



WATTS 2018-12

Year 88 + 12m

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 : Sundays from 08h45 / Sondag vanaf 08h45
 Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz
 and Echolink. Activated frequencies are announced prior to bulletins
Swoopshop : 2m and 7.066 MHz live on-air after bulletins
 Bulletin repeats on Mondays / herhalings op Maandae : 2m 19h45



This display is a Nevelin mercury-gas rectifier at the Museum of the South African Institute for Electrical Engineers. This is amongst other numerous magnificent displays, viewed during the AGM of the Antique Wireless Association of South Africa. More on pages 13-16.

In This Issue / In Hierdie Uitgawe

PARC 2018-19 Committee- & Co-opted Members.....	P 2
Birthdays/Verjaarsdae ; Joys & Sorrows/Lief en Leed.....	P 2
Silent Keys / Stil Sleutels.....	P 3
PARC Bulletin Roster ; Club Fees ; Flea-Markets 2019.....	P 4
Dagboek van Gebeure / PARC Contest Participation.....	P 5
PARK Kersboodskap / Northern Region Rally Awards.....	P 6
Redefinition of SI Units, Ampere & Kelvin.....	P 7-8
PARK Tydren Aktiwiteite en Afsluiting.....	P 9-12
AWASA Annual General Meeting.....	P 13-16
Technical and other news.....	P 17

Club Meetings / Klub Vergaderings

Club Committee Meeting :

The next Committee Meeting will be on Thursday, the 10th of January 2019 from 18h30 at the Waterlab Offices.

PARC Committee Members : 2018 – 2019 / PARK Komiteelede : 2018 - 2019

Name & Callsign	Portfolio/s	Email Address	Tel No	Mobile No
Louis de Wet ZS6SK	Chairman, Watts, Club History	louis.zs6sk@gmail.com	012-349-1044	072-140-9893
Graham Reid ZS6GJR	Vice Chairman, Treasurer, Website	greid@wol.co.za	012-667-2720	083-701-0511
Etienne Naude ZS6EFN	SARL Liaison, Bulletin Coordinator	etienne@afgrid.com	012-661-6745	082-553-0542
Irene Myburgh ZS6IEA	Club Secretary	irene@srsa.gov.za	012-304-5109	082-462-6001
Johan de Bruyn ZS6JHB	Rallies, Repeaters & Membership	zs6jhb@gmail.com	012-803-9418	079-333-4107
John Minter ZS6LED	Technical & RAE Training	john.minter.za@gmail.com	012-349-0019	083-291-5422

PARC Co-opted Members : 2018 – 2019 / PARK Ge-koopteerde Lede : 2018 - 2019

Name & Callsign	Portfolio/s	Email Address	Tel No	Mobile No
Alméro Du Pisani ZS6LDP	Flea-markets	almero.dupisani@up.ac.za	012-420-3779	083-938-8955
Tony Crowder ZS6CRO	Auditor	tcrowder@telkomsa.net	011-672-3311	
Nic Louw ZS6NWL	Youth Development	nic.louw@telkomsa.net		083-596-1026
Whitey Joubert ZS6JJI	Social & Competitions	zs6jji@gmail.com	012-993-2267	072-120-4516
Pierre Holtzhausen ZS6PJH	Competitions	zs6pjh@gmail.com		082-575-5799
Pieter Myburgh ZS6PAM	Repeaters	wooden@mweb.co.za		076-140-7562

Birthdays and Anniversaries / Verjaarsdae en Huweliks Herdenkings

Member's Birthdays December 2018 / Lede Verjaarsdae – Desember 2018

01 Pieter Fourie ZS6CN	15 Alméro Du Pisani ZS6LDP
02 Antoinette Liebenberg ZS6D	27 Pierre Britz ZR6ADZ
07 Tim Meyer ZS6TIM	28 Allan De Souza ZS6AVC
07 Hansie Meyer ZS6AIK	30 Hans van de Groenendaal ZS6AKV
08 Nielmari Wilson ZS6NMW	
08 Hans Kappetiin ZS6KR (Erelid)	

Spouse's December 2018 / Gades Desember 2018

02 Antoinette, gade van Danny Liebenberg ZS6AW
 06 Sylvia, gade van Tjerk Lammers (Erelid) ZS6P
 12 Elsa, gade van Fritz Sutherland ZS6SF
 23 Dienkie, gade van Pierre Britz ZR6ADZ

