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In Cold Fusion 2.0, Who's Scamming Whom?

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# In Cold Fusion 2.0, Who's Scamming Whom?

The researcher claiming a cold fusion breakthrough is in the midst of a \$100 million lawsuit, all while others race to duplicate his efforts, trying to prove that *this time* it's not all smoke and mirrors.



E-Cat.com



By David Hambling Apr 20, 2016

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The name "cold fusion" is so toxic the researchers who work on it nowadays don't even call it that. After years of being rejected by [the scientific mainstream](#) over false claims and outsized hype, they've taken to calling their field low-energy nuclear reactions (LENR). But whatever you call this field, something strange has been happening in the last few years, with reputable companies like Toyota and Nissan [openly sponsoring LENR research](#) and other big players have taken an interest (even if they've preferred to avoid the toxic label).



Now, it's about to come to a head.

Much of the interest is focused on a nickel-hydrogen process, and in particular the extravagant claims Italian inventor Andrea Rossi has made about his Energy Catalyser, or E-Cat, which he has been working on since 2007. Rossi's invention is basically a cylinder the size of a wine bottle, filled with powdered nickel and hydrogen, which generates vast amounts of heat by an unspecified reaction. (Rossi, of course, won't tell the world how E-Cat works. [Here's one "best guess" at the physics.](#)) Earlier experiments with nickel-hydrogen claimed to create barely measurable fractions of a watt of excess heat. Rossi, meanwhile, claims to produce hundreds or thousands of watts. If this were true, it could be the key to the limitless, cheap, clean energy cold fusion backers have always promised.

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**"IT WAS OBVIOUS TO ME THEN THAT THIS WAS A FRAUD" — STEVEN B. KRIVIT**



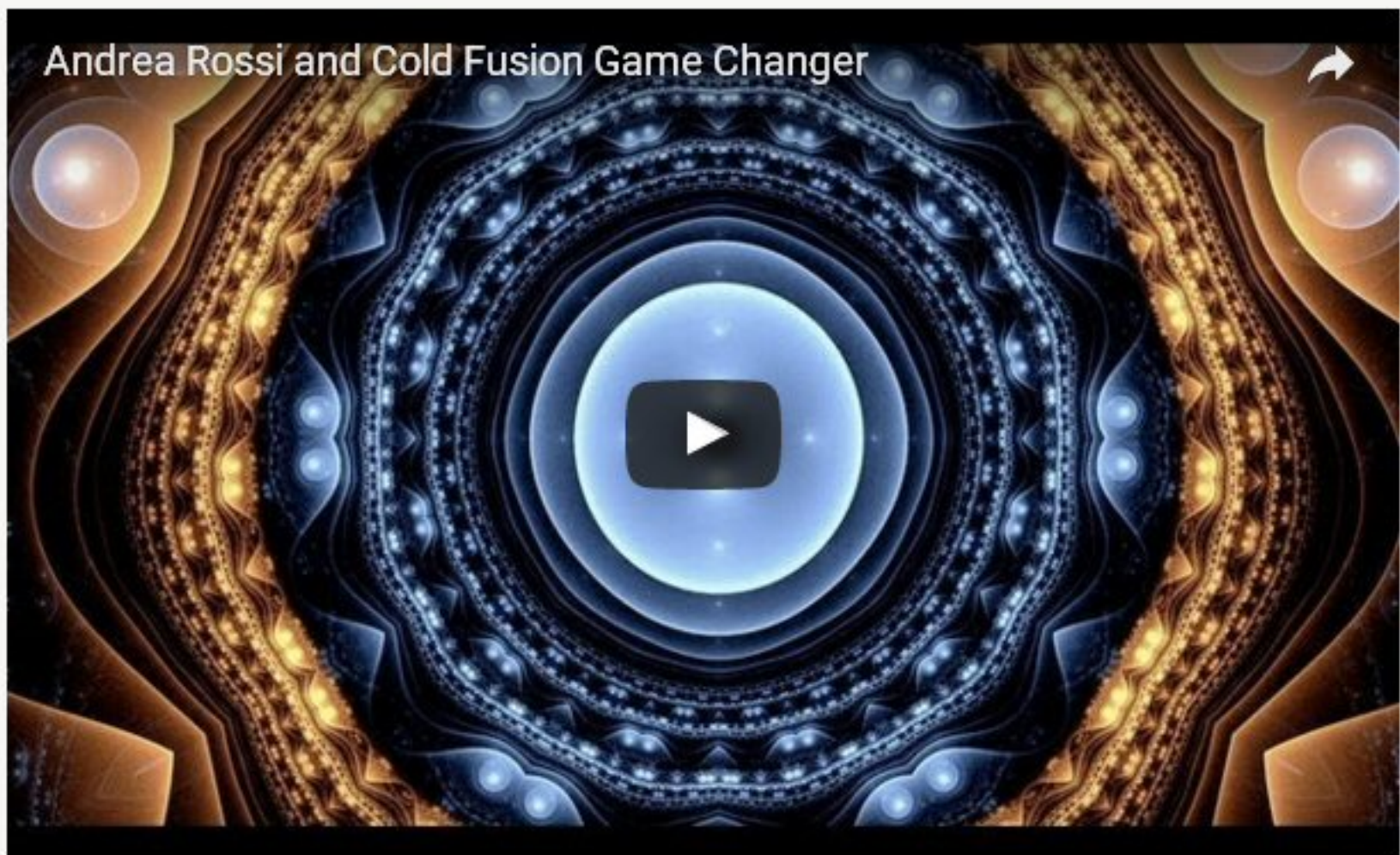
We've been down this road before, of course, and such extraordinary claims require extraordinary evidence. All previous positive results from cold fusion experiments have been unreliable and fleeting. ("There seems to be a recognition among proponents that the experimental set-ups do not produce reproducible results," one hot fusion physicist at [ITER](#) told me.) Yet Rossi claims energy output every time he switches it on.

