

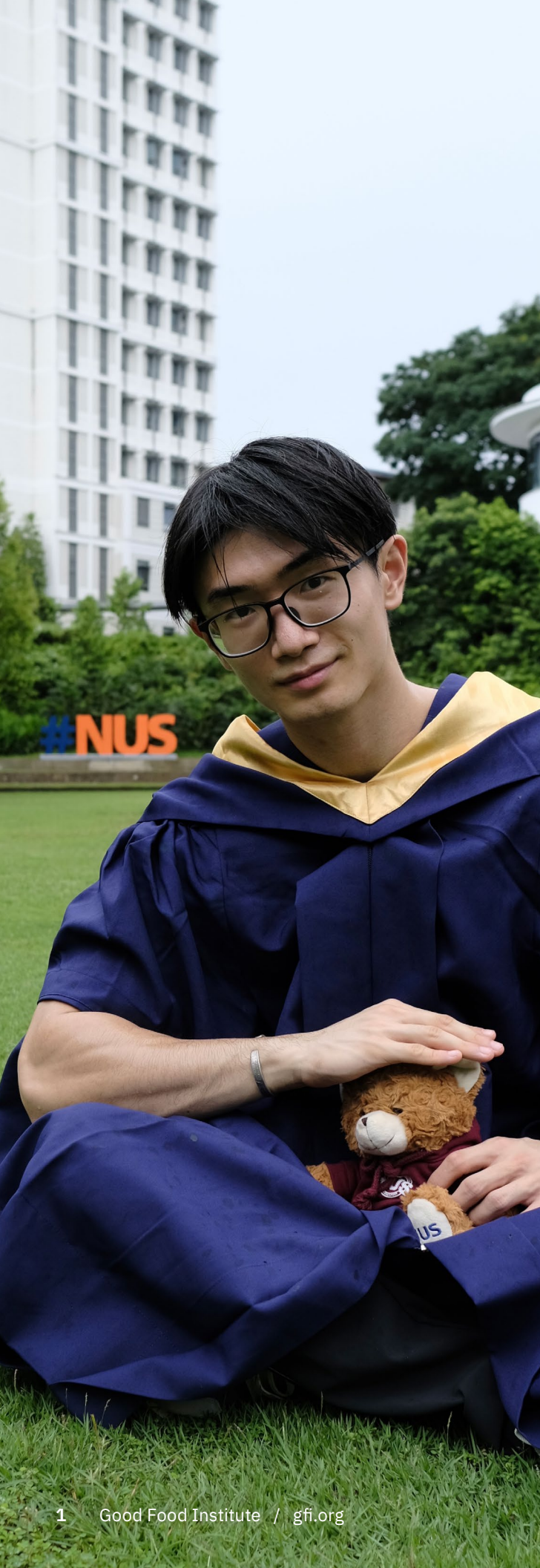
# 2022 Mid-Year Impact Report

Stories from the road to a brighter food future

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# Student leaders create bold new pathways

“**T**here’s a future here if I want to dig into it,” said Ang Jin excitedly, looking ahead to the next steps in his education, career, and life. Jin participated in Southeast Asia’s first-ever graduate-level course on alternative proteins launched by GFI Asia Pacific in January 2022. The course, offered by the National University of Singapore, was fully enrolled, with a waitlist.

For Jin, the most inspiring part of the course was discovering the future that alternative proteins make possible. “Many of the students came from a science background like me, but we didn’t have a chance to explore alternative proteins yet,” he says. “More than anything else, the idea of reducing greenhouse gas emissions, protecting the environment, and helping to feed the world’s population influenced my decision to pursue a PhD in this area.”

Later this year, Jin is starting a doctoral program at the University of Canterbury focused on alternative proteins. His goal is two-fold: “One is to continue to study in this area and become an expert in cultivated meat. The other is to develop techniques that are good enough to commercialize a product, and if I find investors, I’ll start a company.”

He adds: “If we could make a steak from animal cells, without the animal, that could change everything.”

