EP.94 - Xavier Barril and Hartaj Singh FINAL

Narrator: You're listening to *BioTalk* with Rich Bendis, the only podcast focused on the BioHealth Capital Region. Each episode, we'll talk to leaders in the industry to break down the biggest topics happening today in BioHealth.

Rich Bendis: Hi, this is Rich Bendis, your host for *BioTalk*. And we have a double treat for you today. We're almost approaching 100 *BioTalk*s, and I thought this one is almost one of the more unusual ones we've done because it's a topic we've never had on our podcast before. We're going to talk a little bit about AI, machine learning, supercomputing, advanced computing, quantum computing, how it relates to the BioHealth industry. And we have two experts who we've been able to attract to the podcast today to discuss this. Our first expert is Dr. Xavier Barril, who is the Chief Scientific Officer at Gain Therapeutics and also at the University of Barcelona as an ICREA Professor, and we'll learn more about what that actually means with Xavier later.

0:01:05 And also on this podcast, for the first time, we have someone from Wall Street. And we're going to have someone talk about what the impact of this information and data age is on the pharma and bio industries, and we have Hartaj Singh, who I'm going to refer to as Taj in this podcast. And he's an Equity Research Analyst with Oppenheimer and Company. Xavier and Taj, welcome to *BioTalk*.

Xavier Barril: Thank you.

Hartaj Singh: Thank you, Rich.

Rich Bendis: You're welcome. And we have a lot to cover, so let's get started. And the best way for the listeners to understand a little bit about both of you personally is, I'm going to let each of you do a personal introduction about yourself, a little bit about your background, your education, how you evolved into what you're doing today, why you made the decision to do what you're doing today. So why don't we start with Dr. Barril?

0:02:01

Xavier Barril: Thank you. I started biochemistry here in Barcelona in Spain, and then I went for my PhD. And I was attracted to computation from the beginning. I was actually hesitating about doing informatics or chemistry

as my bachelor. And actually, the two things come together very naturally for me. It was a very good experience during the PhD to actually use computers to solve chemistry problems and problems with life sciences. Seeing proteins in 3D was, all this was really, really exciting. For me, what was missing at that point was the actual application of those methods. I was so excited about those methods, and they were so fantastic, I really wanted to experience how to use them in real life. And at that point, I moved to the UK to the Cambridge area. I was working for a company called Vernalis, which still exists, and that was a really fantastic experience in terms of the application of the methods.

0:03:06 So for instance, we discovered Hsp90 inhibitors that then were licensed to Novartis, and they reached phase 2 clinical trials. Unfortunately, they didn't go farther than that. That's one of the frustrations I guess in my career. But I cannot complain, also, when I look at other colleagues. Then, also, the other thing that was really terrific was working alongside experimental people, building methods together. At the time, we were also developing fragment-based drug discovery and working with people in NMR, crystallography, all this. I really enjoyed that atmosphere and the collaboration. And then, a little bit paradoxically, I was actually frustrated then with the computational methods because they didn't deliver as much as I expected. They did deliver, but not to the level that I wanted. And that's actually what gave me the motivation to, after five years in the industry, go back to academia, which is not the most common of moves, but it's not unheard of.

0:04:07 So I came back to Barcelona, I created my own research group, and my motivation was to develop better computational methods for real problems in drug discovery. And that's what I've been trying to do since 2005. And this has gone quite well, I think. One of the technologies we created was used to create a spinoff, which eventually became Gain Therapeutics, where now I am the Chief Scientific Officer. And I'm now doing both things. I'm an academic ICREA researcher at the University of Barcelona as well as the CEO of Gain Therapeutics. And of course, it's hard, but personally, it's very fulfilling because you get to have an application in real life to try to discover new drugs that can have an impact on patients, and at the same time, you have to think about how to make things better, how to keep up with all the developments that happen in science.

0:05:11 So personally, for me, it's a good choice. But I don't think I can recommend that to anyone.

