim's validity, which I trust, maybe that explains why I can't sleep deeply. After all, how can I rest when there's so much left in my head to think about?

Do these bedtime thoughts make any sense? No. Have I at any point accidentally muttered a chant that summoned some entity? Probably. At this point, I'm just trying to rationalize my sleep-talking and (more rarely) somnambulism.

In light of all these questions, I suppose I have yet to ask the most important one: What's up with sheep, and why do people keep telling me to count them? See, that's the most confusing thing ever.

It's always the pollster's dilemma: Did I remember to count myself? Do I even count myself in the first place? So many questions, so little time. How is this supposed to help anyone fall asleep? I feel like this would quickly spiral into an existential crisis of such magnitude that my brain would simply collapse in on itself.

My pod-mate calls me and tells me that dorm security told her that the alarm must've been triggered by the wind and that there is



FARIN TAVACOLI — THE TECH

The moon looks like a cloud tonight.

simply no way to turn it off. I baa internally, vexed by a lack of closure and resolution.

At some point, my pacing must stop. But if my pacing stops, so will this article. In fact, this column simply cannot continue to exist without my walking. Wow. I can hardly believe that I've been walking for a whole year now... in theory, at least.

I panic. I have class in an hour. I have to stop thinking about sheep, for sheep do not ponder the existence of sheep. To truly tune into my inner artiodactyl, I must cease to concern myself with such primate thoughts.

Hence, I will see all of you again in two weeks. I hope that by then, I will be able to adjust to my new room and get some sleep again. I also hope that Q-Week ends by 5 p.m. on Tuesday. I suppose, dear reader, that by the time this article gets to you, you will already know of that outcome. But alas, for this I currently know not. For now, I'll count my meadows and carry on.

Got a lot on your mind?

Share some thoughts with us! Write for Campus Life. join@tech.mit.edu

9 The Tech
Thursday, February 25, 2021

UA Committee on Sustainability releases Fall 2020 undergraduate survey findings and report over IAP

Respondents support MIT engagement in sustainability education and climate research, feel strongly that MIT should further engage in sustainability and climate action in industry

By Srinidhi Narayanan

The MIT Undergraduate Association Committee on Sustainability (UA Sustain) released the findings of their Fall 2020 undergraduate sustainability survey. The results, compiled by the 2021 IAP Survey Analysis Group, chaired by Carolina Gutierrez '23, Kelly Wu '21, and Megan Xu '22 and led by Hanna Tuomi '21, were prepared in conjunction with other groups on campus, including, but not limited to, the MIT Office of Sustainability, Environmental Solutions Initiative, and the Student Sustainability

Coalition.

The survey was open for two weeks from Nov. 29 to Dec. 13, distributed through the mailing list for all undergraduates, and received 934 responses (approximately 21.5% of undergraduates), with the highest response rate coming from the Class of 2024, followed by juniors, sophomores, and then seniors.

The report contains summaries of the survey results from the five direct-question sections, the open-ended question, and conclusions drawn from the responses as

a whole. Across the sections, there were "a few main themes supported by" the data, according to the report.

First, "respondents care significantly about the energy aspect of sustainability," evidenced by "significant participation in MIT Divest, day-to-day concern with reducing energy consumption, significant interest in MIT's relationship with fossil fuel companies, and strong support for fossil fuel divestment."

Respondents also reportedly felt that MIT "does a good job" providing sustainability education and "furthering climate research." While sustainability is not a core feature of students' class schedules and does not play a "significant role" in shaping students' careers, respondents "frequently" sought out information on these topics.

Finally, respondents felt strongly that MIT should "further engage in sustainability and climate action as they relate to government and industry," while acknowledging that MIT "adequately" engages in sustainability from education and research perspectives. Respondents also indicated that "they care about" MIT's climate action at an

institutional perspective; the report mentions waste reduction strategies in particular.

