

Bio-based, 3D-printed tiny house offers solutions to Maine's housing crisis

By Maya Homan • Published Dec. 11, 2022 by *The Boston Globe*

How do you create lots of affordable housing with limited materials, labor, and other resources? One group of researchers at the University of Maine has come up with a proposed solution: hook up a 3D printer.

The United States [faces](#) rising rents and housing shortages, intensified by the COVID-19 pandemic, but Maine has its own unique, overlapping challenges: The state needs another estimated 20,000 homes to meet the current demand for low-income housing. It also has the oldest average population in the nation, with a [median age](#) of 44.7, an issue that exacerbates the state's labor shortage. With pandemic-related supply chain issues and rising costs of raw materials, the already-expensive housing market has surged.

Enter [BioHome3D](#), the first 3D-printed home made entirely of organic, renewable materials.

The prototype, which was created by the University of Maine's Advanced Structures and Composites Center, has been in the works for three years, according to founding director Habib Dagher. It is 600 square feet in total, with a modern, unvaulted barrel roof, and a wide front porch with white shiplap exterior walls. The interior contains an open-concept kitchen, living, and dining area with grooved wooden walls and tall windows. The single bedroom doubles as an office, and a tiled bathroom completes the space.

The materials used to manufacture the 3D-printed home also help address another issue in Maine: the [shuttering](#) of several pulp and paper mills that once processed residual sawdust and other byproducts from local sawmills.

"In our region, there's an estimated 1,000 tons of biomass residuals every year that's being generated right now," Dagher said. "We asked ourselves, could we print a home with that material?" The answer, thus far, has been yes.

The prototype, which was unveiled Nov. 21 at the University of Maine's Orono campus, is now undergoing tests to see how the building fares during Maine's harsh winters. Different samples of the materials used have been shipped as far as Brazil to ensure that the structure can withstand humid climates.

Though BioHome3D has only been in the works for three years, Dagher's lab is building on over two decades of research into using biomaterials to create sound structures. Though Dagher's lab is not the first to 3D print a house, they are the first to use a 3D printer to create the entirety of the structure, as well as the first to use environmentally friendly and reusable materials.

"The walls, the floor, the roof are all bio-based, and it's 100 percent recyclable," Dagher said. "If our children, 200 years from now, don't want that house anymore, we can pick it up, grind it up again, and print something else with it."

While there are certain drawbacks to using engineered materials over natural ones — fire safety being one — Dagher said the homes have displayed an added durability throughout different climates, as well as increased resistance to termites.

"The house that we built meets all building requirements, whether it's structural, or fire or toxicity," he explained. "That's the goal for any building that we have. Are there challenges to get there? Yes, because these materials are new. But the good news is we have 20 years of experience working with these materials, and we've learned a lot about what they can do and can't do."

The homes are designed using modular construction, meaning that individual rooms are manufactured indoors and driven to the construction site, where they can be quickly assembled. Dagher hopes that this method will help cut down on construction time, as builders will not be as impacted by weather conditions.

As the project is still in the testing phase, there aren't yet definitive estimates for how many people will be needed to construct the homes, or how much each tiny house will cost to manufacture. However, Dagher said the use of sustainable materials and the ability to 3D print the structure "really changes the game in terms of how we think of housing content and how we think of construction."

Though the research process is far from over, "we've learned a lot," he said. "We've learned what not to do, as well as what to do, and the learning has not ended."

The lab's next steps are to build a manufacturing plant (which Dagher affectionately nicknamed the "factory of the future") to be able to produce the homes en masse. Once the factory is up and running, they hope to be able to 3D print a home within 48

hours, and move on to larger projects like housing developments.

"There's a lot of potential not only to solve a crisis in Maine, but to assist in a solution to the housing crisis nationally as well," he said.

Crumbling concrete, leaky ceilings: Twitter watchdogs chronicle disrepair on the MBTA

By Maya Homan • Published Dec. 5, 2021 by *The Boston Globe*

Nearly every day, MBTA riders come across anything from cracked columns, loose flooring tiles, and leaky ceilings. While the T's website has options to report problems inside stations, a small army of commuters is increasingly turning to a different medium to air their concerns: Twitter.

By tagging the MBTA and attaching photos and videos, riders hope to call attention to problems they encounter — not just to other riders but also to the transit agency itself.