Companies and researchers have been trying to duplicate Rossi's work and confirm that it's real. The results so far: Hope, anger, unverified claims, a \$100 million lawsuit, and a whole lot of people hoping to cash in on a scientific gold rush.

## The Claim

In 2014, a [long-awaited independent test of the E-Cat](#) concluded that the device averaged 2,800 watts of output from a 900-watt input over a 32-day period. This is more than any chemical reaction could possibly produce. It suggests either a breakthrough nuclear reaction or outright fraud. Skeptics ripped into the report, questioning whether the testers were truly independent and [whether Rossi might have rigged the results](#). Others are busy trying to figure out the "secret sauce" in Rossi's reactor and reverse-engineer the technology.





Rossi's style is flamboyant. He issues proclamations to the world in his unique brand of English in the comments section of his website, the grandly titled [Journal of Nuclear Physics](#). But his previous unsuccessful activities included an Italian project to turn garbage into fuel and a thermoelectric generator. [Petroldragon](#), the waste-into-fuel project, failed partly because illegal waste disposal is controlled by organized crime in Italy and they managed to get him prosecuted on waste management regulations. He made the thermoelectric device for the [U.S. Army Corps of Engineers](#), but the gadgets produced only a fraction of the claimed power when the Army tested them.

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Many distrust Rossi because of his secrecy and his background. Steven B. Krivit, senior editor at [New Energy Times](#), calls Rossi "a convicted white-collar criminal with a string of failed energy ventures."

## The Big Test

Rossi struck a deal with a U.S. company, Industrial Heat, to carry out a [yearlong secret test](#) of a one-megawatt cold fusion device. The installation is a shipping container packed with dozens of E-Cats. The experiment was to be overseen by a third-party "referee" to confirm it really was generating heat. Rossi claims to have spent most of the last year virtually living in the container, overseeing operations for 16 hours a day or more, to prove the E-Cat was commercially viable.







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The test concluded in March. Rossi supporters eagerly awaited the release of the referee's report, hoping for a vindication of their hero. What they got was a major lawsuit.

In his [submission to a Florida court](#), Rossi claims the test was a success, and that the referee confirmed the E-Cat reactor consistently produced six times as much energy as it took in. He also claims Industrial Heat agreed to pay him \$100 million—\$11.5 million upfront after a 24-hour test (supposedly for licensing rights so they would be able to sell the technology, but only in the U.S.), with another \$89 million due on the successful completion of the 350-day extended test. Rossi charges that IH but won't pay up because it has a "fraudulent scheme" to steal his intellectual property. Rossi also alleges that IH and the related defendants "have misappropriated the E-Cat IP; illegally copied Rossi's innovative technology and products, features, designs; and, have wrongfully attempted to obtain a patent for Rossi and Leonardo's [Rossi's company] intellectual property." (We when asked him about the lawsuit, Rossi simply referred us to his [press release](#).)