Anniversaries December / Herdenkings – Desember

08 Avida en Theo Bresler ZS6TVB
 29 Estelle en Francois Duminy ZS6FPS

Member's Birthdays January 2019 / Lede Verjaarsdae – Januarie 2019

05 Pierre Holtzhausen ZS6PJH	10 Wynand Wessels ZR6WW
07 Bertus Viljoen ZS6VIL	21 Albert Schreuder ZS6SE

Spouse's January 2019 / Gades Januarie 2018

15 Moira, gade van Fanus Ferreira ZS6BUH
 18 Zelda, gade van Wynand Wessels ZR6WW
 25 Magriet, gade van Tobie Jansen van Rensburg ZS6ZX

Anniversaries January / Herdenkings – Januarie

05 Louise en Louis (Alméro) Du Pisani ZS6LDP
 11 Judy and David Basil Botha ZS6O
 20 Helga en Hans-Peter Knoepfler ZS6AJS

Lief en Leed /Joys and Sorrows

It is with great sadness that we have learned of the passing of Dave (Ian) Willams ZS6JW, who was a member of Pretoria Amateur Radio Club since 1946. Our sincere condolences with his son David who informed PARC, as well as his family on the passing of his Father. On page 3 a tribute to Ian is presented.

It is with great sadness that we have learned of the passing of Quintin Thomas Forster ZS6QTF, who was the son of Bob Forster ZR6AKO. At the age of 33, Quintin lost a long battle with cancer. We hereby offer our sincere condolences to Bob and his family. You are in our thoughts in this very difficult time. A tribute to Quintin is presented on page 3.

Silent Key : Dave (Ian) Williams ZS6JW

It is with deep regret that we learned of the passing of Dave (Ian) Williams ZS6JW on Sunday, the 2nd of December. Ian joined the Pretoria Amateur Radio Club on the 1st of November 1946, and was in 2018 an active member of this club for more than 71 years. PARC hereby express our sincere condolences to his Son Dave and his family on the passing of their Father. Ian will be fondly remembered as a Radio Amateur heart and soul who has made tremendous to amateur radio and the Pretoria Amateur Radio Club.



Ian seen in conversation with Hansie Meyer ZS6AIK at the Pensioners Tea event of 2016. Ian can also be seen in the group photo on the front page of Watts, June 2016 edition.

Silent Key: Quintin Thomas Forster ZS6QTF



It is with deep regret that we have learned of the passing of Quintin Thomas Forster ZS6QTF at the age of 33 after a long fight with cancer. Quintin was the son of Bob Forster ZR6AKO. Quintin obtained his in 2015 and was active in ham radio competitions, regularly supporting Pierre, Theo and Jaco at the field stations. Quintin was regularly seen at the flea-markets, as here with his father Bob. We sincerely wish our sincere condolences with Quintin's Wife and daughter, and Bob, his Mother and his brothers. The service for Quintin will be held on Thursday, 13 December 2018 at 10h00 at the Gemeentes van Christus Pretoria North Congregation, Corner of President Steyn Street and West Street.



PARC Membership Fees / PARK Ledegelde

During the 2018 AGM, the decision was made that Club Fees would not be increased for the financial year. Club Fees therefore remain at R160 for Ordinary Members, and R60 for Pensioners and Spouse. Gedurende die 2018 AJV, die besluit is geneem dat Klub Ledegelde nie verhoog sal word nie. Dus bly die gelde op R160 vir Gewone Lede, en R60 vir Pensionarisse en Gade.

PARC SUBS : PARK LEDEGELD : FROM / VANAF : 30-06-2018

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 ledegelde betyds aan ons Tesourier, of betaal per oorpasing in die PARC rekening			

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

PARC Bulletin Roster / PARK Bulletin Rooster

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. A re-broadcast of the Bulletin is done the following Monday evening at 19h45 by Hans ZS6KR.

PARK Bulletins word op Sondag oggende 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. 'n Heruitsending van die Bulletin geskied die opvolgende Maandag aand om 19h45 wat behartig word deur Hans ZS6KR.

