

# Hands-On Cold Fusion

For the past two months we have been juggling experiments and doing lots of hands-on work. Juggling validation projects is not the best way to do them, we admit, but so many new devices and claims have come to the fore that this time-sharing of experimentation and timely reporting has become necessity. So please forgive us if we seem to have put your favorite new-energy anomaly temporarily on the back burner while we check out several new things. We promise that we'll eventually get back to everything we started. Remember, if we in this field had but a minute fraction of the resources of the U.S. DOE, Mobil, or Exxon, we could put a team in charge of each investigation. But cold fusion and new energy do not (yet!) have those resources.

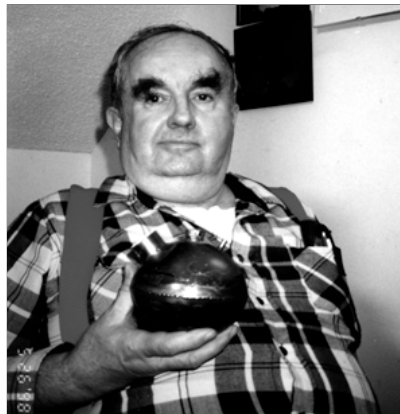
Also, realize that testing units and publishing are not all that we do. While switching among these experiments we were preparing to publish Dr. Mizuno's blockbuster cold fusion book (please order your copy very soon), and we were in the midst of producing a one-hour cold fusion video documentary, which should be available by the end of the year.

We were also obligated to proceed with investigations of other remarkable claims about new energy devices. We hope these on-going studies will lead to reports in subsequent issues. One such device that has come to our attention is so bizarre—yet seemingly verified by the weight of the evidence—that we hesitate to mention it. *We won't!* It has a very long history, the usual "crazy" inventor, intrigue, patents, efforts at commercial development, and even a high-profile Nobel laureate who blew a chance to get to the bottom of it. It *may* be related to new nuclear physics. It will probably take an entire issue of *Infinite Energy* to explain this one—assuming we can explain it at all. Whether the device evidences new physics or not, the true story surrounding it makes the fiction of this summer's movie "blockbusters" tame by comparison.

Asteroids striking Earth and threatening civilization? A realistic threat, to be sure! But what about *proved* developments that have the potential to wipe out the entire existing energy infrastructure of the world—and *will do so*, as far as we are concerned?

We are trying to multiply our energies by encouraging those who have frontier devices that we have already discussed to make self-sustaining systems. A prime example is the "catalytic fusion" work of Dr. Leslie Case here in New Hampshire, which we reported in issue #19. Les still has not succeeded in making a self-heating, self-sustaining unit in an insulating dewar cell. But he is hard at work, even through the discouragement of finding catalyst bed geometries, once thought to be promising, that fail to work. So convinced is Dr. Case that he is iterating on the right track, that he intends to make a 150-watt scaled-up self-sustainer as soon as possible after he makes the basic small unit succeed. By the end of this summer we may know whether he has succeeded, or whether there is a hidden fundamental error in his temperature measurements. (He has succeeded several times in getting higher catalyst temperatures above ordinary hydrogen baseline than were demonstrated to us here and reported in *IE* #19—in one experiment he reached 36 °C above hydrogen baseline with deuterium gas.)

An independent group is now working with Dr. Case to detect helium-4 buildup while its catalytic fusion experiment is running. They are using an inline



Dr. Les Case holds a modified (reduced size) catalytic fusion cell in a visit to our offices.

mass spectrometer, checking the helium-4 buildup as a function of time. They are mindful that helium-4 buildup could represent atmospheric leakage into the reactor, unless the buildup exceeds five parts per million (ppm). We hope to have more information on these measurements by the end of the summer.

Possibly the most important development, and the subject of this issue's feature cover story, is the growing number

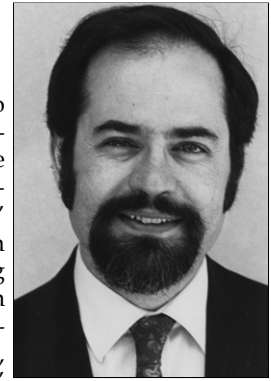
of people who have reproduced the "Ohmori-Mizuno Effect." Coming from two outstanding researchers in Japan, it is a relatively simple, "do-it-yourself" approach that will allow almost any lab to plunge into cold fusion experiments with ordinary water electrolysis. No palladium and no heavy water needed, just a tungsten cathode (easily obtained from a welding supply shop), potassium carbonate solution, and a high-voltage DC power supply. The most welcome aspect of this experiment is that it is instantly clear whether the effect has occurred—you can hardly fail to miss it unless you are both blind and deaf!

