

## Fabrication of liquid metal can be self-moving, linked together to create electrical circuits

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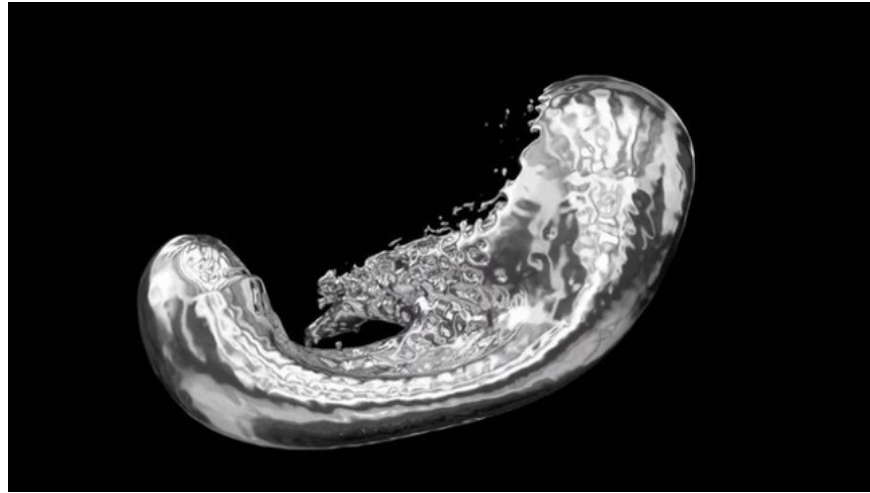
Many scientists have embarked on **plastic electronics** research but have failed to achieve results. Tests show that silicon is also fragile like mirrors and glass. Even flexible materials such as copper are not really "flexible" or malleable to become a phone-making material.



Recently, researchers at RMIT University, Melbourne, Australia have achieved amazing results when successfully developing a technique that can make **liquid metal move and align itself** with magnetic effects. Electronics designed from these liquid metals are not only flexible but also easy to shape.

And when the liquid metal entered the game, most likely everything would change.

Thin metals act like **living cells** , move around and communicate with each other to constantly create new circuit connections, not fixed according to pre-made manufacturers.



When at this room temperature, they can create assembly components of machines that can be used in touch or 3D printing, creating an electrochemical system, most notably making **electrical equipment that can be pulled stretch or shape** . Controlling how liquid metal works is the key to all these applications.

By using chemistry, the team created objects that could move, turning the switch on and off. With a metal core conductive and surrounded by semiconductor oxide, this liquid metal called galinstan has gathered many of the essentials that an electronics need.



To better understand how liquid metal moves, the researchers proceed to insert a **drop of galinstan** into the aqueous solution. " *Dropping a drop of liquid metal into another liquid with ionic components can be used to lose their symmetry, allowing them to move freely, but until now we have not understood. The basic interaction between liquid metal and other liquids surrounds it,* " said the head of the research team, Kourosh Klantar-zadeh.

" *We adjust the concentration of acid and salt in the water to look for other effects,*" he explained. "*The change in the chemical structure of water makes liquid metal droplets move and hands change shape without any impact of any external physical element.*"

The great thing is that **this liquid metal is not toxic** . The melting temperature of liquid metal is 29.8 degrees C but when mixed with indium and tin, its melting temperature drops to 0 degrees C.



To make it easier to visualize liquid metal, plastic electronics, we can relate to the **Destroyer** film with the T-1000 killer model, made entirely of liquid metal.

In *Destroyer*, the T-1000 robot does not need a perfect environment to operate. Taking it as a mold, we still need to study to push the application of the liquid metal further. But you can be sure that the future of flexible electronics is not too far away.

And then you will not have to fear the wrong sitting scene or accidentally drop a "fragile money department" anymore.

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