PARC Bulletin Presenters : September - December 2018

Date	Presenter	Date	Presenter
09 September 2018	Johan de Bruyn ZS6JHB	11 November 2018	Louis de Wet ZS6SK
16 September 2018	Louis de Wet ZS6SK	18 November 2018	Etienne Naude ZS6EFN
23 September 2018	Etienne Naude ZS6EFN	25 November 2018	Alméro Du Pisani ZS6LDP
30 September 2018	Alméro Du Pisani ZS6LDP	02 December 2018	Johan de Bruyn ZS6JHB
07 October 2018	Johan de Bruyn ZS6JHB	09 December 2018	Louis de Wet ZS6SK
14 October 2018	Louis de Wet ZS6SK	16 December 2018	Etienne Naude ZS6EFN
21 October 2018	Etienne Naude ZS6EFN	23 December 2018	Alméro Du Pisani ZS6LDP
28 October 2018	Alméro Du Pisani ZS6LDP	30 December 2018	Johan de Bruyn ZS6JHB
04 November 2018	Johan de Bruyn ZS6JHB	06 January 2019	Louis de Wet ZS6SK

PARC Fleamarket Dates 2019 / PARK Snuffelmark Datums 2019

The following dates are set for PARC Flea Markets in 2019:

The volgende datums is vasgestel vir PARK Snuffelmarkte in 2019:

5 January / 5 Januarie ; 6 April ; 3 August / 3 Augustus ; 2 November

To book a table, please do contact: / Om 'n tafel te bespreek, kontak gerus:

Alméro Du Pisani ZS6LDP at 083-938-8955 or almero.dupisani@up.ac.za

Diary of Contests & Events / Dagboek van Kompetisies en Gebeure

Contests and Events - December 2018 / Kompetisies en Gebeure - Desember 2018 (UTC Times)	
01	Start of Yota Month
08 - 09	ARRL 10-Meter Contest: 00h00Z - 24h00Z
08 - 09	International Naval Contest: 16h00Z - 15h59Z
14	Russian 160-Meter Contest: 20h00Z - 24h00Z
15	OK DX RTTY Contest: 00h00Z - 24h00Z
15 - 16	Croatian CW Contest: 14h00Z - 14h00Z
31	End of Yota Month
Contests and Events - January 2019 / Kompetisies en Gebeure - Januarie 2019 (UTC Times)	
01	Start of the 2019 CQ DX Marathon
05	RSGB AFS Contest, CW: 13h00Z - 17h00Z
12 - 13	North American QSO Party, CW: 18h00Z - 05h59Z
13	NRAU-Baltic Contest, SSB: 05h30Z - 07h30Z
13	NRAU-Baltic Contest, CW: 08h00Z - 10h00Z
13	DARC 10-Meter Contest: 09h00Z - 10h59Z
13	RSGB AFS Contest, SSB: 13h00Z - 17h00Z
13 - 16	Classic Exchange, CW: 13 - 14: 13h00Z - 07h00Z ; 15 - 16: 13h00Z - 07h00Z
19 - 20	Hungarian DX Contest: 12h00Z - 11h59
19 - 20	North American QSO Party, SSN: 18h00Z - 05h59Z
25 - 27	CQ 160-Meter Contest, CW: 22h00Z - 22h00Z
26 - 27	UBA DX Contest, SSB: 13h00Z - 13h00Z
More information can be obtained from the SARL website, as well as the WA7BNM contest calendar at the following website: http://hornucopia.com	

PARC Participation in Local Contests for 2019

The Pretoria Amateur Radio Club intends getting back with full force into the contest game during 2019. Under the leadership of Pierre Holtzhausen ZS6PJH, PARC is going to participate in all the South African Radio League contests hosted in 2019. Details of local contests are listed below:

South African Radio League QRP Contests:

Summer: 26 January 2019: 12:00 to 15:00 UTC

Autumn: 20 April 2019: 12:00 to 15:00 UTC

Winter: 20 July 2019: 12:00 to 15:00 UTC

Spring: 12 October 2019: 12:00 to 15:00 UTC

South African Radio League National Field Days:

Summer: 10:00 UTC on Saturday 9 February to 10:00 UTC on Sunday 10 February 2019

Spring: 10:00 UTC on Saturday 14 September to 10:00 UTC on Sunday 15 September 2019

South African Radio League HF Phone, Digital & CW Contests from home:

SSB: 14:00 to 17:00 UTC on Sunday, 4 August 2019

Digital: 14:00 to 17:00 UTC on Sunday 18 August 2019

CW: 14:00 to 17:00 on Sunday 25 August 2019

For more information on contest participation, please do contact Pierre Holtzhausen ZS6PJH at zs6pjh@gmail.com or 082-575-5799.