Most of the problems only cause minor disruptions for commuters. But the disrepair undermines confidence in the T, which was beset with serious incidents this year — including a [Green Line crash](#) in July and a [Back Bay escalator malfunction](#) in September.

Evan Foss, a 37-year-old Newton resident and self-described public transit enthusiast, has been monitoring the MBTA's maintenance issues since 2011, when he noticed a dangerously rusted staircase at the Science Park/West End Green Line station. Foss uses the Green and Red lines to get to work, and though he regularly attended the T's public meetings to report his concerns, he began noticing that his comments weren't always copied over into the public meeting notes.

So Foss created a Twitter account (@scribblesonnapk) in July 2018 to ensure that his concerns weren't overlooked. "It occurred to me that if I wasn't saying something in a public space that people actually saw regularly. . . it was never going to get heard," Foss said.

July Escobar, an East Boston resident, began paying closer attention to MBTA maintenance concerns issues over the summer, after a Boston University professor fell to his death through a rusted, closed-off staircase near the JFK/UMass stop on the Red Line.

Recently released [records](#) and [e-mails](#) show that several government agencies, including the Massachusetts Bay Transportation Authority, had known about safety issues regarding the stairs and missed several opportunities to fix them. Ultimately, MassDOT said the stairs were its responsibility.

Escobar, who uses that stop to get to class at UMass Boston, said the condition of a different

staircase at the station drove her to report the issue over Twitter for the first time on Nov. 19.

"You can see little corners of the stairs chipping off, and then once you're on the stairs, you feel them moving a little bit," she said. "I just got so frustrated because when it gets wet, those stairs are extremely slippery. And it got to a point where I felt so unsafe going up those stairs, I just had to reach out."

Like Foss, she took to Twitter (@july_escobarx3) to report her observations, tweeting at the MBTA's official account for the first time. The process seemed easier than trying to report through more official channels, she said.

"I can visit the [MBTA's] website but I don't know who to contact and then if you try to call, you get an automatic system," said Escobar, who is 21. "I felt like Twitter was probably the fastest and quickest way."

Rashaun Martin, a 43-year-old East Boston resident, also found Twitter to be a more straightforward way of reporting issues than calling the hotline or using the website. He has been using his Twitter account (@RashaunMartin) to deliver feedback to the MBTA for years, often regarding the bus stop in Day Square, which he says bus drivers frequently pass over. He makes a point to alert the T when drivers skip the stop, even when he is not personally affected by the oversight.

"It's happened enough where I just keep an eye on it," he said, noting that students from Excel Academy often gather at that stop to catch the bus home, and that there aren't many alternate forms of transportation in the area. "It's just a natural inclination now that whenever I see the 112 or the 121 bus leave Wood Island to head to Wellington or to Maverick respectively, I always look to see if they [reach the stop]."

Though Martin regularly provides critiques and suggestions for how the T could improve, he is also quick to provide positive feedback about the MBTA's progress, such as when he sees the new Orange Line trains.

"I'm passionate about the T, I support it, I've ridden it my entire life," he said. "My hope is just to continue to see it improve. I think there's so much potential, and I think a lot more people want to ride

the T, and they would ride the T if it works.”

Reporting issues with the MBTA is not the main purpose of Escobar or Martin’s Twitter accounts. But riders like Foss dedicate their profiles to broadcasting information about the T.

Foss, Escobar, and Martin are not alone. MBTA spokesperson Lisa Battiston said that about 95 percent of all online discussions about the MBTA and its services occur over social media. The T receives about 1,500 messages each week on platforms like Twitter, Facebook, Instagram, YouTube, and LinkedIn, she said, and the agency logs each complaint before forwarding it on to the appropriate department. The MBTA also uses social media to announce delays, maintenance issues, and upcoming projects.

Complaints made on Twitter don’t always receive a response from the agency, though the T says it does its best to respond to as many as possible. And while some issues can be resolved quickly, others can take days or even weeks to resolve, leading to further frustration — for riders and MBTA employees alike.

Foss, who since 2018 has regularly updated his Twitter and YouTube feeds with photos and videos of problems he’s noticed, said MBTA employees sometimes send him photos of issues they have encountered. They may fear retaliation they would face if they reported or posted the photos themselves, he said.

“There’s a lot of very dedicated, very intelligent people who work for the T who would genuinely like it to run better. They’re talking to me out of frustration, and also because they are, a lot of the time, thrilled to have somebody who’s willing to accept that it’s not their fault.”