Rich Bendis: Well, thank you for that intro. And I forgot to tell the listeners, this really is an international podcast because Dr. Barril is broadcasting from Barcelona, Spain, and then Taj Singh, who we're going to introduce next, is in Research Triangle in North Carolina. So basically, we have a European-American *BioTalk* today. And the other thing I'm going to follow up with with Dr. Barril is a little bit about this balance between academia and industry because that's an unusual balance of being able to do both at the same time. I'll come back and ask you about that later. But now, let's have the listeners get a little bit of a background on Taj Singh with Oppenheimer. Taj?

Hartaj Singh: Great. Rich, Javier, thank you so very much.

0:06:01 First of all, I just want to thank you for having me. Being a Wall Street analyst, it is really a pleasure to be on panels where people are moving the needle in the real economy, and by doing so, creating great jobs, helping patients, and moving science along. So it really is a pleasure. Why I'm here, honestly, is basically just a tribute to serendipity. I probably have one of the least-planned careers of anybody you'll ever meet. I went to college in the late-80s, early-90s, almost finished a master's in neurobiology, and then after that, worked in clinical drug development. Just got a job in it fairly randomly in Research Triangle Park and was just fascinated with it. Biology has always been a core interest of mine and a guiding light in my career. And I was lucky enough to really help with bringing some drugs to the clinic. I worked for six years for a clinical research organization, CRO, called ClinTrials Research. That experience helped me get to business school here in the RTP area, Duke University, where I realized I didn't have enough background in finance and accounting.

0:07:06 That, actually, started my journey to Wall Street because I say this almost a little embarrassed, I fell in love with finance. I started thinking about stocks and what makes them move in business school, and that led me to a career in finance, which started in 2005, so about three years after I graduated from business school, with Lehman Brothers in their San Francisco office in biotech. It was a great introduction. I had a fantastic first analyst I worked for, a very fundamental analyst, and I've been on

Wall Street ever since. I've been on the sell side and the buy side since 2005 and been with Oppenheimer for six years now as one of the Biotechnology Analysts there. But again, most of my career progression has not been planned. It has just occurred at a time in my life when I felt I needed that next step. And here I am, talking about supercomputers and how potentially really important advances in data computing and data analysis that, for example, Dr. Barril and his group are working with could help biotechnology and how Wall Street needs that.

0:08:08

Rich Bendis: Well, thank you very much, Hartaj. It is serendipity. And basically, I might have a more curious route to where I got to than you did with many more steps. But yours was a little more of a clear path. And it's great to have you here because there aren't that many people focused on Wall Street in this area of research that you have decided is going to be very important to the future of healthcare and industry. So we're going to dive a little deeper into that because Gain Therapeutics is one of the companies you're following, which is a public company. But a lot of people don't know what Gain Therapeutics does, and we're going to turn to Xavier to talk about Gain. Give us an introduction to the company, Xavier.

Xavier Barril: For us, a part of our DNA is that we are extremely efficient. We have to be. And computational technologies actually are really, really good for that.

0:09:00 Computation alone, I would argue, is not useful for life sciences. But a wise mix of computation and experiments can be very, very efficient. And that's what we have been trying to do. So we started with a computational method that we developed in our lab. Essentially, molecular simulations in a supercomputer. And that is charting a clear map of a protein surface. So you need to have the three-dimensional structure of a protein with these molecular dynamic simulations, and then special analysis methods, where you get this complete map of what the protein likes to do in terms of interacting with other molecules. And of course, a drug is just an organic molecule that really fills an attraction for a particular place on the surface of the protein. And then, without that map, we are a bit lost because proteins are really beautiful sometimes, but very hard-to-interpret structures.

0:10:06 This map tells us, "This particular point on the surface of the protein really would like to interact with this type of atom. This other part would like to interact with this atom type." And then, we can design molecules that complement the protein in that way. Of course, this is what the computer does. But then, we have to actually also select molecules that can do that with another method. And then, finally, we come to the experiment. And we have to test those molecules and see that they, indeed, bind. And then, more importantly, that they do the biological function that they are supposed to do. And that's where the balance between computation and experiment is so important because to make our life a little bit more complicated, our goal was not to discover molecules that would bind to proteins and stop them from working. We wanted to have gain of function.