*Ang Jin at the National University of Singapore – Jin was a student in Southeast Asia’s first-ever graduate-level course on alternative proteins launched by GFI Asia Pacific.*



## Empowering the next generation of innovators

Thanks to donor support, GFI's global teams are inspiring students like Jin to enter the alternative protein sector and accelerate the pace of technological progress. GFI's Alt Protein Project (APP), led by GFI's University Innovation team, empowers students around the world to turn their universities into engines that generate alternative protein education, research, innovation, and talent. To date, GFI has established 16 APP chapters around the world from Berlin to Berkeley, providing spaces for student leaders to collaborate with GFI experts on initiatives that will have the largest possible impact on the alternative protein ecosystem.

The Stanford APP's "Rethinking Meat" introductory course is just one example of a high-impact class launched by APP students that skyrocketed in enrollment in just its second year. More than 300 students joined for the spring 2022 semester, and the course feedback revealed lightbulb moments for students as they realized their power to lead the transition to a more sustainable, equitable, and resilient food system. In the words of one student: "This [week's] lecture made me excited about how vast the opportunities are in the alternative meat industry. From investing more in this under-appreciated area to getting involved in everything from science to politics, I learned that anyone can play a role in this issue."





## Reinventing the future of food

Plant based protein  
Fermentation  
Cultivated meat

*Sophia Retchin (left), founder of the UNC-Chapel Hill Alt Protein Project – Sophia helped launch a new alternative protein course called “The Cellular Agriculture Revolution” at her alma mater.*

Another new course sparked interest in alternative proteins this year, thanks to the grit and perseverance of Sophia Retchin, founder of UNC-Chapel Hill’s APP chapter. After months of deliberate outreach to faculty members, Sophia found two in the School of Medicine to teach “The Cellular Agriculture Revolution.” The course filled to capacity within 24 hours of registration going live. For Sophia, launching UNC’s first-ever alternative protein course was not enough. Upon graduation, she channeled her energy into a plant-based startup of her own, driven by a sense of urgency to create the better food future she knows is possible.

“Every year counts.  
Every month counts,”  
says Retchin.

## Widening the path for new leadership

Powered by support from our global GFI community, the Alt Protein Project is on track to more than double in size this year to include at least 32 groups across six continents, leading to more stories like Jin’s and Sophia’s. There are now 15 active alternative protein courses around the world, with four prospective courses currently in development. In May, after a rigorous application process, the APP team extended invitations to 20 new student groups, including what will be GFI’s first Alt Protein Project groups in Australia and Africa.



In March, GFI’s University Innovation Manager Amy Huang was named one of the “Grist 50” annually selected emerging leaders in honor of her work helping students become alternative protein visionaries. On her collaboration with student leaders, Amy notes, “Whether we successfully build a more sustainable, resilient, and equitable food system is fundamentally a question of leadership. There are so many brilliant minds around the world that have historically been left out of the conversation. We have this opportunity to collectively build a better world, and we’re committed to doing it right, by empowering students and innovators around the globe to work together and lead our future food system.”



# Rooted in science, growing exponential impact

**D**r. Amy Rowat's lab is changing fast. Amy is an alumna of GFI's Research Grant Program, which funds open-access alternative protein research aimed at the biggest unanswered questions in the field. The grant that GFI awarded to Amy catalyzed her lab's alternative protein journey and unlocked substantial follow-on funding from the U.S. government.

A biophysicist and engineer by training, Amy studies the mechanics of cells and their surrounding environment, and she has also used food as a tool for science education. When she first joined the UCLA faculty in integrative biology and physiology, her lab was focused largely on biomedical research.

Inspired by one of her graduate students who was passionate about cultivated meat, Amy began building on her expertise in cell biology to conduct cultivated meat research. They had been applying for funding but found that grant dollars were scarce for research on alternative proteins—until they found GFI's Research Grant Program.