PARC Chairman's Christmas Message / PARK Voorsitters Kersboodskap

Although 2018, like any other year, felt like a long year, it still proceeded at a rapid pace, as everyone can agree. Now that we stand on the brink of the end of this year, and with the festive season coming up, the Pretoria Amateur Radio Club hereby wishes to thank all Members and Listeners for their valued support during 2018. In various aspects, which include bulletin support, flea markets, the PARC website and HF radio "swop shop", rallies and many more, the support of Club Members, as well as Members from other Clubs is sincerely appreciated. We look forward to a busy new year where a full program of various activities has already been planned. We invite everyone, as always, to support PARC in our efforts to keep the wonderful hobby of Amateur Radio alive and interesting.

Alhoewel 2018, soos enige ander jaar soos 'n lang jaar gevoel het, het dit tog vining verbygesnel, soos almal kan saamstem daarvoor. Noudat ons aan die einde van die jaar staan, met die feesgety wat voorlê, bedank die Pretoria Amateur Radioklub alle Lede en Luisteraars vir hul gewaardeerde ondersteuning gedurende 2018. In verskeie aspekte, wat bulletin ondersteuning, snuffelmarkte, die PARK webwerf en HF radio "swop shop", tydrenne en vele meer insluit, word die ondersteuning van Klublede, asook die van ander Klubs opreg waardeer. Ons sien uit na 'n besige nuwejaar waar 'n vol program met verskeie aktiwiteite reeds beplan is. Ons nooi graag, soos altyd, almal uit om PARK te ondersteun in ons pogings om die wonderlike stokperdjie van Amateur Radio lewendig en interessant te hou.

To all the Members of PARC, as well as their spouses and children, we wish you a blessed and restful festive season, and a prosperous new year. Aan al die Lede van PARK, sowel hul gades en kinders wens on u rustige en geseënde feesgety, en 'n voorspoedige nuwejaar.

Louis de Wet ZS6SK

Northern Region Rally Awards

I was honored and humbled at the Motorsport South Africa Northern Region's 2018 prize giving on 30 November to be awarded my Provincial Administrators colors for motorsport. It would not have been possible to have done this without the support of my family and most of the dedicated Radio Amateurs who have been part of the communications team for rallies over the years. Thanks to each and every one for making this possible. I am also proud to announce that two more members of PARC, Tony Crowder ZS6CRO and Chris Barnard ZS6CMB also received their Provincial Administrators colors for their contributions towards motor sport.

Johan de Bruyn ZS6JHB



Johan de Bruyn ZS6JHB



Tony Crowder ZS6CRO



Chris Barnard ZS6CMB

Redefinition of SI Base Units

The Test and Measurement 2018 International Conference and Workshop, with the theme “Out with the Old... In with the New” has held on 8-10 October 2018 in Somerset-West, Western Cape. The Conference was opened by the Guest Speaker Georgette Macdonald from the National Research Council (NRC), Canada, with a presentation entitled “The Revised SI: A Change that’s Worth the Weight”. This initiated three days of a wide variety of presentations on SI applications which have significant implications on the future of measurement and calibration in various disciplines of science, electronics, computing and communication.

The Conference Chairman, Mr Steve Sidney of the National Laboratory Association of South Africa (NLA-SA), summarized the purpose of the Conference with the following statement: The World Metrology Day on 20 May 2019 will mark the historic event of the redefinition of the SI base units if the proposal is adopted at the 26th General Conference for Weights and Measures (CGPM) on 16 November 2018. The metric system (SI) was originally conceived as a system of measurement that was derivable from nature. However, when it was first introduced in France in 1799, technical limitations necessitated the use of artefacts such as the prototype metre and prototype kilogram. In 1960 the metre was redefined in terms of the wavelength of light from a specified source, making it derivable from nature, leaving the kilogram as the only unit still defined by an artefact. If the proposed definition is accepted, the metric system will, for the first time, be wholly derivable from nature.

