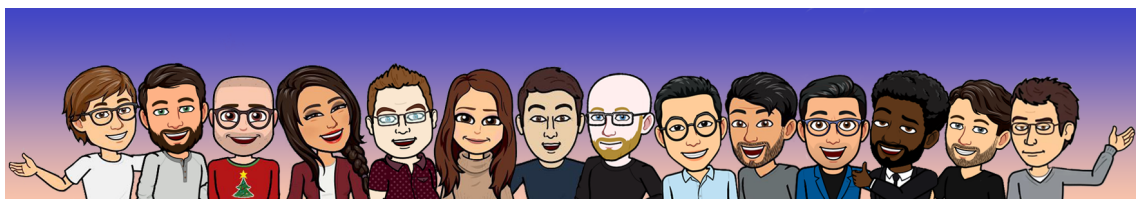




Hello New Harvest Community,



This email is about the meat of the matter: research. Thanks to the leadership of our science superstar Dr. Kate Krueger and the incredible support of Avina Stiftung, research multiplied this year!

- 2x as many grant applicants
- 3x as many researchers supported by NH
- Five NH-funded, peer-reviewed scientific publications!

Of course these figures do not capture the expertise and knowledge our researchers are developing, nor does it capture the rich interactions, observations, and discoveries of our multi-disciplinary cohort.

You'll hear more about our fellows' experiences when our new engagement strategy launches in January (more on that in a later email). For now, we'd love to introduce you to the seven researchers who joined our flagship fellowship program in 2019:

**Kai, tackling serum-free media in New Zealand** 🇳🇿

New Zealand's economy is very animal ag-focused, and Kai is seeking ways to use NZ agriculture by-products, such as blood, for cultured meat production. This project is co-funded by NZ's national food research funder and New Harvest. Special thanks to Tipping Point for support on this project!



**Stephanie, working on marbling cultured meat** 🍖



Meat's flavor and texture are critical for palatability, and fat is a major contributor to both. Stephanie is focused on creating scaffolds that can accommodate muscle and fat cell growth. She's looking at beef in particular, for maximum environmental impact.

### Jordan, growing meat on plants 🌱

What's edible and vascularized? Meat, yes, but also... leaves! Jordan's using highly vascularized spinach leaves to grow meat in three dimensions. This inexpensive, widely available scaffolding material could help us grow cultured steaks - several steps beyond burgers and sausages!



### Zac, using algorithms to optimize serum-free media 🧠

A productive, low-cost, food-grade serum-free media is key to the cell ag industry. But media design can have a lot of moving parts and a generalizable method for designing media with as few laboratory experiments as possible would be of enormous benefit. Zac is applying neural networks and optimal experimental design to serum-free media formulation.

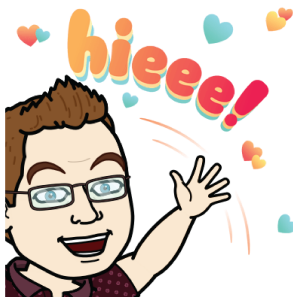
### Jannis, 3D printing the building blocks of meat 🧩

This project is also about a next generation approach: a 3D printed block of muscle and fat cells, grown in a low-cost, animal-free media. Jannis will be developing a low-cost animal free bioink to foster the growth of fat and muscle tissue from cows and pigs.



### Sam, exploring food safety implications of cultured meat 🍽️

There have been few studies on the safety and quality of cell cultured meats. Sam, a food scientist who evaluates the fates of food borne pathogens aims to examine the safety needs for cultured meat production. He will be looking at plausible pathogen fate, potential shelf-life limits, and identifying good hygienic practices for industrial and commercial production.



**Ted, enhancing protein synthesis in muscle cells 💪**

- It's important that cultured meat does indeed provide the nutritional quality of animal-based meat. Ted is working

to understand how muscle cells produce dietary protein, with the aim of optimizing protein content in cultured meat. He aims to do this with serum-free media too!



**Cameron, working on serum-free media for fish 🐟**



hey.

Did you know that fish cell culture is routinely grown using FBS (fetal bovine serum)? Doesn't make much sense. Cameron is working to elucidate, then produce, fish-specific growth factors for serum-free media. The goal is to create a better medium for cell-based seafood, and perhaps, for cell-based meats in general. Thanks again to

Tipping Point for support on this project!

We're thrilled to be bringing these bright minds into cellular agriculture. After all, these are the food scientists of the future. They will become the technical co-founders, the principal investigators, the key opinion leaders, and the independent experts that this field needs in order to progress. Without independent scientists, research can't progress, regulation can't be informed, and talent can't be trained.

This is crucial work!

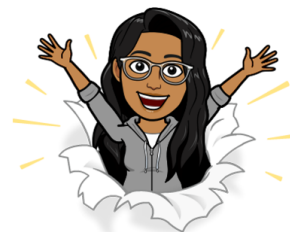
I hope you'll continue joining us in making this happen by considering a contribution today.

Have a lovely Tuesday,

Isha

Executive Director, New Harvest

**P.S. All donations are being doubled AGAIN thanks to a matching grant of \$50,000 from Avina Stiftung, a**



foundation committed to New Harvest's work in sustainable nutrition.



**Donate Now!**

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