The first of the five direct-question sections - campus community sought to gauge undergraduates' knowledge of and involvement in groups under the MIT sustainability umbrella. The main takeaways from these questions, in which students were asked to identify sustainability groups they knew of and might have participated in, were that "respondents had a similar level of familiarity and participation between the most well-known MIT-led and student-led sustainability groups," yet since more student-led groups were identified, "total membership in these groups is higher than that of MIT-led groups."

The second section — campus sustainability — examined interest in institutional sustainability and preferences for MIT sustainability policy. More than half of respondents said "they had searched for information" about fossil fuel "investment/divestment," "sustainability education opportunities," or "sustainability research" with regards to MIT. Respondents also "collectively" felt that "energy us-

age" and "sustainability research" should be higher on the priority list. While "sustainability education opportunities" was a frequently searched topic for respondents, "not many" believed MIT should prioritize it as an institution "relative to other topic areas."

In the third section — external relations, divestment, and the climate action plan — the report summarizes the respondents' views on the "ideal relationship" between the Institute and external stakeholders. An "overwhelming number of respondents" (87.4% of 769 respondents) support MIT action in regards to external politics, while being unsure of "how successfully the institution has reduced its carbon emissions and worked with the government to accelerate action."

The fourth section — career choices — examined undergraduates' engagement with sustainability career development opportunities and students' consideration of sustainability when planning for careers. 26% of respondents "strongly disagreed" that their choice of major was influenced by the desire to pursue/learn about

sustainability; 23% answered "somewhat disagree"; 21% were neutral; 19% "somewhat agreed"; 11% "strongly agreed." A plurality of students "somewhat agreed" with sustainability being a factor in career planning.

The final section — personal sustainability - sought to understand how respondents practiced sustainability in their day-to-day lives. Respondents "preferred to engage in personal sustainability as opposed to higher-commitment strategies such as careers or advocacy." Over half of respondents felt that lack of knowledge of sustainability hindered their practicing sustainability, though "time, effort, lack of resources, and financial reasons" were listed as obstacles by "over a third of respondents." Respondents that felt that living on campus affected their sustainability felt that "being on campus improved" their sustainability.

UA Sustain will carry out additional data analysis of these responses during the Spring, and "welcomes questions, feedback, or requests for collaboration," which can be directed to *ua-sustainability-survey@mit.edu*.

Q-Week extended due to students out of compliance with testing and violations reported

Quarantine Week, or Q-Week, was extended until at least 5 p.m. Feb. 23, Vice President and Dean for Student Life Suzy Nelson and MIT Medical Director Cecilia Stuopis '90 announced in a Feb. 21 email to the MIT community. Q-Week restrictions were lifted noon Feb. 23 after undergraduates complied with testing requirements Feb. 22, and no positive cases were detected.

Nelson and Stuopis wrote that Q-Week would be "extended

at least until every residential undergraduate student is tested again" Feb. 22 and "those testing results are received."

All on-campus undergraduate student residents living in dorms or pilot FSILGs this semester were mandated to self-quarantine for Q-Week while taking all classes online until Feb. 21. This date was then postponed to 7 a.m. Feb. 22 in a Feb. 19 email from Housing and Residential

The second delay came as a "precautionary measure," "despite the fact that the vast majority of undergraduates" have followed "all Q-Week policies."

Nelson and Stuopis explained that the step to extend Q-Week until Feb. 23 was taken "not because of an increase in positive test results," but due to a "substantial number of residential undergraduate students" who were "out of compliance with testing requirements."

Some students had only tested once "upon check-in"; some had tested twice "without five days elapsing between their arrival and their second test"; others had not tested at all.

Nelson and Stuopis also wrote that they had already received reports of COVID-19 policy violations before the end of Q-Week. Reports included a pod gathering in-person and a group of undergraduate students "socializing, without face coverings, in an off-campus apartment." They wrote that these individuals "have been referred to the Committee on Discipline for an expedited review of these allegations."

