

# corridor

Fall 2023



**“An Exciting Time  
to Be Doing  
Neuroscience”**

**Support for The Picower Institute  
for Learning and Memory makes  
Alzheimer’s progress possible**

# “An Exciting Time to Be Doing Neuroscience”



Matheus Victor, a postdoctoral researcher in the lab of Professor Li-Huei Tsai at The Picower Institute for Learning and Memory, is one of many researchers at MIT investigating innovative treatments for Alzheimer’s disease. Philanthropic support is essential to this research. Donors like Don ’67, SM ’69 and Glenda Mattes and David Emmes SM ’76 (see stories at bottom, right) have supplemented their outright philanthropy with bequests made through the MIT Office of Gift Planning that will support the work of The Picower Institute as new opportunities for impact arise.

In Alois Alzheimer’s 1906 paper that defined what we now know as Alzheimer’s disease, he described the buildup of proteinaceous plaques in the brain as a potential cause of the illness. Dr. Alzheimer made another startling finding—the affected brain was laden with lipids. However, research around lipids, which are fats like cholesterol, quickly dwindled and all but vanished from Alzheimer’s research by the 1930s.

“Lipid accumulation wasn’t always present in the brains of patients,” explains Matheus Victor, a postdoctoral researcher at The Picower Institute and recipient of the HHMI Hanna Gray Fellowship. “It wasn’t until genome sequencing came into vogue, roughly 20 years ago, that researchers identified that many genetic mutations that increase the risk of developing Alzheimer’s disease are in genes related to lipids.”

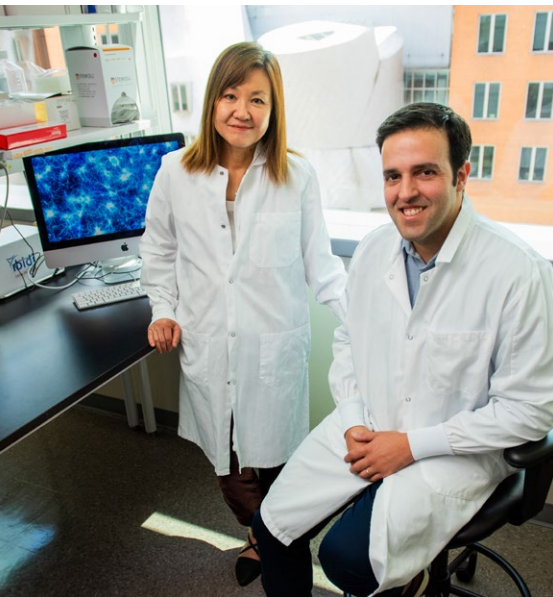
where the science takes me,” he says. “It’s amazing that we have the privilege to study science in this way.”

**A path to specialized treatments.** Victor is the lead author of a paper published in *Cell Stem Cell* in August 2022 that highlights research supported by the National Institutes of Health as well as individual donors. Microglia, “first responder” immune cells regulating maintenance and injury repair in the brain, are the stars of the study. Using human cultures grown from stem cells, the study found that microglia that express the APOE4 gene—the biggest genetic risk factor for Alzheimer’s, which more than 50% of patients have—cannot metabolize lipids normally. This leads to a buildup of excess lipids that interferes with nearby neurons’ ability to communicate with each other.

“When microglia are inflamed, there’s less brain activity,” he says. “We are trying to understand how the flux of energy production in the microglia is impaired by APOE4, which carries cholesterol itself, and how it breaks down during the metabolic process. The reason lipid accumulation in the brain was disregarded by pathologists in the 1930s may just reflect the APOE4 status of the patients, which we didn’t know until genome sequencing became possible.”

Identifying this behavior in the presence of the APOE4 gene could lead to more effective, specific treatments. “We’ve learned a lot of lessons from cancer genetics. We now name very specific types of cancer, not just related to the part of the body where it originates but the mutation it carries,” he says. “We’re starting to think of Alzheimer’s disease in the same way. It’s an exciting time to be doing neuroscience.”

**Making Alzheimer’s a memory.** Tsai, who is also the Picower Professor of Neuroscience, became the director of The Picower Institute in 2009 and co-founded the Aging Brain Initiative at MIT in 2015, which has made discoveries that have redirected the Alzheimer’s conversation across the field. She emphasizes the importance of both short-term and long-term funding for the work happening at Picower.



Victor works in the lab of Picower Institute Director Li-Huei Tsai, which focuses on understanding and intervening in Alzheimer’s disease and other memory disorders. A specialist in cellular reprogramming—turning human stem cells into brain cell lab cultures—Victor was attracted to Tsai’s group because of the range of approaches they employ. “Most labs either explore disease-associated mechanisms with molecular and cellular resolution or at a much larger scale, exploring the dysfunction of brain-wide neuronal networks,” he says. “In the Tsai lab, we tackle the disease at all levels.”

