NFCS 2017

National Fire Control Symposium

ADDRESSING THE BROAD CHALLENGES

Call for Abstracts

PARTICIPATE

We invite you to participate in the 24th annual National Fire Control Symposium (NFCS), February 6 - 9, 2017 at the Shades of Green in Lake Buena Vista, FL (Just outside of Orlando). The NFCS is a tri-service supported event with advisory rotating among the services. The 2017 event, with Air Force technical advisorship, features the theme "Addressing the Broad Challenges."

The NFCS focuses on current warfighter issues related to integrated fire control, including homeland defense, and challenges applicable for all military services, research and development centers and the defense industry. The Symposium addresses the application and integration of sensing, information interoperability, command and control, and weapons used for attacking difficult targets characterized as concealed, time-critical, urban, deeply buried, or electronic. In recognition of the heightened threat, emphasis will be placed upon the extension of DoD investments into supporting homeland defense, including opportunities for direct support of CONUS operations. Conducted in a classified environment, the NFCS is the primary dynamic forum for discussing the entire kill chain. Technical content includes the presentation, demonstration, discussion, and sharing of advanced concepts required for force management and pre-mission planning; locating, identifying, targeting, and attacking air/sea/ground targets; performing post-attack evaluations, as well as the integration, testing, tactics and training required to maintain our tactical advantage.

There are a variety of opportunities for you to participate via attending, presenting, networking, exhibiting, and sponsoring. We encourage you to engage and look forward to seeing you in February of 2017!

Present

Take advantage of this opportunity to present your research or program status to your colleagues. Submit an abstract for consideration for an oral or poster presentation that addresses one or more of the key topic areas in the session topics section of this Call for Abstracts.

Network

Networking and continuing education are key elements to advancing the U.S.'s defense capabilities. It helps you stay current, promotes your research, promotes collaboration, helps you develop a stronger career, and helps build a successful business or organization. Meet with your peers on the leading edge of this technology area to forge new connections and partnerships, collaborate on ideas, and expand your knowledge base.

KEY DATES TO REMEMBER

- **26 August 2016 – Abstracts Due**
- **Mid-September 2016 – Abstract authors will be notified of status**
- **11 January 2017 – Final Presentations Due**
- **11 January 2017 – Sponsorship Payments Due**
- **6 - 9 February 2017 – Symposium Dates**

Exhibit

The 2017 event will feature tabletop exhibits in the area just outside of the technical session venue. This is an excellent way to showcase your organization or technology to those in attendance. There is a limited amount of space so spots will be sold on a first-come-first-served basis. For more information visit: http://www.usasymposium.com/nfcs/cfe.php.

Sponsor

Join the leaders in the industry as a sponsor of the NFCS. Participating as a sponsor:

- Highlights your commitment to furthering excellence in engineering and technology education in the broad fire control arena;
- Creates brand awareness and increases brand loyalty among a targeted audience in the industry;
- Differentiates your company and brand from your competition.

A variety of sponsorship packages are available for all budgets. For more information, contact Michelle Williams at mkw@blue52productions.com or 937-554-4632.

SESSION TOPICS

Topic 1: Accelerating the Kill Chain

Engagements against Anti-Access/Area Denial (A2/AD) targets requires rapid execution of the kill chain in the face of ever more complex and difficult combat environments: (1) mobile and extended range target engagements compress decision times; (2) advanced sensors provide high volumes of raw data that must be processed to extract target information; and (3) expectations of precision targeting at long ranges extend kill chain execution times.

"Accelerating the Kill Chain" will consider approaches to accelerating and improving all links of the kill chain for air-to-surface, air-to-air, surface-to-air, and surface-to-surface engagements. In addition, this topic will explore the innovative algorithmic, architectural, hardware, software, and system integration solutions; near-term operational lessons learned; the legal decisions and processes involved in target selection; and current and emerging fire control requirements for all services. All aspects of the kill chain are open for discussion along with technological improvements, including but not limited to:

- Combat identification—autonomous and aided—to resolve target class uncertainty;
- Multi-target tracking and geolocation for rapid target location;
- Rules of engagement;
- Integration of non-Integrated systems;
- Automated battle management aids;
- Command and control improvements to reduce decision timelines;
- Closing the loop with battle damage assessment;
- Integrated fire control mission expansion; and
- Pushing engagement decisions forward to the platform.