For Amy and her lab, the grant from GFI was a game-changer. "GFI's research grant was the first source of funding to support this work, and so it had a pretty tremendous impact," she says. "It enabled us to dive into research with the goal of making delicious, marbled cultivated meat with both fat and muscle components."

*Kathleen Chen and Stephanie Kawecki in Dr. Rowat's lab – When Dr. Rowat was awarded a research grant from GFI, only one of her graduate students was interested in cultivated meat: now, more are getting involved and introducing other students to new research opportunities.*

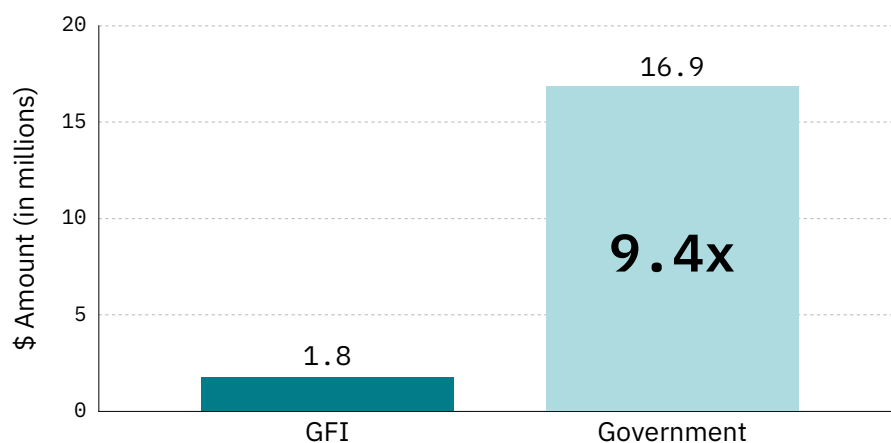
Building on her GFI-funded research, in early 2022 Amy was awarded \$600,000 from the U.S. Department of Agriculture (USDA) to continue her research. Then, in March, she received \$1 million from a new National Science Foundation program focused on exploratory projects. Amy was one of three awardees in the inaugural funding cycle. The cherry on top? The California state budget, signed into law in June, awarded Amy's lab and two others at UC Berkeley and UC Davis a combined \$5 million. (GFI lobbied for this public investment.)



In the few years since Amy was awarded the research grant from GFI, the composition of her lab has shifted. Only one of her graduate students was interested in cultivated meat research when she received GFI's grant; now, about half of Amy's research group is working on cultivated meat. "There's so much student interest now," she says. Amy is most inspired by the students who are channeling their scientific expertise to introduce others to new research opportunities in the field of alternative proteins. "Every year, there are folks applying to work with our team," she says, "and undergrads are keen to get involved in alternative protein development and gain that hands-on research experience."

## Unlocking public funds to fuel alt protein innovation

GFI's Research Grant Program is possible because of GFI's global community of supporters, and Amy's story is just one instance of the force-multiplying impact the program is having on our food system. We are working around the world to ensure that when GFI leads, government support follows.



*Dr. Amy Rowat is one of several GFI grantees who secured follow-on government funding after initial grant support from GFI. Of those who received both, GFI's \$1.8 million in grant dollars led to \$16.9 million in government support, a nine-fold multiplying effect.*

Last year, the USDA granted \$10 million over five years to fund the first-ever National Institute for Cellular Agriculture at Tufts University. The two lead investigators on the grant, Dr. David Kaplan of Tufts and Dr. Reza Ovissipour of Virginia Tech, have received GFI research grants. Dr. Ovissipour credits GFI with opening the door for this achievement and shares that our grant was instrumental in developing his program:

**"I was introduced to Dr. Kaplan by GFI, and without having GFI in the field, I wouldn't be successful. And I'm pretty sure that's the same feeling that so many people actually have."**

GFI's Research Grant Program is paving the way for public funding around the world. Following extensive advocacy from GFI Israel to secure government matching of alternative protein research funding, the Israeli government agreed to partner with GFI Israel to launch a \$1.2 million Alternative Protein Research Grant Program in June, with the Israeli government matching every GFI dollar four to one. While Israel is a global leader on alternative proteins, most government support has previously gone toward developing a robust private sector ecosystem. This new initiative has the ability to fund 13 projects, potentially doubling the amount of open-access alternative protein research currently happening in Israel. While 80 percent of the joint grant program is supported by the Israeli government, the grant names GFI as an equal partner in all decision-making, which allows us to influence funding toward the most neglected and important research in the field right now.



