New transportation technology for microcargoes

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Scientists in Japan are reporting the discovery of a new transportation technology for moving ultra-small cargoes in the coming generation of micromachines and laboratories-on-a-chip. The report by Kenichi Yoshikawa and colleagues is scheduled for the March 6 issue of ACS' *Journal of Physical Chemistry*.

The study describes successful delivery of a simulated microcargo of paper with chemical waves produced by a reaction that has fascinated scientists and students for 50 years. Termed the Belousov-Zhabotinsky (BZ) reaction, it produces a continuing series of waves in a water solution.

In the report, researchers describe the first use of those waves to move objects in a directed, controlled fashion. "They can be used for the transport of material objects through a desired delivery route," the report states. "The combination of carrying and controlling waves with the proper timing of initiation allows us, in principle, to deliver freight over a chosen path, with the ability to switch the path if desired."

Source: ACS