CQ Web Bonus:

Digging Deeper with John Kanzius, K3TUP … on Revolutionizing Cancer Treatment and Getting Energy From Salt Water

BY RICH MOSESON, W2VU

Our interview with John Kanzius, K3TUP, appeared in the January 2009 issue of CQ magazine. A retired broadcast station owner, Kanzius has received quite a bit of attention in both ham radio and mainstream media because - as a cancer patient himself - he has developed a process that may result in a whole new way of treating many types of cancer. The process also shows promise as a means of getting energy from salt water, the most abundant substance on earth. We didn't have space in the print version of our interview to go into much detail on the energy-from-salt-water aspect of John's invention, so we're using this online supplement to provide those who are interested with more of what John had to say, about his experiences with cancer treatments, about salt water and about his view of ham radio's continued relevance for young people today.

-- W2VU

John Kanzius, K3TUP, at his winter home in Florida. John's 100-watt transceiver and 33-foot vertical there keep him on the air, but with a different perspective from when he had a contest superstation at his Erie, Pennsylvania QTH. (Photo by Larry Mulvehill, WB2ZPI)

Now, on to some of the topics we either couldn't cover in the interview article or couldn't cover in depth. Here is K3TUP…

… on his experience in changing roles from being on the "behind the camera" side of interviews to being an interview subject himself:

Well, to tell you the truth, it's not something I expected or really care to do; I mean, I don't find myself wanting to do interviews, because the story I have is pretty much the same. Having been in broadcasting all my life, for roughly 40 years, and to think I was going to retire and just have a small group of small radio stations that I could improve technically and have something to play with, and find out six months after I retired that I've got leukemia, and a rare form of it, was something that, you know, it sure wasn't something I'd look forward to (chuckles) and then being thrust into a world of watching, particularly children, (suffering through cancer treatments) … that's not a great experience in my lifetime. So as far as the media attention is concerned, when people ask what happened, how this all got started, I've got to go back into the young children …Boy, I'll tell you, what I experienced four or five years ago, and to experience this again, sure tells me that we haven't gotten much further in the treatment of cancer, other than perhaps what I'm doing, in the last few years. It's a tough thing to look at, to see people get chemotherapy, and you hear about it, but you've really got to walk the walk, you can't see how bad it is …I know we haven't come very far with the advance in medicine for cancer.

… on whether he had some sort of "aha" moment that led to his discovery of using tiny metal particles to heat and destroy cancer cells.

(My) "aha" moment was the day that I built this and was able to see a slight heating effect in the area where I had injected the copper sulfate into the (hot dog), and I think it only went up two or three degrees, and the rest of it stayed cool. And I knew that I was on to something, and that particular night I felt that maybe this has a chance of working, and I'd never dreamed, though, that it would ever work as well as it's working. The people that I have talked to from Rice University … they've never seen anything like this. Up to this point, nobody had ever been able to make a nanoparticle heat within a radio field. I mean, that is the most stunning part about this invention, that is the nanoparticles releasing so much heat within this field is just mindblowing to the people … that were involved in making the original nanoparticles.

… on stumbling into a second use for his process -- getting energy from salt water.

That happened when a minister of Canada came down to look at the cancer

project, which was well on its way last year. The Canadians have universal health care and they were looking to see whether they could get involved in the research with M. D. Anderson or the University of Pittsburgh on the nanoparticle side of the technology I was using because they built a brand new nanoscience center up in Edmonton, where they have their national institute of health.The Canadian minister (Gary Mar, then Minister of National and International Provincial Affairs and previously Alberta's Health Minister) came to Erie, Pennsylvania, to see a demonstration of the nanoparticles heating, and some of the neat tests we were doing … When he saw the nanoparticles in a test tube, these were gold nanoparticles, in a test tube, and there was a couple of millileters in a 10-milliliter test tube, and he saw the instantaneous heat, and the heat gave off so much steam that he saw the steam coming down the side of the test tube walls, he said, 'Man, have you guys ever thought about desalinization? You could make some steam from salt water quickly with this thing.'

