

AOC 2019 Year End Report

Submitted by Shelley Frost, Executive Director

AOC MISSION

The Association of Old Crows is an organization for individuals who have common interests in Electronic Warfare (EW), Electromagnetic Spectrum Management Operations (EMSO), Cyber Electromagnetic Activities (CEMA), Information Operations (IO), and other information related capabilities. The Association of Old Crows provides a means of connecting members and organizations nationally and internationally across government, defense, industry, and academia to promote the exchange of ideas and information and provides a platform to recognize advances and contributions in these fields.

Advancing Electromagnetic Warfare TOGETHER

INTRODUCTION

Over the past year, AOC has taken steps to strengthen our visibility within the EMS community by advancing international policy, programs, and professional development related to Electromagnetic Spectrum Operations in all domains. Compared to 2018, we delivered more education courses and webinars; increased our outreach to Congress, government, military and industry partners; produced a successful and profitable annual symposium and multiple face-to-face conferences; sold more exhibit booths and industry sponsorships; and saw significant growth in individual memberships. Our advocacy, outreach, events, and programmatic improvements are making an impact in the Association as a whole as well as in the EMSO community. This report is a quick glimpse at the achievements of the AOC for 2019. They are numerous and indicative of an active and financially solid program and way forward for the AOC.

2019 AOC BOARD OF DIRECTORS

President	Muddy Watters
Vice President	Rich Wittstruck
Secretary	Mark Schallheim
Treasurer	Greg Patschke
At Large Directors	Amanda Kammier, David Stupples, Mike Ryan, Bob Andrews, Rich Wittstruck
Regional Directors	Central Director – Keith Everly Mid-Atlantic Director – Jim Pryor Northwestern Region Director – Mark Schallheim Pacific Director – Darin Neilsen International I Director – Sue Robertson International II Director – Jeff Walsh Southern Director – Karen Brigance Mountain-Western Director – Sam Roberts Northeast Director – Glenn “Powder” Carlson
Past President	Lisa Frugé-Cirilli
Appointed Directors	Craig Harm and Jesse "Judge" Bourque

2019 AOC Board of Directors Meetings

There were three (3) face-to-face Board meetings and eight (8) Adobe Connect meetings in 2019.

Date	Description
18 January	Virtual (Adobe Connect)
29 March	Virtual (Adobe Connect)
25-26 April	Face-to-Face (Tucson, AZ)
7 June	Virtual (Adobe Connect)
1 July	Virtual (Adobe Connect)
15-16 July	Face-to-Face (AOC Headquarters)
6 September	Virtual (Adobe Connect)
6 September	Virtual (Adobe Connect)
19 September	Virtual (Adobe Connect)
30-31 October	Face-to-Face (AOC Symposium - Washington, DC)
6 December	Virtual (Adobe Connect)

ANNUAL ELECTION

The annual election was conducted June 1-30, 2019 for the 2020 BoD. Winners of the election were:

- President-Elect: Glenn “Powder” Carlson
- Two (2) At-Large Directors: Haruko Kawahigashi and Brian Hinkley
- Pacific Regional Director: Rick Lu
- International 1 Regional Director: Sue Robertson

Appointed Directors: Craig Harm and Jesse “Judge” Bourque (to expire in 2020).

2020 Executive Committee (EXCOM): President, Muddy Watters; President-Elect, Glenn “Powder” Carlson; Secretary, Mark Schallheim; Treasurer, Rich Wittstruck; and appointees Mike Ryan and Bob Andrews

Appointed Foundation Board of Governors: Gary Lyke and Nino Amoroso

Outgoing Board members: Greg Patschke and Darin Nielsen

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Past President Northeast Director – Mike Ryan (appointed to fill Powder Carlson’s seat)
 Lisa Frugé-Cirilli
 Appointed Directors Jesse "Judge" Bourque and Craig Harm

STRATEGIC PLANNING

Mike Ryan and Rich Wittstruck led the strategic planning committee and throughout 2019, they had multiple meetings with Chapter officers, staff and Board members to develop the 2020 Operating Plan (OpMan 14 Appendix A). This operating plan enables Board members, committee leads, Executive Director and staff to have a common understanding of the overall objectives for the coming year. A summary of the priorities and look ahead can be found at the end of this document. The specific details can be found in OpMan 14 Appendix A online at crows.org.

AOC GOVERNING DOCUMENTS

Several OpMans (AOC’s Governing Documents) were revised during 2019, the effective dates are shown in the table below. OpMans can be found on the top menu bar (under About) of the AOC home page (crows.org) after you have logged in.

OPMAN	EFFECTIVE DATE	NOTE
11 – Purposes and Responsibilities	1 Feb 2017	
13 – Bylaws of the Association of Old Crows	16 Oct 2018	
14 – AOC Strategic Positioning	25 July 2018	
15 – Code of Ethics	19 Mar 2017	
16 – Meeting Minutes	26 Apr 2019	
17 – Board/Chapter Operations	8 Feb 2017	
18 – Non-Discrimination Policy	31 Oct 2019	
21 – Financial Management	17 July 2019	
22 – Reserve Fund Policy	17 July 2019	
23 – Travel and Expense Reimbursement	27 Sep 2016	In Review
24 – Records Retention	8 Feb 2017	
25 – Anti-Trust Compliance Policy	19 Mar 2017	
31 – Awards Program	31 Oct 2019	
32 – Nominations and Election Committee	12 Sep 2017	
35 – Audit and Inspection Committee		Abolished; converted to charter (10/31/19)
41 – Conference Planning, Operations, and Reporting	26 Apr 2019	
51 – Conducting Classified Events	1 Feb 2017	
71 – Membership Growth Incentive Program - Individuals		Abolished; rolled into OpMan 72 (10/31/19)
72 – Annual Chapter Recognition Program	31 Oct 2019	
73 – Publishing Chapter Events in the JED/eCrow	31 Oct 2019	
74 – Establishing, Maintaining and Closing AOC Chapters	26 Apr 2019	
92 – Human Resource Management	Sept 2018	

FINANCIAL STATUS

The release of the 2018 independent audit report showed a \$100K loss in 2018 due to the market crash in October 2018. This market correction resulted in a loss in our investment portfolio of \$165K in 2018 and had a negative effect on the bottom line for 2018. Fortunately, the market quickly rebounded in 2019 bringing positive gains on our financial investments.

