

AOC Gold Medal Award

Authors

• Craig Harm

Submission

Introduction and Instructions

Nominator's Details

Nominator's Name: Craig Harm

Nominator's Rank/Title: Col, USAF (ret)

Nominator's Chapter Affiliation: Desert Sun

Nominator's Company: Kochab Calibrations, LLC

Nominator's Job Title: Owner

Nominator's Address: 2495 N. Wychwood Ct

Nominator's City: Tucson

Nominator's State/Province/County: AZ

Nominator's Postal Code: 85749

Nominator's Country: United States

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Nominee's Information

Nominee's Name: Mark Threadgold

Nominee's Rank/Title: Dstl Level 8, O-6 equivalent

Nominee's AOC Member Number:

Nominee's Chapter Affiliation: United Kingdom Chapter

Nominee's Company:

Defense Science and Technology Laboratory (dstl), UK

Nominee's Job Title: Chief, EW

Nominee's Address: Dstl Porton Down Room 102 Building 5

Nominee's City: Salisbury

Nominee's State/Province/County: Wiltshire

Nominee's Postal Code: SP4 0JQ

Nominee's Country: United Kingdom

Nominee's Phone: +44 (0) 1980 953193

Nominee's Email: mthreadgold@dstl.gov.uk

Eligibility and Qualifications

Nominee's Job Title and Organizational Level:

As Chief EW, Mr Threadgold is in charge of all EW testing and test capability for dstl within the UK. His responsibilities include the development of test capabilities, the execution of test/trials, threat simulation integration, managing resources, leading test teams and development engineers, and coordination/facilitation with international and multi-national teams and agreements.

Leadership Requirements

Leadership Contributions:

Mark leads multiple teams in his role. He leads the dstl team in EW testing. He also leads multiple multinational teams within NATO, AGCU, and other European teams. He is personally responsible for the development of advanced state-of-the-are synthetic Hardware in the Loop test capabilities along with the initiation, development and implementation of a revolutionary capability of building accredited threat test systems. Mark's initiative, leadership and guidance is principally responsible for the development and implementation of the System of Systems Synthetic Environment architecture for high fidelity test and evaluation. This Capability will revolutionize the approach to Electromagnetic Environment T&E across all the UK and multiple other nations.

Leadership Role Impact:

Mark's leadership has guided the entire international community in the development of methodologies, systems and infrastructure for systems on systems Hardware-in-the-Loop live radiation testing capabilities. These systems-on-systems tests enable multiplexed many-on-many EW systems to interact in a synthetic environment within a laboratory enabling testing of systems otherwise unavailable for open air testing. Mark has been at the point of this advanced capability since its inception. He has guided multiple nations EW efforts into a single cohesive effort aligned for collaboration and sharing. Without his personal dedication and commitment these lines of efforts would have failed. In his leadership role he has briefed, presented and interacted with the highest levels of decision makers in multiple countries providing them with the necessary information, impacts and consequences to secure funding, support and integration of these advanced test capabilities. Mr. Threadgold high-level impacts have not been limited to Justh as leadership of Technical teams and innovation. He is also at the forefront of proclaiming these capabilities beyond just the scope of his mediate teams. He has presented and matured his approach through interactions and over 100 national multinational and international technical symposiums leadership conferences and senior guidance steering committees attendees have adopted his approach within their own organizations and contributed significant amounts of funding towards advance in them within their respective sphere of influence

Systemic or Long-term Impact:

The testing capabilities Mark and his teams have developed is revolutionizing EW system testing. It is enabling testing of advanced, modern systems where previously that testing was either impractical or impossible. His approach to threat modeling is brining new threats to bear for testing.

Influence on Policies and Doctrine:

These capabilities are enabling EW system testing in the controlled environment of hardware-in-the-loop laboratories and shifting the fidelity and practicality of testing from an open air range to secure laboratories. This shift in emphasis is a transition for EW testing in multiple nations. Mr. Threadgold's impact on electronic warfare systems testing

analysis and assessment has revolutionized our approach to it. He has turned laboratory testing from an activity supporting open air testing to now being the only means to test many and most modern systems. His leadership influences methodologies and capabilities will the standard in EW system development for decades to come. He has guided the shift in focus from testing one system vs another to testing multiple systems against multiple systems in a multiplexed synthetic environment, emulating the real world interactions. His advocacy and collaborative practices resonate with other organizations and nations to the point their are adjusting resources and prioritizing this type of work.

Additional Comments:

Mr Threadgold has received mutiple acknowledgments of both his work and the impact it has on EW and EMSO. He is the recipient of both the UK Chief Scientific Adviser's (head of all Science and Technology for Defence in the UK) Commendation for Excellent Science or Engineering, and also the Science and Technology International Award presented by The Under Secretary for Defense for Research and Engineering.

EW Community Awareness

Magnitude of Contributions:

Due to the efforts initiated, espoused, advocated and implemented by Mark, the entire landscape and outlook of EW system testing has transformed. Where previously there were a significant lack of testing efforts, Mark's efforts have expanded and enhanced to advance beyond these. As a result both the EW Testing and Operational Communities, in multiple countries now view the practicality, efficiency and effectiveness of Hardware-in-the-Loop testing as a viable and maybe only way ahead for future EW testing. Focus has shifted from testing a single EW system to no analyzing and assessing multiple systems working both with and against other multiple systems.

Community Recognition:

Chief Scientific Advisor (CSA) award for Excellence Science or Engineering. (The CSA is the 3* head of all Science and Technology for Defence in the UK.) USD (R&E) Science and Technology International Award for leadership and innovation in the development of a Systems of Systems Synthetic Environment. Recurring multiple requests over a period of years, for AOC to present at the most significant events including EW Europe and the International Symposium

Proposed Award Citation

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Mr. Mark Threadold has single-handedly revolutionized the manner in which electronic warfare systems can be tested in a laboratory environment. Through his innovation, leadership technical skill, and collaborative approach within an international environment. Mr. Threadgold led the development of ultra high, fidelity, realistically, accredited, EW system emulations, capable of live emissions and digital wave forms. Coupled with his systems on systems approach and his guidance, leadership and development of a virtual synthetic RF and digital multiplex environment. Mr. Threadgold has enabled realistic laboratory testing of complex advanced EW systems without the restriction of live emission boundaries and hazards. Mr. Threadgold high-level impacts have not been limited to Justh as leadership of Technical teams and innovation. He is also at the forefront of proclaiming these capabilities beyond just the scope of his immediate teams. He has presented and matured his approach through interactions and over 100 national multinational and international technical symposiums leadership conferences and senior guidance steering committees. Due his interactions and guidance, attendees have adopted his approach within their own organizations and contributed significant amounts of funding towards advance in them within their respective sphere of influence Mr. Threadgold's impact on electronic warfare systems testing analysis and assessment has revolutionized the methodologies, tools and approach to it. He has turned laboratory testing from a activity supporting open air testing to now being the only means to test many and most modern systems. His leadership influences methodologies and capabilities will the standard in EW system development for decades to come

Additional Documentation

Sign-Off