Though Foss admits that serving as an MBTA watchdog is not what he would prefer to do with his time, he feels a responsibility toward the workers and the riders to keep reporting the problems. He’s prepared to carry on for the foreseeable future.

“I hate to say it,” he said, “but there would have to be another person who came along that would just let me retire from this.”

Health care routinely fails women. Blame ‘bikini medicine’

From ADHD to heart disease, science is reexamining its approach to women’s health — starting in the classroom.

By Maya Homan • Published Oct. 12, 2021 by *Globe Magazine*

Any time you walk into a doctor’s office and fill out a medical history form, there’s a good chance it will ask for both your gender identity and your biological sex. There’s a reason for that: Sex and gender can have an enormous impact on health, affecting everything from heart rate to proper dosages for medications.

To some extent, the public is aware that a patient’s biological sex can influence conditions they are diagnosed with. Women tend to suffer higher rates of autoimmune disorders, for example. Gender — which encompasses cultural roles and expectations — can also impact health outcomes in ways that sex does not. The coal industry, for instance, is overwhelmingly male-dominated, meaning that most of the workers who are exposed to coal dust and consequently develop black lung are men. What we are slower to recognize, however, is how biological sex can influence not only what conditions are likely to present in a patient, but *how* they present.

Women experiencing a heart attack, for instance, may not have the crushing chest pain that men do. Their blood pressure readings might be dangerously elevated, placing women at higher risk for heart disease, even if still falling in what doctors often consider to be a normal range. Their artery blockages may not appear on angiograms or other routine diagnostic tests. The symptoms they might experience during heart attacks, such as nausea, fatigue, and abdominal pain, can be more easily mistaken for different ailments. And, studies find, if faced with doctors who aren’t trained to recognize heart attack symptoms as they present in women, they are much more likely to be misdiagnosed and sent home, with potentially fatal consequences.

Our understanding of women’s health has changed drastically over the past few decades. For much of modern medicine’s history, experts say, doctors largely followed a philosophy of “bikini medicine,” which theorized that men and women were medically interchangeable save for the parts of a woman’s anatomy that could be covered by a bikini. This, coupled with the paradoxical belief that men were easier to study, meant that women were routinely excluded from medical research, and,

consequently, from the understanding of the various ways diseases present in people.

This problem extends to mental health as well. Girls and women with attention-deficit hyperactivity disorder also tend to display different symptoms than their male counterparts. According to one study, girls with ADHD are less likely to exhibit the impulsivity and hyperactivity that is common among boys with ADHD, and are more likely to experience emotional problems such as depression and anxiety. It also takes more clinic visits on average before girls receive ADHD diagnoses, and they tend to be older than boys when they are finally diagnosed.

It’s easy to think of these disparities as the result of individual instances of sexism from medical providers, and that can sometimes be the case — there are plenty of studies that show that women are more likely to be disbelieved, dismissed, and under-treated when they present with symptoms — but the problem’s roots are more systemic. If we want to reduce disparities in health outcomes between men and women, we need to rethink our understanding of these medical conditions and their diagnostic criteria — and that starts in the classroom.

Carolyn M. Mazure, the director of Women’s Health Research at Yale, founded the center in 1998 to address what she calls the “knowledge gap” in our understanding of women’s health. Back then, Mazure says, the term “women’s health” was more or less synonymous with obstetrics and gynecology, erasing the impact of sex and gender in all other aspects of medicine. When medical research did include women, it generally combined them with a group of predominantly male participants, making sex-specific data about a disease’s prevalence, symptoms, and treatment challenging to track down.

“The tradition within science was really to pool the data, homogenize the data, rather than separate out the data on the basis of sex or gender,” Mazure says. The lack of sex-specific analysis meant information about women’s health was rarely considered in medical decision-making.

The scientific community has gradually begun to

reevaluate such practices, which, Mazure points out, is exactly what ought to happen. Science is “supposed to evolve, it’s supposed to change,” she says. “And the way in which it seemed to me we needed to make changes was to start with people who were being taught how to be physicians.”