Elsewhere Rossi [has alleged that](#) IH raised "50 or 60 millions of dollars" from investors on the back of one of his demonstrations, and another \$200 million from China after "replications with the attendance of Chinese top-level officers." If true, there's more than just a hundred million at stake here. Industrial Heat [rejects these claims](#) as being without merit, adding that the company will vigorously fight the legal action. More significantly, it claims to have "worked for over three years to substantiate the results claimed by Mr. Rossi from the E-Cat technology—all without success."

The implication here is clearly that IH doesn't believe the E-Cat works, and Krivit of *New Energy Times* sees no reason to give Rossi the benefit of the doubt. "In June 2011," he tells PM, "I went to Italy and interviewed Rossi and filmed a demonstration of his E-Cat. Twenty-four hours later, I reported serious concerns about how Rossi was measuring heat output. Six days later, [I posted my video on YouTube](#). Experts from around the world sent me analyses and I published their reports in July. It was obvious to me then that this was a fraud."

## Supporters Strike Back

Others are more inclined to see Rossi as the real victim here. Frank Acland, editor of [E-Cat World](#), believes the E-Cat [is for real](#) and will continue in spite of the current dispute.

"I think Andrea Rossi will continue to work as hard as he can to bring his technology to the market," Acland told Popular Mechanics. "It seems to me that in his mind he considers the relationship with Industrial Heat is over. He said that they had been a 'brake' on progress. From what he has written, he intends to start commercialization in Europe with Leonardo Corporation, and he says he intends to roll out products this year."

Acland also suggests that, in spite of saying that they could not substantiate Rossi's claims, IH wants to carry on working with him. "I think they fully believe in LENR...I think they value Rossi's technology and know-how," he says, "and want access to the IP they licensed."

IH has indeed said it remains committed to cold fusion research. The questions that remain are whether they have been trying to patent Rossi's own technology—which would be curious if they did not believe in it—and what the referee's report really says. Of course, IH may allege the test was invalid and that referee was in league with Rossi. Expect quite a performance in court on both sides.

But there is another intriguing strand of evidence that might give Rossi all the support he needs.

## Build Your Own E-Cat?

Using details from the 2014 E-Cat test, Alexander Parkhomov, a professor at the People's Friendship University in Moscow, claimed that he had successfully replicated the E-Cat reaction and [published a paper](#) on it.



# "IT WOULD APPEAR FROM OUR INITIAL FINDINGS THAT ROSSI HAS EXACTLY WHAT HE CLAIMS"



Western journals rarely publish cold fusion papers because of the field's toxic name and past failures, so the [Martin Fleischmann Memorial Project](#) (MFMP) has taken an open-source approach. For years, the group has aimed to make a simple experimental setup to produce excess heat that can be reproduced anywhere, and have carried out their tests live online. The problem is that cold fusion results have always been elusive, fleeting, and hard to reproduce. That *may* have changed in February, when the MFMP apparently succeeded in replicating Rossi's effect and published the recipe with the hyperbolic tagline "[The end of the carbon age is nigh](#)." The reason for this excitement was an apparent [burst of gamma radiation](#) that cannot easily be explained by anything other than a nuclear reaction.

"It would appear from our initial findings that Rossi has exactly what he claims," Bob Greenyer of MFMP told Popular Mechanics.

Greenyer says there now about 20 groups around the world following the MFMP recipe and trying to reproduce Rossi's results. Data should start coming out in the next few weeks. If others start seeing that same tell-tale gamma ray burst, or large amounts of excess energy, it will go some way to vindicating the E-Cat. Any success will encourage many more groups to get involved.

A viable open-source cold fusion recipe would trigger a gigantic energy research gold rush. Alternative methods could be found which avoid the area covered by Rossi's patents and leave him side-lined as a multi-billion-dollar cold fusion industry powers up.

So perhaps Rossi would actually prefer not to be vindicated.

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