0:11:01 That's where the name of the company comes from. We want to take a protein that has a mutation and is not working properly--that's what happens in rare diseases--and then, with our molecule, the protein has to be more functional. The mutations usually cause protein mis-folding. So what we're trying to do is to help the proteins stay folded without interfering with the natural function of the protein. And this is not possible to compute. We can compute if a molecule can bind, where it can bind, and so on. But we cannot predict what's going to happen in such a complex biological environment. So then, the computational methods open an opportunity to find the molecule that does something that could be almost impossible to do experimentally. So we're really proud of being maybe the first company doing rational allosteric drug discovery.

0:12:01 But we're also very humble in the sense that we know the molecule may bind there, but it may, for instance, interact or compete with another protein, and then it may not have a biological readout. So we have to have this dialogue with experiments. And the other thing that we also have to be very aware of is that we create the opportunity, we have the initial molecules, but then you have to do traditional old fashioned medicine or chemistry. And it's very, very hard work. You have to optimize the molecules and take them to the level where they can actually go into human clinical trials. And that's also not straightforward, as anybody can tell you.

Rich Bendis: Thank you for that introduction. And basically, you're talking a little bit about the computational analysis that's done, but there's also the need for the human interaction. The computer cannot do everything. And one thing before we go to Taj.

0:13:01 You have a unique structure because I think the supercomputer you're using is in Barcelona, but there's another one in Switzerland that is part of your network. Can you explain that? Because the other thing that's interesting for our listeners in the BioHealth Capital Region, which is Maryland, DC, and Virginia, is that the US headquarters for Gain Therapeutics now is in Bethesda, Maryland, with Eric Richman, who's a serial entrepreneur that we've known very well in that area. So talk a little bit about the dynamics of Spain, Switzerland, and Maryland and sort of your introduction to Eric there.

Xavier Barril: Maybe I'll talk a little bit of the history of the company. So when we created the spinoff, actually it was a different company. It was called Minoryx. And this company also still exists. But we created it with two different business objectives. One was more of a positioning for diseases, and the other was actually discovering new chemical matter. And this is what we do with the technology. Eventually, with the positioning of the business and what we were doing, we were separating the phase that we were, and the investors decided they preferred the single-asset company.

0:14:09 So actually, Gain was created kind of as a spinoff of the spinoff company. And then, we had Swiss investors interested in the technology. And then, we have our colleagues in Lugano, in the Italian corner of Switzerland. We work with them now very well. Most of the research is here, the development is there, management is there and in the US now. And I feel that, of course, at the beginning, you have to get to know each other, but that was fairly natural, and we work together very well, in spite of the pandemic. Or maybe because of the pandemic. We were just all day talking to each other. And then, we access resources wherever we can access them. So in the beginning, we were using the local supercomputer, but now, we're using more the Swiss center.

0:15:03 Both are very good, so I'm not going to compare them. But for us, it was easier to get access there. And they have very good power also in terms of the architecture, the GPUs that they have that we need for the computation. They're not CPU-based, they're GPU-based, using graphical

cards that are specific for computation. And they have lots of them in the last generation. And they are going to improve them as well with a new generation very soon. So we're really happy about that.

Rich Bendis: What's very interesting is, basically, you're functioning today, and right from the beginning, the way the rest of the world has been forced to function. You basically are interacting with people in Spain, Switzerland, and in the United States, but that was by design. And it shows how efficiently you can operate with that distance of separation with the technology that's available today to really enable Gain Therapeutics to continue to grow and go forward in spite of the pandemic, which probably hasn't impacted you dramatically because you've been working virtually right from the beginning.

0:16:12 So we'll pick up a little bit more of that. But let's go back to our Wall Street analyst, Taj. You've been following Gain. First of all, let's talk a little bit about why you got interested in advanced computing and its relation to the pharma and bio industries, and then what attracted you to Gain Therapeutics as a company you might want to follow.

Hartaj Singh: In terms of our initial interest, a lot of our interest in companies like Gain is actually derived from some of the success we've had covering companies like Moderna. Moderna has been viewed now as a platform technology. mRNA is unique, it's very scalable, and it can get to disease targets, as they're called, meaning targets that make a disease what it is, or if you can influence that target, you can somehow influence that disease, hopefully in a positive way.

