About the ICCRTS

History of the ICCRTS

In 1995, the DoD Command and Control Research Program (CCRP), within the Office of the Secretary of Defense, held the first International Command and Control Research and Technology Symposium (ICCRTS) at the National Defense University in Washington, D.C. This meeting built upon a series of meetings during the 1970s by the Office of Naval Research and the Massachusetts Institute of Technology that brought together interested researchers to exchange ideas on command and control (C2), its measurement and assessment, and the impact of new technologies on C2 processes.

The initial meeting was modest in size (63 participants) and included only a handful of non-U.S. participants. ICCRTS venues have included the United Kingdom, Sweden, Australia, Canada, and Denmark. Participation has grown substantially, to include hundreds of participants from dozens of nations. The Symposium provides an unparalleled opportunity for professional researchers, academics, active duty and reserve officers, and policy makers to interact with one another, understand the state of the art of C2, and influence the state of the practice with the United States and among its coalition partners.

The ICCRTS has consistently focused on leading-edge issues involving (a) new concepts in C2 (b) new technologies and their potential impact on C2, and (c) feedback and evidence from experiments, exercises, and real-world operations. The Symposium is also an important forum for discussion of coalition and collective C2 issues and for examining the complex endeavors (stabilization, operations, disaster relief) involving a variety of entities including military, civilian, government, international organizations, PVOs and NGOs.

18th ICCRTS: Theme, Dates and Venue

The theme for the 18th International Command and Control Research and Technology Symposium is ***"C2 in Underdeveloped, Degraded and Denied Operational Environments***." This year's theme recognizes that the communications and information capabilities we often take for granted may not be available 'on demand' when deployed and when in contested environments As a result, we increasingly face the unexpected, unanticipated, and unfamiliar not only with respect to the challenges associated with the mission, but also with respect to the capabilities and performance of the infostructure. This year's symposium will review the need to be able to design our systems to cope with the challenges and stresses associated with unavailable and unreliable services and degraded performance, and, to develop, select, adopt, and employ C2 Approaches that can function effectively and efficiently under these conditions. Questions, such as How would C2 be approached differently in denied and contested environments? What are the implications for supporting systems? How can we demonstrate through simulations and fields trials the value of being better prepared for these difficult environments? The theme will be explored in plenary presentations and panels as well as in track discussion periods. The 18th ICCRTS is scheduled for June 19-21, 2013 in Alexandria, Virginia.

Submissions

Review and Acceptance Process

The study of Command and Control, and this Symposium, has grown significantly over the years. This has resulted in an increasing number of paper submissions competing for the available time slots. Key date deadlines have been implemented to increase the amount of time for Track Chairs to review draft papers and provide detailed feedback to authors, as well as increasing the amount of time for authors to revise their papers. This is our ongoing effort to ensure an event of the highest possible quality. We believe that these steps will allow authors to improve their papers and presentations, and thereby improve the overall value of the Symposium.

While we have found abstracts useful in identifying papers that are, for any number of reasons, not appropriate for this Symposium, abstracts do not provide enough information for decisions regarding paper acceptance. Therefore, while we will still continue to accept abstracts as first submissions, authors are urged to submit papers for review *as soon as possible*. We will make every effort to provide timely feedback to authors. This rolling review process enables us to give the required attention to all papers that are submitted and maximize the time available for authors to make modifications to improve their papers. We understand that many authors will be in the middle of projects when the time comes to submit first drafts of their papers. If this is the case, this should be noted and we will expect the author to update the paper and presentation prior to final submission.

Thank you for your participation in the ICCRTS. If accepted, your professional paper will be included in a CD of the Symposium proceedings and both your paper and your presentation will be posted on the ICCRTS section of www.dodccrp.org. Please review the author guidelines and timelines to ensure that you are aware of and adhere to the ICCRTS submission process.

Key Dates **(Please note: all deadlines are final and will be strictly enforced.)**

Submit your abstract no later than **November 30, 2012**

You will receive an invitation to submit a formal draft paper by **December 21, 2012**

Your formal draft paper must be submitted by **February 8, 2013**

You will receive reviewer comments by **March 29, 2013**

Your final revised paper must be submitted by **April 26, 2013**

Your final presentation must be submitted by **May 24, 2013**

Topics

The 18th ICCRTS will be comprised of tracks on various topics that explore *C2* from a number of different perspectives. Authors are asked to think about the theme as they prepare their papers and discuss the theme in the context of their research and analyses. Each presentation will be given ***30 minutes***: 20 minutes to present, 5 minutes for questions and discussion, and 5 minutes to allow individuals to move to the next presentation of their choice. The Track Chairs will provide feedback to assist authors in finalizing their papers and presentations.

Topic 1: Concepts, Theory, and Policy

The changing nature of the missions being carried out has created a new reality. This reality demands that existing concepts, theories, and policies be revisited and discarded or adjusted, as necessary and new concepts, theory, and policy be developed.

Topic 2: Approaches and Organizations

This topic examines designing, analyzing, and implementing various approaches to focus and convergence (e.g., C2, management, governance).

Topic 3: Data, Information and Knowledge

This topic will address 1) how to obtain new data, information, and knowledge including detection, collection, and instrumentation, 2) how to move from data to information to knowledge, and 3) ways of enhancing the value of data, information, and knowledge by making it more discoverable, accessible, widely shared, understandable, and otherwise enhancing its utility.

