



WATTS

08-2017
Year 87 + 08m

Monthly Newsletter of the Pretoria Amateur Radio Club
Maandelikse Nuusbrieff van die Pretoria Amateur Radio Klub

✉ PARC, PO Box 73696, Lynnwood Ridge 0040, RSA

<http://www.parc.org.za> zs6pta@zs6pta.org.za



Bulletins : 145.725 MHz on Sundays / Sondaes at 08:45

Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz

Activated frequencies are announced prior to bulletins

Swopshop : 2m and 7.066 MHz live on-air after bulletins

Bulletin repeats on Mondays / herhalings op Maandae : 2m 19:45

Re-Defining the SI System - the New Standard for the Kilogram



For more information see page 13

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Club Meetings / Klub Vergaderings

Club Social Meeting :

**Saturday the 12th of August from
14h00 at SAM**

Committee Meeting :

**Wednesday the 16th of August 2017
from 19h00 at Waterlab Boardroom**

Next PARC Flea Market dates for 2017 **Volgende PARK Vlooiemark datums vir 2017**

28 October (From 10h00) / 28 Oktober (Vanaf 10h00)

For more information please listen to the Sunday Bulletins or contact Alméro Du Pisani ZS6LDP at 083-938-8955 or almero.dupisani@up.ac.za

Birthdays / Verjaarsdae - August / Augustus

03 Paul Sterling ZS6BMF
05 Hans Gürtel ZR6HVG
07 Whitey Joubert ZS6JJJ

07 JB de Beer ZR6YV
08 Marnix Claeys ZS6MCM
28 Jean de Villiers ZS6ARA

Spouse's Birthdays / Gade Verjaardae - August / Augustus

No Birthdays

Anniversaries / Herdenkings - August / Augustus

07 Peggy and Edmar Willers ZS6UT

Lief en Leed / Joys and Sorrows

Erna, die gade van Whitey Joubert ZS6JJJ het 'n voetoperasie ondergaan. Ons wens haar spoedige beterskap.

Paddy, the sw of Kenny Martin ZS6KMM was in bed with flu. We wish het a speedy recovery.

Etienne Naude ZS6EFN het tans ook griep, maar ons sien hy byt vas en werk. Alle beterskap Etienne.

Birthdays / Verjaarsdae - September

19 Johan Classen ZS6IAM
21 Johan de Bruyn ZS6JHB
26 Graham Reid ZS6GJR

27 Ryan Gibson ZS6GGR
28 Irene Myburgh ZS6IEA

Spouse's Birthdays / Gade Verjaardae - September

16 Annelize, gade van De Jager Burger ZS6ZO
28 Irene ZS6IEA, gade van Pieter Myburgh ZS6PAM

Anniversaries / Herdenkings - September

28 Erika en Jan (Pine) Pienaar ZS6OB

PARC Bulletins / PARK Bulletins

PARC Bulletins are presented on Sunday mornings at approximately 08h45, after the SARL Bulletins in English and Afrikaans, from 08h15. The Bulletin Presenters for the following two months are presented below. Please do contact the applicable presenter beforehand if you wish to make a contribution to the Bulletin. PARC Bulletins are broadcast on the 2 meter repeater on 145.725 MHz, and 70 cm on 438.025 MHz. Relays are done on 7.060 MHz by Hans Kappetijn ZS6KR and on Echolink by Johan Lehman ZS6JPL.

PARK Bulletins word op Sondagoggende aangebied om 08h45, na die SARL Bulletins in Engels en Afrikaans, vanaf 08h15. The Bulletin aanbieders vir die volgende twee maande word onder aangedui. Kontak gerus die toepaslike Bulletin leser indien u 'n bydrae tot die Bulletin wil maak. PARK Bulletins word uitgesaai op die 2 meter Herhaler op 145.725 MHz, en 70cm op 438.205 MHz. Herleidings word gedoen op 7.060 MHz deur Hans Kappetijn ZS6KR, en op Echolink deur Johan Lehman ZS6JPL.

PARC Bulletin Presenters : August - October 2017			
Date	Presenter	Date	Presenter
13 August 2017	Tjerk Lammers ZS6P	24 September 2017	Johan du Bruyn ZS6JHB
20 August 2017	Johan du Bruyn ZS6JHB	1 October 2017	Louis de Wet ZS6SK
27 August 2017	Louis de Wet ZS6SK	8 October 2017	Almero du Pisani ZS6LDP
3 September 2017	Almero du Pisani ZS6LDP	15 October 2017	Etienne Naude ZS6EFN
10 September 2017	Etienne Naude ZS6EFN	22 October 2017	Tjerk Lammers ZS6P
17 September 2017	Tjerk Lammers ZS6P	29 October 2017	Johan du Bruyn ZS6JHB

Please do contact Etienne Naude ZS6EFN for more information or any Bulletin arrangements

PARC SUBS : PARK LEDEGELD : FROM / VANAF : 30-06-2017

Bank	First National Bank	Ordinary Members / Gewone Lede : R160 Spouses / Pensioners : R60	Your call sign must appear as statement text!
Branch Code	25 20 45		
Account No	546 000 426 73		

Please remit your subs in time to our Treasurer, or pay per transfer into the PARC account
Betaal asb. u ledegedelde betyds aan ons Tesourier, of betaal per oorplasing in die PARC rekening

Please Note : If your Club fees are not paid up to date, birthday details cannot be displayed in Watts