Of the presentations attended, the following listed below, with their abstracts, were of particular note and interest to those interested and involved with electronics and radio communications. More will be presented on the first presentation on the following pages:

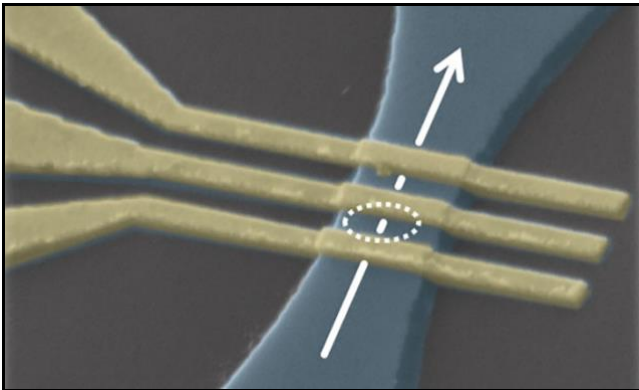
Prof. Mark Blumenthal. University of Cape Town: “*Single Electron Pumping*”.

The ability to trap and manipulate single electrons presents the scientific community with the opportunity to not only probe some of the most fundamental theories of quantum mechanics, but allows for the development of new technologies based on the intrinsic properties of electrons. With the marked improvement in fabrication techniques used in the development of nano-sized devices, single electron transistors, electron pumps and charge detectors have all been realized. Such devices form the building blocks of future technologies such as quantum computing and cryptography. The latest development in high frequency on demand single electron pumps will be shown. The inclusion of a high magnetic field as well as temperature effect studies are presented.

Dr. Wynand Louw. National Metrology Institute of South Africa: “*The revised International System of Units (SI) and the change to Quantum Standards with a focus on the realization of the Ampere and Kelvin*”.

The SI formally introduced in 1960 based on the “expanded metric scale” and subsequently revised from time to time in response to the requirements of users and advances in science and technology, is undergoing its most significant revision yet. The revised SI is expected to be approved in November 2018 by the 26th General Conference on Weights and Measures (CGPM). The definition of the SI units will be established in terms of a set of seven defining constants, which include the Planck- (h : 6.626×10^{-34} Js) and Boltzmann (k : 1.380×10^{-23} JK⁻¹) constants, the Elementary Charge (e : 1.602×10^{-19} C), and the Avogadro number (N_A : 6.022×10^{23} mol⁻¹). From the fixed values of these defining constants, expressed in the units of the SI, the complete system of units can be derived. A variety of experimental methods generally described by the Consultative Committees of the International Committee of Weights and Measures (CIPM) may be used to realize the definitions.

Physicists under the leadership of Frank Hohls at the German National Metrology Institute (PTB) in Braunschweig have been working towards a more accurate and less cumbersome definition of the Ampere^[1]. This has been achieved by measuring electrical current by counting single electrons travelling along a microscopic wire. The reason to revamp the Ampere is as indicated, part of the complete revision of the SI system of units. In particular, it is important that the kilogram is redefined, as it has a bearing on the definition of the Ampere. Subsequently, the link with the kilogram can be severed if another means of current measurement is obtained. Currently, the definition of the Ampere is the current flowing in two narrow, infinitely long parallel conductors placed one metre apart in a vacuum that generate of force of 2×10^{-7} N between them for every metre of length. The problem with this definition is that the Ampere is defined in terms of the kilogram (as well as the metre and the second). This is because force is equal to mass times acceleration.