In addition to our investments, AOC had significant growth in operating revenue in 2019 and a neutral financial outcome is anticipated for the year. The 2019 audit is scheduled for April 6, 2020.

The table below shows audit report income (loss) from operations for years 2013 through 2018.

	2019 projected	2018	2017	2016	2015	2014	2013
Revenue	~\$3,900,000	\$3,389,992	\$3,440,150	\$3,102,935	\$3,055,950	\$3,050,688	\$2,477,071
Expenses	~\$3,900,000	\$3,498,698	\$2,975,067	\$2,831,748	\$2,715,962	\$2,419,503	\$2,417,488
Income (loss) from operations	~\$0	\$108,706 *market correction	\$465,083	\$271,187	\$339,988	\$631,185	\$59,583

Reserve Fund

2019 found our investments rebounding back from the \$165K loss in 2018. The Reserve Fund balance as of December 2019 is \$3,204,434; includes the funds from the sale of the building (\$2,706,709) in November 2019.

AOC HQ BUILDING

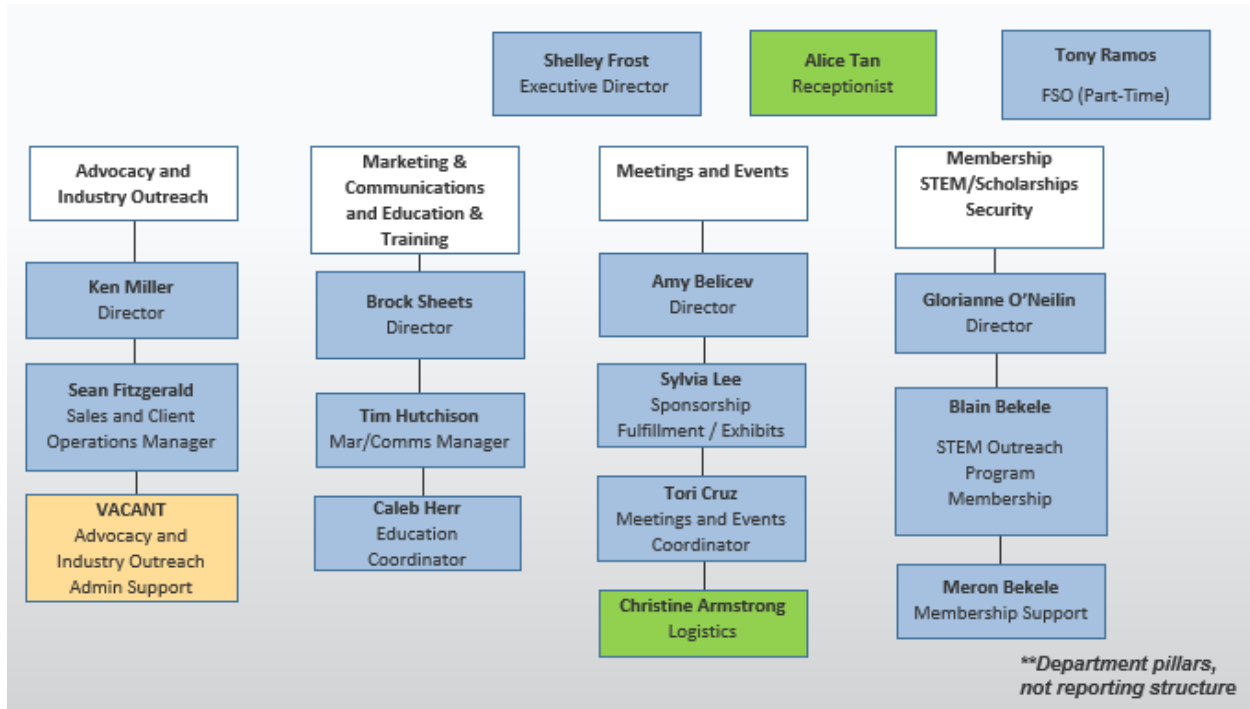
AOC AdHoc Building Committee searched and found a permanent home for HQ, an office condo at 1001 North Fairfax Street, Alexandria, VA which offers amenities similar to a lease with the security and stability of owning.

The AOC Board submitted a non-binding letter of intent to purchase unit 300 at 1001 North Fairfax Street, Alexandria on June 19, 2019 for \$2,000,000. At that time, we entered into an in-depth due diligence period and after finding no red flag items, the Board unanimously voted to purchase the unit on September 19, 2019. Settlement was on November 7, 2019.

With this purchase, we had to negotiate an early termination with the short-term lease at 1555 King Street. The Board will consider renovations to the unit in 2020 with an expected move-in date of Aug 2020.

AOC HQ STAFF

As of December 2019, the staff is composed of twelve (13) AOC employees (12 full-time and 1 part-time) and two (2) consultants. An organization chart is provided below:



2019 HQ Staff Changes

2019 was a busy year for the staff with new initiatives and increased focus on providing the best association for our members. The following changes were made in 2019:

- Cable Herr, hired on Feb 1 as the Education Coordinator
- Sylvia Lee, hired on July 1 as the Exhibit Operations Manager
- Tori Cruz, hired on September 1 as the Meetings and Events Coordinator
- Meron Bekele, hired on September 16 as Membership Support
- In 2019 we had one departing employee, Amanda Crowe, Legislative Affairs Associate, and one consultant, John Clifford, who ran AOC’s global events for five years.

Other Contractor Services

Outside contractor services continued in 2019 with information technology services by TSI and bookkeeping & accounting by Consultance Accounting Services.

MEMBERSHIP

Overall individual memberships show a 5% increase and a 6% decline for industry membership compared to 2018 (see chart below). AOC continues to offer special membership dues incentives such as student memberships, active duty military and one-year memberships tied to certain AOC events/activities. The Membership Committee, consisted of Chairman, Amanda Kammier and Regional Directors, Keith Everly, Jim Pryor, Mark Schallheim, Darin Nielsen, Sue Robertson, Jeff Walsh, Karen Brigance, Sam Roberts and Glenn “Powder” Carlson.