PARC Committee Members / Komiteelede : 2016 - 2017

<u>Elected Members</u>	<u>Name</u>	<u>Callsign</u>	<u>Email Adress</u>	<u>Tel No</u>	<u>Mobile No</u>
Chairman, Web co-ordination	Graham Reid	ZS6GJR	greid@wol.co.za	012-667-2720	083-701-0511
Vice Chairman, Repeater & Rallies	Johan de Bruyn	ZS6JHB	zs6jhb@gmail.com	012-803-9418	079-333-4107
Bulletins, RAE & Liason	Etienne Naude	ZS6EFN	etienne@afrigrid.com	012-661-6745	082-553-0542
Treasurer	Andre van Tonder	ZS6BRC	andre.vtonder@absamail.co.za	012-361-3292	079-869-0753
Clubhouse Manager	Pieter Fourie	ZS6CN	pieterzs6cn@gmail.com	012-804-7417	082-573-7048
Social	Whitey Joubert	ZS6JJJ	zs6jjj@gmail.com	012-993-2267	072-120-4516
Secretary, Watts & RAE	Louis de Wet	ZS6SK	louis.zs6sk@gmail.com	012-349-1044	072-140-9893
<u>Co-Opted Members</u>	<u>Name</u>	<u>Callsign</u>	<u>Email Adress</u>	<u>Tel No</u>	<u>Mobile No</u>
Fleamarkets	Alméro Dupisani	ZS6LDP	almero.dupisani@up.ac.za	012-420-3779	083-938-8955
Auditor	Tony Crowder	ZS6CRO	tcrowder@telkomsa.net	011-672-3311	
Historian, Archives, Awards	Tjerk Lammers	ZS6P	zs6p@iafrica.com	012-809-0006	083-976-4387
Contests	Jaco Cronje	ZR6CMG	jacocronje@yahoo.com		081-474-2220
Contests	Pierre Holtzhausen	ZS6PJH	zs6pjh@telkomsa.net	012-655-0726	082-575-5799

Contests and Diary of Events - August 2017 / Kompetisies en Dagboek van Gebeure - Augustus 2017 (UTC Times)

5 - 6	10-10 International Summer Contest, SSB : 00h01 - 23h59
6	SARL HF Phone Contest : 13h00 - 16h30
9	SARL YL Sprint
12 - 13	WAE DX Contest : 00h00 - 23h59
19 - 20	International Lighthouse and Lightship Weekend
20	SARL HF Digital Contest : 13h00 - 16h30
26 - 27	YO DX HF Contest : 12h00 - 12h00
27	SARL HF CW Contest : 13h00 - 16h30

Contests and Diary of Events / Kompetisies en Dagboek van Gebeure - September 2017 (UTC Times)

02	Russian RTTY World Wide Contest : 00h00 - 23h59
02 - 03	All Asian DX Contest, Phone : 00h00 - 24h00
02 - 03	RSGB SSB Field Day : 13h00 - 13h00
02 - 03	IARU Region 1 Field Day, SSB : 13h00 - 12h59
09 - 10	WAE DX Contest, SSB : 00h00 - 23h59
09 - 10	ARRL EME Contest : 00h00 - 23h59
09 - 10	SARL National Field Day Contest : 10h00 - 10h00
10	North American Sprint : 00h00 - 04h00
11	RSGB 80m Autumn Series : 19h00 - 20h30
16 - 17	SARL VHF/UHF Analogue / Digital Contest : 10h00 - 10h00
16 - 17	Scandinavian Activity Contest, CW : 12h00 - 12h00
16 - 17	All Africa International DX Contest : 12h00 - 12h00
20	RSGB 80m Autumn Series, CW : 19h00 - 20h30
21	Closing Date : October RAE Registration
22	CQ Worldwide DX Contest, RTTY : 00h00 - 24h00

More information can be obtained from the SARL website, as well as the WA7BNM contest calendar at the following website: <http://hornucopia.com>

Rally News 2017 : Tydren Nuus 2017

2017 Rally Calendar / 2017 Tydren Kalender

*Round	Date	Province	Location
5	18/19 August	Gauteng	Bronkhorstspuit
7	21 October	Free State	Welkom

*Other rounds 4 and 6 are in Port Elizabeth and Caledon

2017 Cross Country Championship Calendar

Round	Date	Location
5	15/16 September	Sun City
6	27/28 October	TBC

Indien u sou belangstel om met radio ondersteuning betrokke te raak, kontak gerus vir Johan de Bruyn ZS6JHB by 079-333-4107 of zs6jhb@gmail.com

Pretoria Amateur Radio Club Annual General Meeting : Proxy & Nomination Forms
Pretoria Amateur Radio Klub Algemene Jaarvergadering : Volmag en Nominasie Vorms



87th ANNUAL GENERAL MEETING
87^{ste} ALGEMENE JAARVERGADERING
Pretoria Amateur Radio Club



Pretoria Old Motor Club
Keuning Str. Silverton

Venue

Saturday 23 September 2017
Time : 11h30
Agenda : To be published

Plek

Saterdag 23 September 2017
Tyd : 11h30
Agenda : Sal gepubliseer word

NB

Nominations awaited. Latest acceptance by 11h00 on 23 September 2017
 Nominasies word afgewag. Laatste indiening teen 11h00 op 23 September 2017
 Contact details on page 3 of WATTS / Kontakdetails op bladsy 3 van WATTS

PROXY Form (cut out) || VOLMAG Vorm (knip uit)

Only paid-up members may submit proxies || Slegs opbetaalde lede mag volmagte indien

I/Ekbeing ZS/R/U..... give/geeZS/R/U.....

Proxy to vote on my behalf at the 2017 PARC AGM

Volmag om namens my te stem tydens die 2017 PARK AJV Geteken/Signed.....

NOMINATION Form (cut out) || NOMINASIE Vorm (knip uit)

Committee Nominations must be in writing and signed by both the Proposer and Nominee and be handed in on **23 September 2017 at 11h00 at the latest**. Use the Nomination Form below. The Proposer and Nominee must both be paid-up members.
Komitee Nominasies moet skriftelik wees en deur beide die Voorsteller en Voorgestelde geteken word en moet **op laaste teen 11h00 op 23 September 2017** ingehandig word. Gebruik die Nominasievorm hieronder. Beide Voorsteller en Voorgestelde moet opbetaalde lede wees.

Proposer: ZS Signature:
 Voorsteller:.....ZR..... Handtekening:.....
 ZU

NOMINEE GENOMINEERDE	CALLSIGN ROEPSEIN	NOMINATION ACCEPTED NOMINASIE AANVAAR
1		
2		
3		
4		

Pretoria Amateur Radio Club Annual General Meeting : Notice of Motion
Pretoria Amateur Radio Klub Algemene Jaarvergadering : Kennisgewing van Mosie

Notice of motion to amend the constitution
of
Pretoria Amateur Radio Club

The amendments are proposed for the following reasons:

To add certain key governance principles currently omitted from the club's constitution.
To align the club's operational and fiduciary responsibilities with best practices.
To correct certain spelling and syntax errors

Changes are highlighted in **bold print**. Insertions and deletions are printed in **red**.

