

AOC Elections – 2018 Christmas Awards Dinner

AOC Elections The 2018 Election Results are in. Thank you to everyone who voted.

Total number of eligible voters - 11,484

Total members voted – 1,201

Percentage of Voters – 10.46%

At-Large Director – 10 Candidates – Only two could be selected (Percentage is based on 200%)

Dr. Richard Wittstruck – 24.90% US

Dr. Robert Andrews – 23.81 % UK

3rd Place – 23.48%

4th Place – 22.56%

5th Place – 20.40%

Many congratulations to Dr Rich Wittstruck and Dr Bob Andrews MBE.

Christmas Awards Dinner 2018 -Last year's Chapter Christmas Dinner was great fun and gave us a chance to recognise the achievements of some of our members. We want it to be bigger and even better this December so please make an effort to join us; bring some friends even. Please book as early as possible We will be honouring our membership Director Ian Fish with the AOC Lifetime Achievement Award, John Clifford OBE, for the AOC BOD Award, John Wise MBE for Distinguished Service to the AOC and UK Chapter and Paul Bradbeer in recognition of Outstanding Lifetime Achievement in EW. Young members are especially welcome and the RAF Club is an interesting and excellent venue which is well worth a visit.

The BOD has agreed to subsidise the evening from Chapter funds so the cost will remain the same as the past couple of years - £50 per person. Black tie was a hit last year so it will be the preferred choice again this year, with Miniatures, but is not essential. You will find more information and an application form below on page 3. Many thanks, to Phil Davies, for once again making the arrangements for our Christmas party. PS – Phil's email address is phildavie@aol.com – without the "s"!

New Article Jacey Wise MBE has provided an excellent short paper on "**Radio Photonic Radar**" – many thanks to John for his prodigious and prestigious contributions, of which this is his 48th. Don't be shy – please feel free to contribute an article to the UK Chapter. As a reminder these articles are only available as attachments to UK Chapter Newsletters – they are not posted on our website. Any views contained in them are the author's alone. **To potential New Authors** - the UK Chapter membership includes many world class professionals and many of them are distinguished writers in their own fields and on a wide variety of media. All of them are very happy to encourage new thinkers, writers and creative folk and to help them polish their work. Send your articles and let us work together to benefit the field of EW, cyber and EM manoeuvre operations. **In future** we will be looking for members willing to propose topics and mentor young military personnel on courses and specifically on course projects.

Review: Introduction to Electronic Defense Systems 3rd Edition Filippo Neri I was asked to review Filippo Neri's updated edition of his seminal book. Many of you will have used copies of early editions and may know Filippo from his many AOC conference presentations over the years. The review is attached at the bottom of this newsletter.

Electronic Warfare and Cyber Operations Symposium (up to NATO SECRET) Cranfield and Shrivenham have announced that their next EW Symposium will be held 4/5 Dec 18. The agenda

looks interesting and returns to the format and content used 3 or more years ago, under a new Director. You can find out more about it at: <https://www.cranfield.ac.uk/events/symposia/ew>

Finally That's all folks. I've listed a few dates below, where you might consider joining us and the wider AOC community in 2018. Feedback is always welcome; otherwise we operate in a vacuum. We need more diverse and young members to become actively involved in what the Chapter does – any ideas are most welcome. **Please send ideas about recognising suitable individuals or organisations for AOC and/or UK Chapter awards. We are particularly keen to encourage apprentices in industry, academics and serving personnel to join the AOC** as it brings many on-line benefits like webinars and courses and networking opportunities, monthly copies of JED, a reference library and more - all helpful when learning new EW, EM-related or IW/IO/Cyber skills.



John Clifford
MSc, MBCS, CEng, CITP OBE
UK Chapter President

SOME DATES FOR YOUR 2018/2019 DIARY

55th AOC Annual International Symposium Marriott Marquis DC, 27-29 November 2018

EW Symposium by Cranfield University at the Defence Academy 4/5 Dec 18

UK Chapter Christmas Awards Dinner – RAF Club Friday 14 December 2018

AOC EW Asia 2019 Marina Bay Sands Expo and Conference Centre **Singapore**, 29/30 January 2019

AOC EW Europe 2019 – Stockholmsmässan Exhibition and Conference Centre, **Stockholm**, Sweden, 13 – 15 May 2019; this is the 24th edition of EW Europe.

Check out our website at www.ukaoc.org

You can also check out **career opportunities** there too, by clicking on the

Home Page “**EW Job Vacancies**” button.



CHRISTMAS AWARDS DINNER

Royal Air Force Club, 128 Piccadilly, London W1J 7PY

Friday 14 December 2018

The AOC UK Chapter Board is very pleased to confirm that the annual AOC UK Chapter Christmas Dinner will be held in the Royal Air Force Club, Piccadilly (Hyde Park end) on **Friday 14 December 2018**. All AOC members, their partners and guests will be most welcome at this very enjoyable festive occasion. Like last year, let's make this a grand occasion with as many as possible attending as we will also recognise the achievements of Chapter members and units.

