

OSCAR Newsletter June 2012

OSCAR Meeting

The next OSCAR meeting is 9-June @ 9:00 AM, the second Saturday of the month. Meetings are held in the meeting room at the Owatonna HyVee, 18th Street @ Oak Avenue.

SKYWARN Meeting

The next SKYWARN meeting is 19-June @ 7:00 PM, the third Tuesday of the month. Meetings are held at the Owatonna Fire Station.

ARRL Field Day; June 23rd through June 24th ... All hands on deck!

OSCAR will be operating a simulated RACES activation (Field Day!) in coordination with all the other ARRL associated amateur radio operators and clubs across the US and Canada. The objective of Field Day is to work as many stations as possible on any and all amateur bands (excluding the 30, 17, and 12-meter bands) and in doing so to learn to operate in abnormal situations in less than optimal conditions... for example our entire operation is powered by gas generator. A premium is placed on developing skills to meet the challenges of emergency preparedness as well as to acquaint the general public with the capabilities of Amateur Radio.

Our group will be once again setup at the RC modelers Flying Field south west of Owatonna. A map and directions are shown on the OSCAR web site on the "Field Day" tab or at <http://www.owatonna-rc-modelers.com/index.htm>

We setup at roughly 8:00am on Saturday, and begin radio operations at 1:00pm sharp, and then continues non-stop until 1:00pm Sunday.

Field Day activity is very informal, running a mix of bands and modes. The Steele County EOC trailer will be on site. We will have numerous operating stations setup and supported by a wide range of antenna types. Plans include; a GOTA (Get On The Air) station intended for new comers to try their hand at making contacts, a YL station operated by our rapidly growing contingent of lady "hams", stations demonstrating Satellite and Digital communications, and last but not least, fine dining supported by the clubs own "Iron" chef preparing a vast menu utilizing dutch oven cooking techniques.

Be sure to stop and be part of the fun! Take a turn at a radio, or try recording station ID's, or just enjoy the afternoon... This is the OSCAR clubs biggest annual event! Don't miss the chance to see us in action!

Optical Tweezers From multiple sources

Moving a solid object with a light beam seems to be something only done in science fiction movies. Researchers found they could use an electron beam to pick up and move small dielectric spheres of aluminum and silicon. The physics to accomplish this task has to do with the spheres refracting the electron beam. The deflected light particle exerts a force on the sphere. The spheres are then pushed into the more intense part of the beam.

Wearable Solar cells From www.newscientist.com

It seems like there have been several recent innovations to intergrate antennas and power generating scemes into fabrics. The most recent development builds solar cells into clothing. Researchers grew a forest of micrometre-wide silicon wires on a silicon base. Each wire act converts light into electricity. Efficiency if gained because light is trapped and funneled between the wires.

Human Broadband From Journal of Micromechanics and Microengineering

How about using your body as a path for broadband? Low-frequency electromagnetic waves pass through skin with little attenuation. When electrodes were placed 30 cm apart on an arm, researchers were able to transmit 45MHz waveforms at 10 megabits per second. The technique could be used to network several monitoring devices. The signals would be less prone to interference and be energy efficient by eliminating multiple RF links.

Blood pressure From www.arnesline.org

There's nothing like nabbing a rare DX or, on the other hand, feeling the frustration of not being able to get through a pile-up. Both of these can affect our blood pressure and how we feel the reat of the day. An experimental procedure in VK-land is using radio to lower an individual's blood pressure. A catheter is positioned next to the kidney. Low power RF is used to generate heat and modify specific nerves that have an affect on high blood pressure.