0:17:08 And with mRNA, you can get to certain targets that you could not with small molecules, antibodies, etc. Ever since I did some work in computational neurobiology in grad school, I was always interested in what's called the in silico. There's in vitro, in a petri dish, in vivo, inside living organisms, and then in silico, inside a computer approach to drug development. The interest there has waxed and waned, and it's mostly been focused on patient data, actually, which you could really argue is not really drug development. But those two areas came together when I first was introduced to Gain Therapeutics because it led to a couple of aha moments for me. One was that Gain's approach, as Xavier has described far better than I can, of combining computing power with understanding proteins, their three-dimensional structures, and then

identifying areas of proteins that they can influence, sort of a gain of function, so to speak, could help in disorders where proteins misfold, are not correctly folded, at least initially, was fascinating to me.

0:18:20 That's been an area that people have tried to tackle over the last couple decades, have not had a lot of success, and Gain could be bringing a new paradigm with their computational approach focused on allosteric sites, away from the catalytic sites, so to speak. And then, secondly, this in silico approach, the platform approach that Moderna has demonstrated to us. Increasingly, we look for companies that are not just one-hit wonders in biotech. There's nothing wrong with being a one-hit wonder. If you have a drug that can help hundreds of thousands or millions of people, fantastic, more power to you, your investors, your management team.

0:19:01 But it's also nice if the company has a platform technology that can be scaled and used efficiently to go after different diseases once they've gone after the first disease. And that's the other aspect we like about Gain, which is that their approach will help with one protein, for example, in the beginning, but as they hopefully achieve success initially, they can start going after different diseases with a similar approach. And that platform approach actually has more value, broadly speaking, than just a one-hit wonder sort of approach that has been the purview of biotechnology over the last 20 years.

Rich Bendis: Thank you, Taj. And you're talking about many different approaches and many diseases. And we really haven't focused, Xavier, on where the focus for Gain is, in which disease indices, at this point in time. So talk a little bit about where your focus is today and where you see other opportunities for the future.

Xavier Barril: Yeah, that's really important. So we have actually created a portfolio of projects.

0:20:01 And all the projects that we have at the moment are in the rare diseases space. The pipeline includes GLP-1, GBA, which actually has two phases, one for Parkinson's Disease, the other for a rare disease called Gaucher. And then, we have another project on IDUA and GALC or Krabbe. So we have four different proteins, which actually turns into five different projects. And that actually also means, to what Taj is saying, that we have

validated the platform. Of course, each project on its own has its value. But we have managed to validate it. We can very efficiently discover allosteric molecules that have a biological effect. And that's not trivial. And that places us in a position where we can now scale, and we can apply the same technology to other projects, and not necessarily in the gain of function field, which is, of course, very interesting, but also in other aspects.

0:21:04 Proteins that don't have a functional binding site because their function is not, for instance, the catalysis of something, they are not enzymes. They may be involved in interactions, and they may have allosteric binding sites. And these create new opportunities. Also, new targets are appearing all the time. But all targets, if you target them in the allosteric site, this different mechanism of action elicits a different response, and this may translate into different therapeutic. So we're really looking forward to focusing primarily on the allosteric space, to collaborate with other companies, and to expand our portfolio, not in the rare diseases only, but beyond that.

Rich Bendis: So basically, with your technological focus, it takes a lot of money just to advance one. You've got potentially five in the pipeline right now, and you're talking about more. So is your goal with Gain Therapeutics to be a totally vertically integrated therapeutic company?

0:22:06 Or, as you mentioned, collaborate other strategics in those areas where they might be strong, for you to grow so you can go down parallel paths because you can't be all things to all people?

Xavier Barril: The latter is exactly what we want to do. We're very good at the very early stage and creating these new opportunities. And then, there's a lot of hard work on the biology side because in a company like ours, you can't have experts in all disease areas. And of course, the muscle that you need in terms of medicinal chemistry, structural biology, and so on is also important. So you cannot have many different projects on your own. But the technology really is scalable, and we would like to enter into more collaborations. We already have collaborations that are announced on the webpage, but we'd like to actually expand.

