



ASSOCIATION
OF OLD CROWS



JOIN THE LEGACY,
SHAPE THE FUTURE



AOC Muddy Watters
EMS STEM Program

- **Mark Schallheim**
 - **Chair, EMS STEM Committee**
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- **Briefing date June, 06, 2024**

AEF STEM Subcommittee

- **Michael Brock, AOC/AEF E&T (Professional Development) Committee**
- **Ken Dworkin, E&T (Professional Development) Program**
- **Lisa Fruge, Chapter STEM Expertise**
- **Mark Schallheim, Chair**

STEM Committee Members

- **Ian Agard**
- **Michael Brock, AOC**
- **Raul C Blanche**
- **Ken Dworkin**
- **Keith Everly**
- **Lisa Frugi**
- **Leslie Gruis**
- **Samatha Kim, AOC**
- **Vijay Kowtha**
- **Gary Lyke**
- **Myles Murphy**
- **Chuck Quintero**
- **Mick Riley**
- **Mark Schallheim, Chair**
- **Wayne Shaw**
- **Sully Sullivan, ISEF Advisor**
- **Need “Young Crows”**

AEF 5-Year Strategy

AEF Strategy Goal 2: Build a Spectrum-Oriented Science, Technology, Engineering, and Mathematics (STEM) program that attracts young people and advantages international AOC community members including industry, academia, government & military/defense

AOC “EMS STEM” Objectives that Advance the AEF Strategy Goal

- 1. Make chapters primary laboratories** for testing approaches for introducing EW/EMSO/EMS equities & interests into existing established STEM programs (like SFS/ISEF); **incentivize promising chapter-level ideas and successful efforts** with “extra” resource support from AOC National
- 2. Use AOC relationship with Govt/Mil to curate unclassified EW/EMSO/EMS problems & challenges** that can be shared with universities and programs that work with universities (eg, VICEROY)
- 3. Use AOC relationship with Industry** to understand and help socialize EW/EMSO/EMS workforce needs
- 4. Become known for engaging and facilitating conversations with universities (and high schools)** to get information on EMS-related career opportunities in front of young people, and showcasing (academic and) career opportunities at AOC events
- 5. Promote EMS-related STEM awareness in general** (USA = Universal Spectrum Awareness)

2024 STEM Program Plans

1. 2024: **AOC focus** is on **Society of Science** Events, especially AOC International efforts with the “Society for Science” International Science & Engineering Fair (ISEF) [AOC name recognition]
 - A. Headquarters to lead AOC Membership and Chapters (includes Academia, Industry and DoD partners) to be involved in Mentoring and Judging EMS Scholars who participate in Science Fair Programs (see ISEF addendum)**
 - B. 2024: AOC created EMS Articles in “Science News” and “Explorer” (HS Teacher/Student)**
 - C. 2024: AOC to market (i.e. FUNDING) Industry partners to contribute with name recognition at ISEF (Focus here is an opportunity of getting a dream workforce of the best and brightest on their team)**
 - D. 2025+: Focus on rapid growth in AOC and EMS Related Student**

Involvement in ISEF over the next 5 years

2024 STEM Program Plans

2. 2024(lite)/ 2025+: Encourage AOC Chapters to share and interact with each other, as well as cooperate and collaborate to participate in STEM Fairs, Events and/or Programs with Government, Defense, Corporate, Associations and Educational Organizations
 - A. 2024: AOC Headquarters facilitates Chapter STEM Contacts working together / 2025+: Chapters Collaborating on their own
 - B. 2024: AOC Headquarters to recognize Chapter's and Individual's STEM efforts and provide a monetary award to support program growth.
 - C. 2025+: Chapter's innovate and continue growth in STEM

2024 STEM Program Plans

3. 2024(lite)/ 2025+: Develop OpMan for AEF STEM
 - A. 2024: Create an outline of what is needed, for example: ROE/interaction with underage Youth; define difference between Elementary, High School, University, Career STEM involvement and Certification / Professional Growth / etc.
 - B. 2025+: Review and Modify STEM Objectives on an annual basis to ensure growth and reduction of conflict or redundancy with other Professional development (for example, Museums, Scholarships, Internships, Education, Websites, Webinars, Support Staff, ...)