In addition to funding research that focuses on women’s health throughout all areas of medicine, Mazure’s center is working to update Yale School of Medicine’s curriculum for future generations of doctors. A 2019 study analyzing Yale’s medical curriculum found that less than a quarter of lectures and workshops for first- and second-year students mentioned the impact of sex and gender, and only about 8 percent explored the issue in depth, a problem that Mazure says plagues medical schools around the world. Today, she and her team are working to incorporate sex- and gender-specific information into all aspects of medical training.

“We don’t want to separate out the health of women and discussions of how sex and gender may influence health outcomes, we want to integrate it into everything,” Mazure says. “There’s so much [data] now to support the fact that in many areas, women are not getting sufficient attention in terms of their medical needs because the data haven’t been

integrated into education.”

Part of that integration includes updating the terminology doctors use to describe women’s symptoms, especially when they don’t fit the traditional diagnostic mold. The term “atypical,” often used to describe symptoms of a disease as they appear in women, “implies strongly that there is a typical way, and that’s the male way,” Mazure says. “You can no longer set norms based entirely on male data, because for many things, those norms are different.”

Updated information about the role of sex and gender in medicine shouldn’t be restricted to medical schools, either. Referrals for ADHD evaluation, for instance, often come from a child’s teacher. The faster we are able to identify and treat medical issues, the fewer people will have to suffer in medical limbo, unable to receive adequate treatment.

Turning a blind eye to women’s health only creates more barriers for people of all genders fighting for medical care. We need to update our collective understanding of the numerous ways that sex and gender impact our health in order to end medical disparities between men and women. Rewriting the diagnostic criteria is about more than just political correctness — it will actually save lives.

Siddhartha Mukherjee takes on the rise of ‘the new human’ in upcoming book on cell biology

By Maya Homan • Published Oct. 21, 2022 by *The Boston Globe*

Siddhartha Mukherjee is something of a Renaissance man. A physician, cancer researcher, Rhodes scholar, and founder of two Boston-based biotechnology companies, he’s become a celebrity, both within the medical world and beyond. As an author and science writer, he takes on a task that experts in his field sometimes struggle with: how to convey precise and accurate scientific information to general audiences in a way that is engaging and interesting. And, by blending an explanation of the latest scientific knowledge with vivid historical anecdotes and personal narratives, he often succeeds.

Two of his previous books (“The Gene: An Intimate History,” and Pulitzer Prize-winning “The Emperor of All Maladies: A Biography of Cancer”) tackled two very specific aspects of cell biology. His newest book, “The Song of the Cell: An Exploration of Medicine and the New Human,” out Oct. 25, explores how our collective understanding of cell biology has evolved through the centuries and looks forward to the new application of cell-based medical treatments.

Mukherjee, who will visit Coolidge Corner Theatre on Tuesday to discuss his latest work, sat down with the *Globe* to discuss the emerging field of cell therapy, the intricacies of science communication, and the ethics of genetic engineering.

Q. What inspired you to write “Song of the Cell”? What is it about cells that fascinates you?

A. I’m a cell biologist in my laboratory life. I study cancer cells, their physiology and their function. But I thought that, in the last quarter century or so, the focus has been so much on genes and genetics that we had become blinded by the idea that genes are important in maintaining the information for an organism, but it’s the cell that’s really the unit by which that information becomes actualized. And we’re moving into a century where we’re learning to manipulate cells, we’re learning to transplant cells back into the body, and it’s giving us a new level of control in medicine that we didn’t have before.

To really understand where medicine is going, we need to go back and understand what a cell is, what a cell does, what cells do, what systems the cells control and how those systems interact. So there was a personal reason and then there’s a much broader

historical reason, that this is one of the most exciting times to be in medicine because cellular therapies are beginning to emerge as a major way to think about medical therapy.

Q. Why do you, as a physician and a scientist, take the time to write about science for the general public?

A. It’s very important to communicate fundamental findings to the general public. I think it’s important to communicate what scientists do, how we do them, why we do them. We’re living in an age where there’s so much information and misinformation, and it’s important that medicine as a discipline is transparent to the public. But that’s the broader reason.

The narrower reason is that I write to think. When I write a book about cell biology, I’m thinking about my landscape of what I study, and it’s only when I write it all down that I begin to understand where my work or our work in medicine fits into this big landscape. And then I can go back and evaluate that landscape again. And when patients ask me the question, “where is medicine going?” or when patients ask the question, “where is my medicine going?” I can talk about that arc.

Q. Any time you talk about gene editing and cell engineering, there are people who bring up ethical concerns. I’m curious as a scientist and also as a human being, how much do you think is too much? Where do you draw that line?

