

# 2018 Space Symposium

Innovation Hub

Pretoria

19 May 2018

## 08:30 Registration

09:00 Announcements

Session 1 Chairman: Ray Webber ZS6RSW

09:10 Why is the RF Noise floor of concern for satellite operators?

*Hans van de Groenendaal ZS6AKV, President AMSAT SA*

09:30 Es'Hail-2: An Updated Look at Amateur Radio's 1st Geostationary Satellite.

*Hannes Coetzee, ZS6BZP, B.Eng. Electronics (Pretoria),  
M.Sc. Space Physics (Rhodes)*

If all goes according to plan the Qatar Satellite Company's second satellite, Es'Hail-2, will be placed in a geostationary orbit by a Space-X Falcon-9 rocket within the next year. It will carry an AMSAT linear transponder as a secondary payload, giving amateurs for the first time access to a geostationary satellite. The operational parameters of the transponder are analysed and possible technical solutions for the up- and downlink requirements are presented.

10:15 Introducing the UAADC4, a universal analogue to digital converter specially designed to work with SDT IQ mixers  
*Alex Artieda ZS5EME*

10:45 Refreshment break

Session 2 Chairman: Nico van Rensburg ZS6QL

11:15 A BACAR-ready 10 GHz beacon to exercise your Es'hail-2 receiver

*Hannes Coetzee ZS6BZP*

Some radio amateurs have already built receivers for Es'hail-2's X-band downlink but aren't able to test them as there are not any suitable beacons on the air. A 10 GHz beacon implemented as a Balloon Carrying Amateur Radio (BACAR) payload will be very handy in this respect and will also offer radio amateurs the opportunity to join the BACAR fun.

12:00 FunCube and its data and hidden secrets  
*Deon Coetzee ZR6DE*

12:30 How to build a linear transponder with a Raspberry Pi, RTL Dongle and a Hack RF module using GENU radio  
*Anton Janovsky ZR6AIC*

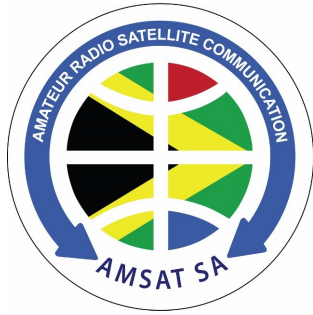
13:00 Lunch

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Session 3 Chairman: Brian Jacobs ZS6YZ

13:45 A Mission and Quality Assurance perspective on Radio  
Amateur CubeSats  
*Nico van Rensburg ZS6QL*

14:15 BACAR -QUAVADIS, the next five years  
*Christo Kriek ZR6LJK*

Session 4 Chairman: Hannes Coetzee ZS6BZP

14:45 Progress Report on KLETSKOUS and its next generation  
transponder

Stabilisation and Solar Panels  
*Frik Wolff ZS6FZ*

Electronic Power System  
*Fritz Sutherland ZS6FSJ*

New generation Transponder  
*Leon Lessing ZS6LMG*

16:15 Open forum

16:30 Attendance Draw

Prizes to be won:

**Sam's Ham shack:**

Diamond X-5000 2m/70cm/23cm Base Station Antenna

UHF Power Amp 1-6W-in 10-25W out

MFJ-914 Auto Tuner Extender.

**Avnet:**

4 PIC32MM Curiosity Development boards.

**RF Design:**

TBA

Plus many smaller prizes

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