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This week's *Science First* highlights exciting news about "organs-on-chips" technologies shared at the 9th World Congress on Alternatives and Animal Use in the Life Sciences last month. Recall that organs-on-chips are small microfluidic devices that can be cultured with human cells which mimic organ-level structure and function. As such, they provide innovative, physiologically-relevant *in vitro* models with the potential to significantly reduce the use of animals in research.

At the meeting, Dr. Uwe Marx, founder and CEO of the German-based company TissUse, discussed the current developments and applications of "organ-on-chips" technologies. While several researchers have already begun linking together organ-on-chip devices to better emulate the complexity of the human body, the latest research coming from TissUse has been focused on generating a four-organ-chip prototype, in which four different organs-on-chips are interconnected so they can interact on a physiological level.

Image sourced from TissUse

Ultimately, the goal is to develop a "human-on-a-chip" platform, in which *ten* organs-on-chips are interconnected—a project estimated by researchers in the field to be completed in just three years. Many believe this technology will allow scientists to predict human responses much more accurately than existing animal experiments, without the high expense and ethical issues.

Dr. Marx has high hopes for organs-on-chips, noting, "If our system is approved by the regulators, then it will close down most of the animal-testing laboratories worldwide." We certainly look forward to that day and support the development of such human-relevant, *in vitro* approaches that will reduce animal use in research.

What do you think of this week's article? Send you questions and comments to sciencecorner@navs.org. I look forward to hearing from you.

–Dr. Pam Osenkowski, Director of Science Programs

Artificial micro-humans could spell the end of animal testing
September 2, 2014

Germany-based company TissUse has showcased its new artificial micro-human platform which enables the testing of drugs or chemicals on a set of miniaturized human organs emulating the biology of the human organism at the smallest possible biological scale.

For more information see: *CosmeticsDesign-Europe*

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