*Beth Zotter and Amanda Stiles, co-founders of Umaro Foods, received early support for their seaweed protein research from GFI's Research Grant Program.*

## GFI grantee alumni make waves

If you caught the April 1 episode of Shark Tank, you saw two GFI grantee alumni in action, wowing the sharks with their seaweed bacon.

Beth Zotter and Amanda Stiles, Berkeley scientists and GFI grantees, co-founded Umaro Foods to make delicious new products from one of the most sustainable and abundant protein sources on the planet: ocean-farmed seaweed. Their Shark Tank fame came days after announcing millions more in investment, prompted by excitement for their innovative, animal-free bacon. Umaro's latest news? They are launching their plant-based bacon in several restaurants across the country—including one Michelin-starred venue.

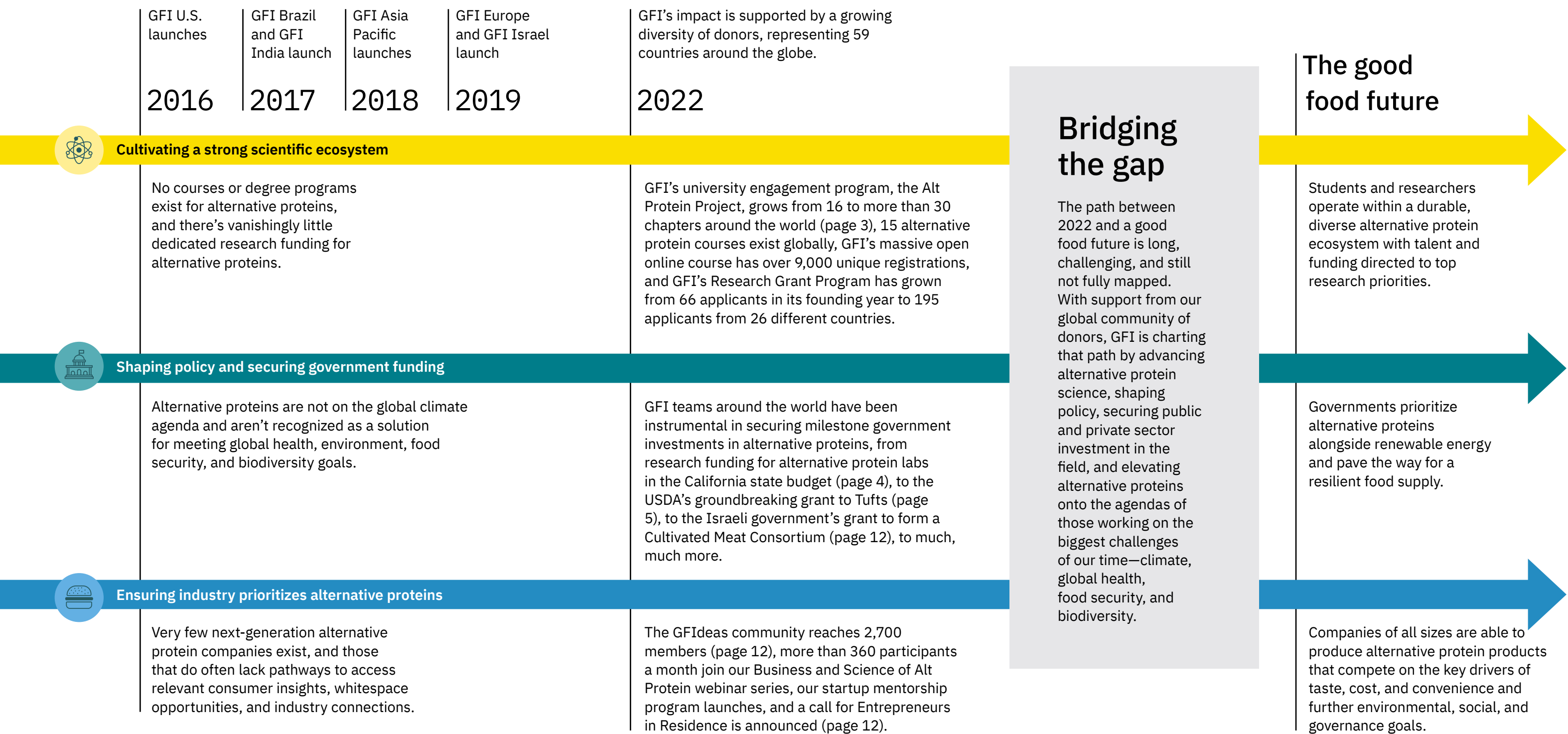
GFI's Research Grant Program provided instrumental support for Beth and Amanda's seaweed protein research, allowing them to de-risk and validate their technology to enable them to launch a company, secure investment, and create exciting new foods that reimagine how meat is made. And they're not alone: so far, five start-ups have spun out of GFI-funded research, and twelve GFI-funded researchers have transitioned from universities to working at high-impact alternative protein companies.

