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User at a Glance

Eppendorf knows the users of its products and their specific requirements for various applications very well. Here, we would like to introduce some of our valued customers - or rather: let them introduce themselves by answering five questions - about themselves, their employer and current challenges they face in their market.

For this issue we have interviewed Leopold Koenig about his work and private life. He is a Research Scientist and Project Manager at TissUse GmbH in Berlin.

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What three words would your colleagues use to describe you?
 I think they would describe me as a determined, creative, and positive person.

Where and how did you spend your last vacation?
 I've spent my last vacation at the west coast of Thailand during winter. Besides the many crowded tourist strongholds, Thailand still offers many remote locations where one can enjoy a laid-back life under the palm trees.

Another highlight is undoubtedly the world-class cuisine of Thailand, which offers new treats at every corner.

What do you especially like about your job?
 I especially enjoy working in a young and highly innovative team, in which I am able to work with multiple game-changing technologies.

Microphysiological systems are a new powerful tool that enables researchers to combine multiple organ models in a closed circuit while at the same time providing a more physiological environment. In combination with the possibilities to create patient-specific models from induced pluripotent stem cells, I am confident that we will see a paradigm shift in drug development in the next decade. Being part of this development is an exciting opportunity in my still early career.



Leopold Koenig, Research Scientist and Project Manager at TissUse GmbH in Berlin, Germany.

How did you get in touch with Eppendorf bioprocess equipment?
 I first got in touch with Eppendorf bioreactors when I started working on the development of pluripotent stem



cell-derived organ models at TissUse in 2017.

For our Multi-Organ-Chip we regularly need large numbers of stem cell-derived organ models. Because manual production of differentiated organ models is time- and cost intensive, we were looking for an automated bioreactor system running at small volumes that would enable the cost-effective production of pluripotent stem cell-derived organ models in a defined environment. Our laboratory is now equipped with four DASbox® Mini Bioreactor Systems, which we regularly use for the production of neuronal spheroids.

In your opinion, what is the most exciting challenge in your area of science at the moment?

There are multiple exciting challenges in the field of microphysiological systems. One is the vascularization of the organ models and the connection to the microphysiological circulation. Real perfusion of the organ models will dramatically increase nutrient, oxygen and substance transport in and out of the models and therefore lead to a higher degree of maturation. This would ultimately elevate the functionality and therefore the predictability of the models to a new level.

Another exciting challenge is the development of diseased tissue models, which is currently fueled by the new possibilities of genome editing. Once these models are ready for the market we will be able to test potential drugs directly on diseased organ models.