CLAUSE 31

31. General meetings shall be held by the Club ~~which shall decide the month in each year when it's~~
Compulsory Annual General Meeting will be held **within 60 days after the club's financial year end** in substitution
OF its ordinary meeting. Special general meetings may also be convened under these Rules.

Reason for change: The current constitution does not mention any specific date/timeline by which an Annual General meeting has to be held. Not stating a date/timeline leaves the decision on a AGM open-ended and which can lead a prolonged final decision on an AGM date.

CLAUSE 34.2

34.2. the bank or ~~building society~~ with which the funds of the Club are to be deposited and, subject
to the provisions of the Rules, the manner in which such funds shall be administered.

Reason for change: building societies are no longer a financial services organisation and therefore propose to remove the reference to building society from clause 34.2

CLAUSE 37

37. Nominations for election to the committee shall be made by the members **and should be submitted to the club secretary in writing on the nomination forms provided. Such committee nominations shall reach the club secretary latest 14 days before the date of the AGM;** provided, however, that any member who will be unable to attend the meeting may address his nomination to the secretary as to reach the secretary at least two clear days before the date of such meeting

Reason for change: Currently there are no specific deadlines by which committee nominations are to be submitted at. This cause for an open-ended approach and late nominations been created just to fill committee positions.

CLAUSE 38.4

38.4. Nominations are received after the closing date of nomination submissions which is 14 days before the date of the AGM.

Reason for deletion: Submission of nominations will not be valid if the nominations are received after the closing date of the such nominations.

CLAUSE 66

66. The Chairman's report, AGM Agenda, Audited Financial results and minutes of the previous AGM must be published on the club's web site and distributed to members latest 21 days before the date of the scheduled AGM each year.

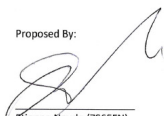
Reason for changes: Currently no financial results, Chairman reports or minutes of the previous AGM are being distributed before the start of the scheduled AGM. This is a) not according to best practises and b) does not allow members to prepare for the meeting if information pertaining to the AGM is not received within time before hand.

CLAUSE 49

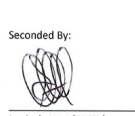
49. The club's treasurer shall publish the quarterly, half year and year end Financial Management Reports on the club's web site.

Reasons for changes: In order to become more transparent and to provide our members with insight to the financial matter of the club, regular publication of the financial status of the club is necessary.

Proposed By:


Etienne Naudé (Z56EJN)
2017-06-27

Seconded By:


Louis de Wet (Z56SK)
2017-06-27



You might be an engineer if...

- You can't write unless the paper has both horizontal and vertical lines.
- You have more friends on the internet than in real life.
- You always want to modify a good design.
- You think your PC looks better without the cover.
- Your wife has no idea what you do at work.
- You still own a slide rule and forgot how to work it.
- You buy electronic goods "as is".
- The sales people at hi-tech shops can't answer your questions.
- You don't have the heart to dump the electronics kit you got for your 9th birthday.
- You are currently gathering components to build your own nuclear reactor.
- You think that when people around you yawn, they didn't get enough sleep.

"I am not young enough to know everything" - Oscar Wilde

Submitted by Hans Kappetijn ZS6KR

The bands being what they have been lately—something about “coronal holes” and “solar wind,” which sounds painful in a proctological sort of way—some of us tend to start looking for issues to create and things to heatedly discuss as opposed to trying to find some particles in the ionosphere off which to bounce a little RF. I admit the idea for this article came, not from an on-air QSO, but from an email exchange with a ham friend who had just suffered through a traumatic experience, trying to make a simple contact with a recent DX-pedition.

“Have things gotten worse?” he asked. “Are there more jerks calling incessantly in the pile-ups, even when the DX op specifically asks for another station to complete his call or requests callers only from a specific geographic area? It certainly seems to me, after a lot of years on the air, that good operators have gone the way of the Dow-Key antenna relay and it is now the %&#\$\$@& jerks that rule the airwaves. And that it is those &^#\$\$@\$% who so often get the contact when those of us who follow the DX code to the letter end up trampled and QSL-less. What do you think, Don?”

Having had similar experiences myself lately, especially with the recent Niger and Tonga operations, my first thought was, “Absolutely! Things are at least 9-to-12 dB worse than they were back in the good old days, when everybody was polite, waited their turn, never called unless asked, used minimal power necessary to make the QSO, and were more than happy to delay the precious contact if there was any chance at all he or she might step on another hopeful contact seeker.” Then I considered it for a bit. The title of a country song I once wrote crossed my mind: “It Never Was the Way It Used to Be.” It’s human nature to remember much more vividly the good things about the past and to notch-filter out the less pleasant stuff. I do recall some of the same antics being present way back then. Also, I know of no definitive study on the subject, and I am a data guy. We have no count of how many jerks were in the pile-ups back in the ‘70s as opposed to the quantity now busily hosing up 20 meters. Any discussion would have to rely on a small sample and anecdotal, biased testimony.

I decided to come at this thing from the other side. If things are not scads worse now, what would make my buddy and I think they were? A few reasons popped right out at me, but at the same time, as maddening as it can be, I can also see how there might really be a greater percentage of %&#\$\$ in those pileups than there was in 1975.

So, I am conflicted on the question. Maybe you can think of more reasons why either position is correct. Maybe you would like to do something about the growing “problem.” That is, if you have a clue what that solution might be, other than committing a capital offense or complaining about the situation in the comments section on amateur radio web sites, and either action could follow you around for the rest of your natural life.

Or you could ratchet on about how DX is a waste of time and frequency spectrum that might be better used for rag-chewing/contesting/antenna experimenting/nets/SSTV/QRP/satellites or whatever yanks your particular crank.