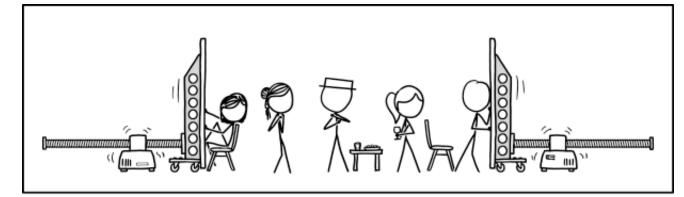
The end of Q-Week means that students can now form pods, spend more time outside of their residences, and access the Department of Athletics, Physical Education and Recreation facilities.

— Shelley Choi



A WEBCOMIC OF ROMANCE, SARCASM. MATH. AND LANGUAGE

[2416] Trash Compactor Party



I'M PLANNING A TRASH-COMPACTOR-THEMED PARTY FOR WHEN THIS IS ALL OVER 50 WE CAN GET USED TO STANDING NEAR EACH OTHER AGAIN.

What an incredible smell you've discovered.

In Person Optional

Solution, page 3

6–	 	26+	 	 	1 1 1	21×	1 1 1	
45×	48×		-	45×	108×			14×
	18×			-	56×		224×	
168×		20×	 		12×		-	6
3	-		29+		5×	<u> </u>		- 45×
7	-	8	-	3	-	- 12×		-
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In Person Required

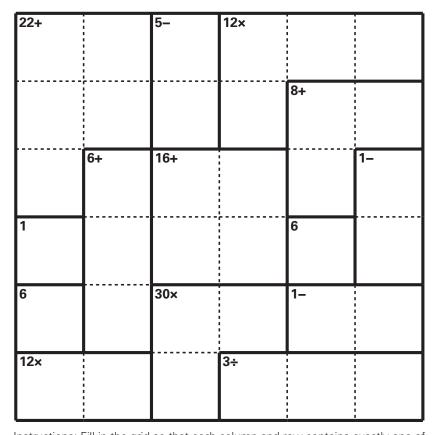
Solution, page 3

2			1		9	7		3
							8	5
			7				2	1
6					1		9	7
	1			2			5	
5	7		8					2
5 7	6				3			
8 9	2							
9		1	5		8			6

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Asynchronous

Solution, page 3



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1-6. Follow the mathematical operations for each box.

Four on the Floor by Sally R. Stein

Solution, page 3

ACROSS

- 1 Golfer's shout
- 5 Remote place to "worship from"
- 9 Sound of a dog's bark
- 13 Occupied, as a seat
- 14 Just adequate
- 15 Rebound, as a sound 16 Showed on television
- 17 Farmer's ground
- 18 Tilt to one side
- 19 Slowing lever on a car
- floor
- 21 Vehicle in grocery stores
- 22 Topper on an "i"
- 23 Shades of color
- 24 Disposable hanky 28 Jeans fabric
- 31 Ready to serve from a keg
- 32 Value of a nickel
- 36 And others: Abbr.
- 37 Gem surface
- 38 Castle's watery ring
- 39 Ungracious competitor
- 41 Impulsive speed

- 42 Mile-a-minute speed
- 43 Pep rally cry
- 44 Parking-lot spot
- 48 Drag from behind
- 49 Foliage on a forest floor
- 56 A Great Lake
- 57 Holler
- 58 Weighing machine
- 59 Close to
- 60 Bygone time
- 61 Tot's three-wheeler
- 62 Schoolroom furniture
- 63 Poems of praise
- 64 Cravings

DOWN

- 1 Impartial
- 2 Cajun veggie
- 3 Have an unpleasant aroma
- 4 Eventually became
- 5 Desirable feature
- 6 Anything edible 7 Largest continent
- 8 Bun or bagel