Topic 4: Collaboration, Shared Awareness, and Decision Making

This topic includes the processes in the cognitive and social domains that enable working together effectively and efficiently.

Topic 5: Experimentation, Metrics, and Analysis

This topic includes experiments and analyses related to the application of concepts and approaches to focus and convergence. Experiments and analyses may focus on any aspect of command and control—networking, management or governance, information sharing, trust, shared awareness, shared understanding, decision-making, planning, execution, and assessment of ongoing operations. Civil-Military operations require that metrics and measurements be rethought. Metrics for agility, effects-based operations, networks, and networking are encouraged, as are measures of process, quality, and impact.

Topic 6: Modelling and Simulation

This topic encompasses models and simulations that represent emergent behaviors in C2.

Topics (continued)

Topic 7: Architectures, Technologies, and Tools

This topic includes discussions of the nature of architectures suitable for emerging concepts of operations and the infostructure necessary to support them.

Topic 8: Networks and Networking

This topic addresses social or socio-technical as well as communications and information networks and networking behaviors. Of particular interest are appropriate models of such networks and networks of networks. Also of interest is interoperability in the context of complex endeavors which require new (inter)organizational and process models that reflect the complexity of collective operations and behaviors, and the development and application of appropriate standards.

Topic 9: Military and Civil-Military Operations

This topic will be a vehicle for both scientists and operators to explain what is needed to adapt theory/science to handle real world complexity while ensuring the timely delivery of required capabilities. This forum should also be aggressive at seeking case studies from both scientists and operators that deal with pressing current shortfalls. This new track differs from others by focusing on new ways to conduct support for collective action to meet real world challenges. The results of experiments or lessons learned from past experience are both worthy issues that should be pursued separately. The track is flexible enough to allow for discussion about international and domestic security operations and public safety considerations without being constrained to any of these operations.

Topic 10: Cyberspace Management

This topic addresses the issues of managing the resources and capabilities that have become known as the domain of cyberspace. Of particular interest are issues relating to continuity of operations and ensuring freedom of action in cyberspace and the role that increased cyber-agility can playing in achieving these outcomes. Relevant areas of interest include efforts aimed at providing agile information and communication networks (infostructure) and countering cyberspace-related threats.

Topic 11: Autonomy

This topic addresses the issues related to the integration of autonomous entities, human and agent-based, into organizations, processes, and systems. Of particular interest, are ways to think about levels of autonomy, the allocation of decision rights between humans and computer systems, the tradeoffs involved, and analytical approaches, tools and metrics to help us understand and develop appropriate solutions.

Guidelines

Submission Requirements

All submissions must contain a cover page that includes the following information:

18th ICCRTS

Title of Paper (15 word max)

Topic(s) (Please choose one primary topic and two alternates from the list above.

Name of Author(s) (Affiliations and complete addresses of all authors should be placed directly below the authors' name **For student papers, please be sure the student is clearly identified [with STUDENT].)

Point of Contact (Please identify one Point of Contact who will be responsible for all correspondence with the ICCRTS team.)

Name of Organization Complete Address and/or Telephone E-mail Address

In addition to the abstract, we encourage authors to submit an outline for the full paper. This will enable us to provide more useful feedback early in the review process.

Please Comply With The Following:

- Cover Sheet (as outlined above)
- Title of Paper: 15 word max.
- Suggested Topic: Please provide up to 3
- Body of Abstract: 200 word max. Classification: All work must be Unclassified
- Body of Paper: 20 pages max. (not including appendices and references)

Multiple Authors

For papers with multiple authors, identify one point of contact. Our Coordinator will communicate with this person regarding the Symposium. This point of contact **will be responsible** for passing on any information to the other authors of the paper. If the point of contact changes it is important for authors to notify the Coordinator.

Guidelines (continued)

Eligibility For Student Paper

All students who are currently enrolled as graduate students and have 6 credit hours or more or are undergraduates and have 12 credit hours or more (or the European Credit Transfer and Accumulation System (ECTS) equivalent) of courses are eligible to submit ICCRTS abstracts/papers as a student. The level and current stage of study must be included (undergraduate: e.g., sophomore, or graduate: Master's or Research Doctoral degrees, number of years in program). Abstract submissions must provide proof of student status with either a written statement from the department chair or a copy of the college or university course schedule for the current or immediate past quarter or semester. When more than one author is listed on the paper, it may be designated as a student paper if and only if the student applicant is the primary author (listed first and identified as student). If the other authors are faculty members, the faculty adviser must provide a written statement affirming that the student contributed to over 50 percent of the content.

Paper Acceptance Criteria

The following criteria will be used by track chairs and symposium staff in their review process:

1. The paper is appropriate for the theme and topics of Symposium.
2. The paper is intellectually stimulating.
3. The literature review is adequate/appropriate.
4. The research design is adequate/appropriate.
5. The data analysis is adequate/appropriate.
6. The conclusions are reasonable.
7. The paper advances the state of knowledge.
8. The paper is logical and consistent.
9. The paper's argument is persuasive.
10. The writing is clear and readable.

Papers will not be accepted if:

1. Topics stray from the conceptual focus of the Symposium.
2. Attempts are made to promote or sell specific goods and/or services.
3. Claims are unsubstantiated or facts are inaccurate.
4. Scientific merit is lacking.
5. Writing/explanations are poor.

Paper Submission Point of Contact

Please email all submissions to: **iccrts@dodccrp.org**