

**Steve Lewis 00:09**

Welcome to Speaking of Mol Bio, a podcast series about molecular biology and its trending applications in the life sciences. I'm Steve Lewis and my co-host for this episode is Dana D'Amico, associate global marketing development manager and science writer extraordinaire at Thermo Fisher Scientific. Today we dive into the wide world of scientific marketing and communications with our guest, Jason Amsbaugh, Founder and CEO of Samba Scientific I learned so much from Jason and Dana, about all the thought and care that goes into their work and the importance of responsible marketing in today's rapidly expanding scientific landscape. We hope you enjoy our conversation. We begin with Jason giving us a rundown of his company and the work that they've been involved in since their founding in 2018.

**Jason Amsbaugh 01:04**

Samba Scientific is a marketing agency specifically for biotechnology companies. We focus predominantly in translational applications. So, companies that are using patient samples, typically they're testing DNA, RNA, protein, to better diagnose disease or better treat disease. So, a lot of research tools companies, all of them are trying to grow really fast. What Samba Scientific does is really focuses on achieving their commercial goals, so that they can hit their revenue, and ultimately, they can bring their products to market faster, and really make an impact for the world.

**Steve Lewis 01:37**

That's great. Well, thank you for joining us today. We're going to kick it off with Dana here asking a little bit more about what might be interesting to her.

**Dana D'Amico 01:46**

Thank you. Oh, that's a very wide bucket. Because everything is interesting to me. I'm curious how you landed in the science marketing field because I believe you're a scientist beforehand. So, I'm curious about that.

**Jason Amsbaugh 02:02**

I started out, actually, as a biochemist and I have an undergraduate degree in biochemistry from Colorado State University. I worked in a lab for two years as an undergrad doing *Arabidopsis* research, I was really interested in plant biotech. After college, I got a job at Valeant Pharmaceuticals being a biochemist and supporting a crystallography core, as well as an assay team, doing drug discovery work on predominantly oncology, but also on antiviral platforms. And so my job there was to purify, you know, protein. So, clone constructs, express it, ultimately purify these enzymes, and then run all these different types of tests on it to make sure whether our drugs are basically working, and then just feed that back to the chemistry team for further development. I felt like I worked really hard, and I did a lot of good work. But at the end of day, I was more excited about talking about the work than I was about actually doing it in the laboratory. And ultimately, I networked into a sales role, I guess, first with VWR. And then ultimately, actually, with Thermo Fisher Scientific, where I could basically talk about science all day as a technical sales rep. Towards the end of basically a ten year, quite successful sales run, I guess I sort of wanted a new challenge. And so marketing seemed like it was an easy place, I had different changes in my life at that point I was willing to kind of take a step back from and away from commission type payment in order to become a product manager. And so that was my first role in marketing. The, so that was actually at Thermo Fisher Scientific as well. So, I was a product manager, I

went to business school at the same time. And I ended up working for a couple of different startups, based in the Boulder, Colorado area. The first was Archer DX, I was the first commercial hire there as a product manager and ended up becoming director of marketing. Along the way, I hired a sales team, I built their field application scientist team, and we took on these products to market and that was a real perfect blend between sort of the genomics on the cancer research stuff that I had done in sort of in sales and molecular diagnostics and wrapping that all together into an NGS product that was really clinical and really sort of played in that translational space. Being able to be creative, to work with really cutting-edge companies, to work with sort of young teams and develop people was really what inspired me, I guess, to found Samba and what we've been doing for the last five years.

**Dana D'Amico** 04:22

I'm curious what kind of challenges most of your clients come to you with? And maybe also what are the most rewarding marketing challenges to solve for these kinds of emerging companies?