- 9 Small rug at an entryway's
- 11 Chicago airport
- 12 Typefaces
- 13 Bar bill
- 20 Writer Edgar Allan __
- 23 Game's first X or O
- 24 Tips of shoes
- 25 Delve __ (investigate)
- 27 Employee on a store's
- 29 At any time
- 30 Tennis court barrier

- 34 "Bye-bye!"
- 35 Flower stalk
- 40 Be untruthful
- 43 Hair salon goo
- 44 Make purchases

- floor 10 Atlantic, for instance

- 26 Principal performer
- floor
- 28 Risky, informally
- 32 Quickly
- 33 Odor-sensing organ
- 37 Supposedly sly animal
- 41 Truthfulness
- 14 15 17 18 16 19 21 20 24 | 25 | 26 | 27 28 | 29 | 30 33 |34 |35 36 39 44 | 45 | 46 48 49 |50 |51 52 |53 |54 56 57 58 59 60 61 62 63
- 45 Turn to mush in a blender 46 Criminal's false name
- 47 Thaws
- 49 Mistake in print, for short

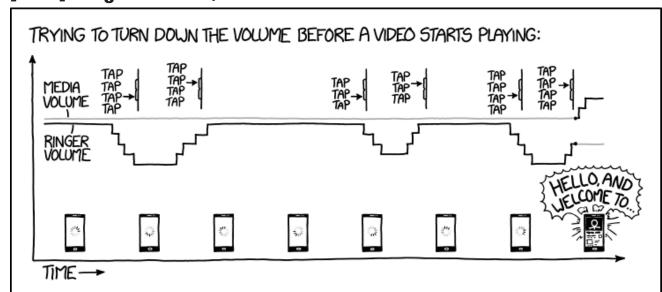
50 Sit with a book

- 51 Otherwise 52 Real estate measure
- 53 Egotistical
- 54 Large antlered animals 55 Get a look at

12

[1884] Ringer Volume/Media Volume





LAB SPOTLIGHT

What's it like to design a meal that floats?

Taking a taste of the sensory research of Space Exploration Initiative's Maggie Coblentz

By Alana Chandler

Just a few of the many harsh awakenings I've had during my time here on Earth: The tooth fairy is fake, climate change is real, and space food is not as pretty as pop culture makes it seem.

Stardust-sprinkled luminescent orbs and Dua Lipa-infused cotton candy are replaced with the reality of vacuum-sealed hunks of dehydrated meat and powdered stews. Today's space food focuses on practicality over aesthetics, but behind what might look like forensic evidence lies meticulous engineering. Shelf stability, nutrition content, mass minimization for transport, and ease of consumability in a zero gravity-environment are some issues carefully considered by NASA's food scientists. It's a wondrous feat of engineering that, in the lifeless void of space, astronauts can still enjoy a peanut butter and jelly sandwich, albeit made with a tortilla instead of fluffy bread. (Like the ultimate neat freak, NASA doesn't allow bread on space missions because it can make crumbs that can cause significant damage to equipment and human lungs as they float around.)

Given that we acknowledge the worldclass science that goes into the development of these space foods, let's set aside our table manners for a moment. What happens to astronauts when dinners, normally served off plates here on Earth, are instead squirted from shriveled plastic packages fitted with sphincters and tubes? When the movement and music of cooking is replaced with the injection of warm water into said packages? To answer simply, the astronauts are relatively okay; none have passed away due to food-induced insanity. But food and the customs around eating it are anything but simple. What is lost when traditional sound, sight, and smell are largely removed from their eating experiences?

What can be gained if, instead of warm water, the space food experience is injected with Earthly traditions or wholly new

Maggie Coblentz believes that by designing novel space food rituals, astronauts will not just be able to survive in space, but thrive there as well. For many, food is intimately tied with identity and emotion — it is even psychoactive. In Coblentz's research at the MIT Media Lab's Space Exploration Initiative, she wonders how the power of food can be leveraged to improve the wellbeing of astronauts, with the potential to revolutionize their space lives and hopefully their research. As the future propels us towards a new era of exploration and tourism beyond Earth, these inquiries become ever-more timely and pertinent.