A. Both “The Gene” and this book talk extensively about how these types of concerns are really pushing the boundaries of knowledge, so I’ve talked about how we need to really think through what the limits are on what can be tampered with and what cannot be. What’s interesting about cell therapy is that, obviously, manipulating cells for the purpose of ameliorating diseases is being done right now.

On the other hand, I also chronicled efforts by what I would consider rogue scientists like He Jiankui, who, without informed consent or without telling very many people, decided to edit a gene in human embryos and created a real furor in the biomedical world. So I think that there’s reason to distinguish between cell therapies that attempt to ameliorate disease versus cell and gene therapies that are done

just for the sake of doing them, or for potentially the sake of augmenting function without proper consent. And I think it's particularly true if we're going to do these genetic therapies on human embryos. We, as a society, need to make a decision about whether it's a line that we should cross or not, under what circumstances we should cross it, and whether one can find an international consensus, not only among scientists but among ethicists and physicians and patients.

Q. As I'm sure you know, your Pulitzer Prize-winning book, "The Emperor of All Maladies: A Biography of Cancer," turns 12 this year. How do you balance working on such long, thoroughly-researched books with the knowledge that, because science is always changing and evolving, information can very quickly become out of date?

A. It's always a challenge. What we do is we update the books as the science changes. For instance, just today, there's an article in Nature that talks about how COVID changes the way a cell regulates genes. It's a fascinating paper — I was actually reading it just before I picked up the phone — and it's a great example of how things that we thought we knew about this virus turned out to be different, and again, it involves not just genetics but virology and cell biology. "The Emperor" will be updated probably next year with new

chapters added about what's happened in the last 10 to 12 years, and that's a continuous challenge. Science doesn't stop, it keeps producing new knowledge, and often the new knowledge contradicts old knowledge.

Science is a constantly evolving body of knowledge, often contradicting itself, but still moving closer and closer to what I think is understanding and truth.

Q. One last question that I wanted to ask is, do you have any favorite places or memories in Boston from your days at Harvard Medical School?

A. I come to Boston all the time, it's one of my favorite cities. My favorite thing in Boston to do was to take what I call the three bridges run. I used to live in Cambridge, actually, and there's a way that you can combine three bridges into your run, so you run along the river across one bridge, pass the second bridge and turn on the third bridge. And I remember this particular time once I went for a run and it began to snow, and everything became like this quiet chamber. And you could almost hear yourself thinking as you ran. And I love that memory of my time in Boston.

Siddhartha Mukherjee will be at the Coolidge Corner Theatre (290 Harvard St., Brookline) on Oct. 25 at 6 p.m. in conversation with Gabrielle Emanuel. brooklinebooksmith.com

Interview was edited and condensed.

Reimagining the abortion debate in ‘Ejaculate Responsibly’

By Maya Homan • Published March 2, 2023 by *The Boston Globe*

A practicing Mormon and mother of six, Gabrielle Blair might appear to be an unlikely candidate for a pro-choice activist. Since 2006, she has run an award-winning blog called Design Mom, where she shares recipe and book recommendations, DIY activities, and parenting advice. She’s already a best-selling author, having published a parenting book that shares its name with her blog in 2015. In her latest book, however, she turns her efforts in a different direction: urging men to do their part in preventing unplanned pregnancies.

In “Ejaculate Responsibly: A Whole New Way to Think About Abortion,” Blair makes her case for reducing unplanned pregnancies — and therefore reducing abortions — in a series of 28 arguments ranging from the biological (“Men are 50 times more fertile than women”) to the societal (“We expect women to do the work of pregnancy prevention”).

She also leverages her identity as both a Mormon and a mother to connect with those who might be less open to hearing pro-choice arguments.

“I’m progressive politically, I vote Democrat, I’m very pro-choice,” she said. “But I knew I could take advantage of the stereotypes that do exist. People assume if I say ‘Mormon,’ that I’m a Republican, that I’m conservative. They assume I’m anti-abortion. And so I thought if I mention that, I’m more likely to get a

broad range of readers.”

The book is a continuation of her viral Twitter thread, a 63-tweet treatise that she wrote in response to the Kavanaugh hearings in 2018. Five years after it was posted, the thread still receives new readers every day.