**Jason Amsbaugh** 04:35

I guess there's a couple of different types of challenges. You know, from a business perspective, these are growth companies, and so they need to hit revenue and or they need to get venture funding. And so in order to get that financing, they have to hit their commercial goals and in order for them to grow, they have to sell their product. So now the actual problem that they have is in clear communication. And it really starts with just understanding who your audience is, what needs they have, I'd say first and then basically how your product fulfills those needs. One of the things that makes it sort of tricky, and maybe this will segue into the second part, what's most rewarding is, you know, I think when you're trained as a scientist, you're trained to be a skeptic and to really have good compelling data that you can believe in as we reproducible and peer reviewed, etc. So then when you're trying to sell a product to a scientist, you better have some pretty good compelling data. Not only that, but like every choice of words and imagery along the way really has to align with what you're trying to get at. So, being able to be clear about that being able to use data to inform and ultimately to persuade customers that this is a potential solution for them, I think is something that we do a lot of. There's very good companies out there that have very good products and sometimes they just sort of lack the ability to either speak clearly or speak clearly, I would say sort of at volume, not loudly, but basically just to get the word out. And so we've worked with client companies that have really, really cool tech. You know, we've done a great job over the years in terms of building up resources that people, you know, find them organically, are persuaded, you know, what I mean by online, and ultimately sort of fulfill that buyer's journey with products that are changing the world.

**Dana D'Amico** 06:12

I'm curious how you know what an authentic story is, or a product narrative? How do you know what makes a story authentic? And then how do you help your clients get to that story?

**Jason Amsbaugh** 06:27

At this point, there's a lot of experience that I guess that I draw from, personal sort of professional experience, around the technology and the applications that people are working in. I guess that's sort of the first part. It's like, who's using this? How do they use it? Is it meaningful? And sort of understanding, you know, whether or not, quite frankly, I would have interest in it as a prospective buyer. And so that's probably the first step. The second thing is sort of matching up, I guess, what people say versus the

words on the page. And so both with a primary point of contact, as you start to get a feel for them, and for the company, and then sort of seeing kind of what's on the page and sort of how that kind of spells out and making sure that those two things are aligned. The second part of your question, I guess, was how do we go about creating authentic experience. So there's a lot of things I guess that I do like to do, and companies that we work with are budget constrained, so not everything fits for everything, but the first thing is voice. In talking to these companies, we really try to understand sort of what that brand voice is and we use archetypes in order to basically get an understanding of sort of what the motivator is and sort of what this company talks about, and how they talk, and then starting to use that language. So, I'd say that's the first thing. Matching imagery that sort of matches up with that voice and that sort of archetype that they embrace is probably the second thing. And whenever possible, you know, if we can use employee pictures, or pictures of the actual lab, or the office, or the places where people work, there's nothing more authentic than real people. And I guess the last part, quite frankly, is going to be the quality of data. It's great to say that you have a gizmo that can do a specific, you know, kind of killer application very, very well. It's great if you can sort of demonstrate that. I mean, it's going to be much, much better, right. Depending on if you can create meaningful experiments, actually show it on solving the problems that you're talking about.

**Steve Lewis 08:12**

It's very insightful. Pivoting a little bit to get technical, as far as mol bio is concerned, what portion of your clients work, would you say requires knowledge and application of molecular biology?

**Jason Amsbaugh 08:27**

Probably 100%. 98%. There might occasionally be a company that isn't based in some aspect of molecular biology. It's around sort of that central dogma, right, that everything kind of comes into play. And so we do work with cell biology companies, for example, cell sorter instruments, and at the end of the day, like, well, what are they using? Well, fluorescently tagged antibodies. And so, I mean, really quickly, I guess, you know, even from a protein level, essentially, like we have to kind of get back to molecular biology. But the vast majority, I would say, of the clients that we work with do use molecular biology and we need to have a working knowledge of that in order to work with them.

**Steve Lewis 09:06**

What are the applications that you see?

**Jason Amsbaugh 09:09**

We work a lot in genomics and molecular diagnostics. You know, from a genomics perspective, we work with sequencing platforms. We work with library prep companies, bioinformatics companies, we certainly work with PCR-based companies as well. And in the RNA expression, I would say it's probably the last. What else? Single cell multiomics approaches. I mean, are there proteomics aptamers that people use for proteomic applications? Right. So even DNA that binds proteins, sort of specifically. Yeah, there's a lot of different applications.