Reasons jerk DX operators might not actually be any more prevalent today than in the halcyon days:

Number 1: We can hear them so much easier now than back in those days. “Huh?” you glibly ask. Back then, it was a real chore for callers to listen to the frequency range where the DX was listening. Shoot, you actually had to turn the receiver or transceiver dial to see what was going on up there where you and the rest of the world were screaming away, not just hit the SPLIT button. Then, after hearing the mess, you had to tune back down and try to find the DX station again. We were mostly ignorant of how badly the mob was misbehaving. Today, it is not only a snap to listen to the pileup, you can even SEE it! Many of us have a band scope and can watch W6JERK sending away every three seconds, even when the DX operator is working somebody else, calling for Europe, or taking five for a cup of coffee and a sedative. Ignorance was bliss!

Number 2: Back in the glory days, “DX spots” was an itchy dermatological condition. Nowadays, they are either the greatest aid to working thirty dozen entities or the ruination of an otherwise fine hobby. Many guys assume if they see a rare one on the cluster, all they need do is start yelling or pounding away “UP 5” or wherever, the frequency that was so kindly given on the spot where the rare one was supposed to be listening. The hope is that the DX will eventually hear the every-

three-second-calling station while tuning past or while trying to work someone else. Or maybe even that the calling lunkhead may eventually hear the DX. Yes, some of these over-biased LEDs are calling even though they cannot hear even a whisper of the desired DX station. They figure if they call often and long and loud enough, the band will eventually shift and the DX will magically rise up out of the noise. And if he does, old lunkhead will be the first to be heard. Never mind how many hearts and spirits the screwball may have broken in the process.

On the other hand, I can think of some reasons why it might actually be much worse in those pileups today than way back then. I mean beyond there are simply many, many more of us around the globe than there was in the mid-70s. -- And many, many more running better radios, superior antennas, and more power. And maybe even a greater percentage of uncouth dimwits in the population as a whole.

Number 1: A corollary for Numbers 1 and 2 above, with the ease of checking the pile-up and with DX clusters, many more of us can see where the DX is listening and who he is working. Then, some of these micro-micro-farad-IQ ops figure if they just keep sending, even if the DX op is trying to work somebody else but can't establish contact, the DX guy will simply stop trying and pick up - Micro-IQ instead. Most good DX operator's take the opposite stance, though, and either call out the jerk or simply ignore him or her until the weaker station can be picked up successfully. (The band police call the lids out, too, but that whole subject is best left for another article.)

Number 2: Most of us now have the ability to record our call signs, regardless the mode, and just sit there and hit a button that keeps broadcasting it over and over and over and over and over. No numb sending hand. No onset of laryngitis. No keyboard stenosis. So maybe the DX will finally get tired of hearing your recording, work you, and move on.

Number 3: There is more competition nowadays to try to land at the top of the Honor Roll or to show up atop the Club Log list for every way a DX-pedition can be worked. That means guys feel the need to work a DX-pedition on every band and mode available...to show they can...and are disgustingly addicted to doing just that, regardless what it takes to do so or who gets trampled in the stampede.

Number 4: People who donate money to these DX-peditions sometimes feel like they own the opportunity to work them, no matter what. Kind of like me at the all-you-can-eat buffet...I'm going to get my money's worth so don't get between me and the roast beef!

Frankly, I look at out-of-turn callers, constant transmitters, and their ilk as just another challenge to overcome, like lack of sunspots or a DX station using an S-38E receiver (some of you know what that is!). It merely increases the challenge. Whether the problem is getting worse, staying the same, or getting better, we still have to work through the dolts to try to get that precious contact and QSL. But so does everybody else who does it the right way.

But I admit I have been tempted to look up WA3BIGLID and drop him an email: "What makes you think you can keep blathering away, incessantly calling the DX, even as the poor guy is pleading for everyone except 'the Victor Echo seven' to stand by? Maybe you should check with your neurologist and see if you have a tumor or something. Otherwise, why would somebody be so brain-dead?"

I don't, though. It is only a hobby. Such lid-ness only makes me appreciate more the contact if and when I finally make it.

Besides, I can always assuage my frustrations down at the all-you-can-eat buffet. Unless, of course, that obese jerk is there again, rudely shoving everyone else aside so he gets first dibs on the boiled shrimp and crab legs.

(Don Keith, N4KC is a long-time active ham and former broadcaster. He is also an award-winning and best-selling author with more than thirty books published, fiction and non-fiction, on a wide range of subjects, including three books dealing with Amateur Radio. His novel Firing Point is now in production as a major motion picture under the title Hunter Killer, starring Gerard Butler and Gary Oldman. He recently received the Bill Leonard Journalism Award from the ARRL for an article on the hobby he wrote that appeared in American Legion Magazine.

Don's web sites are www.donkeith.com and www.n4kc.com . The latter site features numerous articles about our hobby. Don also blogs on the subject of rapid technological change and its effect on media, society and Amateur Radio at <http://n4kc.blogspot.com>.) Submitted by Johan ZS6JHB

RAE October 2017 Syllabus and Lectures

Lectures for the October 2017 Radio Amateur Examination will be presented by PARC from the 1st of July 2017. The course presented by PARC is free of charge. For more information on the lectures, please do contact Etienne Naude ZS6EFN at etienne@afgrid.co.za.