So anyhow, one of the guys who works with me in the lab up in Erie tried to heat salt water, and he couldn't get it to heat, and he actually was in the lab one day and he had the damn thing cranked up and no heating, and (he) bumped it and saw a little spark … a little flame, he thought, (but he) couldn't get it to burn ...So I said, 'Why don't you send the device down here to Florida and I'll play around with it?' and within a week or so I got it to where you could fill the test tube full and strike a match and light the top of it and it would burn. And of course, that's the stuff you see on YouTube.

CQ: Do you know for certain what's burning in there? Looking at the stuff on YouTube, the flame looked pretty yellow, which would suggest the sodium from the salt…

Actually, we have done numerous lab tests and if you put 10 ml. in a test tube and burn 5 ml. and then look at the concentrations of the different minerals in the water, you'll find that the salt level has just about doubled. There might be one per cent, or one and a half per cent of the salt that has been burned. And the same way with the other minerals in there, they actually increase by roughly 50% if you burn 50%. The theory is that the salt isn't burning because the temperature has been measured with an infrared camera and - a very expensive infrared camera - and the temperatures achieved are somewhere around 3000 degrees Fahrenheit. It doesn't take much salt to discolor a flame. It's almost like, if you ever had a gas burner in your house, or your back yard grill, and you bump it and you'll see some orange flames come out of it, from the normally bluish color flame, because of the dirt and such, you'll see a yellow colored tip for a second.

One of the things that we found is that the test tubes that we're using, the Pyrex® test tubes, are actually - because of the high temperature - they're actually flaking and melting. There is a little bit of salt that gets spewed off of there because of the violent, violent heat there, but the salt itself, as I say, when you burn it down, it's just about -- if you burn half of what was in there, the salt level goes up about double. So if it was a level of 3.5 of salt, it would go up to about a 7. So it's not the salt that's burning.

We've actually done different tests with other solutions that would support the idea that it's a break in the bond of the hydrogen and oxygen, and Dr. Roy has been pretty public about that in some of his articles, that it breaks down the bond of hydrogen and oxygen and the fire is the reunification of the two. He's been public with that. He's filed two manuscripts that will give some of their original experiments on this, and talk about some major changes they've seen in the water itself, that up to this point have only been observed by who have used high powered microwave frequencies. So we're able to achieve at radio frequencies some of the same things that they're able to achieve using very very high powered microwave frequencies. They find that totally unbelievable that this is occurring at this particular level. But the prevailing thinking from the smartest people in the world is that the bond breaks between the oxygen and the hydrogen there, releasing hydrogen, what they call atomic hydrogen (or) "hydrogen radicals," and that's what causes the fire.

We've been able to use different test tubes that don't have the glass in (them), and use different solutions, and the flame is a very bluish color, a pale bluish color, indicating that it's hydrogen that is burning. To get that flame too hot, or intensity too high, doesn't matter what kind of (container) you have, it begins to melt. You know Pyrex test tubes are meant to take a lot of heat but they actually, if you look at them carefully, you'll see that the test tube burns. We've used other types of materials which I can't disclose at this point but they do not have the glass in (them) and we see different colors of flames … We get red flames, green flames, they can actually predict what color the flame is going to be based upon the material, and what kind of smell it's going to give off. So it's pretty exciting to look at that.

Where that's going to go, I don't -- you know -- when you talk about the salt water, that is just the tip of the iceberg as far as they're concerned with what is really happening within the water structure itself. They're more concerned about that than they are about the fuel at this particular moment. They will get to the fuel… In this collaboration, we intend to try to commercialize this as quickly as possible. Dr. Roy has talked to the Department of Defense, he has talked to some of the largest companies in the world, they've actually been over there to Penn State, and they've talked to them and there is a huge interest in developing this, not only for energy but for things like desalinization and so forth. There's a lot of other uses for the process. As I say, I am not a materials scientist, and I can only be (guided by) what the brightest guy in the world thinks, and the fact that they've been able to put together some scientific manuscripts that will -- in their minds -- say that this is a real phenomenon and they're able to prove it by providing just a couple of quick things that they've done. That's out of my hands; I don't make any claims on that.