Membership	Dec 2019	Dec 2018	Dec 2017	Dec 2016	Dec 2015	Dec 2014
US	10,849	10,419	10,078	10,340	10,519	10,726
International	2,901	2,643	2,722	2,493	2,416	2,261
Total	13,750	13,062	12,800	12,833	12,935	12,987
Industry	217	230	221	211	205	200

The 6% drop in industry membership is due to the lack of benefits and ROI for industry partners. The benefits for membership are at the individual level and companies are choosing to pay individual membership rather than investing in the corporate membership. 2020 will continue to provide insight into to “Why be a Crow?” and will implement changes to increase both industry and individual member benefits.

Young Crow Membership

In 2017 AOC launched the “New Crow” initiative awarding free membership to individuals 25 years and younger for three years. 2020 will be the first year for converting these individuals to paid members. This initiative will be conducted over a 5-year initial trial period (ending in 2022), HQ will keep metrics and track the renewals of these individuals but will need the chapters to take responsibility to engage and retain these young members.

25 and younger membership	Dec 2019	Dec 2018	Dec 2017
Total	1,014	591	90

AOC HQ always provides support for chapter membership drives upon request.

CHAPTERS

Strategic Roost Chapter – revitalized under the new name Ravens Roost
 Raven Cajun Chapter – revitalized under the name Barksdale Command Chapter
 Capital of Texas Crows Chapter (Austin, TX) - NEW
 Oklahoma Crows Chapter - Closed

Northwest Region – (5 chapters) – Frozen Crows Chapter, Joint Base Lewis McChord Chapter, Mile High Country Crows Chapter, Pikes Peak Roost Chapter, Whidbey Roost Chapter

Pacific – (8 chapters) – Cabrillo Crows Chapter, Diamond Head Chapter, Golden Gate Chapter, Greater LA Chapter, Mugu Crows Chapter, Santa Barbara Chapter, Silver State Chapter, Mojave Green Roost Chapter (inactive)

Mountain West (9 chapters) – Cochise Roost Chapter, Billy Mitchell Chapter, Dallas Chapter, Desert Sun Roost Chapter, Fort Worth Chapter, Querque Chapter, Southwestern Chapter, Golden Spike Chapter, Capital of Texas Crows Chapter

Central Region (6 chapters) – Crane Roost Chapter, Gateway Chapter, KittyHawk Chapter, Windy City Chapter, Air Capital Roost Chapter, Ravens Roost Chapter

Northeast (7 chapters) – Empire Chapter, Garden State Chapter, Granite State Chapter, Maple Leaf Chapter, Metropolitan Chapter, Niagara Frontier Chapter, Patriots’ Roost Chapter

Mid-Atlantic (8 chapters) – APG Susquehanna Chapter, Capital Club Chapter, Chesapeake Bay Roost Chapter, Dahlgren Chapter, Independence Chapter, Pax River Chapter, Charlie Yankee Roost Chapter

Southern (8 chapters) – Dixie Crow Chapter, Emerald Coast Chapter, Green Jacket Roost Chapter, Gulf Crows Nest Chapter, Palmetto Roost Chapter, Peachtree Roost Chapter, Barksdale Command Chapter, Redstone Rebel Chapter

International I (12 chapters)

Aardvark’s Roost Chapter (South Africa), Arctic Roost Chapter (Norway), De Ooievaar Chapter (Netherlands), India Chapter (India), Israeli Chapter (Israel), Roma Chapter (Italy), La Fayette Chapter (France), Red Baron Roost Chapter (Germany), Saudi Arabia Chapter (Saudi Arabia), Swiss Crows Chapter (Switzerland), UK Chapter, (United Kingdom), Viking Roost Chapter (Sweden)

International II (8 chapters)

AOC Japan Chapter (Japan), Australian Chapter (Australia), Kiwi Chapter (New Zealand), ROK Roost Chapter (South Korea); Singapore Chapter (Singapore), Taipei Chapter (Taiwan, R.O.C.), Wild Parrots Roost Chapter (Brazil) and Condor Chapter (Chile)

Membership committee is working on creating two new chapters in central Florida and Ft Campbell

2019 CHAPTER OF THE YEAR WINNERS

Large Category

Chapter of the Year Award (Tie)
Distinguished Chapter

Dixie Crow Chapter and UK Chapter
Kittyhawk Chapter

Medium Category

Chapter of the Year Award
Distinguished Chapter Awards

Garden State Chapter
APG Susquehanna Chapter, Patriots Roost Chapter, Granite State Roost Chapter, Palmetto Roost Chapter, Billy Mitchell Chapter, Windy City Chapter

Small Category

Chapter of the Year
Outstanding Chapter Award

Excellent Chapter Award

Aardvarks Roost Chapter
Green Jacket Roost Chapter and
Maple Leaf Chapter
Pikes Peak Roost Chapter

Regional Chapter Greatest Increase Award

- | | |
|-------------------------|----------------------------|
| Northeastern Region | Patriots Roost Chapter |
| Mid-Atlantic Region | Capitol Club Chapter |
| Southern Region | Green Jacket Roost Chapter |
| Central Region | Kittyhawk Chapter |
| Mountain-Western Region | Fort Worth Chapter |
| Pacific Region | Diamondhead Chapter |
| Northwestern Region | Mile High Chapter |
| International Region I | De Ooievaar Chapter |
| International Region II | Taipei Chapter |

**CHAPTER SUSTAINMENT INITIATIVE PROGRAM – ASSISTANCE FUND
(Chapter Sustainment Fund)**

A chapter assistance fund was initiated in 2015 with the funds from a defunct Chapter. Monies may be disbursed to chapters with funding and/or financial needs based on stipulations contained in OpMan 74, Section II, Paragraph H. The current balance is \$53,375. A history of disbursements is provided below:

Month/Year	Balance	Note
June 2015	\$79,791	Initial Funding
2015	\$78,291	\$1,500 total disbursements
2016	\$76,291	\$2,000 total disbursements
2017	\$72,041	\$4,250 total disbursements
2017	\$86,729	\$14,688 funding from closing of two chapters
2018	\$76,634	\$10,095 total disbursements
2019	\$76,975	\$341 funding from closing of one chapter
2019	\$53,375	\$23,600 total disbursements

ANNUAL SYMPOSIUM

The Annual Symposium (aka Annual Convention) was an outstanding success in 2019. The numbers below show a strong turnout in overall attendance, booth sales and although paid registrations were down, the overall full attendance numbers increased. The Convention Committee was chaired by Jesse “Judge” Bourque.