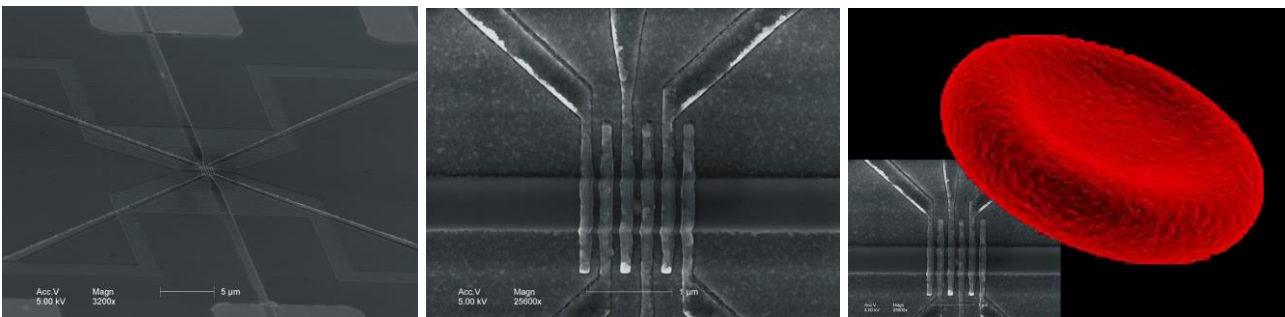


The German researchers therefore attempt to redefine the Ampere by moving a large number of single electrons through a conducting channel in a unit of time. This is achieved by means of a “single-electron pump”, which is a transistor-like device which transmits only one electron when activated by a gate voltage. With the gate voltage oscillating between 0.5 and 1 GHz, the device can generate that is large enough to calibrate an ammeter, revealing the accuracy of the instrument^[1].

Illustration of a single-electron pump

Ref: ^[1]<https://physicsworld.com>

Single-electron pumps were constructed from quantum dots, which are sub-micron sized conducting areas etched onto semiconductor substrates (see below^[2]). The pumps operate at a temperature of close to a millikelvin (close to -273°C) using liquid Helium. A 0.5HGz gate voltage is applied, and a second fixed voltage across each dot to set up a time-varying potential well that will briefly capture and then eject single electrons in succession. In order to achieve a high degree of accuracy, researchers use a specifically developed amplifier that converts the current flowing through it into a voltage, which is measured by a voltmeter calibrated using two other quantum phenomena - the Quantum Hall effect and the Josephson effect^[1].



Progressive views of the electron pump transistor device by Scanning Electron Microscopy (SEM), and a size comparison with the human red blood cell (Blumenthal, 2018)^[2]

Ultimately, the researchers were able to measure transmitted by the pumps with an accuracy of 0.16 parts per million, an exercise which takes an average of 21 hours to complete. With a resulting value of the Ampere which has an accuracy of about 20 parts per billion, this effort may have the potential to be approved by the General Conference on Weights and Measures as the most true definition of the Ampere. For more technical information and papers regarding electron pumps, please refer to the list below.

^[1][https://physicsworld.com/a/tiny-device-pumps-out-one-electron-at-a-time/\[2018/10/19 04:20:22 PM\]](https://physicsworld.com/a/tiny-device-pumps-out-one-electron-at-a-time/[2018/10/19 04:20:22 PM])

^[2]Blumenthal, M. 2018. Single Electron Transport. National Laboratory Association Test and Measurement Conference. 2018

^[3]Tanttu, T. 2016. Single-electron pumping in silicon quantum dots. DSc Dissertation. Aalto University, Sweden.

^[4]Clapera *et al.* 2016. Design and operation of CMOS-compatible electron pumps fabricated with optical lithography.

^[5]Van der Heijden *et al.* 2017. Dynamics of a single-atom electron pump. *Nature Scientific Reports.* 7:44371

PARK Tydren Aktiwiteite : Afsluiting van 2018

Die tydren seisoen het onlangs afgesluit en die 2018 jaar is gevier met 'n afsluitingsfunksie by SAM in Silverton. Johan de Bruyn ZS6JHB en Irene Myburgh ZS6IEA het goedgunstiglik 'n verskeidenheid fotos aangestuur vir publikasie.



Irene ZS6IEA en Pieter ZS6PAM Myburgh ontspan na 'n lang dag op die trajekte



Sarina & Willie Greyling ZR6WGR en Pieter Myburgh ZS6PAM in 'n ontspanne luim



Willie en Annelie van Niekerk se kleinseun, Jaden Nortje ; Bontstaan by die tydhou punte



Johan de Bruyn ZS6JHB tydens die Lake Umuzi tydren met die PARK ZS6PTA flag



Franco en Corrie Visser ; Joey Reid besig met voorbereiding van 'n heerlike slaai



Irene Myburgh ZS6IEA saam met Wim Herbst en William Louw



Bo en Onder: lekker saamkuier tydens die jaareind byeenkoms by SAM



Antique Wireless Association of South Africa: Annual General Meeting

The Annual General Meeting of the Antique Wireless Association took place on the 10th of November at the premises of the South African Institute of Electrical Engineers in Observatory, Johannesburg. The meeting commenced at 10h00 and was attended by 38 members. The meeting was opened by Andy Cairns ZS6ADY who welcomed everyone present, which included our SARL President, Nico van Rensburg ZS6QL.