## A new direction for today's science leaders

For Amy, David, Reza, Beth, Amanda, and so many more, GFI's research grants have played a significant role in their careers, each of them now on a trajectory aimed at a far more sustainable food future. Support for GFI nurtures this trailblazing talent, provides the early boost that innovators need to supercharge their science, creates a dynamic and connected community of researchers, and opens the door for even greater investment and momentum. GFI is the matchmaker of the alternative protein ecosystem, connecting researchers with ideas, funding, and each other to grow the field. By providing catalytic seed funding, GFI makes pathways and innovations possible that might otherwise have never existed.

Alternative proteins:  
Milestones, momentum,  
and the work ahead

While there are many milestones that we could include here, this is a snapshot of the impact made possible by donor support on GFI’s journey so far. For regular updates on how we’re taking the story of alternative proteins forward, visit [gfi.org/newsletters](https://gfi.org/newsletters) to sign up for our monthly highlights and other newsletters.







*Ellie Walden at the UK Parliament event – Ellie made a speech advocating cultivated meat to parliamentarians, senior government officials, regulators, and parliamentary staff.*

# Engaging governments to lead on food system transformation

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“**T**he UK government should invest in open-access research to accelerate progress and ensure our world-leading universities are at the forefront of sustainable protein science,” declared GFI Europe policy manager Ellie Walden, addressing 39 parliamentarians and government officials at the first-ever United Kingdom government reception dedicated to cultivated meat. “Just as we’ve done with renewable energy.”

In May, Ellie and the GFI Europe team joined forces with cultivated meat startup Ivy Farm to co-host this milestone event. Bearing in mind the valuable opportunity to engage this influential audience, Ellie leveraged GFI Europe’s role as an NGO in the UK alternative protein ecosystem to call for greater government investment in alternative protein research and development, advocating for cultivated meat as a solution to mitigate climate change and food insecurity.

Following the reception, GFI Europe briefings and reports were on the desks of 50 members of parliament and other policymakers. Getting these resources in front of government officials advanced a critical goal for Ellie and her team: establishing GFI as a thought leader and trusted source of knowledge on alternative proteins.

GFI Europe's efforts are already having an impact. Just weeks after the event, the UK Parliament held their first-ever debate specifically on the topic of cultivated meat, where a senior MP told the Minister for Farming, Fisheries, and Food that GFI and Ivy Farm had opened their eyes to the potential of cultivated meat. The Minister responded with enthusiasm and affirmation that the UK would continue building on its past support of alternative protein research and innovation.