Topic 2: Advanced Technologies

Emerging concepts and technologies will be part of the warfighter's future arsenal and fire control capabilities. These are the "seed corn" for advanced fire control sensors and systems, giving tomorrow's military forces an overwhelming advantage in future conflicts within both the conventional and unconventional (asymmetric) military environments. To be successful, both offensive and defensive technologies must be pursued. This topic will focus on one or more of the following areas:

- Multi-function systems;
- Air-to-Air (A-A) & Air-to-Ground (A-G) tactical laser radar approaches/concepts;
- Advanced Infrared Search and Track (IRST) concepts (e.g. passive ranging, enhanced clutter suppression);
- Lethal and non-lethal target effect mechanisms;
- Techniques for searching, identifying, tracking, and engaging fixed and mobile targets;
- Decision aids that include the human factor;
- Communication techniques (to include data link architecture) and data exploitation algorithms/ techniques; and
- Electronic Warfare (EW) techniques to assure robust fire control solutions.

Topic 3: Combat ID

Development and deployment of a reliable and accurate Combat Identification (CID) capability for U.S. warfighters is critical to the success of fire control for future military operations. CID enables the warfighter to locate and identify critical targets with high precision, permits use of long-range weapons, aids in fratricide reduction, enhances battlefield situational awareness, reduces leakage and wastage, and reduces exposure of U.S. Forces to enemy fire. "Combat ID" invites abstracts addressing all functional elements of cooperative and non-cooperative CID for air-to-surface, air-to-air, surface-to-air, ballistic missile defense, and surface-to-surface engagements, including:

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- Search;
- Signal processing;
- Segmentation;
- Feature extraction;
- Long range active and passive ID technologies and approaches;
- Disaggregated concepts;
- Discrimination; and
- Network enabled and distributed CID.

This topic will explore the innovative algorithmic, architectural, hardware, software, and system integration solutions, as well as near-term operational lessons learned, the legal decisions and processes involved in CID, and current/emerging CID requirements for all services.

Topic 4: Conventional Prompt Strike/Hypersonics

The ability to provide a conventional precision strike on time-sensitive and critical targets is of extreme importance to DoD. This session will be devoted to looking at overviews of the various service and agency capabilities and the technologies associated with achieving hypersonic velocities. Areas of interest include thermal protection, aero design, flight control, navigation and guidance, propulsion, and other topics specific to achieving hypersonic velocities and placing the weapon on target.

Topic 5: Cyber Warfare
(Threat, Exploitation, Assurance, Attack & Defense)

Cyber warfare is the most prevalent form of ongoing attack the DoD and the national infrastructure face. Continuous probing and successful attacks are pervasive. It is a warfare domain in which military commanders must operate and fire control systems must be robust and resilient under cyber attack. The threat is increasingly easy to deploy and very complex to defend against. This topic invites abstracts addressing all aspects of the cyber warfare domain, including:

- Defense (network, computer, information, and reactive defenses);
- Sensing;
- Tracking;
- Cyber situation awareness (forensic analysis and real-time sensing);
- Resiliency under cyber attack;
- Computer network operations (cyber attack);
- Supply chain defense (systems and software);
- Aircraft/weapons avionics cyber security;
- Modeling and metrics;
- Penetration tests;
- Information assurance; and
- Results and analysis from field tests, experiments, or deployments.

Topic 6: Directed Energy

Directed Energy (DE) technology has reached the stage where services need to look seriously at the integration into the operational capability of our military. It has long been seen as a 'weapon of the future,' but the technology has advanced, and is advancing, so quickly that the operational realities need to be addressed. They will have the inherent ability for quick, highly accurate engagement of threats with little or no collateral damage for hardkill and non-lethal solutions. The very nature of the weapon that allows for the highly accurate engagement also presents a new challenge to traditional methods of fire control. The symposium would welcome all DE related papers addressing, but not limited to:

- The recommended mix and integration of DE and kinetic systems;
- Operational and training considerations when employing DE;

- Electric weapons overview and CONOPs;
- Command and control challenges and recommended solutions;
- Ethical, legal, and political ramifications of employing DE weapons;
- Optimal employment environments for DE; and
- Technology advances in power reduction and range extension.