She began working on a manuscript for the book during the start of the pandemic. A few days before her book was publicly announced, the draft of the Supreme Court opinion overturning *Roe v. Wade* was leaked.

“I didn’t understand the timing was gonna line up there,” she said. “But I was really glad that I had this thing to offer the world to add to the conversation that was happening.”

And by highlighting the often-invisible work that goes into pregnancy prevention, she hopes to reframe the cultural norms and expectations around the subject, inviting men to step up and do their part.

“We need to have these conversations,” she said. “I want responsible ejaculation to be a given in sexual situations, the same way that seat belts are in a car.”

Gabrielle Blair will read at 7 p.m. Tuesday, March 7, in an event hosted by Porter Square Books: Boston Edition.

Ex-MIT business professor convicted of trying to steal millions from late son's estate

By Maya Homan • Published May 4, 2022 by *The Boston Globe*

A former MIT business professor and technology expert was convicted Tuesday of attempting to steal millions of dollars from his late son's estate by a jury in Salem Superior Court, according to the Essex district attorney's office.

John Donovan Sr., 80, of Hamilton was convicted of numerous crimes, including attempted larceny, perjury and seven counts of forgery, prosecutors said in a statement.

The jury deliberated for four hours before reaching a verdict in the trial that played out over the last month, according to prosecutors.

Sentencing is scheduled for May 16.

The trial caps a decades-long family drama involving Donovan and several of his family members, including his son, the late John Donovan Jr., involving millions of dollars and valuable property on the North Shore.

Donovan was previously convicted of filing a false police report in 2007, after he shot himself in the stomach and claimed that his son had hired two Russian hit men to attack him. He was sentenced to two years of probation. In 2020, a judge found that he misused business funds for personal expenses and ordered him to repay nearly \$3 million in damages, legal fees, and interest.

Donovan's latest legal troubles focus on the

estate of his late son, John Jr., who died in 2015.

Staff at the Southern Essex Registry of Deeds in Salem suspected Donovan Sr. of submitting 25 forged documents, including wills, mortgages, deeds and land transfers, prosecutors said.

Had the documents been accepted, Donovan would have been awarded land valued at \$5 million meant for a conservation organization, reversed a Superior Court judgment against him, released him from a mortgage, and granted him access to his grandchildren against the wishes of his late son, according to prosecutors.

Essex District Attorney Jonathan Blodgett lauded the work of staff at the registry.

"The general public relies upon the integrity of documents filed with the Registry of Deeds," Blodgett said. "Thanks to the diligence and professionalism of the staff at the Registry, who raised concerns about the documents filed by Mr. Donovan, this fraudulent scheme failed."

He also thanked his prosecutors, singling out Jack Dawley, a retired first assistant district attorney.

"I am grateful for the hard work of the trial team," Blodgett said in the statement. "Especially Jack Dawley, who worked on this case for over five years even after he retired from the office."

NU's Sexual and Gender-Based Harassment policy fills gaps left by federal Title IX overhaul

By Maya Homan • Published Sept. 30, 2020 by *The Huntington News*

Northeastern University has updated its Title IX policy in accordance with changes mandated by U.S. Secretary of Education Betsy DeVos and the U.S. Department of Education. In response, Northeastern's Office for University Equity and Compliance, or OUEC, has created a new policy on Sexual and Gender-Based Harassment, or SGBH, to protect students against instances of sexual assault and harassment that are no longer covered under the updated Title IX policy.

The Title IX policy changes went into effect nationwide Aug. 14 after a federal judge struck down a New York State and New York City Board of Education lawsuit against the Department of Education. The updated guidelines apply to all schools that receive federal funding, including private colleges and universities.

The revised policy has made several key changes in the ways schools approach investigating and resolving allegations of sexual misconduct. It has also drawn harsh criticism from women's rights organizations and sexual violence prevention groups for narrowing the scope of misconduct that can be investigated by schools, and increasing protections for perpetrators of sexual violence.

"Schools now dismiss any sexual misconduct that happens outside of campus-controlled buildings or educational activities," said second-year politics, philosophy and economics major Kate Petka, who heads the Title IX Transparency Initiative at Northeastern's Interdisciplinary Women's Council. "So what that means is if I am sexually assaulted in my off-campus apartment by another member of the Northeastern community, Northeastern is not responsible under Title IX to investigate that."