Coblentz's path to the Media Lab began without any connection to space or food. Out of college, Coblentz started her own jewelry company. While she loved making wearable fashion pieces, she yearned to tap into her problem-solving skills. She left her company and obtained a master's degree in industrial design from the Rhode Island School of Design (RISD). It was Coblentz's love for design and cooking, coupled with her childhood camping trips, that led her to write her thesis on space food and other extreme environments.

"I grew up in Canada doing a lot of canoe tripping. Part of my role was planning all the menus with the limited resources that we had to carry with us," Coblentz reminisces. She began to wonder how food functions in environments outside of the domestic kitchen, bringing people together without a traditional set of tools.

Today, Coblentz's job description is 'space sensory experience researcher." When I ask her what this entails, she clarifies that she's not a food scientist, although her work does include creating recipes and food preparation techniques. "My work is leveraging the amazing science that's already happening. We have this food that will already help us survive, but what is the sensory and holistic experience that surrounds that, that can elevate it to a different degree?"

Coblentz has explored the influential power of virtual reality in the eating experience. During her time at RISD, she ran a blind wine-tasting event where participants tasted the same wine while looking at two virtual reality scenes — one of a lush Earth landscape and the other on Mars. Participants believed the wines were different depending on the scene they viewed, emphasizing the notion that food will feel significantly different on another planet. "If we understand the impact of different settings, we can design for it," says Coblentz.

Coblentz ran another virtual reality workshop, hosted by the Space Exploration Initiative, with International Space Station (ISS) astronauts Cady Coleman and Paolo Nespoli. The astronauts visited their hometowns on Google Earth, honing in on their grandmothers' houses and elementary schools as they ate an apple. While an apple may seem mundane, the particular food item was not Coblentz's focus. Instead, she wondered, if you were on the ISS or in a space habitat far away from home for months or years, how would it feel to be able to eat your freeze-dried pizza while virtually visiting your favorite pizzeria in your village in your Italian hometown? Would it make you feel more connected? "There are a lot of space missions here on Earth doing similar experiments, not necessarily with food. There is power in virtual reality to reduce anxiety and depression," she asserts.

Half of Coblentz's research is solving near-term goals for astronauts, like her project on space fermentation to promote astronauts' gut health and microbiome. The other half of her research is "a little bit down the line," as she puts it, peering into what the future of space tourism might possess. In August 2019, Coblentz tasted such a future when she adorned a "space food helmet" whilst on a flight in simulated zero gravity chartered by the Media Lab's Space Exploration Initiative. The helmet acted as an immersive floating "restaurant-for-one" where Coblentz enjoyed a multi-course menu that she fit with a lazy Susan so that the food could rotate around, aromas pumped inside, and one day it could even include video projections for a fully immersive experience. Inspired by a glovebox, she crafted the avant garde fishbowl-like helmet with two iris openings so that she could put her hands inside while preventing items from floating out.

A multi-sensory experience was an elegantly terrestrial prelude to her meal. Coblentz listened to the sound of onions frying and filled the helmet with the scent of mirepoix and sautéed garlic and onions - a custom aroma made in collaboration with the International Flavor and Fragrances. "I created this immersive kitchen environment that you would not typically have in space to see whether that would increase appetite through the anticipation of

The snack-and-sail experience began with the adage of a champagne toast, consumed in popping candy-form instead of from a crystal flute. Because carbonated beverages are not recommended in space due to how they interact with the body, Coblentz wanted to capture a similar staccato sensation with the candy. "I'm trying to break apart all the rituals of eating. What makes it feel celebratory?" The texture, the fizz, the sounds, the tradition — recreating that for the context of space was Coblentz's

The champagne was followed with homemade algae "caviar," made via spherification, offering a fresh sensation of bursting, contrasting the mushy, uniform texture signature to many space foods. The space caviar looks like a collection of fragile, miniature Earths, paying homage to the feeling of astonishment astronauts often experience when looking back at our pale blue dot of a planet.

