DESTINATION STARTUP

Arpeggio Bio

One-Sentence Summary of What You Do: Arpeggio Bio uses machine learning and RNA to make drugs against previously undruggable targets in cancer and inflammation diseases.

Affiliated Institution: University of Colorado Boulder

Have you formed a company yet? Yes

Funding/Financing: Grant Funding, Venture Capital

Please describe your company and the problem you are trying to solve: Disease is often driven by genes that turn on at the wrong time, yet making drugs to control when a gene turns on or off has been a challenging problem. At Arpeggio, we've built a biological map that we use to control gene expression and fix diseases like cancer & auto-immune disorders. Our team of biologists treat cells with thousands of drugs and record when genes turn on or off. With this data, our computer scientists can create a mathematical recipe to activate or inhibit any gene at any time. These recipes are then used to design drugs and bring them to patients who desperately need them. Our technology is patent-protected and is currently being used by over 30 Pharmaceutical companies to better understand the impact their drugs have on gene expression.

What is/was your go-to-market strategy? In 2020, there are more than one-hundred clinical trials involving drugs that directly alter gene expression; a 50% increase from 2019. In addition, Arpeggio is currently partnered with over 30 different Pharmaceutical companies helping them understand the impact their compounds have on gene expression. With both the increase in clinical candidates as well as market adoption of the Arpeggio platform, we feel there is a strong market and clinical need to create drugs that directly activate or inhibit gene expression. Arpeggio differentiates itself by our unique ability to isolate nascent RNA. Isolating nascent RNA allows our technology to profile gene expression changes on the order of minutes after drug exposure. This boost in sensitivity illuminates the direct mechanisms of a drug. Our machine learning algorithms trained on nascent RNA data can nominate new drug discovery targets at higher rates of accuracy. Currently, we've accessed the market through conference posters, talks, and high impact journal publications.

How will/do you generate revenue? Today, we've generated revenue through platform-as-a-service arrangements. Even as a small startup, we will book more than $1M in revenue in 2020. In addition, Arpeggio aims also to co-develop therapeutics with other pharmaceutical companies.As an example from this year, Arpeggio partnered with a small biotechnology company to find novel therapeutic use cases of their compound and Arpeggio is compensated through royalties and large milestone payments. Although we will continue to generate revenue through our high margin service

business, we will also generate novel therapeutics to diseases with high unmet need. With our own drug assets, we will generate revenue through patent sub-licensing, royalty arrangements, and drug success milestone payments through co-development partnerships with larger pharmaceutical companies.

How will this showcase benefit your company or technology? Arpeggio will be starting a series A fundraise in Q2 of 2021. With this in mind, we feel this event would be a great way to present our company to angel and venture capital. As a Boulder-based biotechnology startup, we want to specifically partner with funds in the Front Range area to continue to grow Colorado biotechnology entrepreneurship. We will be raising $20M to develop our three current drug programs and perform IND-enabling studies. In addition, we are always on the look out for strategic partners as well as team members that can provide much needed expertise on navigating the drug discovery landscape. In this way, we hope that this event will be a great networking opportunity for Arpeggio.

Who are the members of your team and why is this the right team to get the job done?

Drug discovery is a daunting process requiring skill sets and expertise spanning many disparate fields. Our current team clearly reflects the diversity in background required to bring a drug to a patient.

- Joey Azofeifa (CEO & Co-Founder) developed the core Arpeggio IP at the University of Colorado-Boulder with Dr. Robin Dowell. Joey participated in the Y-Combinator program, closed 3.2M seed round in late 2019, was named Forbes 30-under-30 in Healthcare, and negotiated more than 30 different Pharmaceutical partnerships with Arpeggio Bio.
- Laura Norris (COO) and Joe McMahon (Chairman of the Board) are previously seasoned entrepreneurs who have built +100M companies.
- Noah Dukler (PhD) and Ardeshir Goliaei (PhD) are experts in machine learning, genomics, and computational chemistry coming from Cold Spring Harbor, Novartis, and Astra Zeneca.
- Tim Read (PhD), Maria Lai (PhD), Joel Basken (PhD) bring a wealth of pharmacology and molecular biology expertise coming from Harvard Medical School and the University of Colorado Boulder.