

# Speaker Stories

## Spencer Marsh, CSO at The Tiny Cargo Company



**Exosomes  
Europe**  
by informa...

November 4-5 2025  
Amsterdam Marriott Hotel  
Amsterdam, Netherlands



### Could you introduce yourself and tell us about your company's unique mission in the exosome space?

My name is Spencer Marsh, and I'm the CSO at The Tiny Cargo Company; I got my start in the exosome space in graduate school, investigating methods to create a novel cardiac tissue patch. My research was focused on the intercellular communication between fibroblasts and cardiomyocytes, and naturally, I found exosomes to be a major component of their communication and interactions. I then did my postdoc in Dr. Robert Gourdie's lab, where we created the IP that now forms the backbone of Tiny Cargo; the isolation of exosomes from milk, platform-based loading of pharmaceuticals, enabling of shelf stability of milk exosomes, and compositions of matter of our main therapeutics loaded into milk exosomes.

Our mission is to provide the benefits of milk exosomes to all humankind, with our first goal being to advance the use of peptide-loaded exosomes by oral administration to treat a range of diseases. We believe milk exosomes are the optimal drug delivery vehicle for a wide array of drugs, and we regularly take on projects from companies and academics who wish to enable their drug with shelf stability, systemic bioavailability and oral administration- given our goal, we believe this positions us well within and outside of the exosome space to leverage the incredible benefits of milk exosomes.

### What was the pivotal moment or discovery that sparked your personal interest in EVs?

In graduate school, I was investigating how to best engineer a cardiac tissue patch, and found that the stressed tissue constructs produced 10x the number of exosomes than did the healthy ones;

upon transcriptomic analysis, we found that the stress we were providing was far too high, and we were promoting cell death in the electromechanical environment we were inducing. Through this analysis, we found that we needed to scale back our mechanical stimuli, and when we did, the tissue constructs performed much better. Being able to learn about something we can see (tissue graft) through something we are physically unable to see (an exosome) was a pivotal moment for me that truly highlighted the immense power that exosomes contain. From there, I have consistently been blown away at the therapeutic and nutraceutical power of exosomes, but that was my first peek into the world of exosomes- and I've never looked back.

### From your perspective, what is the single biggest hurdle (be it in manufacturing, clinical translation, or regulation) that the EV field must overcome to realize its full potential?

There are an incredible number of hurdles for us, although one by one there are companies who are succeeding in these various areas. GMP grade manufacturing is a major one, although some groups have cracked that nut; mostly those who are using controlled bioreactors, which allow for an easier transition. Regulatory is also a concern, although frankly that will mostly be an issue for the first company to break through to FDA for each class of exosome- once the standards are put in place, it will become easier for each company who follows.

I think the biggest challenge facing exosomes and EVs right now is to educate those outside the field of what exactly these are; educating pharmaceutical companies of their power, educating consumers about the benefits and rationale for use, educating FDA on the inherent heterogeneity that is found within a population of EVs.



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Through consistent communication and education of those who are not solely focused on exosomes, I believe the field will break through in a big way- you can see this progress in the cosmetic space, where exosomes are now considered a major innovation- while pharmaceutical attraction will surely come, ensuring that decision makers are educated as to what an exosome is, what exosomes from different sources do differently, and what the right exosome class is for various applications is going to be critical if we wish to continue to make progress in the field.

**Looking ahead, what innovation or breakthrough on the horizon are you most excited about, and how do you see it transforming the development of EV therapies in the next 3-5 years?**

Cell derived exosomes can completely displace cell therapies, and they are on pace to do so in the next 5 years- once a success like that occurs, the floodgates will open and exosomes will enter into ever-more spaces. Beyond what breakthrough exosomes will make, I really believe that better methods of visualizing and counting exosomes is a requirement for adequate CMC control of facilities- right now there are a few pieces of equipment that use Brownian motion to monitor particulates in a solution, but the fact is that this will not suffice forever; an innovation in our ability to count, visualize, and measure exosomes in solution accurately, reliably, and consistently would be a major innovation that would greatly accelerate exosome developments.

**Without giving too much away, what is the key takeaway you hope the audience will get from your specific presentation at Exosomes Europe?**

Construction of a manufacturing facility is an incredibly time consuming and cost intensive process, but is worth every penny and minute spent once the manufacturing line starts up! Also, exosomes are not just human cell derived, and there are a bounty of exosome sources out there that can do incredible things. I hope that the audience hears about a unique exosome source and wonders- where else can we find exosomes that can enable specific advancements that we need, such as shelf stability, oral administration, or other benefits? Exosomes are everywhere, but it takes ingenuity to find them.

**What are you most looking forward to at the meeting in Amsterdam?**

Reconnecting with others in the field, and making new connections- the best part of these meetings that are focused on exosomes is that you can take a deep dive with a number of exosome-centric companies and learn from them, while also imparting lessons that you've learned along the way.

For exosomes to truly break through, it's going to take a collaborative effort, and that's exactly what this group of companies is doing. I'm very excited to present our work, and hear about all the advancements made by others in the field.



**The Tiny Cargo Company will be joining us at Exosomes Europe this November in Amsterdam.  
Register now and secure your spot.**