Rich Bendis: And as you're interacting--and this is for both of you--with your computational approach, how many of the big pharma and bio that you're interacting with are as sophisticated as you are?

0:23:08 Or are they basically looking at you as sort of a pioneer to help educate them in what they could be doing with their research in the future?

Xavier Barril: So I think in science, you have to be very humble. And I see that there are companies also doing allosteric drug discovery. It's a very hot field. It's very important. And I'm not going to say anything bad about their technology. But what we can say is, our technology has actually been tried, and we have delivered. And I think that's what sets us apart. I can also discuss the technical details, why we think it works better, and so on. But I think in the end, what matters is, we have created a number of examples, and we can reproduce that again and again.

0:24:02 So that's my take.

Rich Bendis: That was a good, humble answer, and you haven't made any of your strategic partners mad with that. Taj, what's your perspective there?

Hartaj Singh: So I completely understand and agree with everything Xavier said. The one thing I'd just like to point out is context. Pre-clinical drug discovery, meaning before human beings, takes about three to eight years on average. Those are the historical numbers. Then, once you get into the clinic, it takes you as little as three years and as much as seven to eight years to get hopefully approved. Now, what Xavier was talking about, which is interesting to us on Wall Street and to me as an analyst, were the investments that have to be made. There are many people that have quoted a billion, two-billion-dollar investments that have to be made. But to Xavier's point and to your point, we've noticed that there's this sort of area where companies really struggle.

0:25:03 It's not pre-clinical often because there, you just need a few million to tens of millions of dollars to develop those. And it's not in phase 2 to phase 3, meaning mid- to late-stage drugs because at that point, you've got a strategic who might come in with you if they think the opportunity is fascinating enough. It's the in-between space, when you're just getting ready to go into the clinic and your early stage, where there's a lot of risk, and that's where either VCs come in, and now increasingly, the public markets. Gain, probably ten years ago, and Xavier or Eric can give you

their own perspectives, also could have been funded by VCs. What we're seeing is more of these early-stage companies coming to the public markets where, essentially, the public investors serve analogous to angel investors, taking on that early-stage risk, while they're going about getting data and hopefully getting strategic investors. So that's the paradigm that we're seeing shifting in the biotech space, which is constantly in need of investment dollars.

0:26:00

Rich Bendis: And really, the bloom on this biotech rose right now is very bright. The question is, how long is it going to last, Taj? The number of IPOs, the amount of financings, the size of financings have just been unbelievable over the last couple of years. What's your projection as a Wall Street analyst on how long this is going to continue? And I think Xavier would be very interested in this as well as they're looking for additional rounds of financing.

Hartaj Singh: Absolutely, rich. So just two little thoughts here. One is a thought experiment. Let's just say we could somehow go back 100 years in time and space to 1921. We would be sitting here, and we were discussing this thing maybe some people were working on called the computer--I don't know if it was called that then--but people were already starting to believe in the idea that maybe a machine could help us with complex algorithmic problems. And if somebody told you that computers, 100 years from now, would be worth about 40% of the world's GDP, first of all, not only would you be shocked that such a thing could exist, but it would create so much wealth and so many jobs, it would probably stun you.

0:27:08 So in that context, let's think about where biotech is today. So the NBI, Nasdaq Biotechnology Index, in the United States is 205 companies. It's worth slightly over $1 trillion. Just to give you a frame of reference the Nasdaq Technology Index is worth about $17 or $18 trillion. So we're tiny compared to technology and other industries. So even though we've had a great IPO and secondary market, I do believe this will continue because I believe biotechnology's where the next generation of real alpha, money-making opportunities is going to be. We're so tiny compared to technology, and we're solving such fundamental problems in diseases, in healthy living, longevity, quality of life, etc., that I believe the investment

dollars will just continue to grow. Now, there will be lumpiness in those investment dollars. But I actually believe that these 205 companies in the Nasdaq Biotechnology Index, $1 trillion going to $10 trillion in market cap ten years from now, is much more likely than $16 trillion in the total Nasdaq Technology Index going to $160 trillion in ten years.