**Dana D'Amico 09:41**

At Thermo Fisher Scientific, you know, I'm always looking for the new innovations and the different spaces like mol bio. I recently watched a marketing pros' presentation where the expert delivering it

was talking about how there's a story for every single product. No matter what, there's a reason the product exists, there's a niche that it fills that there's an interesting angle there. Sometimes it's kind of an art trying to figure out what questions to ask, without the technical jargon. So, I'm curious, A, like, if this is something you experience with your clients where they're not, they're not sure how to tell that story? And then B, what are your go to questions for finding that key kernel for your campaigns or your stories or whatever?

**Jason Amsbaugh 10:24**

Most companies that come to us have a pretty good idea of what their products do. They don't always have customers; they don't always have a lot of internal data. The opportunity there is thinking about how you could use this tool. Having sort of a seat, I guess, where we do, where we can see kind of large swath of the industry, we have a lot of ideas that can kind of come pretty quickly, in terms of how it could be applied, for example, if they don't necessarily know how to do it. I think that companies that struggle the most with that are early-stage software companies. And part of that is that, you know, they're ultimately a software they're trying to take a repeatable process maybe, you know, make it more scalable, more robust, something that we've done manually, right, and then can be somewhat automated. But they don't always have a good understanding of who their user is. In that type of situation, I know it could do all these things for all these people, but who needs it the most? And why do they need it the most? And how can we help them the most? Helps to sort of focus that conversation, at least on specific use cases, in terms of sort of where things where it could be used, essentially, and where they get the maximum benefit. The reason why we care about that maximum benefit is because those people pay the most attention to it, right? The people that benefit from it the most, if we can communicate that benefit to them, ultimately, will be the ones that they could turn onto it and start adopting it quicker.

**Dana D'Amico 11:40**

Sounds like your team has a lot of technical expertise in that that's a very key element in in successfully marketing these products is, is having that mol bio expertise?

**Jason Amsbaugh 11:52**

Yeah, so all of our account managers have PhDs in molecular biology or a related field. I think what we, as a company do a really, really good job of doing is, again, in translational space tying a testing technology to a disease state to a tissue type or a sample type and basically demonstrating why that technology works really, really good, or is particularly well suited, and that sort of killer application. Right, um, that sort of combines all of those things into a single cohesive story. So, maybe that right there is a secret. The killer app, right, that everybody's looking for. It's great that you have all these reagents, you know, what's the killer app for this one? Right, and whether or not that's, you know, cloning large constructs, for example, or, you know, being able to handle high GC or having really low error rate, right. There could be, you know, different attributes that those enzymes bring, or those different reagents bring. I don't know why I'm picking on DNA polymerases right now, but I am. But it's really that sort of killer app, identifying that and then being able to basically match up, you know, which one of these best completes the puzzle, right, which one of these pieces sort of best fits the need, right. Or that sort of gap that user might be experiencing.

**Steve Lewis 13:03**

When a new technology is emerging, let's use cell and gene therapy as an application area for recent years. And before that, I think CRISPR was a big blockbuster technology that got a lot of press around it. When you're designing your portfolio in terms of working with customers, do you see and target specific emerging applications to stay with the trends?

**Jason Amsbaugh 13:32**

I'd say it's a combination. One is, one is that we do like, so spatial biology, right has been huge, the last couple of years. Single cell, right, really big. So, we will purposely sort of seek out companies that are playing in those spaces. What we find is that the companies, that a lot of the companies end up coming to us are working in those spaces, because that is what's trending right now. Right. And so there's almost like an economic driver, you know, the industry is big, people identify it, there's new tools that are invented. Everybody wants to sell, you know, cell and gene therapy, you know, as a general concept, right. But that's everything from sort of biomarker identification on the front end through clinical trials deployment on the back end. So, a lot of times we end up working with sort of emerging technologies or in kind of whatever's hot, I mean, quite frankly, just because that's the companies that exist today are also working in those hot fields and that's really where they're directing their commercial focus. So, that's how we get exposed to it, I would say predominantly.

**Steve Lewis 14:31**

And with a different lens, Dana, how do you go about finding your topics for trends that are emerging?

