

April Meetings

- April 23 -

John Miller, K6MM began his amateur radio journey in 1958 in Syracuse, New York operating the rock-bound Heathkit DX-40 on the novice bands as WV2BQJ. Several moves, call signs and equipment upgrades later, he was chasing DX and contesting from his San Jose, California home using the sign K6MM.

In 2010, he began going on Dxpeditions around the world, opening exotic places for others chasing DX contacts.

John will be talking to the club about his experiences with the 2018 Baker Island DXpedition, about half-way between Hawaii and Australia.



Photo and logo from baker2019.net



- April 9 -

Club Secretary and Hallmark chemist Ted Knapp, NØTEK, who now looks absolutely nothing like the picture below, will tell the club about chemical power generation, with a focus on emergency application.



APRIL MEETINGS

April 9 – Gas generator conversion –
How to Connect for Emergency Use:
Ted Knapp, NØTEK

April 23 – Hot DX from Baker Island –
John Miller, K6MM

The Johnson County Radio Amateurs Club normally meets on the 2nd and 4th Fridays of each month at 7:00 PM at the Overland Park Christian Church (north entrance), 7600 West 75th Street (75th and Conser), west of the Fire Station.

Much of the membership travels to the Pizza Shoppe at 8915 Santa Fe Drive for pizza buffet and an informal continuation/criticism/clarification of the topics raised at the meeting ... or anything else.

LEAVE THE CHURCH, TURN RIGHT (WEST) ON 75TH. TURN LEFT (SOUTH) ON ANTIOCH. TURN RIGHT (WEST) ON SANTA FE. PIZZA SHOPPE IS JUST PAST THE SONIC ON YOUR LEFT.

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-> FEEDBACK <-

*A publication of the
Johnson County Radio Amateur Club, Inc.*

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* * *

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PRESIDENT'S CORNER

At the end on march we received some very sad news with the passing of Gary Adams (WAØBTM). Gary and his wife Frances were fixtures at public service events. They frequently filled the role of 'Tail-end Charlie'. When you saw them go by it was your clue that you were done for that event.

Gary was always serving in the Club's "Welcome Tent" at Field day and always kept a watchful eye on equipment. Gary will be missed. Please keep him and Frances in your thoughts and prayers.

The club's field day planning is underway. With luck it will be a face to face event this year. We must still have to modify times to keep everyone safe. More on this as the date nears.

The word is that Ensor will not be open for tours this year. All other Ham events are a go however. So watch for campfire announcements.

I hope everyone had a safe Easter. The weather is getting warmer so time for repairs to outdoor equipment. **Bill Gery - WA2FNK**



*Left - Gary at Ensor,
photo by Charlie
Van Way, NØCVW.*

*Right - Gary and
Frances in the Field
Day Welcome Tent,
photo by Tom
Wheeler, NØGSG*



Johnson County Radio Amateurs Club - March 12, 2021

Meeting Date: Friday March 12, 2021. The meeting Started at 7:00 PM.

Attendance: Due to COVID-19 restrictions, this Meeting took place online using Zoom Video Conferencing. 45 were present.

The Minutes from the February 26, 2021 meeting were read and accepted unanimously.

The Treasurer's report was not Available.

Old Business:

- We welcomed all 1st time visitors to the meeting.
- Repeater Update – Bill Brinker, WA0CBW, reported that all 5 Repeaters are working well.
- A Thank you letter and a gift certificate to Krispy Kreme was sent to T-Mobile.
- Field Day 2021 – We have permission from Shawnee Mission Park to use the old Hutton Farm again this for Field Day. Field Day is June 26 – 27.
- Herb Fiddick, NZ0F gave a short presentation updating the progress on the new SATERN Communication Van. He reported there have been many in-kind and cash donations. However, there are still funds needed to purchase miscellaneous electronic components. Bill Gery, KA2FNK trustee for the Edward Jones funds XXXXXX has offered up \$1000 towards the project. A motion was made to match the \$1000 with a \$1000 of the Club's money. The motion was seconded, and it passed unanimously.

New Business:

- The Overland Park Christian Church Board will be meeting later this month to talk about when the groups will be able to safely attend. They are projecting somewhere in April or May, but hopefully before the summer.
- Jamie Charlton, AD0AB will check with the Pizza Shoppe as to meeting there for the Annex Meeting.
- We are looking someone that can help provide Zoom Meeting capabilities when we start meeting in person again. If you can help or have any ideas please let the Club's leadership know.