This mandate is expected to curtail the number of Title IX cases schools are responsible for investigating, especially considering the majority of reported sexual assaults at many universities occur off-campus, according to the Associated Press. It also eliminates Title IX protections for students studying abroad and reduces protections against sexual harassment, allowing students to file a complaint only if the harassment is sufficiently severe.

To ensure that students still have avenues to report instances of sexual assault and harassment they experience outside of Title IX's jurisdiction,

Northeastern's OUEC created the SGBH policy over the summer with input from Northeastern's Sexual Assault Response Coalition, or SARC.

"We knew that there was only a month and a couple of weeks for anything to be done," said SARC President Tali Glickman, a fifth-year psychology major. "We wanted there to be policy in place when students got to campus at the beginning of September."

The new SGBH policy closely mirrors the old Title IX regulations, encompassing instances of sexual assault that occur off-campus, during a study-abroad program such as N.U.in, or against someone who is not a Northeastern student. It also includes the lower-level sexual harassment that is no longer covered under Title IX's jurisdiction, such as catcalling.

"There are universities across the country that did not create a second policy," said Assistant Vice President for University Equity and Compliance and Title IX Coordinator Mark Jannoni at a presentation on Title IX policy changes hosted by SARC. "There are universities across the country that said, 'Title IX, it is what it is.' But we didn't think that was the right thing to do, so we created this policy that addresses behavior that happens either on or off campus, either in the context of a university education program or not, or in the United States or not."

The new Title IX guidelines have also eliminated guidelines from former President Barack Obama establishing a 60-day timeline for resolving allegations of sexual assault. However, the OUEC has voluntarily committed to a 90-day timeline, extending the deadline to account for the two 10-day review windows mandated by the Department of Education.

"At the end of the day, what I want to make sure that all students know is that the protections haven't changed," said OUEC Deputy Coordinator and Investigator Brigid Hart-Molloy, who also spoke at the presentation. "The policy under which protections fall may have changed, but we are still responding to all allegations or concerns of sexual harassment, sexual assault, domestic or dating violence, sexual exploitation, and stalking."

However, one aspect of the new Title IX guidelines has carried over to the SGBH policy: instances of sexual assault that are reported to the OUEC will not

longer immediately trigger an investigation.

“For us to be able to do anything now, we need a formal complaint,” Hart-Molloy said. “Prior to the changes, there were often scenarios where folks would come to us and say, ‘This thing happened, but I don’t want to do anything about it.’ And we would have to move forward with some sort of response or action, because that’s what the law required of us. That’s no longer true for the most part.”

Under the new Title IX guidelines, students who report a sexual assault (now referred to as “complainants”) must submit a signed, written complaint to the OUEC alleging a Title IX-prohibited offense and ask the university to take action against the perpetrator (now referred to as “respondents”). Mandated reporters, such as resident assistants, will still be required to disclose instances of sexual assault, domestic and intimate partner violence, sexual harassment and stalking to the OUEC, but there is now a greater level of flexibility for survivors when it comes to opening an investigation.

“Once we are put on notice, we reach out to the complainant to offer the opportunity to speak to us, so we can go over all of their choices, both informal and formal,” Jannoni said. “That way they can make the best decision for them.”

Northeastern’s Title IX and SGBH policies both contain formal and informal avenues for resolutions. However, students whose reports fall under Title IX will now be required to submit to a live cross-examination in front of their assailant as part of the formal resolution process, a move that has angered a lot of sexual violence survivors and advocates.

“There’s now policy in place to ensure that perpetrators are the priority,” Glickman said. “Cross-examination is a tool that is used to break survivors, rather than an investigation or a conversation that is used to understand what happened and reach an agreement for proposed sanctions ... It’s now about proving character defamation and buying into a lot of stigma that surrounds sexual violence cases.”

During the cross-examination process, both the complainant and the respondent must choose an advisor to cross-examine the other party. A Title IX hearing board, composed of two faculty members

and one student, will be present for the cross-examination. There will also be a designated decision maker to moderate the questions from each party’s advisor and dismiss any that are deemed irrelevant.

“I can’t say this enough: This is a requirement of federal law,” Jannoni said. “This is not a Northeastern, OUEC, Mark Jannoni [policy]. This is, ‘if you do not do this, you can lose your federal financial aid.’ If we want to say for the record, do we agree with this? We absolutely do not. Which is why, when I got here five years ago, we removed the hearing process to move to the investigative model.”