That freedom to pursue creative new research avenues is largely thanks to generous philanthropic support of MIT. “I love asking questions and going

COVER: Tsai and Victor admire a three-dimensional human brain-like culture derived from induced pluripotent stem cells.

ABOVE: The image on the computer shows cyan-stained neurons lab-generated from skin cells of patients with Alzheimer’s disease.

“You want to be fast, but you also want to make sure to use the most rigorous, the highest-standard work,” she says. “Bequests and other types of planned gifts build a strong foundation for our discoveries.”

More than six million Americans experience varying degrees of memory loss and debilitating illness from Alzheimer’s. Tsai remembers her own grandmother’s diagnosis and laments the stigma of appearing “diminished” from the disease. “Fortunately, there is a vibrant research effort happening at MIT and elsewhere that is leading to real solutions,” she says.

Victor sees that impact most clearly when donors visit their lab. “Talking with supporters of our work and learning about their experiences feels like taking a pulse of the situation. I appreciate the opportunity to share our work with them,” he says. “It really brings home the point of why we’re doing all this.” ●



## Take Action

There are many different types of planned gifts, each with its own financial benefits for donors, their families, and heirs in retirement, financial, and estate planning.

When you talk with MIT about your planned gift, you can ensure that your support is directed to the research and initiatives you care about most.

Contact the MIT Office of Gift Planning at [giftplanning@mit.edu](mailto:giftplanning@mit.edu) or **617.253.4082** to start the conversation today.

# Fueling Current and Future Neuroscience Research

## Don '67, SM '69 and Glenda Mattes

Don Mattes was initially inspired to support The Picower Institute through outright gifts and by incorporating them into his estate plan after his mother was diagnosed with Alzheimer’s disease, before he himself was diagnosed. Since his death in 2020, his wife, Glenda, has carried forward Don’s passion for The Picower Institute’s work. “My wish is that no one ever has to go through the horrors of Alzheimer’s disease ever again,” she says. “Don’s was a life well lived, just too short.” Glenda supports multiple MIT research initiatives in numerous ways, including a gift of real estate made through the MIT Office of Gift Planning that established both endowed and current-use funds.



## David Emmes SM '76

David Emmes studied mathematics as an MIT graduate student but has long been interested in how the brain functions. This interest became more focused as three extended family members succumbed to Alzheimer’s. He was impressed by The Picower Institute’s approach. “One thing I learned while at MIT for two years was that MIT researchers are intense, focused, and dedicated,” he says. “I knew their perseverance would make any investment both productive and worthwhile.” In addition to his outright giving, Emmes has also made a bequest in his estate plans to support The Picower Institute. “These research initiatives are multi-decade efforts that I value and wish to support beyond my lifetime,” he says.



# WEBINAR RECAP:

# Four Considerations for IRA Gifts



New laws and tax codes can make planning your estate feel like a monumental task. The MIT Office of Gift Planning's twice-yearly webinar series aims to illuminate the opportunities around timely topics and engages top experts to answer your big questions about how they affect your finances.

At the May 2023 webinar, "Retirement with Purpose: The Secure Act 2.0," Brad Bedingfield, partner at Hemenway & Barnes LLP, and Suma Nair, chief fiduciary officer at Fiduciary Trust, discussed the history and future implications of the Secure Act 2.0, which took effect in January 2023.

One key benefit of this law is the ability to fund an income-generating charitable gift annuity (CGA) or charitable remainder trust (CRT) with a one-time distribution of up to \$50,000 from your IRA. The discussion went beyond the Secure Act 2.0 to explore some of the many benefits of making a qualified charitable distribution (QCD) from an IRA.

- 1. QCD or outright giving?** QCDs can have more tax advantages than withdrawing money from your IRA and giving outright. "If you are planning to give a significant amount to charity, it may make the most sense to do a QCD so you can give up to \$100,000 without it affecting your adjusted gross income," Bedingfield says. "Withdrawing those funds outright contributes to your adjusted gross income, which could exclude you from other credits and benefits."
- 2. You can use more than one IRA to fund a life-income gift.** The Secure Act 2.0 does not specify that only a single IRA account may be used to fund a CGA or CRT. The main requirement is that a maximum of \$50,000 can be used from the IRA(s) to fund the gift in the same fiscal year, and it can only happen once. For example, if a married couple wishes to establish a \$100,000 CRT at MIT (the minimum amount needed), they could use \$50,000 from one spouse's IRA and \$50,000 from the other spouse's IRA in the same fiscal year.
- 3. Consider transferring assets from other accounts to an IRA.** The tax savings on QCDs and the opportunity to fund a life-income gift with an IRA make them an attractive option for charitable giving. "If you want to take advantage of that, you can convert part of your 401(k) or 403(b) into an IRA so you can take advantage of those tax-free distributions," says Bedingfield.
- 4. Stay flexible.** "You can do a lot of irrevocable planning, but don't do it without flexibility," says Nair. "Tax tails shouldn't wag the dog. At the end of the day, you have to do what's right for you and your family in your circumstances."