The meeting was chaired by the President of AWASA, John Watson ZS1WJ, who discussed membership numbers, growth of the Association and finances in more detail. According to the latest membership information, AWASA had a membership count of 309 individuals! This makes AWASA the largest radio club in South Africa with free membership.

After the formalities were taken care of, the annual Geoff Wright SK floating trophy for CW contributions was awarded. This year the trophy went to Daryl Lamble ZS6DLL (see photo next page), who after receiving his award, elaborated more on his endeavors with CW, and the involvement of other Radio Hams, which is resulting currently in quite a sparked interest of this mode of communication. Thirty eight tickets for the book on Valve Amplifiers by Joh Fielding ZS5JF, which was donated by Rad ZS6RAD, were sold in total. A draw was held for the book and the winner was John ZS1JW. After the conclusion of the meeting, all gathered outside the main building for a group photo. This was followed by a bring-and-braai which was also well attended. More information and photos of the activities after the AGM can be found in the December Issue (#149) of AWASA.



Photo source: Newsletter of the Antique Wireless Association of South Africa. Issue #149: December 2018

The Committee of AWASA which was elected in 2017 would still serve another year up to 2019, as per the AWA Rules of Association (Constitution). The Committee Members as follows:

President: John Watson ZS1WJ

Vice President: Renato Bordin ZS6REN

Technical Advisor: Rad Handfield-Jones ZS6RAD

Secretary/PRO: Andy Cairns ZS6ADY

Historian: Oliver Gerondianos ZS6OG

Members: Jaques Scholtz ZS6JPS and Don Radford ZS5DR



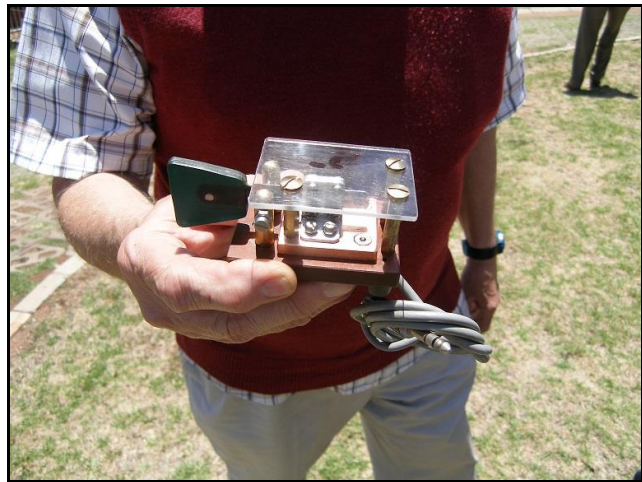
Daryl Lamble ZS6DLL, recipient of the Geoff Wright SK floating trophy for CW



Michael Wilson ZS6MSW (Cresta), Gary Graham ZS6GAR (Sandton) and Daryl Lamble ZS6DLL (Centurion) showing their CW OPS T-shirts



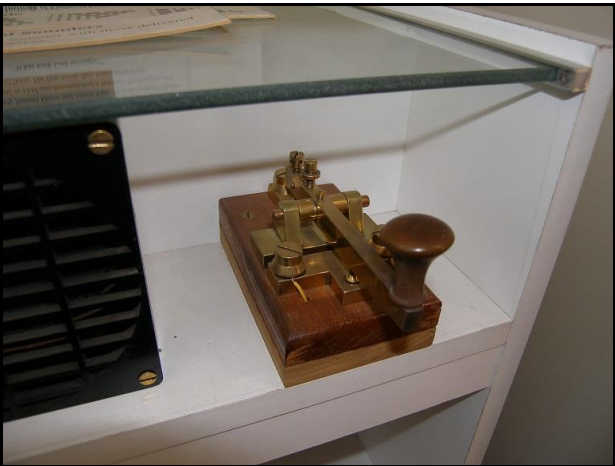
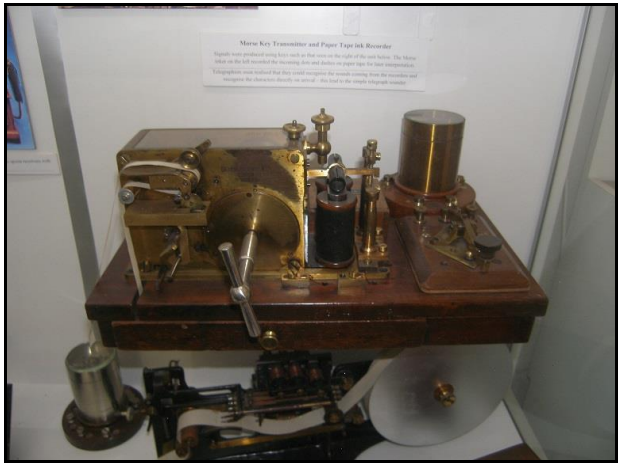
HF Yagi Antenna and radio room of AWASA at the SA Institute of Electrical Engineers