Survivors who do not wish to undergo cross-examination can instead choose to pursue mediation through the informal resolution process. Students who pursue a formal resolution under the SGBH policy will not be cross-examined. However, SARC is hoping to work with the OUEC to improve the resolution process for survivors seeking justice.

“We’re hoping that a restorative justice process comes into fruition,” Glickman said. “From the research that we’ve been doing at SARC, it hopefully can be a space where perpetrators admit harm, and a space where perpetrators understand their guilt and listen to what the survivor needs rather than getting defensive within an investigation process. We’re hoping that formal resolution can turn into a space that feels way more healing for survivors.”

The university sent out an email to students on Sept. 21 outlining the updates to Northeastern’s Title IX policy. However, Petka worries that the information will be drowned out by the influx of COVID-19 news and information from the university.

“We just want people to know that this is going into place, because if I wasn’t aware of what Northeastern was doing, because I hadn’t talked to Mr. Jannoni, I would have no idea,” she said. “I would think that the Title IX policy is the Title IX policy, and if I got sexually assaulted in my off-campus apartment tomorrow, I would have no idea that I could still go about complaining and reporting in some other way.”

Students who wish to file a Title IX complaint can do so using [this form](#). Students who want to file a complaint under the new SGBH policy should use [this form](#).

What the drought means for this year's apple crop

By Maya Homan • Published Aug. 16, 2022 by *The Boston Globe*

This summer's unrelenting drought and recurring heat waves may actually have you looking forward to the cooler fall days and all the fun that comes with autumn in New England. But if apple picking is on your to-do list in the coming months, you'll likely still be contending with the drought.

So what exactly does the lack of rain mean for this fall's apple crop?

By August, farmers said, apples have already begun to line the branches at their orchards, on schedule to be harvested throughout September and October. But the extreme heat we've experienced this summer means that the apples are at risk of sunburn, which can cause blemishes that render the fruit unmarketable. Certain popular varieties, including Honeycrisp apples, are particularly sensitive to the searing heat and the high levels of UV radiation that accompanies it.

"You've got to have good quality," said Mark Tuttle, the president of Breezeland's Orchards in Warren, meaning a big, juicy fruit with no blemishes. "If you have nice big apples and lots of them, we do better."

There are sprays and other sun protectants that farmers can use to protect their crops, Tuttle said. But he noted that sun damage is a new problem for many New England apple farmers.

The drought also means that this year's apples will be significantly smaller than last year's apples, which were grown during a much wetter season. (Last summer had the wettest July ever recorded in Massachusetts.)

"This year there's going to be a lot of smaller apples, so things are going to be adversely affected," Tuttle said. When the end of the season rolls around, he added, "I don't think the money is going to materialize."

Though some farmers are being hit hard, the extent to which the drought will affect crops varies from one farm to the next, said Clarkdale Fruit Farms

owner Ben Clark, who also serves as the president of the Massachusetts Fruit Growers Association. Farms that get their water from the Connecticut River tend to be less affected than farms that use well or surface water. And pick-your-own farms, which tend to be concentrated in the more densely-populated eastern Massachusetts will likely have an easier time than commercial wholesale orchards.

Despite the weather conditions this summer, "people have decent crops," Clark said. "[They're] maybe a little smaller than last year when we had all the rain, but overall the fruit is still going to be good."

In some cases, he said, the heat can actually make fruit sweeter. Particularly for softer crops like peaches and strawberries, "the flavor is wonderful because the sugars are concentrated with the lack of rain," Clark said. "So that is the one benefit of a drought."

As the impact of climate change becomes rapidly more apparent, Clark said, it's all the more important that farmers learn to adapt to weather patterns that are not only more extreme, but more unpredictable.

"This is the driest, hottest [summer] that we've had both in my and my father's memory," Clark said. "Six years ago, we had a pretty good drought — not quite as hot or as long as this — and of course, last year was one of the wettest years. So as farmers, we're definitely aware of climate change and the impacts of it on farms and we're really trying to do what we can to become resilient."

The good news is ... there will be apples. And they'll arrive right on schedule this fall. So be sure to go get some like you normally would, even if they are smaller this year.

"That's what I tell everybody: Come buy some apples, buy some peaches or buy some cider, you know, just support us," Tuttle said. "Come and stop at a farm stand and get local fruit. Eat local, buy local. It's very important."