**Dana D'Amico 14:40**

Yeah, and I'm also curious, I love that you brought up spatial biology. I'm curious to hear more about what trends you see but what I do what I hope a lot of scientists do but I'm actually not sure is read popular science news, as well as trade magazines, you know. So everything from Fierce Biotech and Science and Nature to, you know, Discover Magazine, National Geographic. And even like, see what's elevating to the level of fully national audience like Wash Po, New York Times, you know, are they talking about spatial biology? So, you can see those kind of macro trends. And then the trade magazine is where you can get a good sense of the micro trends that probably, you know, you can't talk to your family about at dinner, but it's really hot and mol bio or something. That is where I look. And then I like to ask the scientists that I'm talking to what they think also. I know spatial biology is hot. Jason, I'm curious what else, particularly in mol bio, is hot right now with your clients?

**Jason Amsbaugh 15:40**

Yeah, so um, so spatial, I mean, certainly hot. It's sorting, you know, in single cell, and both of those kind of blending into multiomics approaches, where we're looking at DNA, RNA and protein from the same sample or combinations of those things. Digital pathology, I mean, it's certainly taken off in the last several years. From scanning slides, essentially, to analyzing them, multiplex immunofluorescence, what I see is all of those things are basically converging at this point. You know, so digital pathology, you know, these multiplex immunofluorescence, or multiplex sort of FISH-type staining kits, with digital pathology and the extraction of these different features. For sort of, you know, clinical and translational, not clinical, but in translational use right now, I think, is sort of a convergence of kind of that spatial. And it's getting down to single cell resolution as well. Right. So, being able to basically look at genes and or proteins, you know, in situ, you know, on a given slide of tissue, for example, and being able to identify everything at single cell resolution. Well, one of the new advancements, I guess, that I'm really excited

about, that I've just been hearing about over the last month or so, is actually maybe another application of imaging, and this sort of ties into molecular biology because of precision medicine. So, the idea like in cancer, specifically, tumor profiling, sequencing DNA and RNA from a tumor in order to find, you know, oncogenic mutations to better diagnose and ultimately treat, you know, potentially enroll patients in clinical trials. But sequencing is expensive, and bioinformatics is expensive. And interpretation of that is expensive. And it all takes time. And so some of these emerging companies, for example, are simply looking at tumor samples, and then using predictive AI to basically based on the phenotype to predict a driver gene mutation. And some of these companies have started to do validation work so they're able to identify a genotype that matches up to something that, you know, historically, a pathologist could see. Now we have essentially, sort of trained AI tools looking at tissue and telling you that there's a KRAS mutation, and there's an NTRK mutation. So, that's kind of cool.

**Steve Lewis 17:53**

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**Steve Lewis 18:40**

Since you brought up the topic of AI, how is AI making an impact in scientific communication?

**Jason Amsbaugh 18:49**

Well we use it in a bunch of different ways. I'd say you know, that maybe the short answer is it speeding, speeding things up in terms of identifying sort of new ideas and kind of bringing those there. There's a whole host of I guess, applications, everything from who are we communicating with, brought to you by AI models that can filter on publication lists, you know, like an advanced sort of Google Scholar search, but all the way down to sort of the technologies, the instruments that are being used, for example, and specific applications. And basically, kind of serving that up. So, from a customer identification perspective, there's certainly AI being used there. From an ideation perspective, some of the writing tools can give you ideas around sort of key applications. It can certainly write a lot of copy, but the early writing tools, I would just say they were inventive and so you absolutely need people to sort of review, edit, and make sure that things are scientifically accurate, and we don't tend to use those writing tools for that reason. But a lot of idea generation. So, we use some of the image generation tools as well, to come up with sort of new ideas that then we can maybe share with a design team because it's so fast to create those ideas. It's not certainly publication ready or able to but it helps kind of get the idea across and or just create diversity of thought and those early stages.

**Dana D'Amico 20:05**

Yeah, that's a great question. We have been exploring different ways to use it like you mentioned. It does hallucinate a lot of facts, but it does it very convincingly in the language. So, I find that it must really help you guys to have the technical expertise because it can sound very right. And it might even sometimes invent published sources that are not, that don't exist. So, yeah, in terms of the actual writing not so much particularly in life sciences. But ideation it is, it can be great for assigning it a role,

like that persona, that you're testing it against and asking it, what it thinks, as assuming that role does help brainstorming. I think a lot of people are still figuring out how best to ask it the questions that you want. But yeah, it's generative AI is really interesting, and I guess this is just the start of it. So it'll probably get much better.