Topic 7: Electromagnetic Maneuver Warfare (EMW)

Electromagnetic Maneuver Warfare (EMW) is the Navy's warfighting approach to gain decisive military advantage in the electromagnetic spectrum (EMS) to enable freedom of action across all Navy mission areas. EMW, and its associated active and passive activities, directly support the overall fire control capabilities of operational forces. Success demands a holistic systems-of-systems focus looking not only at the systems themselves, but also the "interstitial" space which is the dimension between the systems. EMW will require coordination and integration across all domains from land, sea, subsurface, air, and space. Dominance of the EMS is a key enabler to all domain access. EMW will drive changes in operational CONOPS to better leverage and employ capabilities across all warfare areas.

This session welcomes all EMW related papers supporting Fire Control capability, addressing, but not limited to, the four tenets of EMW:

- Battlespace awareness (sensing and understanding the operational environment, as well as affecting the enemy's perception);
- Maneuverability (spectral and physical agility);
- Integrated fires (kinetic and non-kinetic); and
- Assured command and control.

Topic 8: Electronic Warfare

Electronic Warfare (EW) is becoming a weapon of choice given the current emphasis on affordability, re-use, and minimizing collateral damage – especially in urban environments. Whether it is enemy Electronic Attack (EA) against U.S. radars, Electro-Optical (EO) or Infrared (IR) systems; U.S. EO/IR Countermeasures; Electronic Protection (EP) of U.S. systems; U.S. EA systems targeting enemy radars and missiles (i.e., softkill weapons); or Electronic Surveillance (ES) to improve situational awareness - EW has an increasing role in fire control. This topic invites abstracts addressing all aspects of EW, including:

- Recent developments in RF or EO/IR targeting systems to mitigate enemy countermeasures;
- CONOPS/technologies for Fire Control in GPS-denied or communications-denied environments;
- RF EW systems;
- EO/IR countermeasures systems;
- Improved softkill systems (active and passive) and enhanced deployment of softkill resources to increase performance and reduce resource expenditure;
- Coordination of hardkill and softkill weapons to increase effectiveness;
- Spectrum management for effective sensor or communications operations in jamming environments;
- Open architecture and Service Oriented Architecture (SOA) concepts for electronic warfare;
- Results from field tests, experiments, or deployments.

Topic 9: Enabling Joint Integrated Fire Control & Events

Integrated fire control kill chains that utilize multi-mission sensors and weapons platforms, are a crucial capability to enhance U.S. and Joint Forces effectiveness in a wide variety of theaters. This topic covers engagement of the multi-mission threats, at home and abroad, to include:

- Integrated multi-mission Systems-of-Systems (SoS) for planning, track management, and engagement;

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- Automated battle management aids for data fusion, combat identification, and engagement management;
- Near and far term technologies that counter air, cruise, and ballistic missiles and asymmetric threats;
- Force multiplication enhancements that benefit from interoperability (planned and unplanned);
- C4I and training opportunities with service, joint and coalition partners, and their civilian Homeland Defense (HD) counterparts;
- Integration of engagement capabilities and information management systems across the combined (DoD and HD) services;
- Integrated Fire Control – Counter Air (IFC-CA) kill chains that utilize multi-mission sensors and weapons platforms;
- Contributions to the Joint Integrated Air and Missile Defense (JIAMD) Roadmap; and
- Joint integrated fire control events: planning, results, and field tests.

Topic 10: Exercises & Operational Lessons Learned

Lessons learned from operational employment, exercises, wargames, test, evaluation, and training activities of our fire control systems, platforms, and processes are crucial to enhancing our warfighter's capabilities. Recent tactical fire control events in overseas operations highlight the importance of constant refinement of our systems and processes. Warfighter discussions of lessons learned from these operational experiences provide invaluable insight for weapon control engineers, scientists, researchers, and product developers. Equally valuable and of key interest to this national fire control community, are significant exercises, experiments, and wargames that provide realistic venues to evaluate hardware, software, tactics, techniques, procedures, and concepts of operation. Assessments and insights gained from these and other test venues are crucial to the future of fire control. We must learn from "on-the-fly" and "in-the-field" adaptations, as well as focusing on new technologies and capabilities to facilitate rapid development, and change in conjunction with these current and emerging capabilities. Submissions supporting all topics in this area are encouraged.