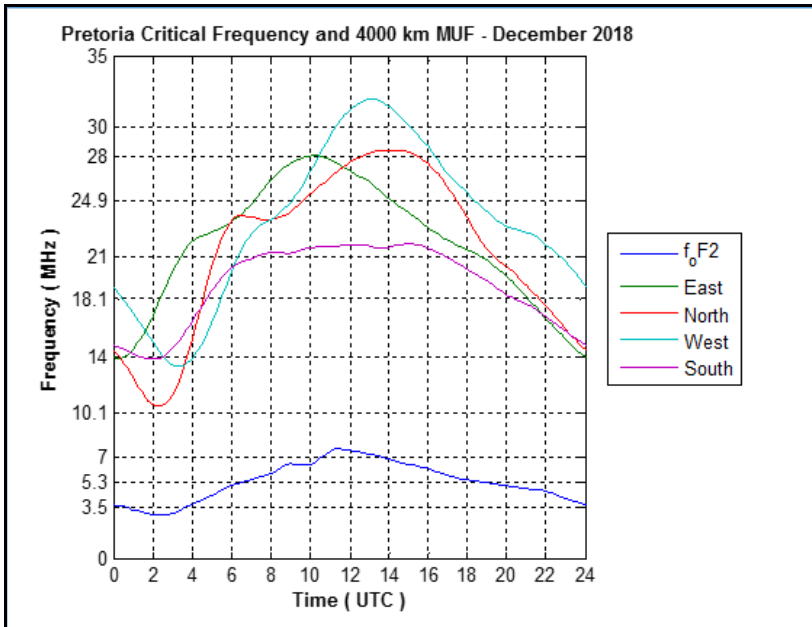


Sakkie Coetzee ZS6BPA (Alberton) with a home-brew morse keyer he constructed

Some of the magnificent items on display at the museum of the South African Institute of Electrical Engineers:







Long Term HF Propagation for December 2018: Courtesy Vincent Harrison ZS6BTY

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>

C/O NELSPOORT & 801 MALMESBURY STR, WINGATE PARK, PRETORIA [S25.49.36 & E28.16.07]

ICOM HAMSHACK [PTA]
 Pine ZS6OB 082 4477 823
 AUTHORIZED ICOM DISTRIBUTOR

FOR ALL YOUR ICOM PRODUCTS & ACCESSORIES
 SPECIALLY MANUFACTURED VHF/UHF EX60B ANTENNA SYSTEMS FOR:
 EME, TROPO, MS, REPEATER & SATELLITE SYSTEMS

QRV Services offers the following expertise:

- General equipment and Television repairs
- Small-scale design and manufacturing
- Precise frequency and power calibration
- Technical writing
- 3rd Party scrutiny of projects and documents
- MFJ 259/69 Analyzer repairs and calibration
- Ham radio and solid state amplifier repairs
- Valuation of ham estates and their disposal.

Products:

- Legal limit 30m and 40m dipole traps
 - Linear power supply O.V. protection kits
 - 50A DC switching supplies
 - 50A DC Anderson Power Poles
 - Connectors RF and Audio
 - Plug-in triple sequential industrial timers
- Contact Hans at 012-333-2612 or 072-204-3991



Ivan Jančuška ZS6CCW (OK1LL) has recently received the WPX 2018 Merit Award. From PARC our congratulations to you Ivan. Here Ivan is seen with his grandson, hopefully an aspiring Radio Amateur!