Reports:

- 6 m – NR.
- 10 m SSB Roundtable – 5 participated on March 11 and 6 on March 4.
- 40m SSB Roundtable – 3 participated on March 10 and 5 participated on March 3.
- Fusion Digital 440 net – 17 Check-ins on March 10 and 19 for Check-ins on March 3.
- 2m Wheat Shocker net – 13 Check-ins on March 11 and 22 Check-ins on March 4.
- HF Activity – Thailand.

Announcements:

- Covid Fox Hunt March 14.
- Hawk 100 September 11-12. See Bill Gery, KA2FNK
- Bike MS September 25-26. See Herb Fiddick, NZ0F
- Olathe Marathon November 6. See Herb Fiddick, NZ0F
- WW1USA Remote Special Event May 15th.
- See Larry's List for upcoming Events.

Business meeting adjourned at 8:00 PM.

Program:

The Program was a presentation by Kevin van der Does on "Parks on the Air".

Submitted by Ted Knapp, N0TEK, Secretary.

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The Minutes from the March 12, 2021 meeting were not available.

The Treasurer's report was read and accepted unanimously

Old Business:

- We welcomed all 1st time visitors to the meeting.
- Repeater Update – Bill Brinker, WA0CBW, reported that all 5 Repeaters are working well.
- Field Day 2021 – Planning will start soon around Stations, Site Survey, and Food. Ray Erlichman, K0RSE and Al Rawitch, K0IMP will reach out to local and County officials to invite them to Field Day.
- Herb Fiddick, NZ0F reports the SATERN Communication Van should be finished at VanDoit the 1st or 2nd week in April.

New Business:

- The Ensor Park and Museum will not be open this Spring (May and June) for tours. The city is addressing some issues with the farm house.
- Cal Lewandowski reported that Gary and Frances Adams, WA0BTM and KC0TGR membership has lapsed. Given his health situation he suggested extending his membership by 1 year. A motion was made to extend their membership. The motion was seconded, and it passed unanimously.

Reports:

- 6 m – NR.
- 10 m SSB Roundtable – 7 participated on March 25 and 5 on March 18.
- 40m SSB Roundtable – NR.
- Fusion Digital 440 net – 15 Check-ins on March 24 and 12 for Check-ins on March 17.
- 2m Wheat Shocker net – 17 Check-ins on March 25 and 15 Check-ins on March 18.
- HF Activity – ZL2SDX on 40m, Last Man Standing Special Event.

Announcements:

- Gary Adams, WA0BTM is currently in Hospice.
- WW1USA Remote Special Event May 15th.
- See Larry's List for upcoming Events.

Business meeting adjourned at 7:33 PM.

Program:

The Program was a Portable Panel Discussion with presentations.

Submitted by Ted Knapp, N0TEK, Secretary.

Hambone Moonlights

“It is with great pleasure I present to you visiting Professor Gavot Bransle. Professor Bransle comes to us from the Western University

where he specializes in optical energy physics. He has written many papers and two books related to the extraction of electrical power from light. He is also a co-inventor of the much-

rumored Optical Output Power Supply. I hope he will tell us a little bit about that device.

This evening, Professor Bransle has agreed to share his revolutionary discoveries regarding the future of solar, or should I say, light power. So, without further ado, I present Professor Bransle.”

A strikingly handsome and energetic middle-aged man strode onto the stage, attached the tiny lapel microphone to the neck of his stylish flower-print shirt and clipped the wireless pack to his belt.

“Hammy, where did you get all that fluff? That intro makes him sound like the god of light himself,” asked Tim, Hambone’s close friend and fellow student who was seated to Hambone’s left.

“He gave me a card with his introduction printed on it. All I had to do was read it. I guess he’s done this before.”

“Hammy,” said Dill, another close friend and fellow student who was seated on Hammy’s right, “Did you see that guy has earrings and tattoos. Can we believe him?”

“I don’t know, I hope so, let’s listen.”

“Good evening ladies, gentlemen, fellow engineers and professors, thank you for giving me this opportunity to share with you some



amazing discoveries. I’m here as a substitute teacher while Professor Erlenmeyer Flask and his lovely wife, Florence, enjoy a warm and sandy two weeks in Florida. Have no fear, he will be back – sporting an enviable tan, I expect – next week.