Week	Date	Material	Tutor	Chapter	Tutor
1	01-Jul-17	RAE Information Session	E/LdW/VH	1	Overview of Amateur Radio
2	08-Jul-17	Chapter 1 - 4	E	2	Operating Procedures
3	15-Jul-17	Chapter 5 - 7	E	3	Basic Electrical Concepts
4	22-Jul-17	Chapter 8 - 10	E	4	Resistance and Ohm's Law
5	29-Jul-17	Chapter 11 - 13	LdW	5	The Resistor and Potentiometer
6	05-Aug-17	Chapter 14 - 16	LdW	6	Direct Current
7	12-Aug-17	Chapters 17 - 19	LdW	7	Power in DC Circuits
8	19-Aug-17	Break		8	Alternating Current
9	26-Aug-17	Chapters 20 - 22	LdW	9	Capacitance and the Capacitor
10	02-Sep-17	Chapter 23 - 25	LdW	10	Inductance and the Inductor
11	09-Sep-17	Chapters 26 - 27	VH	11	Tuned Circuits
12	16-Sep-17	Chapters 28 - 30	E	12	Decibel Notation
13	23-Sep-17	Chapters 31 - 33	E	13	Filters
14	07-Oct-17	HF Assessment	E/LdW/VH	14	The Transformer
	21-Oct-17	RAE		15	Semiconductors and the Diode
				16	The Power Supply
				17	Bipolar Junction Transistor
				18	The Transistor Amplifier
				19	The Oscillator
				20	Frequency Translator
				21	Modulation Methods
				22	The Transmitter
				23	Receiver Fundamentals
				24	The Super Heterodyne Receiver
				25	Transceivers and Transverters
				26	Antennas
				27	Propagation
				28	Electromagnetic Compatibility
				29	Measurements
				30	Digital Systems
				31	Digital Communication Modes
				32	Safety Considerations
				33	Before You Go

Lecture notes for the RAE can be obtained from the SARL website at <http://www.sarl.org.za/public/licences/rae.asp>. The various files which can be downloaded required for study for the RAE include the following:

The following documents are available. Click on the document title to download a copy.

Reference Date	Document Title	File Type	Size
2016-06-14	SARL Inleiding tot Amateurradio - Klas A Studiegids	PDF	980 kB
2016-05-06	ICASA Regulations - Effective for Oct 2016 examination and onwards	PDF	286 kB
2016-05-05	SARL RAE Class A Study Guide - 2016 Effective for Oct 2016 exam and onwards	PDF	4.6 MB
2016-05-05	HF Assessment Preparation Guide - Effective for Oct 2016 Exam and onwards	PDF	1.3 MB

Venue and times:

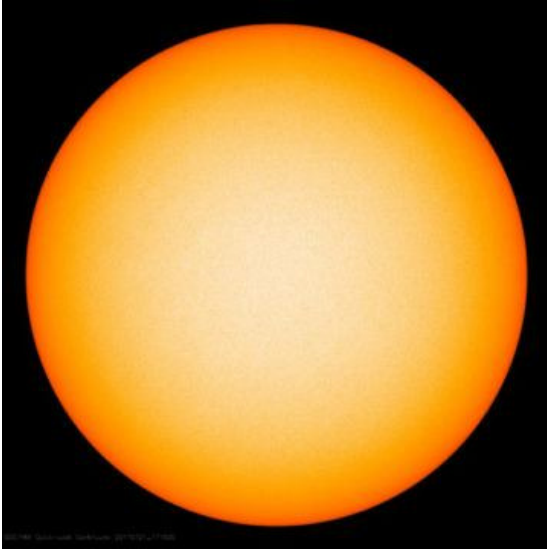
Lectures will be presented in the Board Room of Waterlab (Pty) Ltd from 9h00 - 12h00 each of the dates (Saturdays) listed above. The address of the venue is 23B de Havilland Crescent, Perseus Park, Pretoria. Please do contact Louis de Wet ZS6SK at louis.zs6sk@gmail.com if you require more information on the venue.

Pretoria Amateur Radio Klub Vlooiemark : 29 Julie 2017

Die afgelope winter vlooiemark was weereens 'n groot sukses met talle tafels volgepak met 'n wye verskeidenheid komponente, radios en dies meer. Pretoria Amateur Radio Klub bedank graag vir Almero Du Pisani ZS6LDP vir sy harde werk met die reëlings van die geleentheid. Ook hiermee ons hartlike dank en waardering aan Whitey Joubert ZS6JJJ, Kenny Martin ZS6KMM en Sarel Stapelberg ZS6EK en sy gade Karin en seun, Francois, vir die heerlike worsrolletjies en koffie en tee wat beskikbaar was. Ongelukkig kon Whitey se gade, Erna nie help nie, aangesien sy in die hospitaal was met 'n voetoperasie, terwyl Kenny se gade, Paddy, tuis was met griep. Ons hoop om hulle weer by die volgende vlooiemark te sien, wat sal plaasvind op die 28ste Oktober by die Pretoria Motorklub te Silverton. Vir enige inligting, kontak gerus vir Almero, wie se kontak besonderhede verskyn op bladsy 1. Ons hoop om sommer baie mense te sien by die laaste vlooiemark vir 2017.



The Sun, now halfway through its life, might be slowing its magnetic activity, researchers say, which could lead to permanent changes in the sunspots and auroras we see. The Sun has changed its figure, researchers say, and might keep it that way.

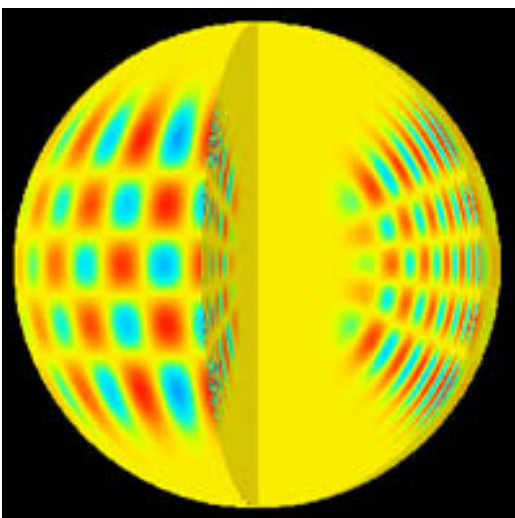


The structure of the Sun's surface, where sunspots live, appears to have changed markedly 23 years ago. That's when solar magnetic activity might have started slowing down, Rachel Howe (University of Birmingham, UK, and Aarhus University, Denmark) and collaborators speculate in paper to appear in the *Monthly Notices of the Royal Astronomical Society* (full text here). Such a structural change might help explain the Sun's mysteriously weak cycles in recent years.

The spotless Sun of July 21, 2017 : NASA / SDO / HMI

The interior of the Sun pulsates as rhythmically as a human heart. But while the heart pulses at one fairly steady frequency, the Sun reverberates at thousands of different frequencies. Pressure changes inside the Sun create these reverberations, just like pressure changes in the air create sound. The sound waves inside the Sun are outside the range of human hearing — they're too low frequency — but if we sped them up, we could hear them just like any other sound.