As always, the MIT Office of Gift Planning is available to answer your questions. Email [giftplanning@mit.edu](mailto:giftplanning@mit.edu) or call 617.253.4082 to start the conversation today, or visit [giving.mit.edu/ira](http://giving.mit.edu/ira).

Mark your calendar for the Fall 2023 webinar on Wednesday, November 15, from noon to 1 pm ET! Check your email for your invitation, or email [corridorwebinar2023@mit.edu](mailto:corridorwebinar2023@mit.edu) for more information.

# Using Donor-Advised Funds to Support MIT



**Amy Goldman**  
Senior Director of the  
MIT Office of Gift Planning

In recent years, philanthropy has witnessed a surge in donor-advised funds (DAFs), and it's easy to see why. DAFs offer many of the same benefits of creating a private foundation while avoiding the associated legal, tax, and regulatory burdens. They are relatively easy to establish, and donors can make grants directly from their DAF to a qualified nonprofit institution like MIT at any time. During the past fiscal year, approximately 3,000 grantmakers have used their DAFs to give to MIT. Thank you!

The financial commitment to open a commercial or community foundation DAF is not as high as one may think—generally \$5,000 to \$10,000. MIT sponsors its own DAF, which is invested in the MIT endowment, for those who are able to commit a minimum gift of at least \$1 million and allocate a minimum of 50% to MIT.

If you are interested in giving to MIT through a DAF and have questions about how to make grants to areas that align with your charitable interests, we invite you to connect with us so we can put you in touch with the best resource. If you have already been giving to MIT through a DAF, we thank you for including MIT in your grantmaking decisions!

Finally, if you have a DAF and have named MIT as a beneficiary on the account—or are interested in doing so—please notify our office so that we may assist you and welcome you to the Katharine Dexter McCormick Society.





Grants made from DAFs to MIT provide vital support for cutting-edge research, scholarships, and advancements that drive positive change on our campus and throughout the world. Thank you for being part of that change. ●



## LEARN MORE

Find out more about donor-advised funds at [giving.mit.edu/daf](https://giving.mit.edu/daf) or contact the MIT Office of Gift Planning at [giftplanning@mit.edu](mailto:giftplanning@mit.edu).

## The Benefits of a DAF

-  **IMMEDIATE TAX DEDUCTION**  
You are eligible for an immediate tax deduction in the year of the donation to the DAF account.
-  **ASSET FLEXIBILITY**  
Cash, stocks, or other appreciated assets can be contributed directly to a DAF, which can lead to additional tax benefits.
-  **STRATEGIC TAX PLANNING**  
Donors can make contributions during years of higher tax liability or years in which they intend to itemize their tax return, then initiate grants to MIT and other charities when the timing is right.
-  **NAME BENEFICIARIES**  
Name MIT and/or other charities as the beneficiary(ies) of your DAF once you or other members of your family cease advising the fund to ensure that any remaining amount makes it to your desired destination(s).

*Please note that the above information is accurate as of August 2023. DAFs are often a topic of discussion at the federal level, and there have been active discussions of changing the legislation around them for a number of years.*



# Q&A: MIT Chancellor Melissa Nobles on the Whole Student Experience

Chancellor Melissa Nobles, the Class of 1922 Professor of Political Science, has been a member of the MIT faculty since 1995. Before being appointed chancellor in 2021, she served as the Kenan Sahin Dean of the School of Humanities, Arts, and Social Sciences (SHASS) and as head of the Department of Political Science. As chancellor, she oversees more than 60 interconnected offices that support undergraduate and graduate students.



## How have your previous roles at MIT shaped your goals as chancellor?

The perspectives I gained from my time at SHASS are invaluable and inform a great deal of my work as chancellor. I was fortunate to work with wonderful faculty, collaborate with leaders across disciplines, and partner with passionate and experienced administrators. Most of all, I came to know some of the most inspiring students anywhere in the world.