Topic 11: Fire Control Platform Capabilities

Fire control performance is generally dependent on a set of sub-systems integrated into an air, space, or surface platform. This topic focuses on the fire control solution from the platform perspective. Discussion of platform's impact on the fire control system performance is invited. In addition to considering offensive fire control performance, this topic also addresses defensive capabilities that enable the fire control system to perform in contested environments. Other areas included in this topic are:

- System performance predictions;
- Live fire test results;
- Lessons learned on weapon, sensor, platform integration issues (interoperability);
- Platform fire control tactics, techniques, and procedures;
- Planned platform fire control upgrades; and
- Multi-platform fire control solutions.

Topic 12: Integrated Air & Missile Defense of the Homeland & Operational Forces

Integrated Air and Missile Defense (IAMD), supporting both Homeland Defense and Operational forces, continues to evolve from organic sensor-shooter systems to networked sensing, decision tools, and weapon elements that can support integrated fire control. These capabilities can expand the defended battlespace; accommodate multiple engagement conditions by improving defense capability against a full spectrum of threats to include cruise missiles, ballistic missiles, fixed-wing and rotary-wing aircraft,

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unmanned vehicles (UAV), rockets, artillery and mortars; and extend the radar horizon limitations. This topic invites abstracts addressing any aspect of these areas including:

- IAMD system architectures;
- Critical integrated fire control enablers including coherent air picture, timely and sssured CID, and threat discrimination;
- Integrated cruise and ballistic missile defense;
- IAMD operations planning, command, and control challenges and solutions;
- Engagement of low velocity, small cross section threats such as UAV's;
- Weapon system resource balancing in integrated systems;
- Counter Rocket Artillery and Mortar (CRAM) capabilities for fixed sites and/or maneuver forces;
- Automated battle management aides (ABMA);
- Joint, multi-mission IAMD (collaborative) planning;
- Multi-mission operations;
- Raid engagement;
- Command and control systems;
- Networks and information management systems;
- Sensing and weapons management coordination;
- Consequence management – determining where to engage a target relative to potential collateral damage;
- Integrated fire control testing and resulting lessons learned; and
- IAMD training.

Topic 13: Interoperability & Network Enhanced Fire Control

The organic effectiveness of weapon systems is enhanced when integrated with other sensors and weapons. Joint systems can leverage networked or shared information from other platforms to achieve greater overall capability, with the potential to substantially improve joint operations in support of fire control solutions. This topic will address:

- Current issues;
- Sensor and weapon systems netting;
- Battle management across multiple command areas of responsibility;
- Network control of multiple platforms;
- Joint service and coalition command and control structures;
- Multi-source data fusion and integration (real and non-real time);
- Combat identification and composite track management;
- Automated battle management aids including planning tools, resource management tools, and real-time execution aids;
- Integrated and cooperative weapon and fire control systems, distributed weapons and sensor coordination.

Topic 14: Live, Virtual, and Constructive Modeling and Simulation

Live, Virtual, and Constructive (LVC) Modeling & Simulation (M&S) in tactical scenarios plays an increasingly important role in the development, assessment, and organizational training of integrated fire control capabilities. As the number, diversity, and complexity of interconnected fire control systems grow, field testing the resulting "integrated" capability becomes increasingly expensive and logistically demanding, requiring the coordination of assets from across the services. These same considerations pose significant limitations on the accomplishment of training objectives once systems are successfully fielded. Abstracts covering any technical aspect of LVC testing, M&S, or wargaming and training exercises are encouraged. Of particular interest are abstracts discussing:

- Existing M&S and wargaming capabilities, lessons learned, trade-offs, and limitations of different distributed simulation methodologies;
- Technologies for analyzing and visualizing large sets of simulation output data;
- Efficient computer processing architectures and unique verification and validation challenges; and
- Modeling and simulation that address the cyber threat (analysis, effects, etc.).

Topic 15: Persistent Intelligence, Surveillance & Reconnaissance

Persistent Intelligence, Surveillance, and Reconnaissance (PISR) is critical to the warfighter's ability to deliver precision effects. Abundant challenges exist for the effective collection, processing, exploitation, dissemination, and management of the extensive and diverse set of data sources which can provide warfighters with timely, concise, precise, and actionable combat information. Abstracts are sought for current and proposed PISR systems and technologies that solve these challenges and improve the warfighter's ability to deliver precision effects. Examples of topics include, but are not limited to the following:

- Manned and unmanned platforms (both terrestrial, airborne, and space based);
- Coordination and tasking across sensors owned and operated by different services/agencies;
- Sensors (EO, IR, LADAR/LINDAR multi-spectral, RF, EW, etc.); and
- Processing, Exploitation, and Dissemination (PED) architectures.