Some of these sound waves come from deep within the Sun, while others come from shallower layers. Since these sound waves can tell us about the structure of the solar interior, scientists measure them constantly using instruments like the Birmingham Solar-Oscillations Network.



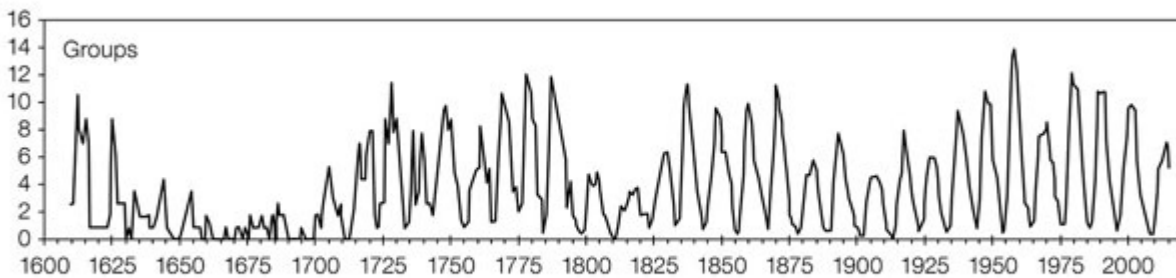
Howe and colleagues collected 29 years of data on these sound waves, and they measured how much the waves' frequency changed over time relative to a four-year period spanning 1988 to 1992. If the Sun were to stay pretty much the same, researchers would find no real difference between this four-year period and any other period. Instead, they were surprised to find that, since 1994, low-frequency sound waves have changed quite a bit compared with their behavior during the four-year benchmark. While higher-frequency sound waves changed too, it was by a much smaller amount. This confirms previous research, which has indicated a possible structural change in the surface layer of the Sun.

A computer model of sound waves resonating in the interior of the Sun.

Then, the researchers compared the change in higher-frequency sound waves, which reverberate in the shallowest layer of the Sun, with the number of sunspots. In general, the two tracked each other pretty well over the years: the change in high-frequency sound waves went up and down with the number of spots during the Sun's 11-year cycle of magnetic activity.

But over the last two solar cycles, the change in high-frequency sound waves exceeded the number of sunspots. This shift, the researchers reasoned, could mean that the waves were picking up on sunspots so small that they weren't even recorded. If there are a lot more tiny sunspots than there used to be, and they're all confined to the shallowest layer of the Sun — well, maybe the Sun's surface is thinning and its magnetic activity is slowing down.

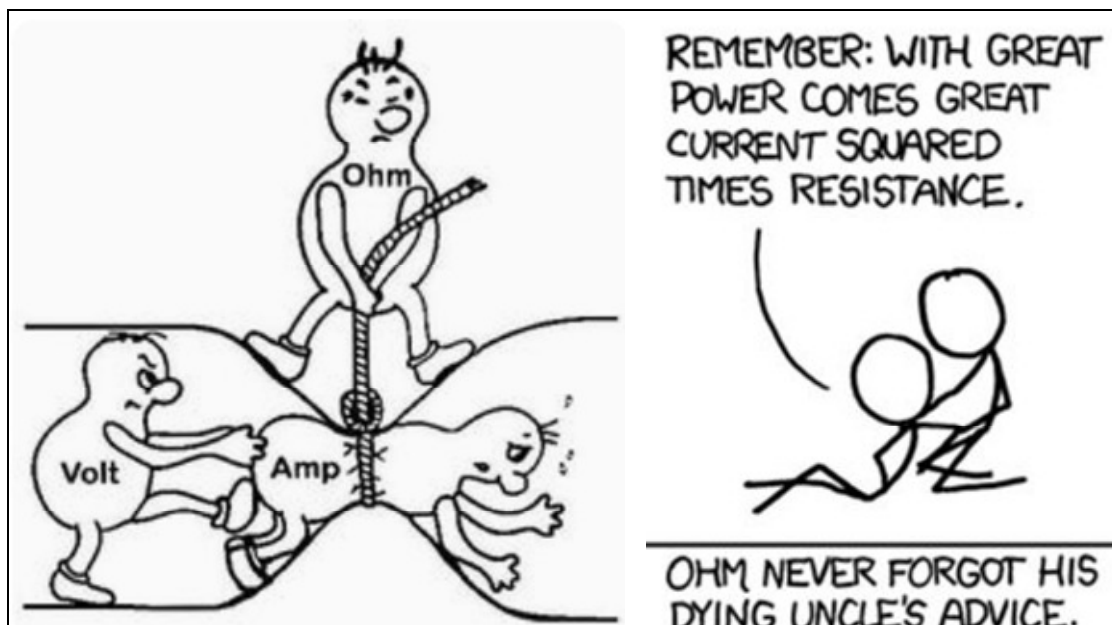
There is evidence that Sun-like stars slow their magnetic activity after reaching middle age. And the Sun is, in fact, at just that age. But while we might be seeing some evidence of a slow-down, the process will likely happen over thousands, if not millions, of years. Furthermore, this is not the first time that the Sun has deviated from previous behavior. During a 70-year period in the 17th century, the Sun shed all but a few of its sunspots, only to right its course again.



Sunspot record over 400 years

This graph shows the number of sunspot groups over the past 400 years. The Maunder Minimum, when sunspots were scarce between 1645 and 1715, is clearly visible, and the more regular changes of the 11-year solar cycle are also clearly seen.

And maybe we're not seeing a slow-down at all. While the strongest sunspot cycle rises and falls over the course of 11 years, there are other sunspot cycles that rise and fall over longer timespans. These other cycles could affect the 11-year cycle. So we can't yet conclude that the Sun's relatively recent changes are permanent. The best thing to do is just keep on looking: There are many more clues buried in the Sun's many heartbeats.