## Clearing the path forward

For Ellie, alerting changemakers to the possibilities of alternative proteins starts with building strong connections. As a nonprofit think tank, GFI is strategically positioned to do just that. "The fact that we've built such trusted relationships shows that there's a whitespace," Ellie says, "And GFI is filling it."

Last year, after the GFI Europe team forged connections and shared information about alternative proteins with the UK's National Food Strategy (NFS) team, the NFS recommended that the government invest £125 million in alternative protein research. This was the first wide-ranging review of the UK's food system in 75 years, and GFI Europe seized the opportunity to build trust with the NFS team by leading a series of meetings, technical conversations, and a tailor-made roundtable.

Recognizing that a recommendation doesn't guarantee implementation, GFI Europe continued conducting targeted outreach to grow support for alternative proteins, including organizing knowledge-building workshops and arranging conversations to answer questions about alternative proteins. The UK government published its National Food Strategy white paper in June, and this official response to the 2021 recommendations includes four strong references to alternative proteins. Most significantly, the white paper includes the explicit statement that "the government will keep the UK at the front of this growing and innovative sector by supporting alt protein research and innovation."

The GFI Europe team is getting crucial buy-in from UK government officials to carry this momentum forward. They collaborated with Member of Parliament Jonathan Djanogly on an article in which he responded to the NFS white paper recommendations:

"The country that gave the world the electric light bulb, the programmable computer and the world wide web should now be at the forefront of this emerging technology. The Government needs to join the race and invest in sustainable proteins now."



## Putting alternative proteins on the global climate agenda

GFI Europe is in good company as they make inroads for alternative proteins at the highest levels of government. In Asia Pacific, Brazil, Europe, India, Israel, and the United States, GFI teams advocate for public funding of alternative protein research as well as incentives for private-sector R&D, manufacturing, and infrastructure investments.

Throughout 2021, GFI's U.S. team worked to place alternative protein research on the climate agenda—and in 2022, it's official. Congress approved four key provisions in the appropriations bill: 1) defining alternative protein R&D as climate science, which GFI's global teams have already started building on around the world; 2) adding alternative proteins as a critical area for funding in the Agriculture & Food Research Institute budget; 3) defining alternative proteins research exactly as GFI recommended: “research focused on the characteristics of animal meat using plants, animal cell cultivation, or fermentation”; and 4) directing USDA to work with the National Science Foundation to fund nearly \$5 million in new open-access alternative protein research.

GFI worked closely with House Appropriations Committee Chair Rosa DeLauro on this first inclusion of alternative proteins in federal legislation. Said Rep. DeLauro:

“The United States can continue to be a global leader on alternative protein science, and these technologies can play an important role in combating climate change and adding resiliency to our food system.”

## Blazing the trail together

Global problems require global solutions, and our teams are collaborating across borders and sectors to help shape the future of alternative proteins around the world. GFI's specialized role as a nonprofit think tank and international network of organizations allows us to advocate climate-forward solutions and nurture connections that spark lasting change.

For advocates like Ellie who are seeking to have the largest possible impact, this is key to the success of the alternative protein ecosystem as a whole. “The experience of doing policy work has driven home the importance of GFI and our mission to advance the entire alt protein space,” Ellie says. “There's just no other entity like this.” Because of donor support, we're unlocking the power of government investment and international collaboration to transform our global food system for good.

## Creating a level playing field for alt proteins

Government funding is vital to the future of alternative proteins, but unfair regulation can limit their ability to compete in the market. Fair public policy is essential for alternative proteins to succeed, and as a nonprofit, GFI is uniquely situated to advocate policies that place all kinds of proteins on a level playing field across the industry.

GFI Brazil's policy team celebrated a win in June when, after 18 months of advocacy alongside our partners at the Brazilian Association of Bioinnovation, Brazil's federal government updated their Industrialized Products Tax to remove taxes levied on plant-based milk. For years, the tax exemption for milk only applied to conventional dairy, and by covering plant-based products, the government affirmed that plant-based milk is as essential to the Brazilian public as conventional milk. This victory is a strong signal of governments increasingly recognizing the value of alternative proteins to consumers, opening the door for similar advancements for plant-based and cultivated meat and seafood in the future.