Coblentz also brought along her "silicon bones," a food utensil that she created to emulate the primeval experience of gnawing the remnants and gritty bits of food. She



Coblentz uses her space food helmet and glove box for spherification during the zero gravity flight.

coated the bones in miso paste as a precursor for a future project where her team is sending miso to the ISS to see how umami flavors evolve with fermentation. Due to shifting bodily fluids in space, flavors become muted, like eating with a severe cold. Now imagine that experience lasting for months on end on space missions. Incorporating the strong flavor profile of umami into dishes might help make food more palatable in space.

Coblentz thinks that while it's quite unlikely that a future astronaut will wear such a helmet on mission, the project was of concept and springboard for unlocking the possibilities of zero gravity sensory modalities. "Perhaps astronauts will use their own headphones to listen to food because they often suffer from loss of appetite," Coblentz postulates.

Coblentz also used her limited time on the zero gravity flight to attempt making the algae caviar spheres. She injected a prepared syringe of liquid within a drop of the calcium solution, then fished out the polymerized ball from the floating "bath" — an inception remix on the spherification process. "I'm coining this 'anti-plating': thinking of new ways of plating food where you don't need a flat surface," Coblentz says. "It can be spherical, or a 3D shape where you could put food on all different sides. Imagine having your salad dressing on the inside as a sphere, and then the lettuce on the outside.

The zero gravity flight isn't actually zero gravity. It is actually parabolic, where zero gravity is experienced just at the peak of the parabola, for roughly 17 seconds. In between the peaks of zero gravity, there is hypergravity where the aircraft accelerates quickly. Before the flight, Coblentz prepared for the swift pacing constraint by running through the spherification process on Earth like a drill. Each step was written down, even actions like "pick up the syringe." While hypergravity unfortunately squished the caviar, the experience was like no other for Coblentz.

While taking a Willy Wonka-meetsextraterrestrial-science approach to space food design is both beautiful and intriguing, some people question whether food is really anything more than fuel. Can't astronauts adapt to subpar eating experiences, just as they militantly adapt to living in a floating box, albeit a very fancy box?

Coblentz acknowledges that not everyone likes food and admits that the importance of food in one's life is highly subjective, but its tremendous influence on emotions, behavior, and cognitive performance isn't to be overlooked. Coblentz's passionate belief in the importance of crafting rich food cultures places her work as the antithesis of Soylent-like products. Readyto-go and all-in-one meals are the epitome of the modernist North American pursuit of efficiency, uniformity and optimization. "Although Soylent has succeeded in creating a community in and of itself, is this the community and future that we desire?" A similar question can be asked about space

Recognizing the steep barrier to entry in ideating the future of space food, Coblentz is also in the process of creating an opensource interplanetary cookbook, where she hopes to collect recipes and eating tools for life in space from the public. In democratizing humanity's space future, she asserts that hearing from a plethora of perspectives that different communities and cultures have to offer is a must.

"Taste is often the last sense enced in a meal. All of the senses must be considered when designing food and eating experiences," Coblentz states. At our next meal, perhaps we can all put on our Coblentz hats. No, you don't need a space food helmet. What I mean is, imagine what your meal would be like if it were to be eaten within a helmet with irises or while floating, if it were made without access to a gas stove, thousands of miles away from the scents of paper grocery bags and frying spices, if it were enjoyed in a capsule surrounded by the orange-red dust of Mars. What habits would be transposed, what rituals lost, what customs newly developed? Food customs reflect our value systems, and Coblentz's work reflects a hope for a space food future that promotes social interaction, emotional health, and connection in the isolating backdrop of the space