Before I get started, I would like to clear up some misinformation about our optical output power supply test. Contrary to circulating rumors, the test/demonstration began as expected and was proceeding normally. Unfortunately, an error in the setup became apparent and the test was terminated prematurely. We have

Tech Tip

Slow internet? The problem might be a cluttered cache in your router. The solution is to periodically turn off the router, wait a couple of minutes, and then turn back on. I picked up an idea from Mike Walker, VA3MW, on QSO Today. He suggests using a device called NetReset each day automate the process of cycling the modem and router in proper sequence. Amazon sells for \$49. I ordered one on eBay for \$21 (open box) and anxious to try it.

– John, KØIZ

fixed the problem and will be back in development as soon as the lab is rebuilt.”

“Yeah, I’ve heard ‘terminated prematurely’ means it blew up, started a fire and one observer had to be taken to the hospital,” whispered Dill.

“But tonight, I would like to talk about solar power and our discoveries of how it can greatly be improved,” continued Professor Bransle. “First, for the newcomers, I will review how solar panels extract electricity from sunlight. Those of you who are familiar with the subject, please bear with me.

Then I will discuss the present technology’s shortcomings and how we have greatly, and I mean greatly, reduced them.

The sun provides a lot of energy in the form of heat and light to the earth. The irradiance amounts to about 1,050 watts per square meter when the sun is directly over-head and the sky is clear. We get about three percent more in the winter and about three percent less in the summer, but that is a good starting figure.

Over a thousand watts sounds great until we realize that in North America, the sun is never directly over-head. Still, we get quite a lot of solar energy on a sunny day. The problem is converting that energy into useable electricity.

As you know, all light is made up of photons. Tiny particles that carry energy, weigh nothing and travel at the speed of light.

see HAMBONE on page 6

from HAMBONE on page 5

Hmmm, now that I think about it, it's sort of redundant to say that light travels at the speed of light." The professor paused, but apparently the audience did not get his little joke.

He continues, "Yes, lady in the second row, you have a question?"

A green-eyed blond engineer-to-be rose and spoke, "Professor, if the photons all have no mass and all travel at the speed of light, how do they carry energy?"

"That's a very good question. The energy of a photon is carried by its frequency or more commonly, its wavelength. Light can be represented as particle, a photon, or as an electromagnetic wave, like a radio wave. I know it seems strange, but light exists as both forms all the time. That's why we can say the photon has a frequency or wavelength.

That said, the higher a photon's frequency, the more energy it has. In the case of visible light, the blue end of the spectrum represents photons with higher frequencies and greater energies and the red end represents lower energies. Of course, photon frequencies and energies extend far above and below those in the visible spectrum. And that brings me to how a solar panel works.

There are several different types of solar panels, but one popular type is made up of large numbers of solar cells which are made of doped silicon. Doped silicon is silicon that has small impurities called dopants in its structure. These impurities allow for an electric field to develop and electrons to move. On their own, the electrons lack

enough energy to be attracted by the electric field. So, they just sit there producing no current.

But then a photon comes along, bangs into an electron and imparts some of its energy to the electron. In other words, it knocks the electron loose from its atom. That electron moves – way slower than the speed of light – and eventually ends up at a connection to the outside world. That electron and gazillions of others become an electric current. So, basically, a solar panel generates electricity when photons knock electrons off their respective atoms. But the problem is this.

The thousand watts per square meter of sun light power is spread all over the light's spectrum. Again, with blue photons carrying more energy than red ones. But it only takes a specific amount of energy to knock an electron loose. Exactly how much depends on the semiconductor's structure and the dopant. The result is that most of the photons don't actually knock any electrons loose. And those that do, much of their energy is wasted."

"I don't understand that," came Hambone's voice from the back row. "Why don't all the photons hit electrons?"

"Well," continued Gavot. "One is that they pass through the atoms and miss the electrons. Atoms are mostly empty space and electrons are very small targets. But the main reason energy levels.

Let's say that the energy required to knock an electron loose in a particular cell corresponds to the energy of a green photon. That means that red photons, because of their lower energy, won't dislodge any electrons and their energy

won't get converted to an electric current.

On the other hand, a blue photon has more than enough energy to dislodge an electron and send it on its way. But it can only knock one electron loose. That means that even though the blue photon has lots of energy, it only gives us one electron. The rest of its energy is lost as heat. In the end, solar panels only convert between fifteen and twenty-five percent of the light energy to electrical energy. But that's not the only problem. The real problem is the panels don't work at night."