*Aviv Oren (right) at the How to Build a FoodTech Unicorn event – Aviv hosted a fireside chat with Assaf Rappaport, CEO and Co-Founder of Wiz, the world's fastest-growing cybersecurity startup.*

# Charting the course toward an alt protein economy

“Our goal was to bring the community together,” said Aviv Oren, reflecting on the recent GFI Israel-hosted event How to Build a FoodTech Unicorn. “We’re sparking connections, sharing ideas, and helping leaders dream big.”

As GFI Israel’s director of business engagement, Aviv is an expert in convening industry leaders and turning alternative protein dreams into reality. In-person events are the ideal venue for building trust between CEOs and investors, but Covid had limited GFI Israel’s ability to host face-to-face gatherings. In March, with cases finally waning, the team seized the chance to bring together 250 CEOs, entrepreneurs, investors, researchers, and policymakers from across the food tech space. These leaders were eager to finally have a chance

to connect: open seats for the event were filled in just a few hours, compelling the GFI Israel team to secure a larger venue.

The focal point of the FoodTech Unicorn event was a panel with the CEOs of four alternative protein startups that have each raised over \$100 million, who shared their experiences with finding investors, scaling up, and building a strong team. While the four aspirational companies have yet to become unicorns (startups with a valuation of \$1 billion or more), Aviv is optimistic that GFI’s support and mentorship can catapult young startups toward unicorn status. “There’s a pipeline of great companies moving into the growth stage,” Aviv says. “If we get this right, we can make the connections and provide the resources needed for them to thrive.”



In parallel with their work connecting industry leaders, Aviv and the GFI Israel team are leveraging government support to supercharge the alternative protein ecosystem. GFI recently celebrated a victory when the Israeli government approved an \$18 million grant to support a cross-sector Cultivated Meat Consortium, a major milestone that was the result of years of work with the Israel Innovation Authority. For Aviv, this project demonstrates the critical intersection between GFI's work across policy, science, and industry. "We need to get governments excited about investing in the industry," Aviv says. "And we have to show companies why it's good for them to collaborate when intellectual property is so sensitive in the early days of starting a company. That's how we create space for innovation to grow."

## Laying the groundwork for a world where alternative proteins are no longer alternative

In Israel, India, Europe, Asia Pacific, Brazil, and the U.S., GFI's Corporate Engagement teams are convening the next generation of innovators, strengthening industry relationships to accelerate the sector, and building networks that would not exist without GFI's support. Entrepreneurs and alternative protein leaders turn to GFI when they're looking to make connections, launch a new business, or expand their alternative protein portfolios.

"GFI has been essential in connecting players globally. The talks, networking, and reports by GFI have been very helpful for industry players to stay up to date and form meaningful collaborations."

Ka Yi Ling, PhD, Co-Founder and CTO  
of Shiok Meats

Two resources that are helping food system changemakers connect and thrive are GFIdeas and GFI's new Entrepreneur in Residence (EIR) Program. The GFIdeas community launched in 2019 as a connection and learning network designed for entrepreneurs, scientists, and students who are driving alternative protein



*GFI India team members met with colleagues from the Indian Institute of Millets Research to advance research on climate-resilient crops as sustainable proteins.*

innovation. By hosting regular events, including seminars, roundtables, workshops, and networking sessions, GFIdeas helps forge new connections and inspire fresh insights into the technical challenges facing the alternative protein field today. GFIdeas has spawned local chapters, including the GFIdeas India community, which held its first in-person meetup in March, and a brand new chapter in the Asia Pacific region, which soft-launched in May.

GFI's EIR Program launched in June and provides an avenue for entrepreneurs to collaborate closely with GFI's Corporate Engagement team to catalyze alternative protein innovation. While GFIdeas serves as a broad network of support for innovators with a variety of interests across the industry, the EIR Program is specially designed for entrepreneurs who have identified a solution that addresses a specific gap in the alternative protein ecosystem.