The National Metrology Institute of SA (NMISA) 70/10 Celebration

The National Metrology Institute of South Africa (NMISA) celebrated their 70th year as a national calibration service and 10th year as NMISA from the 2nd till the 4th of August with a Conference and Annual Achiever Awards function at the CSIR Conference Centre, Pretoria. The highlight of the Conference was presentations by eminent overseas presenters which covered a number of interesting topics. The titles of their presentations followed by their abstracts are listed below:

A brief history of units, from 1791 to the present day : Prof Terry Quinn – BIPM, France : It is now more than two hundred years since, in 1791, a Committee of the Académie Royale des Sciences de Paris made a proposal to base a new unit of length on a fraction of the meridian passing through Paris, thereby initiating the creation of the metric system. The evolution of ideas is traced about units of measurement from that time until the present day. The redefinition of units in 2018 will at last put into practice the 1791 aspiration for a system of measurement independent of time and place, accessible to all and belonging to no one nation: “A tous les temps, a tous les peuples” “For all time for all peoples”.

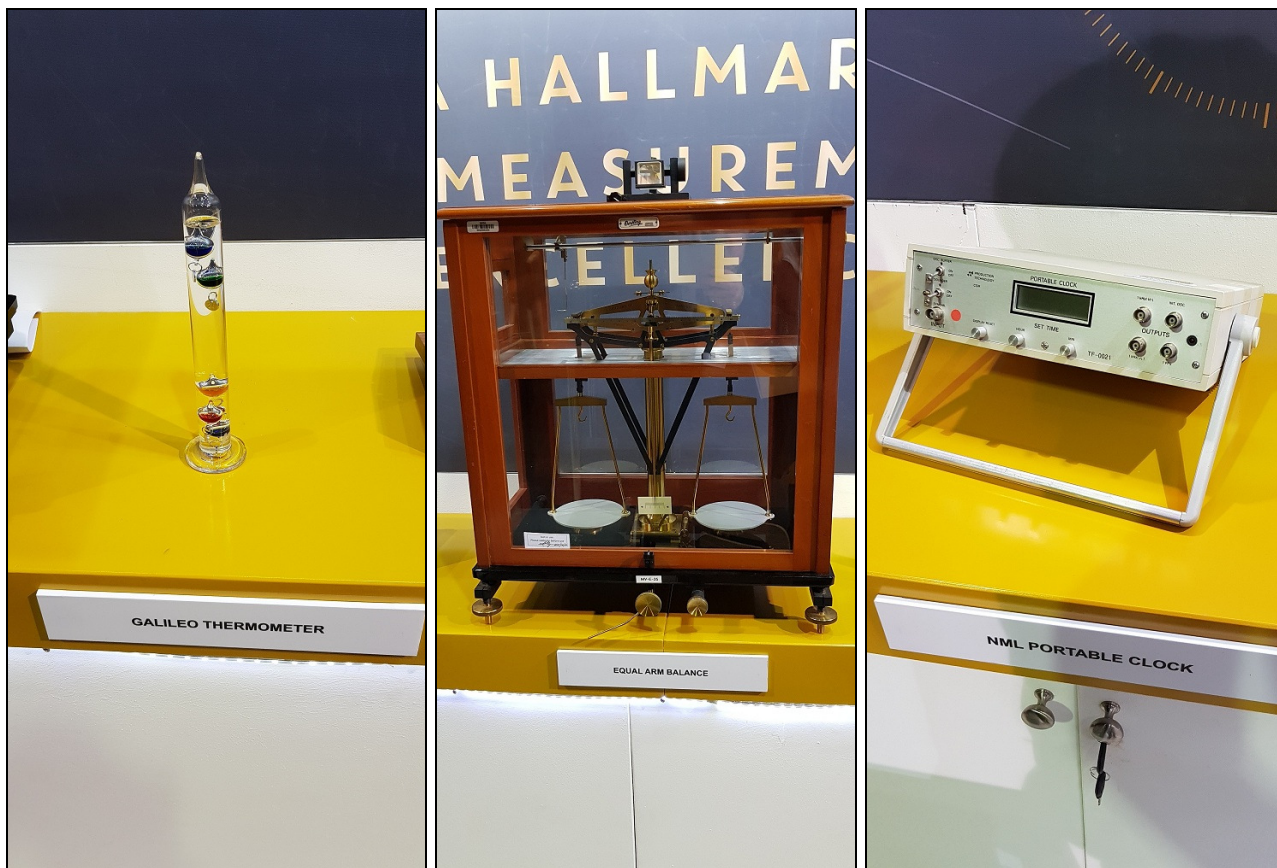
Linking the International System of Units to Fundamental Constants : Prof. Joachim Ullrich – Physikalisch-Technische Bundesanstalt (PTB), Germany : The International System of Units is the universal language of science and technology in our global society. In 2018, it is intended to be revised to achieve it's most stable foundation: Fundamental Constants. Based on the role and global impact of the metre convention, this presentation will discuss the background and motivation of the intended revision of the International System of Units. It will review the global efforts to establish the values of the fundamental constants as a stable and universal base of a revised International System of Units and summarize where the global community is today. The question of the constancy of the fundamental constants will be discussed.



Part of the NMISA stand at the CSIR Convention Centre

Kibble balances: Providing a direct route from quantum electrical standards to the unit of mass : Dr. Stephan Schlamming – National Institute of Standards and Technology (NIST), USA : In 1976, Bryan Kibble published an idea that improved the metrological link between mechanical and electrical power by orders of magnitude. The device used to implement this idea was named after Kibbles passing in 2016 the Kibble balance. The core tenet of Kibble's idea is that the same physical principle that describes an electric motor can also be applied to explain a generator. Advances in the Josephson voltage standards and the discovery of the quantum Hall effect by von Klitzing in 1980 made it possible to express electrical power as a multiple of a product of two frequencies and the Planck constant. The combination of these quantum electrical standards and the watt balance provided a means to measure the Planck constant using a test mass with a precisely known mass value. We are now on the verge of redefining the International System of Units (SI). The SI will now rest on seven fundamental constants of nature whose values will be fixed. The watt balance is one possibility to realize the unit of mass using Planck's constant.

Some of the apparatus and measuring instruments used by NMISA over numerous years, and displayed at their stand, are shown below.