2024 STEM Program Plans

4. 2024 (Tentative, but desired by our team): Invite a few “outstanding” University Students to visit our 2024 Convention & Symposium to get a picture that a career in EMS / EMSO can be exciting and rewarding (controversial for a number of reasons, but mostly fear of impacting Industry sales)
 - A. 2024: This would be a test of the art of the possible. We envision that we would have leaders speak to these folks during an informal settings, participation in the symposium, and escorts were discussed. Students would be over 18 (or over-achievers) and de-conflict with their school schedules. We also discussed displays, but we are not there yet.
 - B. 2025+: The eventual goal will be to create a side event that AOC can support **Student / Industry HR interaction (that Industry does not currently see the value)** with a possible Internship relationship being created while the student is still unsure of what industry best fits them. The Convention Floor displays is a gold mine between Industry/Government workforce requirements and potential Interns

2024 STEM Program Plans

5. 2025++ Expand EMS STEM Awareness in the General Public. No organization has taken on this perspective. We see the need in Defense, but it goes beyond Warfare, it involves everything we touch in our daily life, and our dependency on use of the EMS can be impacted by nature and threats.
 - 2025+: Develop EMS educational opportunities with Educators. Help communicate with examples and visions of potential doom (if we do not continue to lead in this domain). Share the positive benefits to mankind that we continue to evolve and grow in our use of the EMS. Help to share the Science of EMS that is exciting to our youth. i.e Take a leadership role.

Can't forget Existing AOC STEM Programs

Headquarters support to Membership and Chapter STEM Programs:

- Share what has been done and find Chapters to take on these accomplishments and to grow what previous AOC Leaders have started.
- Past STEM programs still on-hold:
 - *STEM Website – Info on Events, Challenges, Videos, Publications and Blogs?*
 - ***More brainstorming required to determine the best way to communicate to Youth or others that may be interested in a career involving the EMS (or EMSO)***

Five (5) Specific, Measurable, Achievable, Relevant, Time-Based objectives over the five year period that will achieve the goals. What are your financial requirements? Do you need an AOC staff member to meet your goals; if so, how many people?

- 5 Summary Goals with a total of 12 Sub-bullets of more specific tasking, each with multiple goals and sub-goals and products. Too much to accomplish in the next 5 years with our current staff and volunteers.
- Focus will be on Number 1 (A, B, and C).
 - Financial Requirement: see addendum
 - Requires time from Staff (E&T Program Manager, Assistant, and Volunteers)
- Other tasks will require funding and staffing, and will have only minor accomplishments unless there is additional funding and staff.

2024+ (2025 – 2029) STEM Program Plans

Advocacy & Industry *outreach*:

- Congressional & Industry outreach
 - Deficiency of EMS & EMS Defense in Education & STEM programs
 - Potential AOC value to solving this issue
 - STEM opportunities via Chapter led programs
 - Inclusion of enhanced EMS studies in educational curriculums.
 - AOC Educational Foundation EMS Student Award Program (\$)
 - Develop Internship support infrastructure for University/College Students and AOC membership Organizations
 - Participate and organize funded Independent Research & Study programs with Membership Universities, other Organizations, Employees, and/or Volunteers
 - Collaborate with Universities to develop EMS Educational programs

2024+ (2025 – 2029) STEM Program Plans (*continued*)

Advocacy & Industry *outreach*:

- AOC needs to be the EMS Advocate:
 - Expand Education Contacts
 - Be an advocate for building the future for the EMSO workforce
 - Collaborate with Academia, Industry, DoD, and Government
 - Develop Strategy that aligns with participants above

- Resources are required to accomplish.

Addendum

Addendum Concerning ISEF:

NSA Research Directorate invited AOC to participate as part of the Society for Science, Regeneron International Science and Engineering Fair (ISEF) 2024, Los Angeles Convention Center (May 13-17, 2024)

Some stats:

- Over 1700 High School Students participated (necked down from Millions)
- Over 4000 Elementary School Students attended during on open to the general public day
- Over 800 Grand Judges & over 200 Special Award Organization (SOA) Judges
- Over 200 Translators and over 800 Volunteers
- 70 Countries and if not all, most US States attend each year.
- SFS ISEF Provides Lesson Plans to Teachers

2024 Goal: AEF participation in next year's (and following years) ISEF

- AOC to host a Booth during the College and Career days (Approx. \$5K)
- Judge EMS related topics as a Special Award Organization (SAO) with 1st, 2nd, 3rd place awards of a value approved by the AEF BoG
- Identify AOC members to submit EMS articles to Science News to stimulate student interest, which should then result in more EMS related projects to judge @ ISEF.
- **Students selecting to do research topics in the EMS may request an AOC mentor to help guide their project. Students may become available as Interns.**

Society for Science

- Worldwide participation by Scientist and High School Students and Educators
- AOC should be the organization that enhances their programs by providing EMS related projects for students
- SFS is an outstanding outreach for the AOC's AEF

Questions?

Sample Table (if needed)

Heading	Heading	Heading	Heading