## Tomorrow's good food visionaries

Innovators and entrepreneurs play a special role in the alternative protein sector because they help clear technical roadblocks and launch companies that fill knowledge gaps. GFI India is broadening the path for new talent to find solutions through their flagship initiative, the India Smart Protein Innovation Challenge. Now in its second year, the Challenge is growing a pipeline of innovators and entrepreneurs who will allow tomorrow's alternative protein ecosystem to flourish.

This year's Challenge focused on training the next generation of innovators to address key commercial whitespaces across the value chain of alternative proteins. The Challenge attracted 745 participants from 590 colleges, universities, and organizations across India for intensive programming and mentorship on the business, science, and path to market for alternative proteins. The Challenge culminated in March with a closing pitch day for teams to present their projects, which included a shelf-stable plant-based egg with a separate white and yolk, and technology for using vegetable waste to create high-protein ingredients.

By providing this opportunity to be connected to potential partners and resources, GFI India is supporting hundreds of young leaders and paving the way for innovation. "Throughout this experience, GFI India provided us with invaluable insights, expert guidance and key connections within the smart protein community," says participant Asha Bangar. "Beyond the Challenge, we were given the opportunity to present our work to a wider audience, and we're now in talks with VCs and accelerators!"



## GFI industry data and insights 2022:

### **Released January 2022: GFI's Plant-based meat: Anticipating 2030 production requirements**

is a scenario-based exploration of the substantial ingredient supply chain needs, manufacturing facility requirements, and level of investment necessary to avoid future supply constraints and successfully meet global plant-based meat production targets within the next decade.

**Released May 2022: GFI's State of the Industry Reports** are deep dives into the technologies, business developments, scientific advances, and policy shifts that are propelling the industries for plant-based, cultivated, and fermentation-derived meat, seafood, eggs, and dairy.

## Alt protein bites

[Amy Huang in the Grist 50](#) *(story on page 3)*

[Umaro Foods on Shark Tank](#) *(story on page 6)*

[GFI Europe's National Food Strategy](#)  
*(story on page 9)*

[Britain can lead the world in new ways of making meat](#) *(story on page 9)*

[The GFIdeas Community](#) *(story on page 12)*

[Proud at GFI: Diversity equals resilience](#)

## The journey ahead

Powered by donor support, GFI focuses on cultivating the alternative protein workforce of tomorrow and widening the path to enable more and more people to venture together toward a brighter food future. Whether learning from a panel of experienced alternative protein leaders, networking on a GFIdeas call, or pitching the next product or technology, community-building and knowledge-sharing are key to growing the alternative protein ecosystem and mapping out the journey ahead.



# The Good Food Institute is a nonprofit think tank working to make the global food system better for the planet, people, and animals.

Powered by philanthropy, GFI is an international network of organizations advancing alternative proteins as an essential solution needed to meet the world's climate, global health, food security, and biodiversity goals.

None of our work would be possible without our global community of supporters. We're just getting started on our journey together, and there's a long path ahead as we work to create a world where alternative proteins are no longer alternative. If you want to keep up with our activities and programs, you can sign up for GFI's monthly highlights and our other newsletters at [gfi.org/newsletters](https://gfi.org/newsletters) or follow our blog at [gfi.org/blog](https://gfi.org/blog). If you have any questions or would like additional information on the impact of supporting GFI, please reach out to [philanthropy@gfi.org](mailto:philanthropy@gfi.org).

## Thank you for traveling this road with us.

**Mission:** We are developing the roadmap for a sustainable, secure, and just protein supply. We identify the most effective solutions, mobilize resources and talent, and empower partners across the food system to make alternative proteins accessible, affordable, and delicious.

**Vision:** A world where alternative proteins are no longer alternative.

**Values:** Believe change is possible. | Do the most good we can. | Share knowledge freely. Act on evidence. | Invite everyone to the table.

