

# Google glass meets organs-on-chips

March 18 2016

---

Investigators from Brigham and Women's Hospital (BWH) have developed hardware and software to remotely monitor and control devices that mimic the human physiological system. Devices known as organs-on-chips allow researchers to test drug compounds and predict physiological responses with high accuracy in a laboratory setting. But monitoring the results of such experiments from a conventional desktop computer has several limitations, especially when results must be monitored over the course of hours, days or even weeks.

Google Glass, one of the newest forms of wearable technology, offers researchers a hands-free and flexible monitoring system. To make Google Glass work for their purposes, Zhang et al. custom developed hardware and software that takes advantage of voice control command ("ok glass") and other features in order to not only monitor but also remotely control their liver- and heart-on-a-chip systems. Using valves remotely activated by the Glass, the team introduced [pharmaceutical compounds](#) on liver organoids and collected the results. Their results appear this week in *Scientific Reports*.

"We believe such a platform has widespread applications in biomedicine, and may be further expanded to health care settings where remote monitoring and control could make things safer and more efficient," said senior author Ali Khademhosseini, PhD, Director of the Biomaterials Innovation Research Center at BWH.

"This may be of particular importance in cases where experimental conditions threaten human life - such as work involving highly

pathogenic bacteria or viruses or radioactive compounds," said leading author, Shrike Zhang, PhD, also of BWH's Biomedical Division.

**More information:** Yu Shrike Zhang et al. Google Glass-Directed Monitoring and Control of Microfluidic Biosensors and Actuators, *Scientific Reports* (2016). [DOI: 10.1038/srep22237](https://doi.org/10.1038/srep22237)

Provided by Brigham and Women's Hospital

Citation: Google glass meets organs-on-chips (2016, March 18) retrieved 19 April 2024 from <https://phys.org/news/2016-03-google-glass-organs-on-chips.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.