Date – October 28-30, 2019
Theme – *“Building the EMS Enterprise”*

The symposium venue was held at the Renaissance Downtown Hotel and DC Convention Center. New initiatives for this year’s Symposium: Program Manager Briefing Series, Career Fair and Workforce Development talks; Continued from 2018: Innovation Stage; Crow’s Nest; and Small Business Program.

	2019 (DC Conv Ctr)	2018 (DC Conv Ctr)	2017 (DC Conv Ctr)	2016 (DC Conv Ctr)	2015 (DC Conv Ctr)	2014 (DC - Wardman Park)
Booths	178	163	169	153	148	137
Companies	120	103	107	98	100	95
Paid Registrants	261	301	294	281	251	234
Full Attendance	1,978	1,870	1,633	1,550	1,580	1,273

The 2019 Symposium estimated revenue and expenses are shown in the table below.

	2019 Estimates	2018 Actual	2017 Actual	2016 Actual	2015 Actual	2014 Actual
Paid Registrations	~\$230,885	\$259,958	\$263,300	\$235,541	\$216,007	\$183,175
Exhibitors (includes room rentals)	~\$1,051,117	\$981,643	\$972,272	\$868,455	\$843,575	\$768,261
Sponsors	~\$325,450	\$281,381	\$177,300	\$192,345	\$166,240	\$163,261
Show Daily	~\$3,000	\$9,750	\$17,325	\$14,575	\$23,150	\$24,075
Total Revenue	~\$1,610,712	\$1,532,732	\$1,430,197	\$1,310,916	\$1,248,972	\$1,139,184
Expenses	~710,295	\$811,428	\$699,021	\$714,856	\$684,332	\$478,088
Net Revenue/Surplus	~\$899,417	\$721,304	\$731,176	\$596,060	\$564,640	\$661,096

The additional 17 booths with booth personnel added to the increase in overall attendance.

Increased marketing efforts included an event promotional video, launching the website live early in the year and distribution of service specific postcards at industry-wide events. AOC had convention advertisements in weekly e-newsletters with *Defense News* and *Breaking Defense* and executed targeted promotions with LinkedIn to pentagon and military audiences.

2020 Symposium

December 8-10, 2020 at the DC Convention Center. Host sponsor: L3Harris

CONFERENCES

Seven (7) conferences were held in 2019. It is anticipated that AOC will host 7 conferences in 2020.

Name of Conference	2019	2018	2017	2016	2015
Modern Threats: SAMs Huntsville AL	Feb 5-7 321 attendees	n/a	n/a	n/a	n/a
Collaborative EW Symposium Pt Mugu CA	Mar 2-4 620 attendees	Mar 13-15 564 attendees	April 25-27 589 attendees	April 5-7 556 attendees	Mar 31-Apr 2 629 attendees
Security Cooperation: EW & FMS GTRI, Atlanta GA	Apr 29-May1 234 attendees	n/a	May 15-19 265 attendees	n/a	n/a
Capability Gaps and Enabling	May14-16 313 attendees	May 8-10 264 attendees	May 9-11 242 attendees	May 10 -12 243 attendees	August 11-13 261 attendees

Technologies Crane IN					
EW/Cyber Convergence Charleston SC	June 4-6 157 attendees	June 5-7 169 attendees	June 6-8 186 attendees	June 7 – 9 172 attendees	June 2-4 148 attendees
EMS Engineering and Acquisition Dahlgren VA	Sept 10-11 138 attendees	n/a	Sept 26-28 132 attendees	Sept 20 -22 216 attendees	n/a
CEMA, APG, MD	Oct 8-10 804 attendees	Oct 23-25 761 attendees	Oct 17-19 776 attendees	Oct 18-20 770 attendees	Oct 6-8 538 attendees
PACOM, Honolulu, HI	n/a	Oct 9-11 233 attendees	October 17-19 223 attendees	Nov 8 – 10 204 attendees	October 20-22 187 attendees
Marine Corps Spectrum Maneuver Warfare Conference, Cherry Pt, NC	n/a	n/a	n/a	n/a	October 27-28 291 attendees

The Board of Directors approved a chapter contribution model based on a seven-tier approach (High/Standard/Low chapter involvement).

Net Proceeds ≥	Net Proceeds <	Chapter Contribution
\$0	\$2,500	\$750
\$2,500	\$7,500	\$1,500
\$7,500	\$15,000	\$3,000
\$15,000	\$30,000	\$6,000
\$30,000	\$45,000	\$10,000
\$45,000	\$60,000	\$15,000
\$60,000		\$20,000

The model incorporates a tiered approach to chapter contributions based on net proceeds, after consideration of all event revenue and expenses (to include AOC staff labor). It incorporates chapter contribution caps as a management control measure to protect the best interests of AOC, while recognizing chapters who co-host AOC conference events. The model is both fair and equitable and can be applied to any AOC co-sponsored event whether it be local US chapters or international chapter events.

In instances where no profit is realized, or local community involvement is minimal, the profit share/split is typically lower (or eliminated) at the discretion of the Executive Director.

GLOBAL CONFERENCES

AOC conducted two (2) successful global conferences in 2019 providing \$334,149 revenue (see table below). Global Conferences were overseen by the International Advisory Committee, chaired by Sue Robertson, members, Jeff Walsh, David Stupples and Bob Andrews and supported by John Clifford and conference partner Clarion.

