August 2018

ZARC Committee
Chairman: Warren Snyders ZS5WOZ
Vice Chairman: Gerald Scrooby ZS5GS
Treasurer: Willie Axford ZS5WI
Secretary: Dawn Snyders ZS5ME
Editor: Jo Snyders ZS5PO
Webmaster: Chantel Pelser

Club Repeaters
Ntumeni 145.675 MHz
Empangeni 145.700 (Off-line.)

Nets
SARL News
08h30 - Sundays - 145.650, 7.066 MHz

NEXT ZARC MEETING
DATE: 11 November (Sunday)
TIME: 12:00 followed by Braai
QTH: To be advised

E-Mail: dawnjo@telkomsa.net (Secretary)
Club Web site: http://zs5zlb.org.za/
Greetings & Salutations fellow members, I trust that this newsletter finds you all in good health. The date of the next club get-together/meeting will be 11th November. Venue to be advised. Please make a note in your day books and diaries.

Have you bought insurance to continue enjoying your hobby yet? SARL membership IS that insurance!!! Is your hobby worth R1.26 per day to you? YES?? Then join the SARL, it’s the RIGHT thing to do!!!

The radical opinions, and rantings of the Editor, are not necessarily the opinions of, or supported by, the ZARC Committee, or it’s members.

Wots Potting In The ZARC

Birthday Greetings Go To:

August: Anne ZS5FAB, on 2nd, Melissa daughter of ZS5WOZ, on 17th, Bridget daughter of ZS5ME & ZS5PO on 20th

September: Ian, Partner of Chris ZS6RI, on 12th, Chris ZS6IR, on 17th

Oktober: Willie ZS5WI, on 2nd, Kiana, daughter of John ZS5J, on the 31st.

Many happy returns to all of you, and may you be spared for many more happy, healthy, years. (If your birthday wishes do not appear here, it is because you have not informed me of your birth date).

Get Well Soon

Besides Dawn ZS5ME, I have not heard of anyone who has been “Doctor Bothersing” of late.

Club Happenings

Lighthouses On The Air took place over the weekend of August 28th 29th August this year. Our new club member, Jan ZSSHJ, who wrote the RAE in May this year, decided to take part as he is busy trying to get enough contacts towards his WAZS-100 certificate. WELL!!!, on his way to his WAZS certificate, he has now also acquired one of the first South African Lighthouses On The Air certificates, by contacting at least 10 of the 16 Lighthouse stations on the Southern African coast. On the left is a picture of his certificate and on the right is a picture of his log of the lighthouses that he contacted to qualify for the certificate. Lighthouses On The Air is NOT a competition, it is just a friendly world-wide get together of as many lighthouses around the world as possible. The SARL has, this year, decided to award a certificate to ANY stations WORLD WIDE who can contact ANY 10 of the 16 lighthouses entered this year on the Southern African coast line alone. A total of 36 certificates were acquired by RSA Hams.

The ZARC first started taking part in 2003, activating the Cape St.Lucia light, and later also activating the Tugela Bluff light. Between 2003 and 2013 we took part in 11 LOTA events, until, eventually, old age and back problems of the only regular operators started interfering with putting up our 12M pump-up tower and the antennas.

Welcome

We bid a warm welcome to two more club members who are both studying to write the RAE as soon as they feel they are ready to do so. They are both resident in Richards Bay.
The first is **Dirk Raave** who is seen on the left, and he lives in Meer-en-See, just a few hundred meters down the road from where John ZS5J used to live.

The second is **Gerhard Vos**, who also lives in Richards Bay somewhere. He has not yet sent me a head-and-shoulders photo of himself for my records, and for the web-page. Welcome to both of you, and we wish you both a long and happy membership.

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**APRS**

People in the Richards Bay/Empangeni area can get into the PMB I-Gate on 144.800.

**Repeaters**

145.675: This repeater has a problem with the RX antenna, and the antenna needs to be replaced. As we do not have any more members who are fit & able to climb up the tower to do this job, it will have to stay like this until we can find a volunteer who can climb the tower.

145.700: This repeater is now a DEAD puppy, and needs to be recovered from this site. **STILL waiting for ESKOM to open up for us to get into this site.**

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**“SWAP SHOP”**

If you have any items you want to get rid of, or if you are looking for something. Please let the Editor know and he will advertise it in the swap column for you.

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**Home Brewers Hoekie**

**Forget X-Ray Vision. You Can See Through Walls With Radio**

Who wouldn’t enjoy a little X-ray vision, really? You could cheat at cards, for one. And that game where someone puts something under one of three cups and you have to guess where it is. Easy.

Of course, X-ray vision would come with a downside, in that you’d be spraying all your surveillance targets with radiation. So researchers at the MIT Computer Science and Artificial Intelligence Laboratory, actualizers of all things science fiction, have taken a different tack to seeing through walls: radio waves. By flinging ultra-low-power radio signals, 1,000 times milder than standard Wi-Fi, they can not only detect humans behind a wall, but track their movements in fine detail.

The system works not unlike aircraft radar. But instead of bouncing off planes and returning to the ground, the signal here travels through the wall, bounces off a human (we’re full of water, which radio signals have a hard time penetrating), and comes back through the wall and into a detector.

It’s a simple concept that was difficult to execute—because once that signal makes it back to the researchers, it’s very, very noisy. “You're not just receiving a reflection from the human body, you're receiving reflections from everything,” says MIT CSAIL computer scientist Dina Katabi, co-author on a new paper describing the process. “The reflection from the wall will be much much bigger than the reflection from the signal that traversed the wall and reflected off the human body and traversed the wall again back toward you.”

Yeah, it’s messy. But that’s what neural networks are for. Your classic machine learning relies on labelling to train an AI. So, “this is a cat,” for instance, to get it to recognize objects in photos. Or, in Silicon Valley, “hotdog” or “not hotdog.”
Radio signals are rather more … mysterious. You can’t just look at one and say, “Aha, an elbow!” So the researchers devised a clever workaround. They set up a camera to simultaneously record a person they were bombarding with radio signals. “From that image you can extract the key points of the body,” says Katabi. “We use annotations in the image as the teacher for the neural network that is working just with radio signal.” The AI trained on video could then be matched to the mess of radio signals, allowing it to associate those labelled body parts with the subtle radio reflections coming back through the wall. “Imagine you teaching a kid some math problem and suddenly he becomes smarter, he can solve problems that you can’t solve,” says Katabi.

What you end up with is a human visualized as blobs, which correspond to points on the body, like knees and shoulders. The researchers then turn this into a stick figure that shows a person moving behind a wall in great detail. Such great detail, in fact, that the system could identify individuals 83 percent of the time, by first determining their unique features and movement style. “It’s not just a location,” Katabi says. “It’s exact movements. So by looking at the gait that is actually a feature that distinguishes one person from another in the same way your fingerprint distinguishes you.”

Potentially invasive in the wrong hands, sure, but also potentially good for privacy in other applications. (In fairness, all the data they collected so far was anonymous and encrypted.) Imagine using it to non-intrusively keep tabs on the sleeping, eating, and moving schedules of an elderly parent, as well as signs of distress. “Think about the other extreme: You can deploy cameras everywhere in someone’s home and try to get similar information,” Katabi says. This radio system, after all, would be clothing-agnostic, since it only produces stick figures.

Seeing through walls would also be handy for robots—they could peer around corners to avoid running into people coming the other way. (Alternatively, you might see around corners with lasers or even by detecting subtle changes in light.) Superman would be so proud. Or jealous...... One of the two.
If you would like to contribute to your Club newsletter, or to contact me for any reason, please use the address / Phone numbers below.

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