**Steve Lewis 21:07**

Context is everything, which I think Samba has a really interesting approach to having such a technical staff who can really probably put themselves in the minds of customers as well, I would imagine. This season, we are moving a bit broader. And so one of the thoughts that I had in scope of this conversation is, in terms of when does scientific communication go too far as a dual use, perhaps, concern? There have been some examples in recent media with startups, I think that can be very easily Googled, where I almost look at, you know, the messaging and marketing and perhaps highfalutin approach to building a story and a narrative turns a corner and becomes a lot more than marketing. What do you think about that as the approach of dual concern?

**Jason Amsbaugh 22:06**

Um, I think that's a couple of different things kind of come to mind. When does the story become a lie? Right. I guess it's sort of part of it, right? And, you know, and I guess, you know, when it's fraudulent in terms of leading people to believe, and or invest in things, for example, that don't exist, right. You know, within the industry, there's the concept of vaporware. For I guess, those that don't know what an instrument that doesn't exist yet. Right. Well, what can that instrument do? Well, let me tell you, an instrument could do everything, right, it can make your lunch and pat your back. And so I believe, I guess from my perspective, it's good to talk about the future. And it's good to be creative. Making claims about what something could do versus making claims, I guess around what something does do is really where I think it goes too far, especially when we're talking about the present and maybe misrepresenting that, as opposed to a future and desired state.

**Steve Lewis 23:23**

Continuing the conversation a little bit about dual use technologies and where there might be a concern. I'm curious, are there any emerging areas of molecular biology where you have to give consideration to that as the marketer?

**Jason Amsbaugh 22:59**

I don't feel like I've ever been in a situation, and we've worked with well over 100 companies at this point, where we ever felt like we were being misled by our clients around sort of any aspect or sort of capability, I guess, that a product could or could not do. Within the industry, I think that there's generally a very high regard for the truth and adherence to it. With regards to that, I think, part of that's the nature of just molecular biology laboratories, right. Where, you know, be an instrument or reagent, or something, essentially, as brought on one premise, when you try it out, and it doesn't perform, right. Like word gets out really, really quick, sort of around that, right. Companies will jump to try to make it perform and live up to sort of expectations. But it can very quickly, I think, sort of tarnish the reputation of companies, for example, like that.

**Dana D'Amico 24:10**

I'm also a freelance science writer. And so I do get approached by people asking to write and I have had the experience of folks either pitching pseudoscience or it particularly in physics, there are a lot of things that they're right on the verge on that would be very big discoveries, but that are contested in the community. And I have been approached by folks that have had papers recalled. Things where it does require you to do some legwork to figure out like what's the veracity of this? Does it have a strong technical basis? And for me, I would never take on those kinds of projects. A, because I don't believe in them but, B, because it matters to your other clients, right that you can discern between technically strong pieces and it matters for your overall reputation which matters for the reputation of your clients that you know if you're working with them, that you're a legitimate scientific marketer or writer.

**Steve Lewis 25:14**

Conversation, the word that keeps popping into my head for science communication and doing it effectively and ethically, is integrity. I'm just very, I would say impressed, and I learned a lot from this conversation, I think about how scrutinizing a marketers' role must be. And then on top of that having to, you know, be able to zoom out and understand audiences, but really be able to get very technical on these really, really specific applications. It's a really unique challenge and I think that ability to continue being critical on both sides from the learning and technical aspect and also to what you publish and put out there is, I think that's really impressive, I have a really new appreciation for that. As we come to a close for our interview, one of the questions that we always like to ask are, what are your keys to success?