The outline programme for the evening is:

1800: Pre-dinner drinks in the Victoria Bar.

1900: Christmas Dinner in the President's Room.

Carriages as required

Dress: Gentlemen, **Black Tie & Miniatures** preferred; Ladies, as appropriate.

The Dinner will cost £50 per head, including wine and port at the table, and will also be supported by a subsidy from Chapter funds. Members wishing to attend should complete the proforma below and send it by e-mail to Phil Davies no later than Friday 1 December 2018 (or simply send Phil the information via email). Payment by bank transfer after you send the information to Phil is the preferred payment method. When you send the information Phil will send you the Chapter account details by email. Payment on the night will still be possible, but, having made a commitment to the RAF Club, we regret that payment for the dinner will still be due in the event of a late cancellation after 7 Dec 2018. If you would like to pay early by cheque please contact Phil and he will provide his address.

To: Phil Davies E-mail: phildavie@aol.com

I wish to attend the AOC Christmas Dinner on **Friday 14 December 2018**.

Name: AOC Membership No:

Guest(s):

Telephone: E-mail:

Any special dietary requirements (e.g. vegetarian)?

Review: Introduction to Electronic Defense Systems, 3rd Edition

Author Filippo Neri

Format Hardback

ISBN 13: 978-1-63081-534-9

Publisher: Artech House

Reviewer: Wing Commander John Clifford OBE MBCS CEng CITP RAF (Retd)

The first edition of the classic, *Introduction to Electronic Defense Systems*, was published in 1991, the second in 2006 and this, the 3rd, in 2018, thus clearly demonstrating the point author Filippo Neri makes about the increasing pace and impressive evolution of such technologies. The 3rd edition continues the pattern established in the earlier editions with the initial chapter providing an expanded overview of electronic defense systems and new concepts, threats and opportunities including cyber and Cyber Electromagnetic Activities. As such these 36 pages provide the context to understand the technological issues in the remaining 7 Chapters. Not unexpectedly, these are sometimes necessarily brief introductions to complex issues. However, besides providing context for what follows, they serve to whet the appetite of the reader and encourage further study. The up-to-date and comprehensive references complement this process well.

The chapter running order is Electronic Defense; Sensors; Weapon Systems; Electronic Intercept Systems, Electronic Countermeasure Systems; Electronic Counter-Countermeasure Systems; New Electronic Defense Techniques and Technologies, and Design and Evaluation Criteria. The author notes that formulas and mathematical theory have been reduced to a minimum; that may well have been the intent but the 3rd edition includes 180 illustrations and around 400 equations! The book remains very readable throughout, with excellent diagrams and explanations of everything covered by a true master in the field and a great communicator.

As mentioned, the structure of the 3rd edition follows that of the 2nd edition with additional material on new concepts and materials e.g. Artificial Intelligence and Gallium Nitride, to name just two. The 3rd edition is an evolution of the early editions and that makes perfect sense. The new edition is primarily aimed at those who are entering the world of Electronic Systems (Electronic Warfare, Signals Intelligence, CEMA, ISR, Navigation and NAVWAR, etc.) in a technical sense and deserves a place in everyone's personal library and in the industry. Given the accelerating pace of innovation, global threats and opportunities, there is likely to be an increasing audience for this book and others like it, covering warfare in the Electromagnetic manoeuvre warfare space, or EME / EM Domain.

As the name implies, the book uses US terminology which diverged from NATO terminology some 25 years ago, but remained broadly comparable. However that changed very significantly in 2007 when the NATO Military Committee signed off a document on the future transformation of NATO Electronic Warfare (MCM-0142 27 Nov 2007); the major thrust of the new policy and concept was to recognise the Electromagnetic Environment (EME) as an operational environment or domain like all the others (Land, Air, Maritime, etc) where the full range of manoeuvre activities - offence, defence, shaping, exploitation, management, etc. – take place. Provided the non-US NATO, and potentially other, reader understands this, *Introduction to Electronic Defense Systems* is an invaluable and outstanding guide and technical handbook. It is an ideal introduction for those who are starting in the field as system designers; to users and potential users, and to all concerned now or in the next decade in the procurement of such systems. These are exactly the target audiences identified in the Author's Preface. The author concludes the Preface with a wish that readers will find the book useful. I have no doubt that readers will in fact find the book invaluable and essential reading to help them for many years in making progress in their chosen careers.

Artech House have kindly offered 25% off the print book cover price to UK Chapter members. Simply use the code **NER25 25%, when ordering; it is good for a year.**

<http://uk.artechhouse.com/>