All the details for the experiment we could think of are spelled-out in a cookbook, hands-on recipe that evolved from our own efforts to witness the effect. The visual and auditory impact of the effect is spectacular—a brilliant, colorful, plasma-like underwater discharge. Even our color cover photo doesn't do the *real thing* justice. The scientific phenomenon is surprising and interesting in its own right, apart from the mind-wrenching realization that the transmutation of heavy elements seems to have been observed by Ohmori and Mizuno in this "electro-alchemy" experiment. This issue contains their entire report to ICCF-7, the recent 7th International Conference on Cold Fusion.

We cannot be absolutely sure *yet* that the Ohmori-Mizuno effect is an excess energy producer, though some results so far are trending in favor of over-unity. Dr. Dennis Cravens of CETI told me that at the last meeting of the American Nuclear Society in Albuquerque, New Mexico he demonstrated a tungsten cathode-based alternating current electrochemical cell that does, in his opinion, produce 20 to 30% excess energy. On the other hand, Dr. Jean-Paul Biberian in France tried the general DC-power Ohmori-Mizuno recipe we recommended and found no excess energy in his boiling cell. We learned about these developments just as we went to press.

To nail down the Mizuno-Ohmori

**Editorial continued on page 5**



**Editorial continued from page 3**

effect as nuclear-related excess energy requires determining that the *magnitude* of a sustained excess power gives a total energy release much greater than could be provided by any conceivable chemical reaction. This is no small feat, since the intensity of the effect boils away the water and often makes the cathode disintegrate before that. But those with access to analytical chemistry labs may be able to prove the transmutation claims, independent of calorimetric measurements.

Given the growing prominence of evidence for low-energy nuclear reactions (a one and a half day special session was held at the Annual American Nuclear Society Meeting—see our report, page 18), it seems highly likely that the Ohmori-Mizuno results will hold up as genuine anomalies.

Thanks to the good work of FAA engineer Ed Wall, who sacrificed some of his vacation time to visit here and work at our laboratory, we were able to get in some additional testing of the Perkins-Pope Kinetic Furnace—still in our view one of the best avenues for rapid commercialization of water-fueled technology. Encouraged by continued high over-unity results from Perkins and Pope in Georgia, we plunged ahead. Since Unit #1 shipped here initially had failed to evidence significant excess power, despite our efforts to tinker with it, we took delivery on a replacement unit shipped to us from Kinetic Heating Systems, Inc.

We were amazed to find that whatever subtle changes may have occurred in transport—out-gassing of the water due to vibration or other still unknown environmental changes—resulted in only a nominal 8% to 15% excess energy. Very disappointing, to say the least. Intriguing result, but not enough, in our view, to call these Unit #2 tests convincing evidence of over-unity *in Bow*.

This is far cry from the 200% and beyond that had been readily apparent at Kinetic Heating Systems. In our view, there is not a significant chance that this is gross mis-measurement either here in Bow or in Georgia. There is a clear difference in performance— here versus there, and we must determine *why*. The good news is that when we and Perkins-Pope find the root cause of the reduction or failure of the effect, we will know how to proceed to stabilize and sustain it. We have done testing of the Kinetic Furnace air flow duct calorimeter reported in last issue, using pure resistive loads (arrays of light bulbs). We found that our mea-

surement resolution for an input power addition from the bulbs is at least as good as 200 watts, so this 15% excess (about 500 watts) may well be real over-unity performance, but we can't be sure. So, our first priority will be to try various gas, chemical, and perhaps magnetic treatments of the water in the Kinetic Furnace to see what the source of the problem might be.

This issue contains more cold fusion and transmutation reports from ICCF-7, such as the extraordinary work done by Mitsubishi Heavy Industries in Japan and in France by Dr. Jacques DuFour. Hal Fox of Trenergy, Inc. reports his company's work on radioactive waste transmutation. It is most unfortunate that the general media have by and large ignored this revolution in-the-making. They'll eventually wake up, of that we have no doubt. For now, we'll go on publishing and experimenting, with no preconceptions about what new tricks mother nature might have up her sleeves. We hope you will all join us in this great adventure. If you can, why not do some hands-on cold fusion experiments of your own? ∞

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