

UNDER THE MICROSCOPE

This Instagram creator is combining physics, art and experimentation

Do you have a spirit animal? What about a spirit chemical? Polish artist Kamil Czapiga says his spirit chemical is a special type of magnetic liquid. He uses the liquid in the stunning abstract images and videos he makes for his Instagram account, Cosmodernism. The name comes from the inspiration Czapiga finds in the cosmos, or universe, and abstract modern art. The account is filled with awesome patterns and bright colors, many made under a microscope by mixing the magnetic liquid with inks, paints and other chemicals.

Placing magnets near ferrofluid can change its shape!

The images might look like they were made on a computer. But “these are all real objects in an unreal perspective,” the Cosmodernism creator writes on his website. “Science fiction but without the fiction.”

So, how does he do it? It’s all thanks to the magic of magnets. The liquid Czapiga uses, called ferrofluid, is made of tiny magnetic particles suspended in oil or water. He places a magnet close to the liquid to introduce an invisible field that pushes and pulls these particles. This moves the particles around in different directions and warps the liquid into spikes and funky formations.

MAGIC FLUID!

Ferrofluid was first invented in the 1960s by a NASA engineer who hoped to use it in rocket fuel. Now, it’s mostly used in computer hard drives, loudspeakers and medical technology.

To create his otherworldly videos and images, Czapiga adds dyes and colorful chemicals to the ferrofluid. Then, he puts

the mixture next to super strong magnets. Everything swirls and shifts into beautiful patterns. When he’s happy with the result, he captures it with his camera. Czapiga built the setup himself — and it’s partly made of Legos!

CREATING MASTERPIECES

Czapiga started the project after his friends gave him a microscope as a birthday gift. He started taking pictures through the eyepiece with a smartphone and learned about the world of microphotography. “I wanted to explore and expand my knowledge of its secrets,” Czapiga says. The Cosmodernism account is inspired by the complex processes of the world around us, from teeny-tiny atoms to the giant scale of galaxies.

Even though he uses scientific instruments and materials, “I definitely put myself on the side of the artist,” Czapiga says. He uses intuition and trial-and-error to guide his art. He thinks of the microscope, which is usually found in scientific laboratories, as a creative tool. For the artist, it’s “a toy that gives me access to a

This image isn’t CGI. It’s what ferrofluid looks like under a microscope!

THE ARTIST:
Kamil Czapiga

world that cannot be seen with the naked eye.”

You don’t have to be a chemist or an engineer to see the beauty of Czapiga’s experiments. He believes that what really matters is admiring the world around us. “Keep it weird and stay curious!” Czapiga says. “The beauty is all around us. Sometimes you just need to look closer.” Sometimes, that beauty is even microscopic.

— GWENDOLYN RAK