Topic 16: Rapid Transition of New Technology to the Warfighter

DoD continues to transform into a lighter, highly flexible, and more effective fighting force. Changes on the battlefield accelerate the need for speed and efficiency in meeting warfighter needs. In a fiscally constrained environment, new capability development often requires being reliant on mature and adaptable technology with short acquisition schedules. This topic will focus on supporting fire control in the following areas:

- New, innovative, and potentially disruptive technologies at significant maturity levels;
- Rapid fielding of capabilities; and
- Quick response technology bridging the acquisition gap.

Topic 17: Sensor Resource Management/Sensor & Data Fusion

As our fire control systems become more complicated depending on multi-sensor inputs (EO, IR, RF, offboard), there needs to be a capability to fuse sensor data, as well as integrate and manage on-board and dispersed sensors to reach a fire control solution. This topic includes sensor fusion at the data, feature, and decision levels. Additionally, abstracts will be accepted that address Sensor Resource Management (SRM) technologies that incorporate SRM as a top tier system-of-systems function with real-time (or near real-time) interfaces to battle management and planning, command, and control such as:

- Cooperative own-ship SRM;
- Multi-ship manned and unmanned SRM;
- Synchronization and coordination across the classical functions of electronic warfare, radar, communications;
- Infrared/electrooptical;
- Minimization of co-site interference and friendly jamming;

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- SRM architectures: centralized, distributed, or hierarchical;
- All tactical avionics (radar, EW, EO/IR, communications) on next-gen aircraft; and
- Algorithms and processes to generate optimal allocations of sensor resources.

Topic 18: Undersea Warfare

Undersea warfare continues to be an increasingly complex operational environment for defensive and offensive military operations. Underwater situational awareness is critical for military advantage. New concepts for distributed underwater sensors and coordination are being developed. Other contributors to this complex environment include technological advances such as unmanned underwater vehicles. Maintaining the military advantage in the undersea environment is important for safe commercial shipping and defense of surface ships and submarines. The detection, classification, and targeting of tunnels and buried land targets present a different yet similar set of challenges to the undersea problem. Examples of topics include, but are not limited to the following:

- Undersea data fusion, sensors, and sensor management;
- Mine warfare;
- Undersea weapons selection and coordination;
- Undersea situational awareness;
- Undersea unmanned vehicles;
- Targeting undersea threats;
- Targeting above surface threats from under the sea;
- Tunnel and buried target data fusion, sensors, and sensor management; and
- Targeting buried objects.

Topic 19: Unmanned & Autonomous Systems (Sensors, Weapons & Platforms)

Unmanned systems continue to expand their presence on the battlefield from strategic High Altitude Long Endurance (HALE) systems conducting strategic surveillance, down to small hand launched systems. Today many unmanned systems serve to carry Intelligence, Surveillance, and Reconnaissance (ISR) sensors or communications relay payloads, while a number of platforms are being weaponized. Unmanned systems of all types will continue to be an integral part of modern-day combat fire control. This topic invites abstracts that focus on any fire control-related aspect of these platforms (whether in the air, on the ground, on the surface, or underwater) and will include, but are not limited to, such key topics as:

- Capabilities and characteristics of the unmanned platforms themselves;
- Descriptions and capabilities of their current/planned sensor payloads;
- Descriptions and capabilities of current/planned weapons payloads;
- Networks/architectures/data links for passing sensor data to ground stations and/or to other platforms as part of networkcentric operations;
- Proposed new CONOPS leveraging unmanned systems capabilities;
- Kill chain for use with unmanned platforms operating autonomously or in support of manned platforms to support precision weaponry;
- Integrated manned and unmanned operations;
- Tools for timely exploitation/dissemination of data coming back from unmanned systems;
- Results of actual field tests/experiments/deployments involving them; and
- Kill chain for use with unmanned platforms operating autonomously or in support of manned platforms to support precision weaponry.