… on the skeptics who -- based only on descriptions and a YouTube video -- say this process couldn't possibly work.

On the salt water and that whole phenomenon, you have a very well-known university, you have the number one scientist in the world on water, and he's recognized as that, they have published more papers on water and water experiments and they've done stuff at that materials lab at Penn State that I have to be guided by what they think, not by what the skeptics have to say … as Dr. Roy said, when you have a find like this, the skeptics should say, particularly the big science names, 'let us look at this and see if we can make a conclusion of what's going on here,' rather than going out and start writing a paper or putting something on the web saying, 'this violates the laws of thermal energy and so forth, and thermal heating, and thermal dynamics, and quantum physics.' He said, 'you know they really should have done what I did and that was to come and take a look at it for themselves and then have it brought down into their laboratories, the device, and let us provide all of our own test tubes, all of our own solutions, and let us see whether or not it's real, under an academic science center setting.' Of course, that's what they did at Penn State, and it was at that point that they basically said - and they've got three or four PhDs who have looked at this - I spoke to about 18 or 20 of them down there, which is sort of unheard of for a layman to be talking to, and fielding questions from, people who have more knowledge than -- you know, in some of these cases, you're talking to the next Einsteins of the world, and for a lay person to be sitting there and answering questions about

why I think this works, to me it's pretty amazing, in itself, and all this came from, I think, my experimentation as a licensed commercial broadcast licensee and a licensed amateur radio person, who really loved experimenting. I think all this came out of that … Without the ham radio, none of this would have occurred.

… on whether he thinks ham radio continues to be relevant to young people today.

It's been my experience that the younger people like to figure out ways to make better antennas, figure out ways to use their hobby and experiment, much the way I experimented with the cancer project, to end up with other products that maybe aren't related to ham radio. But if they didn't have the interest in ham radio and weren't able to experiment down in their basements with soldering irons and so forth, probably a lot of products wouldn't move as quickly as you think. Goes almost back to what (we talked about earlier, that) I don't think the day of the single inventor is over with. There are still people that are able to look at what's going on with the world and how the world is going from analog to digital, and figure out how to make a better widget. So, I'm as excited today when I turn on my ham radio and put up a crude vertical antenna and play around with it as I was 50 years ago. The magic is still there, and once it's in your blood, and you realize that it's just not a hobby that is based upon buying a prepackaged antenna and so forth -- I think most people get the view of hams as being guys who get on, and it's a higher form of CB -- but when you really look into who hams are, and who really comprises a lot of ham radio, you'll find there's a lot of scientific and engineering types, well-known people, just like the interview you did with the Defense Department there, so that -- fellow's name England (CQ Interviews: Deputy Defense Secretary Gordon England,December 2007 CQ)- some of the smartest people in the world have been involved in ham radio…

In looking at the world now, I think we're into a revolution of electronic knowledge and electronics and what's going on … what used to take a generation to happen … I think that basically is happening within a year or two, and the greatest strength of any country is the amount of science, math and so forth that gives the country as a whole an edge over the rest of the world. I think that's what has allowed the United States to stay well ahead of the rest of the world even though they spend a lot of money and a lot of time educating their people. I think in an unrestricted society like this, where people have a chance to become scientists on their own, I think the opportunities for them are probably greater for them than it was for (me). Looking back, I think people involved in the sciences, and whether they get there because they're a young person that's exposed to ham radio - I really think, just backing up a bit, it's the old Elmer theory. I think it's really incumbent on senior hams, people who have been hams, to introduce to young people what the hobby is about and what can happen with people, not just myself but other people who have involvement with ham radio and what their contributions are to science.

The internet, to me, just enhances the hobby, it does not take away from it. It's like, a way you can send instant messages and do different things on the internet, but when you take your computer and tie that into a ham radio rig, a lot of information that can be done more easily, it actually makes the hobby a little more fun. I would encourage people that are hams - grandfathers that are hams - just to, not shove it down their throats, but to educate the young people into the science of the atmosphere and what hams do and I think this country will be better off for it. I think we need more science types than we need people educated in the liberal arts.