Deal-making in a funding vacuum. Plus, mantis shrimp and plastic brains.

By Susanna Camp

APRIL 22, 2025 AT 4:30 PM

👉It's a rough time for fund-raising, but a good time for deal-making

Mental health is a recurring theme here at the Investors Lab (subscribers can find our coverage of chatbots and deep brain stimulation in our past issues). This week we turn our attention to our own mental health. We'll be honest with you: our head hurts, for science. A recent article by *Science News*'s McKenzie Prillaman and Alex Viveros got us thinking about the withdrawal of government support in America for scientific ventures. What does this mean for scientists, innovators, and investors like you?

From grants being frozen, removal of governmental funding for certain fields of research, reduced investment in university science programs, government agency scientists losing their jobs, the revoking of executive orders on biotech ... it's not pretty out there. But innovators are already seeking ways to adapt.

Researchers, Innovators, and Opportunity

Clearly for scientists and researchers in almost all fields, their jobs are at risk, morale is in scarce supply, and there's a real threat of brain drain. Loss of federal funding for important work creates instability and limits opportunities. Both American-born and foreign-born scientists are eyeing

offers from more welcoming countries — those that invest heavily in state-of-the-art research facilities and equipment, and have friendlier social policies.

For founders of scientific innovations and the investors in their orbit, the outlook is different. If we know a thing or two about startups, it's that innovation starts with discovering a pain point. We have pain in spades right now. Innovators also know how to pivot, and when funding dries up, they rejigger their ventures to more marketable opportunities. They also know how to appeal to a range of suitors. The withdrawal of public funds means more private sector investment and alternative funding models such as crowdfunding, philanthropic investment, and public-private partnerships.

Then there are the investors. With the tariffs and other financial interventions causing a decline in overall market capitalization, VCs and other investors are now prioritizing investments in startups with demonstrable commercial potential. Your intrepid Investors Lab reporter has covered the startup market for the past 25 years, and been through a few swings. Where to find inspiration? We have our sources.

Strategic Scouting: Where to Find the Next Big Thing

So here's our recommendation. Follow the accelerators, attend events, and look into international conferences. These sources offer potential for networking with innovators, investors and experts, meetings with founders to curate deal flow and conduct due diligence, and overall insight into industry and market trends.

You'll want to curate your own resources, of course, based on your interests, verticals, and network. For starters (and we'll continue to expand on these opportunities in future issues), here are a few options we love:

Commercial accelerators

Y Combinator has a biotech and life science specialization. While mainly focused on medicine, they've also invested in many successful ventures over the years. Here are a few we love:

- Solugen, replacing industrial chemicals with synthetic biology
- Science Exchange, a marketplace for scientific supplies
- Quartzy, lab management as a service
- Enzyme, FDA consulting and regulatory compliance as a service

University accelerators

In the U.S., your best bet may be private universities, which are not so dependent on federal funds and often boast impressive ties to industry. Let's look at the quintessential Silicon Valley example, Stanford University. With a thriving network of talent, advisors, educators, and investors, Stanford has numerous accelerators, including:

- Stanford Accelerator for Learning: This initiative focuses on accelerating solutions to pressing learning challenges by leveraging brain science, data, and technology.
- StartX: This startup accelerator and fellowship also creates a community for Stanford students, professors, and alumni. With $40 billion in total valuation, and $24 million average fund-raise per startup.

- Stanford Doerr Sustainability Accelerator: This org "speeds the translation of Stanford research into scalable technology and policy solutions to address urgent global sustainability challenges."

Conferences we love, here and abroad:

Web Summit Rio: The focus is on startups around the world that innovate to follow the United Nations Sustainable Development Goals, with investors including Andreessen Horowitz, 500 Global, and more. April 27-30, 2025, Rio de Janeiro.

SynBioBeta: This annual biotech conference offers tracks in human health, planetary health, tools and tech, and the business of biology. May 5-8, 2025, San Jose, California.

Slush, one of Europe's most beloved tech conferences, with a cool gamer vibe, hosts many scientific startups. Last year's attendees include an AI mining startup, a mentorship program that matches science and technology students with financial support and personalized mentors, and Arterioscope, a healthtech spin-off from the Graz University of Technology in Austria that helps detect cardiovascular disease with AI. November 19-20, 2025, Helsinki, Finland.

