

# TRASH-BIN BUTTERFLIES

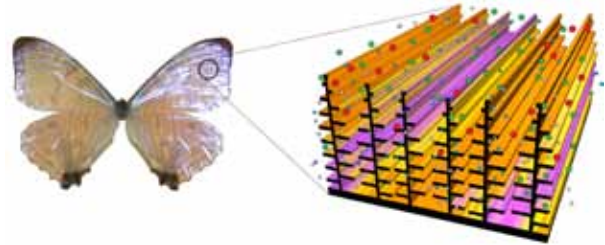


"I started to notice these crushed beer cans lying around my neighborhood, so I brought a bunch of them into my studio, and the very thin quality of the aluminum started to suggest butterflies," says Paul Villinski, whose installations hang in private residences, museums, and even hospitals. "I started from this very specific subject matter, and over a matter of years, it became much more about a generalized up-cycling of littered material into artwork."

Made primarily from disposed-of items such as beer cans and broken records, each butterfly takes Villinski several hours to make. And, like real butterflies, each one is completely unique given the nature of the recycled materials. He cuts the metal, chases the form with sandpaper and files, and uses a jeweler's grinder to add details before gilding them with 24-carat gold leaf, blackening them, or painting them with a saturated vinyl paint.

Each installation ends up with about 150 butterflies in a swarm that Villinski designs on the spot. "I start by installing a single butterfly, and then I install the one next to it, and so on. Often, they want to gather into a certain shape, or fly off on a particular tangent, and I let them. They function both as marks in these abstract, three-dimensional paintings, and as actors in curious narratives." 🍀

# WINGS AS CHEMICAL SENSORS



The global research team at GE discovered that thin, delicate butterfly wings might be even more effective than a machine when it comes to sensing dangerous chemicals.

Along with the Air Force Research Laboratory, the State University of New York at Albany, and the University of Exeter, GE's global research arm recreated the scales of butterfly wings. By studying the nanostructures of the scales, the team has been able to create a small sensing platform that mimics the characteristics. GE's system instantaneously detects chemical threats and could be used in the future for further detections of danger. "GE's bio-inspired sensing platform could dramatically increase sensitivity, speed, and accuracy for detecting dangerous chemical threats," says Radislav Portyailo, GE's global research principal scientist and investigator. There's no word on whether the GE invention will bear a colorful design like real butterfly wings. 🍀



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