

SPEAKER INTERVIEW



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During the 2019 edition of the PREDiCT: 3D Tissue Models Summit, we caught up with StemoniX ahead of their presentation to gain insight on their current work and future projects!

Where are you seeing uptake by industry in microOrgans and 3D models?

There is definitely an uptake on the investigative toxicology and safety pharmacology side. We are seeing increased use of our microBrain 3D neural spheroids across several areas in pre-clinical drug discovery mainly in toxicity testing for both predictive and reactive approaches. This also applies to disease modelling where patient-derived tissues sources can be used to generate novel human-based models, target ID, and focused screens where our customers are either interrogating the disease models or the broad neurobiology of the healthy neuronal tissue. As StemoniX is very involved in this space, we would love to see more uptake in discovery and eventually see a new drug partially developed by using these systems.

What are the key priorities the industry has to solve to accelerate microOrgans or 3D models in preclinical?

Keeping in mind the safety pharmacology and toxicology realms, I think that a key priority is to continue to demonstrate compelling case studies, showing that these platforms are able to pick up

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Accurate and predictive clinical translation of these models is essential for the industry as a whole. Our focus is on demonstrating the utility of our models be it predicting tox or replicating disease biology. Secondary will be to implement spheroid and organoid innovations at a scale that is suitable for early accurate decision-making to avoid costly last minute adverse findings. Third will be continued supply of high quality and reproducible material.

Meeting these goals will ultimately reduce drug development time and costs, minimize animal use, and ultimately result in safer and more effective medicines.

▀▀ We are trying to help the field by producing our platforms in a robust large-scale manufacturing approach with QA/QC oversight, which allows us to control reproducibility and cost while implementing high standards for functional quality control. ▀▀

I see StemoniX is one of the pioneers in developing 3D heart and brain - can you talk to us about this journey so far? And what's the next mini organ you're thinking about?

It has been a great and continuing journey that we joined very early on, which has allowed us to be at the forefront of the developing and implementing those models. We have some of the top organoid scientists, many coming from the lab of Alyson Moutri, and it has been an exciting challenge to build on ground breaking work such as his, develop and enable case studies demonstrating the advantages of these systems, and make them accessible to large scale industrial research. Our future plans include expanding our neuro and cardiac portfolios by adding additional disease models, providing solutions for unmet needs in metabolic and oncology diseases, and tackling the large amount of data these complex systems provide. We are also working on a three dimensional cardiac and a pancreatic platform!

We've seen a surge of interest among pharma & biotech using 3D models to give them better predictive results in preclinical. That said, reproducibility, cost and quality are their main concerns. What are your thoughts?

These are valid concerns that can apply to any experimental models and are always at the forefront of new models. We are trying to help the field

by producing our platforms in a robust large-scale manufacturing approach with QA/QC oversight, which allows us to control reproducibility and cost while implementing high standards for functional quality control. The complex models are more expensive than immortalized 2D cell lines, but that cost must also be balanced with the savings of early identification of toxicity as well more rapid development of efficacious drugs.

Thank you for your continual support to our 3D Tissue Models Summit, what would be the 3 words you use to describe your experience? And what's your message to our community?

- Interactive, Educational, Productive
- Let's continue to work together to find the best applications (fit-for-purpose) of these exciting new models.
- The conference is well crafted and is a good open environment where the community has the opportunity to have productive discussions. We get a lot out of it and I think the way the program was assembled was very thoughtful!

Find out more about the PREDiCT Series of Events here