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Topic 20: Utilizing Space as a Force Enhancer or Force Applier

Space operations impact our warfighters' effectiveness and provide indispensable strategic, operational, and tactical capability. This is especially true in A2/AD environments where space assets may provide our only visibility deep in denied territory. Our need for accurate and timely fire control requires universal situational awareness that, in turn, requires persistent intelligence and connectivity in the tactical theater, specifically in active combat locations. This topic seeks abstracts that address:

- Robust rapid cross force coalition communication critical to accurate fire control;
- Strong space and battle space situational awareness;
- Use of space to boost the kill chain's effectiveness;
- Current, planned, or future activities that use space and/or space assets to improve fire control (e.g., space-based and space-enabled persistent surveillance and reconnaissance systems, SATCOM links, positioning, navigation and timing systems, strike platforms that use space assets, sensor platforms, and geo-registration); and
- Vulnerabilities of space-based assets and associated downlinks.

Topic 21: Weapons, Munitions, & Engagement Alternatives

There are many options available for weapon engagement that are enabled by the future of netted systems and the increasing array of available weapons. The ability to engage targets globally is still a high priority that brings its own set of challenges. This topic will focus on one or more of the following areas:

- The cognitive aspects of target engagement as a function of the growing number of engagement options;
- Ways to achieve desired effects on global targets to include hypervelocity and directed energy weapon options;
- How to deal with operation constraints such as minimizing collateral damage;
- Precision targeting techniques;
- Next generation weapon systems development (such as electric weapons, lasers, etc.); and
- Integration of new weapon systems.

NFCS Poster Session

The NFCS Poster Session adds an option for presenters and an added dimension to the Symposium. Some material, especially highly technical material, needs a format more conducive to presenting in-depth details, equations, citations, etc. than the oral presentation format can provide. Posters may be classified or unclassified. In addition to standard poster submissions, we also encourage the following posters from:

- Small businesses engaged in an active SBIR program that can address technology issues related to the aforementioned topics.
- Posters from students studying to either advance their careers or enter the fire control and supporting technology arena. The allowance of student posters is intended to encourage the younger generation entering the workforce and to promote networking among the students with industry, academia, and government experts currently working in the field.

All poster submissions should address one of the session topics listed above.

ABSTRACT SUBMISSION

Abstracts Due: August 26th

We look forward to receiving your abstract(s) for the 2017 National Fire Control Symposium. Submitted abstracts should be no more than 400 words long. An unclassified outline containing the key points of your presentation must be submitted with your abstract. Please be sure to include the title of your abstract in the body of the submission (this does not count against the 400 word count). In mid-September 2016, you will be contacted regarding the status of your acceptance. Final presentations will be due January 11, 2017.

Presenters should be prepared for a twenty-minute presentation, inclusive of a five minute question and answer period. For questions, please contact Ms. Michelle Williams, mkw@blue52productions.com, 937-554-4632.

This event is restricted and conducted at the SECRET/NOFORN level. Attendance is limited to U.S. citizens with a final SECRET clearance. Presentations and papers should not contain proprietary information and may not be more restrictive than Distribution D. All abstracts must be unclassified and should fall into one or more of the topics described earlier, and support the Symposium theme, "Addressing the Broad Challenges." Please note: selection and presentation of an abstract, whether oral or poster, does not waive any applicable registration fees.

Abstract should clearly express the: 1) objective; 2) scope; and 3) conclusions of your presentation, and should be submitted for one of the three categories below:

1. Classified Presentations: Abstracts for classified presentations up to SECRET/NOFORN are encouraged. **Abstracts must be unclassified.**

2. Unclassified Presentations: Abstracts for unclassified presentations will be accepted and considered. Unclassified oral abstracts/presentations should be labeled as Distro A, C, or D.
> A = Approved for public release, distribution unlimited.
> C = U.S. Government Agencies and their contractors only.
> D = DoD and U.S. DoD contractors only.

3. Poster Presentations: Abstracts for poster presentations will be accepted. Final poster presentations may be classified or unclassified, should be marked as Distro A, C, or D, and should support one of the session topics. **Abstracts must be unclassified.**

Submissions more restrictive than Distribution A should be password protected with passwords being sent to Sherry Johnson at sjohnson@blue52productions.com in a seperate email. More detailed instructions for password protecting and submitting your abstracts can be found on the submission page on-line.

To submit your abstract, visit
https://www.usasymposium.com/nfcs/cfa.php.