0:28:10

Rich Bendis: So you've just given an investment tip to our listeners, right, Taj?

Hartaj Singh: I tell people that if they want to send their kids to college, and their kids are being born today, they should be buying biotechnology index for the future for their kids' education.

Rich Bendis: And there might be another company on this podcast with us that might be a company to look at. So I'll stop with the commercial right there. Xavier, one of the challenges is, you're in such an area that is new because of the terminology, people talk about artificial intelligence, machine learning, quantum computing, supercomputers, advanced computing, computational methods, all of this. How can you dumb it down for the average Joe citizen to basically summarize what differentiates Gain Therapeutics utilizing this technology? Make it simple for us to understand.

0:29:02

Xavier Barril: Wow. [laugh] I wish I could do that.

Rich Bendis: [laugh]

Xavier Barril: But really, to what Taj was saying, but from a different perspective. When you look at science in general and science news, and then you compare it to general news, they're so gloomy and depressing. With science news, every day is like a holiday. There's news every day about incredible developments, more data being made available, new algorithms. Every day. It's just amazing. And in a way, I also feel like Taj. My favorite cartoon book is this famous book, *There's Treasure Everywhere* (Calvin and Hobbes). And I feel like that. It's an incredible moment in science where there are lots of opportunities. At the same time, you also have to be very aware of where we are. There are lots of opportunities because

we're starting from the origin. And we're growing at a very fast pace, and we're trying to catch up.

0:30:03 For us, it's not easy to just stay aware of all the different methods. But each method comes with its own limitations. And you have to be an expert to actually understand. It's amazing what people are doing with machine learning. But machine learning cannot solve all the problems. Compared to what I was doing during my PhD, it's outstanding, it's fantastic. But you have to be an expert to actually understand where you can use them and what the problems are that you can solve with it. And there's nothing worse than a guy with a hammer, so everything looks like a nail. In drug discovery, you cannot do that. You have to be aware of all the different tools that are out there and understand which tool can serve which purpose. And it's hard knowledge. There's a lot that you have to pick up over the years on the methods and the business of drug discovery.

0:31:01 So if I had to say something, particularly about Gain, it's that we can very, very efficiently discover molecules that have a completely new molecular mechanism of action. And actually, we can do that so efficiently that we're happy to try with different systems, with different proteins, and very early, we can decide if there's a biological response that can be particularly useful or not. Because the hard part in drug discovery, besides what Taj was saying about how you finance your molecules, is actually knowing if your target is going to give you something useful for people. You can play with the protein, change how it behaves, and this actually can be good, can be bad, or not have any effect. And that's what happens many times. That's why many clinical trials fail. But you need this initial molecule to actually know if you can do that.

0:32:01 So we are really in a unique position to actually try to discover molecules very efficiently, then find out if they can give you this pharmacological effect we're looking for. That's the thing I get more excited about.

Rich Bendis: So basically, efficient molecule discovery.

Xavier Barril: Exactly. And this molecule can be the start of a drug discovery project, and it can also look like a fantastic target, but end up not being one. That can also happen.

Rich Bendis: Yeah, I think one of the biggest challenges you have is focus because there are so many opportunities out there right now with your technology. And you probably get introduced to many more with the people who come in contact with you. "Can you do this? Can you do that?" And of course, as a scientist, "Sure, we can do that," right? But it's trying to stay focused with the resources that you have and shooting for that goal down the road.

Xavier Barril: Exactly. And finding the right collaborators is essential. Because if we can get excited working with somebody else who's a world expert on disease X or target Y–that's the best thing about drug discovery, the multidisciplinarity, working with colleagues in different areas, and really enjoying learning from each other.

0:33:15

Hartaj Singh: Can I just add to Xavier? As a Wall Street analyst who is covering Gain, what went into our thinking very broadly speaking when we looked at Gain initially, vetting them, what we looked for is, the biotech drug development is very heavily regulated. And there are a lot of publications around drug development. So we have a lot of data. And just like the law, we have a lot of prior art, so to speak, in the regulatory interactions that companies have. So we know what the pathways look like. So what we look for are companies that can speak that language, that are going down those regulatory pathways, but that have discovered or come up with a new methodology to try to speed up the interactions or find new drugs.