We hope this helps your outlook just a little bit. What keeps you going? We'd love to hear from you! Drop a line to scamp@sciencenews.org with your favorite sources of inspiration.

🥊 Mantis Shrimp's Mighty Punch: Inspiring Next-Gen Materials

When a mantis shrimp shatters a clam shell with a single, lightning-fast strike, that's physics at play. Jake Buehler's recent *SN* article delves into the incredible engineering of the mantis shrimp's club, showcasing research that could revolutionize materials science.

🦐 Nature's Shock Absorber

Researchers at Northwestern University and France's Institute of Light and Matter found that the shrimp's silver bullet lies in the complex architecture of its exoskeleton. The outer layers prevent cracks, while deeper, helix-like layers dissipate energy from the impact. This allows the shrimp to repeatedly deliver blows with forces that can exceed 1,000 times their own body weight, without self-destructing. This structure filters out damaging stress waves, acting as a phononic shield.

🔥 From the Reef to Real-World Applications

This research is more than just cool science, it has huge commercial potential. Imagine biohybrid or bio-based materials inspired by the mantis shrimp's punch: stronger, lighter, and more impact-resistant. Potential applications include:

- Advanced Armor: Creating more effective and lighter body armor for military and law enforcement.
- Protective Gear: Developing better helmets and padding for sports, reducing the risk of injuries.

- Aerospace: Designing lighter and more durable aircraft components, improving fuel efficiency and safety.
- Automotive: Engineering stronger and lighter car parts, enhancing safety and performance.

🌊**Companies Riding the Wave**

A company named **Helicoid Industries** is already working to translate the mantis shrimp's biological marvel into real-world technologies. The company is reverse-engineering the mantis shrimp's "helicoid" structure to create stronger and lighter composite materials. They've secured $2.43 million in seed funding and are targeting applications in sporting goods, automotive, aerospace, and more. Notably, the company's management team includes materials scientist David Kisailus, whose laboratory at the University of California, Irvine uses animals to inspire inventions. Besides the mantis shrimp, he studies mollusks that eat off of rocks with iron-containing teeth, and tanklike beetles that can survive being run over by a car.

The mantis shrimp, it turns out, is not just a fearsome predator, but also a blueprint for the future of materials science. Investors, keep an eye on companies that are taking nature's designs to the next level.

☠️Plastic ~~on~~ in the brain

🧠**Mind Over Microplastics: Why worry?**

Our grey matter is swimming with tiny microplastic particles. As *SN*'s Laura Sanders writes, a study of postmortem brains by researchers at multiple institutions found that minuscule shards and flakes of polymers were surprisingly abundant. It's not yet clear how much this impacts our health, but this writer's brain tells me it can't be good.

🛢️**Drill, Baby, Drill vs. Green Dreams**

Most of us agree we need less plastic in the world, not more. Here in the U.S., the current administration's "drill, baby, drill" pro-plastic agenda is at odds with the environmental stewardship of agencies like the Environmental Protection Agency, National Oceanic and Atmospheric Administration, and the National Park Service. While support for sustainability ventures is harder to come by in this country, several international startups are actively working to develop more environmentally friendly substitutes, better manage waste, and create useful products from recycled materials. In 2024, startups addressing the global plastic problem raised more than $300 million in fresh funding. Investment continues to flow into the space.

💸**Money talks, plastic walks**

Let's take a look at some companies around the world who are fighting the good fight against plastic.

- **UBQ Materials** is an Israeli company with total funding of $245.6M, including a recent €5 million grant from Europe's Just Transition Fund which supports investments in areas such as clean energy technologies, the reduction of emissions and the regeneration of industrial sites. They're focused on developing biology-based sustainable alternatives to plastic for use across various industries.

- **Traceless Materials**, based in Hamburg, Germany, has raised $38 million to date, recently in a Series A. They use plant by-products from the agricultural industry, to make biodegradable single-use packaging or adhesive products.
- **Kubik,** a startup with operations in Kenya and Ethiopia, turns plastic waste such as polyethylene, polypropylene, and polystyrene into affordable building materials. The company won Startup of the Year at the 2023 Global Startup Awards and was declared the leading climate tech startup in Africa at that year's VivaTech conference in France. With a total funding of $5.3 million, Kubik raised $1.9 million in an April 2024 seed round led by African Renaissance Partners.