Name of Conference	2019	2018	2017	2016	2015	2014
EW Europe (Clarion)	May13-15 Stockholm, Sweden AOC Share \$315,118	June 6 – 8 Lausanne, Switzerland AOC Share \$305,465	June 6-8 London, UK AOC Share \$254,747	May 10-12 Rotterdam, Netherlands AOC Share \$173,437	May 26-28 Stockholm, Sweden AOC Share \$170,000	May 13-15 Edinburgh, Scotland AOC Share \$142,516
EW Singapore (Clarion)	Jan 29-30 Singapore AOC Share \$18,929	Jan 16-18 Singapore AOC Share \$28,684	Jan 17-19 Singapore AOC Share \$13,935	n/a	n/a	n/a
AOC EW Asia (Tangent Link)		n/a	n/a	Sept 20- 23 Kuala Lumpur AOC Share \$3,899	n/a	March 10-11 Kuala Lumpur AOC Share \$65,054
AOC EW Brazil (Clarion)		n/a	n/a	n/a	April 14-17 Rio AOC Share \$2,400	n/a

2020 Global Conference Plans

- AOC EW Asia (Clarion) – February 4-5, 2020 – Singapore
- EW Europe (Clarion) – June 16-18, 2020 – Liverpool, England
- FIDEA (Brazil) – March 31-April 5, 2020 – Santiago, Chile
- EW GCC (Tangent Link) – October 20-21, 2020 - Abu Dhabi, UAE

PROFESSIONAL DEVELOPMENT

The AOC has embarked upon greatly expanding the educational opportunities for professional development for our members. The primary source of professional development the AOC strives to offer its members is in the form of instructor-led professional development courses, hosted and administered by the AOC. These exist in the form of Face-to-face (Live at an AOC facility), Face-to-face (Live at a customer's facility), Web-based (Live Online), and On-Demand (Recorded).

The AOC's Education Program is currently overseen by the Education and Training Committee, which includes Chair, David Stupples.

With the hiring of AOC's Education Coordinator in February 2019, initial preparations were made to move forward with the AOC's Certification Program. An initial framework was established with a benchmark of 150 credit hours of AOC Professional Development Courses to be required for Certification. The Certification

program has been titled “Certified Specialist in Electromagnetic Warfare” (CSEW). Our Learning Management System (LMS) (education.crows.org) is in place.

The catalog of on-demand courses brought in a total of 14 attendees in 2019. In 2019, four (4) face-to-face courses were offered and four (4) new courses were web-based. Additionally, the AOC provided three (3) on-site instructional courses for NASIC at Wright-Patterson, AFB & NAVAIR College at Pax River Naval Air Station. **The student totals were: face-to-face = 47; On-site (live) = 60; web based (live) = 62; and on-demand = 14.** With a full schedule of 13 new courses being offered in 2020, it is anticipated to increase Professional Development Course attendance.

	2019	2018	2017	2016	2015	2014
Courses	11	3	5	7	8	14
Students	183	85	51	111	152	227

2019 Professional Development Courses

Course Name	Location (Delivery Method)	Instructor	# of Students (LIVE)	# of Students (On-demand)
DRFM Technology and Design for Electromagnetic Maneuver Warfare	WebCourse – Adobe Connect	Dr. Phillip Pace	22	0
Introduction to Radar Systems	WebCourse – Adobe Connect	Kyle Davidson	23	1
The World of Airborne Expendables and sUAS	WebCourse – Adobe Connect	Dr. Patrick Ford	8	0
Space EW	WebCourse – Adobe Connect	Dave Adamy	9	0
Fundamental Principles of EW	Renaissance Hotel – Washington DC	Dave Adamy	13	N/A
Machine Learning for EW	Renaissance Hotel – Washington DC	Kyle Davidson	19	N/A
Advanced Principles of EW	Renaissance Hotel – Washington DC	Dave Adamy	11	N/A
Electronic Countermeasures T&D	Renaissance Hotel – Washington DC	Kyle Davidson	4	N/A

2019 Professional Development Courses had a total revenue of \$216,935, and expenses of \$127,788.71. Net Surplus from PDCs was \$89,146.29.

VIRTUAL SERIES (WEBINARS)

The number of webinars offered in 2019 increased to 19 with an increased revenue due to sponsorships. The 2020 webinar scheduled is already finalized with 21 webinars scheduled and a forecasted sponsorship revenue of \$200,000.

Date	Title	Speaker(s)	Registrations	Attendees
2/7/2019	Practical DRFM Technology and EMS Design Considerations	Dr. Phillip Pace (NPS)	582	290
3/7/2019	RWR Emitter Identification	Arthur Schwarz	386	197
3/21/2019	Radar Target Recognition and Deception	Kyle Davidson	340	163
4/4/2019	Key Topics for Operational Directed Energy Weapons	Dr. David Stoudt (DEPS)	255	125
4/18/2019	Self-Interference Cancellation: Full-Duplex Revolution	Joel Brand (Kumu Networks)	253	128
5/9/2019	Radar Cross Section (RCS) & Stealth	Dr. Clayton Stewart	504	238
5/23/2019	Expendables & UAV ES	Dr. Pat Ford (Erevno Aerospace)	403	183
6/6/2019	ELINT and RESM, getting the facts straight	Andrew Owen (R&S)	349	175
6/20/2019	Space EW 2.0	Dave Adamy	379	167
7/11/2019	Understanding Tracking Radars	Kyle Davidson	494	238
7/25/2019	The Sunset of the Prowler	Doug Swoish, John Cryer, Rick Morgan (Prowler Association)	170	85
8/8/2019	An Introduction to Radio Direction Finding Methodologies	Paul Denisowski (R&S)	534	267
8/22/2019	Evolving to the Next Generation of Multifunctional Electronic Warfare - Part II	Matthew Orr	322	144
9/5/2019	Intro to Machine Learning for EW	Kyle Davidson	618	302
9/19/2019	Achieving SWAP-C Benefits in EW Systems using Positive Gain Slope MMIC Amplifiers	Chris Gregoire (Custom MMIS)	102	43
10/3/2019	RAF 100 Group and its EW Legacy	Dr. Thomas Withington	200	105
11/7/2019	The 3 Pillars of EW - Electronic Attack	Brian Hinkley	401	217
11/14/2019	The 3 Pillars of EW - Electronic Support	Brian Moore (RAS)	314	139
11/21/2019	The 3 Pillars of EW - Electronic Protect	Dr. Clayton Stewart	307	130
Totals:	19		6,913	3,336

	2019	2018	2017	2016	2015	2014
Webinars	19	12	16	17	18	20
Attendees	3,336	3,173	2,389	2,183	2,811	2,992
Sponsorship	\$147,374	\$118,982	\$90,625	\$84,750	\$135,375	\$113,425

ADVOCACY AND OUTREACH

The mission of the Advocacy and Outreach (A/O) program is to direct, facilitate and integrate stakeholder outreach across the Department of Defense, military, the global defense industrial base, and all of government, including Congress. The program is also charged with building relationships internationally with stakeholders from international AOC chapters. Additionally, the A/O program is charged with integrating its value objectives across all other AOC programs and initiatives.