**Jason Amsbaugh 26:15**

Keys for success? So, yeah, hard work, taking a problem-solving approach. I think sort of generally and just using that sort of readily, I think is very, very helpful. Because it can identify the most impactful actions, and then you can direct your resource at something that's going to give you sort of that maximum payoff. I would just like to also say, as an entrepreneur, and as a business owner, the idea of believing in yourself is something that we all tell our kids, that's the place to start. Taking that a step further and trusting yourself and knowing essentially that you can identify potential pitfalls, and that you can take action against them so that you will be successful. And whether or not that's, you know, in a job that you don't have yet, if you're making a leap, for example, from academia into industry, you're going to succeed based on your smarts and your hard work and your desire and the strength of your character. And the same thing, I guess, if you want to move, you know, from industry, from working for somebody, to working for yourself, again, believing in yourself, that you know, critically, that you can do this and that you're going to figure out how to do it, I think is really important. And that is been a strange life lesson I felt like that I learned kind of late in life despite a bunch of past success, it's something that's really come to play in my career.

**Dana D'Amico 27:32**

I am curious to learn more about the different types of roles that folks that are interested in breaking into a career in scientific marketing might be on the lookout for. So, what kind of different roles or companies or titles would someone maybe look for at Samba or elsewhere?

**Jason Amsbaugh 27:52**



Good question. So, there's a number of different roles in our organization or other life science organizations, in marketing, that people with technical backgrounds would be really, really good at. So, I'll tell you maybe first about my company Samba. We have technical writers, these are people essentially, that have lots of experience in the laboratory, you know, what they really focus on sort of writing. What makes them really good at that is being able to kind of dial up or dial down the complexity of their language for a given audience or for a given sort of piece of work. So, flexibility and ability to communicate at different levels is probably a big skill for a scientific writer. Another job that people could look for is actually in digital marketing. People with a technical background can do everything from sort of search engine optimization to ad planning, Google AdWords and things like that. Creation of online landing pages and basically writing internet landing pages, where you would learn more about a specific application or technology or service. So, the ability to understand for example, different applications, or different sort of keywords can be really critical there, just in terms of choosing the right language, that sort of best represents what it is a client, or a company is sort of working with. There're also roles in design. One is just from a graphic design perspective, to be able to, to take a complex idea and really break it down. We spend a lot of time creating explainer videos and explainer animations that do exactly that. That take a pretty complex subject, for example, molecular biology, you know, NGS library prep, for example, or different cloning applications, and break that down simply so that people can kind of clearly understand that. Other aspects of design include informational design, so more than just infographics, but how do you create a picture that shows a quantitative representation of the data that's been presented? We've worked with people in the past, PhDs that were self-taught web designers and web developers essentially, right. And even currently on our team, we've got a guy who came out of the lab had a working knowledge of R and Python, and is now really like leaned heavily into AI in terms of content generation for our job board, greatness.bio, in terms of generating content and imagery, for example with that, but with a basic programming background then you can really use some of these advanced tools to create this, this informational content kind of quickly and efficiently. Other roles I think people interested in scientific marketing could also play in application scientists. People that can both communicate the work in the lab that can also talk to customers explain data and help troubleshoot experiments, as well as show how to use reagents and or instrumentation. I could keep on going,

**Steve Lewis 30:45**

Tackling unique challenges and creativity all in one. Final question from my side. Very curious, what advice would you have for somebody who might be listening to the podcast thinking about getting into scientific marketing or science communication.

**Jason Amsbaugh 31:05**

I would encourage them to think about their career progression in terms of what they can learn in the next position and what they want to learn in the next position. So, really taking an approach where they understand sort of where they're at, and they want to know, or they understand sort of where they want to end up, and then trying to sort of connect those dots. Kind of one job and one skill set at a time and looking for opportunities that will help educate them. I think on the job education is much more important and applicable I would say than any type of academic education, personally. And so, I guess encouraging people to move in the general direction is okay, if even if the next job isn't the perfect one for you. By moving closer, or essentially in that direction, things will build, and you'll get to where you want to go.

**Steve Lewis** 31:52

That was Jason Amsbaugh, CEO of Samba Scientific. Special thanks as well to Dana D'Amico, associate global marketing development manager at Thermo Fisher Scientific for guest hosting this episode with me. Speaking of Mol Bio is produced by Matt Ferris, Sarah Briganti and Matthew Stock. Join us next time for more fascinating discussion about the amazing world of molecular biology. Until then, cheers and good science.