For our students to succeed during and after their time here on campus, they must be free to explore all that the Institute has to offer and feel supported and encouraged to do so. That is the basis of our approach to educating the whole student. The importance of fostering well-being and providing the tools for our students to thrive is not new, but I believe we have a wonderful opportunity to be even more purposeful in these efforts through our approach to the “whole student” experience.

## What are the hallmarks of the whole student experience and why are they important?

There are three key elements of the whole student experience that inform our work: supporting academic success, fostering community and well-being, and cultivating personal and intellectual growth. We want students to have every opportunity to gain a deeper understanding of themselves and the world around them. By helping students navigate what it means to drink from the proverbial firehose, we can help them uncover new passions and embrace new experiences, all while learning how to care for themselves physically, mentally, and emotionally.

## How does philanthropic support further this work, and what role do planned gifts play?

My top priority is to help secure enhanced support

for the key areas of our approach to educating the whole student, and planned gifts play an integral role. All types of planned gifts, most notably bequests, have historically served as significant sources of funding for both scholarships and fellowships. Scholarships remain a fundamental need across the Institute, with roughly 58% of undergraduates having benefitted from such support last year. Furthermore, since planned gifts can be directed to whatever area of the Institute is most important to the donor, they can support a wide variety of programmatic applications under the umbrella of all-things student, from financial aid to residential life.

Another critical element of our work is securing funding for capital projects. We must create and maintain the physical spaces where our students can learn, explore, socialize, and grow. The East Campus residence, now under a multiyear renovation, and the new DAPER Sports Performance Center are two examples of wonderful opportunities for alumni and friends to have a lasting impact on students and the broader MIT community through philanthropic support. Outright gifts made through the Office of Gift Planning such as gifts of appreciated stock, IRA distributions, and grants from donor-advised funds are key to supporting these vital capital projects.

I welcome the opportunity to connect with anyone interested in learning more about the work of my office, our approach to the whole student experience, or opportunities to support such efforts. I cannot think of more meaningful or enduring options for legacy giving and estate planning than supporting, and thus ensuring, the long-term sustainability of the MIT student experience. ●



### LEARN MORE

Find out more about the initiatives of the Chancellor's Office at [chancellor.mit.edu](https://chancellor.mit.edu).



“The discoveries that happen at MIT would not be possible without your support. A gift to MIT—

whether it is a bequest intention, grant from your donor-advised fund, life income gift, or qualified charitable distribution from your IRA—is a promise to give our outstanding academic community the freedom to take risks on the research that leads to innovative outcomes. Thank you for helping to turn our shared vision into action.”

**Julie A. Lucas**  
Vice President for Resource Development

## Plan Now for Year End

- October**  
Create a Plan
- November**  
Finalize Your Plan with MIT and Your Advisors
- December**  
Make Your Gift\*
- January–February**  
MIT Sends You an Acknowledgement of Your Gift

If you would like to make a gift before the end of 2023, now is the time to start the process. Consult our end-of-year giving timeline at [giving.mit.edu/yearend](https://giving.mit.edu/yearend) for more details, or contact OGP with any additional questions.

*\*Depending on the type of gift, it may need to be processed in early December. Please visit [giving.mit.edu/yearend](https://giving.mit.edu/yearend) for details.*



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## Sample Bequest Language

Below is suggested language to share with your advisor if you would like to include MIT in your will or estate plan. Contact us if you prefer your gift to be designated for a specific purpose so we can help personalize your bequest.

*I give [all of the residue of my estate OR an amount equal to X percent of the residue of my estate / thereof OR \$ \_\_\_\_\_] to the Massachusetts Institute of Technology (MIT), a Massachusetts nonprofit corporation, for its general educational and charitable purposes.*

## Contact Us

Making a planned gift to MIT enables you to meet your financial goals while achieving your charitable aspirations and bolstering MIT’s world-changing programs while providing income to you and/or your beneficiaries.

Ready to start the conversation?  
Contact us today!

**OFFICE OF GIFT PLANNING**  
**617.253.4082**  
**[giftplanning@mit.edu](mailto:giftplanning@mit.edu)**  
**[giving.mit.edu/contact-ogp](https://giving.mit.edu/contact-ogp)**

**All information in this newsletter should not be considered legal or financial advice. We encourage you to discuss these options with your advisor.**

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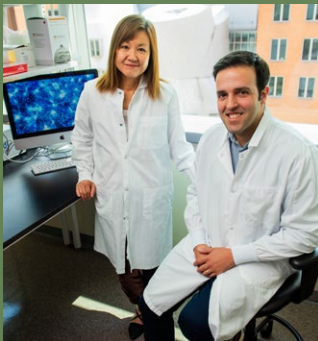
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From the MIT  
Office of  
Gift Planning

## Inside this Newsletter

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to Support MIT**



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