Advocacy and Outreach was overseen by the Government and Industry Relations Committee, which includes Chairman, Jim “Hook” Pryor, and members, Sue Robertson, Rick Lu, and Jim Gigrich.

Value Objectives for Advocacy and Outreach

Value Objectives for Industry

- Provide data, analysis, and context of defense budget
- Influence policy development in Congress and DoD
- Educate and network Members of Congress and staff
- Provide business intelligence/market analysis for better business

Value Objectives for Congress

- Educate Members of Congress and staff
- Provide legislative/budget analysis and policy development
- Improve influence via congressional processes (committee and legislative)
- Strengthen grassroots so Congress knows what’s happening on the ground

Value Objectives for DoD/Military

- Provide analysis and context on defense budget
- Collaborate with industry and academia
- Advocate for stronger leadership to provide authority and resources throughout DoD and the Services

2019 Accomplishments/Activities

• Congress

- Conducted over 255 individual contacts, including 78 individual office meetings
- Published a monthly Advocacy Newsletter
- Organized the 3rd annual “101”-style congressional education briefing series on EMSO.
- Monitored and updated congressional contacts with the implementation of Section 1053 of the FY 2019 National Defense Authorization Act.
- Established and updated a defense budget database of EW-related programs and activities in the national defense budget.
- Monitored Mark-ups and Hearings in the House/Senate Armed Services Committees
- Convened US Marine Corps SIGINT IPP event on Capitol Hill (April 2019)
 - Rep. Paul Cook (CA-08) was host
 - Panelist included: Mr. D. Guy Jordan, Assistant Director for Intelligence, USMC, Col Randolph Pugh, Commanding Officer, USMC Intelligence Schools, and Col Dave Burton, Program Manager, Intelligence Systems, USMC Systems Command.
- Convened a congressional briefing on Quantum Radar (August 2019)
- Organized 2nd Annual Congressional Staff Program at the 56th Annual AOC International Convention and Symposium (AOC56), which included an industry stakeholder roundtable.
- Organized and conducted the Congressional Keynote Address and Panel Discussion at AOC56.

• **Military Outreach**

- Organized the National Defense University EW Industry Studies Program Capitol Hill Day. Met with select congressional staff including Rep. Don Bacon, Rep. James Langevin, Rep. Rick Larsen and professional staff for the House Armed Services Committee.
- Visited AFRL Sensors Directorate for meetings with program stakeholders (August).
- Visited NAS Pax River for meetings with EMS-related program managers, including PMA-231, PMA-234, and PMA-265 (September).
- Attended and presented at Kittyhawk Week to engage AFRL Sensors Directorate stakeholders (September).
- Development AOC military unit stakeholders list for coordinated outreach in 2020.
- Organized 2nd Annual NAS Pax River “young engineer” program at AOC56.
- Assisted in the establishment of the inaugural Program Managers’ Briefing Series at AOC56.
- Represented AOC at the VAW/VRC Symposium (November) in support of the US Navy Carrier Airborne Early Warning Command and Control community.

• **Industry Outreach**

- Conducted over 1000 industry contacts including sales and outreach.
- Secured AOC presence/attendance at new shows including AFCEA West, SOFIC, and Quad-A Mission Systems and Quad-A Cribbons Product Sustainment Symposium, in addition to continuing the presence at AFA and DEPS.
- Met regularly with representatives from key industry members, including BAE Systems, Raytheon, Lockheed Martin, Keysight, Northrop Grumman, and Government Affairs Offices.
- Attended Dynamic Connections 2019 - General Dynamics’ supply chain conference (April)
- Presented at the Lockheed Martin EW Working Group Meeting (June)
- Established the Vacuum Electronic Devices Industry Partnership Project (VED IPP)
 - Released Issue Brief on Vacuum Electronic Devices
 - Organized and moderated panel discussion on VEDs at EW Europe (May)
 - Conducted VED IPP Roundtable on Supply Chain Fragility of Rare Earth Elements at AOC56.
- Established the Self-Protection Systems/Aircraft Survivability Equipment IPP (SPS/ASE IPP)
 - Convened organization luncheon at Terma NA (August). Special guest was Mr. Alvin Greene (SAF/IA)
 - Released Issue Brief on the Evolution of Self-Protection Systems (October)
 - Organized SPS/ASE IPP Roundtable on Army ASE at AOC56. Special guest was COL Kevin Chaney, PEO IEWS ASE.
- Maintained SIGINT IPP, including USMC SIGINT Day on Capitol Hill and a roundtable discussion with Brig. Gen. Lance Landrum (EMSO CFT) at AOC56 (October).
- Organized Town Hall with Sensor Open Systems Architecture (SOSA) Consortium at AOC56 (October)
- Continued partnership with the Directed Energy Professional Society (DEPS), including exhibit booth exchange and development of symposium session at respective annual shows.