0:34:00 And that's really where Gain checked the boxes. So it's not that they're sort of revolutionizing, it's an evolution of approaches that are already happening. And so, we were very assured by a lot of the sort of blocking and tackling that they're doing day-to-day. But at the same time, some of their proprietary methodologies are what really excite us. And that's what we look for when we want to bring companies to our investors and to cover them.

Rich Bendis: We've been speaking with Taj Singh, who's an Equity Research Analyst. You just heard his buy recommendation for Gain Therapeutics. I think that's what that was. [laugh] And then, also, we have the Chief Scientific Officer for Gain Therapeutics, Xavier Barril. And I'm going to let you both do an open mic here as we close because this is something we could talk

forever on. But I think what we need to do is come back and revisit this to make sure that the analysts' projections are on track, and that Gain is staying on track six months from now or so.

0:35:03 But open mic for both of you. Last remarks you'd like to make, Xavier, on sort of what your future goals are for Gain and what we can look forward to.

Xavier Barril: I think we've covered most of it. I apologize if it was too verbose, actually. But I get really carried away sometimes.

Rich Bendis: You're a scientist though. We expect that of scientists.

Xavier Barril: Yeah, we enjoy that, we enjoy our work. And as I said, continue with the project we have, taking it forward to the next step, going to human trials. Then, the other aspect is to leverage the technology and scale it to other projects and to do that in collaboration. I think that's what we're most looking forward to.

Rich Bendis: Great. I think Eric Richman will be very happy with what you've said today.

Xavier Barril: [laugh] I hope so.

Rich Bendis: He better, right? And Taj, last remarks you'd like to make.

Hartaj Singh: Yeah, Rich, you've heard our sort of buy pieces on Gain. And again, listening to Xavier just makes me that much more jazzed about them.

0:36:02 We look for great science and management teams that are very passionate about what they're doing, and you can see I think both things with Xavier. I'll just end with this. More and more investors are getting interested in biotech. Not just institutional investors, but non-institutional investors, whether they're referred to retail, mom-and-pop, etc. It is really something fascinating. And what I would tell people is that, because biotech is so heavily regulated, it actually is sort of like a well-refereed game. The referees are the regulators, science, clinical data. And if you're willing to spend some time and effort understanding those referees, the rulebooks of the game, then this is a game that actually can really create some great investment returns for you, the individual or institutional investor. And that's why I'm so jazzed about biotech in the future, not just as an industry, but I think as an investment space because

in the area, even regular people can come, and by spending a little bit of time and understanding, can create some investment returns for themselves.

0:37:02

Rich Bendis: Well, you give me faith and confidence that BioHealth Innovation's in the right space, and my career is safe for the next year or two here, Taj. So thank you very much. And this has been very interesting, but we're not done with both Taj and Xavier because for the BioHealth Capital Region Forum, which is going to be on September 13 and 14th, two half-days that will be virtual, we're going to pre-record again what we call Bio Bites, which will be a small TED Talk. And Taj Singh from Oppenheimer's going to one, and Xavier Barril from Gain Therapeutics is going to do one. So in the next couple weeks when that's scheduled, we'll see what progress has been made. We'll get a chance to listen to this, see if there's anything else they'd like to embellish when they do their Bio Bites. So for all of those listeners who will also be attending the seventh annual BioHealth Capital Region Forum, tune in again to hear both of these provocative speakers that we've had on the *BioTalk* podcast today.

0:38:05 And we thank you all for listening. Taj, thank you for being on *BioTalk*. Xavier, thank you for being on *BioTalk*. Can't wait to talk to you again in the near future.

Xavier Barril: It was a real pleasure. Thank you very much again for the invitation and passion. It's great to share this space with you.

Hartaj Singh: Xavier, thank you so very much. Real pleasure. And Rich, thank you for having me on. It was a real pleasure.

Rich Bendis: Thank you very much.

Narrator: Thanks for listening to *BioTalk* with Rich Bendis.

End of recording