"Well, duh, that's obvious," said Dill, apparently loud enough for the professor to hear.

"It's not obvious," continued the professor. "There is plenty of light at night mostly from the moon, yet no attempt has been made to capture it. The reason is it is not the same as sunlight and conventional panels can't capture it."

"Moonlight is just reflected sunlight, only weaker," came an unidentified voice from the far side of the auditorium.

"Moonlight starts out as sunlight, but that light gets modified by minerals in the moon's surface that change its wavelengths and phase. Specifically, the mineral birefringent calcium carbonate absorbs the photons from the sun and re-radiates them as linked – we say *entangled* – pairs. The photon pairs have more than double, 2.963 times to be exact, the energy of two unentangled photons. So, when the pairs arrive at the earth, they are much more energetic than regular

see HAMBONE on page 7

<p>from HAMBONE on page 6</p> <p>sunlight. But to our eyes, they just look different. After all, you've heard the terms 'silvery moon' and 'blue moon', haven't you?" Heads nodded in agreement.</p> <p>"This is where our new panels come in. We have designed and are prototyping panels that convert regular sunlight to electricity with over twenty-four percent efficiency and moon light with eighty-seven percent efficiency. Yes, these solar panels work at night!"</p> <p>"What do we call them?" whispered Tim a bit too loudly, "Moonlighters or lunies?"</p> <p>"We call them amazing," responded the professor.</p> <p>"I can't revel the details because our patent is still pending, but basically we have added a layer above the regular solar cell layer that takes advantage of the wave nature of moonlight. Because the photons are entangled, their electromagnetic wave is phase coherent. That means we can capture it with a molecule-size antenna. We chose to use unloaded <i>tripoles</i>, yes, tripoles. Of course, the tripoles are on a silicon substrate which acts as a rectifier converting the received waves to DC which is added to the panel's regular current.</p> <p>That's why we call it amazing!"</p> <p>"I'll bet. I'd like to see one of these things actually work at night," added another voice.</p> <p>"You can," replied the professor.</p> <p>"You just go to our website and you can order as many prototypes as you need. But I will warn you, the price is over \$100 per watt."</p>	<p>"There it is, the sales pitch. It used to be snake oil, now it's moonlight panels. Does the school know you're doing this?" jeered one of the faces hidden in the back.</p> <p>"The school is one of our investors. We make the price very high to discourage unskilled users from misapplying the panels until development is complete. We want to avoid premature bad press.</p> <p>But all of you in this audience are the smart users we would like to have test our panels so, we will make you a deal. You can get 200 watts of panels free by sending us your request.</p> <p>"You can," replied the professor.</p> <p>"You just go to our website and you can order as many prototypes as you need. But I will warn you, the price is over \$100 per watt."</p> <p>But to do that, you must solve one simple puzzle. I will put up on the screen a code containing a phone number, or a website name or an IP address for ordering free panels.</p>	<p>Crack the code and the panels are yours. The offer expires on April 30."</p> <p>Professor Bransle turned and walked off the stage and the following appeared on the screen.</p> <p>"1111 13 1111 13 13 1331 131 11 1311 1131 333 333 1311"</p> <p>>> JCRAC FEEDBACK <<</p>
	<p>"73 " History is Fake News</p> <p>A club member came across a tid-bit he wanted to share with the club.</p> <p>How many amateurs know just how those mystic numerals 73 came to mean "best regards"? Well, here's the story. During the American Civil War, the telegraph and railroad administration was in the hands of one Andrew Carnegie. After the close of the war, the telegraph operators all bonded themselves into the "Order of Military Telegraphists." Upon Andrew Carnegie reaching the age of 73, the Order of Military Telegraphists gave him a testimonial dinner, and from that date hence, "73" came into being as a symbol of good wishes.</p> <p>He cited March 1939 issue of The Short-Wave Magazine.</p>	
		<p>Although always grateful for contributions, your editor was suspicious. The story was just too cute to be true.</p> <p>Per the wiki article on "wire signal", "73" was used as "best regards" in the 1901 edition of G. M. Dodge's "The Telegraph Instructor".</p> <p>Other people suggest that the term came from the "Phillips Code", http://www.signalharbor.com/73.html, though I could not verify that the Phillips Code was used for person-to-person communication.</p>