MARKETING & COMMUNICATIONS

Refining crows.org and Expanded Email Marketing

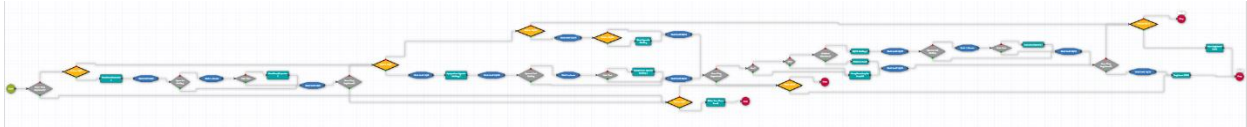
2019 presented the opportunity to greatly polish the look, feel, and navigational elements of crows.org. Custom page templates led to the following page improvements:

- Mission & History
 - o <https://www.crows.org/page/missionandhistory>

- Produced new explainer video “How the AOC Delivers on Our Mission”:
<https://vimeo.com/368848389>
- Membership:
 - Membership overview: <https://www.crows.org/page/membership>
 - Chapter listing: <https://www.crows.org/page/chapters>
 - Join Now: <https://www.crows.org/page/joinnow>
 - Individual Memberships: <https://www.crows.org/page/IndividualMemberships>
 - Group Memberships: <https://www.crows.org/page/GroupMemberships>
- Directory Pages
 - BoD: <https://www.crows.org/page/boardofdirectors>
 - BoG: <https://www.crows.org/page/boardofgovernors>
 - Staff: <https://www.crows.org/page/AOCStaff>
- Conference pages greatly improved:
 - EW Capability Gaps (Crane): <https://www.crows.org/page/Crane2019>
 - Cyber/EW Convergence (Charleston): <https://www.crows.org/page/Charleston2019>
 - EMW (Dahlgren): <https://www.crows.org/page/EMW2019>
 - CEMA (APG): <https://www.crows.org/page/CEMA2019>
- Advocacy pages
 - Advocacy overview: <https://www.crows.org/page/Advocacy>
 - SIGINT IPP: <https://www.crows.org/page/SIGINTIPP>
 - VED IPP: <https://www.crows.org/page/VEDIPP>
 - ASE IPP: <https://www.crows.org/page/ASEIPP>
- AOC Awards: <https://www.crows.org/page/awards>
- Nominations & Elections: <https://www.crows.org/page/elections>
- Convention:
 - 2019 Convention built on the great microsite template from 2018:
<https://www.crows.org/mpage/2019home>
 - 2020 Convention site was already live during the 2019 event:
<https://www.crows.org/mpage/2020home>
 - Produced 2019 Convention promo video: <https://vimeo.com/356718384>
 - 2019 Convention Press release:
<https://www.businesswire.com/news/home/20191016005871/en/Association-Crows-Presents-Building-Electromagnetic-Spectrum-EMS>
 - Greatly increased pre-event exposure leveraging strategic media partnerships. AOC received free marketing in exchange for various distribution levels at the Convention
 - JED
 - JED also took over the production of the Show Daily for 2019:
<https://www.crows.org/mpage/2019ShowDaily>
 - Shephard
 - SeaPower
 - Microwave Journal
 - C4ISRNET (Defense News)

The AOC also migrated its email marketing platform to Informz during 2019. This new platform fully integrates with the AOC’s membership database, so all subscribers and preferences are dynamically driven by the database. This reduced manual workflows while greatly increasing productivity and efficacy in our email marketing.

- Significantly improved WYSIWYG content editor greatly improves time spent building mass emails
- Significantly improved reporting on opens, clicks, bounces, heat maps, etc.
- Automated Campaigns with decision-tree logic to determine when/what messages individual users receive:



- For events that have registrations within the AOC database, we can capture conversions in the email marketing tool, and take action to exclude registrants from future promotional notifications
- The reporting tool allows us to automatically re-send emails with reworked subject lines to recipients that didn't open the first email – greatly increasing opens and click-throughs on any given campaign.

AOC Career Center & Career Fair

The AOC Career Center (careers.crows.org) went live in March 2018 and the response has been fantastic. The new career center has become a source for additional non-dues revenue and serves to further position the AOC as the best place to come for EMSO, CEMA, & IO talent. Some highlights can be seen below:

	2019	2018 (March-EOY)
Job Views	925,159	23,344
Job Postings	156	89
Gross Sales (includes pre-orders of posting packages)	\$87,193.75	\$65,658.15
Net Revenue to AOC	\$26,347.58	\$17,499.11

In conjunction with the 56th Annual AOC International Symposium & Convention in 2019, the AOC held its first Career Fair in more than a decade. <https://www.crows.org/mpage/2019CareerFair> 8 companies took part in this forum for recruitment and select companies presented workforce development sessions on the Innovation Stage! There were many lessons-learned to take away from this inaugural event, and 2020 should see the event improve greatly. **The 2019 Career Fair brought in an additional \$17,379.17 in non-dues revenue for the AOC.**

Naylor Communications - *Journal of Electronic Defense (JED)* and *eCrow*

AOC has contracts with Naylor Communications to produce the weekly electronic newsletter *e-Crow* and the monthly publication *Journal of Electronic Defense* on our behalf. The contract for *e-Crow* expires in 2021 and the contract for the *JED* expires 2024. In 2019 AOC contracted with Naylor Communications to take over the sales and management of the *Annual Symposium Show Daily* which was previously created and managed in-house. That three-year contract will expire December 31, 2021.

Additional government and legislative office addresses were added to the Naylor *JED* complimentary distribution list.