Above : Galileo Thermometer ; Equal Arm Balance ; NML Portable Clock



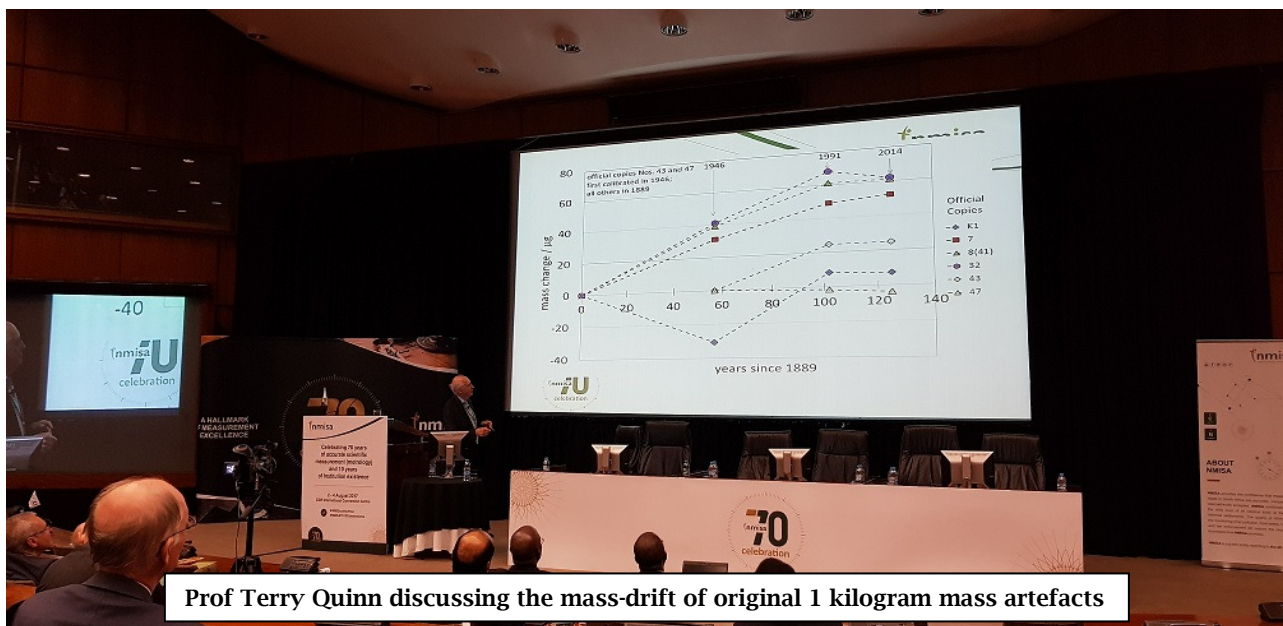
Above : Hilger & Watts Standard Metre ; NMISA Prototype Watt Balance



Above : Dynamometer Wattmeter ; Mechanical Thermohydrographs

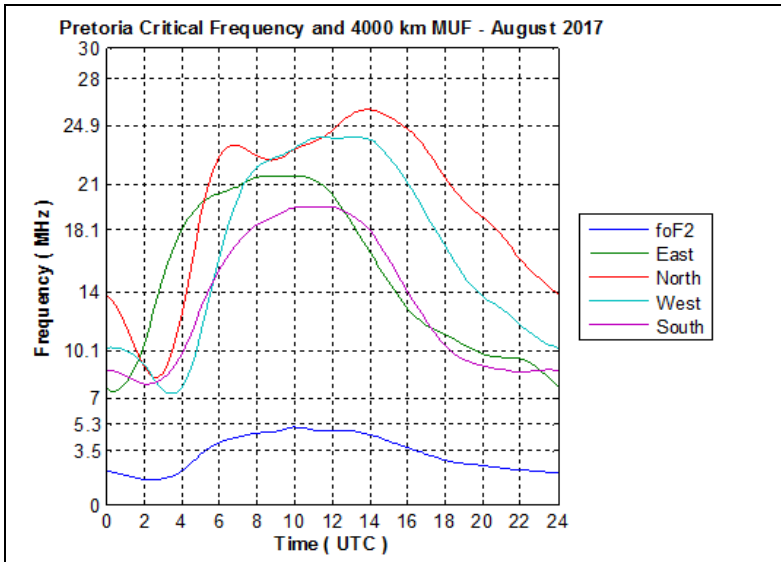
Another extremely interesting presentation was by Dr Horst Bettin of the Physikalisch-Technische Bundesanstalt (PTB) in Germany, entitled : **Determination of the Avogadro and Planck constants** : The Comité International des Poids et Mesures (CIPM) plans to introduce new definitions of the units kilogram, ampere, kelvin, and mole. The so-called X-Ray-Crystal-Density (XRCD) method assures the Avogadro constant by counting the atoms in an isotopically enriched silicon crystal. In this the single lattice parameter, molar mass, and density of single crystal silicon spheres are determined. The Avogadro constant derived from a new, highly enriched silicon reached a relative standard uncertainty of 1.2×10^{-8} . Since the Planck constant can be calculated from the Avogadro constant with negligible loss of accuracy, the results will be used for defining the mole and the

kilogram. After redefinition the XRCD method will be used to realize the new kilogram definition using silicon spheres. The Conference was concluded with a gala function and achiever awards, where the silicon kilogram artefact was presented to NMISA by Dr Joachim Ullrich.



For more information on SI Units and metrology, the following websites can be consulted:
www.nmisa.org.za
www.bipm.org





Long Term HF Propagation for August 2017

DX Operating

The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.

Local Operating

The F2 critical frequency (foF2) is the maximum F-layer frequency for short range communications.

For worldwide propagation see: <http://www.parc.org.za/index.php?page=propagation>

Courtesy Vincent ZS6BTY

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Astronomers have confirmed that there will be a Meteor Shower on the night of August 12, 2017 which will be the Brightest Shower in Human History. It will light up the whole sky and night will appear as day. It will be no doubt Once in a Lifetime opportunity as the next Shower of such kind will be after 96 years. You Can Enjoy It In Every Part Of The World. DON'T MISS...!!