2019 AWARDS

AOC Gold Medal Recipient	Mr. Jay Kistler
The Hal Gershanoff Silver Medal Award Recipient	Col Robert Lindseth, USAF (ret)
Col Anton D. Brees Lifetime Service Award Recipients	Mr. Christo Cloete and Mr. Henry Sees
Joseph W. Kearney Pioneer Award Recipient	Mr. Paul Boehm
AOC Technology Hall of Fame Recipients	Dr. Haruko Kawahigashi, Dr. K. Maheswara Reddy, Kevin Stillwell, and Samuel Stern
A.C. McMullin Electronic Attack Award	CTR2 Tyler Geske, USN
Jerry Sowell Electronic Protect Award	Mr. Joseph A. Oagaro
John Marks Electronic Warfare Support Award	Mr. Brian Larocca
Electromagnetic (EM) Battle Management Award	Maj Carter Matherly, USAF
Jeffrey B. Jones Cyber Operations Award	Mr. Metin Ahiskali
Electro-Optical/Infra-Red Award	Mr. Robert McGowan
Spec 4 James Davis Maintenance Award	CTT2 Michael L. Jacke, USN
CTTCM Clay A Conner Training Award	Capt Christopher Kean, USAF
Stanley B. Hall Executive Management Award	Captain Robert Croxson, USAF
Clark G. Fiester Program Management Award	Mr. Cedric Gilmore
Integrated Product Team Award	USAF Electromagnetic Spectrum/Electronic Warfare Enterprise Capability Collaboration Team
Test & Evaluation Award	Ms. Sara Meyer
International Achievement	Dr. Weng Ping Kuo
Military Service Award – Air Force	Major Jesse Robert Cruz, USAF
Military Service Award – Army	Captain Justin Pelletier, USA
Military Service Award – Coast Guard	Petty Officer Richard Haynes, USCG
Military Service Award – Marine Corps	Sergeant Brian Rymiszewski, USMC
Military Service Award – Navy	Lieutenant Martin Nguyen, USN
Military Service Award – International	Lt Gen Ying-Han Ma
Outstanding Unit Award – Army	4th Infantry Division CEMA Team
Outstanding Unit Award – Marine Corps	VMAQ-2
Outstanding Unit – NATO	Joint ISR Branch
Outstanding Unit – Air Force	21st Operations Support Squadron
Outstanding Unit – Navy	NIOC Whidbey Island, VAQ-135, USS Mitscher



AOC EDUCATION FOUNDATION

2019 AOC Education Foundation Board of Governors

President	Muddy Watters
Vice President	Rich Wittstruck
Secretary	Mark Schallheim
Treasurer	Greg Patschke
Appointed EXCOM	Mike Ryan
Regional Directors	Keith Everly, Jim Pryor, Mark Schallheim, Darin Nielsen, Sue Robertson, Jeff Walsh, Karen Brigance, Sam Roberts and Glenn "Powder" Carlson
Past President	Lisa Frugé-Cirilli
Appointed Governors	Gary Lyke and Brian Hinkley

2019 AOC Board of Governors Meetings

There were four (4) face-to-face Board of Governors meetings.

Date	Description
11-12 March	Face-to-Face (Pt Mugu, CA)
18-19 June	Face-to-Face (AOC Headquarters)
11-12 September	Face-to-Face (AOC Headquarters)
25-26 Nov and 29 Nov	Face-to-Face (AOC Symposium - Washington, DC)

2020 Education Foundation Board of Governors

President	Muddy Watters
President-Elect	Glenn "Powder" Carlson
Secretary	Mark Schallheim
Treasurer	Rich Wittstruck
Appointed EXCOM	Mike Ryan and Bob Andrews
Regional Directors	Keith Everly, Jim Pryor, Mark Schallheim, Rick Lu, Sue Robertson, Jeff Walsh, Karen Brigance, Sam Roberts and Mike Ryan
Past President	Lisa Frugé-Cirilli
Appointed Governors	Gary Lyke and Nino Amoroso

FOUNDATION GOVERNING DOCUMENTS

The Education Foundation Governing Documents can be found on the AOC website after you login under the Foundation tab on the top bar.

SCHOLARSHIPS

In 2019, the AOC, made possible by a \$25,000 donation from Raytheon, awarded two \$12,500 scholarships to:

1. Tyler French – Georgia Institute of Technology
2. Christopher Tousignant – Virginia Tech

AOC partnered with an independent group at the Education and Training Center in Boston to review the applications and select two winners.

AOC Chapters gave out approximately \$180,000 in scholarship money in 2019. Between HQ and Chapters, approximately 160 individuals received some form of a scholarship from the AOC.

FINANCIAL STATUS

The AOC Foundation balance as of December 2019 is \$200,780 which includes \$25,000 donated by Raytheon for the 2020 scholarships and \$11,865 of individual or industry partner contributions in 2019 for STEM or scholarship donations.

STEM PROGRAM

STEM Vision:

Investment and development of our "young" crows through EMS STEM education programs, mentorships, and AOC events encouraging collaboration while ensuring successful growth of our “EMS Leaders of Tomorrow”.

STEM Mission:

The Association of Old Crows Education Foundation 501 (c)(3) organization provides a dedicated venue for AOC Chapters to post EMS STEM events fostering open communication and the sharing of ideas through our AOC website, Subject Matter Experts (SMEs) and by hosting global STEM events to include the Annual Convention to promote our chapters, academia, industry and government.

For the fifth consecutive year, AOC held the STEM Outreach Event during the Annual Symposium. Two young crow STEM challenge winners from 2018 were able to join for a day and met with young engineers and Board members. Another STEM challenge was issued in 2019 and seven students won the challenge.

	2019	2018	2017	2016	2015
Students	997	1,067	459	580	300
Schools	21	18	12	8	8
Displays	31	27	18	16	16
College Recruit Stations	8	8	0	5	12
Volunteers	32	45	50	Unknown	Unknown
New Members recruited	144	98	Unknown	Unknown	Unknown

2020 LOOK AHEAD

Per the 2020 Annual Operating Plan, areas requiring attention in 2020 are outlined below:

ADVOCACY

- Expand outreach to peripheral EW markets in defense electronics
- Expand the AOC community of interest
- Increase AOC awareness in younger demographics

- Solidity and Improve industry partnerships

EDUCATION

- Develop a comprehensive and sustainable approach to STEM education
- Leverage Government, Industry and Academia STEM programs where they align with AOC mission and objectives
- Increase quality and breadth of education program content
- Establish Certified Specialist in Electromagnetic Warfare (CSEW) program
- Assess Scholarship program and determine best return on investment

SUPPORT

- Develop AOC Chapter Toolkit to promote self sufficiency
- Publish post-conference proceedings as a service to all AOC members
- Promote chapter and membership participation in AOC Committee work
- Establish equitable approach to recognition across CONUS/OCONUS Chapters
- Initiate "Association of Old Crows" rebranding campaign
- Conduct climate survey to understand Chapter issues and challenges
- Increase membership election participation to better reflect voice of AOC
- Execute the transition into the new AOC facility